

components for pneumatic automation

Vesta's concept of Q quality: a belief that we can always do things better and that resultant benefits for customers may strongly contribute to the success of the company.

Over 25 years of experience in production of pneumatic components leads Vesta to provide the market with very competitive and reliable solutions.

A whole team working next to you in order to grant the right answer.

componenti per l'automazione pneumatica

Il concetto di Qualità per Vesta consiste nella convinzione che è sempre possibile lavorare meglio, perchè solo la qualità percepita dal cliente è quella che accompagna il successo dell'azienda.

Con oltre 25 anni di esperienza nella progettazione e produzione di apparecchiature per l'automazione pneumatica, Vesta è in grado di offrire al mercato idee e soluzioni affidabili e competitive.

Una azienda al tuo fianco per garantire sempre la giusta risposta.



**Designed
TO YOUR NEEDS**





Tel. +39 0425.474.838
Fax +39 0425.474.670
www.vesta.it
info@vesta.it

We listen to your voice to grow right technical solutions at competitive prices.

Diamo voce alle tue richieste per sviluppare e fornire giuste soluzioni a prezzi competitivi.

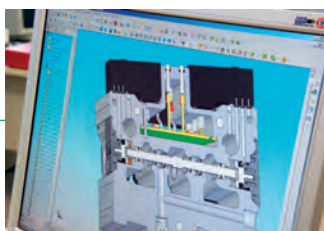
100% made in Italy design and production together with our knowledge and experience in order to offer a wide array of actuators and a complete assortment of valves.

Valvole e cilindri al 100% concepiti e fabbricati in Italia con l'esperienza, la competenza e l'impegno dello staff Vesta.

DESIGN

Developing new products for automation industry **means** to invest day by day on skilled technicians and on innovative tools.

*Ricerca e sviluppo di sistemi e componenti per automazione **significa** investire in tecnici e strumenti selezionati ed innovativi.*



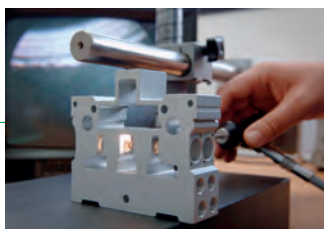
Producing high performing products **means** to pay attention to the choice of the best raw materials and to perform machining of high precision.

*Una gamma di prodotti ad elevate prestazioni ed alta affidabilità **significa** grande impegno nella scelta dei materiali e nella costanza e precisione delle lavorazioni.*

MANUFACTURING

Ensuring high quality products **means** to perform quality and dimensional tests on each single part of which products are made up.

*Garantire la qualità del prodotto **significa** controllare ogni singolo particolare con cui è costruito il prodotto.*



CONTROL

The development and production of 100% Made in Italy products **means for Vesta** to accept the challenge of the worldwide competition with the aim of satisfying the needs of our customers.

*Produrre e garantire componenti per automazione al 100% costruiti in Italia **significa per Vesta** accettare la sfida tecnologica sulla competizione globale ed ottenere in cambio la soddisfazione dei clienti.*

PRODUCTS



Vesta Automation srl - via Martiri di Belfiore, 69/A - 45100 Rovigo (Italy)

SPOT LIGHT

STAINLESS STEEL PNEUMATIC CYLINDERS / CILINDRI PNEUMATICI INOX

ROUND MAGNETIC S.S. PNEUMATIC CYLINDERS / CILINDRI PNEUMATICI INOX TONDI CON PISTONE MAGNETICO



RSSC
Standard magnet
Cilindro magnetico

RSSC

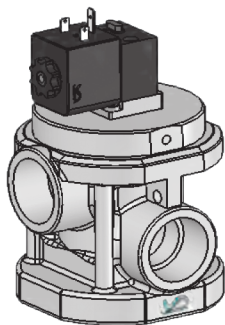
Bore / Alesaggio
(mm):
Ø32 32
Ø40 40
Ø50 50
Ø63 63

Stroke
Corsa
(mm):

P Through rod cylinder
Cilindro stelo passante

VV Viton all seals
Tutte le guarnizioni in Viton

3/2 POPPET HIGH FLOW VALVES FOR AIR OR VACUUM / VALVOLE 3/2 AD OTTURATORE PER ARIA E VUOTO



Pneumatic Pilot / Comando Pneumatico P
Solenoid Pilot / Comando Elettropneumatico W

Normally Closed (NC) / Normalmente Chiusa 6
Normally Open (NO) / Normalmente Aperta 9

Air inlet with servoassisted Air pilot / Alimentazione aria servopilotaggio aria M

External pilot Air Supply / Alimentazione Pilotaggio Esterno E

Vacuum inlet with servoassisted Vacuum pilot / Alim.Vuoto servopilotaggio Vuoto V

PV32

1

S

1

1

1

1

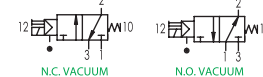
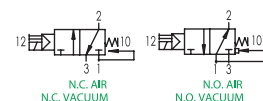
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Size / Taglia

12 G 1/2"
34 G 3/4"
10 G 1"
15 G 1 1/2"
20 G 2"

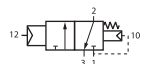
A Air / Aria

V Vacuum / Vuoto

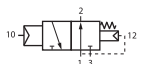


VALVES AND SOLENOID VALVES SERIES JT G1/8, G1/4 / VALVOLE ED ELETTROVALVOLE SERIE JT G1/8, G1/4

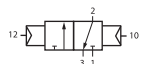
VALVES 3/2, 5/2 AND 5/3 SERIES JT G1/8, G1/4
ELETTROVALVOLE 3/2, 5/2 SERIE JT G1/8, G1/4



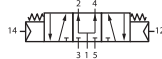
JT32V1P618
JT32V1P614



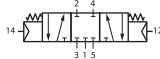
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JT32V1P914



JT32V2P018
JT32V2P014



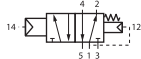
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JT53P2314



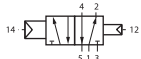
JT53P2618
JT53P2614



JT53P2918
JT53P2914



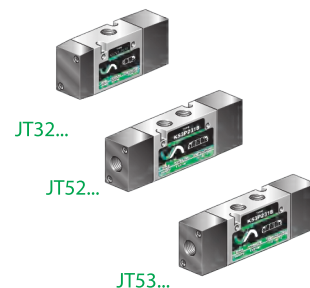
JT52P1018
JT52P1014



JT52DP218
JT52DP214

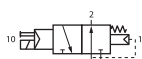


JT52P2018
JT52P2014

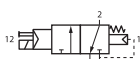


SOLENOID VALVES 3/2, 5/2 AND 5/3 SERIES JT G1/8, G1/4

ELETTROVALVOLE 3/2, 5/2 E 5/3 SERIE JT G1/8, G1/4



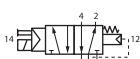
JT32W1S618
JT32W1S614



JT32W1S918
JT32W1S914



JT32W2S018
JT32W2S014



JT52W1018
JT52W1014



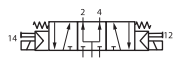
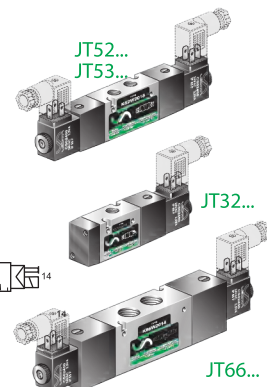
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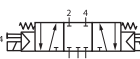
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JT52W10E4



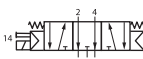
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JT52W20E4



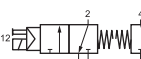
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JT53W2S314



JT53W2S618
JT53W2S614



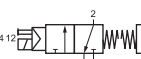
JT53W2S918
JT53W2S914



JT66W2018
JT66W2014



JT99W2018
JT99W2014

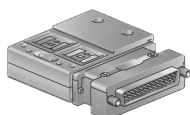


JT69W2018
JT69W2014



MPV 1/4

Size 1
Taglia 1 T1 S n° 0-16
Size 2
Taglia 2 T2 D n° 17-32



MPV 1/8

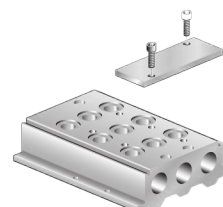
Size 1
Taglia 1 T1 S n° 0-16
Size 2
Taglia 2 T2 D n° 17-32



MPT 1/4

Valves /valvole JT 1/4 14
Valves /valvole JT 1/8 18
B; C; D; E; F; M; V; W;
Valve functions and priority sequence
Funzioni valvole e sequenza di assemblaggio

KME .18
KME .14



KPCH018
KPCH014

ENBLOC FOR VALVES SERIES JT G1/8 AND G1/4
BASI PER ELETTROVALVOLE SERIE JT G1/8 E G1/4



ACM(#) ____ pag. A-06
DVM(#) ____ pag. A-07
DRM ____ pag. A-09
Pneumatic cylinders ISO 6432 (#)
Cilindri pneumatici ISO 6432 (#)



HPSK ____ pag. A-63
Dual rod cylinders
Semislitte pneumatiche



ACMT ____ pag. A-12
DVMT ____ pag. A-12
Round magnetic pneumatic cylinders
Cilindri pneumatici tondi con pistone magnetico



AR2 ____ pag. A-68
AR3 ____ pag. A-68
Antirotation cylinders with twin piston rods
Cilindri antirotazione a doppio stelo



CZ ____ pag. A-14
Cartridge cylinders
Cilindri a cartuccia



AW2 ____ pag. A-69
AW3 ____ pag. A-69
AW4 ____ pag. A-69
Antirotation cylinders with twin piston rods
Cilindri antirotazione a doppio stelo



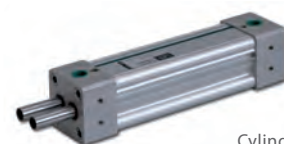
NWT ____ pag. A-15
Pneumatic cylinders ISO 15552
Cilindri pneumatici ISO 15552



AW6 ____ pag. A-72
AW8 ____ pag. A-72
Antirotation cylinders with triple piston rods
Cilindri antirotazione a triplo stelo



XJC ____ pag. A-20
Pneumatic cylinders ISO 15552
Cilindri pneumatici ISO 15552



AW1 ____ pag. A-74
AW5 ____ pag. A-74
AW7 ____ pag. A-74
Cylinders with holed telescopic piston rods
Cilindri pneumatici a steli cavi



NSK ____ pag. A-27
SH ____ pag. A-33
Compact pneumatic cylinders
Cilindri pneumatici compatti



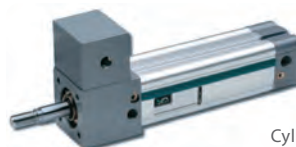
HNG ____ pag. A-76
Compact guide pneumatic cylinder
Cilindri pneumatici compatti guidati



DSM ____ pag. A-40
DSA ____ pag. A-41
XPN ____ pag. A-44
XJS ____ pag. A-45
XJSS ____ pag. A-46
Cylinders for harsh environment condition
Cilindri pneumatici anticorrosione



NCV63 ____ pag. A-79
Flat pneumatic cylinders
Cilindri pneumatici piatti



RW ____ pag. A-83
DC ____ pag. A-84
Cylinders with piston-rod brake device
Cilindri con dispositivo di bloccaggio dello stelo



GLC ____ pag. A-52
GLH ____ pag. A-54
Linear control units
Unità di guida



CRW ____ pag. A-85
Rotating cylinders
Cilindri rotanti



PS ____ pag. A-60
Pneumatic slides
Slitte pneumatiche



RLF ____ pag. A-87
RLFR ____ pag. A-91
RLFG ____ pag. A-93
RLFH ____ pag. A-95
Rodless band cylinders
Cilindri senza stelo



TM _____ pag. A-98

Rodless magnetic coupling cylinders
Cilindri senza stelo a trascinamento magnetico



ESNW _____ pag. A-100

Electrical actuated cylinders
Attuatori elettrici



MH _____ pag. A-104

MHM _____ pag. A-104

Pneumatic grippers
Mani di presa pneumatiche



ATEX _____ pag. A-109

Atex cylinders range
Gamma cilindri ATEX



4HF _____ pag. B-03

Multipole connection system
Sistema di connessione multipolare



4HF

NETLOGIC _____ pag. B-11

Vesta fieldbus system



V-18, E-18 _____ pag. B-22

V-14, E-14 _____ pag. B-22

V-12, E-12 _____ pag. B-22

Valves, solenoid valves and accessories
Valvole, elettrovalvole ed accessori: G1/8; G1/4; G1/2.



BE _____ pag. B-34

BE M _____ pag. B-35

Direct acting solenoid valves
Elettrovalvole a comando diretto e ricambi



K - - 18 _____ pag. B-42

K - - 14 _____ pag. B-42

K - - 12 _____ pag. B-42

Micro valves and Micro solenoid valves series "K"
Minivalvole e minielettrovalvole serie "K"



MPV _____ pag. B-53

Versatile multipole connection
Connessione multipolare versatile



SVPI8 _____ pag. B-61

SVEI8 _____ pag. B-61

Valves and solenoid valves series ISO 24563
Valvole ed elettrovalvole serie ISO 24563, 18 mm



SVP4 _____ pag. B-73

SVE5 _____ pag. B-73

SVP2 _____ pag. B-81

SVE2 _____ pag. B-81

Valves and solenoid valves ISO 5599
Valvole ed elettrovalvole ISO 5599



NM32 _____ pag. B-94

NM52 _____ pag. B-94

Valves and solenoid valves series NAMUR
Valvole ed elettrovalvole serie NAMUR



PGI, PF _____ pag. B-102

SR, PFF _____ pag. B-102

VCML^(1/8-1/4) _____ pag. B-103

VCMT^(1/8-1/4) _____ pag. B-104

VFP _____ pag. B-105

Manual operating valves
Valvole a comando manuale: G1/8; G1/4



MV, MS _____ pag. B-106

MR, MA _____ pag. B-106

VCMS _____ pag. B-107

VCLR _____ pag. B-108

VCLL _____ pag. B-109

Mechanical microvalves
Microvalvole a comando meccanico



AND, OR _____ pag. B-110

YES, NOT _____ pag. B-110

SBI _____ pag. B-111

VRF _____ pag. B-111

Automatic microvalves
Microvalvole automatiche



ATEX _____ pag. B-114

Atex valves range
Gamma valvole ATEX.



MR RI- _____ pag. C-06

MR R0- _____ pag. C-07

MR-FA _____ pag. C-07

Microregulators
Microregolatori: G1/8; G1/4



M14 _____ pag. C-10

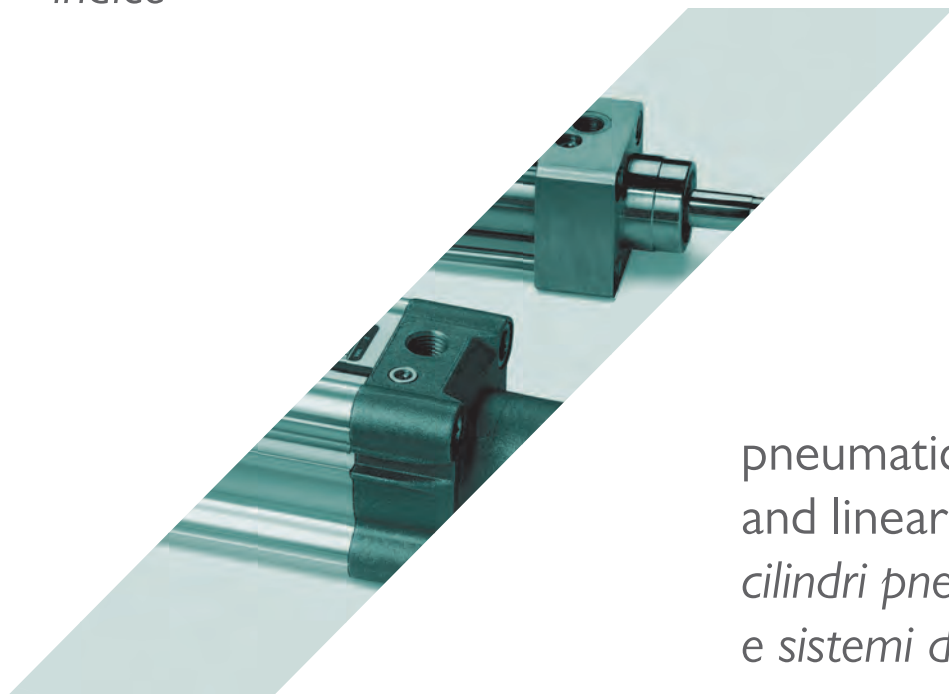
M38 _____ pag. C-16

M12 _____ pag. C-22

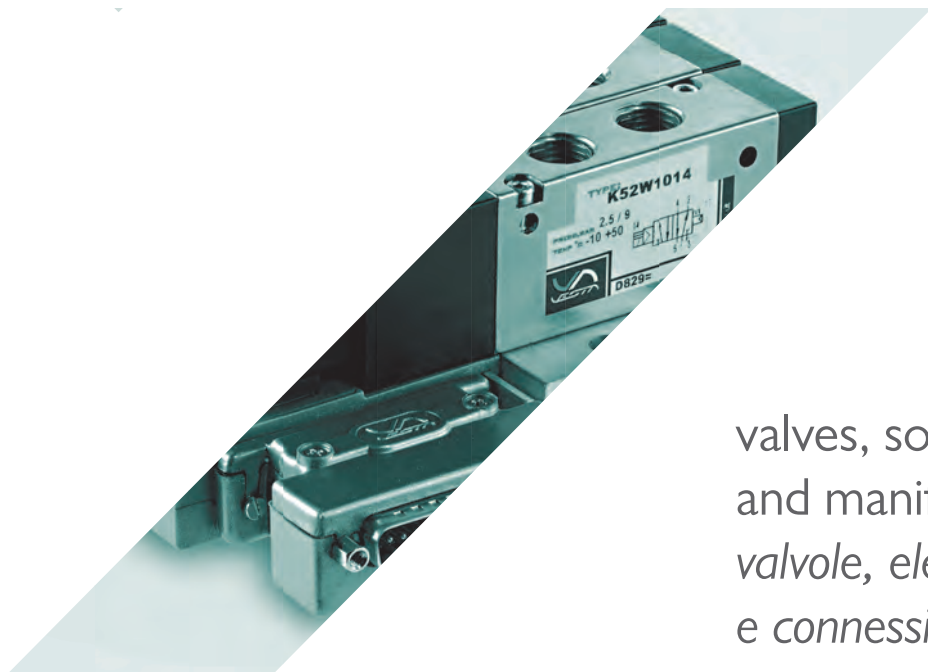
M34 _____ pag. C-28

M10 _____ pag. C-34

Modular line
Linea modulare: G1/4; G3/8; G1/2; G3/4; G1"



pneumatic cylinders, actuators
and linear control units
*cilindri pneumatici, attuatori
e sistemi di guida*



valves, solenoid valves
and manifolds
*valvole, elettrovalvole
e connessioni multipolari*



air treatment units
gruppi trattamento aria

ACM, DVM, DRM	Pneumatic cylinders ISO 6432 and DRM | <i>Cilindri pneumatici ISO 6432 e DRM</i>	A-05
ACMT, DVMT	Round pneumatic cylinders | <i>Cilindri pneumatici tondi</i>	A-12
CZ	Cartridge cylinders | <i>Cilindri a cartuccia</i>	A-14
NWT	ISO 15552 cylinders "NWT" serie | <i>Cilindri ISO 15552 serie "NWT"</i>	A-15
XJC	ISO 15552 cylinders "XJ" serie | <i>Cilindri ISO 15552 serie XJ</i>	A-20
NSK, SH	Compact pneumatic cylinders | <i>Cilindri pneumatici compatti</i>	A-27
DS -, XPN, XJS, XJSS	Cylinders for harsh environment condition | <i>Cilindri pneumatici anticorrosione</i>	A-40
GLC, GLH	Linear control units | <i>Unità di guida</i>	A-51
PS	Pneumatic slides | <i>Slitte pneumatiche</i>	A-59
HPSK	Dual rod cylinders | <i>Semislitte pneumatiche</i>	A-63
AW2, -3, -4, -6, -8	Antirotation cylinders with twin or triple piston rods | <i>Cilindri antirotazione a doppio o triplo stelo</i>	A-67
AW1, -5, -7	Pneumatic cylinders with holed telescopic piston rods | <i>Cilindri pneumatici a steli cavi</i>	A-74
HNG	Compact guide pneumatic cylinder | <i>Cilindri pneumatici compatti guidati</i>	A-76
NCV 63	Flat pneumatic cylinder | <i>Cilindri pneumatici piatti</i>	A-79
RW, DC	Pneumatic cylinders with piston-rod brake device | <i>Cilindri pneumatici con bloccaggio dello stelo</i>	A-81
CRW	Rotary actuators | <i>Cilindri rotanti</i>	A-84
RLF	Rodless cylinders | <i>Cilindri senza stelo</i>	A-87
TM	Rodless pneumatic cylinders | <i>Cilindri pneumatici senza stelo</i>	A-98
ESNW	Electrical actuated cylinders | <i>Attuatori elettrici</i>	A-100
MH, MHM	Pneumatic grippers | <i>Mani di presa pneumatiche</i>	A-104
X...	 Atex cilindri range | <i>Gamma cilindri Atex</i>	A-109

4HF 4HF	Multipole connection system | <i>Sistema di connessione multipolare 4HF</i>	B-03
4HF NETLOGIC 4HF	Netlogic connection system | <i>Sistema di connessione multipolare 4HF Netlogic</i>	B-11
V--I., E--I.	Valves and solenoid valves | <i>Valvole ed elettrovalvole; G1/8, G1/4, G1/2</i>	B-22
BE, BE-M	Direct acting solenoid valves | <i>Elettrovalvole a comando diretto e ricambi</i>	B-34
MS, CEPI	Coils and solenoid connectors for valves | <i>Solenoidi e connettori per elettrovalvole</i>	B-36
K--18,--14,--12 KME	Micro valves and Micro solenoid valves series "K" | <i>Minivalvole e minielettrovalvole serie "K"; G1/</i>	B-42
CS, CEP0	Coils and solenoid connectors for valves series "K" | <i>Solenoidi e connettori per elettrovalvole serie "K"</i>	B-52
MPV	Versatile multipole connection | <i>Connessione multipolare versatile</i>	B-53
SVPI8, SVEI8	Valves and solenoid valves series ISO 24563, 18 mm | <i>Valvole ed elettrovalvole serie ISO 24563, 18 mm</i>	B-60
SVP4, SVE5	Valves and solenoid valves ISO 5599, size 1 | <i>Valvole ed elettrovalvole ISO 5599, taglia 1</i>	B-73
SVP2, SVE2	Valves and solenoid valves ISO 5599, size 2 | <i>Valvole ed elettrovalvole ISO 5599, taglia 2</i>	B-81
ELBAC, SCN, CEP2	CNOMO solenoid valves | <i>Elettropiloti CNOMO</i>	B-88
NM32, NM52	Valves and solenoid valves series NAMUR | <i>Valvole ed elettrovalvole serie NAMUR</i>	B-94
PGI, PF, SR, PFF	Manual operating microvalves | <i>Microvalvole a comando manuale</i>	B-102
VCM, VFP	Manual operating valves | <i>Valvole a comando manuale</i>	B-103
MV, MS, MR, MA	Mechanical microvalves | <i>Microvalvole a comando meccanico</i>	B-106
VCMS, VCLR, VCLL	Mechanical microvalves | <i>Microvalvole a comando meccanico</i>	B-107
AND, OR, YES, NOT	Automatic microvalves | <i>Microvalvole automatiche</i>	B-110
SBI, VRF	Automatic microvalves | <i>Microvalvole automatiche</i>	B-111
X..., EPC, XSCN	 Atex valves range | <i>Gamma valvole Atex</i>	B-116

MR, MR-FA	Microregulators | <i>Microregolatori; G1/8 - G1/4</i>	C-06
M14	Modular line | <i>Linea modulare; G1/4</i>	C-10
M38	Modular line | <i>Linea modulare; G3/8</i>	C-16
M12	Modular line | <i>Linea modulare; G1/2</i>	C-22
M34	Modular line | <i>Linea modulare; G3/4</i>	C-28
M10	Modular line | <i>Linea modulare; G1"</i>	C-34
K--	Spare parts and accessories | <i>Accessori e ricambi per linee modulari</i>	C-38
DSL, SCL	Oil removers-silencer and drip leg drain | <i>Disoleatore-silenziatore e scaricatore per linee</i>	C-40

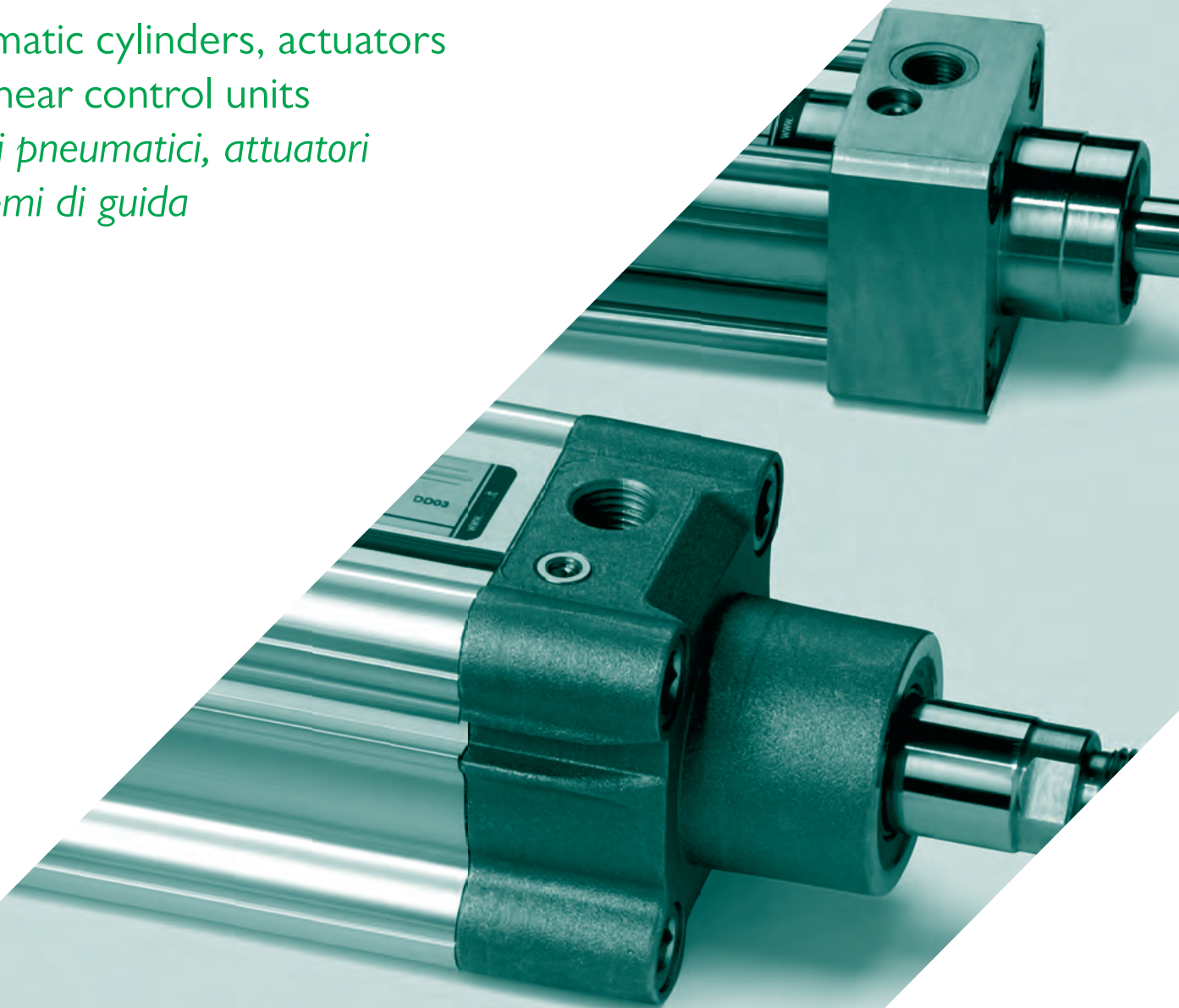
NOTE / NOTA

In case of electric arc welding, please strongly insulate or remove cylinders.

In caso di saldatura ad arco nelle vicinanze, rimuovere il cilindro.



pneumatic cylinders, actuators
and linear control units
*cilindri pneumatici, attuatori
e sistemi di guida*

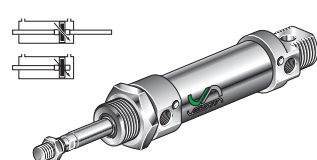




INDEX / INDICE

(*) ATEX versions see / Versioni ATEX vedi P. A-109

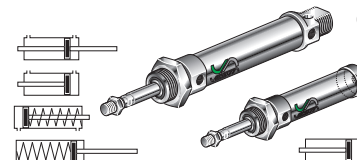
PNEUMATIC CYLINDER ISO 6432 / CILINDRI PNEUMATICI ISO 6432



(*) **ACM** ..-... .

pag. A-06

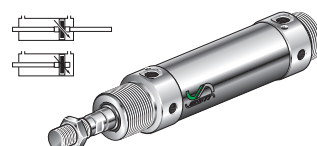
MAGNETIC PISTON, SCREW END CAPS, CUSHIONED
CILINDRO MAGNETICO, ISPEZIONABILE, AMMORTIZZATORI PNEUMATICI REGOLABILI



(*) **DVM** ..-... .

pag. A-07

DRM ..-... .
MAGNETIC PISTON, SCREW END CAPS, MECHANICAL BUFFERS
CILINDRO MAGNETICO, ISPEZIONABILE, CON SMORZATORI D'URTO



ACMT ..-... .
DVMT ..-... .

pag. A-12

MAGNETIC PISTON, SCREW END CAPS, (CUSHIONED FOR ACMT)
CILINDRO MAGNETICO, ISPEZIONABILE, (AMMORTIZZATORI PNEUMATICI REGOLABILI PER ACMT)



CZ ..-... .

pag. A-14

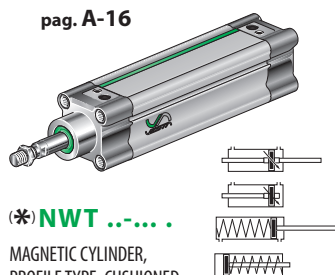
CARTRIDGE CYLINDER SINGLE ACTING FRONT SPRING
CILINDRO A CARTUCCIA A SEMPLICE EFFETTO CON MOLLA ANTERIORE

FIXING AND MAGNETIC SWITCHES FOR ISO 6432 AND ROUND CYLINDER / ACCESSORI DI FISSAGGIO E FINECORSO MAGNETICI PER CILINDRI ISO 6432 E CILINDRI TONDI

pag. A-10, A-11, A-13

PNEUMATIC CYLINDER ISO 15552 / CILINDRI PNEUMATICI ISO 15552

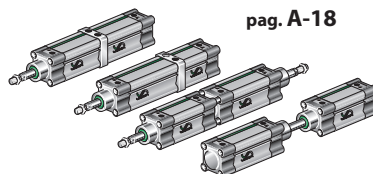
pag. A-16



(*) **NWT** ..-... .

MAGNETIC CYLINDER, PROFILE TYPE, CUSHIONED
CILINDRO MAGNETICO CON CAMICIA A A PROFILO PULITO, AMMORTIZZATO, VERSIONI A SEMPLICE EFFETTO.

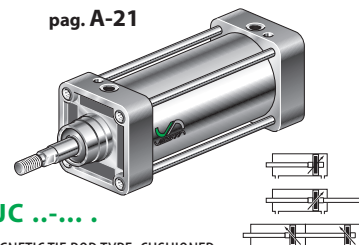
pag. A-18



NWT ...TN2..
NWT ...BS..
NWT ...CNP..
NWT ...CNF...

SPECIAL VERSIONS CYLINDER, CILINDRI VERSIONE SPECIALE

pag. A-21



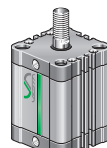
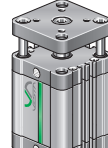
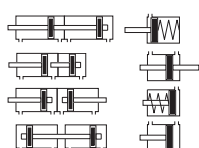
XJC ..-... .

MAGNETIC TIE ROD TYPE, CUSHIONED, TANDEM.
CILINDRO MAGNETICO, ESECUZIONE A TIRANTI, AMMORTIZZATO, VERSIONE TANDEM.

FIXING AND MAGNETIC SWITCHES FOR ISO 15552 CYLINDER / ACCESSORI DI FISSAGGIO E FINECORSO MAGNETICI PER CILINDRI ISO 15552

pag. A-19, A-22 ÷ A-26

COMPACT PNEUMATIC CYLINDER / CILINDRI PNEUMATICI COMPATTI



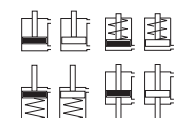
(*) **NSK**... (ISO 21287 - UNITOP)

COMPACT CYLINDER WITH MECHANICAL CUSHIONING
CILINDRI COMPATTI CON AMMORTIZZATORI MECCANICI D'URTO

pag. A-27 ÷ A-33

FIXING AND MAGNETIC SWITCHES FOR SK CYLINDER
ACCESSORI DI FISSAGGIO E FINECORSO MAGNETICI PER CILINDRI SK

pag. A-19, A-33



SH... ..

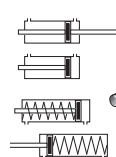
SHORT STROKE CYLINDER WITH MECHANICAL CUSHIONING
CILINDRI A CORSA BREVE CON AMMORTIZZATORI MECCANICI D'URTO

pag. A-33 ÷ A-38

FIXING AND MAGNETIC SWITCHES FOR SH CYLINDER
ACCESSORI DI FISSAGGIO E FINECORSO MAGNETICI PER CILINDRI SH

pag. A-37 ÷ A-38

CYLINDER FOR HARSH ENVIRONMENT CONDITION / CILINDRI PNEUMATICI ANTICORROSIONE



(*) **DSM** ..-... .
DSA ..-... .

pag. A-40

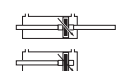
STAINLESS STEEL ISO 6432 CYLINDERS, SCREW END CAPS, MAGNETIC, MECHANICAL BUFFERS
CILINDRO ISO 6432 INOX, MAGNETICO, ISPEZIONABILE, CON SMORZATORI D'URTO



XPN ..-... .

pag. A-44

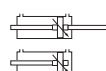
MAGNETIC ISO 15552, ACETALIC RESIN CAPS, PROFILE TUBE
ISO 15552 MAGNETICO, TESTATE IN RESINA ACETALICA, CAMICIA PROFILO PULITO



XJS ..-... .

pag. A-45

MAGNETIC ISO 15552, ACETALIC RESIN CAPS, STAINLESS STEEL TIE RODS AND TUBE
ISO 15552 MAGNETICO, TESTATE IN RESINA ACETALICA, CON CAMICIA E TIRANTI INOX



(*) **XJSS** ..-... .

pag. A-46

MAGNETIC ISO 15552, COMPLETELY STAINLESS STEEL
ISO 15552 MAGNETICO, COMPLETAMENTE INOX

STAINLESS STEEL FIXING / ACCESSORI DI FISSAGGIO INOX PER CILINDRI ANTICORROSIONE

pag. A-43; A-47 ÷ A-48



AIR CONSUMPTION FOR PNEUMATIC CYLINDERS / CONSUMO D'ARIA DEI CILINDRI PNEUMATICI

Air consumption in NL/ min of a double acting pneumatic cylinder must be calculated as follows:

Il consumo d'aria in NL/ min di un cilindro pneumatico a doppio effetto è calcolato in base alla seguente formula:

$$Q = \frac{\emptyset^2 \pi P C N}{2}$$

(For simple acting cylinders $Q = Q/2$)

Per il cilindro a semplice effetto tale valore è circa dimezzato)

Q = Air consumption in NL / min / Consumo d'aria in NL / min

Ø = Bore of cylinder in decimeter / Alesaggio del cilindro in decimetri (Dm)

P = Absolute working pressure (relative pressure +1) in Kg/cm²
Pressione assoluta di lavoro (pressione effettiva di lavoro +1) in Kg/cm²

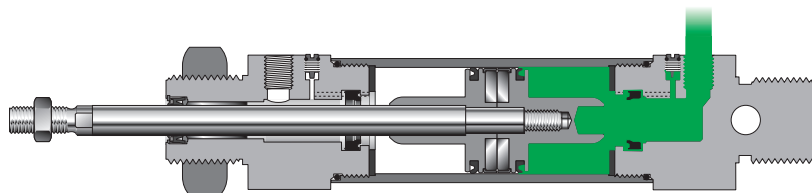
C = Stroke of cylinder in decimeter / Corsa del cilindro in decimetri (Dm)

N = Number of cycles per minute / Numero di cicli per minuto

THEORETICAL THRUSTS / FORZE TEORICHE SVILUPPATE

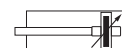
Bore Alesaggio	Available area Area superficie utile mm ²	Thrusts (N) at pression (Bar) Forze sviluppate (N) alla pressione (Bar)									
		1	2	3	4	5	6	7	8	9	10
10	thrust / spinta draught / tiro 78 66	7,8 6,5	15,6 13,2	23 19	31 26	39 33	47 40	54 48	62 53	70 59	78 66
12	thrust / spinta draught / tiro 113 85	11 8,5	23 17	34 25	45 34	56 42	68 51	79 59	90 68	102 76	113 85
16	thrust / spinta draught / tiro 201 173	20 17	40 35	60 52	80 69	100 86	121 104	141 121	161 138	181 156	201 173
20	thrust / spinta draught / tiro 314 264	31 26	63 53	94 79	126 106	157 132	188 158	220 185	251 211	283 238	314 264
25	thrust / spinta draught / tiro 491 412	49 41	98 82	147 124	196 165	245 206	295 247	344 288	393 330	442 371	491 412
32	thrust / spinta draught / tiro 804 691	80 69	161 138	241 207	322 276	402 345	482 414	563 484	643 553	724 622	804 691
40	thrust / spinta draught / tiro 1256 1056	125 105	251 211	376 316	502 422	628 528	754 633	879 739	1005 844	1130 950	1256 1055
50	thrust / spinta draught / tiro 1962 1649	196 165	393 330	588 494	785 660	981 824	1178 990	1373 1154	1570 1320	1765 1484	1963 1650
63	thrust / spinta draught / tiro 3116 2802	311 280	623 560	934 840	1246 1120	1558 1401	1869 1680	2181 1961	2493 2240	2804 2521	3116 2800
80	thrust / spinta draught / tiro 5024 4533	502 453	1005 907	1507 1360	2010 1814	2512 2266	3014 2722	3516 3173	4019 3629	4521 4079	5024 4536
100	thrust / spinta draught / tiro 7850 7143	785 714	1570 1429	2355 2143	3140 2857	3925 3571	4710 4286	5495 5000	6280 5715	7065 6428	7850 7143
125	thrust / spinta draught / tiro 12266 11599	1226 1160	2453 2319	3679 3479	4906 4639	6133 5799	7359 6959	8586 8119	9812 9279	11039 10439	14719 11559
160	thrust / spinta draught / tiro 20096 18840	2009 1884	4019 3768	6028 5652	8038 7536	10048 9420	12057 11304	14067 13188	16076 15072	18086 16956	20096 18840
200	thrust / spinta draught / tiro 31400 30144	3140 3014	6280 6028	9420 9043	12560 12057	15700 15072	18840 18086	21980 21100	25120 24115	28260 27129	31400 30144

CYLINDERS **ACM-** AND **DVM-** TECHNICAL FEATURES / CARATTERISTICHE TECNICHE **ACM-** E **DVM-**



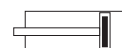
ISO 6432

Ø16; 20; 25

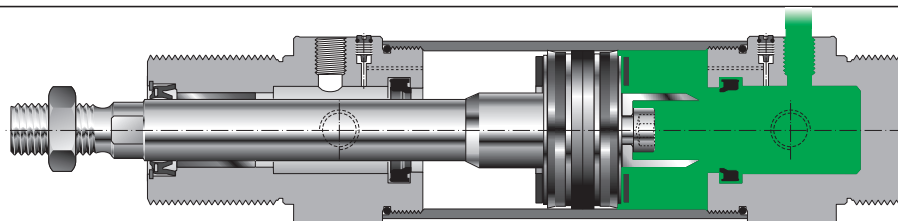


ACM..

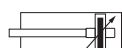
Ø12; 16; 20; 25



DVM..

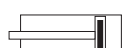


Ø32; 40; 50



ACMT..

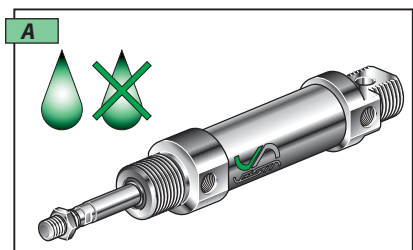
Ø32; 40; 50



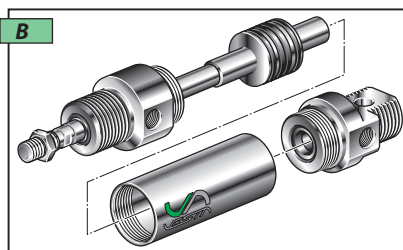
DVMT..

The cushioned double acting Vesta **ACM(T)** cylinders with magnetic pistons and adjustable cushioning are available in the following bore sizes: 16, 20, 25, 32, 40 and 50 in a wide range of standard strokes. The Vesta cylinder type **DVM(T)** is available in diameters of 12, 16, 20, 25, 32, 40 and 50, with mechanical buffers at both ends, and magnetic piston. **ACM(T)** and **DVM(T)** series are built with screw heads. Stroke tolerance follows ISO 6432 standard.

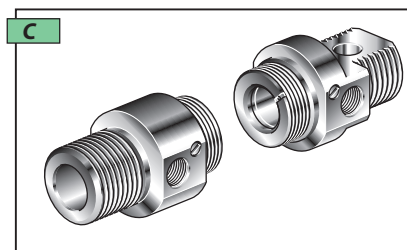
I cilindri Vesta serie **ACM(T)** a doppio effetto ammortizzati e con pistone magnetico sono disponibili negli alesaggi 16, 20, 25, 32, 40 e 50 mm, in una vasta gamma di corse standard; mentre i cilindri serie **DVM(T)** con smorzatori meccanici d'urto, magnetici, sono disponibili negli alesaggi 12, 16, 20, 25, 32, 40 e 50 mm. Le particolari caratteristiche costruttive, le soluzioni tecniche adottate ed i materiali impiegati, garantiscono una lunga durata ed un ottimo funzionamento del cilindro. La costruzione è del tipo "teste avvitate", quindi cilindri ispezionabili con possibilità di manutenzione. I cilindri serie **ACM(T)** e **DVM(T)** sono predisposti per il montaggio di sensori magnetici. Le tolleranze sulle corse dei cilindri sono conformi alla normativa ISO 6432.



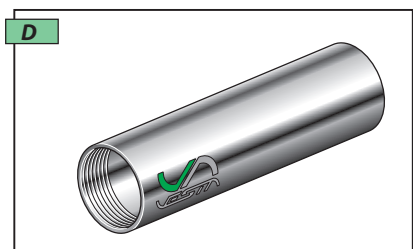
Lubrication not required.
*Possibilità di funzionamento continuo
privo di lubrificazione.*



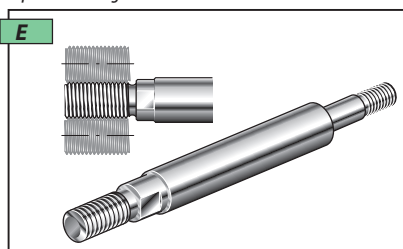
"Screw head" construction allows
immediate check up of cylinders.
*Le teste filettate consentono di
ispezionare agevolmente il cilindro.*



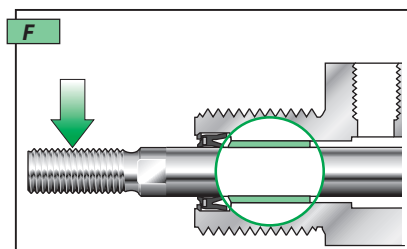
Caps in a light alloy of anodized
aluminium.
*Le teste sono in lega leggera di
alluminio anodizzate.*



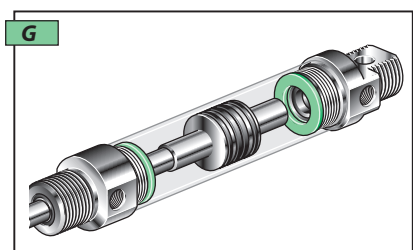
Tubes in anodized aluminium.
Le camicie sono in alluminio anodizzato.



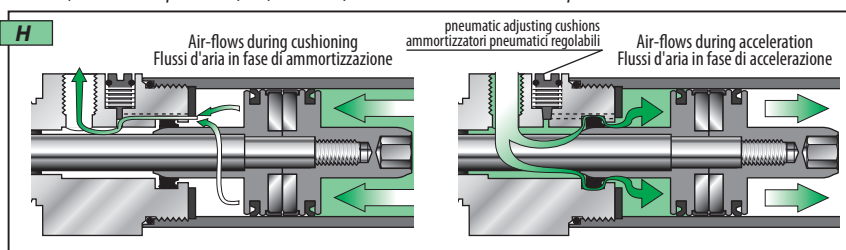
Piston rods in rolled stainless steel
X5CrNi 1810 (X20Cr 13 for Ø32,40,50).
*Steli in acciaio INOX X5CrNi 1810
rullato (X20Cr 13 per Ø32,40,50 mm).*



Self lubricating bearing in a copper-steel
alloy, with teflon covering.
*Boccole autolubrificanti in acciaio
ramato con deposito in Teflon.*



Mechanical buffers at both ends for **DVM**
and **DVMT** series.
*Smorzatori d'urto meccanici per **DVM** e **DVMT**.*



Very efficient and progressive adjustable cushioning for **ACM** and **ACMT** series.
*Ammortizzatori pneumatici progressivi ed efficienti per la serie **ACM** ed **ACMT**.*

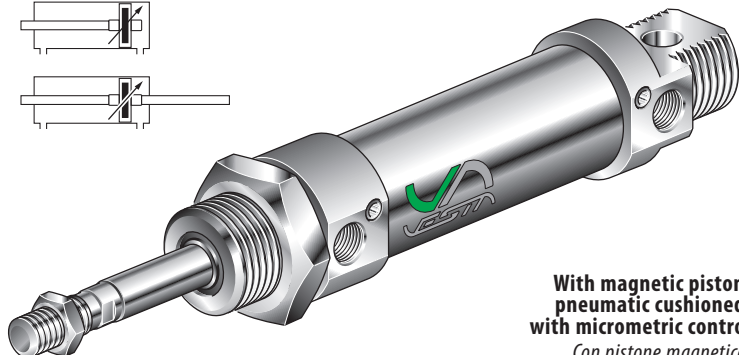
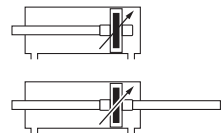


SERIE **ACM**

CUSHIONED PNEUMATIC CYLINDERS STANDARD ISO 6432 CILINDRI PNEUMATICI AMMORTIZZATI ISO 6432

ATEX versions see / Versioni ATEX vedi .. P. A-109

With magnetic piston / Con pistone magnetico



With magnetic piston,
pneumatic cushioned,
with micrometric control
Con pistone magnetico,
ammortizzatori pneumatici progressivi
con regolazione micrometrica

ACM /

Bore
Alesaggio
(mm):
Ø16 **16**
Ø20 **20**
Ø25 **25**

Stroke
Corsa
(mm):

VS Viton rod seal
Guarnizione dello stelo in Viton

VV Viton all seal
Tutte le guarnizioni in Viton

P Through rod cylinder
Cilindro stelo passante

Bore Alesaggio	10	25	50	80	100	125	160	200	250	300	350	400	450	500
16	•	•	•	•	•	•	•	•	•	•	•	•	•	•
20	•	•	•	•	•	•	•	•	•	•	•	•	•	•
25	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Effective cushion length Lunghezza utile ammortizzatore	Bore Alesaggio	Length Lunghezza
16	16	24
20	20	27
25	25	30

ISO 6432 cylinder fixing see:
Fissaggi per cilindri ISO 6432 vedi:
..... **Pag. A-10 ÷ A-11.**

Features of reed switches see:
Caratteristiche finecorsa magnetici:
..... **Pag. A-11, A-19.**

TECHNICAL FEATURES

End caps Anodized aluminium.
Piston rod Rolled burnished stainless steel X5CrNi 1810.
Barrel Anodized aluminium.
Seals NBR rubber.
Cushioning Pneumatic adjusting cushions.

Environment temperature range -10 °C ÷ +80 °C.
Temperature range of medium 0 °C ÷ +40 °C.
Lubrication Not required.
Medium Filtered air.
Max operating pressure 10 bar.

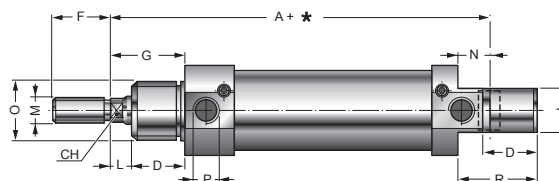
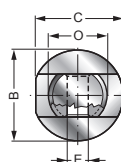
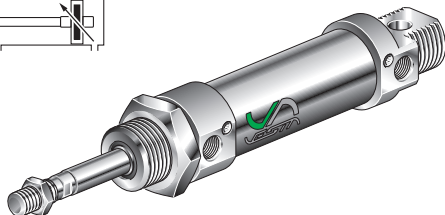
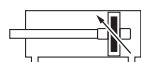
CARATTERISTICHE TECNICHE

Testate Alluminio anodizzato.
Stelo Acciaio inox X5CrNi 1810 rollato.
Camicia Alluminio anodizzato.
Guarnizioni Tutte in NBR.
Ammortizzatori Pneumatici regolabili.

Temperatura ambiente -10 °C ÷ +80 °C.
Temperatura fluido 0 °C ÷ +40 °C.
Lubrificazione Non necessaria.
Fluido Aria filtrata.
Pressione max d'esercizio 10 bar.

ACM .. /...

SINGLE ROD
CILINDRO BASE STELO SEMPLICE



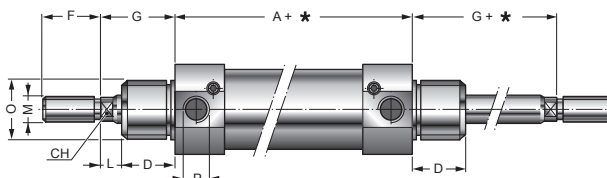
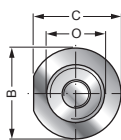
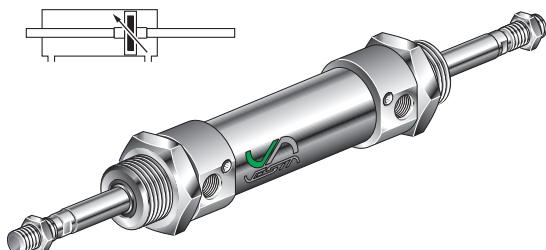
Bore Alesaggio	A	ØB	C	CH	D	ØEH9	F	G	I	L	ØM	N	ØO	ØP	R	Code Codice
16	82	22	21,2	5	15	6	16	22	12	7	M6x1	9	M16x1,5	M5	22	ACM 16/...
20	95	28	26,2	7	19	8	20	24	16	5	M8x1,25	12	M22x1,5	G1/8	30	ACM 20/...
25	104	34	32,5	8	20	8	22	28	16	8	M10x1,25	12	M22x1,5	G1/8	30	ACM 25/...

ATEX versions see / Versioni ATEX vedi .. P. A-109

* = Stroke / Corsa

ACM .. /... P

THROUGH ROD
STELO PASSANTE



Bore Alesaggio	A	ØB	C	CH	D	F	G	L	ØM	ØO	ØP	Code Codice
16	56	22	21,2	5	15	16	22	7	M6x1	M16x1,5	M5	ACM 16/... P
20	68	28	26,2	7	19	20	24	5	M8x1,25	M22x1,5	G1/8	ACM 20/... P
25	69	34	32,5	8	20	22	28	8	M10x1,25	M22x1,5	G1/8	ACM 25/... P

ATEX versions see / Versioni ATEX vedi .. P. A-109

* = Stroke / Corsa

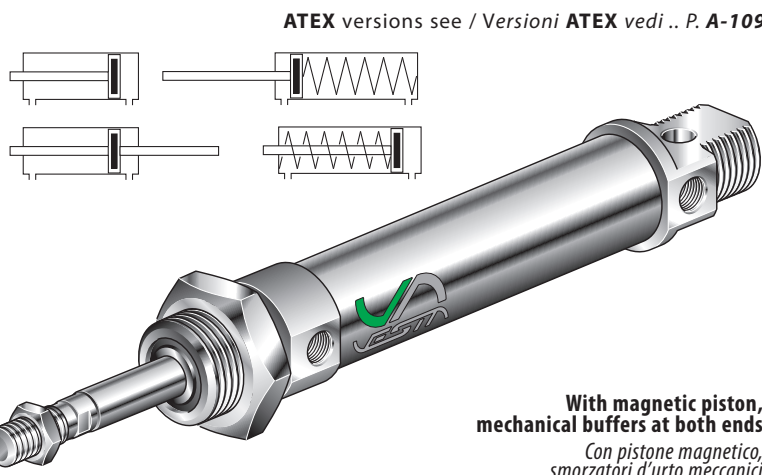
PNEUMATIC CYLINDERS WITH MAGNETIC PISTON STANDARD ISO 6432 CILINDRI PNEUMATICI CON PISTONE MAGNETICO ISO 6432

SERIE **DVM**

With magnetic piston / Con pistone magnetico

DVM /

Bore Allesaggio (mm):	Stroke Corsa (mm):	VS Viton rod seal Guarnizione dello stelo in Viton
Ø12 12		VV Viton all seal Tutte le guarnizioni in Viton
Ø16 16		
Ø20 20		
Ø25 25		
P	Through rod cylinder Cilindro stelo passante	
SEA	Simple acting front spring Cilindro semplice effetto molla anteriore	
SEP	Simple acting rear spring Cilindro semplice effetto molla posteriore	



Bore Allesaggio	10	25	50	80	100	125	160	200	250	300	350	400	450	500
12	•	•	•	•	•	•	•	•	•	•	•	•	•	•
16	•	•	•	•	•	•	•	•	•	•	•	•	•	•
20	•	•	•	•	•	•	•	•	•	•	•	•	•	•
25	•	•	•	•	•	•	•	•	•	•	•	•	•	•

ISO 6432 cylinder fixing see:
Fissaggi per cilindri ISO 6432 vedi: **Pag. A-10 ÷ A-11.**

Features of reed switches see:
Caratteristiche finecorsa magnetici: **Pag. A-11, A-19.**

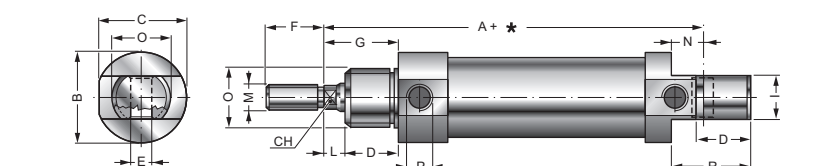
End caps	Anodized aluminium.
Piston rod	Rolled burnished stainless steel X5CrNi 1810.
Barrel	Anodized aluminium.
Seals	NBR rubber.
Cushioning	Mechanical buffers.

TECHNICAL FEATURES	
Environment temperature range	-10 °C ÷ +80 °C.
Temperature range of medium	0 °C ÷ +40 °C.
Lubrication	Not required.
Medium	Filtered air.
Max operating pressure	10 bar.

Testate	Alluminio anodizzato.
Stelo	Acciaio inox X5CrNi 1810 rollato.
Camicia	Alluminio anodizzato.
Guarnizioni	Tutte in NBR.
Ammortizzatori	Meccanici in poliuretano.

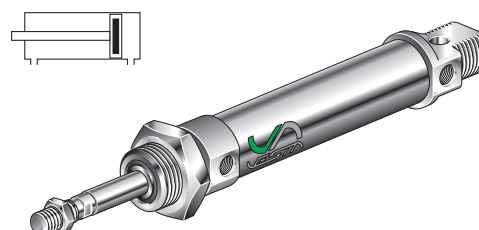
CARATTERISTICHE TECNICHE	
Temperatura ambiente	-10 °C ÷ +80 °C.
Temperatura fluido	0 °C ÷ +40 °C.
Lubrificazione	Non necessaria.
Fluido	Aria filtrata.
Pressione max d'esercizio	10 bar.

* = Stroke / Corsa



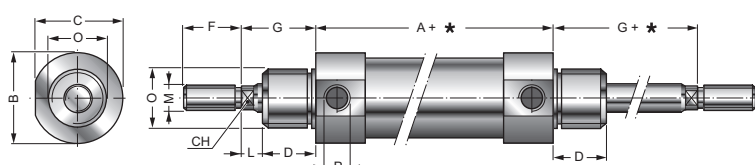
Bore Allesaggio	A	ØB	C	CH	D	ØE ^{H9}	F	G	I	L	ØM	N	ØO	ØP	R	Code Codice
12	75	18	17,2	5	15	6	16	22	12	7	M6x1	9	M16x1,5	M5	22	DVM 12/...
16	82	22	21,2	5	15	6	16	22	12	7	M6x1	9	M16x1,5	M5	22	DVM 16/...
20	95	28	26,2	7	19	8	20	24	16	5	M8x1,25	12	M22x1,5	G1/8	30	DVM 20/...
25	104	32	32,5	8	20	8	22	28	16	8	M10x1,25	12	M22x1,5	G1/8	30	DVM 25/...

SINGLE ROD
CILINDRO BASE STELO SEMPLICE **DVM .. /...**



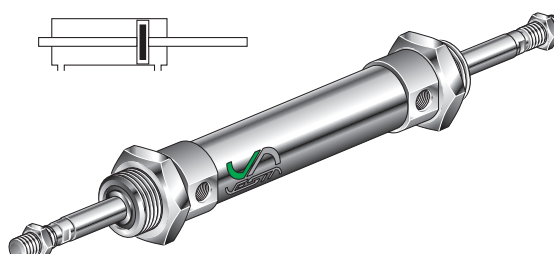
ATEX versions see / Versioni ATEX vedi .. P. A-109

* = Stroke / Corsa



Bore Allesaggio	A	ØB	C	CH	D	F	G	L	ØM	ØO	ØP	Code Codice
12	49,5	18	17,2	5	15	16	22	7	M6x1	M16x1,5	M5	DVM 12/... P
16	56	22	21,2	5	15	16	22	7	M6x1	M16x1,5	M5	DVM 16/... P
20	68	28	26,2	7	19	20	24	5	M8x1,25	M22x1,5	G1/8	DVM 20/... P
25	69	32	32,5	8	20	22	28	8	M10x1,25	M22x1,5	G1/8	DVM 25/... P

THROUGH ROD
STELO PASSANTE **DVM .. /... P**



ATEX versions see / Versioni ATEX vedi .. P. A-109

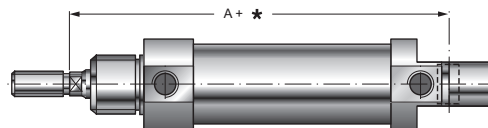
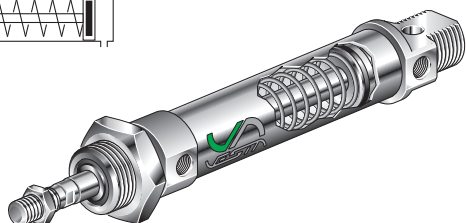
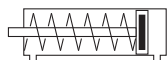


DVM .. /... SEA

SIMPLE ACTING FRONT SPRING
SEMPLICE EFFETTO MOLLA ANTERIORE

For overall dimensions see DVM single rod
Dimensioni di ingombro vedi DVM base stelo semplice

* = Stroke / Corsa



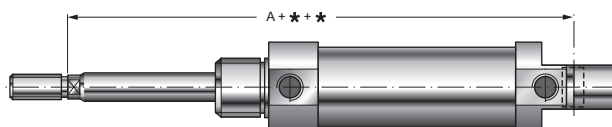
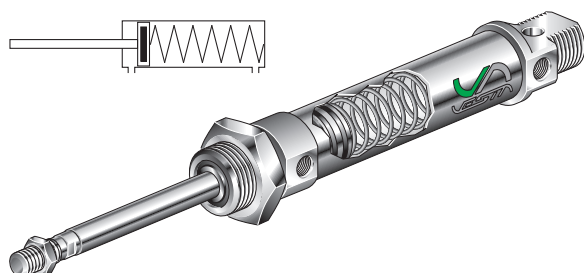
Bore Alesaggio	A	Code Codice
12	75	DVM 12/... SEA
16	82	DVM 16/... SEA
20	95	DVM 20/... SEA
25	104	DVM 25/... SEA

DVM .. /... SEP

SIMPLE ACTING REAR SPRING
SEMPLICE EFFETTO MOLLA POSTERIORE

For overall dimensions see DVM standard
Dimensioni di ingombro vedi DVM standard

* = Stroke / Corsa

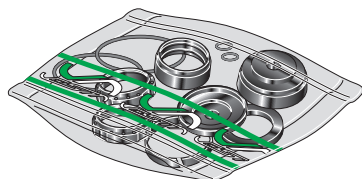


Bore Alesaggio	A	Code Codice
12	75	DVM 12/... SEP
16	82	DVM 16/... SEP
20	95	DVM 20/... SEP
25	104	DVM 25/... SEP

Strokes Corse (mm)	Spring force - Forza molla (daN)								..SEA	..SEP
	Ø12 mm		Ø16 mm		Ø20 mm		Ø25 mm			
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.		
10	2,1	2,4	2,2	2,5	2,3	2,6	2,3	2,6	●	●
25	1,6	2,4	1,6	2,5	1,7	2,6	1,7	2,6	●	●
50	0,35	2,4	0,5	2,5	1	2,6	1	2,6	●	●

..... - SG

SEALS KIT
KIT GUARNIZIONI DI RICAMBIO



Seals kit code = **Cylinder code** + **Bore** + **Versions** + - **SG**:
(The kit includes all seals).

Codice del kit = **Codice del cilindro** + **Alesaggio** + **Versions** + - **SG**:
(Il kit comprende tutte le guarnizioni necessarie).

Example / Esempio: **DVM 16 VS - SG**

AXIAL REAR INLET AIR CYLINDERS CILINDRI PNEUMATICI CON ALIMENTAZIONE POSTERIORE IN ASSE

SERIE **DRM**

With magnetic piston / Con pistone magnetico

DRM /

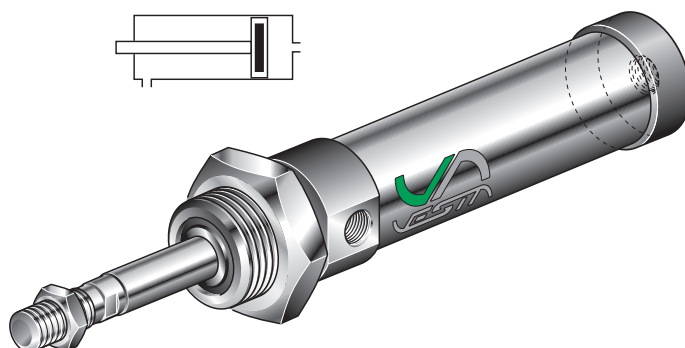
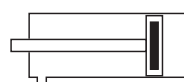
Bore
Alesaggio (mm):

Ø12 **12**
Ø16 **16**
Ø20 **20**
Ø25 **25**

Stroke
Corsa
(mm):

SEA Simple acting front spring
Cilindro semplice effetto molla anteriore

VS Viton rod seal
Guarnizione dello stelo in Viton
VV All viton seals
Tutte le guarnizioni in Viton



With magnetic piston, mechanical buffers at both ends.
Con pistone magnetico, smorzatori d'urto meccanici.

Cylinder fixing see:
Fissaggi per cilindri vedi: **Pag. A-10, A-11.**

Features of reed switches see:
Caratteristiche finecorsa magnetici: **Pag. A-11, A-19.**

Standard stroke / Corse Standard

Bore Alesaggio	10	25	50	80	100	125	160	200	250	300	350	400	450	500
12	•	•	•	•	•	•	•	•	•	•	•	•	•	•
16	•	•	•	•	•	•	•	•	•	•	•	•	•	•
20	•	•	•	•	•	•	•	•	•	•	•	•	•	•
25	•	•	•	•	•	•	•	•	•	•	•	•	•	•

End caps Anodized aluminium.
Piston rod Rolled burnished stainless steel X5CrNi 1810.
Barrel Anodized aluminium.
Seals NBR rubber.
Cushioning Mechanical buffers.

Environment temperature range -10 °C ÷ +80 °C.
Temperature range of medium 0 °C ÷ +40 °C.
Lubrication Not required.
Medium Filtered air.
Max operating pressure 10 bar.

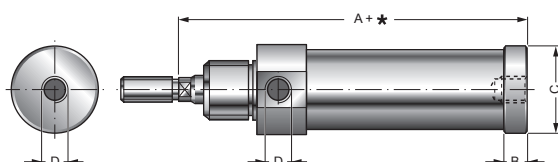
TECHNICAL FEATURES

Testate Alluminio anodizzato.
Stelo Acciaio inox X5CrNi 1810 rollato.
Camicia Alluminio anodizzato.
Guarnizioni Tutte in NBR.
Ammortizzatori Meccanici in poliuretano.

Temperatura ambiente -10 °C ÷ +80 °C.
Temperatura fluido 0 °C ÷ +40 °C.
Lubrificazione Non necessaria.
Fluido Aria filtrata.
Pressione max d'esercizio 10 bar.

CARATTERISTICHE TECNICHE

* = Stroke / Corsa

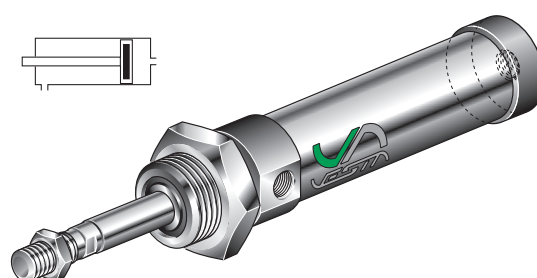
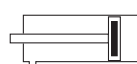


For other dimensions please see
DVM standard cylinder
Per altre dimensioni vedere
cilindri DVM standard

Bore Alesaggio	A	B	ØC	D	Code Codice
12	69	6,5	18	M5	DRM 12/...
16	74	6,5	22	M5	DRM 16/...
20	85	8,5	28	G1/8	DRM 20/...
25	90	8,5	34	G1/8	DRM 25/...

BASIC CYLINDER
CILINDRO BASE

DRM .. / ...

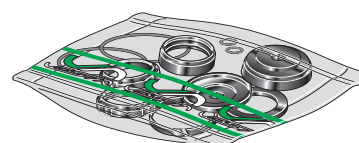


Seals kit code = **Cylinder code + Bore + Versions + - SG:**
(The kit includes all seals).

Codice del kit = **Codice del cilindro + Alesaggio + Versioni + - SG:**
(Il kit comprende tutte le guarnizioni necessarie).

Example / Esempio: **DRM 16 VV - SG**

SEALS KIT
KIT GUARNIZIONI DI RICAMBIO - **SG**





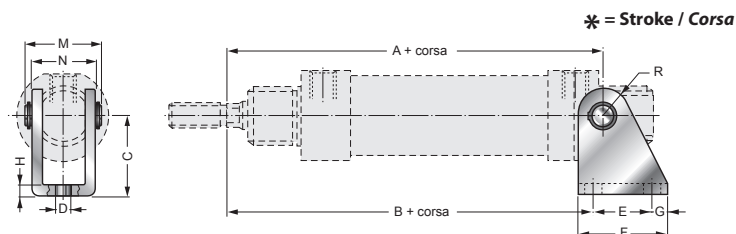
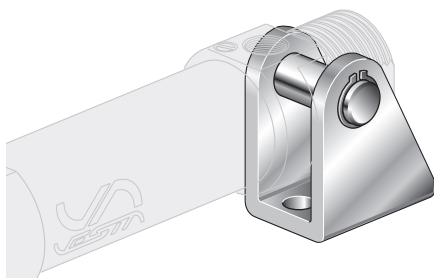
FIXING ACCESSORIES / ACCESSORI DI FISSAGGIO PER CILINDRI ISO 6432

Fixing accessories in steel grant a correct mounting for all usage of the Vesta cylinders. (Note: the fixing screws are not included in the supply of the fittings)

Gli accessori di fissaggio garantiscono montaggi stabili e resistenti alle sollecitazioni. Sono realizzati in acciaio per soddisfare ogni possibile tipo di impiego. (Nota: le viti di fissaggio non sono comprese nella fornitura degli accessori.)

AS/..

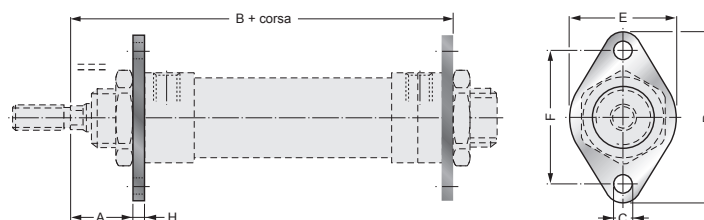
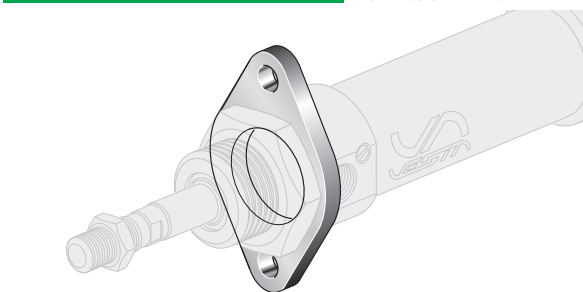
REAR HINGE HORIZONTAL MOUNTING
MONTAGGIO A CONTROCERNIERA



Bore Alesaggio	A	B	C	ØD	E	F	G	H	M	N	R	Code Codice
12	75	73	27	5,5	15	25	5	3	23	18	7	AS/12
16	82	80	27	5,5	15	25	5	3	23	18	7	AS/16
20	95	91	30	6,6	20	32	6	4	30	24	10	AS/20
25	104	100	30	6,6	20	32	6	4	30	24	10	AS/25

FL/..

FLANGE MOUNTING
MONTAGGIO A FLANGIA

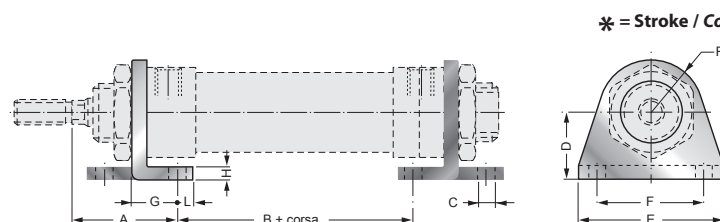
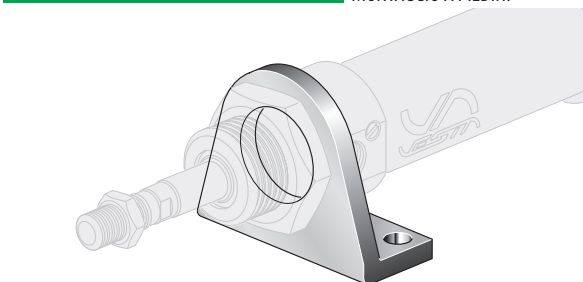


Bore Alesaggio	A	B	ØC	D	E	F	H	Code Codice
12	18	77	5,5	52	30	40	4	FL/12
16	18	84	5,5	52	30	40	4	FL/16
20	19	99	6,6	66	40	50	5	FL/20
25	23	107	6,6	66	40	50	5	FL/25

* = Stroke / Corsa

P/..

FOOT MOUNTING
MONTAGGIO A PIEDINI

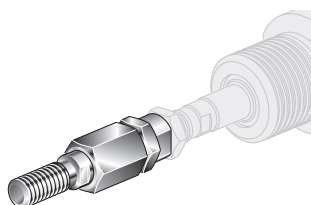
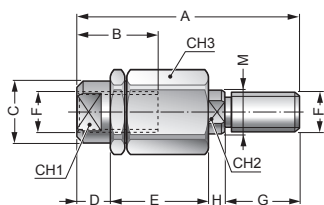


Bore Alesaggio	A	B	ØC	D	E	F	G	H	L	R	Code Codice
12	32	31	5,5	20	42	32	14	4	7	13	P/12
16	32	38	5,5	20	42	32	14	4	7	13	P/16
20	36	46	6,6	25	54	40	17	5	7	20	P/20
25	40	50	6,6	25	54	40	17	5	7	20	P/25

* = Stroke / Corsa

SAS/..

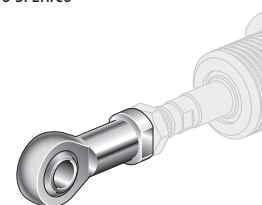
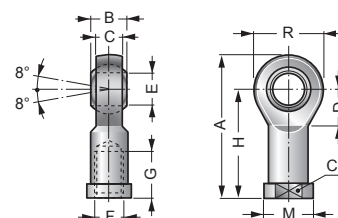
FLOATING JOINT TYPE "S"
SNODO AUTOALLINEANTE



Bore Alesaggio	A	B	ØC	CH1	CH2	CH3	D	E	ØF	G	H	ØM	Code Codice
12	35	10	8,5	7	5	13	4	17,5	M6x1	10	3,5	6	SAS/6x1
16	35	10	8,5	7	5	13	4	17,5	M6x1	10	3,5	6	SAS/6x1
20	57	20	12,5	11	7	17	4,5	28,5	M8x1,25	20	4	8	SAS/8x1,25
25	71	20	22	19	12	30	11	35	M10x1,25	20	5	14	SAS/10x1,25

SNS/..

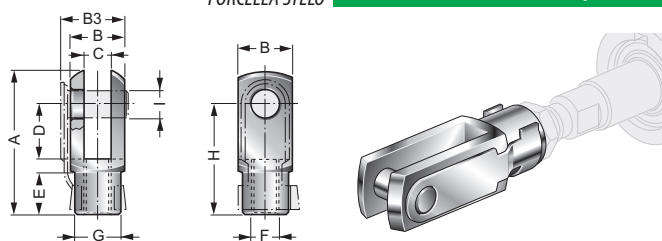
ROD EYE MOUNTING
SNODO SFERICO



Bore Alesaggio	A	B	C	CH	D	ØEH7	ØF	G	H	ØM	ØR	Code Codice
12	40	9	6,8	11	10	6	M6x1	12	30	13	20	SNS/6x1
16	40	9	6,8	11	10	6	M6x1	12	30	13	20	SNS/6x1
20	48	12	9	13	12	8	M8x1,25	16	36	16	24	SNS/8x1,25
25	57	14	10,5	17	15	10	M10x1,25	20	43	19	28	SNS/10x1,25

CLEVIS (ROD) MOUNTING
FORCELLA STELO

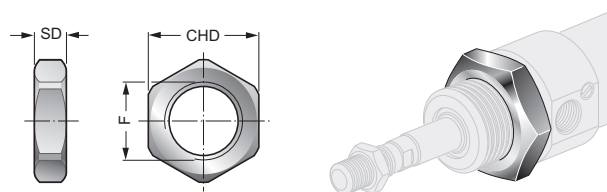
FS/..x..



Bore Alesaggio	A	B	B3	C ^{B12}	D	E	ØF	ØG	H	ØI ^{H9}	Code Codice
12	31	12	16	6	12	9	M6x1	10	24	6	FS/6x1
16	31	12	16	6	12	9	M6x1	10	24	6	FS/6x1
20	42	16	22	8	16	12	M8x1,25	14	32	8	FS/8x1,25
25	52	20	26	10	20	15	M10x1,25	18	40	10	FS/10x1,25

CAP NUT
DADO TESTATA

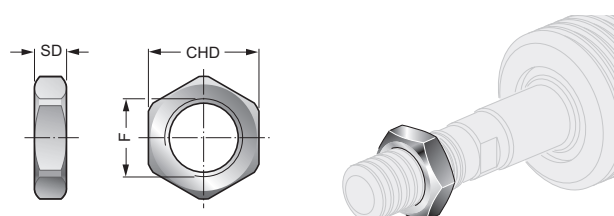
DM../..



Bore Alesaggio	CHD	SD	ØF	Code Codice
12	24	8	M16x1,5	DM12/16
16	24	8	M16x1,5	DM12/16
20	32	10	M22x1,5	DM20/25
25	32	10	M22x1,5	DM20/25

ROD NUT
DADO STELO

DS../..

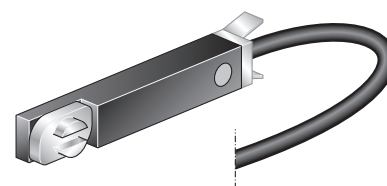
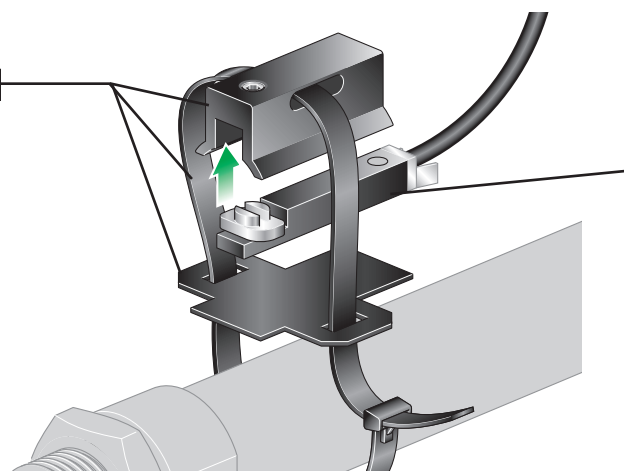


Bore Alesaggio	CHD	SD	ØF	Code Codice
12	10	4	M6x1	DS12/16
16	10	4	M6x1	DS12/16
20	13	5	M8x1,25	DS/20
25	17	6	M10x1,25	DS/25

MAGNETIC SWITCHES FOR ISO 6432 CYLINDER / FINECORSA MAGNETICI PER CILINDRI ISO 6432

FFS 0 1 VN

Bore Alesaggio (mm):	
Ø12 ...	12
Ø16 ...	16
Ø20 ...	20
Ø25 ...	25

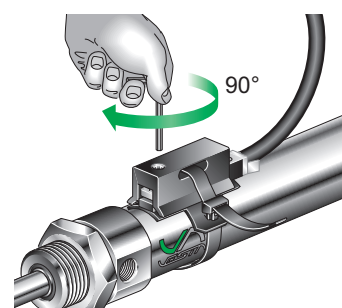
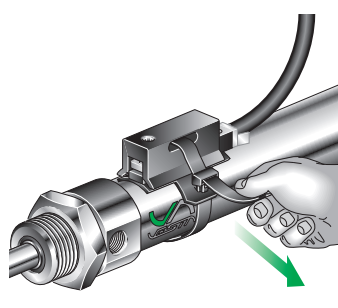
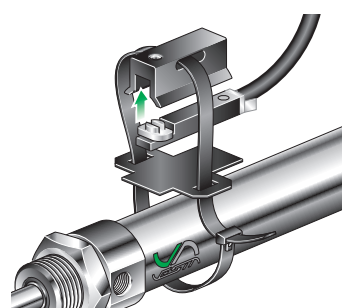
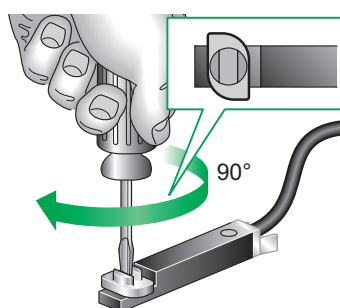


For magnetic switches features see:
Caratteristiche finecorsa magnetici vedi:

VNCR2, VNPR2,
VNCE3, VNPE3.

Pag. A-19

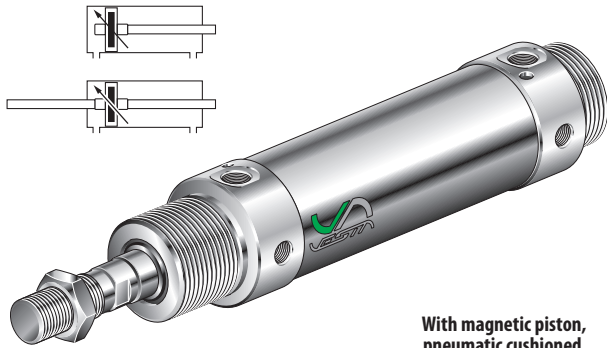
MAGNETIC SWITCH POSITIONING / POSIZIONAMENTO DEI FINECORSA MAGNETICI





SERIE ACMT - DVMT

ROUND MAGNETIC PNEUMATIC CYLINDERS CILINDRI PNEUMATICI TONDI CON PISTONE MAGNETICO



With magnetic piston,
pneumatic cushioned,
with micrometric control for ACMT
or mechanical buffers for DVMT

Con pistone magnetico,
ammortizzatori pneumatici regolabili per la serie ACMT
oppure con smorzatori d'urto per la versione DVMT

Standard stroke / Corse Standard	
Bore Alesaggio	
25	
50	
80	
100	
125	
160	
200	
250	
300	
400	
500	

Effective cushion length Lunghezza utile ammortizzatore	
Bore Alesaggio	Length Lunghezza
32	24
40	27
50	30

With magnetic piston / Con pistone magnetico



AC Pneumatic cushioned
Ammortizzatori pneumatici
DV Mechanical buffers
Smorzatori d'urto meccanici

VS Viton rod seal
Guarnizione dello stelo in Viton
VV Viton all seal
Tutte le guarnizioni in Viton

P Through rod cylinder
Cilindro stelo passante

Upon request available with
piston rod **ISO 15552** threaded.
A richiesta fornibile
con stelo filettato **ISO 15552**.

Cylinder fixing see:
Fissaggi per cilindri vedi: **Pag. A-13.**

Features of reed switches see:
Caratteristiche finecorsa magnetici: **Pag. A-13, A-19.**

TECHNICAL FEATURES

End caps Anodized aluminium.
Piston rod Rolled burnished stainless steel X20 Cr13.
Barrel Anodized aluminium.
Seals Polyurethane rubber.
Cushioning Pneumatic with micrometric control.

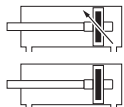
Environment temperature range $-10^{\circ}\text{C} \div +80^{\circ}\text{C}$.
Temperature range of medium $0^{\circ}\text{C} \div +40^{\circ}\text{C}$.
Lubrication Not required.
Medium Filtered air.
Max operating pressure 10 bar.

Testate Alluminio anodizzato.
Stelo Acciaio inox X20 Cr13 rollato.
Camicia Alluminio anodizzato.
Guarnizioni Tutte in Poliuretano.
Ammortizzatori Pneumatici con regolazione micrometrica.

Temperatura ambiente $-10^{\circ}\text{C} \div +80^{\circ}\text{C}$.
Temperatura fluido $0^{\circ}\text{C} \div +40^{\circ}\text{C}$.
Lubrificazione Non necessaria.
Fluido Aria filtrata.
Pressione max d'esercizio 10 bar.

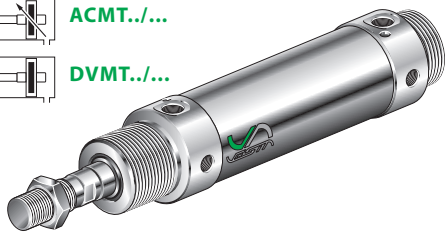
ACMT .. / ... DVMT .. / ...

SINGLE ROD
CILINDRO BASE STELO SEMPLICE

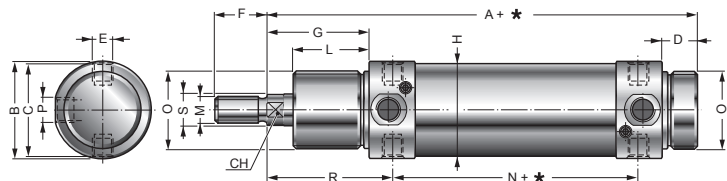


ACMT../...

DVMT../...



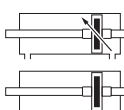
* = Stroke / Corsa



Bore Alesaggio	A	ØB	C	CH	D	ØE	F	G	H	L	ØM	N	ØO	ØP	R	ØS	Code
32	148	38	36,8	10	14	M8x1	20	38	36	30	M10	78	M30x1,5	G1/8	47	12	ACMT 32/...
40	174	46	44,8	13	16	M10x1	24	45	45	35	M12	89	M38x1,5	G1/4	57	16	ACMT 40/...
50	188	58	55,8	17	18	M12x1,5	32	50	55	38	M16	96	M45x1,5	G1/4	62	20	ACMT 50/...

ACMT .. / ... P DVMT .. / ... P

THROUGH ROD
STELO PASSANTE

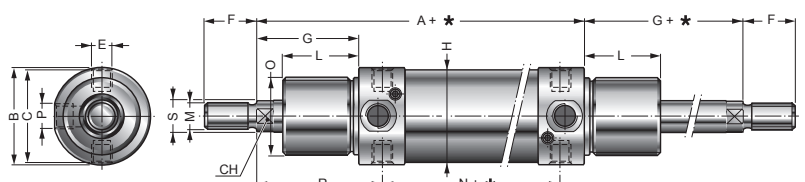


ACMT../...P

DVMT../...P



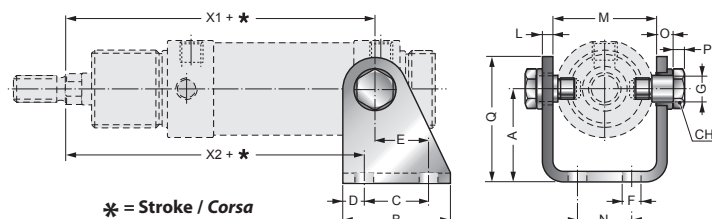
* = Stroke / Corsa



Bore	A	ØB	C	CH	ØE	F	G	H	L	ØM	N	ØO	ØP	R	ØS	Code
32	134	38	36,8	10	M8x1	20	38	36	30	M10	78	M30x1,5	G1/8	47	12	ACMT 32/...P
40	158	46	44,8	13	M10x1	24	45	45	35	M12	89	M38x1,5	G1/4	57	16	ACMT 40/...P
50	170	58	55,8	17	M12x1,5	32	50	55	38	M16	96	M45x1,5	G1/4	62	20	ACMT 50/...P

FIXING ACCESSORIES FOR ACMT AND DVMT / ACCESSORI DI FISSAGGIO PER ACMT E DVMT

Note: the fixing screws are not included in the supply of the fittings / le viti di fissaggio non sono comprese nella fornitura degli accessori.

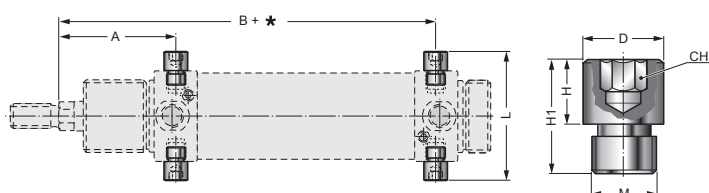
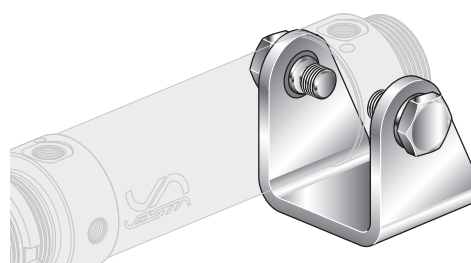


* = Stroke / Corsa

Bore Alesaggio	X1	X2	A	B	C	CH	D	E	ØF	ØG	L	M	N	O	P	Q	Code Codice
32	125	121	35	40	24	13	8	20	7	10	4	38,1	20	6	4	47	AS/32
40	146	143	40	50	30	17	10	27	9	12	5	46,1	28	7	5	53	AS/40
50	158	154	45	54	34	19	10	30	9	14	6	57,1	36	8,5	6	59	AS/50

REAR HINGE HORIZONTAL MOUNTING
MONTAGGIO A CONTROCERNIERA

AS/..

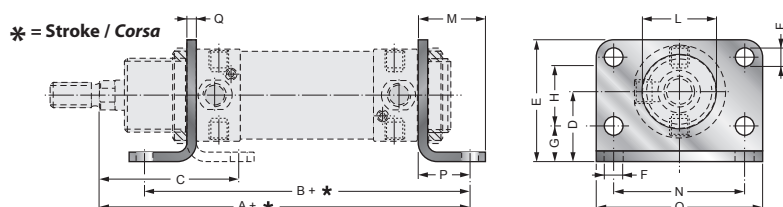
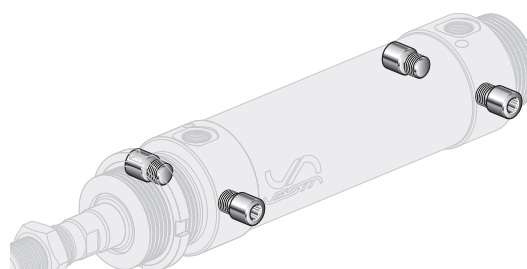


* = Stroke / Corsa

Bore Alesaggio	A	B	CH	ØD	H	H1	L	M	Code Codice
32	47	125	5	10	8	14	51	M8x1	CBF/32
40	57	146	6	12	9,5	16,5	61	M10x1	CBF/40
50	62	158	6	14	11	20	75	M12x1,5	CBF/50

PIVOT FOR FLOATING HINGE MOUNTING
PERNI PER MONTAGGIO A CERNIERA OSCILLANTE

CBF/..



Bore Alesaggio	A	B	C	D	E	F	G	H	L	M	N	O	P	Q	Code Codice
32	148	124	48	28	49	7	14	28	30	21	52	66	14	4	P/32
40	178	153	60	33	58	9	18	30	38	30	60	80	20	5	P/40
50	190	160	64	40	70	9	20	40	45	30	70	90	20	6	P/50

FOOT MOUNTING
MONTAGGIO A PIEDINI

P/..

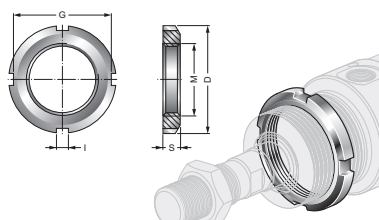


RING NUT FOR FIXING
GHIERA DI FISSAGGIO

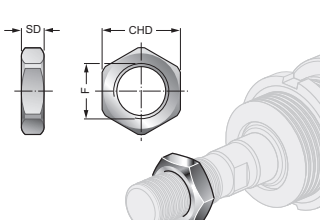
GM/..

ROD NUT
DADO STELO

DST/..



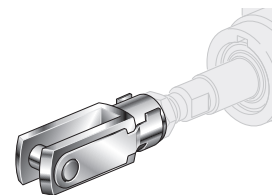
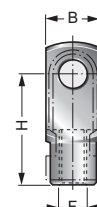
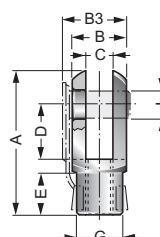
Bore Alesaggio	ØD	G	I	M	S	Code Codice
32	45	40	5	M30x1,5	7	GM/32
40	50	46	5	M38x1,5	8	GM/40
50	58	52	6	M45x1,5	9	GM/50



Bore Alesaggio	CHD	F	SD	Code Codice
32	17	M10x1,5	6	DST/32
40	19	M12x1,75	7	DST/40
50	24	M16x2	8	DST/50

CLEVIS (ROD) MOUNTING
FORCELLA STELO

FS..x..



Bore Alesaggio	A	B	B3	C ^{B12}	D	E	ØF	ØG	H	ØI ^{H9}	Code Codice
32	52	20	26	10	20	15	M10 x 1,5	18	40	10	FS/10x1,5
40	62	24	32	12	24	18	M12 x 1,75	20	48	12	FS/12x1,75
50	83	32	40	16	32	24	M16 x 2	26	64	16	FS/16x2

MAGNETIC SWITCHES / FINECORSA MAGNETICI

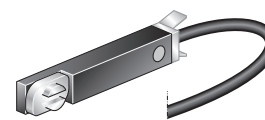
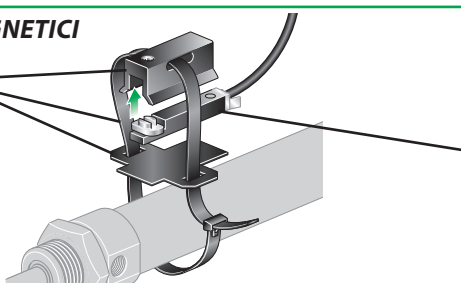
FFS 0 2 VN

Bore
Alesaggio (mm):

Ø32 ... 32

Ø40 ... 40

Ø50 ... 50



For magnetic switches features see:
Caratteristiche finecorsa magnetici vedi:

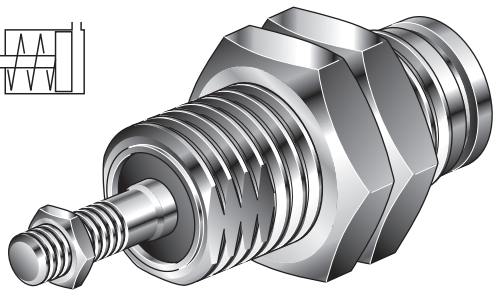
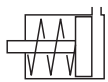
VNCR2, VNPR2, VNCE3, VNPE3.

General catalogue Pag. A-19



SERIE CZ

CARTRIDGE CYLINDERS CILINDRI A CARTUCCIA



Minicylinder single acting front spring.
Microcilindro semplice effetto molla anteriore

Bore Alesaggio	Weight / Pesi (g)		
	5	10	15
6	10	12,8	15
10	27	32	36
16	70	78	87

CZ /

Bore
Alesaggio
(mm):

Ø6 **6**
Ø10 **10**
Ø16 **16**

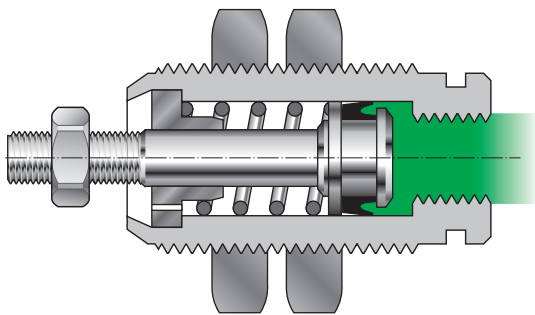
T Threaded piston rod (standard)
Stelo filettato (standard)
S Not threaded piston rod
Stelo non filettato

Stroke / Corsa
(mm):

5, 10, 15

Bore Alesaggio	Thrusts / Forze sviluppate (N)		
	Thrust / Spinta (6 Bar)	Spring forces / Carico molla	
		Stroke 0 Stelo dentro	End stroke Stelo esteso
6	12	1,2	3,8
10	35	2,7	7,3
16	102	3,3	6,6

OPERATING INSTRUCTION / PRECAUZIONI PER L'USO



Series **CZ** cylinders don't need maintenance or lubrication.
Avoid high piston rod loads to enable a long cylinder life.
Cylinder supplied without O-Ring.

Seals kit is not available for **CZ** series

*I cilindri serie **CZ** non necessitano di manutenzione e lubrificazione.
E' consigliabile evitare carichi radiali eccessivi sullo stelo.
Il cilindro è fornito senza O-Ring.*

*Per la serie **CZ** non sono disponibili guarnizioni di ricambio*

TECHNICAL FEATURES

Piston rod	Stainless steel X10 Cr Ni S 18-09.
Bush	Nickel plated brass.
Spring	Steel.
Body	Nickel plated brass.
Seals	NBR rubber.

Nuts	Zinc coated steel.
Environment temperature range	-20 ÷ +80 °C.
Temperature range of medium	0 ÷ +40 °C.
Lubrication	Not required.
Medium	filtered air.
Operating pressure range	2 ÷ 7 bar.

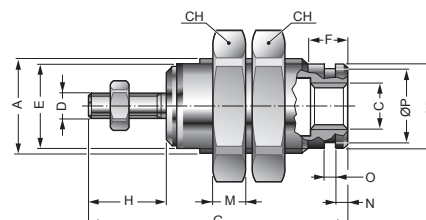
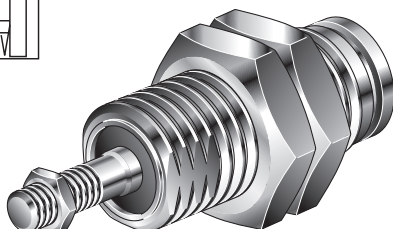
CARATTERISTICHE TECNICHE

Stelo	Acciaio inox X10 Cr Ni S 18-09.
Boccola	Ottone nichelato.
Molla	Acciaio.
Corpo	Ottone nichelato.
Guarnizioni	In NBR.

Bussola e dado	Acciaio zincato.
Temperatura ambiente	-20 °C ÷ +80 °C.
Temperatura fluido	0 °C ÷ +40 °C.
Lubrificazione	Non necessaria.
Fluido	Aria filtrata.
Pressione di esercizio	2 ÷ 7 bar.

CZ .. /...

BASIC CYLINDER CILINDRO BASE



Bore Alesaggio	A	B	C	D	E	F	G			H	M	CH	N	O	P	Code Codice
							5	10	15							
6	M10X1	8,5	M5	M3	9	5	27,5	34,5	41,5	8	3	14	1,5	1,2	7,3	CZ 06/..
10	M15X1,5	12	M5	M4	14	7	33,5	40	47	10,5	4	19	1,5	1,7	9,8	CZ 10/..
16	M22X1,5	19	M5	M5	20	6	40	45	50	13	5	27	2	1,7	16,8	CZ 16/..

PNEUMATIC CYLINDERS STANDARD VDMA - ISO 15552 CILINDRI PNEUMATICI VDMA - ISO 15552

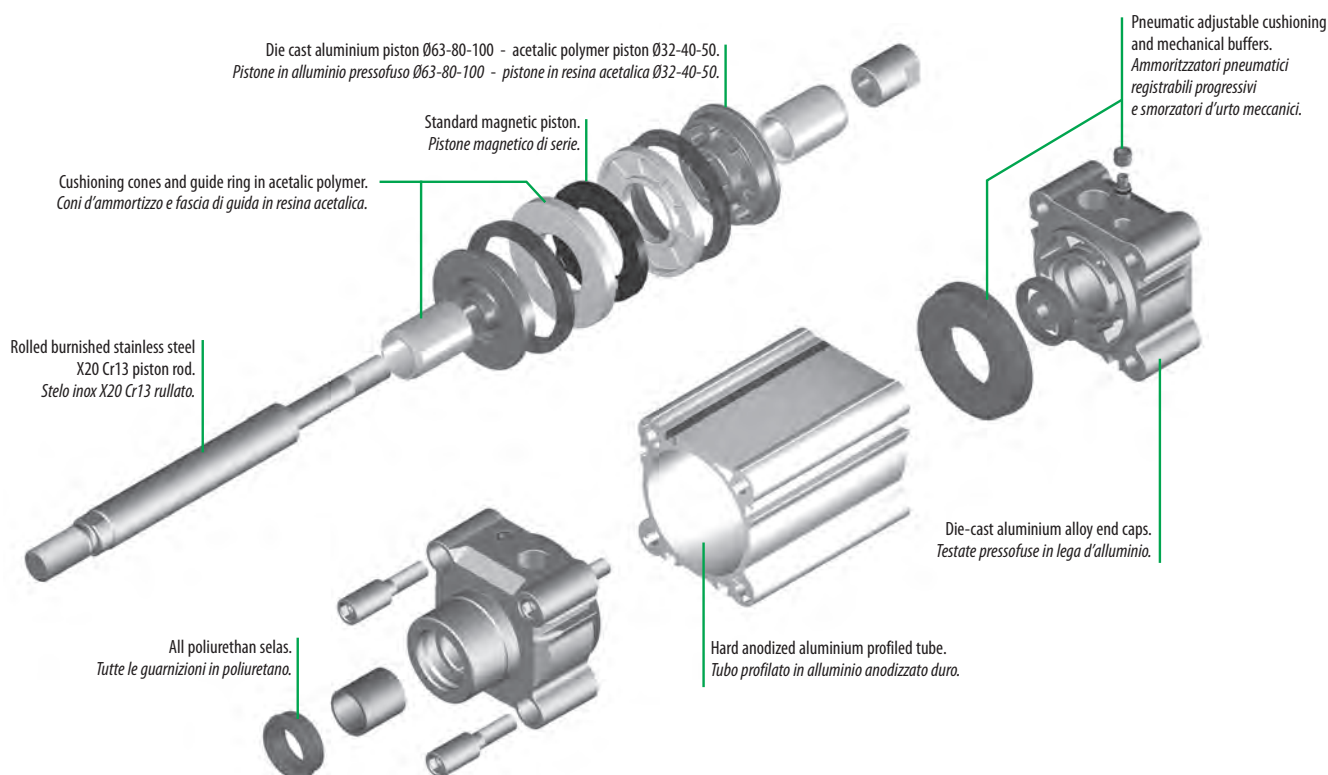
SERIE **NWT**

NWT is a new range of ISO 15552 cylinders with new design and new technology in production process, to satisfy needs of high quality performances and more competitiveness. Vesta has developed **NWT** project by using new materials for parts and new ways of producing those parts as well as new assembling and testing methods. As results, **NWT** cylinders are solid, high performing, very reliable and much competitive.

NWT è la nuova gamma di cilindri ISO 15552 caratterizzati da un nuovo design e dall'utilizzo di nuove tecnologie produttive. Vesta soddisfa in questo modo l'esigenza di alta qualità del prodotto con sempre maggiore competitività. Per questa nuova serie Vesta ha studiato nuovi componenti progettati ed ingegnerizzati utilizzando nuovi materiali e nuovi metodi di produzione. Lo scopo raggiunto è quello di unire la nota robustezza ed affidabilità dei cilindri Vesta a prestazioni e criteri di competitività ancora più spinti.



Nwt
cylinders series



Heads	Die-cast aluminium alloy.
Piston rod	Roller burnished stainless steel X20 Cr13.
Barrel	Anodized profiled aluminium tube.
Seals	Poliurethan.
Cushioning	Pneumatic adjusting cushions.
Buffers	Mechanical.

Environment temperature range	-10 °C ÷ +80 °C.
Temperature range of medium	0 °C ÷ +40 °C.
Lubrication	Not required.
Medium	Filtered air.
Max operating pressure	10 bar.

TECHNICAL FEATURES

Testate	Pressofuse in lega di alluminio.
Stelo	Acciaio inox X20 Cr13 rollato.
Camicia	Tubo profilato ed anodizzato in alluminio.
Guarnizioni	Tutte in poliuretano.
Ammortizzatori	Pneumatici progressivi regolabili.
Smorzatori d'urto	Meccanici.

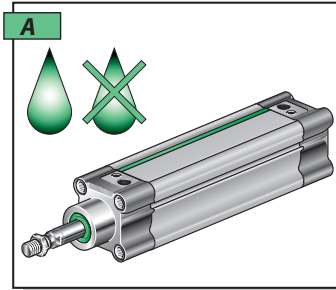
Temperatura ambiente	-10 °C ÷ +80 °C.
Temperatura fluido	0 °C ÷ +40 °C.
Lubrificazione	Non necessaria.
Fluido	Aria filtrata.
Pressione max d'esercizio	10 bar.

CARATTERISTICHE TECNICHE

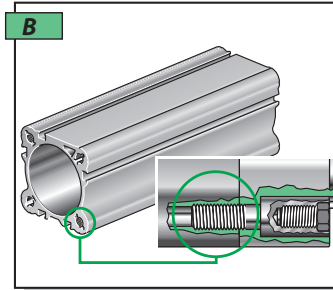


SERIE NWT

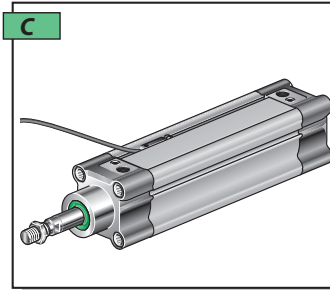
PNEUMATIC CYLINDERS STANDARD VDMA - ISO 15552 CILINDRI PNEUMATICI VDMA - ISO 15552



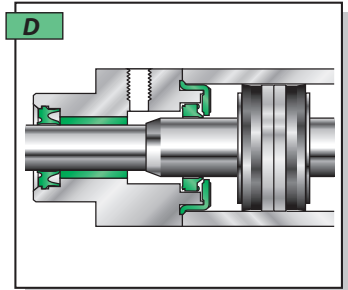
Lubrication not required.
Possibilità di funzionamento continuo
privo di lubrificazione.



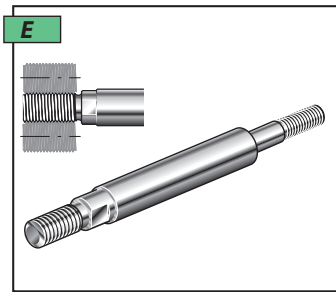
Vesta clean profile tube in anodized aluminium,
threaded.
I profili delle camicie sono in lega di alluminio,
anodizzate e filettate.



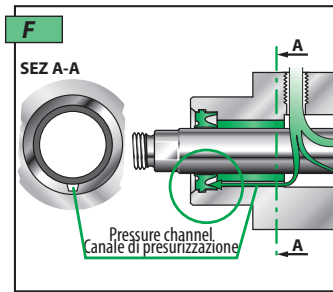
Flush mounted magnetic switches, suitable for easy
insertion on any of the cylinder faces
Finecorsa magnetici a scomparsa con
inserimento radiale direttamente da ogni lato



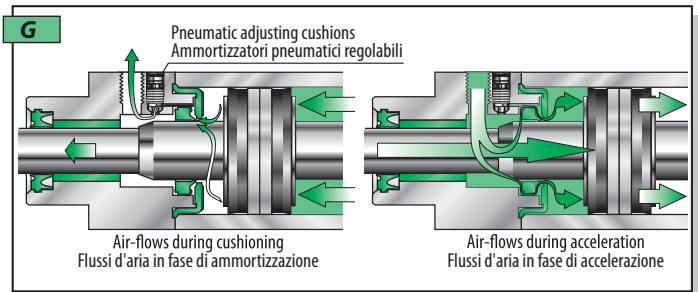
Guided magnetic piston.
Pistone magnetico guidato.



Piston rods in rolled stainless steel X20 Cr 13
Steli in acciaio INOX X20 Cr 13 rollato



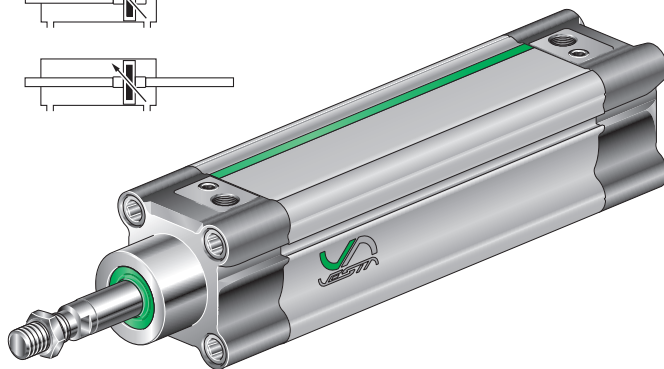
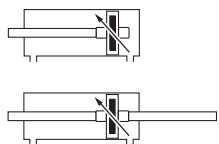
Quick pressurisation of piston rod seal, even after
long unusage.
Pressurizzazione rapida della guarnizione dello stelo
dopo lunga inattività.



Very efficient and progressive adjustable cushioning with mechanical buffers.
Ammortizzatori pneumatici progressivi ed efficienti con smorzatori d'urto di fine corsa.

CYLINDERS ISO 15552 TECHNICAL FEATURES / CARATTERISTICHE TECNICHE CILINDRI ISO 15552

ATEX versions see / Versioni ATEX vedi .. P. A-109



Cushioned cylinder, profile aluminium tube.
Ammortizzato, con camicia profilata di alluminio.

** On request NWT Ø125 is available with piston rod = Ø32 mm

** A richiesta NWT Ø125 è disponibile con stelo = Ø32mm

ISO 15552 cylinder fixing see:
Fissaggi per cilindri ISO 15552 vedi:
Pag. A-22 ÷ A-26

Features of reed switches see:
Caratteristiche finecorsa magnetici:
Pag. A-19

With magnetic piston / Con pistone magnetico

NWT ☐ ☐ ☐ ☐ ☐ ☐

Bore / Alesaggio
(mm):
Ø32 32
Ø40 .. 40
Ø50 ... 50
Ø63 63
Ø80 80
Ø100 ... 100
Ø125 ... 125**

Stroke
Corsa
(mm):

Though rod
cylinder
Cilindro stelo
passante

Simple acting front spring
Semplice effetto molla anteriore

Simple acting rear spring
Semplice effetto molla posteriore

Multi - thrust tandem
Tandem multispinta

Multi - position
Multiposizione

Rear opposed
Contrapposti posteriori

Front opposed
Contrapposti anteriori

P

SEA

SEP

TN2

BS

CNP

CNF

VS Viton rod seal (-5°C / +150°C)
Guarnizione dello stelo in Viton (-5°C / +150°C)

VV Viton all seal (-5°C / +150°C)
Tutte le guarnizioni in Viton (-5°C / +150°C)

KS Chromium plated steel piston-rod
Stelo in acciaio cromato

SS Stainless Steel X5 Cr Ni 18-10 piston-rod
Stelo in Acciaio Inox X5 Cr Ni 18-10

KSS Chromium plated Stainless Steel
X5 Cr Ni 18-10 piston-rod
Stelo in Acciaio Inox X5 Cr Ni 18-10 cromato

LFC Low friction cushioned
Basso attrito, ammortizzato

LF Low friction non-cushioned
Basso attrito, non ammortizzato

H =mm Extended Piston-rod (mm.= lenght)
Stelo prolungato (lunghezza in mm.)

NBX Assembling screws and nuts
in stainless steel
Viti, dadi in acciaio Inox

R32 Piston rod Ø 32 (only NWT 125)
Stelo Ø 32 (solo NWT 125)

LT Low temperature version (-30°C / +80°C)
Versione per bassa temperatura (-30°C / +80°C)

Effective cushion length
Lunghezza utili ammortizzatore

Bore Alesaggio	Length Lunghezza
32	24
40	27
50	30
63	30
80	36
100	38
125	38

Bore Alesaggio	25	50	80	100	125	160	200	250	300	350	400	450	500	600	700	800	900	1000
32																		
40																		
50																		
63																		
80																		
100																		
125																		

* = Stroke / Corsa

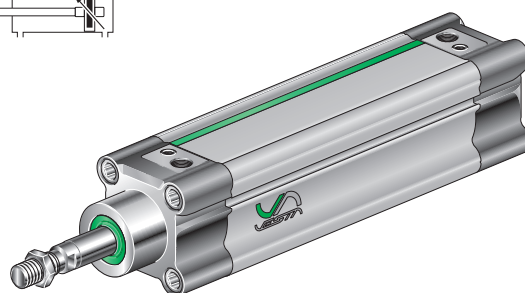
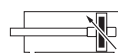
Bore Alesaggio	A	B	C	ØD	ØE	ØF	G	H	I	L	M	N	ØO	ØP	BG	CH	Code Codice
32	120	94	26	30	12	M10x1,25	20	8	18	4	45	32,5	M6	G1/8	16	10	NWT 32/... P
40	135	105	30	35	16	M12x1,25	24	8,5	21,5	4	54	38	M6	G1/4	16	13	NWT 40/... P
50	143	106	37	40	20	M16x1,5	32	9	28	4	64	46,5	M8	G1/4	16	17	NWT 50/... P
63	158	121	37	45	20	M16x1,5	32	8,5	28,5	4	75	56,5	M8	G3/8	16	17	NWT 63/... P
80	174	128	46	45	25	M20x1,5	40	11,5	34,5	4	93	72	M10	G3/8	18	21	NWT 80/... P
100	189	138	51	55	25	M20x1,5	40	13	38	4	110	89	M10	G1/2	18	21	NWT 100/... P
125	225	160	65	60	30**	M27x2*	54*	30	35	5	142	110	M12	G1/2	22	27	NWT 125/... P

* = on request / a richiesta F=M24x2, G=48

** = on request piston rod / a richiesta stelo ØE = 32 mm

SINGLE ROD
CILINDRO BASE STELO SEMPLICE

NWT .. /...



ATEX versions see / Versioni ATEX vedi .. P. A-109

* = Stroke / Corsa

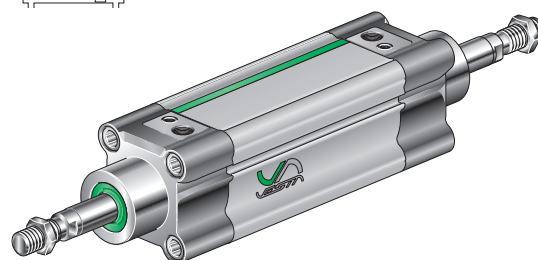
Bore Alesaggio	A	B	C	ØD	ØE	ØF	G	H	H1	I	M	N	ØO	ØP	BG	CH	Code Codice
32	120	94	26	30	12	M10x1,25	20	8	26	18	45	32,5	M6	G1/8	16	10	NWT 32/... P
40	135	105	30	35	16	M12x1,25	24	8,5	30	21,5	54	38	M6	G1/4	16	13	NWT 40/... P
50	143	106	37	40	20	M16x1,5	32	9	37	28	64	46,5	M8	G1/4	16	17	NWT 50/... P
63	158	121	37	45	20	M16x1,5	32	8,5	37	28,5	75	56,5	M8	G3/8	16	17	NWT 63/... P
80	174	128	46	45	25	M20x1,5	40	11,5	46	34,5	93	72	M10	G3/8	18	21	NWT 80/... P
100	189	138	51	55	25	M20x1,5	40	13	51	38	110	89	M10	G1/2	18	21	NWT 100/... P
125	225	160	65	60	30**	M27x2*	54*	30	65	35	142	110	M12	G1/2	22	27	NWT 125/... P

* = on request / a richiesta F=M24x2, G=48

** = on request piston rod / a richiesta stelo ØE = 32 mm

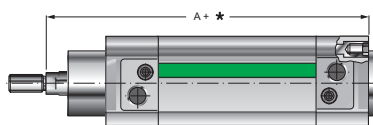
THROUGH ROD
STELO PASSANTE

NWT .. /... P



ATEX versions see / Versioni ATEX vedi .. P. A-109

For overall dimensions see NWT standard
Dimensioni di ingombro vedi NWT standard

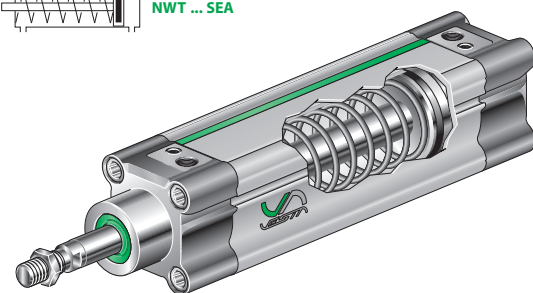
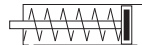


* = Stroke / Corsa

Bore Alesaggio	A	Code Codice
32	120	NWT32/... SEA
40	135	NWT40/... SEA
50	143	NWT50/... SEA
63	158	NWT63/... SEA
80	174	NWT80/... SEA
100	189	NWT100/... SEA

SIMPLE ACTING FRONT SPRING
SEMPLICE EFFETTO MOLLA ANTERIORE

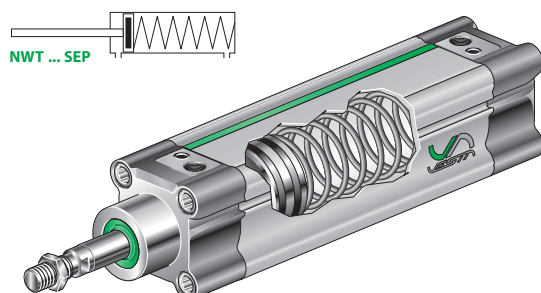
NWT .. /... SEA



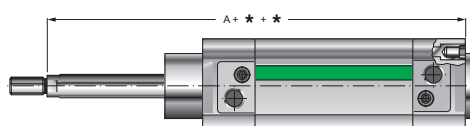
Strokes Corse (mm)	Spring force - Forza molla (N)												..SEA	..SEP
	Ø32 mm		Ø40 mm		Ø50 mm		Ø63 mm		Ø80 mm		Ø100 mm			
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.		
10	50	54	72	82	110	123	110	123	166	180	166	180	●	●
20	44	54	62	82	98	123	98	123	152	180	152	180	●	●
30	40	54	52	82	86	123	86	123	137	180	137	180	●	●
40	35	54	42	82	73	123	73	123	123	180	123	180	●	●
50	30	54	32	82	60	123	60	123	110	180	110	180	●	●

SIMPLE ACTING REAR SPRING
SEMPLICE EFFETTO MOLLA POSTERIORE

NWT .. /... SEP



For overall dimensions see NWT standard
Dimensioni di ingombro vedi NWT standard



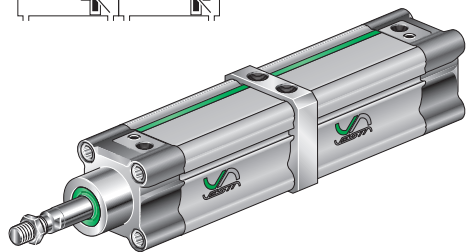
* = Stroke / Corsa

Bore Alesaggio	A	Code Codice
32	120	NWT32/... SEP
40	135	NWT40/... SEP
50	143	NWT50/... SEP
63	158	NWT63/... SEP
80	174	NWT80/... SEP
100	189	NWT100/... SEP



NWT ... TN2 ...

MULTI-THRUST TANDEM
TANDEM MULTISPINTA



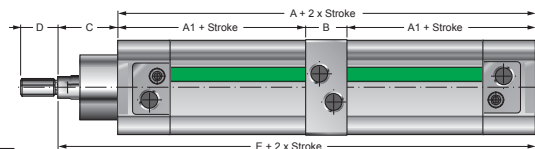
NWT □□ / □□□ TN2 □□

Stroke
Corsa (mm):

Bore /
Alésaggio
(mm):
Ø32 ... 32 Ø80 ... 80
Ø40 ... 40 Ø100 ... 100
Ø50 ... 50 Ø125 ... 125
Ø63 ... 63

P Through rod cylinder / Cilindro stelo passante

VS Viton rod seal / Guarnizione dello stelo in Viton
VV Viton all seals / Tutte le guarnizioni in Viton



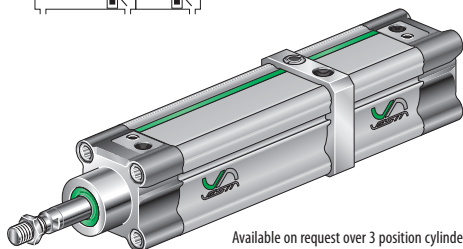
Bore Alésaggio	A	A1	B	C	D	E	Code Codice
32	156	68	20	26	20	182	NWT 32/... TN...
40	175	73,5	28	30	24	205	NWT 40/... TN...
50	171	76,5	18	37	32	208	NWT 50/... TN...
63	191	85	21	37	32	228	NWT 63/... TN...
80	205	91,5	22	46	40	251	NWT 80/... TN...
100	224	98,5	27	51	40	275	NWT 100/... TN...
125	265	115	35	65	54*	330	NWT 125/... TN...

For other dimensions please see
NWT standard cylinder
Per altre dimensioni vedere
cilindri NWT standard

* = on request / su richiesta D=48

NWT ... BS ...

MULTI-POSITION
MULTIPOSIZIONE



Available on request over 3 position cylinders
A richiesta cilindri da 3 a più posizioni

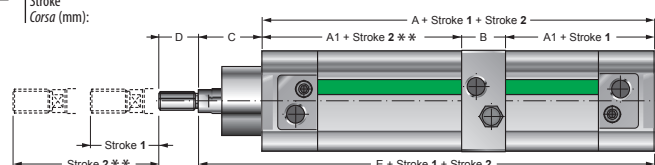
**Attention: Stroke 2 = Addition of the two strokes of the cylinder
**Attenzione: Corsa 2 = Somma delle due corse del cilindro

NWT □□ / □□□ - □□□ BS □□

Bore / Alésaggio
(mm):
Ø32 ... 32
Ø40 ... 40
Ø50 ... 50
Ø63 ... 63
Ø80 ... 80
Ø100 ... 100
Ø125 ... 125

1° Stroke
Corsa (mm):

2° ** Stroke / Corsa (mm):



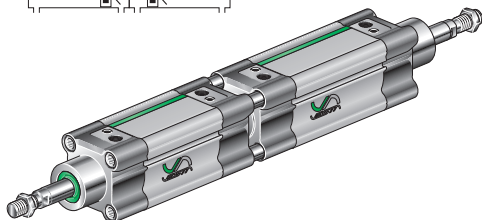
Bore Alésaggio	A	A1	B	C	D	E	Code Codice
32	156	68	20	26	20	182	NWT 32/... BS...
40	175	73,5	28	30	24	205	NWT 40/... BS...
50	171	76,5	18	37	32	208	NWT 50/... BS...
63	191	85	21	37	32	228	NWT 63/... BS...
80	205	91,5	22	46	40	251	NWT 80/... BS...
100	224	98,5	27	51	40	275	NWT 100/... BS...
125	265	115	35	65	54*	330	NWT 125/... BS...

For other dimensions please see
NWT standard cylinder
Per altre dimensioni vedere
cilindri NWT standard

* = on request / su richiesta D=48

NWT ... CNP ...

REAR OPPOSED
CONTRAPPOSTI POSTERIORI

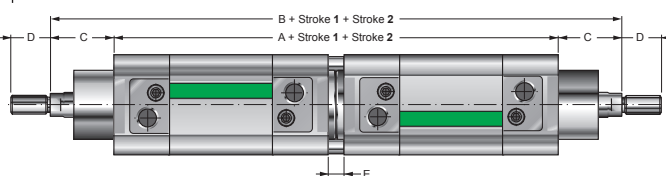


NWT □□ / □□□ - □□□ CNP □□

Bore / Alésaggio
(mm):
Ø32 ... 32
Ø40 ... 40
Ø50 ... 50
Ø63 ... 63
Ø80 ... 80
Ø100 ... 100
Ø125 ... 125

1° Stroke
Corsa (mm):

2° Stroke / Corsa (mm):



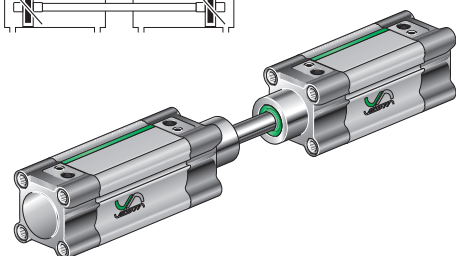
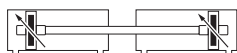
Bore Alésaggio	A	B	C	D	E	Code Codice
32	196	248	26	20	8	NWT 32/... CNP...
40	218	278	30	24	8	NWT 40/... CNP...
50	220	294	37	32	8	NWT 50/... CNP...
63	250	324	37	32	8	NWT 63/... CNP...
80	264	356	46	40	8	NWT 80/... CNP...
100	284	386	51	40	8	NWT 100/... CNP...
125	330	460	65	54*	10	NWT 125/... CNP...

For other dimensions please see
NWT standard cylinder
Per altre dimensioni vedere
cilindri NWT standard

* = on request / su richiesta D=48

NWT ... CNF ...

FRONT OPPOSED
CONTRAPPOSTI ANTERIORI

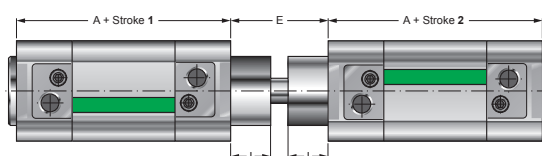


NWT □□ / □□□ - □□□ CNF □□

Bore / Alésaggio
(mm):
Ø32 ... 32
Ø40 ... 40
Ø50 ... 50
Ø63 ... 63
Ø80 ... 80
Ø100 ... 100
Ø125 ... 125

1° Stroke
Corsa (mm):

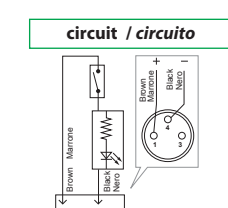
2° Stroke / Corsa (mm):



Bore Alésaggio	A	E	I	Code Codice
32	94	48	18	NWT 32/... CNF...
40	105	54	21,5	NWT 40/... CNF...
50	106	69	28	NWT 50/... CNF...
63	121	69	28,5	NWT 63/... CNF...
80	128	86	34,5	NWT 80/... CNF...
100	138	91	38	NWT 100/... CNF...
125	160	100	35	NWT 125/... CNF...

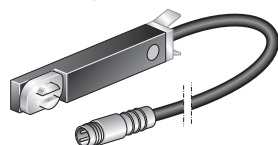
For other dimensions please see
NWT standard cylinder
Per altre dimensioni vedere
cilindri NWT standard

MAGNETIC SWITCHES FOR NWT CYLINDERS / FINECORSA MAGNETICI PER CILINDRI NWT

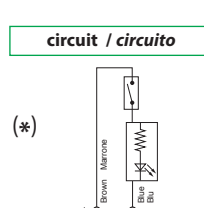


WITH CONNECTOR
CON CONNETTORE
REED

VNCR2



Cable standard length / Lunghezza cavo standard: 300 mm

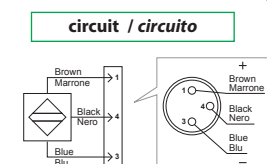


(*) WITH DIRECT CABLE
CON CAVO DIRETTO
REED

VNPR2

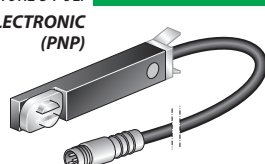


Cable standard length / Lunghezza cavo standard: 3000 mm

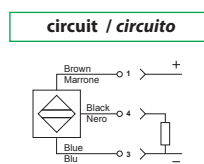


WITH CONNECTOR 3 POLES
CON CONNETTORE 3 POLI
ELECTRONIC
(PNP)

VNCE3

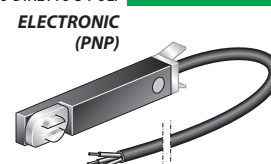


Cable standard length / Lunghezza cavo standard: 300 mm



WITH DIRECT CABLE 3 POLES
CON CAVO DIRETTO 3 POLI
ELECTRONIC
(PNP)

VNPE3

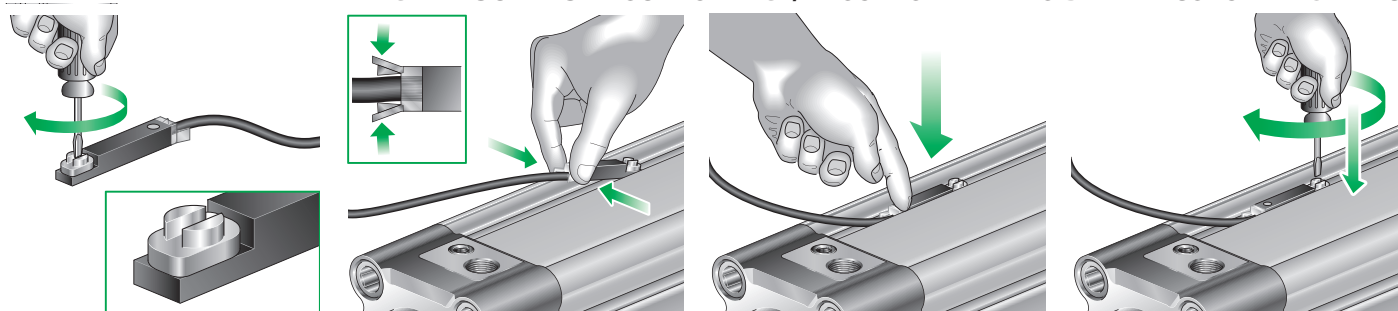


Cable standard length / Lunghezza cavo standard: 3000 mm

(*) Available on request **VNPR2** for series connection of switches, order code **VNPR3**.
A richiesta è fornibile il sensore **VNPR2** adatto al collegamento in serie di più sensori, con codice **VNPR3**.

Code Codice	Voltage range Tensione max	Switching current Corrente a 25 °C	Switching capacity Potenza Induttiva	Degree of protection Grado di protezione	Working temperature Temperatura di lavoro	ON time Tempo di inserzione	OFF time Tempo di disinserzione	Electric life Vita elettrica	Contact resistance Resistenza di contatto	Contact function Contatto
	V	mA	VA		°C	-	-	impulsi	Ω	
VNCR2	3-48 AC-DC	100	6	IP67	-20 ÷ +85	0,5 msec	0,1 msec	10 ⁷	0,1	
VNPR2	3-48 AC-DC	100	6	IP67	-20 ÷ +85	0,5 msec	0,1 msec	10 ⁷	0,1	
VNCE3	6-30 DC	200	4	IP67	-20 ÷ +85	0,8 µsec	0,3 µsec	10 ⁹	-	
VNPE3	6-30 DC	200	4	IP67	-20 ÷ +85	0,8 µsec	0,3 µsec	10 ⁹	-	

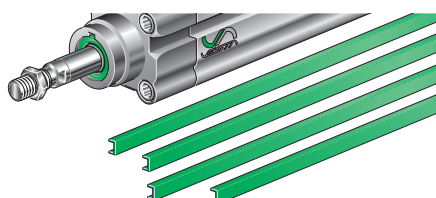
MAGNETIC SWITCH POSITIONING / POSIZIONAMENTO DEI FINECORSA MAGNETICI



SPARE PARTS FOR NWT CYLINDERS / RICAMBI PER CILINDRI NWT

PLASTIC SLOT COVER
BANDELLA DI COPERTURA CAVA

NWT-PCC



EXTENSION FOR MAGNETIC SWITCH CABLE
PROLUNGA CAVO SENSORE MAGNETICO

VSC-P3 030

3 poles, for reed or electronic switch
3 fili, per sensore reed od elettronico

Standard length / Lunghezza standard

3000 mm



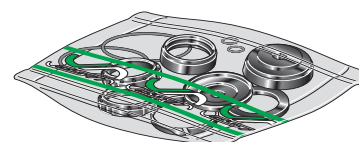
Seals kit code = **Cylinder code** + **Bore** + **Versions** + - **SG**:
(The kit includes all seals).

Codice del kit = **Codice del cilindro** + **Alesaggio** + **Versions** + - **SG**:
(Il kit comprende tutte le guarnizioni necessarie).

Example / Esempio: **NWT 63 P VS - SG**

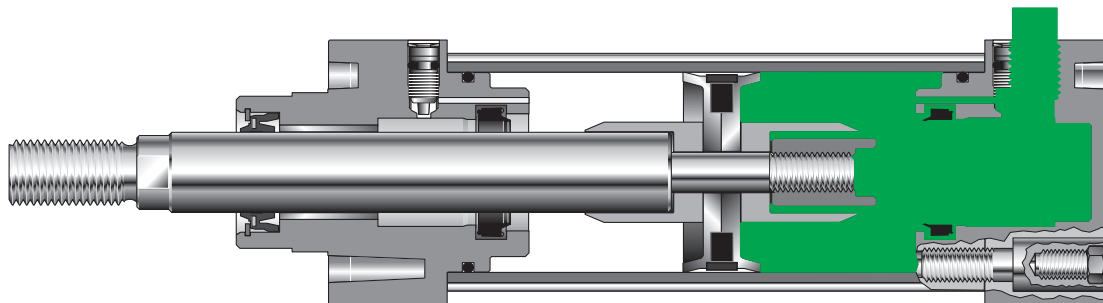
SEALS KIT
KIT GUARNIZIONI DI RICAMBIO

..... - SG





CYLINDERS ISO 15552 TECHNICAL FEATURES / CARATTERISTICHE TECNICHE CILINDRI ISO 15552

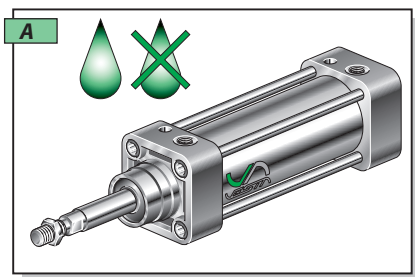


VESTA cylinders tie rods version **XJC** series are available from 160 to 320 mm bores.

The cylinders are built in accordance with ISO-VDMA standards and are available in double acting version with magnetic piston in a wide range of standard strokes. Stroke tolerance follows ISO 15552 standard.

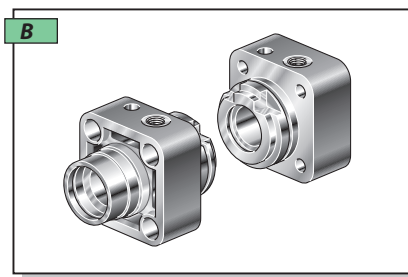
*I cilindri serie **XJC** a tiranti sono fornibili negli alesaggi dal 160 al 320.*

Questi cilindri sono costruiti secondo le norme ISO-VDMA e sono disponibili nella versione a doppio effetto con pistone magnetico, in una vasta gamma di corse standard. Le tolleranze sulle corse dei cilindri sono conformi alla normativa ISO 15552.



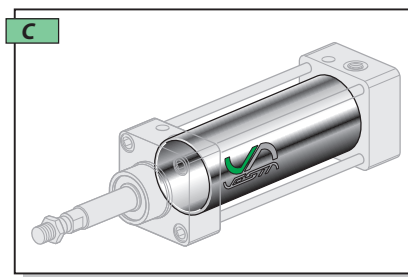
Lubrication not required.

Possibilità di funzionamento continuo privo di lubrificazione.



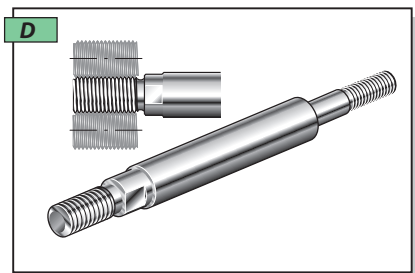
Caps in a light aluminium alloy.

Le testate sono in lega leggera di alluminio.



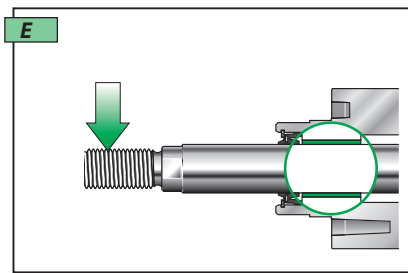
Barrel in anodized aluminium tube.

Le camicie sono in lega di alluminio anodizzate.



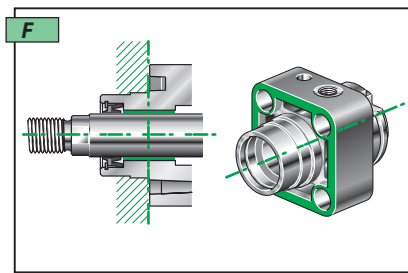
Piston rods in chromium-plated steel.

Steli in acciaio cromato.



Self lubricating bearing in a copper-steel alloy, with teflon covering.

Boccole autolubrificanti in acciaio ramato con deposito in Teflon.



Machined to get centering and surface finishing.

Piani di riferimento e centraggi sono ottenuti con lavorazione meccanica.

TECHNICAL FEATURES

End caps	Aluminium alloy.
Piston rod	Chromium-plated steel, on request stainless steel X5CrNi 1810.
Tie rods	Stainless steel.
Barrel	Anodized aluminium tube.
Seals	NBR rubber. - Piston poliurethano

Cushioning	Pneumatic adjusting cushions.
Environment temperature range	-10 °C ÷ +80 °C.
Temperature range of medium	0 °C ÷ +40 °C.
Lubrication	Not required.
Medium	filtered air.
Max operating pressure	10 bar.

CARATTERISTICHE TECNICHE

Testate	Lega di alluminio.
Stelo	Acciaio cromato, a richiesta acciaio inox X5CrNi 1810.
Tiranti	Acciaio inox.
Camicia	Tubo di alluminio.
Guarnizioni	Tutte in NBR. - Pistone poliuretano

Ammortizzatori	Pneumatici regolabili progressivi.
Temperatura ambiente	-10 °C ÷ +80 °C.
Temperatura fluido	0 °C ÷ +40 °C.
Lubrificazione	Non necessaria.
Fluido	Aria filtrata.
Pressione max d'esercizio	10 bar.

PNEUMATIC CYLINDERS, STANDARD VDMA - ISO 15552 CILINDRI PNEUMATICI, VDMA - ISO 15552

SERIE **XJC**

With magnetic piston / Con pistone magnetico

XJC ☐ ☐ ☐ / ☐ ☐ ☐ ☐ ☐

Bore / Alesaggio (mm):

Ø160 **160**
Ø200 **200**
Ø250 **250**
Ø320 **320**

Stroke
Corsa (mm):

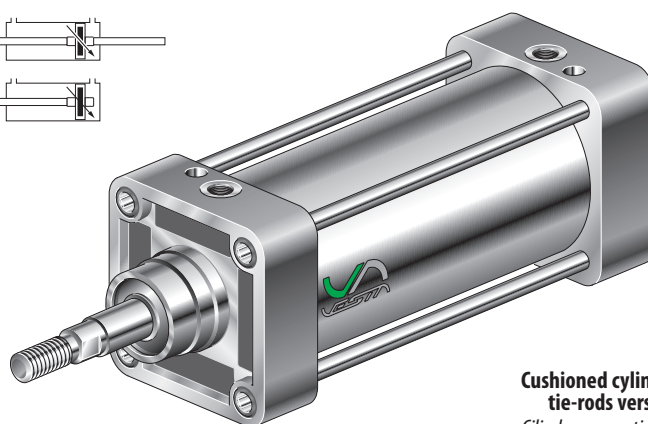
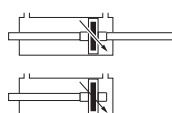
VS Viton rod seal
Guarnizione dello stelo in Viton

VV Viton all seal
Tutte le guarnizioni in Viton

TN2 Multi-thrust tandem (Ø160 - Ø200)
Tandem multispinta (Ø160 - Ø200)

SS Stainless Steel X5 Cr Ni 18-10 piston-rod
Stelo in Acciaio Inox X5 Cr Ni 18-10

Through rod cylinder **P**
Cilindro stelo passante



Cushioned cylinder,
tie-rods version.
Cilindro ammortizzato,
esecuzione a tiranti.

ISO 15552 cylinder fixing see:
Fissaggi per cilindri ISO 15552 vedi:
..... **Pag. A-22 ÷ A-26**

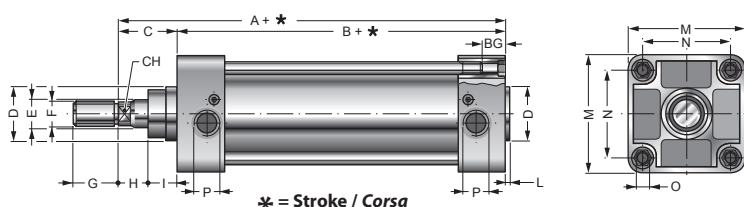
Features of reed switches see:
Caratteristiche finecorsa magnetici:
..... **Pag. A-26**

Effective cushion length
Lunghezza utile ammortizzatore

Bore Alesaggio	Length Lunghezza
160	45
200	45
250	45
320	45

Standard stroke / Corse Standard

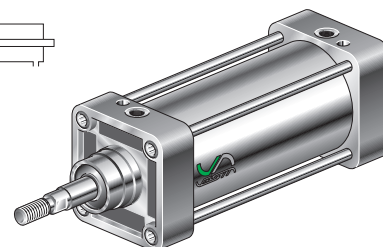
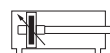
Bore Alesaggio	25	50	80	100	125	160	200	250	300	350	400	450	500	600	700	800	900	1000
160	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
200	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
250	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
320	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•



* = Stroke / Corsa

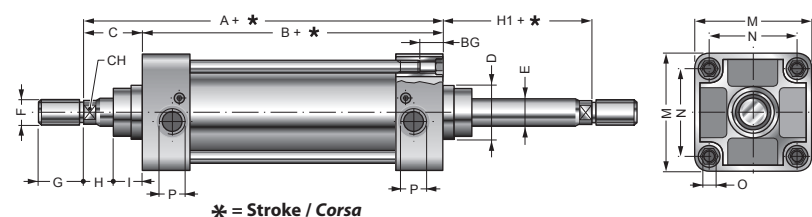
SINGLE ROD
CILINDRO BASE STELO SEMPLICE

XJC ... / ...



* On request / a richiesta : F = M24x2, e G = 48.

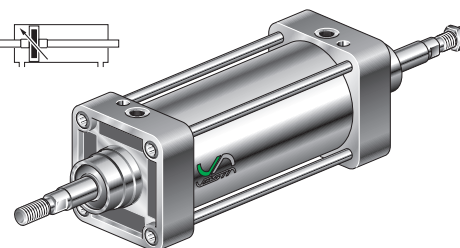
Bore Alesaggio	A	B	C	ØD	ØE	ØF	G	H	I	L	M	N	ØO	ØP	BG	CH	Code Codice
160	260	180	80	65	40	M36x2	72	35	45	5	180	140	M16	G3/4	22	36	XJC 160/...
200	275	180	95	75	40	M36x2	72	50	45	5	220	175	M16	G3/4	22	36	XJC 200/...
250	305	200	105	90	50	M42x2	84	30	75	8	270	220	M20	G1	25	46	XJC 250/...
320	340	220	120	110	63	M48x2	96	30	90	10	350	270	M24	G1	28	55	XJC 320/...



* = Stroke / Corsa

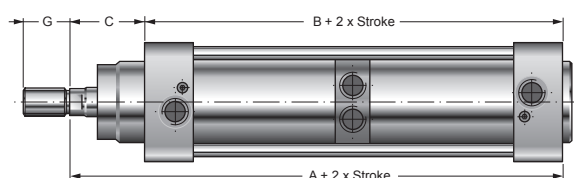
THROUGH ROD
STELO PASSANTE

XJC ... / ... P



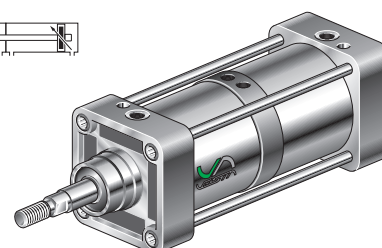
* On request / a richiesta : F = M24x2, e G = 48.

Bore Alesaggio	A	B	C	ØD	ØE	ØF	G	H	H1	I	M	N	ØO	ØP	BG	CH	Code Codice
160	260	180	80	65	40	M36x2	72	35	80	45	180	140	M16	G3/4	22	36	XJC 160/... P
200	275	180	95	75	40	M36x2	72	50	95	45	220	175	M16	G3/4	22	36	XJC 200/... P
250	305	200	105	90	50	M42x2	84	30	105	75	270	220	M20	G1	25	46	XJC 250/... P
320	340	220	120	110	63	M48x2	96	30	120	90	350	270	M24	G1	28	55	XJC 320/... P



MULTI-THRUST TANDEM
TANDEM MULTISPINTA

XJC ... TN2 ...



Bore Alesaggio	A	B	C	G	Code Codice
160	356	276	80	72	XJC 160/... TN...
200	395	300	95	72	XJC 200/... TN...

For other dimensions please see
XJC standard cylinder
Per altre dimensioni vedere
cilindri **XJC** standard



FIXING ACCESSORIES / ACCESSORI DI FISSAGGIO PER CILINDRI ISO 15552

Note: the fixing screws are not included in the supply of the fitting / le viti di fissaggio non sono comprese nella fornitura dell'accessorio.

SCV.

BRA T FOR ASSEMBLING CYLINDER-VALVE
FISSAGGIO VALVOLA AL CILINDRO

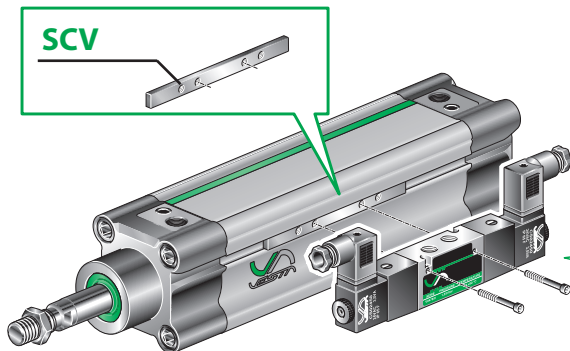
SCV K

For valves K/per valvole K

SCV E

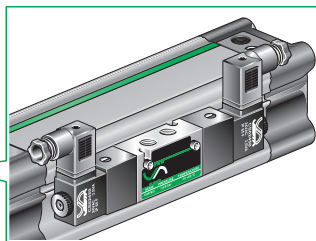
For valves E/per valvole E

SCV



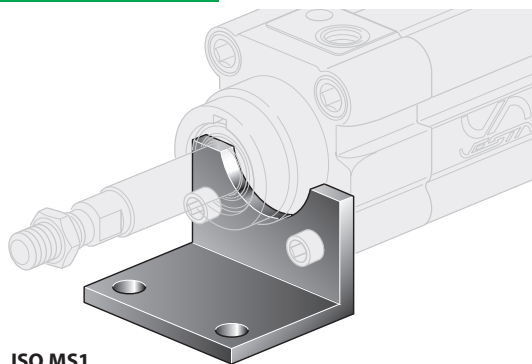
for valves K1/8" - K1/4" - JT1/8" - JT1/4" - E1/8" - E1/4"
per valvole K1/8" - K1/4" - JT1/8" - JT1/4" - E1/8" - E1/4"

for cylinders Ø32 - Ø125
per cilindri Ø32 - Ø125

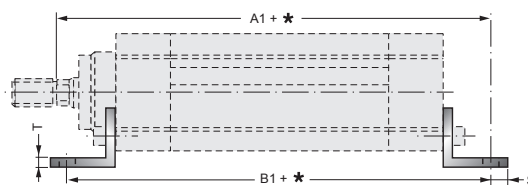


XP/..

FOOT MOUNTING
MONTAGGIO A PIEDINI



REF. ISO MS1



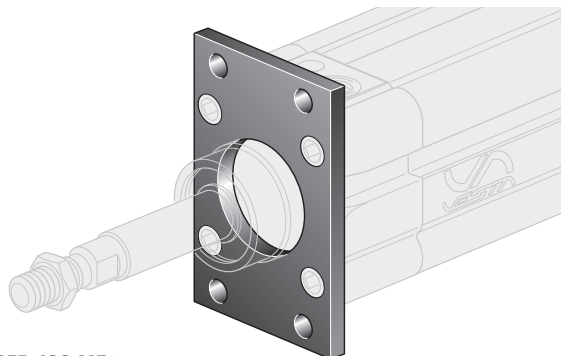
Bore Alesaggio	A1	B1	M	ØQ	R	S	T	U	Code Codice
32	144	142	45	7	32	11	4	32	XP/32
40	163	161	52	9	36	15	4	36	XP/40
50	175	170	65	9	45	15	5	45	XP/50
63	190	185	75	9	50	15	5	50	XP/63
80	215	210	95	12	63	20	6	63	XP/80
100	230	220	115	14	71	25	6	75	XP/100
125	270	250	140	16	90	15	8	90	XP/125
160	320	300	180	18	115	20	9	115	XP/160
200	345	320	220	22	135	50	12	135	XP/200

* = Stroke / Corsa

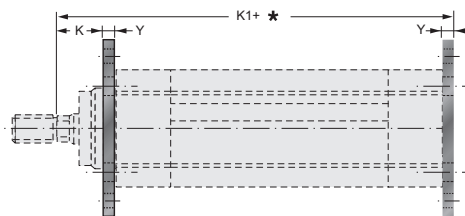
Cylinders fixing for Ø250
and Ø320 on request
Fissaggi per cilindri Ø250
e Ø320 a richiesta

XFL/..

FLANGE MOUNTING
MONTAGGIO A FLANGIA



REF. ISO MF2



Bore Alesaggio	K	K1	M	M2	N1	N2	ØQ	Y	Code Codice
32	16	130	45	80	32	64	7	10	XFL/32
40	20	145	52	90	36	72	9	10	XFL/40
50	25	155	65	110	45	90	9	12	XFL/50
63	25	170	75	120	50	100	9	12	XFL/63
80	30	190	95	150	63	126	12	16	XFL/80
100	35	205	115	170	75	150	14	16	XFL/100
125	45	245	140	205	90	180	16	20	XFL/125
160	60	280	180	260	115	230	18	20	XFL/160
200	70	300	220	300	135	270	22	25	XFL/200

* = Stroke / Corsa

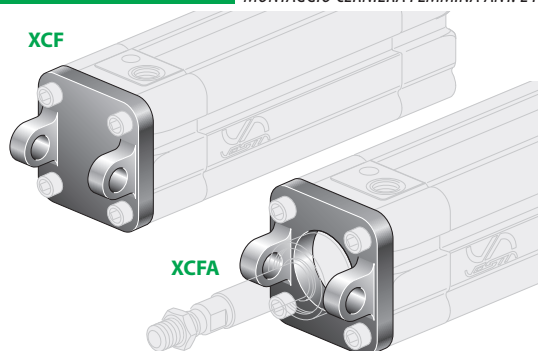
Cylinders fixing for Ø250
and Ø320 on request
Fissaggi per cilindri Ø250
e Ø320 a richiesta

XCF ./..

FRONT AND REAR CLEVIS (FEMALE) MOUNTING
MONTAGGIO CERNIERA FEMMINA ANT. E POST.

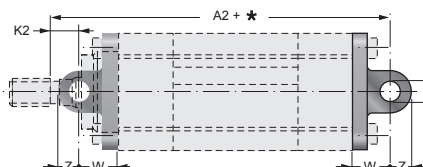
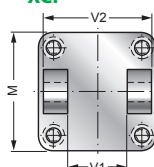
XCF

XCFA



REF. ISO MP2

XCF



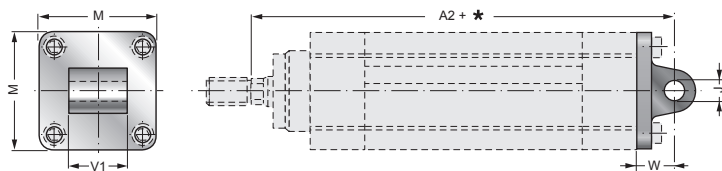
* = Stroke / Corsa

XCFA

Bore Alesaggio	A2	Ø ^{H9}	K2	M	V1	V2	D	W	Z	Code front Cod. ant.	Code rear Cod. post.
32	142	10	4	45	26	45	30	22	11	XCFA/32	XCF/32
40	160	12	5	52	28	52	35	25	13	XCFA/40	XCF/40
50	170	12	10	65	32	60	40	27	13	XCFA/50	XCF/50
63	190	16	5	75	40	70	45	32	17	XCFA/63	XCF/63
80	210	16	10	95	50	90	45	36	17	XCFA/80	XCF/80
100	230	20	10	115	60	110	55	41	21	XCFA/100	XCF/100
125	275	25	15	140	70	130	-	50	26	XCFA/125	XCF/125
160	315	30	25	180	90	170	-	55	31	XCFA/160	XCF/160
200	335	30	35	220	90	170	-	60	31	XCFA/200	XCF/200

Cylinders fixing for Ø250 and Ø320
on request
Fissaggi per cilindri
Ø250 e Ø320
a richiesta

FIXING ACCESSORIES / ACCESSORI DI FISSAGGIO PER CILINDRI ISO 1552



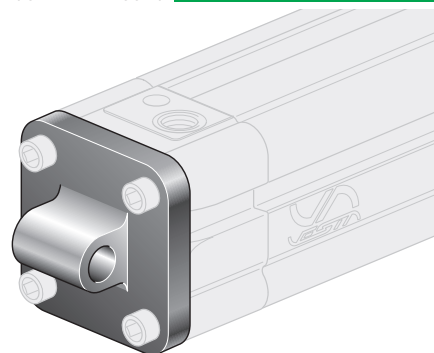
* = Stroke / Corsa

Cylinders fixing for Ø 250
and Ø 320 on request
Fissaggi per cilindri Ø 250
e Ø 320 a richiesta

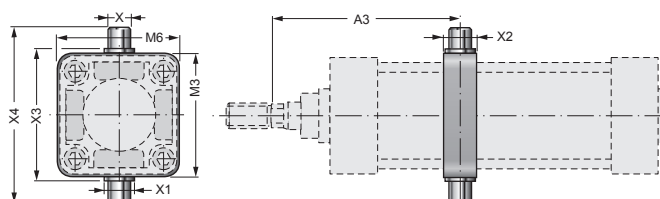
Bore Alesaggio	A2	ØJ ^{H7}	M	V1	W	Code Codice
32	142	10	45	26	22	XCM/32
40	160	12	55	28	25	XCM/40
50	170	12	65	32	27	XCM/50
63	190	16	75	40	32	XCM/63
80	210	16	95	50	36	XCM/80
100	230	20	115	60	41	XCM/100
125	275	25	140	70	50	XCM/125
160	315	30	180	90	55	XCM/160
200	335	30	220	90	60	XCM/200

CLEVIS (MALE) MOUNTING
MONTAGGIO A CONTROCERNIERA MASCHIO

XCM/..



REF. ISO MP4



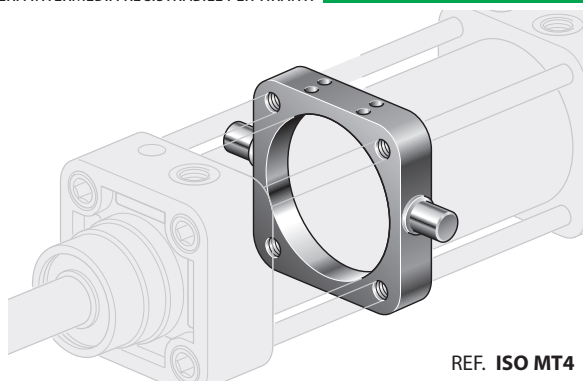
Cylinders fixing for Ø 250
and Ø 320 on request
Fissaggi per cilindri Ø 250
e Ø 320 a richiesta

Available not adjustable trunnion **XCI ...** series for tie rods cylinders.
Specify dimension **A3** when trunnion is supplied assembled.
E' disponibile anche la cerniera intermedia fissa **XCI ...** per la versione a tiranti,
bisogna quindi specificare la quota **A3** per la fornitura premontata sul cilindro richiesto.

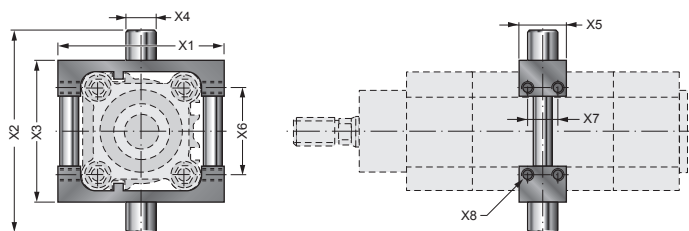
Bore Alesaggio	A3 min.	A3 max.	M3	M6	ØX ^{e9}	ØX1	X2	X3	X4	Code Codice
160	153	187+(*)	190	190	32	40	40	200	264	XCI/160
200	173	197+(*)	240	240	32	40	40	250	314	XCI/200

ADJUSTABLE TIE ROD TRUNNION MOUNTING
CERNIERA INTERMEDIA REGISTRABILE PER TIRANTI

XCIR/..



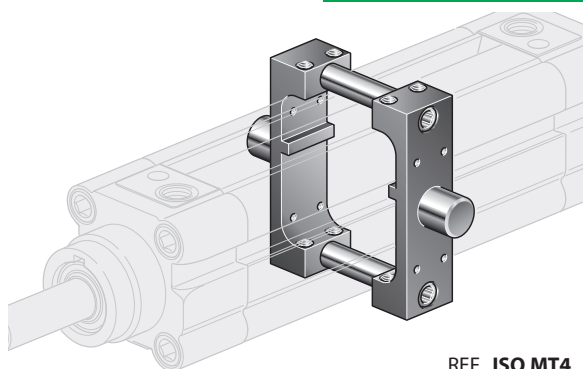
REF. ISO MT4



Bore Alesaggio	X1	X2	X3	ØX4 ^{H7}	X5	X6	X7	X8	Code Codice
32	64	80	50	12	20	32,5	12,4	M5	NWCIR/32
40	72	95	63	16	20	38	12,6	M5	NWCIR/40
50	88	107	75	16	25	46,6	16,2	M6	NWCIR/50
63	100	130	90	20	25	56,6	16,2	M6	NWCIR/63
80	120	150	110	20	25	72	16,2	M6	NWCIR/80
100	140	182	132	25	30	89	18	M8	NWCIR/100
125	166	210	160	25	40	110	26,8	M10	NWCIR/125

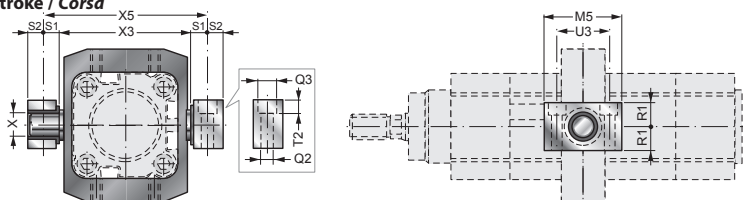
NWT ADJUSTABLE TRUNNION MOUNTING
CERNIERA INTERMEDIA REGISTRABILE PER NWT

NWCIR/..



REF. ISO MT4

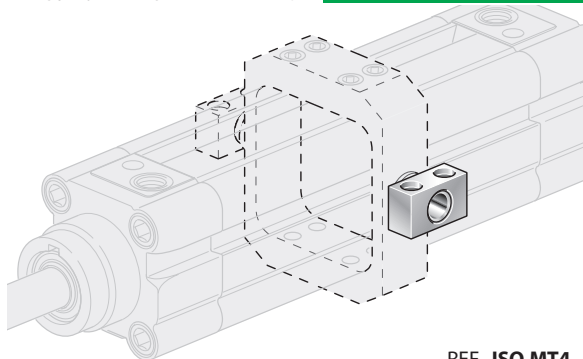
* = Stroke / Corsa



Bore Alesaggio	M5	ØQ2	ØQ3	R1	S1	S2	T2	U3	ØX	X3	X5	Code Codice
32	46	6,6	11	15	10,5	10,5	7	32	12	50	71	SU-CI/32
40	55	9	15	18	12	9	9	36	16	63	87	SU-CI/40
50	55	9	15	18	12	9	9	36	16	75	101	SU-CI/50
63	65	11	18	20	13	13,5	11	42	20	90	116	SU-CI/63
80	65	11	18	20	13	13,5	11	42	20	110	138	SU-CI/80
100	75	13	20	25	16	15,5	13	50	25	132	165	SU-CI/100
125	75	13	20	25	16	15,5	13	50	25	160	192	SU-CI/125
160	92	18	26	30	22,5	19,5	17	60	32	200	245	SU-CI/160
200	92	17	26	30	22,5	19,5	17	60	32	250	295	SU-CI/200

TRUNNION BEARING
SUPPORTI PER CERNIERA INTERMEDIA

SU-CI/..



REF. ISO MT4

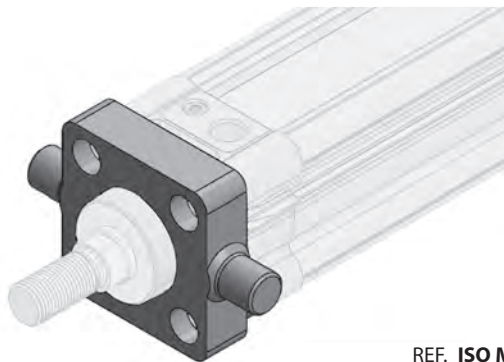


FIXING ACCESSORIES / ACCESSORI DI FISSAGGIO PER CILINDRI ISO 15552

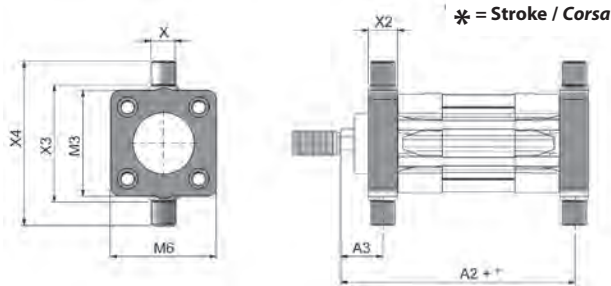
Note: the fixing screws are not included in the supply of the fittings / le viti di fissaggio non sono comprese nella fornitura degli accessori.

XCBF/..

FLOATING FRONT HINGE MOUNTING
MONTAGGIO CERNIERA OSCILLANTE ANTERIORE



REF. ISO MT4

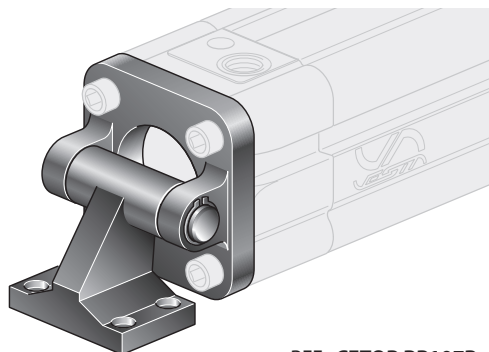


* = Stroke / Corsa

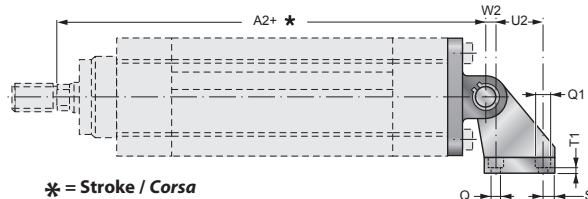
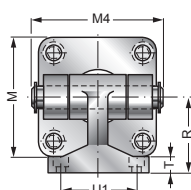
Bore Alesaggio	A2	A3	M3	M6	ØX ^{e9}	X2	X3	X4	Code Codice
32	128	18	46	46	12	14	50	74	XCBF/32
40	145	20	59	59	16	19	63	95	XCBF/40
50	155	25	69	69	16	19	75	107	XCBF/50
63	170	25	84	84	20	24	90	130	XCBF/63
80	188	32	102	102	20	24	110	150	XCBF/80
100	208	36	125	125	25	29	132	182	XCBF/100

XAS/..

REAR HINGE HORIZONTAL MOUNTING
MONTAGGIO A CONTROCERNIERA ORIZZONTALE



REF. CETOP RP107P



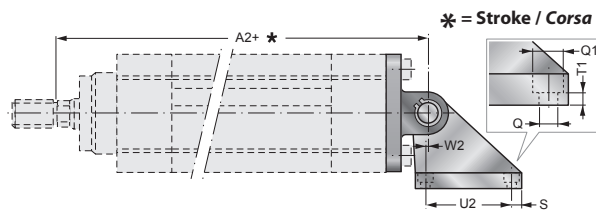
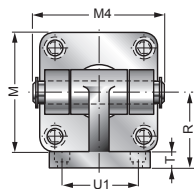
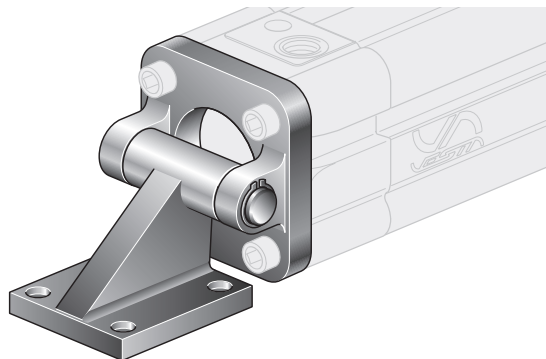
* = Stroke / Corsa

Bore Alesaggio	A2	M	M4	ØQ	ØQ1	R	S	T	T1	U1	U2	W2	Code Codice
32	142	45	54	7	11	32	6,5	8	6,5	38	18	3	XAS/32
40	160	52	63	7	11	36	6,5	10	8,5	41	22	2	XAS/40
50	170	65	71	9	15	45	7,5	12	10,5	50	30	3	XAS/50
63	190	75	81	9	15	50	7,5	14	12,5	52	35	2	XAS/63
80	210	95	101	11	18	63	10	14	11,5	66	40	7	XAS/80
100	230	115	123	11	18	71	10	17	14,5	76	50	5	XAS/100
125	275	140	141	14	20	90	15	20	17	94	60	10	XAS/125
160	315	180	182	14	20	115	19	25	21	118	88	9	XAS/160
200	335	220	182	18	26	135	20	30	26	122	90	15	XAS/200

Cylinders fixing for
Ø 250 and Ø 320
on request
Fissaggi per cilindri
Ø 250 e Ø 320
a richiesta

XASV/..

REAR HINGE HORIZONTAL MOUNTING
MONTAGGIO A CONTROCERNIERA ORIZZONTALE

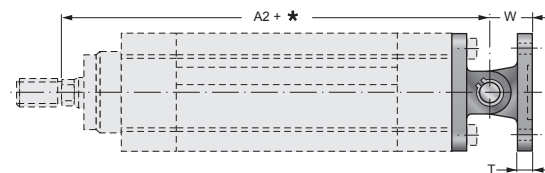
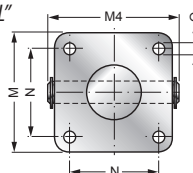
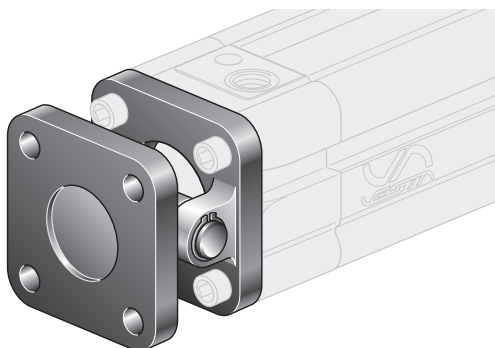


* = Stroke / Corsa

Bore Alesaggio	A2	M	M4	ØQ	ØQ1	R	S	T	T1	U1	U2	W2	Code Codice
32	142	45	54	7	11	32	8	10	5	32,5	32,5	0	XASV/32
40	160	52	63	7	11	36	8,5	10	5	38	38	0	XASV/40
50	170	65	71	9	15	45	10	12	5	46,5	46,5	0	XASV/50
63	190	75	81	9	15	50	10	12	5	56,5	56,5	0	XASV/63
80	210	95	101	11	18	63	12,5	16	6	72	72	0	XASV/80
100	230	115	123	11	18	73	13	16	6	89	89	0	XASV/100
125	275	140	141	14	-	90	16,5	16	-	50	70	-40	XASV/125
160	315	180	182	18	-	140	22	20	-	63	110	-50	XASV/160
200	335	220	182	18	-	140	22	20	-	63	110	-50	XASV/200

XANL/..

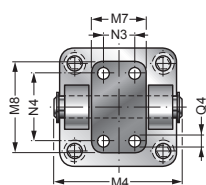
REAR HINGE VERTICAL MOUNTING "L" SERIES
MONTAGGIO A CONTROCERNIERA VERTICALE SERIE "L"



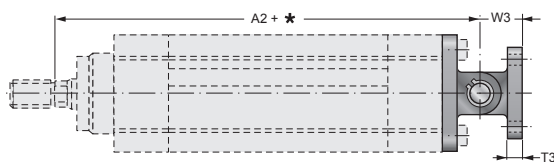
* = Stroke / Corsa

Bore Alesaggio	A2	M	M4	N	ØQ	T	W	Code Codice
32	142	45	54	32,5	7	10	22	XANL/32
40	160	52	63	38	7	10	25	XANL/40
50	170	65	71	46,5	9	12	27	XANL/50
63	190	75	81	56,5	9	12	32	XANL/63
80	210	95	101	72	11	16	36	XANL/80
100	230	115	123	89	11	16	41	XANL/100
125	275	140	141	110	14	20	50	XANL/125
160	315	180	182	140	18	20	55	XANL/160
200	335	220	182	175	18	25	60	XANL/200

FIXING ACCESSORIES / ACCESSORI DI FISSAGGIO PER CILINDRI ISO 15552



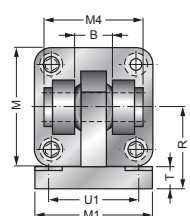
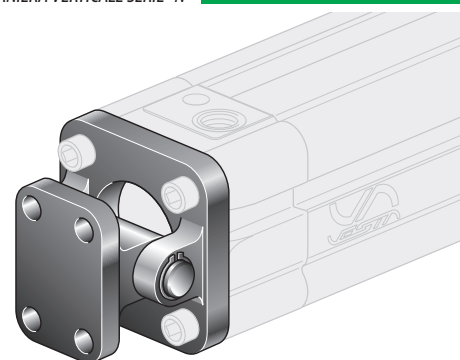
* = Stroke / Corsa



REAR HINGE VERTICAL MOUNTING "N" SERIES
MONTAGGIO A CONTROCERNIERA VERTICALE SERIE "N"

XANN/..

Bore Alesaggio	A2	M4	M7	M8	N3	N4	ØQ4	T3	W3	Code Codice
32	142	54	25	40	-	28	7	8	18	XANN/32
40	160	63	28	52	16	38	9	10	26	XANN/40
50	170	71	32	52	16	38	9	10	26	XANN/50
63	190	81	40	75	25	54	11	12	34	XANN/63
80	210	101	50	75	25	54	11	12	34	XANN/80
100	230	123	60	115	32	90	14	16	41	XANN/100
125	275	141	70	115	32	90	14	16	41	XANN/125
160	315	182	90	180	43	150	18	20	55	XANN/160
200	335	182	90	180	43	150	18	20	55	XANN/200

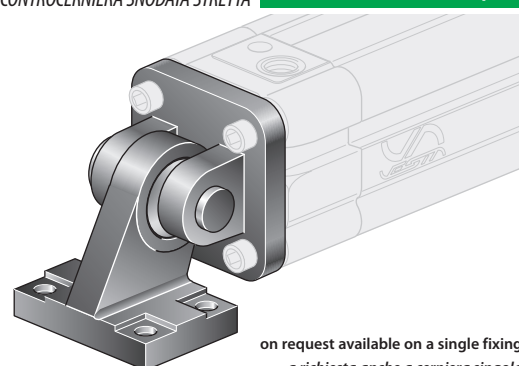


* = Stroke / Corsa

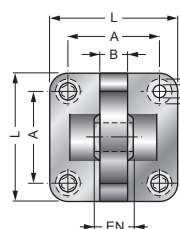
REAR HINGE MOUNTING WITH NARROW ROD EYE
MONTAGGIO A CONTROCERNIERA SNODATA STRETTA

XAS-SN/..

Bore Alesaggio	A2	B	M	M1	M4	ØP	P1	ØQ	ØQ1	R	S	T	T1	U1	U2	W2	Code Codice
32	142	14	45	51	41	20	3	6,6	11	32	31	10	8,5	38	18	21	XAS-SN/32
40	160	16	52	54	48	20	3	6,6	11	36	35	10	8,5	41	22	24	XAS-SN/40
50	170	21	65	65	54	20	3	9	15	45	45	12	10,5	50	30	33	XAS-SN/50
63	190	21	75	67	60	20	3	9	15	50	50	12	10,5	52	35	37	XAS-SN/63
80	210	25	95	86	75	20	3	11	18	63	60	14	11,5	66	40	47	XAS-SN/80
100	230	25	115	96	85	20	3	11	18	71	70	15	12,5	76	50	55	XAS-SN/100
125	275	37	140	124	110	20	3	13,5	20	90	90	20	17	94	60	70	XAS-SN/125



on request available on a single fixing
a richiesta anche a cerniera singola

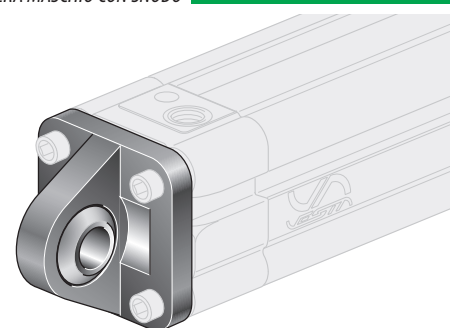


* = Stroke / Corsa

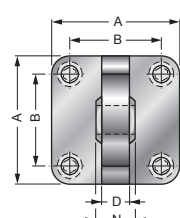
CLEVIS (MALE) WITH ROD EYE
CERNIERA MASCHIO CON SNODO

XCM-SN-AC/..

Bore Alesaggio	A2	A	B	C	ØD	EN	ER	F	G	E	L	M	N	P	Code Codice
32	142	32,5	10,5	22	10	14	15	30	10	6,6	45	10,5	5,5	5	XCM-SN-AC/32
40	160	38	12	25	12	16	18	35	10	6,6	55	11	5,5	5	XCM-SN-AC/40
50	170	46,5	15	27	16	21	20	40	10	9	65	15	6,5	5	XCM-SN-AC/50
63	190	56,5	15	32	16	21	23	45	12	9	75	15	6,5	5	XCM-SN-AC/63
80	210	72	18	36	20	25	27	45	14	11	95	18	10	5	XCM-SN-AC/80
100	230	89	18	41	20	25	30	55	16	11	115	18	10	5	XCM-SN-AC/100
125	275	110	25	50	30	37	40	60	20	13,5	140	20	10	7	XCM-SN-AC/125



STEEL / ACCIAIO

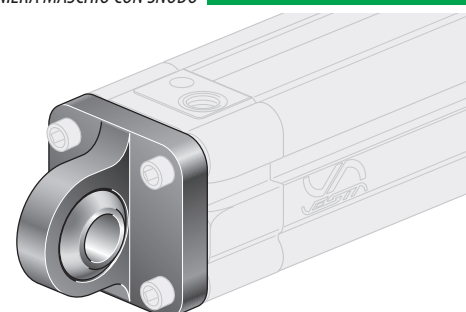


* = Stroke / Corsa

CLEVIS (MALE) WITH ROD EYE
CERNIERA MASCHIO CON SNODO

XCM-SN-AL/..

Bore Alesaggio	A2	A	B	C	D	E	F	H	L	ØM	N	Code Codice
32	142	45	32,5	30	10,5	22	16	9	5	10	14	XCM-SN-AL/32
40	160	52	38	35	12	25	19	9	5	12	16	XCM-SN-AL/40
50	170	65	46,5	40	15	27	21	11	5	16	21	XCM-SN-AL/50
63	190	75	56,5	45	15	32	24	11	5	16	21	XCM-SN-AL/63
80	210	95	72	45	18	36	28,5	14	5	20	25	XCM-SN-AL/80
100	230	115	89	55	18	41	30	14	5	20	25	XCM-SN-AL/100
125	275	140	110	60	25	50	40	20	7	30	37	XCM-SN-AL/125
160	315	180	140	65	28	55	45	20	7	35	43	XCM-SN-AL/160
200	335	220	185	70	28	60	48	25	7	35	43	XCM-SN-AL/200



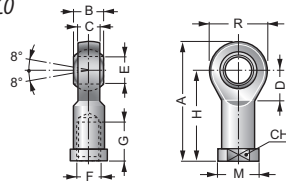
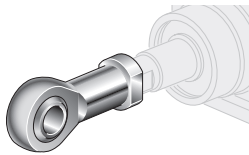
ALUMINIUM ALLOY / LEGA DI ALLUMINIO



Cylinders fixing for Ø 250 - Ø 320 on request - Fissaggi per cilindri da Ø 250 a Ø320 a richiesta

SNS/..

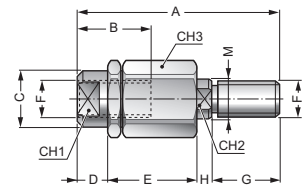
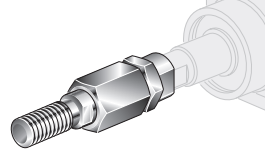
ROD EYE MOUNTING
SNODO SFERICO



Bore Alesaggio	A	B	C	CH	D	ØE ^{H7}	ØF	G	H	ØM	R	Code / Codice
32	57	14	10,5	17	15	10	M10x1,25	20	43	19	28	SNS/32
40	66	16	12	19	17	12	M12x1,25	22	50	22	32	SNS/40
50	85	21	15	22	23	16	M16x1,5	28	64	27	42	SNS/50-63
63	85	21	15	22	23	16	M16x1,5	28	64	27	42	SNS/50-63
80	102	25	18	30	27	20	M20x1,5	33	77	34	50	SNS/80-100
100	102	25	18	30	27	20	M20x1,5	33	77	34	50	SNS/80-100
125	145	37	25	41	36	30	M27x2	51	110	50	70	SNS/125
160	165	43	28	50	41	35	M36x2	56	125	58	80	SNS/160-200
200	165	43	28	50	41	35	M36x2	56	125	58	80	SNS/160-200

SAS/..

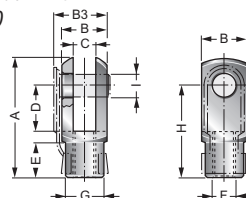
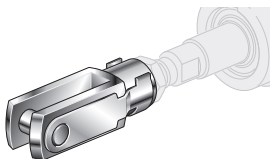
FLOATING JOINT TYPE "S"
SNODO AUTOALLINEANTE



Bore Alesaggio	A	B	ØC	CH1	CH2	CH3	D	E	ØF	G	H	ØM	Code / Codice
32	71	20	22	19	12	30	11	35	M10x1,25	20	5	14	SAS/32
40	75	20	22	19	12	30	11	35	M12x1,25	24	5	14	SAS/40
50	103	32	32	30	20	41	9	54	M16x1,5	32	8	22	SAS/50-63
63	103	32	32	30	20	41	9	54	M16x1,5	32	8	22	SAS/50-63
80	119	40	32	30	20	41	17	54	M20x1,5	40	8	22	SAS/80-100
100	119	40	32	30	20	41	17	54	M20x1,5	40	8	22	SAS/80-100
125	-	-	-	-	-	-	-	-	-	-	-	-	-
160	-	-	-	-	-	-	-	-	-	-	-	-	-
200	-	-	-	-	-	-	-	-	-	-	-	-	-

FS..x..

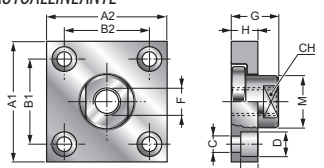
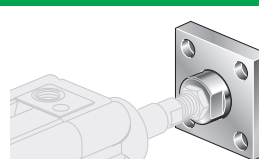
CLEVIS (ROD) MOUNTING
FORCELLA STELO



Bore Alesaggio	A	B	B3	C ^{B12}	D	E	ØF	ØG	H	ØI ^{H9}	Code / Codice
32	52	20	26	10	20	15	M10x1,25	18	40	10	FS/10x1,25
40	62	24	32	12	24	18	M12x1,25	20	48	12	FS/12x1,25
50	83	32	40	16	32	24	M16x1,5	26	64	16	FS/16x1,5
63	83	32	40	16	32	24	M16x1,5	26	64	16	FS/16x1,5
80	105	40	48	20	40	30	M20x1,5	34	80	20	FS/20x1,5
100	105	40	48	20	40	30	M20x1,5	34	80	20	FS/20x1,5
125	148	55	-	30	54	38	M27x2	48	110	30	FS/27x2
160	188	70	-	35	72	40	M36x2	60	144	35	FS/36x2
200	188	70	-	35	72	40	M36x2	60	144	35	FS/36x2

SAF/..

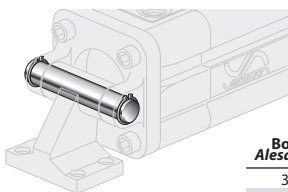
FLOATING JOINT TYPE "F"
FLANGIA AUTOALLINEANTE



Bore Alesaggio	A1	A2	B1	B2	ØC	ØD	E	ØF	G	H	M	CH	Code / Codice
32	60	37	36	23	6,6	11	7	M10x1,25	24	15	20	17	SAF32
40	60	56	42	38	9	15	9	M12x1,25	30	20	25	19	SAF40
50	80	80	58	58	11	18	11	M16x1,5	32	20	30	24	SAF50-63
63	80	80	58	58	11	18	11	M16x1,5	32	20	30	24	SAF50-63
80	90	90	65	65	14	20	13	M20x1,5	35	20	40	36	SAF80-100
100	90	90	65	65	14	20	13	M20x1,5	35	20	40	36	SAF80-100
125	90	90	65	65	14	20	13	M27x2	35	20	40	36	SAF125
160	125	125	90	90	18	26	17	M36x2	55	30	60	50	SAF160
200	125	125	90	90	18	26	17	M36x2	55	30	60	50	SAF200

USC/..

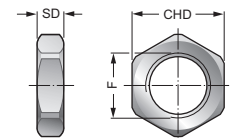
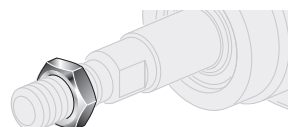
CLEVIS PIN
PERNO CERNIERA



Bore Alesaggio	A	ØB ^{H7}	Code Codice
32	54	10	USC/32
40	63	12	USC/40
50	71	12	USC/50
63	81	16	USC/63
80	101	16	USC/80
100	123	20	USC/100
125	141	25	USC/125
160	182	30	USC/160
200	182	30	USC/200

DM..x..

ROD NUT
DADO STELO



Bore Alesaggio	CHD	SD	F	Code Codice
32	17	6	M10x1,25	DM10x1,25
40	19	7	M12x1,25	DM12x1,25
50	24	8	M16x1,5	DM16x1,5
63	24	8	M16x1,5	DM16x1,5
80	30	9	M20x1,5	DM20x1,5
100	30	9	M20x1,5	DM20x1,5
125	41	12	M27x2	DM27x2
160	55	18	M36x2	DM36x2
200	55	18	M36x2	DM36x2

FIXING, MAGNETIC SWITCHES AND SEALS KIT FOR XJC CYLINDER / ACCESSORI E RICAMBI PER CILINDRI XJC

FJS ... VN

FIXING FOR TIE RODS MOUNTING
SUPPORTO PER MONTAGGIO SU TIRANTI

For tie rods cylinder
Per cilindri a tiranti



For magnetic switches features see:
Caratteristiche finecorsa magnetici vedi:
VNCR2, VNPR2, VNCE3, VNPE3.

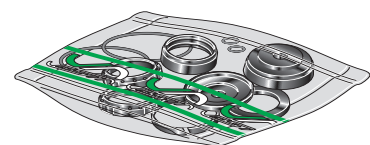
Pag. A-19

FJS ... VN

Bore Alesaggio (mm):
Ø 160 ... **160** Ø 200 ... **200**

..... - SG

SEALS KIT
KIT GUARNIZIONI DI RICAMBIO



Seals kit code:

Cylinder code + Bore + Versions + - SG
(The kit includes all seals).

Codice del kit:

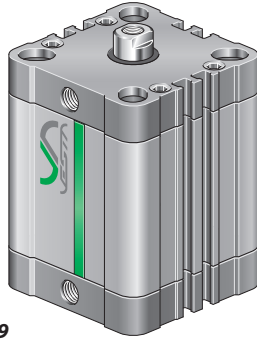
Codice del cilindro + Alesaggio + Versioni + - SG
(Il kit comprende tutte le guarnizioni necessarie).

Example / Esempio: **XJC 160 P VS - SG**

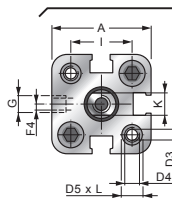


NSK . - ..

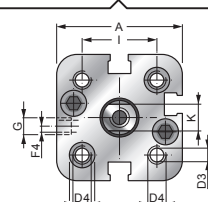
DOUBLE ACTING MAGNETIC CYLINDER
CILINDRO A DOPPIO EFFETTO MAGNETICO



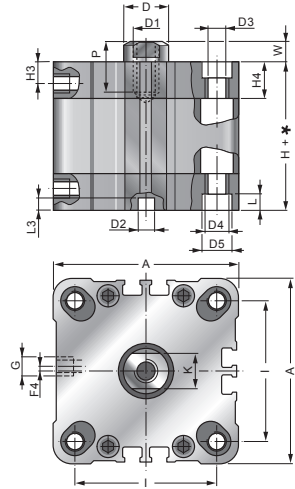
★ = Stroke / Corsa



Ø 16 mm



Ø 20; 25 mm



Ø 32; 40; 50; 63; 80; 100 mm

STANDARD ISO 21287

Ø	A	ØD	ØD2	ØD3	ØD4	ØD5	G	H3	H4	I	K	L	L3	W	F4	H	Code / Codice
16	29,2	8	6	3,3	M4	6	M5	7	12,8	18	6	3,5	2,2	4,5	0	37 (±0,5)	NSKI 16-...
20	37	10	6	4,2	M5	7,5	M5	7	12,3	22	8	4,2	2,5	6	4	37 (±0,5)	NSKI 20-...
25	41	10	6	4,2	M5	7,5	M5	7,5	13,5	26	8	4,2	2,5	6	3	39 (±0,5)	NSKI 25-...
32	49,2	12	6	5,2	M6	9	G1/8	7,5	15	32,5	10	4,5	2	7	0	44 (±0,5)	NSKI 32-...
40	57,2	12	6	5,2	M6	9	G1/8	7,5	15	38	10	4,2	2	7	0	45 (±0,7)	NSKI 40-...
50	67	16	8	6,7	M8	10,5	G1/8	7,5	14,6	46,5	13	4,7	2,5	8	0	45 (±0,7)	NSKI 50-...
63	80	16	8	6,7	M8	10,5	G1/8	8	15,5	56,5	13	5,2	2,5	8	0	49 (±0,8)	NSKI 63-...
80	102,6*	20	8	8,5	M10	13,5	G1/8	9	17	72	17	5,2	2,5	10	0	54 (±0,8)	NSKI 80-...
100	124*	25	8	8,5	M10	13,5	G1/4*	10	20	89	22	5,2	3	10	0	67 (±1,0)	NSKI 100-...

STANDARD UNITOP

Ø	A	ØD	ØD2	ØD3	ØD4	ØD5	G	H3	H4	I	K	L	L3	W	F4	H	Code / Codice
16	29,2	8	6	3,3	M4	6	M5	7	12,8	18	6	3,5	2,2	4,5	0	38 (±0,5)	NSKU 16-...
20	37	10	6	4,2	M5	7,5	M5	7	12,3	22	8	4,2	2,5	4,5	4	38 (±0,5)	NSKU 20-...
25	41	10	6	4,2	M5	7,5	M5	7,5	13,5	26	8	4,2	2,5	5,5	3	39,5 (±0,5)	NSKU 25-...
32	49,2	12	6	5,2	M6	9	G1/8	7,5	15	32	10	4,5	2	6	0	44,5 (±0,5)	NSKU 32-...
40	57,2	12	6	5,2	M6	9	G1/8	7,5	15	42	10	4,2	2	6,5	0	45,5 (±0,7)	NSKU 40-...
50	67	16	8	6,7	M8	10,5	G1/8	7,5	14,6	50	13	4,7	2,5	7,5	0	45,5 (±0,7)	NSKU 50-...
63	80	16	8	8,5	M10	13,5	G1/8	8	15,5	62	13	5,2	2,5	7,5	0	50 (±0,8)	NSKU 63-...
80	102,6	20	8	8,5	M10	13,5	G1/8	9	17	82	17	5,2	2,5	8	0	56 (±0,8)	NSKU 80-...
100	124	25	8	8,5	M10	13,5	G1/4	10	20	103	22	5,2	3	10	0	66,5 (±1,0)	NSKU 100-...

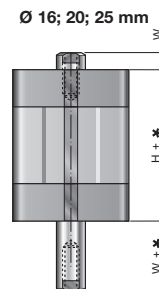
Bore Alesaggio	5	10	15	20	25	30	40	50	60	70	80	90	100	125	160	200	250
16	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
20	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
25	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
32	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
40	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
50	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
63	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
80	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
100	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

NSK . - .. P

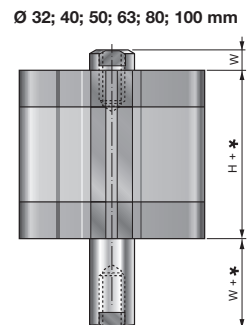
DOUBLE ACTING MAGNETIC THROUGH ROD CYLINDER
CILINDRO MAGNETICO A DOPPIO EFFETTO STELO PASSANTE



★ = Stroke / Corsa



Ø 16; 20; 25 mm



Ø 32; 40; 50; 63; 80; 100 mm

STANDARD ISO 21287

Ø	W	H	Code - Codice
16	4,5	37 (±0,5)	NSKI 16/... P
20	6	37 (±0,5)	NSKI 20/... P
25	6	39 (±0,5)	NSKI 25/... P
32	7	44 (±0,5)	NSKI 32/... P
40	7	45 (±0,7)	NSKI 40/... P
50	8	45 (±0,7)	NSKI 50/... P
63	8	49 (±0,8)	NSKI 63/... P
80	10	54 (±0,8)	NSKI 80/... P
100	10	67 (±1,0)	NSKI 100/... P

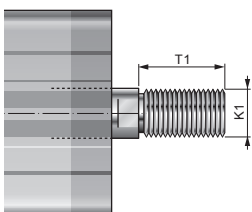
STANDARD UNITOP

Ø	W	H	Code - Codice
16	4,5	38 (±0,5)	NSKU 16/... P
20	4,5	38 (±0,5)	NSKU 20/... P
25	5,5	39,5 (±0,5)	NSKU 25/... P
32	6	44,5 (±0,5)	NSKU 32/... P
40	6,5	45,5 (±0,7)	NSKU 40/... P
50	7,5	45,5 (±0,7)	NSKU 50/... P
63	7,5	50 (±0,8)	NSKU 63/... P
80	8	56 (±0,8)	NSKU 80/... P
100	10	66,5 (±1,0)	NSKU 100/... P

ATEX versions see
Versioni ATEX vedi .. P. A-109

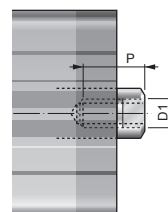
NSK . - M

THREADED MALE PISTON ROD VERSION
VERSIONE STELO FILETTATO MASCHIO



Ø	K1	T1
16	M6x1	12
20	M8x1,25	16
25	M8x1,25	16
32	M10x1,25	19
40	M10x1,25	19
50	M12x1,25	22
63	M12x1,25	22
80	M16x1,5	28
100	M16x1,5	28

Ø	K1	T1
16	M8x1,25	20
20	M10x1,25	22
25	M10x1,25	22
32	M10x1,25	22
40	M10x1,25	22
50	M12x1,25	24
63	M12x1,25	24
80	M16x1,5	32
100	M20x1,5	40



NSK . - F

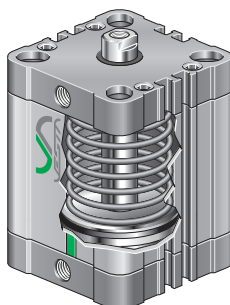
THREADED FEMALE PISTON ROD VERSION
VERSIONE STELO FILETTATO FEMMINA

Ø	ØD1	P
16	M4	8
20	M6	10
25	M6	10
32	M8	12
40	M8	12
50	M10	16
63	M10	16
80	M12	20
100	M12	20

Ø	ØD1	P
16	M4	8
20	M5	10
25	M5	10
32	M6	12
40	M6	12
50	M8	12
63	M8	14
80	M10	15
100	M12	20

NSK . - .. SEA

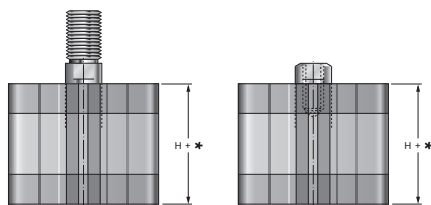
SIMPLE ACTING FRONT SPRING
SEMPLICE EFFETTO MOLLA ANTERIORE



SEA/SEP SPRING FORCE (N) STROKE 0 - 25 mm
SEA/SEP FORZE MOLLA (N) CORSA 0 - 25 mm

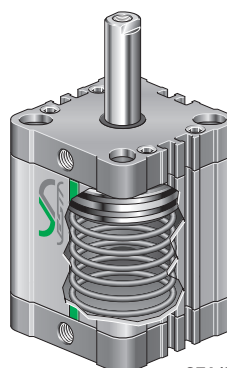
Ø	F spring max (stroke 0 mm) F molla max (corsa 0 mm)	F spring min (stroke 25 mm) F molla min (corsa 25 mm)	H ISO 21287	H UNITOP
16	21	12	37 (±0,5)	38 (±0,5)
20	39	22	37 (±0,5)	38 (±0,5)
25	45	28	39 (±0,5)	39,5 (±0,5)
32	45	28	44 (±0,5)	44,5 (±0,5)
40	61	39	45 (±0,7)	45,5 (±0,7)
50	90	58	45 (±0,7)	45,5 (±0,7)
63	95	62	49 (±0,8)	50 (±0,8)
80	150	115	54 (±0,8)	56 (±0,8)
100	160	125	67 (±1,0)	66,5 (±1,0)

SEA



NSK . - .. SEP

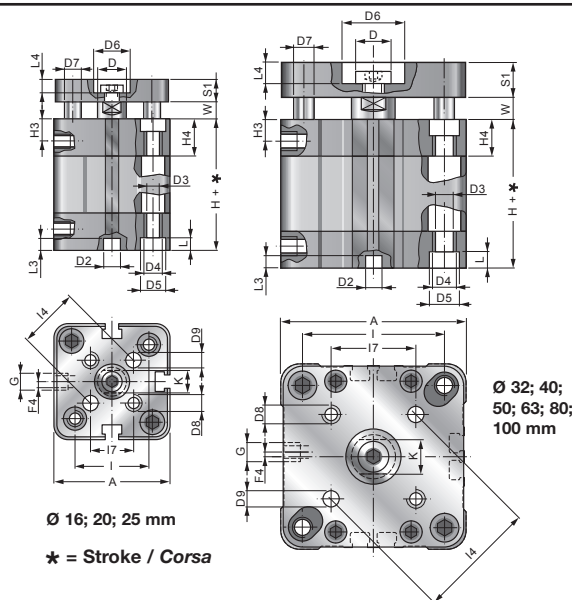
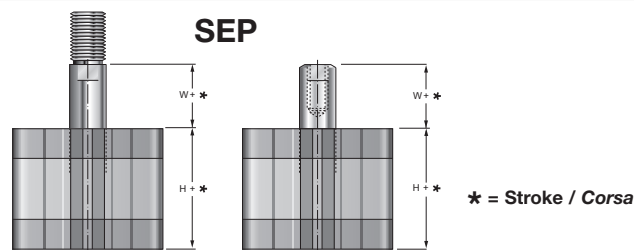
SIMPLE ACTING REAR SPRING
SEMPLICE EFFETTO MOLLA POSTERIORE



SEA/SEP SPRING FORCE (N) STROKE 26 - 50 mm
SEA/SEP FORZE MOLLA (N) CORSA 26 - 50 mm

Ø	F spring max (stroke 26 mm) F molla max (corsa 26 mm)	F spring min (stroke 50 mm) F molla min (corsa 50 mm)	H ISO 21287	H UNITOP
16	21	12	47 (±0,5)	48 (±0,5)
20	39	22	47 (±0,5)	48 (±0,5)
25	45	28	59 (±0,5)	59,5 (±0,5)
32	45	28	64 (±0,5)	64,5 (±0,5)
40	61	39	65 (±0,7)	65,5 (±0,7)
50	90	58	65 (±0,7)	65,5 (±0,7)
63	95	62	69 (±0,8)	70 (±0,8)
80	150	115	84 (±0,8)	86 (±0,8)
100	160	125	97 (±1,0)	96,5 (±1,0)

SEP



Ø 16; 20; 25 mm

* = Stroke / Corsa

STANDARD ISO 21287

Ø	A	ØD	ØD2	ØD3	ØD4	ØD6	ØD7	ØD8	ØD9	G	H3	H4	I	I4	I7	K	L	L3	L4	F4	S1	W	H	Code / Codice
16	29,2	8	6	3,3	M4	9	5	M3	3	M5	7	12,8	18	14	9,9	6	3,5	2,2	4	0	6	4,5	37 (±0,5)	NSKI 16-... AR
20	37	10	6	4,2	M5	11	5	M4	4	M5	7	12,3	22	17	12	8	4,2	2,5	5	4	8	4,5	37 (±0,5)	NSKI 20-... AR
25	41	10	6	4,2	M5	14	6	M5	5	M5	7,5	13,5	26	22	15,6	8	4,2	2,5	5	3	8	5,5	39,5 (±0,5)	NSKI 25-... AR
32	49,2	12	6	5,2	M6	17	8	M5	5	G1/8	7,5	15	32,5	28	19,8	10	4,5	2	6,5	0	10	6	44 (±0,5)	NSKI 32-... AR
40	57,2	12	6	5,2	M6	17	10	M5	5	G1/8	7,5	15	38	33	23,3	10	4,2	2	6,5	0	10	6,5	45 (±0,7)	NSKI 40-... AR
50	67	16	8	6,7	M8	22	10	M6	6	G1/8	7,5	14,6	46,5	42	29,7	13	4,7	2,5	7,5	0	12	7,5	45 (±0,7)	NSKI 50-... AR
63	80	16	8	6,7	M8	22	10	M6	6	G1/8	8	15,5	56,5	50	35,4	13	5,2	2,5	7,5	0	12	7,5	49 (±0,8)	NSKI 63-... AR
80	102,6	20	8	8,5	M10	28	14	M8	8	G1/8	9	17	72	65	46	17	5,2	2,5	9	0	14	8	54 (±0,8)	NSKI 80-... AR
100	124*	25	8	8,5	M10	30	14	M10	10	G1/4*	10	20	89	80	56,6	22	5,2	3	10	0	14	10	67 (±1,0)	NSKI 100-... AR

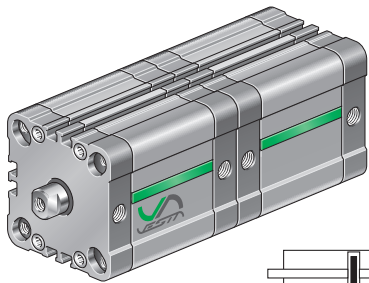
STANDARD UNITOP

Ø	A	ØD	ØD2	ØD3	ØD4	ØD6	ØD7	ØD8	ØD9	G	H3	H4	I	I4	I7	K	L	L3	L4	F4	S1	W	H	Code / Codice
16	29,2	8	6	3,3	M4	9	5	M3	3	M5	7	12,8	18	14	9,9	6	3,5	2,2	4	0	6	4,5	38 (±0,5)	NSKU 16-... AR
20	37	10	6	4,2	M5	11	5	M4	4	M5	7	12,3	22	17	12	8	4,2	2,5	5	4	8	4,5	38 (±0,5)	NSKU 20-... AR
25	41	10	6	4,2	M5	14	6	M5	5	M5	7,5	13,5	26	22	15,6	8	4,2	2,5	5	3	8	5,5	39,5 (±0,5)	NSKU 25-... AR
32	49,2	12	6	5,2	M6	17	8	M5	5	G1/8	7,5	15	32	28	19,8	10	4,5	2	6,5	0	10	6	44,5 (±0,5)	NSKU 32-... AR
40	57,2	12	6	5,2	M6	17	10	M5	5	G1/8	7,5	15	42	33	23,3	10	4,2	2	6,5	0	10	6,5	45,5 (±0,7)	NSKU 40-... AR
50	67	16	8	6,7	M8	22	10	M6	6	G1/8	7,5	14,6	50	42	29,7	13	4,7	2,5	7,5	0	12	7,5	45,5 (±0,7)	NSKU 50-... AR
63	80	16	8	6,7	M8	22	10	M6	6	G1/8	8	15,5	62	50	35,4	13	5,2	2,5	7,5	0	12	7,5	50 (±0,8)	NSKU 63-... AR
80	102,6	20	8	8,5	M10	28	14	M8	8	G1/8	9	17	82	65	46	17	5,2	2,5	9	0	14	8	56 (±0,8)	NSKU 80-... AR
100	124	25	8	8,5	M10	30	14	M10	10	G1/4	10	20	103	80	56,6	22	5,2	3	10	0	14	10	66,5 (±1,0)	NSKU 100-... AR



NSK ... TN2 ...

MULTI-THRUST TANDEM
TANDEM MULTISPINTA



NSK / TN2

ISO 21287 I
UNITOP U

Stroke
Corsa (mm):

Bore / Alesaggio (mm):

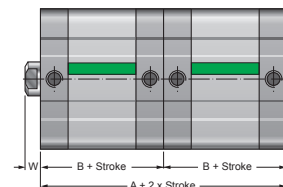
Ø32 ... 32 Ø63 ... 63
Ø40 ... 40 Ø80 ... 80
Ø50 ... 50 Ø100 ... 100

M Threaded male piston rod
Cilindro stelo filettato maschio
F Threaded female piston rod
Cilindro stelo filettato femmina

P Through rod cylinder
Cilindro stelo passante

Ø	A	B	ISO 21287 Code - Codice	UNITOP Code - Codice
32	88,4	44,2	NSKI 32/... TN...	NSKU 32/... TN...
40	90,4	45,2	NSKI 40/... TN...	NSKU 40/... TN...
50	90,4	45,2	NSKI 50/... TN...	NSKU 50/... TN...
63	99	49,5	NSKI 63/... TN...	NSKU 63/... TN...
80	110	55	NSKI 80/... TN...	NSKU 80/... TN...
100	133,4	66,7	NSKI 100/... TN...	NSKU 100/... TN...

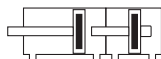
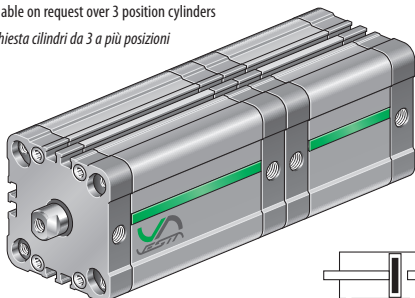
For other dimensions please
see **NSK** standard cylinder
Per altre dimensioni vedere
cilindri **NSK** standard



NSK ... BS ...

MULTI-POSITION
MULTIPOSIZIONE

Available on request over 3 position cylinders
A richiesta cilindri da 3 a più posizioni



NSK / BS

ISO 21287 I
UNITOP U

1° Stroke
Corsa (mm):

2°** Stroke
Corsa (mm):

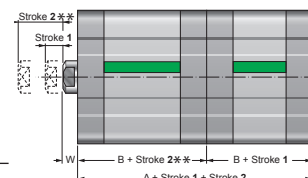
Bore / Alesaggio (mm):

Ø32 ... 32 Ø63 ... 63
Ø40 ... 40 Ø80 ... 80
Ø50 ... 50 Ø100 ... 100

M Threaded male piston rod
Cilindro stelo filettato maschio
F Threaded female piston rod
Cilindro stelo filettato femmina

Ø	A	B	ISO 21287 Code - Codice	UNITOP Code - Codice
32	88,4	44,2	NSKI 32/... BS...	NSKU 32/... BS...
40	90,4	45,2	NSKI 40/... BS...	NSKU 40/... BS...
50	90,4	45,2	NSKI 50/... BS...	NSKU 50/... BS...
63	99	49,5	NSKI 63/... BS...	NSKU 63/... BS...
80	110	55	NSKI 80/... BS...	NSKU 80/... BS...
100	133,4	66,7	NSKI 100/... BS...	NSKU 100/... BS...

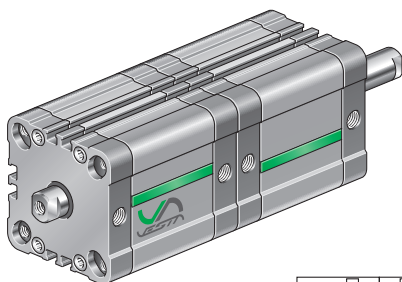
For other dimensions please
see **NSK** standard cylinder
Per altre dimensioni vedere
cilindri **NSK** standard



**Attention: Stroke 2 = Addition of the two strokes of the cylinder
**Attenzione: Corsa 2 = Somma delle due corse del cilindro

NSK ... CNP ...

REAR OPPOSED
CONTRAPPOSTI POSTERIORI



NSK / CNP

ISO 21287 I
UNITOP U

1° Stroke
Corsa (mm):

2° Stroke
Corsa (mm):

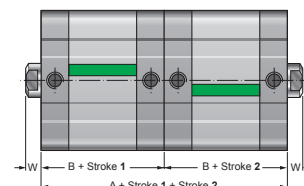
Bore / Alesaggio (mm):

Ø16 ... 16 Ø32 ... 32 Ø63 ... 63
Ø20 ... 20 Ø40 ... 40 Ø80 ... 80
Ø25 ... 25 Ø50 ... 50 Ø100 ... 100

M Threaded male piston rod
Cilindro stelo filettato maschio
F Threaded female piston rod
Cilindro stelo filettato femmina

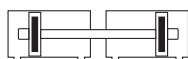
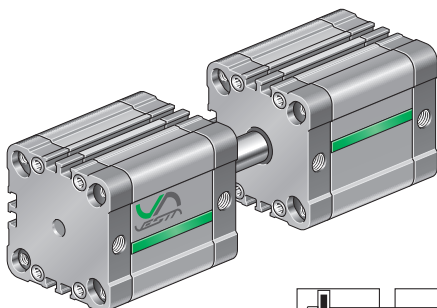
Ø	A	B	ISO 21287 Code - Codice	UNITOP Code - Codice
16	76	38	NSKI 16/... CNP...	NSKU 16/... CNP...
20	76	38	NSKI 20/... CNP...	NSKU 20/... CNP...
25	79	39,5	NSKI 25/... CNP...	NSKU 25/... CNP...
32	88,4	44,2	NSKI 32/... CNP...	NSKU 32/... CNP...
40	90,4	45,2	NSKI 40/... CNP...	NSKU 40/... CNP...
50	90,4	45,2	NSKI 50/... CNP...	NSKU 50/... CNP...
63	99	49,5	NSKI 63/... CNP...	NSKU 63/... CNP...
80	110	55	NSKI 80/... CNP...	NSKU 80/... CNP...
100	133,4	66,7	NSKI 100/... CNP...	NSKU 100/... CNP...

For other dimensions please
see **NSK** standard cylinder
Per altre dimensioni vedere
cilindri **NSK** standard



NSK ... CNF ...

FRONT OPPOSED
CONTRAPPOSTI ANTERIORI



NSK / CNF

ISO 21287 I
UNITOP U

1° Stroke
Corsa (mm):

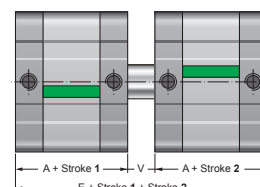
2° Stroke
Corsa (mm):

Bore / Alesaggio (mm):

Ø16 ... 16 Ø32 ... 32 Ø63 ... 63
Ø20 ... 20 Ø40 ... 40 Ø80 ... 80
Ø25 ... 25 Ø50 ... 50 Ø100 ... 100

Ø	E	A	V	ISO 21287 Code - Codice	UNITOP Code - Codice
16	85	38	9	NSKI 16/... CNF...	NSKU 16/... CNF...
20	85	38	9	NSKI 20/... CNF...	NSKU 20/... CNF...
25	90	39,5	11	NSKI 25/... CNF...	NSKU 25/... CNF...
32	100,4	44,2	12	NSKI 32/... CNF...	NSKU 32/... CNF...
40	103,4	45,2	13	NSKI 40/... CNF...	NSKU 40/... CNF...
50	105,5	45,2	15	NSKI 50/... CNF...	NSKU 50/... CNF...
63	114	49,5	15	NSKI 63/... CNF...	NSKU 63/... CNF...
80	126	55	16	NSKI 80/... CNF...	NSKU 80/... CNF...
100	153,4	66,7	20	NSKI 100/... CNF...	NSKU 100/... CNF...

For other dimensions please
see **NSK** standard cylinder
Per altre dimensioni vedere
cilindri **NSK** standard



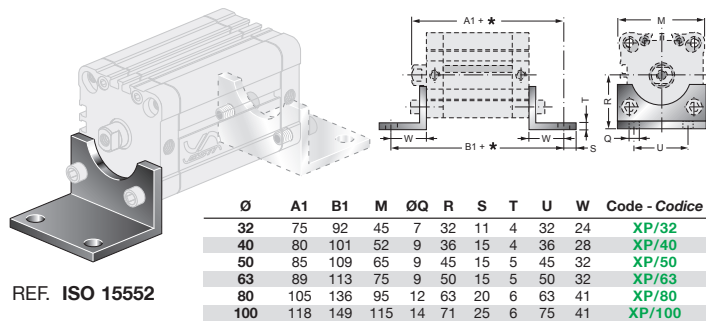
FIXING ACCESSORIES FOR ISO 21287 CYLINDERS / ACCESSORI DI FISSAGGIO PER CILINDRI ISO 21287

Note: the fixing screws are not included in the supply of the fittings / le viti di fissaggio non sono comprese nella fornitura degli accessori.

XP/ ..

FOOT MOUNTING
MONTAGGIO A PIEDINI

★ = Stroke / Corsa



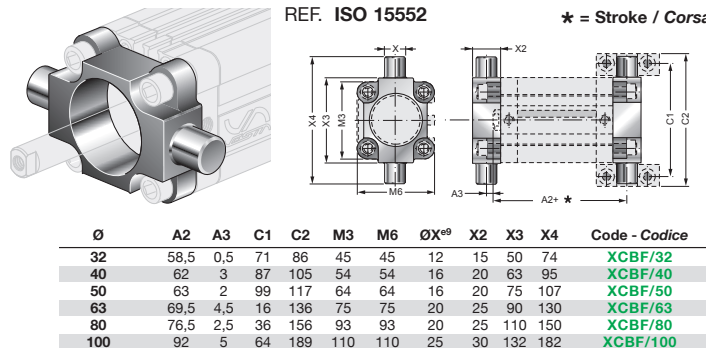
REF. ISO 15552

XCBF/ ..

FLOATING FRONT HINGE MOUNTING
MONTAGGIO CERNIERA OSCILLANTE ANTERIORE

REF. ISO 15552

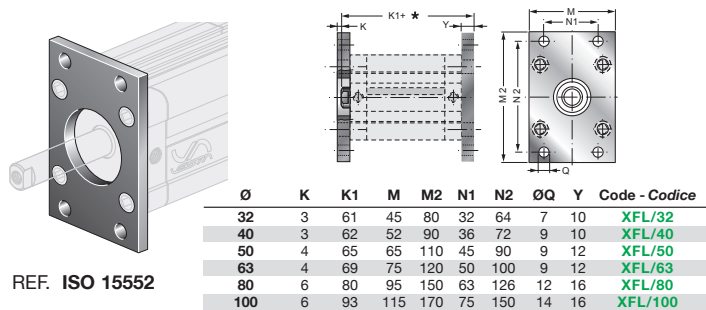
★ = Stroke / Corsa



XFL/ ..

FLANGE MOUNTING
MONTAGGIO A FLANGIA

★ = Stroke / Corsa



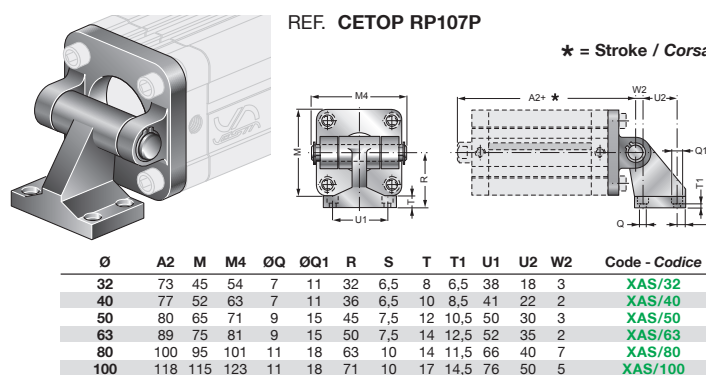
REF. ISO 15552

XAS/ ..

REAR HINGE HORIZONTAL MOUNTING
MONTAGGIO A CONTROCERNIERA ORIZZONTALE

REF. CETOP RP107P

★ = Stroke / Corsa



XCF/ ..

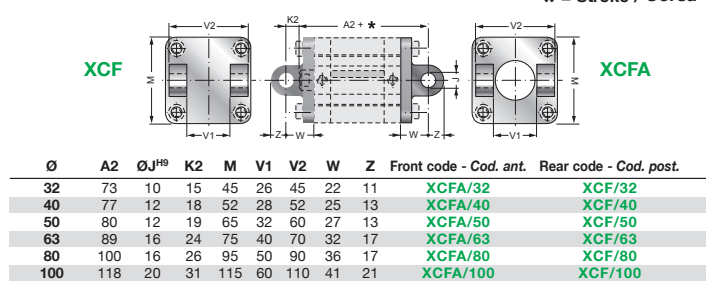
FRONT AND REAR CLEVIS (FEMALE) MOUNTING
MONTAGGIO CERNIERA FEMMINA ANT. E POST.

XCF

XCFA

REF. ISO 15552

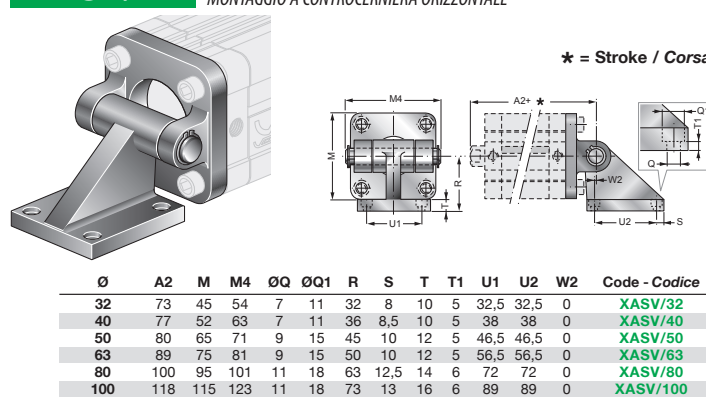
★ = Stroke / Corsa



XASV/ ..

REAR HINGE HORIZONTAL MOUNTING
MONTAGGIO A CONTROCERNIERA ORIZZONTALE

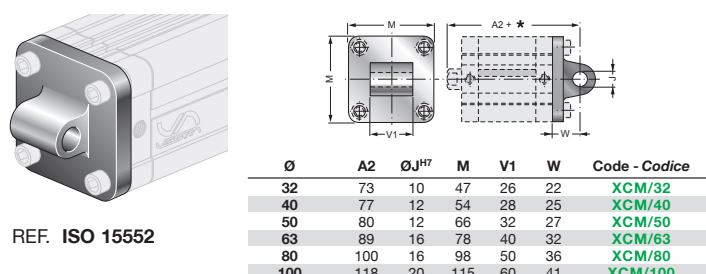
★ = Stroke / Corsa



XCM/ ..

CLEVIS (MALE) MOUNTING
MONTAGGIO A CONTROCERNIERA MASCHIO

★ = Stroke / Corsa

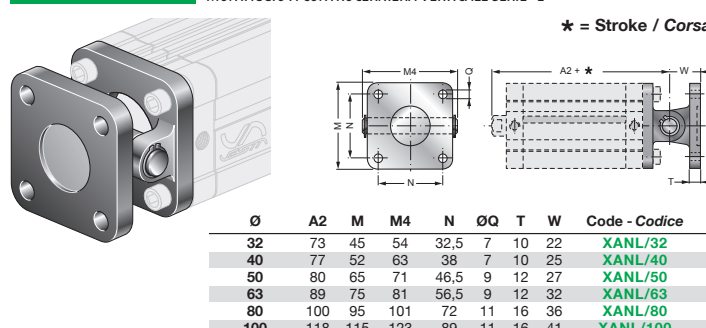


REF. ISO 15552

XANL/ ..

REAR HINGE VERTICAL MOUNTING "L" SERIES
MONTAGGIO A CONTROCERNIERA VERTICALE SERIE "L"

★ = Stroke / Corsa





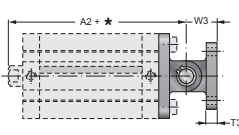
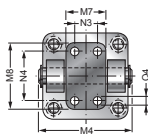
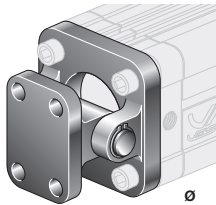
FIXING ACCESSORIES FOR ISO 21287 CYLINDERS / ACCESSORI DI FISSAGGIO PER CILINDRI ISO 21287

Note: the fixing screws are not included in the supply of the fittings / le viti di fissaggio non sono comprese nella fornitura degli accessori.

XANN/ ..

REAR HINGE VERTICAL MOUNTING "N" SERIES
MONTAGGIO A CONTROCERNIERA VERTICALE SERIE "N"

* = Stroke / Corsa

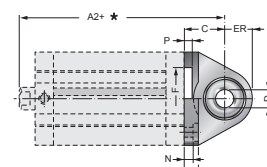
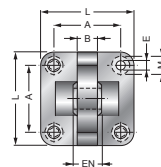
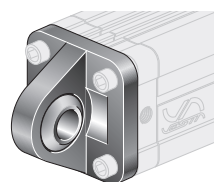


Ø	A2	M4	M7	M8	N3	N4	ØQ4	T3	W3	Code - Codice
32	73	54	25	40	-	28	7	8	18	XANN/32
40	77	63	28	52	16	38	9	10	26	XANN/40
50	80	71	32	52	16	38	9	10	26	XANN/50
63	89	81	40	75	25	54	11	12	34	XANN/63
80	100	101	50	75	25	54	11	12	34	XANN/80
100	118	123	60	115	32	90	14	16	41	XANN/100

XCM-SN-AC/ ..

CLEVIS (MALE) WITH ROD EYE
CERNIERA MASCHIO CON SNODO

* = Stroke / Corsa



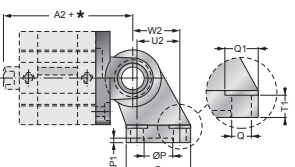
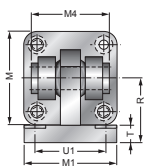
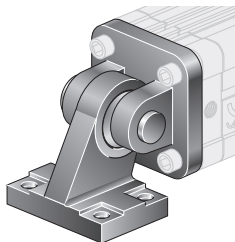
STEEL / ACCIAIO

Ø	A2	A	B	C	ØD	EN	ER	F	G	E	L	M	N	P	Code - Codice
32	73	32,5	10,5	22	10	14	15	30	10	6,6	45	10,5	5,5	5	XCM-SN-AC/32
40	77	38	12	25	12	16	18	35	10	6,6	55	11	5,5	5	XCM-SN-AC/40
50	80	46,5	15	27	16	21	20	40	10	9	65	15	6,5	5	XCM-SN-AC/50
63	89	56,5	15	32	16	21	23	45	12	9	75	15	6,5	5	XCM-SN-AC/63
80	100	72	18	36	20	25	27	45	14	11	95	18	10	5	XCM-SN-AC/80
100	118	89	18	41	20	25	30	55	16	11	115	18	10	5	XCM-SN-AC/100

XAS-SN/ ..

REAR HINGE MOUNTING WITH NARROW ROD EYE
MONTAGGIO A CONTROCERNIERA SNODATA STRETTA

* = Stroke / Corsa

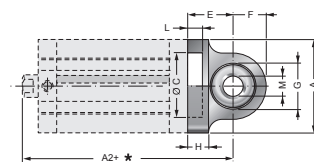
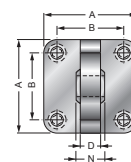
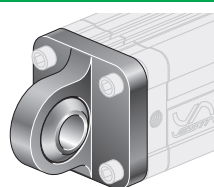


Ø	A2	M	M1	M4	ØP	P1	ØQ	ØQ1	R	S	T	T1	U1	U2	W2	Code - Codice
32	73	45	51	41	20	3	6,6	11	32	31	10	8,5	38	18	21	XAS-SN/32
40	77	52	54	48	20	3	6,6	11	36	35	10	8,5	41	22	24	XAS-SN/40
50	80	65	65	54	20	3	9	15	45	45	12	10,5	50	30	33	XAS-SN/50
63	89	75	67	60	20	3	9	15	50	50	12	10,5	52	35	37	XAS-SN/63
80	100	95	86	75	20	3	11	18	63	60	14	11,5	66	40	47	XAS-SN/80
100	118	115	96	85	20	3	11	18	71	70	15	12,5	76	50	55	XAS-SN/100

XCM-SN-AL/ ..

CLEVIS (MALE) WITH ROD EYE
CERNIERA MASCHIO CON SNODO

* = Stroke / Corsa



ALUMINIUM ALLOY / LEGA DI ALLUMINIO

Ø	A2	A	B	C	D	E	F	H	L	ØM	N	Code - Codice
32	73	45	32,5	30	10,5	22	16	9	5	10	14	XCM-SN-AL/32
40	77	52	38	35	12	25	19	9	5	12	16	XCM-SN-AL/40
50	80	65	46,5	40	15	27	21	11	5	16	21	XCM-SN-AL/50
63	89	75	56,5	45	15	32	24	11	5	16	21	XCM-SN-AL/63
80	100	95	72	45	18	36	28,5	14	5	20	25	XCM-SN-AL/80
100	118	115	89	55	18	41	30	14	5	20	25	XCM-SN-AL/100

PISTON-ROD FIXING ACCESSORIES FOR ISO 21287 CYLINDERS SEE PAGE A-26

ACCESSORI DI FISSAGGIO ALLO STELO PER CILINDRI ISO 21287 VEDI PAGINA A-26

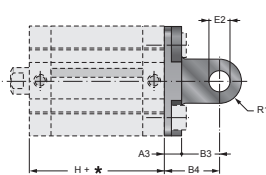
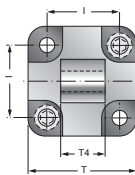
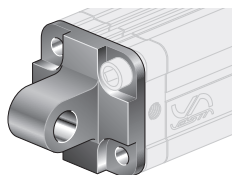
FIXING ACCESSORIES FOR UNITOP CYLINDERS / ACCESSORI DI FISSAGGIO PER CILINDRI UNITOP

Note: the fixing screws are not included in the supply of the fittings / le viti di fissaggio non sono comprese nella fornitura degli accessori.

SKCM/ ..

MALE CLEVIS MOUNTING
MONTAGGIO A CERNIERA MASCHIO

* = Stroke / Corsa



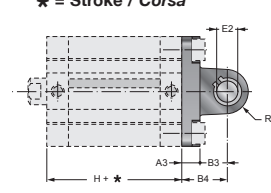
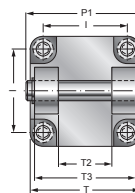
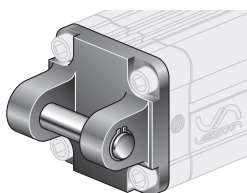
H = See previous pages
Vedi pagine precedenti

Ø	A3	B3	B4	E2	H	I	R1	T	T4	Code - Codice
16	6	10	16	6	38	18	6	27	12	SKCM/16
20	6	14	20	8	38	22	8	34	16	SKCM/20
25	6	14	20	8	39,5	26	8	38	16	SKCM/25

SKCF/ ..

FEMALE CLEVIS MOUNTING
MONTAGGIO A CERNIERA FEMMINA

* = Stroke / Corsa



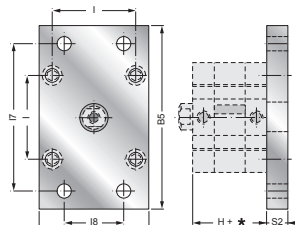
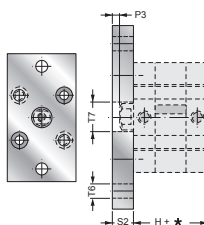
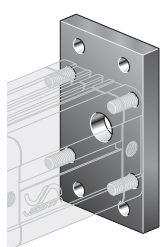
H = See previous pages
Vedi pagine precedenti

Ø	A3	B3	B4	E2	H	I	P1	R1	T	T2	T3	Code - Codice
32	9	13	22	10	44,5	32	53	10	48	26	45	SKCF/32
40	9	16	25	12	45,5	42	60	12,5	58	28	52	SKCF/40
50	11	16	27	12	45,5	50	68	12,5	66	32	60	SKCF/50
63	11	21	32	16	50	62	78	15	83	40	70	SKCF/63
80	13	23	36	16	56	82	98	15	102	50	90	SKCF/80
100	15	26	41	20	66,5	103	118	20	123	60	110	SKCF/100

SKFL/ ..

FLANGE MOUNTING
MONTAGGIO A FLANGIA

* = Stroke / Corsa



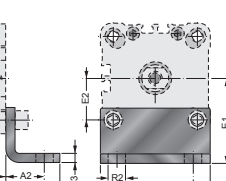
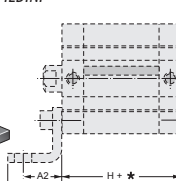
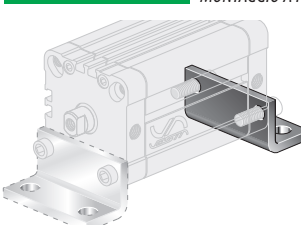
H = See previous pages
Vedi pagine precedenti

Ø	A3	B5	H	I	I7	I8	P3	S2	T6	T7	Code - Codice
16	29	55	38	18	43	-	5,5	10	5,5	10	SKFL/16
20	36	70	38	22	55	-	5,5	10	6,5	12	SKFL/20
25	40	76	39,5	26	60	-	4,5	10	6,5	12	SKFL/25
32	50	80	44,5	32	65	32	4	10	7	14	SKFL/32
40	60	102	45,5	42	82	36	3,5	10	9	14	SKFL/40
50	68	110	45,5	50	90	45	4,5	12	9	18	SKFL/50
63	87	130	50	62	110	50	7,5	15	9	18	SKFL/63
80	107	160	56	82	135	63	7	15	12	23	SKFL/80
100	128	190	66,5	103	163	75	5	15	14	28	SKFL/100

SKP/ ..

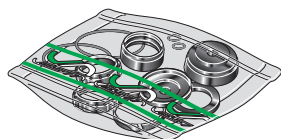
FOOT MOUNTING
MONTAGGIO A PIEDINI

* = Stroke / Corsa



H = See previous pages
Vedi pagine precedenti

Ø	A2	B2	E1	E2	H	I6	R2	S	S3	Code - Codice
16	13	17,5	22	9	38	18	5,5	30	3	SKP/16
20	16	22	27	11	38	22	6,5	36	4	SKP/20
25	16	22	30	13	39,5	26	6,5	40	4	SKP/25
32	18	26	32	16	44,5	32	6,5	50	5	SKP/32
40	20	28	42,5	21	45,5	42	9	60	5	SKP/40
50	24	32	47	25	45,5	50	9	68	6	SKP/50
63	27	39	59,5	31	50	62	11	84	6	SKP/63
80	30	42	65,5	41	56	82	11	102	8	SKP/80
100	33	45	78	51,5	66,5	103	13,5	123	8	SKP/100



SEALS KIT - KIT GUARNIZIONI DI RICAMBIO

..... - SG

Seals kit code = **Cylinder code** + **Bore** + **Versions** + - **SG**: (The kit includes all seals).

Codice del kit = **Codice del cilindro** + **Alesaggio** + **Versions** + - **SG**: (Il kit comprende tutte le guarnizioni necessarie).

Example / Esempio: **NSK 40 CNP - SG**

MAGNETIC SWITCHES FOR NSK CYLINDERS / FINECORSA MAGNETICI PER CILINDRI NSK

VNCR2

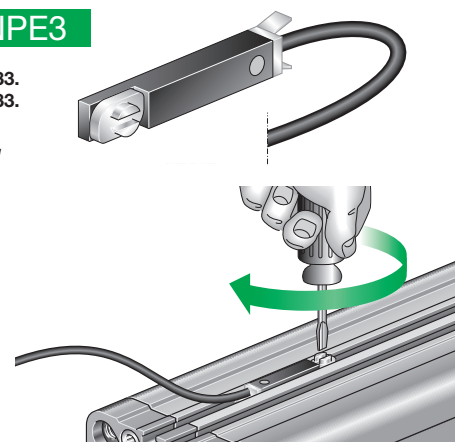
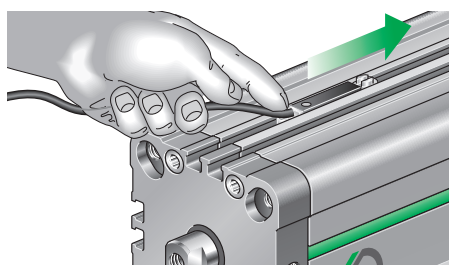
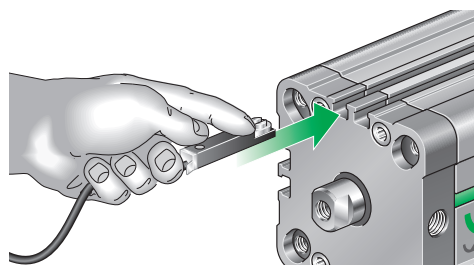
VNPR2

VNCE3

VNPE3

Characteristic magnetic switches see **GENERAL CATALOGUE** - Pag. A-19; A-33.
Caratteristiche finecorsa magnetico vedi **CATALOGO GENERALE** - Pag. A-19; A-33.

MAGNETIC SWITCH POSITIONING / POSIZIONAMENTO DEI FINECORSA MAGNETICI



SHORT STROKE CYLINDERS CILINDRI A CORSA BREVE

SERIE **SH**

SH - - - -

D Double acting
Cilindro doppio effetto

S Single acting
Cilindro semplice effetto

DM Double effect magnetic
Doppio effetto magnetico

SM Simple effect magnetic
Semplice effetto magnetico

Stroke / Corsa
(mm):

VS Viton rod seal
Guarnizione dello stelo in Viton

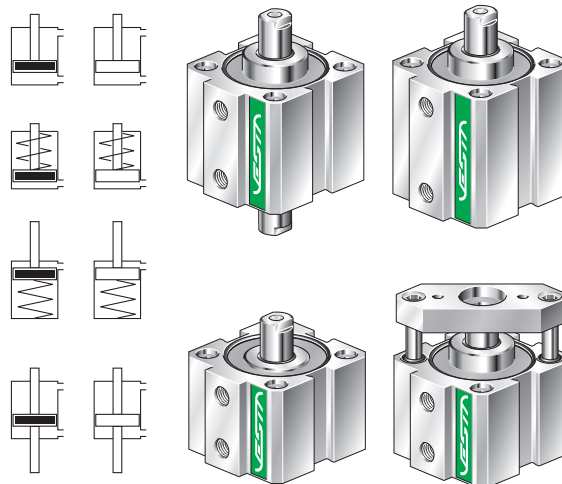
VV Viton all seals
Tutte le guarnizioni in Viton

P Through rod cylinder
Cilindro stelo passante

AR Non rotating
Cilindro antirotazione

Bore / Alesaggio (mm):

Ø12	12	Ø63	63
Ø16	16	Ø80	80
Ø20	20	Ø100 ...	100
Ø25	25	Ø125 ...	125
Ø32	32	Ø160 ...	160
Ø40	40	Ø200 ...	200
Ø50	50		



Features of reed switches see:
Caratteristiche finecorsa magnetici: **Pag. A-38**

Piston rod	Stainless steel X10 Cr Ni S 18-09 (Ø125÷200 X 20 Cr 13)
Barrel	Anodized profiled aluminium tube.
Seals	NBR rubber and polyurethane.
Cushioning	Mechanical buffers.

Ambient temperature range	-20 °C ÷ +60 °C.
Temperature range of medium	0 °C ÷ +30 °C.
Lubrication	Not required.
Medium	Filtered air.
Max operating pressure	10 bar.

TECHNICAL FEATURES

Stelo	Acciaio inox X10 Cr Ni S 18-09 (Ø125÷200 X 20 Cr 13)
Camicia	Tubo profilato ed anodizzato d' alluminio.
Guarnizioni	NBR e poliuretano.
Ammortizzatori	Smorzatore meccanici d'urto.

Temperatura ambiente	-20 °C ÷ +60 °C.
Temperatura fluido	0 °C ÷ +30 °C.
Lubrificazione	Non necessaria.
Fluido	Aria filtrata.
Pressione max d'esercizio	10 bar.

CARATTERISTICHE TECNICHE

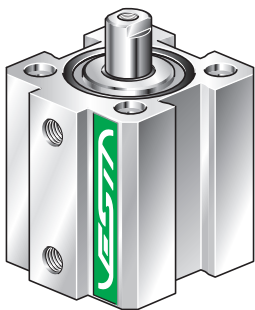


SHORT STROKE WITHOUT MAGNET Ø12 ÷ 100 / CORSA BREVE NON MAGNETICI Ø12 ÷ 100

SHD .. -...

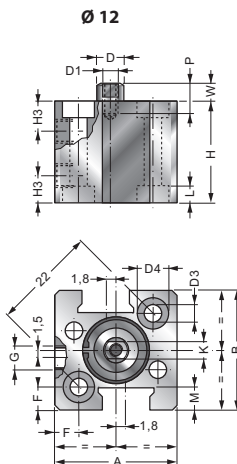
Without magnet / Non magnetico

DOUBLE ACTING SINGLE ROD
CILINDRO BASE DOPPIO EFFETTO

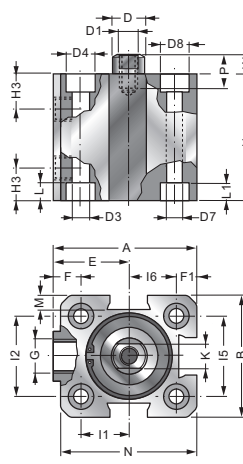


* = Stroke / Corsa

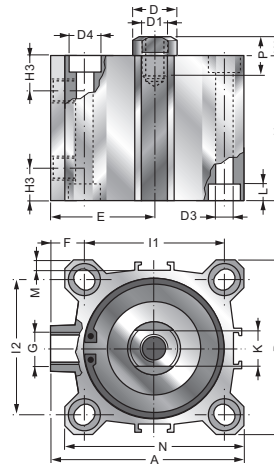
Ø 12



Ø 16; 20; 25



Ø 32; 40; 50; 63; 80; 100.

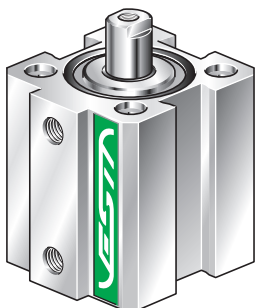


Ø	A	B	ØD	D1	ØD3	ØD4	ØD7	ØD8	E	F	F1	G	H3	I1	I2	I5	I6	K	L	L1	M	N	P	W	Code Codice	H Stroke / Corsa (mm):											
																										5	10	15	20	25	30	40	50	60	80	100	
12	25	25	6	M3	3,7	5,6	-	-	-	4,7	-	M5	5,5	-	-	-	-	5	3,5	-	4,7	-	6	3,5	SHD 12	22	27	32	37	42	47	57	-	-	-	-	-
16	34	30	8	M4	4,7	7,5	3,7	5,6	19	7	5	M5	8	12	18	20	10	6	4,6	3,5	4	32	8	4,5	SHD 16	32	37	42	47	52	58	68	78	-	-	-	-
20	40	36	10	M5	5,8	9	5,8	9	22	7	5,2	M5	8	15	20	25,5	12,7	8	5,7	5,7	5,7	38,5	10	5	SHD 20	32	37	42	47	52	58	68	78	-	-	-	-
25	44,5	40	10	M5	5,8	9	5,8	9	24,5	9	6	G1/8	10,5	15,5	26	28	14	8	5,7	5,7	4,5	42	10	5,5	SHD 25	33,5	38,5	43,5	48,5	53,5	58,5	69,5	79,5	-	-	-	-
32	51	46	12	M6	5,8	9	-	-	27	9	-	G1/8	11,5	36	32	-	10	5,7	-	4	48	12	6	SHD 32	34,5	39,5	44,5	49,5	54,5	59,5	69,5	79,5	89,5	109,5	129,5	-	-
40	58	55	12	M6	5,8	9	-	-	30,5	9,5	-	G1/8	11	42	42	-	10	5,7	-	4	55	12	6	SHD 40	34,5	39,5	44,5	49,5	54,5	59,5	69,5	79,5	89,5	109,5	129,5	-	-
50	70	65	16	M8	6,8	11	-	-	37,5	12,5	-	G1/8	11,5	50	50	-	13	6,8	-	4	65	12	7,5	SHD 50	-	44,5	49,5	54,5	59,5	64,5	74,5	84,5	94,5	114,5	134,5	-	-
63	86	80	16	M8	9	14	-	-	46	15	-	G1/8	11	62	62	-	13	8,8	-	5	80	14	7	SHD 63	-	47	52	57	62	67	77	87	97	117	137	-	-
80	105	100	20	M10	9	14	-	-	55	14	-	G1/4	14	82	82	-	17	9	-	6	100	15	8	SHD 80	-	56	61	66	71	76	86	96	106	126	146	-	-
100	131	124	25	M12	11	17,2	-	-	69	17,5	-	G1/4	16	103	103	-	22	11	-	7,5	124	20	10	SHD 100	-	66	71	76	81	86	96	106	116	136	156	-	-

SHS .. -...

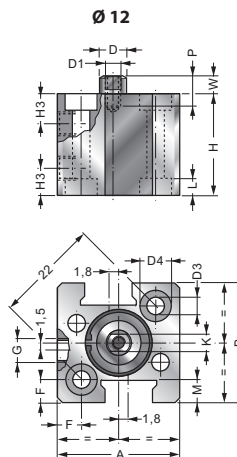
Without magnet / Non magnetico

CYLINDER SINGLE ACTING FRONT SPRING
CILINDRO SEMPLICE EFFETTO MOLLA ANTERIORE

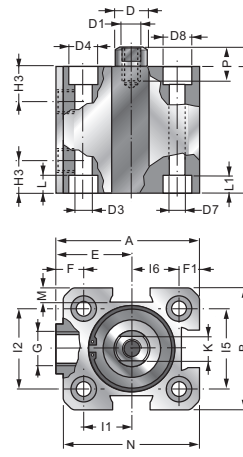


* = Stroke / Corsa

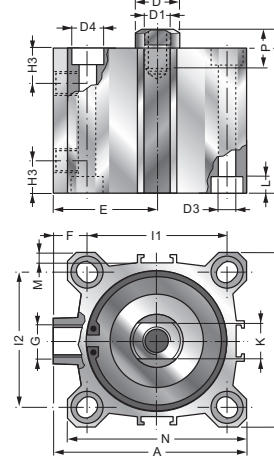
Ø 12



Ø 16; 20; 25



Ø 32; 40; 50; 63; 80; 100.



Ø	A	B	ØD	D1	ØD3	ØD4	ØD7	ØD8	E	F	F1	G	H3	I1	I2	I5	I6	K	L	L1	M	N	P	W	Code Codice	H Stroke / Corsa (mm):							
																										5	10	15	20	25	30	40	50
12	25	25	6	M3	3,7	5,6	-	-	4,7	-	M5	5,5	-	-	-	-	5	3,5	-	4,7	-	6	3,5	SHS 12	22	27	-	-	-	-	-	-	
16	34	30	8	M4	4,7	7,5	3,7	5,6	19	7	5	M5	8	12	18	20	10	6	4,6	3,5	4	32	8	4,5	SHS 16	32	37	42	47	52	-	-	-
20	40	36	10	M5	5,8	9	5,8	9	22	7	5,2	M5	8	15	20	25,5	12,7	8	5,7	5,7	5,7	38,5	10	5	SHS 20	32	37	42	47	52	-	-	-
25	44,5	40	10	M5	5,8	9	5,8	9	24,5	9	6	G1/8	10,5	15,5	26	28	14	8	5,7	5,7	4,5	42	10	5,5	SHS 25	33,5	38,5	43,5	48,5	53,5	-	-	-
32	51	46	12	M6	5,8	9	-	-	27	9	-	G1/8	11,5	36	32	-	10	5,7	-	4	48	12	6	SHS 32	34,5	39,5	44,5	49,5	54,5	59,5	79,5	89,5	
40	58	55	12	M6	5,8	9	-	-	30,5	9,5	-	G1/8	11	42	42	-	10	5,7	-	4	55	12	6	SHS 40	34,5	39,5	44,5	49,5	54,5	59,5	79,5	89,5	
50	70	65	16	M8	6,8	11	-	-	37,5	12,5	-	G1/8	11,5	50	50	-	13	6,8	-	4	65	12	7,5	SHS 50	-	44,5	49,5	54,5	59,5	64,5	84,5	94,5	
63	86	80	16	M8	9	14	-	-	46	15	-	G1/8	11	62	62	-	13	8,8	-	5	80	14	7	SHS 63	-	47	52	57	62	67	87	97	
80	105	100	20	M10	9	14	-	-	55	14	-	G1/4	14	82	82	-	17	9	-	6	100	15	8	SHS 80	-	56	61	66	71	76	96	106	
100	131	124	25	M12	11	17,2	-	-	69	17,5	-	G1/4	16	103	103	-	22	11	-	7,5	124	20	10	SHS 100	-	66	71	76	81	86	106	116	

SHORT STROKE WITH MAGNET Ø12 ÷ 100 / CORSA BREVE MAGNETICI Ø12 ÷ 100

* = Stroke / Corsa

Ø 16; 20; 25

Ø 32; 40; 50; 63; 80; 100.

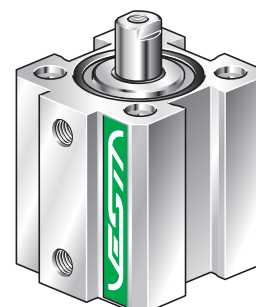
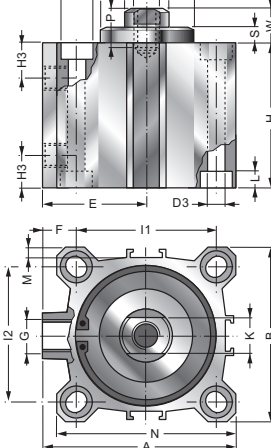
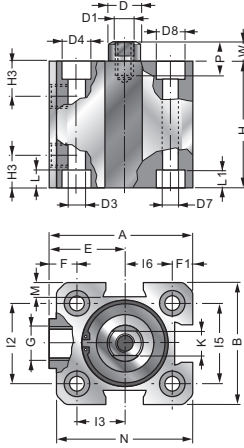
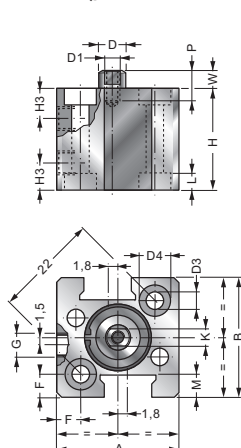
SHDM .. - ...

With magnet / Magnetico

DOUBLE ACTING SINGLE ROD
CILINDRO BASE DOPPIO EFFETTO

CILINDRI PNEUMATICI PNEUMATIC CYLINDERS

Ø 12



Bore Alesaggio	A	B	ØD	D1	ØD2	ØD3	ØD4	ØD7	ØD8	E	F	F1	G	H3	I1	I2	I3	I5	I6	K	L	L1	M	N	P	S	W	Code / Codice
12	25	25	6	M3	-	3,7	5,6	-	-	-	4,7	-	M5	5,5	-	-	-	-	5	3,5	-	4,7	-	6	-	3,5	SHDM 12 - ...	
16	34	30	8	M4	-	4,7	7,5	3,7	5,6	19	7	5	M5	8	-	18	12	20	10	6	4,6	3,5	4	32	8	-	4,5	SHDM 16 - ...
20	40	36	10	M5	-	5,8	9	5,8	9	22	7	5,2	M5	8	-	20	15	25,5	12,7	8	5,7	5,7	5,7	38,5	10	-	4,5	SHDM 20 - ...
25	44,5	40	10	M5	-	5,8	9	5,8	9	24,5	9	6	G1/8	10,5	-	26	15,5	28	14	8	5,7	5,7	4,5	42	10	-	5,5	SHDM 25 - ...
32	51	46	12	M6	24,5	5,8	9	-	-	27	9	-	G1/8	11,5	36	32	-	-	10	5,7	-	4	48	12	5	11	SHDM 32 - ...	
40	58	55	12	M6	28	5,8	9	-	-	30,5	9,5	-	G1/8	11	42	42	-	-	10	5,7	-	4	55	12	6	12,5	SHDM 40 - ...	
50	70	65	16	M8	34	6,8	11	-	-	37,5	12,5	-	G1/8	11,5	50	50	-	-	13	6,8	-	4	65	12	6	13,5	SHDM 50 - ...	
63	86	80	16	M8	38,5	9	14	-	-	46	15	-	G1/8	11	62	62	-	-	13	8,8	-	5	80	14	8	15	SHDM 63 - ...	
80	105	100	20	M10	44	9	14	-	-	55	14	-	G1/4	14	82	82	-	-	17	9	-	6	100	15	10	18	SHDM 80 - ...	
100	131	124	25	M12	56	11	17,2	-	-	69	17,5	-	G1/4	16	103	103	-	-	22	11	-	7,5	124	20	10,5	20,5	SHDM 100 - ...	

H
Stroke / Corsa (mm):

Bore Alesaggio	5	10	15	20	25	30	40	50	60	80	100	125	160	200	250
12	32	37	42	47	52	57	-	-	-	-	-	-	-	-	-
16	37	42	47	52	63	68	78	88	98	118	138	-	-	-	-
20	37	42	47	52	63	68	78	88	98	118	138	163	-	-	-
25	43,5	48,5	53,5	58,5	64,5	69,5	79,5	89,5	99,5	119,5	139,5	164,5	-	-	-
32	44,5	49,5	54,5	59,5	64,5	69,5	79,5	89,5	99,5	119,5	139,5	164,5	199,5	-	-
40	44,5	49,5	54,5	59,5	64,5	69,5	79,5	89,5	99,5	119,5	139,5	164,5	199,5	-	-
50	-	49,5	54,5	59,5	64,5	69,5	79,5	89,5	99,5	119,5	139,5	164,5	199,5	239,5	-
63	-	52	57	62	67	72	82	92	102	122	142	167	202	242	-
80	-	56	61	66	71	76	86	96	106	126	146	171	206	246	296
100	-	66	71	76	81	86	96	106	116	136	156	181	216	256	306

* = Stroke / Corsa

Ø 16; 20; 25

Ø 32; 40; 50; 63; 80; 100.

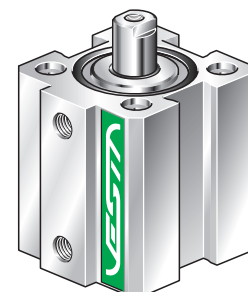
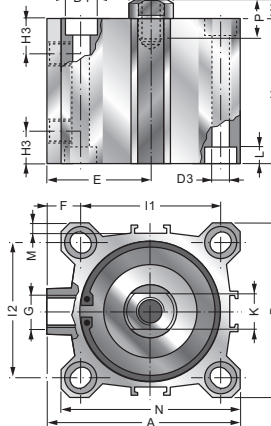
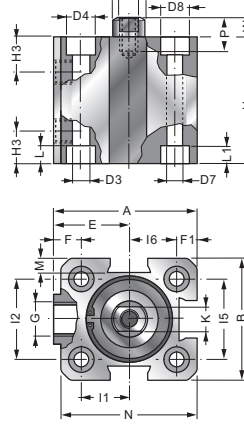
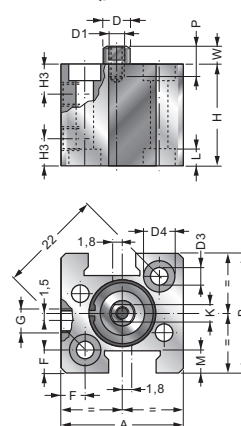
SHSM .. - ...

With magnet / Magnetico

CYLINDER SINGLE ACTING FRONT SPRING
CILINDRO SEMPLICE EFFETTO MOLLA ANTERIORE

CILINDRI PNEUMATICI PNEUMATIC CYLINDERS

Ø 12



Ø																											H							
																											Stroke / Corsa (mm):							
																											4	5	10	15	20	25	30	40	50
A	B	ØD	D1	ØD3	ØD4	ØD7	ØD8	E	F	F1	G	H3	I1	I2	I5	I6	K	L	L1	M	N	P	W	Code Codice										
12	25	25	6	M3	3,7	5,6	-	-	4,7	-	M5	5,5	-	-	-	5	3,5	-	4,7	-	6	3,5	SHSM 12	-	32	37	-	-	-	-	-	-		
16	34	30	8	M4	4,7	7,5	3,7	5,6	19	7	5	M5	8	12	18	20	10	6	4,6	3,5	4	32	8	4,5	SHSM 16	-	37	42	47	52	63	-	-	
20	40	36	10	M5	5,8	9	5,8	9	22	7	5,2	M5	8	15	20	25,5	12,7	8	5,7	5,7	5,7	38,5	10	4,5	SHSM 20	-	37	42	47	52	63	-	-	
25	44,5	40	10	M5	5,8	9	5,8	9	24,5	9	6	G1/8	10,5	15,5	26	28	14	8	5,7	5,7	4,5	42	10	5,5	SHSM 25	-	43,5	48,5	53,5	58,5	64,5	-	-	
32	51	46	12	M6	5,8	9	-	-	27	9	-	G1/8	11,5	36	32	-	10	5,7	-	4	48	12	5,5	SHSM 32	-	44,5	49,5	54,5	59,5	64,5	69,5	89,5	99,5	
40	58	55	12	M6	5,8	9	-	-	30,5	9,5	-	G1/8	11	42	42	-	10	5,7	-	4	55	12	6,5	SHSM 40	-	44,5	49,5	54,5	59,5	64,5	69,5	89,5	99,5	
50	70	65	16	M8	6,8	11	-	-	37,5	12,5	-	G1/8	11,5	50	50	-	13	6,8	-	4	65	12	7,5	SHSM 50	-	-	49,5	54,5	59,5	64,5	69,5	89,5	99,5	
63	86	80	16	M8	9	14	-	-	46	15	-	G1/8	11	62	62	-	13	8,8	-	5	80	14	6,5	SHSM 63	-	-	52	57	62	67	72	92	102	
80	105	100	20	M10	9	14	-	-	55	14	-	G1/4	14	82	82	-	17	9	-	6	100	15	8	SHSM 80	-	-	56	61	66	71	76	96	106	
100	131	124	25	M12	11	17,2	-	-	69	17,5	-	G1/4	16	103	103	-	22	11	-	7,5	124	20	10	SHSM 100	-	-	66	71	76	81	86	106	116	

H
Stroke / Corsa (mm):

Ø	4	5	10	15	20	25	30	40	50
12	-	32	37	-	-	-	-	-	-
16	-	37	42	47	52	63	-	-	-
20	-	37	42	47	52	63	-	-	-
25	-	43,5	48,5	53,5	58,5	64,5	-	-	-
32	-	44,5	49,5	54,5	59,5	64,5	69,5	89,5	99,5
40	-	44,5	49,5	54,5	59,5	64,5	69,5	89,5	99,5
50	-	-	49,5	54,5	59,5	64,5	69,5	89,5	99,5
63	-	-	52	57	62	67	72	92	102
80	-	-	56	61	66	71	76	96	106
100	-	-	66	71	76	81	86	106	116



SHORT STROKE SPECIAL VERSION / CORSA BREVE ESECUZIONI SPECIALI

SHS .. -... SEP

Without magnet / Non magnetico

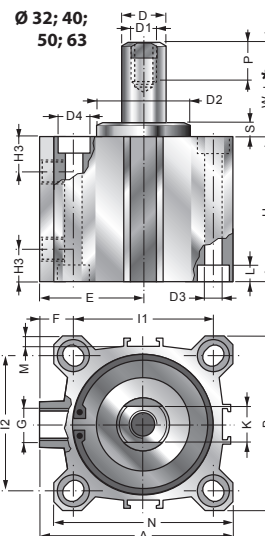
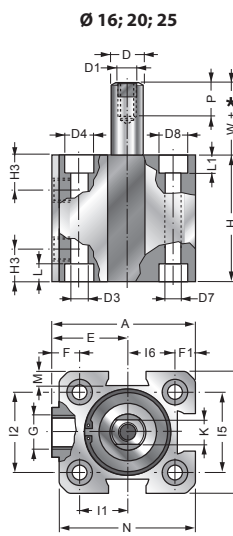
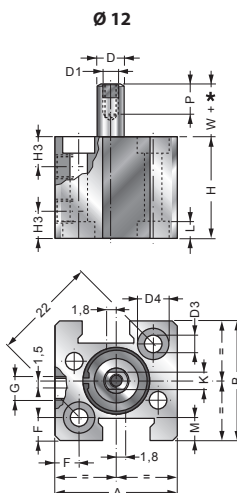
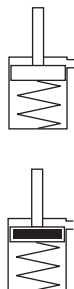
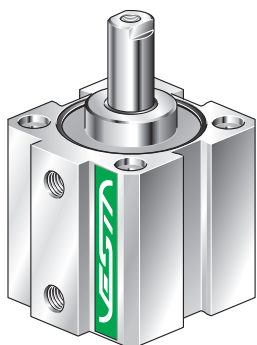
* = Stroke / Corsa

SHSM .. -... SEP

With magnet / Magnetico

SIMPLE ACTING REAR SPRING

SEMPLICE EFFETTO MOLLA POSTERIORE



Bore Alesaggio	A	B	ØD	D1	D2	ØD3	ØD4	ØD7	ØD8	E	F	F1	G	H3	I1	I2	I5	I6	K	L	L1	M	N	P	S	W	Code Codice	H Stroke / Corsa (mm):							
																												5	10	15	20	25	30	40	50
12	25	25	6	M3	-	3,7	5,6	-	-	-	4,7	-	M5	5,5	-	-	-	-	5	3,5	-	4,7	-	6	-	3,5	SHS 12 .. SEP	22	27	-	-	-	-	-	
12	25	25	6	M3	-	3,7	5,6	-	-	-	4,7	-	M5	5,5	-	-	-	-	5	3,5	-	4,7	-	6	-	3,5	SHSM 12 .. SEP	32	37	-	-	-	-	-	
16	34	30	8	M4	-	4,7	7,5	3,7	5,6	19	7	5	M5	8	12	18	20	10	6	4,6	3,5	4	32	8	-	4,5	SHS(M) 16 .. SEP	37	42	47	-	-	-	-	
20	40	36	10	M5	-	5,8	9	5,8	9	22	7	5,2	M5	8	15	20	25,5	12,7	8	5,7	5,7	5,7	38,5	10	-	4,5	SHS(M) 20 .. SEP	37	42	47	63	68	-	-	
25	44,5	40	10	M5	-	5,8	9	5,8	9	24,5	9	6	G1/8	10,5	15,5	26	28	14	8	5,7	5,7	4,5	42	10	-	5,5	SHS(M) 25 .. SEP	43,5	48,5	53,5	64,5	69,5	-	-	
32	51	46	12	M6	24,5	5,8	9	-	-	27	9	-	G1/8	11,5	36	32	-	-	10	5,7	-	4	48	12	5	11	SHS(M) 32 .. SEP	44,5	49,5	54,5	64,5	69,5	79,5	- 119,5	
40	58	55	12	M6	28	5,8	9	-	-	30,5	9,5	-	G1/8	11	42	42	-	-	10	5,7	-	4	55	12	6	12,5	SHS(M) 40 .. SEP	-	49,5	54,5	59,5	64,5	69,5	-	
50	70	65	16	M8	34	6,8	11	-	-	37,5	12,5	-	G1/8	11,5	50	50	-	-	13	6,8	-	4	65	12	6	13,5	SHS(M) 50 .. SEP	-	49,5	54,5	59,5	64,5	69,5	-	
63	86	80	16	M8	38,5	9	14	-	-	46	15	-	G1/8	11	62	62	-	-	13	8,8	-	5	80	14	8	15	SHS(M) 63 .. SEP	-	52	57	62	67	72	-	

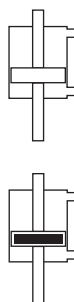
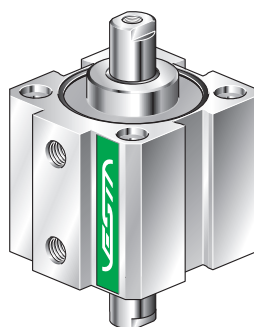
SHD .. -... P

Without magnet / Non magnetico

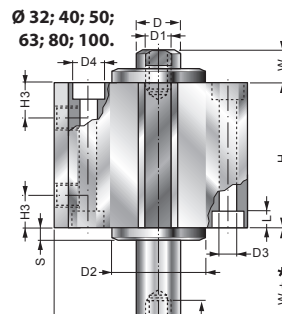
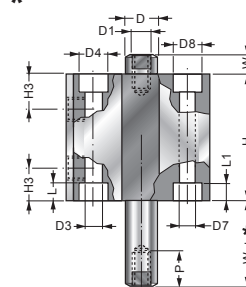
SHDM .. -... P

With magnet / Magnetico

THROUGH ROD CYLINDER
CILINDRO STELO PASSANTE

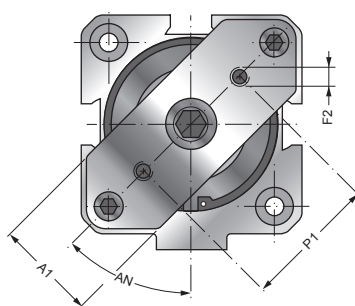
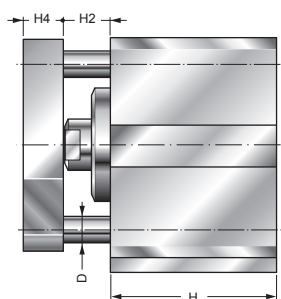


* = Stroke / Corsa



Bore Alesaggio	H Stroke / Corsa (mm):																	
	5	10	15	20	25	30	40	50	60	80	100	125	160	200	250			
16	37	42	47	52	63	68	78	88	98	118	138	-	-	-	-			
20	37	42	47	52	63	68	78	88	98	118	138	163	-	-	-			
25	43,5	48,5	53,5	58,5	64,5	69,5	79,5	89,5	99,5	119,5	139,5	164,5	-	-	-			
32	44,5	49,5	54,5	59,5	64,5	69,5	79,5	89,5	99,5	119,5	139,5	164,5	199,5	-	-			
40	44,5	49,5	54,5	59,5	64,5	69,5	79,5	89,5	99,5	119,5	139,5	164,5	199,5	-	-			
50	-	49,5	54,5	59,5	64,5	69,5	79,5	89,5	99,5	119,5	139,5	164,5	199,5	239,5	-			
63	-	52	57	62	67	72	82	92	102	122	142	167	202	242	-			
80	-	56	61	66	71	76	86	96	106	126	146	171	206	246	296			
100	-	66	71	76	81	86	96	106	116	136	156	181	216	256	306			

Bore Alesaggio	A	B	ØD	D1	ØD2	ØD3	ØD4	ØD7	ØD8	E	F	F1	G	H3	I1	I2	I3	I5	I6	K	L	L1	M	N	P	S	W	Code / Codice
16	34	30	8	M4	-	4,7	7,5	3,7	5,6	19	7	5	M5	8	-	18	12	20	10	6	4,6	3,5	4	32	8	-	4,5	SHD(M) 16 - ... P
20	40	36	10	M5	-	5,8	9	5,8	9	22	7	5,2	M5	8	-	20	15	25,5	12,7	8	5,7	5,7	5,7	38,5	10	-	4,5	SHD(M) 20 - ... P
25	44,5	40	10	M5	-	5,8	9	5,8	9	24,5	9	6	G1/8	10,5	-	26	15,5	28	14	8	5,7	5,7	4,5	42	10	-	5,5	SHD(M) 25 - ... P
32	51	46	12	M6	24,5	5,8	9	-	-	27	9	-	G1/8	11,5	36	32	-	-	-	10	5,7	-	4	48	12	5	11	SHD(M) 32 - ... P
40	58	55	12	M6	28	5,8	9	-	-	30,5	9,5	-	G1/8	11	42	42	-	-	-	10	5,7	-	4	55	12	6	12,5	SHD(M) 40 - ... P
50	70	65	16	M8	34	6,8	11	-	-	37,5	12,5	-	G1/8	11,5	50	50	-	-	-	13	6,8	-	4	65	12	6	13,5	SHD(M) 50 - ... P
63	86	80	16	M8	38,5	9	14	-	-	46	15	-	G1/8	11	62	62	-	-	-	13	8,8	-	5	80	14	8	15	SHD(M) 63 - ... P
80	105	100	20	M10	44	9	14	-	-	55	14	-	G1/4	14	82	82	-	-	-	17	9	-	6	100	15	10	18	SHD(M) 80 - ... P
100	131	124	25	M12	56	11	17,2	-	-	69	17,5	-	G1/4	16	103	103	-	-	-	22	11	-	7,5	124	20	10,5	20,5	SHD(M) 100 - ... P



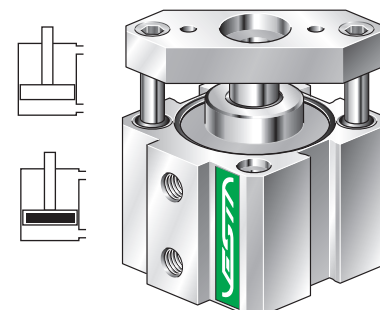
SHD .. -... AR

Without magnet / Non magnetico

SHDM .. -... AR

With magnet / Magnetico

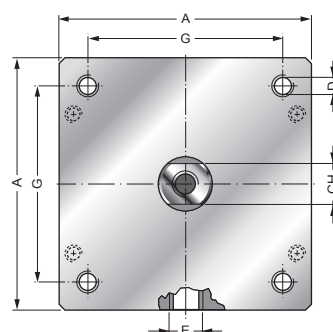
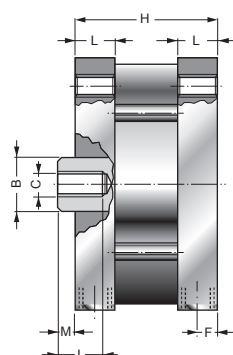
NON ROTATING / CILINDRO ANTIROTAZIONE



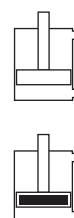
Bore Alesaggio	AN	A1	F2	H2	H4	P1	ØD	Code Codice	H Stroke / Corsa (mm):												
									5	10	15	20	25	30	40	50	60	80	100	125	160
20	45°	15	M4	4,5	8	20	5	SHD(M) 20.. AR	37	42	47	52	63	68	78	88	98	118	138	-	-
25	45°	15	M4	5,5	8	22	5	SHD(M) 25.. AR	43,5	48,5	53,5	58,5	64,5	69,5	79,5	89,5	99,5	119,5	139,5	-	-
32	41,5°	20	M5	11	10	28	5	SHD(M) 32.. AR	44,5	49,5	54,5	59,5	64,5	69,5	79,5	89,5	99,5	119,5	139,5	-	-
40	45°	20	M5	12,5	10	33	5	SHD(M) 40.. AR	44,5	49,5	54,5	59,5	64,5	69,5	79,5	89,5	99,5	119,5	139,5	-	-
50	45°	30	M6	13,5	12	42	6	SHD(M) 50.. AR	-	49,5	54,5	59,5	64,5	69,5	79,5	89,5	99,5	119,5	139,5	164,5	-
63	45°	30	M6	15	12	50	8	SHD(M) 63.. AR	-	52	57	62	67	72	82	92	102	122	142	167	202
80	45°	50	M8	18	14	65	8	SHD(M) 80.. AR	-	56	61	66	71	76	86	96	106	126	146	171	206
100	45°	50	M10	20,5	14	80	10	SHD(M) 100.. AR	-	66	71	76	81	86	96	106	116	136	156	181	216

Cylinders series **SHD(M)_AR** comes from **SHD(M)_** standard: technical and dimensional features remain exactly the same.

I cilindri antirotazione serie **SHD(M)_AR** sono derivati dalle serie **SHD(M)_** standard e ne conservano quindi caratteristiche tecniche e dimensioni di ingombro.



DOUBLE ACTING CYLINDER Ø 125; 160; 200.
CILINDRO DOPPIO EFFETTO Ø 125; 160; 200.

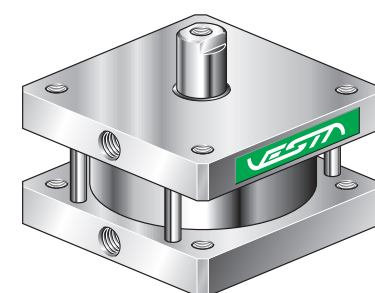


SHD .. -...

Without magnet / Non magnetico

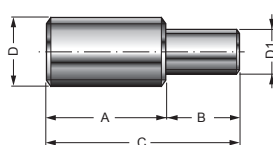
SHDM .. -...

With magnet / Magnetico



Bore Alesaggio	A	ØB	ØC	ØD	E	F	G	CH	I	L	M	Code Codice	H Stroke / Corsa (mm):						
													25	50	75	100	125	160	200
125	140	30	M14	M12	G1/4	10	110	28	25	22	10	SHD(M) 125 ...	103	128	153	178	203	238	278
160	180	40	M20	M16	G3/8	12	140	36	30	26	12	SHD(M) 160 ...	112	137	162	187	212	247	287
200	220	40	M20	M16	G3/8	12	175	36	30	26	12	SHD(M) 200 ...	112	137	162	187	212	247	287

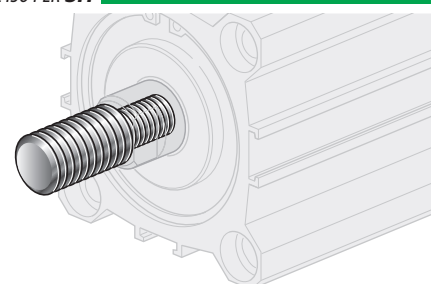
FIXING ACCESSORIES FOR SH CYLINDERS / ACCESSORI DI FISSAGGIO PER CILINDRI SH



COUPLING NIPPLES TO ISO STANDARD FOR SH
NIPPLE CON FILETTO A NORME ISO PER SH

SHNP/..

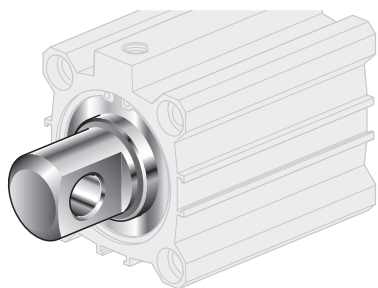
Bore Alesaggio	ØD	ØD1	A	B	C	Code Codice
12	M6x1	M3	16	6,5	22,5	SHNP/12
16	M6x1	M4	15	8	23	SHNP/16
20	M8x1,25	M5	20	10	30	SHNP/20
25	M8x1,25	M5	20	10	30	SHNP/25
32	M10x1,25	M6	22	12	34	SHNP/32
40	M10x1,25	M6	22	12	34	SHNP/40
50	M12x1,25	M8	24	14	38	SHNP/50
63	M12x1,25	M8	24	14	38	SHNP/63
80	M16x1,5	M10	32	15	47	SHNP/80
100	M20x1,5	M12	40	20	60	SHNP/100



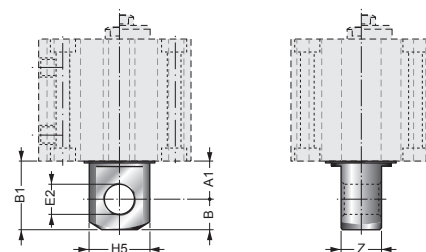


SHCM/..

CLEVIS MALE MOUNTING FOR SH
MONTAGGIO A CERNIERA MASCHIO PER SH



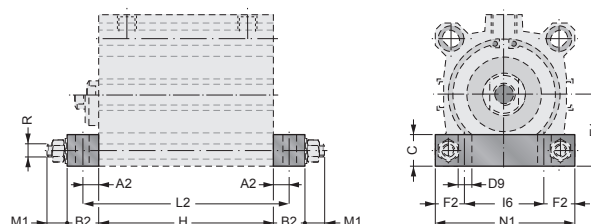
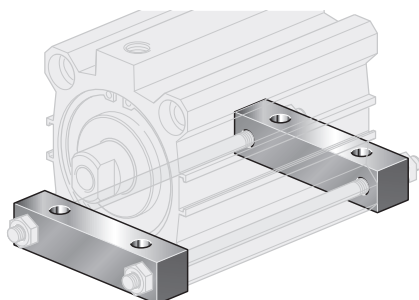
Bore Alesaggio	A1	B	ØE2 ^{H8}	ØH5	Z	B1	Code Codice
16	8	6	6	12	7	14	SHCM/16
20	10	8	8	16	9	18	SHCM/20
25	10	8	8	16	9	18	SHCM/25
32	13	10	10	20	14	23	SHCM/32
40	15	12	12	24	16	27	SHCM/40
50	15	12	12	24	17	27	SHCM/50
63	19	16	16	32	22	35	SHCM/63
80	19	16	16	32	22	35	SHCM/80
100	23	20	20	40	26	43	SHCM/100



H = See previous pages
Vedi pagine precedenti

SHP/..

FOOT MOUNTING FOR SH
MONTAGGIO A PIEDINI PER SH



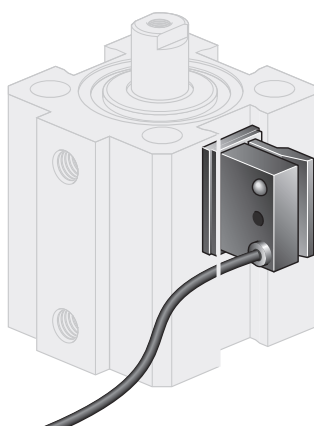
Bore Alesaggio	A2	B2	C	ØD9	E1	F2	I6	L2	M1	N1	ØR	Code Codice
16	5	10	10	3,5	17	5	30	H+10	2,4	40	M3	SHP/16
20	5	10	10	5,5	18	5	40	H+10	4	50	M5	SHP/20
25	6	12	12	5,5	20	7,5	45	H+12	4	60	M5	SHP/25
32	6	12	12	5,5	24	5	50	H+12	4	60	M5	SHP/32
40	6	12	12	5,5	27,5	5	60	H+12	4	70	M5	SHP/40
50	7,5	15	15	6,5	32,5	5	70	H+15	5	80	M6	SHP/50
63	7,5	15	15	8,5	40	7,5	85	H+15	6,5	100	M8	SHP/63
80	10	20	20	8,5	50	20	60	H+20	6,5	100	M8	SHP/80
100	10	20	20	10,5	62	22	80	H+20	8	124	M10	SHP/100

H = See previous pages
Vedi pagine precedenti

REED SWITCHES FOR SH CYLINDERS / FINECORSA PER CILINDRI SH

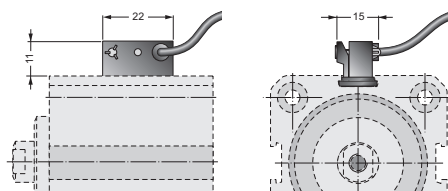
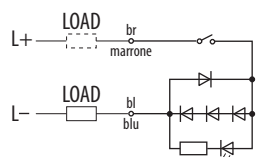
FTV 306 V

REED SWITCHES
FINECORSA MAGNETICO



Cable
Cavo L=3m

FTV 306 V circuit - Circuito FTV 306 V



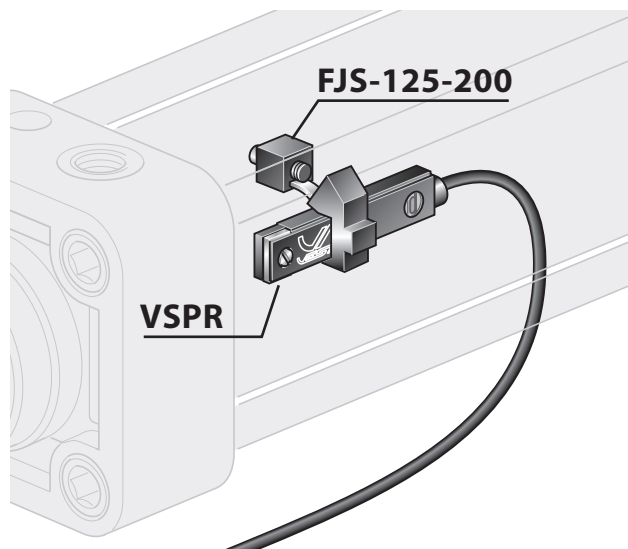
Circuit code Codice Circuito	Voltage range Tensione V	Switching current Corrente mA	Switching capacity Potenza VA/W	Degree of protection Protezione	Working temperature Temperatura °C	Contact function Contatto
FTV 306 V	10-250 AC-DC	300	10/10	IP65	-25 ÷ +75	—○—

FJS-125-200

FIXING FOR TIE RODS MOUNTING
SUPPORTO PER MONTAGGIO SU TIRANTI

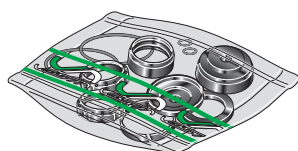
VSPR

REED SWITCHES
FINECORSA MAGNETICO



..... - SG

SEALS KIT
KIT GUARNIZIONI DI RICAMBIO



Seals kit code = **Cylinder code** + **Bore** + **Versions** + **- SG**: (The kit includes all seals).

Codice del kit = **Codice del cilindro** + **Alesaggio** + **Versions** + **- SG**: (Il kit comprende tutte le guarnizioni necessarie).

Example / Esempio: **SHDM 32 P - SG**

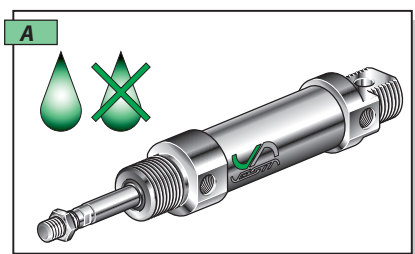
TECHNICAL FEATURES FOR CYLINDERS USED IN HARSH ENVIRONMENTS CARATTERISTICHE TECNICHE CILINDRI ANTICORROSIONE

Anticorrosive Vesta cylinders, **DSM, DSA, XPN, XJS** and **XJSS** are suitable for use in aggressive environment, such as the food or the chemical industries. **DSM** e **XJSS** series are available also with fluoro rubber seals (VITON), for high temperature. All cylinders follows ISO 6432 and ISO VDMA 15552 standards (also for stroke tolerance).

For further information on the resistance of materials to aggressive agents, please contact our technical sales department.

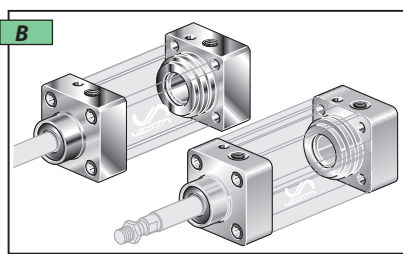
*I cilindri anticorrosione Vesta serie **DSM, DSA, XPN, XJS** e **XJSS** sono progettati per l'impiego in ambienti aggressivi, quali l'industria alimentare o chimica. I modelli **DSM** e **XJSS** (completamente in acciaio inox) sono fornibili con tutte le guarnizioni in VITON. Tutti i cilindri anticorrosione rispettano gli standard ISO 6432 e ISO VDMA 15552 (incluse le tolleranze sulle corse dei cilindri).*

Per informazioni sul grado di resistenza in ambienti specifici contattare il nostro ufficio tecnico-commerciale.



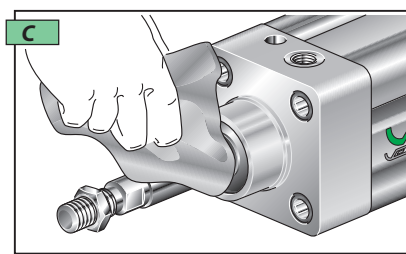
Lubrication not required.

Possibilità di funzionamento continuo privo di lubrificazione.



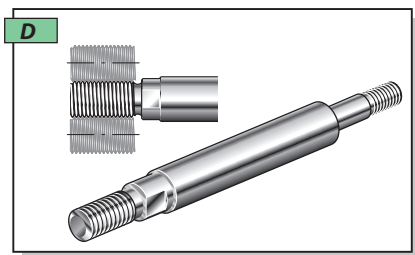
X5 Cr Ni 1810 stainless steel caps for DSM and XJSS, acetalic polymer for XJS and XPN.

Teste inox X5 Cr Ni 1810 per DSM e XJSS, resina acetalica per XJS e XPN.



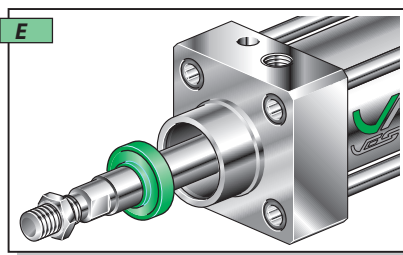
Caps easy to clean, due to their shape.

Le teste sono facilmente pulibili perché non scaricate esternamente.



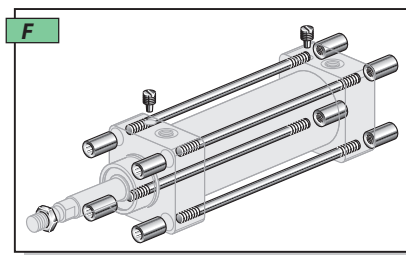
Piston rods in rolled stainless steel X5 Cr Ni 18-10.

Steli in acciaio INOX X5 Cr Ni 18-10 rullato.



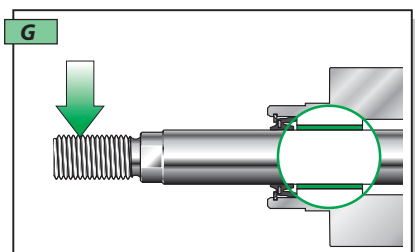
Poliurethane piston rod seal.

Guarnizione dello stelo realizzata in poliuretano.



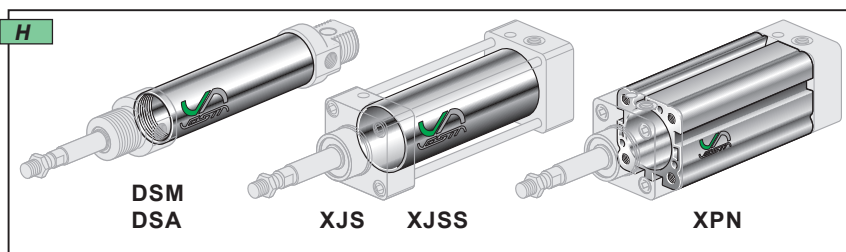
All external parts are in X10 Cr Ni S 18-09.

I particolari a contatto con gli agenti esterni sono in acciaio inox X10 Cr Ni S 18-09.



Self lubricating bearing in a copper-steel alloy, with teflon covering.

Boccole autolubrificanti in acciaio ramato con deposito in Teflon.



X5 Cr Ni 18-10 stainless steel tube for DSM, XJS and XJSS series. For XPN series, anodized aluminium.

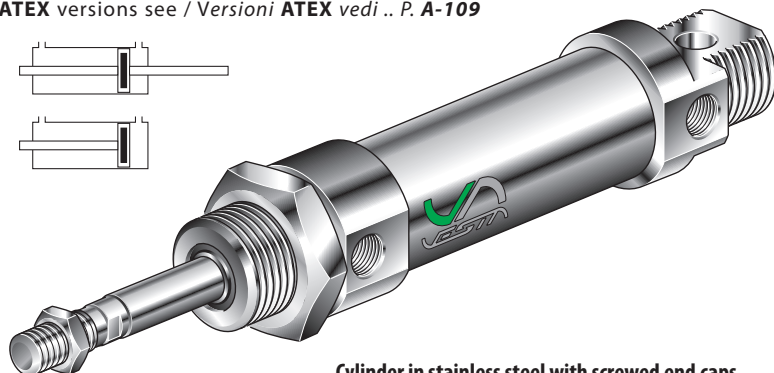
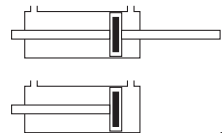
Camicie realizzate in acciaio inox X5 Cr Ni 18-10 per le versioni DSM, XJS e XJSS. La versione XPN è ricavata da profilato di alluminio anodizzato.



SERIE DSM

PNEUMATIC CYLINDERS ISO 6432 FOR HARSH AGGRESSIVE ENVIRONMENT CILINDRI INOX ISO 6432 PER AMBIENTI PARTICOLARMENTE AGGRESSIVI

ATEX versions see / Versioni ATEX vedi .. P. A-109



Cylinder in stainless steel with screwed end caps.
Completamente in acciaio inox con teste avvitate.

With magnetic piston / Con pistone magnetico

DSM -

Bore
Alesaggio
(mm):

Ø12 **12**
Ø16 **16**
Ø20 **20**
Ø25 **25**

Stroke / Corsa
(mm):

VV Viton all seal
Tutte le guarnizioni in Viton

P Through rod cylinder
Cilindro stelo passante

SEA Single acting front spring
Semplice effetto molla anteriore

SEP Single acting rear spring
Semplice effetto molla posteriore

Standard stroke / Corse Standard															
Bore Alesaggio		10	25	50	80	100	125	160	200	250	300	350	400	450	500
12		•	•	•	•	•	•	•							
16		•	•	•	•	•	•	•	•	•	•	•	•	•	•
20		•	•	•	•	•	•	•	•	•	•	•	•	•	•
25		•	•	•	•	•	•	•	•	•	•	•	•	•	•

DSM cylinder fixing see:

Fissaggi per cilindri DSM vedi: **Pag. A-10 ÷ A-11; A-43.**

Features of reed switches see:

Caratteristiche finecorsa magnetici: **Pag. A-19, A-42**

TECHNICAL FEATURES

End caps	Stainless steel X5 Cr Ni 1810.
Piston rod	Stainless steel X5 Cr Ni 1810.
Barrel	Stainless steel X5 Cr Ni 1810 tube.
Seals	Rod seal in VITON, other seals in NBR.
Cushioning	Mechanical in polyurethane.
Nuts	Stainless steel X10 Cr Ni S 18-09.

Environment temperature range	-10 ÷ +70 °C.
Temperature range of medium	0 ÷ +40 °C.
Lubrication	Not required.
Medium	Filtered air.
Max operating pressure	10 bar.

CARATTERISTICHE TECNICHE

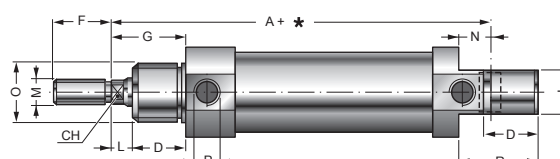
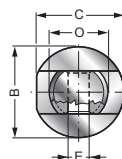
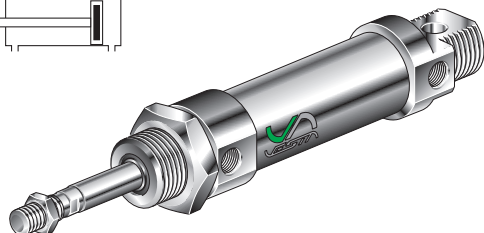
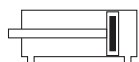
Testate	Acciaio inox X5 Cr Ni 1810.
Stelo	Acciaio inox X5 Cr Ni 1810.
Camicia	Tubo in acciaio inox X5 Cr Ni 1810.
Guarnizioni	Dello stelo in VITON, altre in NBR.
Ammortizzatori	Meccanici in poliuretano.
Bussola e dado	Acciaio inox X10 Cr Ni S 18-09.

Temperatura ambiente	-10 °C ÷ +70 °C.
Temperatura fluido	0 °C ÷ +40 °C.
Lubrificazione	Non necessaria.
Fluido	Aria filtrata.
Pressione max d'esercizio	10 bar.

DSM .. /...

SINGLE ROD
CILINDRO BASE STELO SEMPLICE

* = Stroke / Corsa

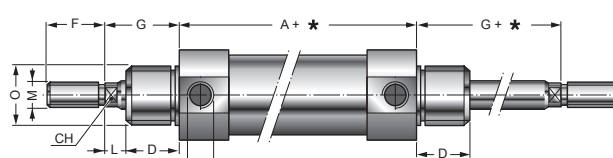
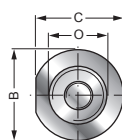
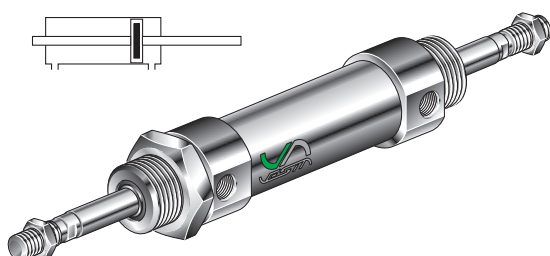


Bore Alesaggio	A	ØB	C	CH	D	ØE ¹⁹	F	G	I	L	ØM	N	ØO	ØP	R	Code Codice
12	75	18	17,2	5	15	6	16	22	12	7	M6x1	9	M16x1,5	M5	22	DSM 12/...
16	82	20	19	5	15	6	16	22	12	7	M6x1	9	M16x1,5	M5	22	DSM 16/...
20	95	25	26,2	7	19	8	20	24	16	5	M8x1,25	12	M22x1,5	G1/8	30	DSM 20/...
25	104	30	28,3	8	20	8	22	28	16	8	M10x1,25	12	M22x1,5	G1/8	30	DSM 25/...

DSM .. /... P

THROUGH ROD
STELO PASSANTE

* = Stroke / Corsa



Bore Alesaggio	A	ØB	C	CH	D	F	G	L	ØM	ØO	ØP	Code Codice
12	49,5	18	17,2	5	15	16	22	7	M6x1	M16x1,5	M5	DSM 12/... P
16	56	20	19	5	15	16	22	7	M6x1	M16x1,5	M5	DSM 16/... P
20	68	28	26,2	7	19	20	24	5	M8x1,25	M22x1,5	G1/8	DSM 20/... P
25	69	30	28,3	8	20	22	28	8	M10x1,25	M22x1,5	G1/8	DSM 25/... P

CYLINDERS ISO 6432 FOR AGGRESSIVE ENVIRONMENTS CILINDRI ISO 6432 PER AMBIENTI AGGRESSIVI

SERIE **DSA**

With magnetic piston / Con pistone magnetico

DSA -

Bore
Alesaggio (mm):

Ø12 **12**
Ø16 **16**
Ø20 **20**
Ø25 **25**

Stroke / Corsa
(mm):

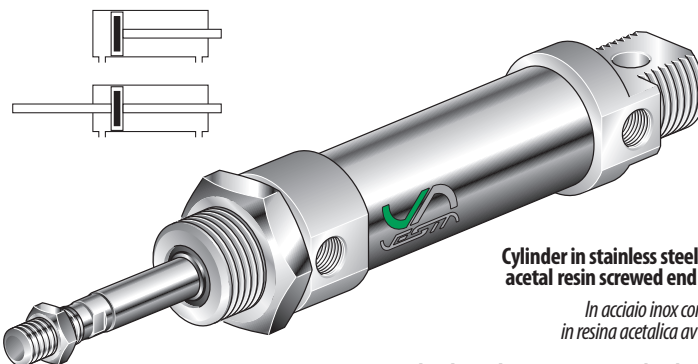
P Through rod cylinder
Cilindro stelo passante

SEA Single acting front spring
Semplice effetto molla anteriore

SEP Single acting rear spring
Semplice effetto molla posteriore

DSA cylinder fixing see:
Fissaggi per cilindri DSA vedi: **Pag. A-10 ÷ A-11; A-43.**

Features of reed switches see:
Caratteristiche finecorsa magnetici: **Pag. A-19, A-42**



Cylinder in stainless steel with
acetal resin screwed end caps.

In acciaio inox con teste
in resina acetalica avvitate.

		Standard stroke / Corse Standard							
Bore Alesaggio		10	25	50	80	100	125	160	200
12		•	•	•	•	•	•	•	•
16		•	•	•	•	•	•	•	•
20		•	•	•	•	•	•	•	•
25		•	•	•	•	•	•	•	•

End caps	Acetal resin.
Piston rod	Stainless steel X5 Cr Ni 1810.
Barrel	Stainless steel X5 Cr Ni 1810 tube.
Seals	Rod seal in Poliurethan, other seals in NBR.
Cushioning	Mechanical in polyurethane.
Nuts	Stainless steel X10 Cr Ni S 18-09.

Environment temperature range	-10 ÷ +70 °C.
Temperature range of medium	0 ÷ +40 °C.
Lubrication	Not required.
Medium	Filtered air.
Max operating pressure	10 bar.

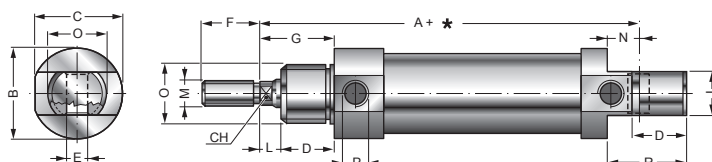
TECHNICAL FEATURES

Testate	Resina acetalica.
Stelo	Acciaio inox X5 Cr Ni 1810.
Camicia	Tubo in acciaio inox X5 Cr Ni 1810.
Guarnizioni	Dello stelo in Poliuretano, altre in NBR.
Ammortizzatori	Meccanici in poliuretano.
Dadi	Acciaio inox X10 Cr Ni S 18-09.

Temperatura ambiente	-10 °C ÷ +70 °C.
Temperatura fluido	0 °C ÷ +40 °C.
Lubrificazione	Non necessaria.
Fluido	Aria filtrata.
Pressione max d'esercizio	10 bar.

CARATTERISTICHE TECNICHE

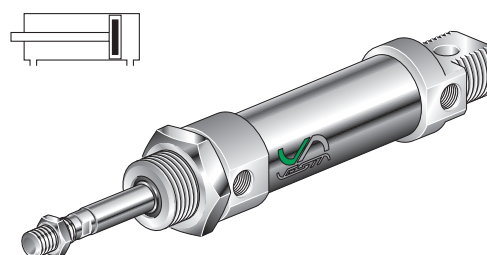
* = Stroke / Corsa



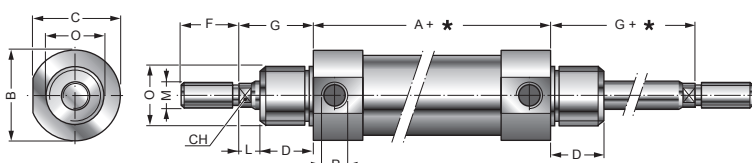
Bore Alesaggio	A	ØB	C	CH	D	ØEH ⁹	F	G	I	L	ØM	N	ØO	ØP	R	Code Codice
12	75	18	17,2	5	15	6	16	22	12	7	M6x1	9	M16x1,5	M5	22	DSA 12/...
16	82	20	19	5	15	6	16	22	12	7	M6x1	9	M16x1,5	M5	22	DSA 16/...
20	95	25	23,5	7	19	8	20	24	16	5	M8x1,25	12	M22x1,5	G1/8	30	DSA 20/...
25	104	30	28,3	8	20	8	22	28	16	8	M10x1,25	12	M22x1,5	G1/8	30	DSA 25/...

SINGLE ROD
CILINDRO BASE STELO SEMPLICE

DSA .. / ...



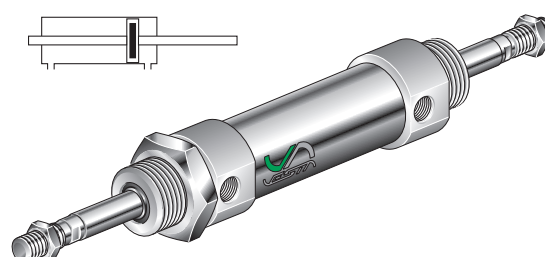
* = Stroke / Corsa



Bore Alesaggio	A	ØB	C	CH	D	F	G	L	ØM	ØO	ØP	Code Codice
12	49,5	18	17,2	5	15	16	22	7	M6x1	M16x1,5	M5	DSA 12/... P
16	56	20	19	5	15	16	22	7	M6x1	M16x1,5	M5	DSA 16/... P
20	68	25	23,5	7	19	20	24	5	M8x1,25	M22x1,5	G1/8	DSA 20/... P
25	69	30	28,3	8	20	22	28	8	M10x1,25	M22x1,5	G1/8	DSA 25/... P

THROUGH ROD
STELO PASSANTE

DSA .. / ... P



Seals kit code = **Cylinder code + Bore + Versions + - SG**: (The kit includes all seals).

Codice del kit = **Codice del cilindro + Alesaggio + Versioni + - SG**: (Il kit comprende tutte le guarnizioni necessarie).

Example / Esempio: **DSA 16 P - SG**

SEALS KIT
KIT GUARNIZIONI DI RICAMBIO

..... - SG



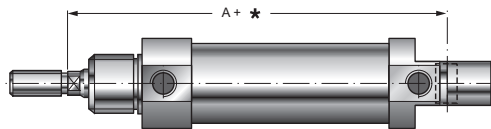
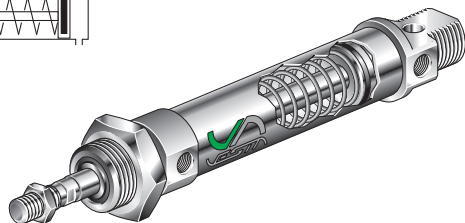
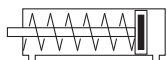


DS ... / ... SEA

SIMPLE ACTING FRONT SPRING
SEMPLICE EFFETTO MOLLA ANTERIORE

For overall dimensions see DSM or DSA single rod
Dimensioni di ingombro vedi DSM o DSA base stelo semplice

* = Stroke / Corsa



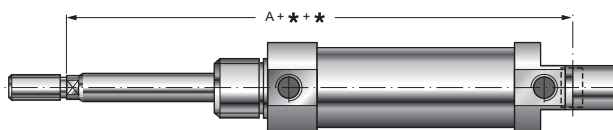
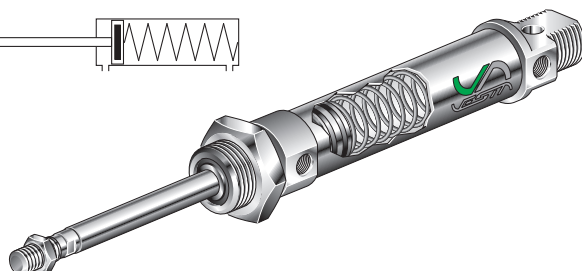
Bore Alesaggio	A	Code Codice	Code Codice
12	75	DSM 12/... SEA	DSA 12/... SEA
16	82	DSM 16/... SEA	DSA 16/... SEA
20	95	DSM 20/... SEA	DSA 20/... SEA
25	104	DSM 25/... SEA	DSA 25/... SEA

DS ... / ... SEP

SIMPLE ACTING REAR SPRING
SEMPLICE EFFETTO MOLLA POSTERIORE

For overall dimensions see DSM or DSA single rod
Dimensioni di ingombro vedi DSM o DSA base stelo semplice

* = Stroke / Corsa



Bore Alesaggio	A	Code Codice	Code Codice
12	75	DSM 12/... SEP	DSA 12/... SEP
16	82	DSM 16/... SEP	DSA 16/... SEP
20	95	DSM 20/... SEP	DSA 20/... SEP
25	104	DSM 25/... SEP	DSA 25/... SEP

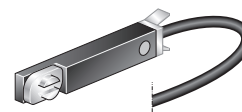
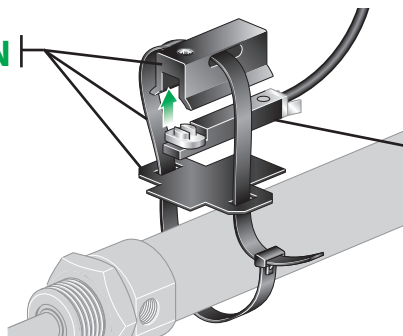
Strokes Corse (mm)	Spring force - Forza molla (daN)								..SEA	..SEP
	Ø12 mm		Ø16 mm		Ø20 mm		Ø25 mm			
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.		
10	2,1	2,4	2,2	2,5	2,3	2,6	2,3	2,6	●	●
25	1,6	2,4	1,6	2,5	1,7	2,6	1,7	2,6	●	●
50	0.35	2.4	0.5	2.5	1	2.6	1	2.6	●	●

MAGNETIC SWITCHES FOR ISO 6432 CYLINDER / FINECORS MAGNETICI PER CILINDRI ISO 6432

FFS 01 VN

Bore
Alesaggio
(mm):

Ø12 ... **12**
Ø16 ... **16**
Ø20 ... **20**
Ø25 ... **25**



For magnetic switches details see:
Caratteristiche finecorsa magnetici vedi:

VNCR2, VNPR2, VNCE3, VNPE3.

Pag. A-19

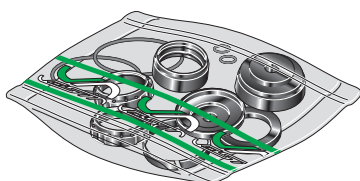
For further information on the resistance of material to aggressive agents,
please contact our technical sales department.

Per informazioni sul grado di resistenza dei finecorsa magnetici
in ambienti specifici contattare il nostro ufficio tecnico-commerciale.

Instruction for mounting see:
Per le istruzioni di montaggio vedi: **Pag. A-11**

..... - SG

SEALS KIT
KIT GUARNIZIONI DI RICAMBIO



Seals kit code = **Cylinder code** + **Bore** + **Versions** + **- SG**:
(The kit includes all seals).

Codice del kit = **Codice del cilindro** + **Alesaggio** + **Versions** + **- SG**:
(Il kit comprende tutte le guarnizioni necessarie).

Example / Esempio: **DSM 16 - SG**

STAINLESS STEEL FIXING / ACCESSORI DI FISSAGGIO INOX PER CILINDRI ANTICORROSIONE

ISO 6432 FOR / PER **DSM - DSA** Ø12 ÷ Ø25

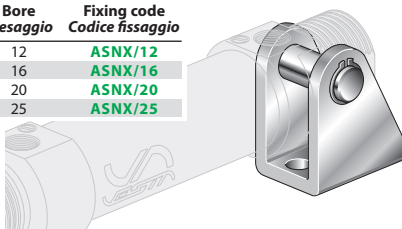
REAR HINGE HORIZONTAL MOUNTING
MONTAGGIO A CONTROCERNIERA

ASNX/..

Vesta fixing accessories shown here are manufactured in X5 Cr Ni 18-10 stainless steel .
Dimensions correspond to ISO 6432 standard (see pages A-10 and A-11).

I fissaggi Vesta a fianco illustrati sono realizzati in acciaio inox X5 Cr Ni 18-10 per poter resistere all'ambiente di destinazione del cilindro anticorrosione e comunque mantengono le dimensioni di ingombro dei corrispondenti fissaggi ISO 6432 descritti a pagina A-10 e A-11 del presente catalogo.

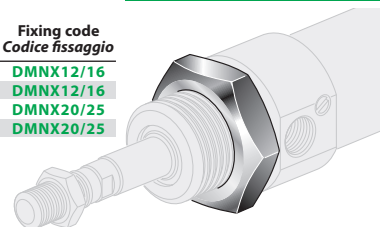
Bore Alesaggio	Fixing code Codice fissaggio
12	ASNX/12
16	ASNX/16
20	ASNX/20
25	ASNX/25



END-CAP NUT
DADO TESTATA

DMNX ../..

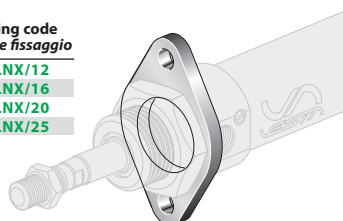
Bore Alesaggio	Fixing code Codice fissaggio
12	DMNX12/16
16	DMNX12/16
20	DMNX20/25
25	DMNX20/25



FLANGE MOUNTING
MONTAGGIO A FLANGIA

FLNX/..

Bore Alesaggio	Fixing code Codice fissaggio
12	FLNX/12
16	FLNX/16
20	FLNX/20
25	FLNX/25



FOOT MOUNTING
MONTAGGIO A PIEDINI

PNX/..

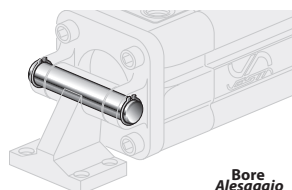
Bore Alesaggio	Fixing code Codice fissaggio
12	PNX/12
16	PNX/16
20	PNX/20
25	PNX/25



ISO 15552 & ISO 6432 FOR / PER **DSM; DSA; XPN; XJS; XJSS** Ø12 ÷ Ø100

CLEVIS PIN
PERNO CERNIERA

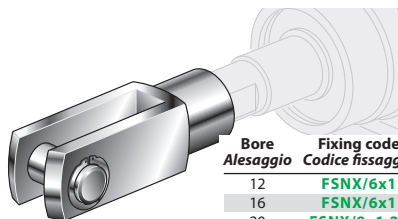
USCNX/..



Bore Alesaggio	Code Codice
32	USCNX/32
40	USCNX/40
50	USCNX/50
63	USCNX/63
80	USCNX/80
100	USCNX/100

CLEVIS (ROD) MOUNTING
FORCELLA STELO

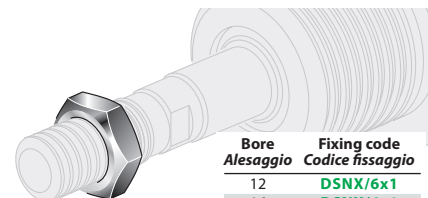
FSNX/..



Bore Alesaggio	Fixing code Codice fissaggio
12	FSNX/6x1
16	FSNX/6x1
20	FSNX/8x1,25
25	FSNX/10x1,25
32	FSNX/10x1,25
40	FSNX/12x1,25
50	FSNX/16x1,5
63	FSNX/16x1,5
80	FSNX/20x1,5
100	FSNX/20x1,5

ROD NUT
DADO STELO

DSNX/..

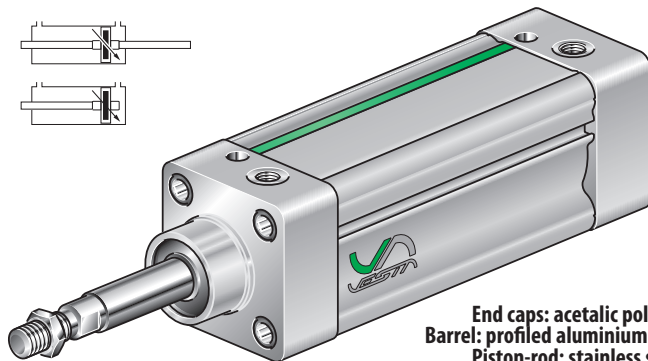
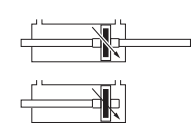


Bore Alesaggio	Fixing code Codice fissaggio
12	DSNX/6x1
16	DSNX/6x1
20	DSNX/8x1,25
25	DSNX/10x1,25
32	DSNX/10x1,25
40	DSNX/12x1,25
50	DSNX/16x1,5
63	DSNX/16x1,5
80	DSNX/20x1,5
100	DSNX/20x1,5



SERIE XPN

FOR AGGRESSIVE ENVIRONMENT CONDITIONS, VDMA - ISO 15552
CILINDRI PER AMBIENTI AGGRESSIVI, VDMA - ISO 15552



End caps: acetalic polymer
Barrel: profiled aluminium tube
Piston-rod: stainless steel.

Testate: resina acetica
Camicia: profilato di alluminio
Stelo: acciaio inox

With magnetic piston / Con pistone magnetico

XPN /

Bore / Alesaggio
(mm):

Ø32 **32**
Ø40 **40**
Ø50 **50**
Ø63 **63**
Ø80 **80**
Ø100 ... **100**

P Through rod cylinder
Cilindro stelo passante

Stroke / Corsa
(mm):

Effective cushion length
Lunghezza utile ammortizzatore

Bore Alesaggio	Length Lunghezza
32	24
40	27
50	30
63	30
80	36
100	38

XPN cylinder fixing see:
Fissaggi per cilindri XPN vedi:
..... **Pag. A-43; A-47 ÷ A-48.**

Features of reed switches see:
Caratteristiche finecorsa magnetici:
..... **Pag. A-19.**

Bore Alesaggio	25	50	80	100	125	160	200	250	300	350	400	450	500	600	700	800	900	1000
32	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
40	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
50	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
63	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
80	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Standard stroke / Corse Standard

TECHNICAL FEATURES

End caps	Acetalic polymer (Zellamid 900).
Piston rod	Stainless steel X5 Cr Ni 18-10.
Barrel	Extruded profiled and anodized aluminium tube.
Seals	Rod seal in polyurethane, other seals in NBR.
Cushoning	Pneumatic adjusting cushions.

Environment temperature range	-10 °C ÷ +70 °C.
Temperature range of medium	0 °C ÷ +40 °C.
Lubrication	Not required.
Medium	Filtered air.
Max operating pressure range	10 bar.

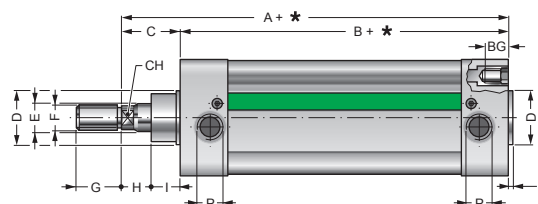
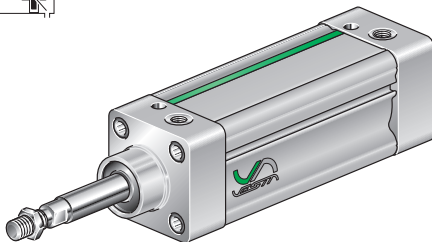
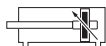
CARATTERISTICHE TECNICHE

Testate	Resina acetica (Zellamid 900).
Stelo	Acciaio inox X5 Cr Ni 18-10.
Camicia	Tubo profilato ed anodizzato d'alluminio.
Guarnizioni	Dello stelo in poliuretano, altre in NBR.
Ammortizzatori	Di notevole efficacia, con regolazione micrometrica.

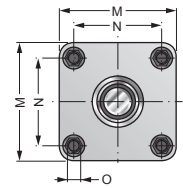
Temperatura ambiente	-10 °C ÷ +70 °C.
Temperatura fluido	0 °C ÷ +40 °C.
Lubrificazione	Non necessaria.
Fluido	Aria filtrata.
Pressione max d'esercizio	10 bar.

XPN .. /...

SINGLE ROD
CILINDRO BASE STELO SEMPLICE



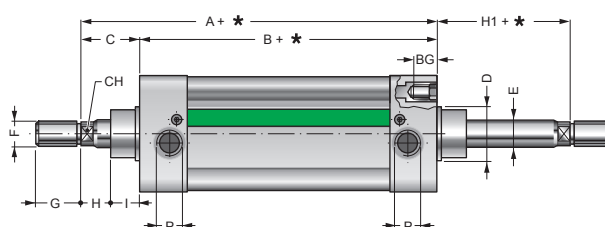
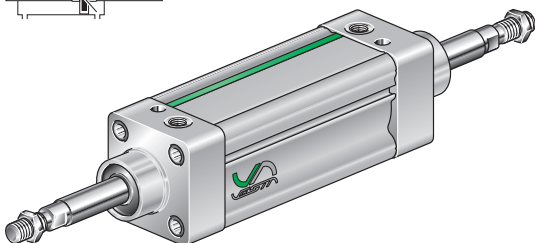
* = Stroke / Corsa



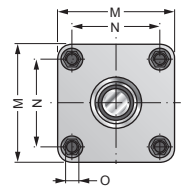
Bore Alesaggio	A	B	C	D	E	F	G	H	I	L	M	N	O	P	BG	CH	Code Codice
32	120	94	26	30	12	M10x1,25	20	7	19	4	47	32,5	M6	G1/8	15	10	XPN 32/...
40	135	105	30	35	16	M12x1,25	24	8	22	4	54	38	M6	G1/4	15	13	XPN 40/...
50	143	106	37	40	20	M16x1,5	32	11	26	2	66	46,5	M8	G1/4	15	17	XPN 50/...
63	158	121	37	45	20	M16x1,5	32	13	24	4	78	56,5	M8	G3/8	15	17	XPN 63/...
80	174	128	46	45	25	M20x1,5	40	20	26	2	98	72	M10	G3/8	18	21	XPN 80/...
100	189	138	51	55	25	M20x1,5	40	25	26	2	115	89	M10	G1/2	18	25	XPN 100/...

XPN .. /... P

THROUGH ROD
STELO PASSANTE



* = Stroke / Corsa



Bore Alesaggio	A	B	C	D	E	F	G	H	H1	I	M	N	O	P	BG	CH	Code Codice
32	120	94	26	30	12	M10x1,25	20	7	26	19	47	32,5	M6	G1/8	15	10	XPN 32/... P
40	135	105	30	35	16	M12x1,25	24	8	30	22	54	38	M6	G1/4	15	13	XPN 40/... P
50	143	106	37	40	20	M16x1,5	32	11	37	26	66	46,5	M8	G1/4	15	17	XPN 50/... P
63	158	121	37	45	20	M16x1,5	32	13	37	24	78	56,5	M8	G3/8	15	17	XPN 63/... P
80	174	128	46	45	25	M20x1,5	40	20	46	26	98	72	M10	G3/8	18	21	XPN 80/... P
100	189	138	51	55	25	M20x1,5	40	25	51	26	115	89	M10	G1/2	18	25	XPN 100/... P

FOR USE IN DUSTY AND AGGRESSIVE ENVIRONMENT, VDMA - ISO 15552
CILINDRI PER AMBIENTI AGGRESSIVI, VDMA - ISO 15552

SERIE **XJS**

With magnetic piston / Con pistone magnetico

XJS /

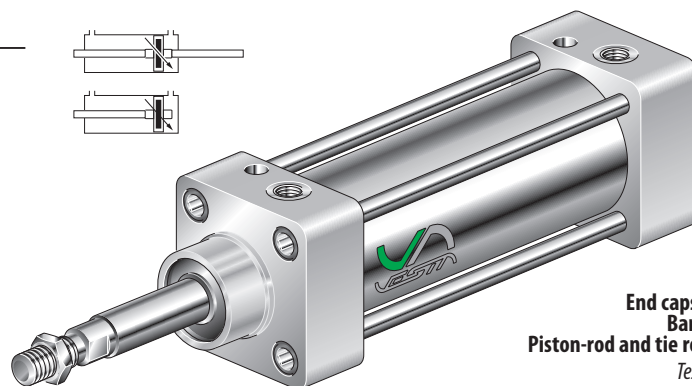
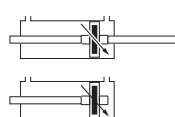
Bore / Alesaggio
(mm):

Ø32 **32**
Ø40 **40**
Ø50 **50**
Ø63 **63**
Ø80 **80**
Ø100 **100**

P

Through rod cylinder
Cilindro stelo passante

Stroke / Corsa
(mm):



End caps: acetalic polymer
Barrel: stainless steel
Piston-rod and tie rods: stainless steel
Testate: resina acetica
Camicia: acciaio inox
Stelo e tiranti: acciaio inox

XJS cylinder fixing see:

Fissaggi per cilindri XJS vedi:

..... **Pag. A-43; A-47 ÷ A-48.**

Features of reed switches see:

Caratteristiche finecorsa magnetici:

..... **Pag. A-19; A-48.**

Effective cushion length
Lunghezza utile ammortizzatore

Bore Alesaggio	Length Lunghezza
32	24
40	27
50	30
63	30
80	36
100	38

Standard stroke / Corse Standard

Bore Alesaggio	25	50	80	100	125	160	200	250	300	350	400	450	500	600
32	•	•	•	•	•	•	•	•	•	•	•	•	•	•
40	•	•	•	•	•	•	•	•	•	•	•	•	•	•
50	•	•	•	•	•	•	•	•	•	•	•	•	•	•
63	•	•	•	•	•	•	•	•	•	•	•	•	•	•
80	•	•	•	•	•	•	•	•	•	•	•	•	•	•
100	•	•	•	•	•	•	•	•	•	•	•	•	•	•

End caps Acetalic polymer (Zellamid 900).
Piston rod Stainless steel X5 Cr Ni 18-10.
Tie rods Stainless steel X10 Cr Ni S 18-09.
Barrel Stainless steel X5 Cr Ni 18-10 tube.
Seals Rod seal in polyurethane, other seals in NBR.
Cushioning Pneumatic adjusting cushioning with screw in X10 Cr Ni S 18-09.

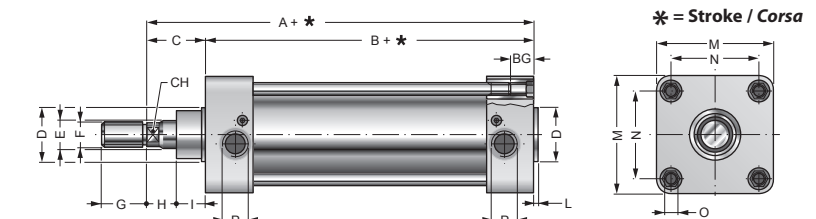
Environment temperature range -10 °C ÷ +70 °C.
Temperature range of medium 0 °C ÷ +40 °C.
Lubrication Not required.
Medium Filtered air.
Max operating pressure 10 bar.
Nuts Stainless steel X10 Cr Ni S 18-09.

TECHNICAL FEATURES

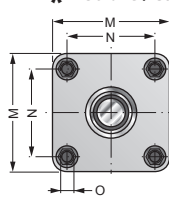
Testate Resina acetica (Zellamid 900).
Stelo Acciaio inox X5 Cr Ni 18-10.
Tiranti Acciaio inox X10 Cr Ni S 18-09.
Camicia Tubo in acciaio inox X5 Cr Ni 18-10.
Guarnizioni Dello stelo in poliuretano, altre in NBR.
Ammortizzatori Regolazione pneumatica con viti regolabile in X10 Cr Ni S 18-09.

Temperatura ambiente -10 °C ÷ +70 °C.
Temperatura fluido 0 °C ÷ +40 °C.
Lubrificazione Non necessaria.
Fluido Aria filtrata.
Pressione max d'esercizio 10 bar.
Bussola e dado Acciaio inox X10 Cr Ni S 18-09.

CARATTERISTICHE TECNICHE

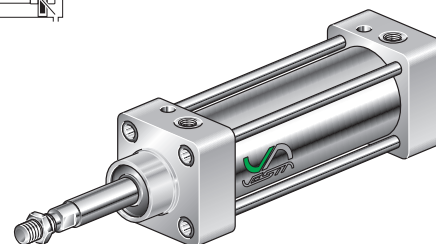
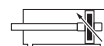


* = Stroke / Corsa

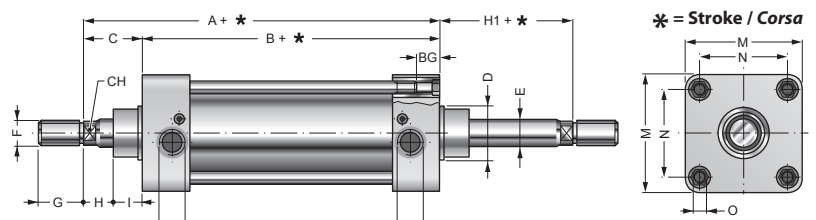


SINGLE ROD
CILINDRO BASE STELO SEMPLICE

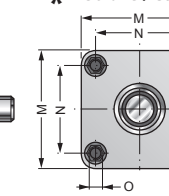
XJS .. /...



Bore Alesaggio	A	B	C	D	E	F	G	H	I	L	M	N	O	P	BG	CH	Code Codice
32	120	94	26	30	12	M10x1,25	20	7	19	4	47	32,5	M6	G1/8	15	10	XJS 32/...
40	135	105	30	35	16	M12x1,25	24	8	22	4	54	38	M6	G1/4	15	13	XJS 40/...
50	143	106	37	40	20	M16x1,5	32	11	26	2	66	46,5	M8	G1/4	15	17	XJS 50/...
63	158	121	37	45	20	M16x1,5	32	13	24	4	78	56,5	M8	G3/8	15	17	XJS 63/...
80	174	128	46	45	25	M20x1,5	40	20	26	2	98	72	M10	G3/8	18	21	XJS 80/...
100	189	138	51	55	25	M20x1,5	40	25	26	2	110	89	M10	G1/2	18	25	XJS 100/...

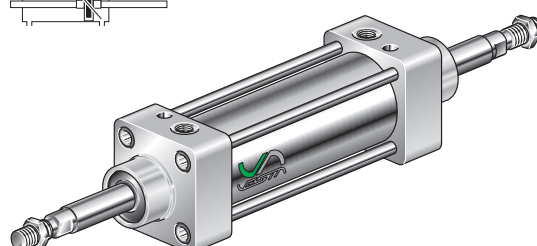


* = Stroke / Corsa



THROUGH ROD
STELO PASSANTE

XJS .. /... P



Bore Alesaggio	A	B	C	D	E	F	G	H	H1	I	M	N	O	P	BG	CH	Code Codice
32	120	94	26	30	12	M10x1,25	20	7	26	19	47	32,5	M6	G1/8	15	10	XJS 32/... P
40	135	105	30	35	16	M12x1,25	24	8	30	22	54	38	M6	G1/4	15	13	XJS 40/... P
50	143	106	37	40	20	M16x1,5	32	11	37	26	66	46,5	M8	G1/4	15	17	XJS 50/... P
63	158	121	37	45	20	M16x1,5	32	13	37	24	78	56,5	M8	G3/8	15	17	XJS 63/... P
80	174	128	46	45	25	M20x1,5	40	20	46	26	98	72	M10	G3/8	18	21	XJS 80/... P
100	189	138	51	55	25	M20x1,5	40	25	51	26	110	89	M10	G1/2	18	25	XJS 100/... P



SERIE XJSS

FOR HARSH ENVIRONMENT CONDITIONS, VDMA - ISO 15552
PER AMBIENTI PARTICOLARMENTE AGGRESSIVI, VDMA - ISO 15552

ATEX versions see / Versioni ATEX vedi .. P. A-109

With magnetic piston / Con pistone magnetico

XJSS ☐ ☐ / ☐ ☐ ☐ ☐ ☐

Bore / Alesaggio (mm):

Ø32 32
Ø40 40
Ø50 50
Ø63 63
Ø80 80
Ø100 100

VV Viton all seals
Tutte le guarnizioni in Viton

P Through rod cylinder
Cilindro stelo passante

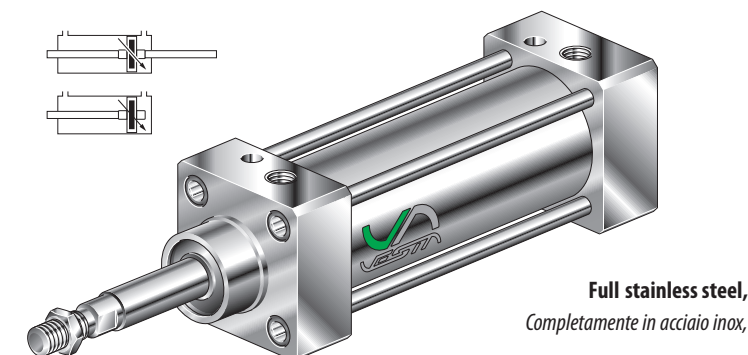
Stroke / Corsa (mm):

Effective cushion length
Lunghezza utile ammortizzatore

Bore Alesaggio	Length Lunghezza
32	24
40	27
50	30
63	30
80	36
100	38

XJSS cylinder fixing see:
Fissaggi per cilindri XJSS vedi:
..... **Page A-43; A-47 ÷ A-48.**

Features of reed switches see:
Caratteristiche finecorsa magnetici:
..... **Page A-19; A-48.**



Full stainless steel,
Completamente in acciaio inox,

Bore Alesaggio	25	50	80	100	125	160	200	250	300	350	400	450	500	600
32	•	•	•	•	•	•	•	•	•	•	•	•	•	•
40	•	•	•	•	•	•	•	•	•	•	•	•	•	•
50	•	•	•	•	•	•	•	•	•	•	•	•	•	•
63	•	•	•	•	•	•	•	•	•	•	•	•	•	•
80	•	•	•	•	•	•	•	•	•	•	•	•	•	•
100	•	•	•	•	•	•	•	•	•	•	•	•	•	•

TECHNICAL FEATURES

End caps	Stainless steel X5 Cr Ni 18-10.
Piston rod	Stainless steel X5 Cr Ni 18-10.
Tie rods	Stainless steel X10 Cr Ni S 18-09.
Barrel	Stainless steel X5 Cr Ni 18-10 tube.
Seals	Rod seal in VITON, other seals in Polyurethane.
Cushioning	Pneumatic adjusting with screws in X10 Cr Ni S 18-09.

Environment temperature range	-10 ÷ +70 °C.
Temperature range of medium	0 ÷ +40 °C.
Lubrication	Not required.
Medium	Filtered air.
Max operating pressure	10 bar.
Nuts	Stainless steel X10 Cr Ni S 18-09.

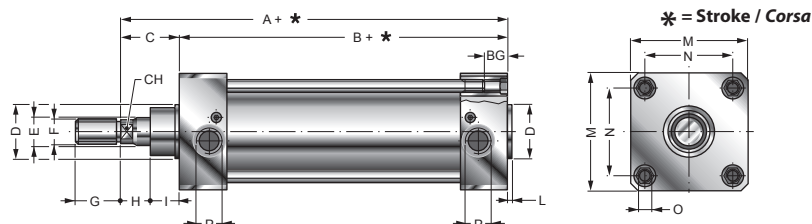
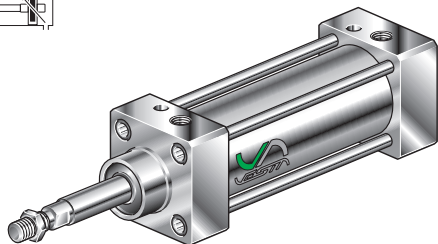
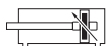
CARATTERISTICHE TECNICHE

Testate	Acciaio inox X5 Cr Ni 18-10.
Stelo	Acciaio inox X5 Cr Ni 18-10.
Tiranti	Acciaio inox X10 Cr Ni S 18-09.
Camicia	Tubo in acciaio inox X5 Cr Ni 18-10.
Guarnizioni	Dello stelo in VITON, altre in Poliuretano.
Ammortizzatori	Pneumatici regolabili con viti in X10 Cr Ni S 18-09.

Temperatura ambiente	-10 °C ÷ +70 °C.
Temperatura fluido	0 °C ÷ +40 °C.
Lubrificazione	Non necessaria.
Fluido	Aria filtrata.
Pressione max d'esercizio	10 bar.
Bussola e dado	Acciaio inox X10 Cr Ni S 18-09.

XJSS .. /...

SINGLE ROD
CILINDRO BASE STELO SEMPLICE

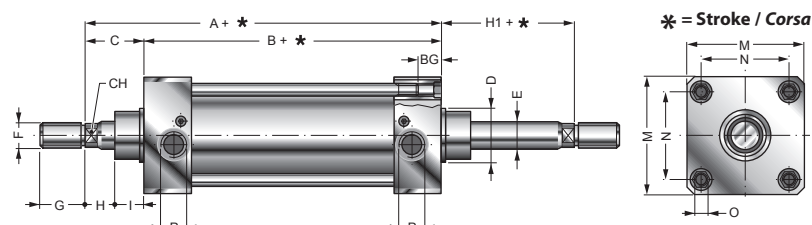
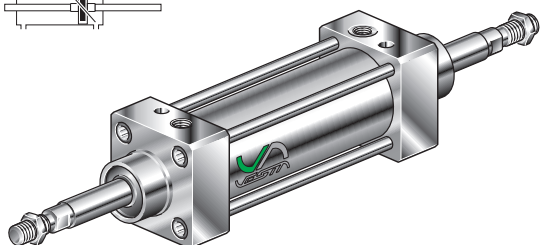


Bore Alesaggio	A	B	C	D	E	F	G	H	I	L	M	N	O	P	BG	CH	Code Codice
32	120	94	26	30	12	M10x1,25	20	7	19	4	47	32,5	M6	G1/8	15	10	XJSS 32/...
40	135	105	30	35	16	M12x1,25	24	8	22	4	54	38	M6	G1/4	15	13	XJSS 40/...
50	143	106	37	40	20	M16x1,5	32	11	26	2	66	46,5	M8	G1/4	15	17	XJSS 50/...
63	158	121	37	45	20	M16x1,5	32	13	24	4	78	56,5	M8	G3/8	15	17	XJSS 63/...
80	174	128	46	45	25	M20x1,5	40	20	26	2	100	72	M10	G3/8	18	21	XJSS 80/...
100	189	138	51	55	25	M20x1,5	40	25	26	2	110	89	M10	G1/2	18	25	XJSS 100/...

ATEX versions see / Versioni ATEX vedi .. P. A-109

XJSS .. /... P

THROUGH ROD
STELO PASSANTE



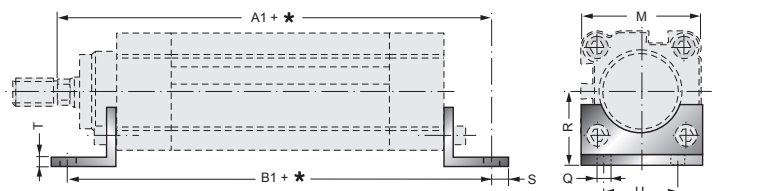
Bore Alesaggio	A	B	C	D	E	F	G	H	H1	I	M	N	O	P	BG	CH	Code Codice
32	120	94	26	30	12	M10x1,25	20	7	26	19	47	32,5	M6	G1/8	15	10	XJSS 32/...P
40	135	105	30	35	16	M12x1,25	24	8	30	22	54	38	M6	G1/4	15	13	XJSS 40/...P
50	143	106	37	40	20	M16x1,5	32	11	37	26	66	46,5	M8	G1/4	15	17	XJSS 50/...P
63	158	121	37	45	20	M16x1,5	32	13	37	24	78	56,5	M8	G3/8	15	17	XJSS 63/...P
80	174	128	46	45	25	M20x1,5	40	20	46	26	100	72	M10	G3/8	18	21	XJSS 80/...P
100	189	138	51	55	25	M20x1,5	40	25	51	26	110	89	M10	G1/2	18	25	XJSS 100/...P

ATEX versions see / Versioni ATEX vedi .. P. A-109

STAINLESS STEEL FIXING / ACCESSORI DI FISSAGGIO INOX PER CILINDRI ANTICORROSIONE

Note: the fixing screws are not included in the supply of the fitting / le viti di fissaggio non sono comprese nella fornitura dell'accessorio.

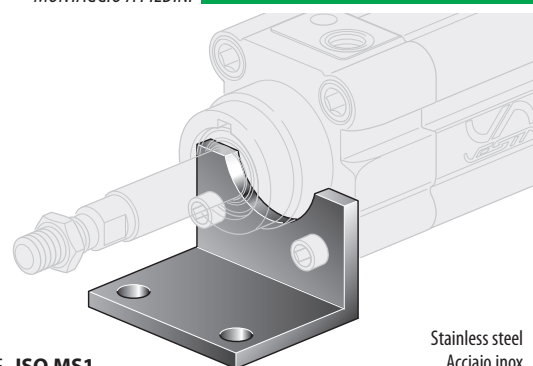
* = Stroke / Corsa



Bore Alesaggio	A1	B1	M	ØQ	R	S	T	U	Code Codice
32	144	142	47	7	32	11	4	32	XPNX/32
40	163	161	54	9	36	15	4	36	XPNX/40
50	175	170	66	9	45	15	5	45	XPNX/50
63	190	185	78	9	50	15	5	50	XPNX/63
80	215	210	98	12	63	20	6	63	XPNX/80
100	230	220	115	14	71	25	6	75	XPNX/100

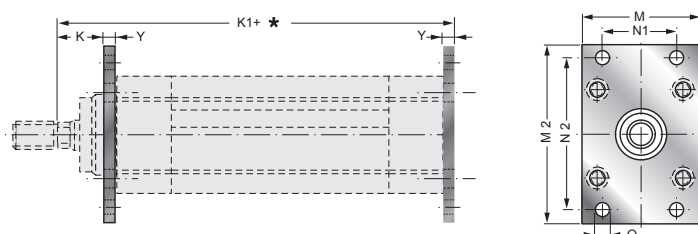
FOOT MOUNTING
MONTAGGIO A PIEDINI

XPNX/..



Stainless steel
Acciaio inox

REF. ISO MS1

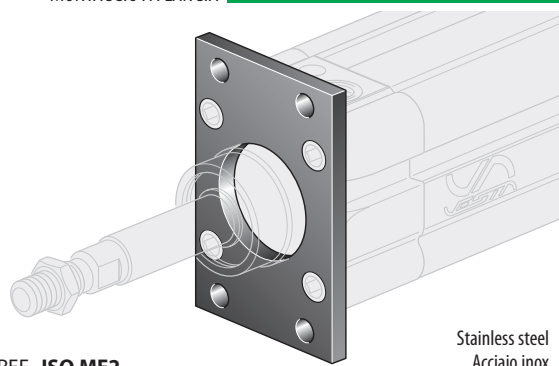


* = Stroke / Corsa

Bore Alesaggio	K	K1	M	M2	N1	N2	ØQ	Y	Code Codice
32	16	130	45	80	32	64	7	10	XFLNX/32
40	20	145	52	90	36	72	9	10	XFLNX/40
50	25	155	65	110	45	90	9	12	XFLNX/50
63	25	170	75	120	50	100	9	12	XFLNX/63
80	30	190	95	150	63	126	12	16	XFLNX/80
100	35	205	115	170	75	150	14	16	XFLNX/100

FLANGE MOUNTING
MONTAGGIO A FLANGIA

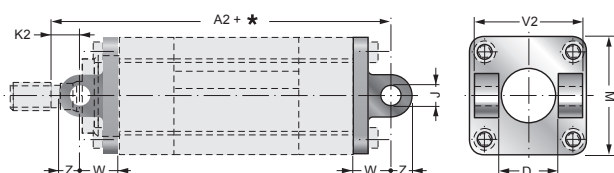
XFLNX/..



Stainless steel
Acciaio inox

REF. ISO MF2

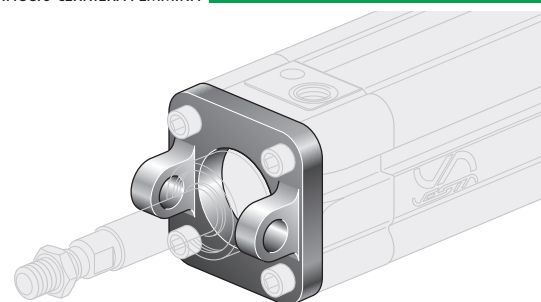
* = Stroke / Corsa



Bore Alesaggio	A2	ØJ ^{H9}	K2	M	V1	V2	W	Z	Code front Cod. ant.	Code rear Cod. post.
32	142	10	4	47	26	45	22	11	XCFANX/32	XCFNX/32
40	160	12	5	54	28	52	25	13	XCFANX/40	XCFNX/40
50	170	12	10	66	32	60	27	13	XCFANX/50	XCFNX/50
63	190	16	5	78	40	70	32	17	XCFANX/63	XCFNX/63
80	210	16	10	98	50	90	36	17	XCFANX/80	XCFNX/80
100	230	20	10	115	60	110	41	21	XCFANX/100	XCFNX/100

CLEVIS (FEMALE) MOUNTING
MONTAGGIO CERNIERA FEMMINA

XCFNX/..

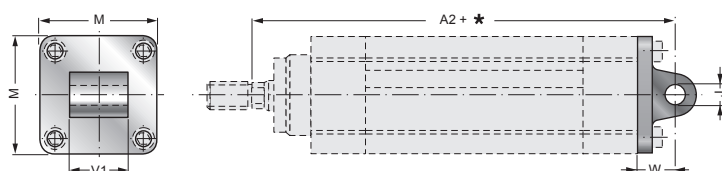


Stainless steel
Acciaio inox

REF. ISO MP2

CLEVIS (MALE) MOUNTING
MONTAGGIO A CONTROCIERNIERA MASCHIO

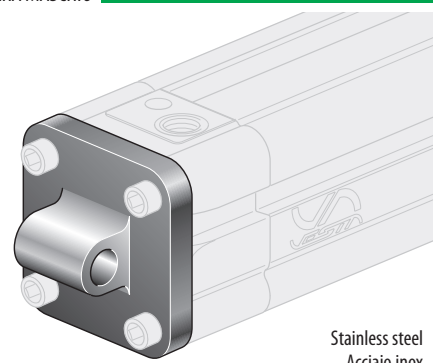
XCMNX/..



* = Stroke / Corsa

Bore Alesaggio	A2	ØJ ^{H7}	M	V1	W	Code Codice
32	142	10	45	26	22	XCMNX/32
40	160	12	55	28	25	XCMNX/40
50	170	12	65	32	27	XCMNX/50
63	190	16	75	40	32	XCMNX/63
80	210	16	95	50	36	XCMNX/80
100	230	20	115	60	41	XCMNX/100

REF. ISO MP4



Stainless steel
Acciaio inox

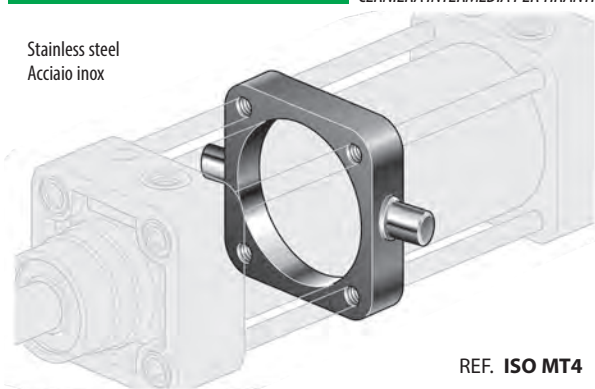


STAINLESS STEEL FIXING / ACCESSORI DI FISSAGGIO INOX PER CILINDRI ANTICORROSIONE

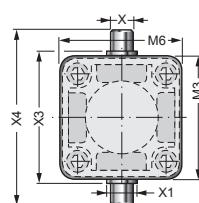
XCINX/..

TIE ROD TRUNNION MOUNTING
CERNIERA INTERMEDIA PER TIRANTI

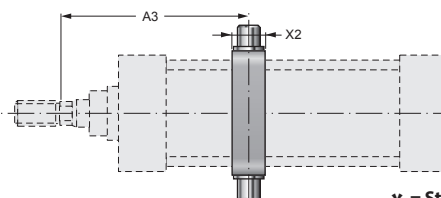
Stainless steel
Acciaio inox



REF. ISO MT4



Specify dimension **A3** when trunnion is supplied assembled.
In caso di ordine specificare la quota **A3** per la fornitura premontata sul cilindro richiesto.



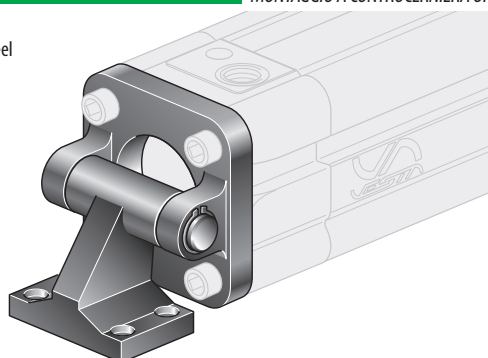
* = Stroke / Corsa

Bore Alesaggio	A3 min.	A3 max.	M3	M6	ØX ⁴⁹	ØX1	X2	X3	X4	Code Codice
32	63	83+(*)	46	46	12	16	15	50	74	XCINX/32
40	69	96+(*)	59	59	16	20	20	63	95	XCINX/40
50	78	102+(*)	69	69	16	20	20	73	105	XCINX/50
63	83	112+(*)	84	84	20	25	25	90	130	XCINX/63
80	97	123+(*)	102	102	20	25	25	110	150	XCINX/80
100	105	135+(*)	125	125	25	30	30	132	182	XCINX/100

XASNX/..

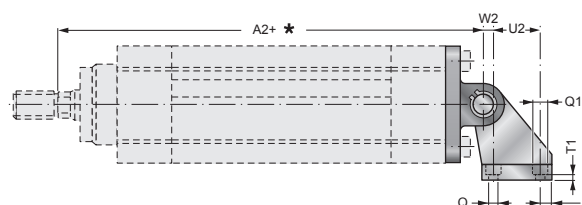
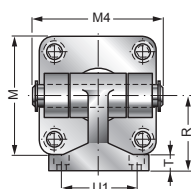
REAR HINGE HORIZONTAL MOUNTING
MONTAGGIO A CONTROCERNIERA ORIZZONTALE

Stainless steel
Acciaio inox



REF. CETOP RP107P

* = Stroke / Corsa

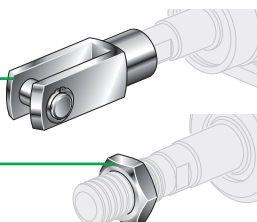


Bore Alesaggio	A2	M	M4	ØQ	ØQ1	R	S	T	T1	U1	U2	W2	Code Codice
32	142	47	54	6,6	11	32	6,5	8	6,5	36	18	3	XASNX/32
40	160	54	63	6,6	11	36	6,5	10	8,5	41	22	2	XASNX/40
50	170	66	71	9	15	45	7,5	12	10,5	50	30	3	XASNX/50
63	190	78	81	9	15	50	7,5	12	12,5	52	35	2	XASNX/63
80	210	98	101	11	18	63	10	14	11,5	66	40	7	XASNX/80
100	230	115	123	11	18	71	10	15	14,5	76	50	5	XASNX/100

Pag. A-43

FSNX/..

CLEVIS (ROD) MOUNTING
FORCELLA STELO

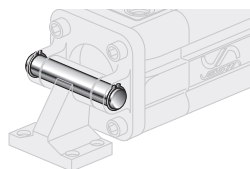


DSNX/..

ROD NUT
DADO STELO

USCNX/..

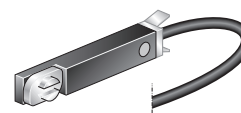
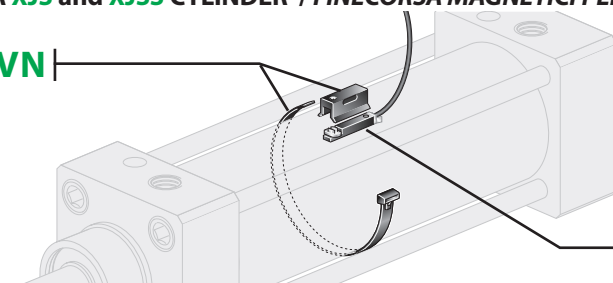
CLEVIS PIN
PERNO CERNIERA



MAGNETIC SWITCHES FOR XJS and XJSS CYLINDER / FINECORSIA MAGNETICI PER CILINDRI XJS ed XJSS

FFS ☐ **VN**

Bore Alesaggio (mm):
Ø32; Ø40; Ø50 ... **02**
Ø63; Ø80; Ø100 ... **03**



For magnetic switches features see:
Caratteristiche finecorsa magnetici vedi:
VNCR2, VNPR2, VNCE3, VNPE3.

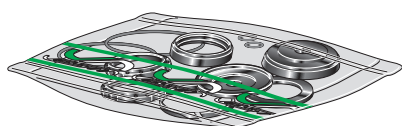
Pag. A-19

For further information on the resistance of materials to aggressive agents, please contact our technical sales department.
Per informazioni sul grado di resistenza dei finecorsa magnetici in ambienti specifici contattare il nostro ufficio tecnico-commerciale.

MAGNETIC SWITCHES FOR XPN see Pag. A-19 / FINECORSIA MAGNETICI PER CILINDRI XPN vedi Pag. A-19

..... - SG

SEALS KIT
KIT GUARNIZIONI DI RICAMBIO



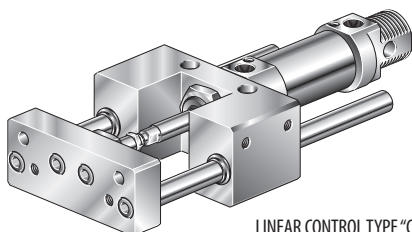
Seals kit code = **Cylinder code + Bore + Versions + - SG:**
(The kit includes all seals).

Codice del kit = **Codice del cilindro + Alesaggio + Versioni + - SG:**
(Il kit comprende tutte le guarnizioni necessarie).

Example / Esempio: **XJSS 50 P VV - SG**

INDEX / INDICE

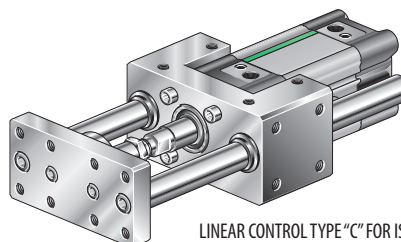
LINEAR CONTROL UNITS AND FIXING MOUNTINGS GLC - GLH SERIES Ø 20 ÷ 100 mm UNITA' DI GUIDA E FISSAGGI SERIE GLC - GLH - ALESAGGI Ø 20 ÷ 100 mm



pag. A-52

GLC ...

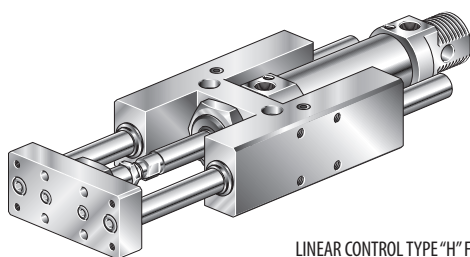
LINEAR CONTROL TYPE "C" FOR ISO 6432 CYLINDER
GUIDA ESECUZIONE "C" PER CILINDRI ISO 6432



pag. A-53

GLC ...

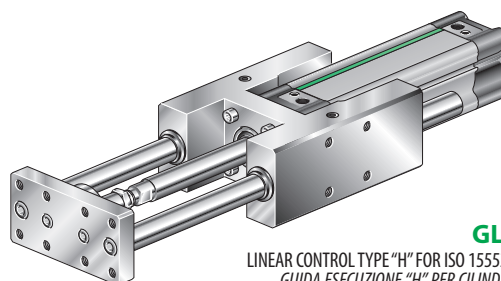
LINEAR CONTROL TYPE "C" FOR ISO 15552 CYLINDERS
GUIDA ESECUZIONE "C" PER CILINDRI ISO 15552



pag. A-54

GLH ...

LINEAR CONTROL TYPE "H" FOR ISO 6432 CYLINDER
GUIDA ESECUZIONE "H" PER CILINDRI ISO 6432



pag. A-55

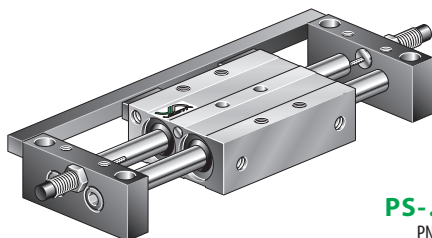
GLH ...

LINEAR CONTROL TYPE "H" FOR ISO 15552 CYLINDERS
GUIDA ESECUZIONE "H" PER CILINDRI ISO 15552

FIXING / ACCESSORI DI FISSAGGIO

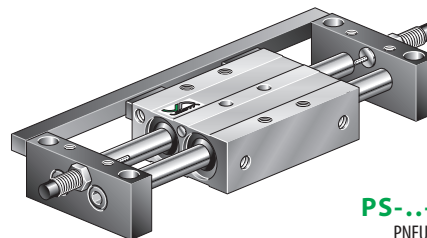
pag. A-52 ÷ A-56

PNEUMATIC SLIDES PS SERIE - BORE Ø 16 AND 25 mm SLITTE PNEUMATICHE SERIE PS - ALESAGGI Ø 16 E 25 mm



PS-...-16-....

PNEUMATIC SLIDE Ø16
SLITTA PNEUMATICA Ø16



PS-...-25-....

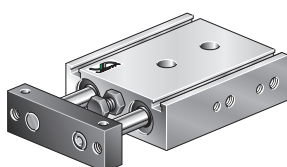
PNEUMATIC SLIDE Ø25
SLITTA PNEUMATICA Ø25

pag. A-60

MAGNETIC SWITCHES AND ACCESSORIES FOR PNEUMATIC SLIDES / FINECOSA MAGNETICI ED ACCESSORI PER SLITTE PNEUMATICHE

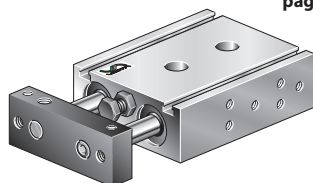
pag. A-62

DUAL ROD CYLINDERS HPSK SERIE - BORE Ø 16 ÷ 32 mm SEMISLITTE PNEUMATICHE SERIE HPSK - ALESAGGI Ø 16 ÷ 32 mm



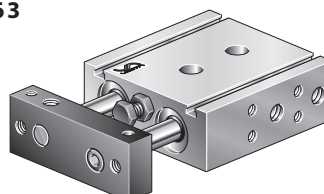
HPSK-...-16-....

DUAL ROD CYLINDER Ø16
SEMISLITTA PNEUMATICA Ø16



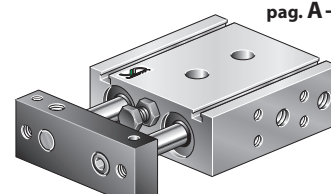
HPSK-...-20-....

DUAL ROD CYLINDER Ø20
SEMISLITTA PNEUMATICA Ø20



HPSK-...-25-....

DUAL ROD CYLINDER Ø25
SEMISLITTA PNEUMATICA Ø25



HPSK-...-32-....

DUAL ROD CYLINDER Ø32
SEMISLITTA PNEUMATICA Ø32

pag. A-63

pag. A-65

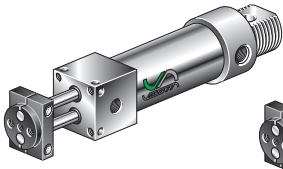
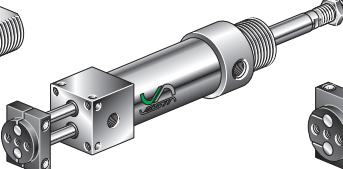
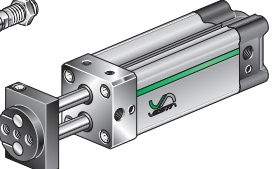
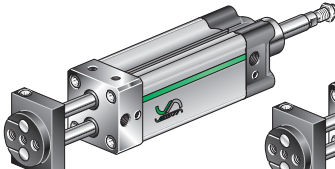
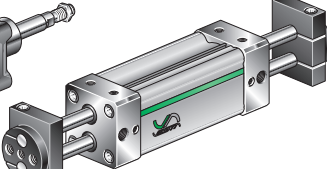
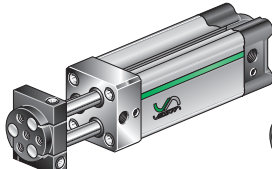
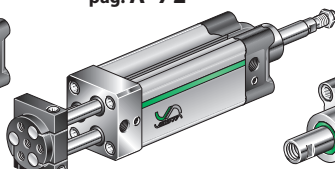
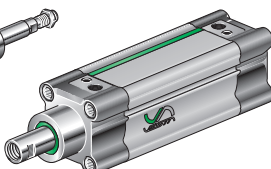
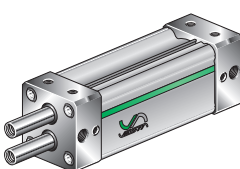
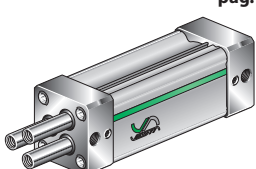
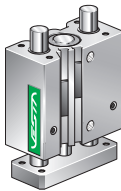
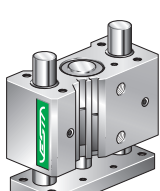
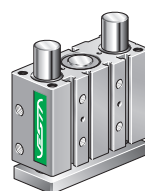
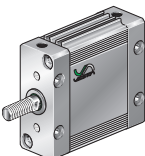
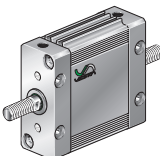
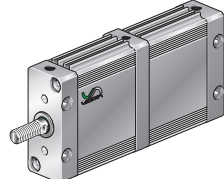
MAGNETIC SWITCHES AND ACCESSORIES FOR DUAL ROD CYLINDERS / FINECOSA MAGNETICI ED ACCESSORI PER SEMISLITTE PNEUMATICHE

pag. A-66; A-19.



INDEX / INDICE

ANTIROTATION CYLINDERS AW SERIES / CILINDRI ANTIROTAZIONE SERIE AW

pag. A-68					pag. A-69						
											
AR2-25-... TWIN PISTON RODS BASIC CYLINDER Ø25 CILINDRO BASE STELI GEMELLATI Ø25		AR3-25-... TWIN PISTON RODS CYLINDER + THROUGH PISTON ROD Ø25 CILINDRO STELI GEMELLATI + STELO PASSANTE OPPOSTO Ø25		AW2-...-... TWIN PISTON RODS BASIC CYLINDER Ø32÷100 CILINDRO BASE STELI GEMELLATI Ø32÷100		AW3-...-... TWIN PISTON RODS CYLINDER + THROUGH PISTON ROD Ø32÷100 CILINDRO STELI GEMELLATI + STELO PASSANTE OPPOSTO Ø32÷100		AW4-...-... Ø32÷100 CYLINDER THROUGH TWIN PISTON RODS CILINDRO Ø32÷100 CON STELI GEMELLATI PASSANTI			
pag. A-72					pag. A-74						
											
AW6-...-... TRIPLE PISTON RODS BASIC CYLINDER Ø32÷63 CILINDRO BASE CON 3 STELI Ø32÷63		AW8-...-... TRIPLE PISTON RODS + THROUGH PISTON ROD Ø32÷63 CILINDRO CON 3 STELI + STELO PASSANTE OPPOSTO Ø32÷63		AW1-...-... SINGLE HOLED TELESCOPIC PISTON ROD CYLINDER Ø32, 40 AND 50. CILINDRO STELO CAVO ALESAGGI Ø32, 40 E 50.		AW5-...-... TWIN HOLED TELESCOPIC PISTON ROD CYLINDER Ø40, 50 AND 63. CILINDRO CON 2 STELI GEMELLATI CAVI, ALESAGGI Ø40, 50 E 63.		AW7-...-... TRIPLE HOLED PISTON RODS CYLINDER Ø40, 50 AND 63. CILINDRO CON 3 STELI GEMELLATI CAVI, ALESAGGI Ø40, 50 E 63.			
pag. A-76					pag. A-78						
											
HCG ...-...-... COMPACT GUIDE PNEUMATIC CYLINDER Ø16÷25 CILINDRI PNEUMATICI COMPATTI GUIDATI Ø16÷25		HCG ...-...-... COMPACT GUIDE PNEUMATIC CYLINDER Ø32÷100 CILINDRI PNEUMATICI COMPATTI GUIDATI Ø32÷100		HNG ...-...-... PROFILE COMPACT GUIDE PNEUMATIC CYLINDER Ø16÷63 CILINDRI PNEUMATICI COMPATTI GUIDATI A PROFILO Ø16÷63							
pag. A-80											
											
NCV ... FLAT CYLINDERS Ø63 CILINDRI PIATTI Ø63		NCV ... P THROUGH ROD FLAT CYLINDERS Ø63 CILINDRI PIATTI STELO PASSANTE Ø63		NCV ... TN2 MULTI THRUST TANDEM FLAT CYLINDERS Ø63 CILINDRI PIATTI TANDEM MULTISPINTA Ø63							

pag. A-68 ÷ A-77

MAGNETIC SWITCHES AND ACCESSORIES FOR ANTIROTATION CYLINDER / FINECOSA MAGNETICI ED ACCESSORI PER CILINDRI ANTIROTAZIONE

LINEAR CONTROL UNITS
UNITA' DI GUIDA

SERIE **GLC - GLH**

TECHNICAL FEATURES / CARATTERISTICHE COSTRUTTIVE

The linear control units **GLC** and **GLH** series can be assembled to cylinders in compliance with ISO 6432 and ISO 15552 standards.

Anti-rotation is guaranteed by two steel guide stems, whose movement is supported by four brass bushes in **GLC ...** and **GLH ... BS** series, and by four ball bushings in the **GLH ... BB** series.

The piston rod is connected to the front flange by a floating joint. The use of high quality materials and precision manufacturing techniques gives the units excellent performance with high resistance to side loads.

Versatility of mounting is assured by either mounting directly to the unit, or by the use of standard accessories (mountings).

All the linear control units GLH-BS and BB series are supplied with scraper seals and grease box.

The unit is supplied already lubricated.

*Le unità di guida serie **GLC** e **GLH** sono assemblabili a cilindri rispondenti alla norma ISO 6432-15552.*

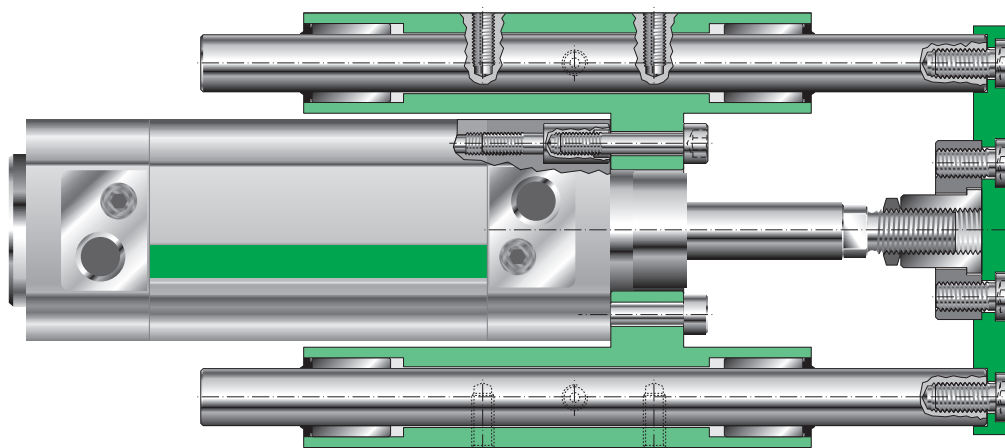
*L'antirotazione è garantita da due steli guida in acciaio il cui movimento è supportato da quattro bronzine a strisciamento nella serie **GLC ...** e **GLH ... BS**, oppure da quattro cuscinetti con ricircolo di sfere nella serie **GLH ... BB**.*

Lo stelo del cilindro è collegato alla flangia frontale con un giunto di compensazione assiale e radiale.

L'impiego di materiali di alta qualità e la precisione delle lavorazioni consentono all'unità di guida una ottima resistenza ai carichi laterali con elevate prestazioni.

La versatilità d'impiego è stata realizzata mediante tre possibili superfici di fissaggio e di piastre per il fissaggio orizzontale o verticale.

Tutte le unità di guida, oltre ad essere fornite già lubrificate, sono corredate di rischiaspolvere ed ingrassatori.



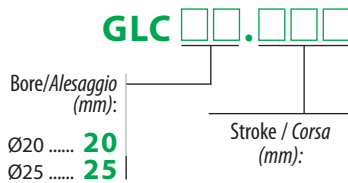
PRECAUTIONS BEFORE USE / RACCOMANDAZIONI PER L'INSTALLAZIONE

- Avoid impacts and abrasion of slide rods.
- Avoid impacts and scratching of the slide body and plate surfaces in order not to effect the flatness of the slide.
- Ensure that the surface upon which the slide is mounted is perfectly flat or else the correct functioning of the slide can be endangered by uneven wear of the bearings or seals.
- To lubricate use greasers located on the top of the unit.
- Evitare urti ed abrasioni degli steli.
- Evitare urti e graffiature alle superfici del corpo e della piastra per non compromettere la planarità della guida.
- Verificare che la superficie alla quale viene fissata la guida sia perfettamente piana; in caso contrario si comprometterebbe il buon funzionamento della stessa con anomale usure dei cuscinetti e delle guarnizioni.
- Usare gli appositi ingrassatori per la lubrificazione.



SERIE GLC

LINEAR CONTROL UNITS FOR ISO CYLINDER Ø20 ÷ 100 AND FIXING UNITA' DI GUIDA PER CILINDRI ISO Ø20 ÷ 100 E FISSAGGI



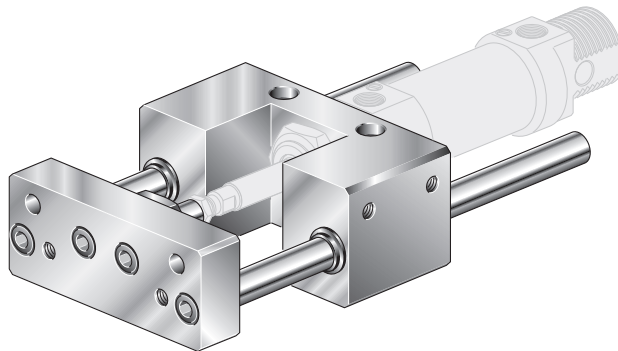
Bore Alesaggio	Standard stroke / Corse Standard							
	25	50	80	100	125	160	200	250
20	•	•	•	•	•	•	•	•
25	•	•	•	•	•	•	•	•

Stroke Corsa	Weight (Kg) of guide units Peso (Kg) delle unità di guida	
	Ø 20	Ø25
25	0,700	0,690
50	0,740	0,730
80	0,760	0,750
100	0,780	0,770
160	0,850	0,840
200	0,900	0,890
250	0,970	0,960

GLC

LINEAR CONTROL UNITS TYPE "C"
UNITA' DI GUIDA ESECUZIONE "C"

* = Stroke / Corsa



Standard coupling for ISO 6432 cylinder (Ø20 ÷ Ø25)
Accoppiamento standard per cilindri ISO 6432 (Ø20 ÷ Ø25)

Bore Alesaggio	ØD	F1	F2	F3	F4	ØF7	F9	F11	F14	F15	F16	F17	H	M1	M2	M3	M4	M5	M6
20	10	100	40	46,5	48	22	17	32	8	71	24	10	74	90	38	70	30	77	4
25	10	100	40	46,5	48	22	17	32	8	76	24	10	74	90	38	70	30	77	6

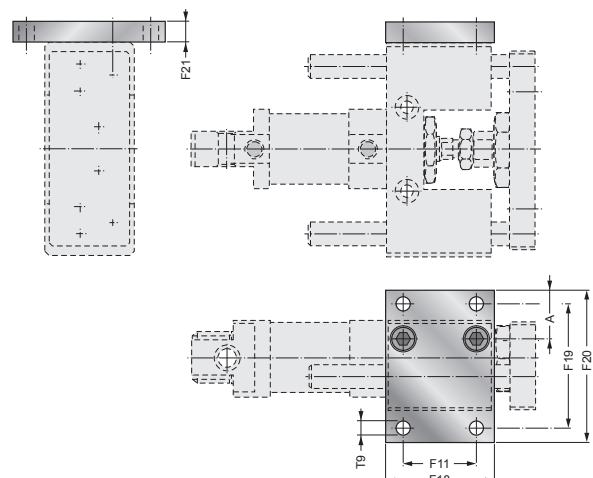
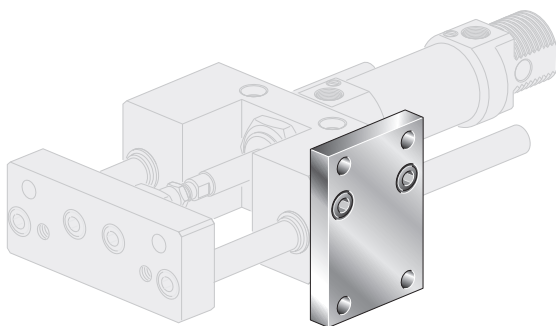
Bore Alesaggio	M7	M8	M9	M11	M12	M13	R	ØT1	ØT2	ØT3	T4	ØT5	T6	T7	ØT8	T10	SW1	SW2	SW3
20	22	12	12	55	31	14	8,5	M6	6,5	10,5	7	14	9	9	M8	16	13	13	17
25	22	12	6	55	31	14	8,5	M6	6,5	10,5	7	14	9	9	M8	16	13	17	17

- Ø20 e Ø25 mm standard coupling; Ø12 e 16 see page A-56
- All the linear control units are supplied with scraper seals
- All the guide stems are in rectified stainless steel
- For maximum allowable load see page A-57.

- Accoppiamento standard per cilindri Ø20 e Ø25 mm; Ø12 e 16 vedi pag. A-56
- Le unità di guida sono corredate di raschiapolvere
- Gli steli guida sono in acciaio inox rettificato
- Dati sul massimo carico utile ammesso vedi pagina A-57.

GLC 2025P

FIXING PLATE
PIASTRA DI FISSAGGIO



Bore Alesaggio	A	F11	F18	F19	F20	F21	ØT9	Code Codice	Kg
20/25	25	32	50	56	70	10	7	GLC 2025P	0,260

- Building material: galvanized steel
- 2 fixing screws are included with supply

- Materiale: acciaio zincato
- La fornitura comprende le 2 viti di fissaggio

Bore Alesaggio	25	50	80	100	125	160	200	250	300	400	500	Weight (Kg) for "0" stroke unit Peso (Kg) per unità di guida corsa "0" mm	Extra weight (Kg) for each 100 mm stroke Supplemento di peso (Kg) per ogni 100 mm di corsa
32	•	•	•	•	•	•	•	•	•	•	•	0,660	0,122
40	•	•	•	•	•	•	•	•	•	•	•	0,960	0,176
50	•	•	•	•	•	•	•	•	•	•	•	1,400	0,176
63	•	•	•	•	•	•	•	•	•	•	•	1,700	0,176
80	•	•	•	•	•	•	•	•	•	•	•	3,500	0,312
100	•	•	•	•	•	•	•	•	•	•	•	4,700	0,312

GLC

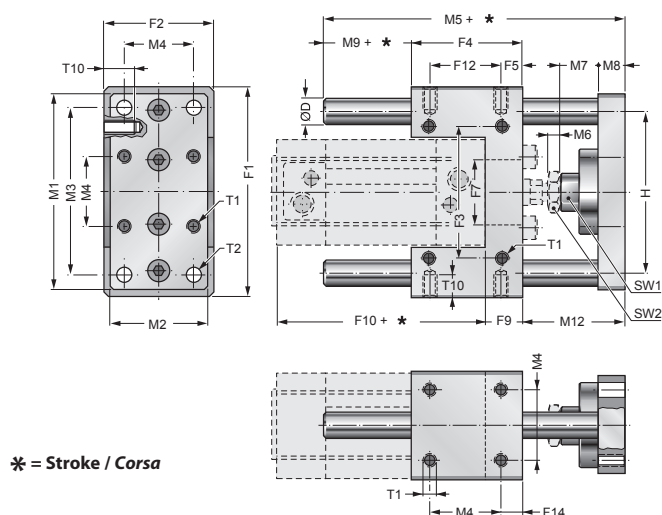
Bore / Alesaggio (mm):

Ø32 **32**
 Ø40 **40**
 Ø50 **50**
 Ø63 **63**
 Ø80 **80**
 Ø100 ... **100**

Stroke / Corsa (mm):

LINEAR CONTROL UNITS TYPE "C"
 UNITÀ DI GUIDA ESECUZIONE "C"

GLC





SERIE GLH

LINEAR CONTROL UNITS FOR ISO CYLINDER Ø20 ÷ 100 AND FIXING UNITA' DI GUIDA PER CILINDRI ISO Ø20 ÷ 100 E FISSAGGI

GLH

Bore
Alesaggio (mm):
Ø20 **20**
Ø25 **25**

BS with brass bearing
con bronzine a strisciamento
BB with ball bushing
con cuscinetti a ricircolo di sfere

Stroke / Corse
(mm):

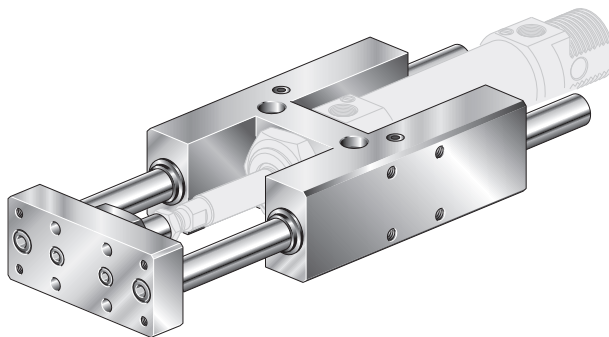
Weight (Kg) of guide units Ø20 and Ø25
Peso (Kg) delle unità di guida Ø20 e Ø25

Bore Alesaggio	Standard stroke / Corse Standard							
	25	50	80	100	125	160	200	250
20	•	•	•	•	•	•	•	•
25	•	•	•	•	•	•	•	•

Stroke Corse	Weight (Kg) "BS" serie	Weight (Kg) "BB" serie
	Peso (Kg) serie "BS"	Peso (Kg) serie "BB"
25	0,815	0,800
50	0,846	0,830
80	0,882	0,870
100	0,907	0,890
160	0,980	0,965
200	1,030	1,015
250	1,090	1,075

GLH

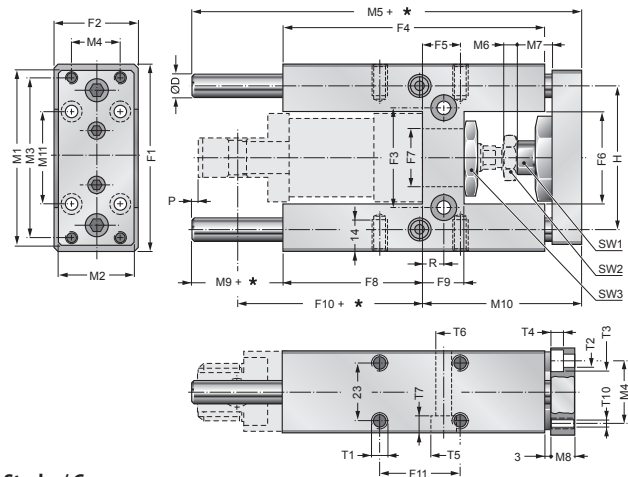
LINEAR CONTROL UNITS TYPE "H"
UNITA' DI GUIDA ESECUZIONE "H"



SERIES /SERIE "BS-BB"

Standard coupling for ISO 6432 cylinder (Ø20 ÷ Ø25)
Accoppiamento standard per cilindri ISO 6432 (Ø20 ÷ Ø25)

* = Stroke / Corsa



Bore Alesaggio	ØD	H	R	P	F1	F2	F3	F4	F5	F6	ØF7	F8	F9	F10	F11	M1	M2	M3	M4
20	10	58	8,5	6	79	34	38	108	15	37	22	58	17	71	32,5	76	32	68	20
25	10	58	8,5	1	79	34	38	108	15	37	22	58	17	76	32,5	76	32	68	20

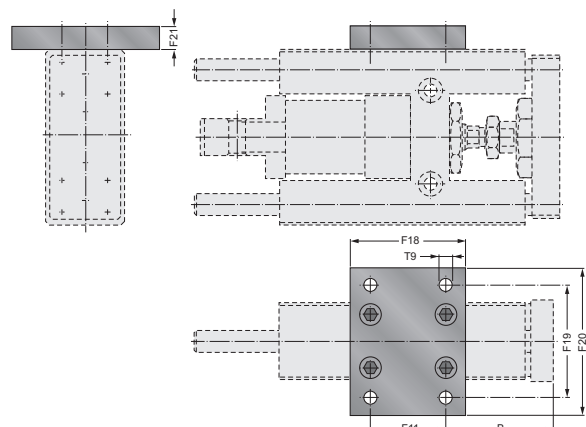
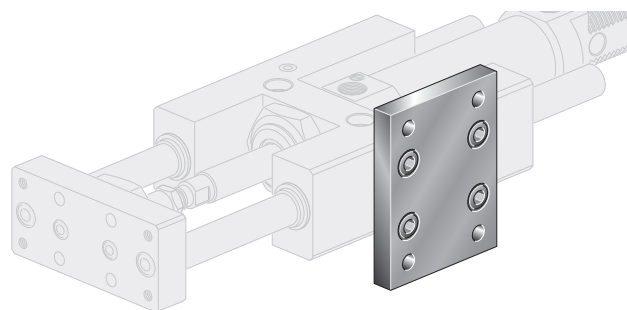
Bore Alesaggio	M5	M6	M7	M8	M9	M10	M11	ØT1	ØT2	ØT3	T4	ØT5	ØT6	T7	ØT10	SW1	SW2	SW3
20	160	5	22	12	37	65	40	M6	5,5	9	5,5	10,5	6,5	7	M5	13	13	27
25	160	6	17	12	37	65	40	M6	5,5	9	5,5	10,5	6,5	7	M5	13	17	27

- Ø20 e Ø25 mm standard coupling; Ø12 e 16 see page A-56.
- All the linear control units are supplied with scraper seals.
- The **BS** series mounting brass bearing, and guide stems are in chromium-plated and rectified steel; **BB** series mounting ball bushing and guide stems are in hardened chromium-plated and rectified steel.
- For maximum allowable load see pages A-57 ÷ A-58.

- Accoppiamento standard per cilindri Ø20 e Ø25 mm; Ø12 e 16 vedi pag. A-56.
- Le unità di guida sono corredate di raschiapolvere.
- La serie **BS** monta bronzine a strisciamento con gli steli guida in acciaio cromato e rettificato; mentre la serie **BB** monta cuscinetti a ricircolo di sfere con steli guida in acciaio temprato cromato e rettificato.
- Dati sul carico max. ammesso vedi pagine A-57 ÷ A-58.

GLH 2025P

FIXING PLATE
PIASTRA DI FISSAGGIO



Bore Alesaggio	B	F11	F18	F19	F20	F21	ØT9	Code Codice	Kg
20/25	50	32,5	50	50	64	10	6,5	GLH 2025P	0,270

- Building material: galvanized steel
- 4 fixing screws are included with supply

- Materiale: acciaio zincato
- La fornitura comprende le 4 viti di fissaggio

Bore Alesaggio	Standard stroke / Corse Standard											Weight (Kg) for "0" stroke unit	Supplementar weight (Kg) each 100 mm stroke
	25	50	80	100	125	160	200	250	300	400	500	Peso (Kg) per unità di guida corsa "0" mm	Supplemento di peso (Kg) per ogni 100 mm di corsa
32												1,300	0,176
40	•	•	•	•	•	•	•	•				2,300	0,312
50	•	•	•	•	•	•	•	•	•	•	•	3,600	0,490
63	•	•	•	•	•	•	•	•	•	•	•	4,500	0,490
80	•	•	•	•	•	•	•	•	•	•	•	8,700	0,765
100	•	•	•	•	•	•	•	•	•	•	•	11,000	0,765

GLH

Bore
Alesaggio (mm):
Ø32 **32**
Ø40 **40**
Ø50 **50**
Ø63 **63**
Ø80 **80**
Ø100 ... **100**

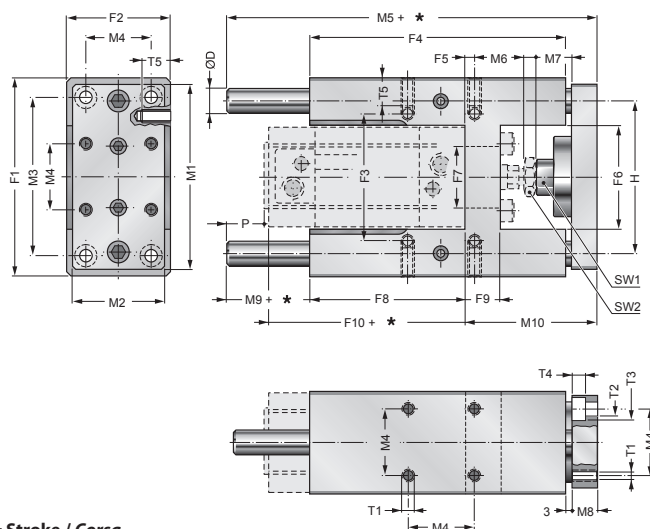
BS with brass bearing
con bronzine a strisciamento

BB with ball bushing
con cuscinetti a ricircolo di sfere

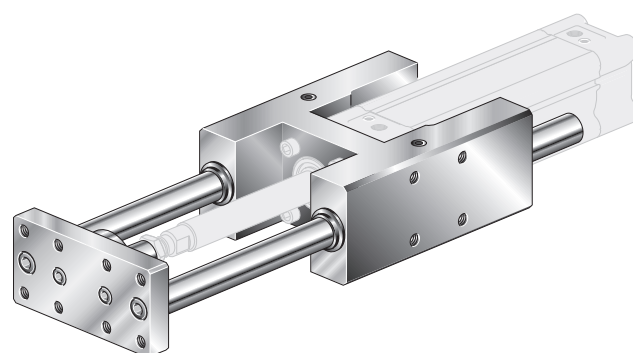
Stroke / Corse
(mm):

LINEAR CONTROL UNITS TYPE "H"
UNITA' DI GUIDA ESECUZIONE "H"

GLH



* = Stroke / Corsa



SERIES /SERIE "BS-BB"

Standard coupling for ISO 15552 cylinder (Ø32 ÷ Ø100)
Accoppiamento standard per cilindri ISO 15552 (Ø32 ÷ Ø100)

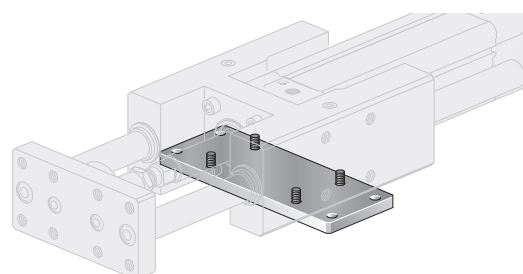
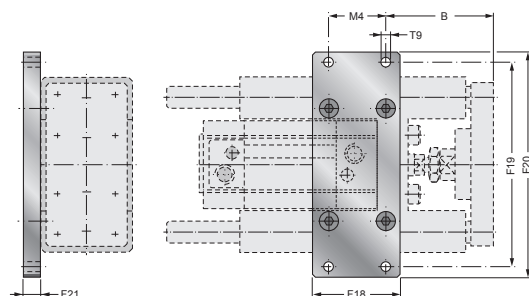
Bore Alesaggio	D	F1	F2	F3	F4	F5	F6	ØF7	F8	F9	F10	H	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	P	ØT1	ØT2	ØT3	T4	T5	SW1	SW2
32	12	97	50	61	125	4,3	50,2	30	76	17	94	74	90	45	78	32,5	177	6	17	12	37	64	15	M6	6,5	10,5	6,5	14	13	17
40	16	115	58	69	140	11	58,2	35	81	21	105	87	110	54	84	38	192	7	22	12	37	74	9	M6	6,5	10,5	6,5	14	15	19
50	20	137	70	85	150	18,8	70,2	40	79	26	106	104	130	63	100	46,5	205	8	26	15	37	89	8	M8	8,5	13,5	9	16	22	24
63	20	152	85	100	182	15,3	85,2	45	111	26	121	119	145	80	105	56,5	237	8	26	15	37	88	23	M8	8,5	13,5	9	16	22	24
80	25	189	105	130	215	21	105,4	45	128	34	128	148	180	100	130	72	280	9	32	20	42	110	40	M10	11	18	11	20	27	30
100	25	213	130	150	220	24,5	130,4	55	128	39	138	173	200	120	150	89	280	9	32	20	37	115	25	M10	11	18	11	20	27	30

- Ø32; 40; 50; 63; 80 and Ø100 mm; Ø20 e 25 see page A-56.
- All the linear control units are supplied with scraper seals.
- The **BS** series mounting brass bearing, and guide stems are in chromium-plated and rectified steel; **BB** series mounting ball bushing and guide stems are in hardened chromium-plated and rectified steel.
- For maximum allowable load see pages A-57 ÷ A-58.

- Diametro cilindri Ø32; 40; 50; 63; 80 e Ø100 mm; Ø20 e 25 vedi pag. A-56.
- Le unità di guida sono corredate di raschiapolvere.
- La serie **BS** monta bronzine a strisciamento con gli steli guida in acciaio cromato e rettificato; mentre la serie **BB** monta cuscinetti a ricircolo di sfere con steli guida in acciaio temprato cromato e rettificato.
- Dati sul carico max. ammesso vedi pagine A-57 ÷ A-58.

FIXING PLATE
PIASTRA DI FISSAGGIO

GLH ... P



Bore Alesaggio	B	M4	F18	F19	F20	F21	ØT9	Code Codice	Kg
32	59,7	32,5	50	116	130	10	6,5	GLH32P	0,500
40	63	38	55	140	160	10	9	GLH40P	0,700
50	70,2	46,5	70	160	180	12	9	GLH50P	1,200
63	73,7	56,5	80	175	195	12	9	GLH63P	1,480
80	89	72	100	218	242	15	12	GLH80P	2,850
100	90,5	89	120	245	272	15	14	GLH100P	3,900

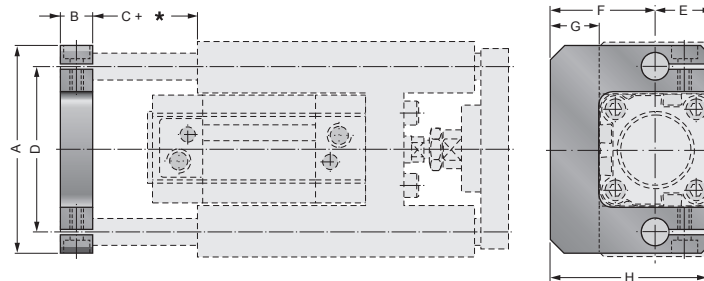
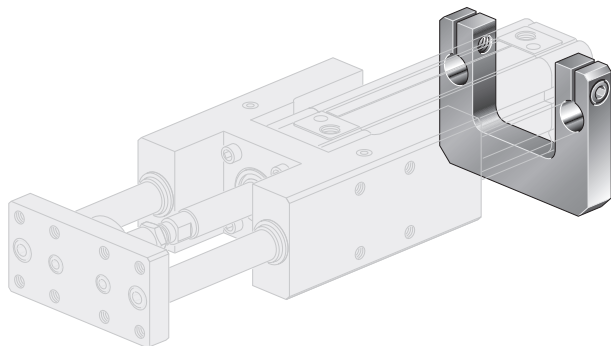
- Building material: galvanized steel
- 4 fixing screws are included with supply

- Materiale: acciaio zincato
- La fornitura comprende le 4 viti di fissaggio



RFGLH ..

REAR FLANGE COUPLING GUIDE STEMS
FLANGIA POSTERIORE DI COLLEGAMENTO STELI GUIDA

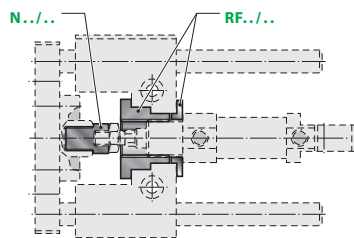


* = Stroke / Corsa

- Building material: aluminium alloy
- 2 clamps screws are included in the supply
- Materiale: lega di alluminio
- La fornitura comprende le 2 viti di bloccaggio

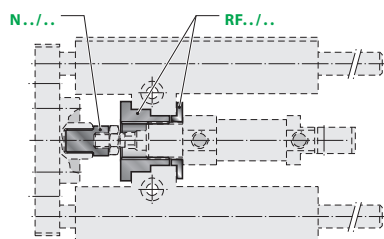
Bore Alésaggio	A	B	C	D	E	F	G	H	Code Codice	Kg
20 / 25	78	12	22	58	16,5	37,5	13,5	54	RFGLH20/25	0,110
32	95	15	22	74	25	47	22	70	RFGLH32	0,170
40	113	20	17	87	29	54	25	80	RFGLH40	0,310
50	134	20	17	104	35	67,5	32,5	100	RFGLH50	0,460
63	149	20	17	119	42,5	80,5	38	120	RFGLH63	0,600
80	185	25	12	148	52,5	101,5	49	150	RFGLH80	1,150
100	209	25	12	173	65	116	51	165	RFGLH100	1,350

COMBINATION OF ASSEMBLING / COMBINAZIONI DI ASSEMBLAGGIO



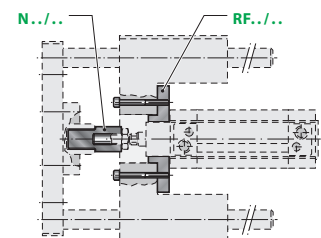
Adaption set to assemble **ISO 6432** cylinders
(with threaded flange mounting) on **GLC** and **GLH** linear control units series.

Adattatori per l'assemblaggio dei cilindri **ISO 6432**
(con fissaggio a flangia filettata) su guide **GLC** e **GLH**



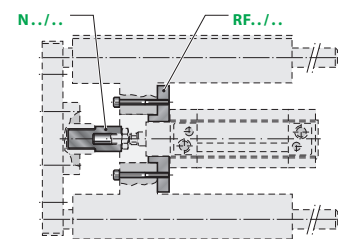
Linear control units - size Guide laterali taglia	Adaption set Set di adattamento			
	Ø12	Ø16	Ø20	Ø25
GLH20/25	RF25/12 N12/25	RF25/16 N16/25	○	○
GLH32			RF32/20 N20/32	RF32/25 N25/32
GLC20/25	RF25/12 NC12/25	RF25/16 NC16/25	○	○
GLC32			RF32/20 NC20/32	RF32/25 NC25/32

○ Standard coupling / Accoppiamento standard



Adaption set to assemble **ISO 15552** and **ISO 6432** cylinders
(with 4 screw fixing) on **GLC** and **GLH** linear control units series.

Adattatori per l'assemblaggio dei cilindri **ISO 15552** e **ISO 6432**.
(con fissaggio a 4 viti filettate) su guide **GLC** e **GLH**



Linear control units - size Guide laterali taglia	Adaption set Set di adattamento							
	Ø20	Ø25	Ø32	Ø40	Ø50	Ø63	Ø80	Ø100
GLH32	RF32/20 N20/32	RF32/25 N25/32	○					
GLC-GLH40	RF40/20 N20/40	RF40/25 N25/40	●	○				
GLC-GLH50			RF50/32 N32/50	●	○			
GLC-GLH63			RF63/32 N32/63	RF63/40 N40/63	●	○		
GLC-GLH80				RF80/40 N40/80	RF80/50 N50/80	●	○	
GLC-GLH100					RF100/50 N50/100	RF100/63 N63/100	●	○

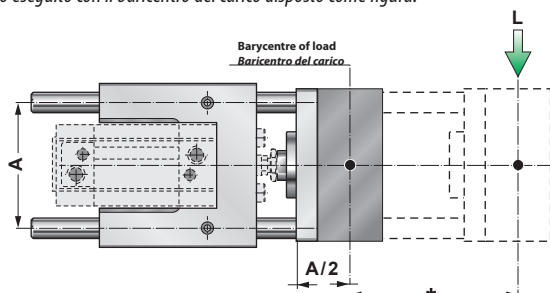
● Available on demand (with modification linear control units) / Fornibile a richiesta (con modifica su guida laterale)
○ Standard coupling / Accoppiamento standard

INFLECTION GRAPHICS AND MAXIMUM ALLOWABLE LOAD DIAGRAMMI DI INFLESSIONE E MASSIMO CARICO UTILE

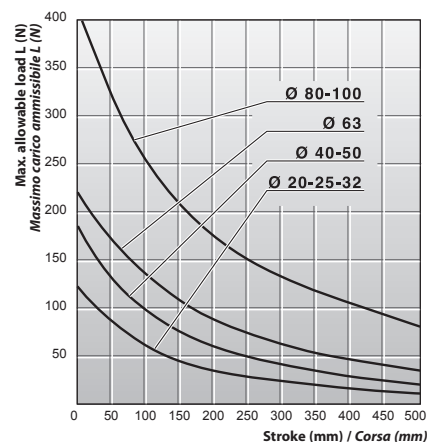
Ø20÷100 GLC

Maximum allowable load (N), with the longitudinal axes of the unit horizontal placed. The graphic on the right has been executed with the load placed as figure.

Massimo carico utile (N) con asse longitudinale dell'unità di guida disposto orizzontalmente. Il grafico a destra è stato eseguito con il baricentro del carico disposto come figura.



* = Stroke / Corsa

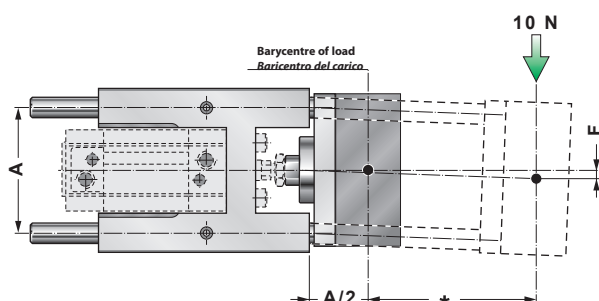


MAX. ALLOWABLE LOAD "N" (Ø20÷100 GLC)
MASSIMO CARICO UTILE "N" (Ø20÷100 GLC)

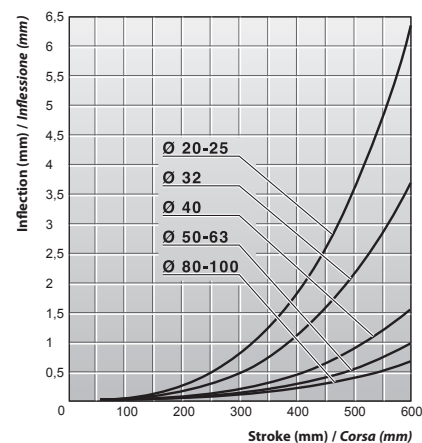
Ø20÷100 GLH BB-BS

Inflection of guide stems is due to their weight summed to the load of 10 N related to the stroke. The **BS** series mounting brass bearing, and guide stems are in chromium-plated and rectified steel; **BB** series mounting ball bushing and guide stems are in hardened chromium-plated and rectified steel. The graphic on the right has been executed with the load placed as figure.

Inflessione degli steli dovuta al peso proprio sommato ad un carico di 10 N in relazione alla corsa. La serie **BS** monta bronzine a strisciamento con gli steli guida in acciaio cromato e rettificato; mentre la serie **BB** monta cuscinetti a ricircolo di sfere con steli guida in acciaio temprato cromato e rettificato. Il grafico a destra è stato eseguito con il baricentro del carico disposto come figura.



* = Stroke / Corsa

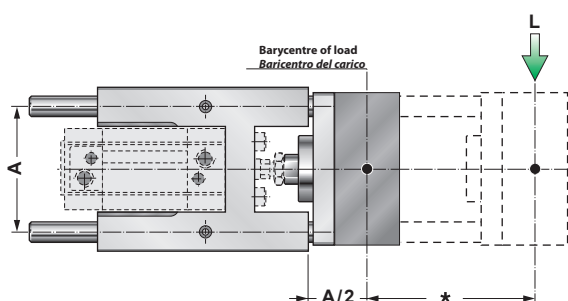


INFLECTION OF GUIDE STEMS (Ø20÷100 GLH BS e BB)
INFLESSIONE DEGLI STELI (Ø20÷100 GLH BS e BB)

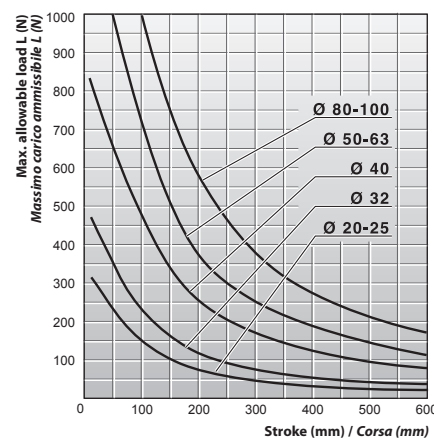
Ø20÷100 GLH BS

Maximum allowable load (N), with the longitudinal axes of the unit horizontal placed. **BS** series mounting brass bearing and guide stems in chromium-plated and rectified steel. The graphic on the right has been executed with the load placed as figure.

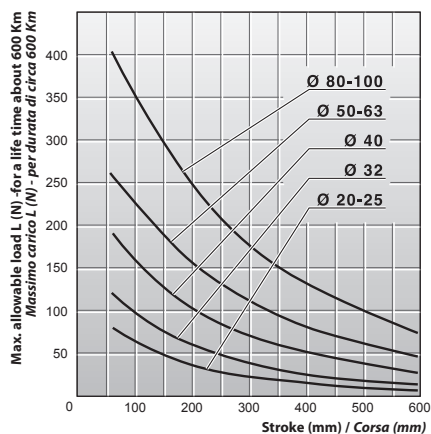
Massimo carico utile (N) con asse longitudinale dell'unità di guida disposto orizzontalmente. La serie **BS** monta bronzine a strisciamento e steli guida in acciaio cromato rettificato. Il grafico a destra è stato eseguito con il baricentro del carico disposto come figura.



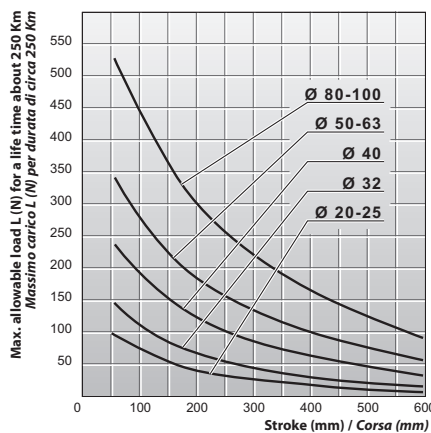
* = Stroke / Corsa



MAX. ALLOWABLE LOAD (Ø20÷100 GLC)
MASSIMO CARICO UTILE (Ø20÷100 GLH BS)



MAX. ALLOWABLE LOAD FOR A LIFE-TIME OF 600 Km
CARICO MASSIMO PER DURATA DI CIRCA 600 Km

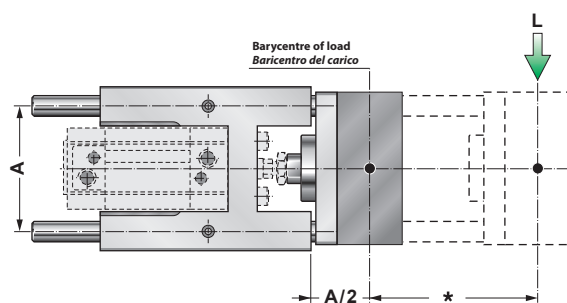


MAX. ALLOWABLE LOAD FOR A LIFE-TIME OF 250 Km
CARICO MASSIMO PER DURATA DI CIRCA 250 Km

20÷100 GLH BB

Maximum allowable load (N), with the longitudinal axes of the unit horizontal placed. **BB series** mounting brass bearing and guide stems in hardened chromium-plated and rectified steel. The graphic on the right has been executed with the load placed as figure.

Massimo carico utile (N) con asse longitudinale dell'unità di guida disposto orizzontalmente. La **serie BB** monta bronzine a strisciamento e steli guida in acciaio temprato cromato e rettificato. Il grafico a destra è stato eseguito con il baricentro del carico disposto come figura.



* = Stroke / Corsa

Reduction of allowable load with short stroke.
For stroke < 60 mm multiply the allowable load per "K".

Riduzione del carico utile con corsa breve.
Per corse < 60 mm moltiplicare il carico ammesso per "K".

Stroke Corsa	K
50	0,9
40	0,8
30	0,7
20	0,6

PNEUMATIC SLIDES AND TWIN ROD CYLINDERS SLITTE PNEUMATICHE E SEMISLITTE

SERIE **PS** - **HPSK**

TECHNICAL FEATURES / CARATTERISTICHE COSTRUTTIVE

VESTA manufactures a complete range of slides and twin rod pneumatic cylinders.

With the series **PS** and **HPSK**, VESTA offers many varieties of mounting options in order to provide maximum flexibility of application. Excellent performance and high reliability are made possible by the use of first class materials, careful product development and precise production control. All units are suitable for magnetic switching use.

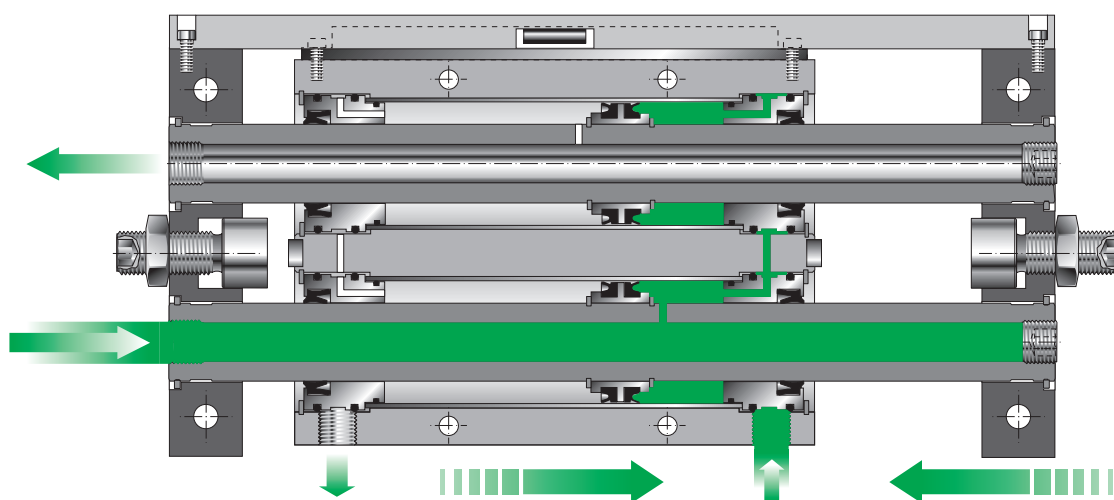
Very low friction is achieved by incorporating self-lubricating bearings between each linear moving element.

*Le slitte e semislitte VESTA serie **PS** e **HPSK** vengono concepite per soddisfare le esigenze di automazione legate in termini di precisione, robustezza, flessibilità a spostamenti di corsa limitata. Diverse le possibilità di fissaggio a seconda della serie e del modello, diverso l'equipaggiamento a seconda dell'impiego richiesto. Una progettazione particolarmente attenta alle esigenze dell'utilizzatore finale e la scelta di materiali di ottima qualità rappresentano, secondo la filosofia costruttiva VESTA, il punto di partenza per la realizzazione di ciascun prodotto.*

L'accurata lavorazione dei particolari e lo stretto controllo garantiscono per ogni prodotto prestazioni di assoluto rilievo in termini di affidabilità e durata.

Il perfetto scorrimento delle parti mobili è consentito nel tempo dall'uso di bronzine a basso attrito e con alta precisione.

Tutti i modelli sono predisposti per l'utilizzo di sensori magnetici per il rilevamento della posizione.



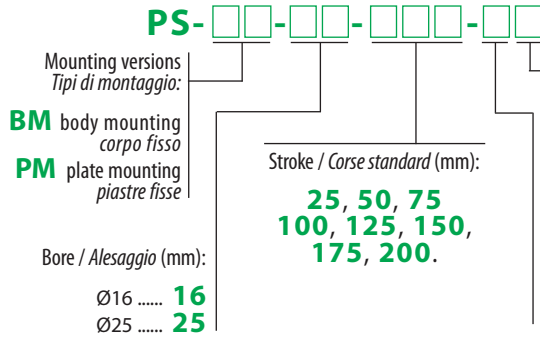
PRECAUTIONS BEFORE USE / RACCOMANDAZIONI PER L'INSTALLAZIONE

- Avoid impacts and abrasion of piston rods.
- Avoid impacts and scratching of the slide body and plate surfaces in order not to effect the flatness of the slide.
- Ensure that the surface upon which the pneumatic slide or twin rod cylinder and is mounted is perfectly flat or else the correct functioning of the unit can be endangered by uneven wear of the bearings or seals.
- Lubrication is not necessary; but if it provided, use only ISO VG 32 oil. Do not use engine oil or spindle oil.
- Before each pneumatic connection, clean tubes and fittings carefully.
- Evitare urti ed abrasioni degli steli.
- Evitare urti e graffiature alle superfici del corpo e della piastra per non compromettere la planarità della slitta o semislitta pneumatica.
- Verificare che la superficie alla quale viene fissata la semislitta sia perfettamente piana; in caso contrario si comprometterebbe il buon funzionamento della stessa con anomale usure dei cuscinetti e delle guarnizioni.
- La lubrificazione non è necessaria, ma se prevista usare olio ISO VG 32. Non usare olio per motori o per mandrini.
- Prima di ogni collegamento pneumatico pulire accuratamente tubi e raccordi.



SERIE PS

PNEUMATIC SLIDES Ø16 AND Ø25 SLITTE PNEUMATICHE Ø16 E Ø25



Magnetic switches / Finecorsa magnetici:

D basic type: none magnetic switches / tipo base: senza finecorsa magnetici

Stopper type / Arresti di fine corsa:

A basic type: N° 2 stopper bolt / tipo base: con N° 2 arresti meccanici

B with N° 1 shock absorber and N° 1 stopper bolt
con N° 1 deceleratore e N° 1 arresto meccanico

C with N° 2 shock absorbers / con N° 2 deceleratori

TECHNICAL FEATURES

Environment temperature range	0 °C ÷ +80 °C.
Temperature range of medium	0 °C ÷ +40 °C.
Lubrication	Not required.
Medium	Filtered air.
Bearings	High precision bearings.
Shock absorber	Auto compensating.
Port size	Ø16 ÷ 20; M5 x 0,8; Ø25 ÷ 32; G1/8.

Stroke adjustment with stopper bolt	+0,9 ÷ -4 mm (one side).
Stroke adjustment with shock absorber	+0,6 ÷ -10 mm (one side).
Total over stroke	+ 1,2 mm.
Speed range with stopper bolt	30 ÷ 100 mm/s.
Speed range with shock absorber	30 ÷ 300 mm/s.
Max. load	3 Kg.
Non-rotation accuracy at stroke 0 mm	± 0,02°.
Operating pressure range	2 ÷ 9 bar.

CARATTERISTICHE TECNICHE

Temperatura ambiente	0 °C ÷ +80 °C.
Temperatura fluido	0 °C ÷ +40 °C.
Lubrificazione	Non necessaria.
Fluido	Aria filtrata.
Cuscinetti	Bronzine ad alta precisione.
Deceleratori	Autocompensanti.
Attacchi per l'alimentazione	Ø16 ÷ 20; M5 x 0,8; Ø25 ÷ 32; G1/8.

Regolazione corsa con fermi meccanici	+0,9 ÷ -4 mm (per lato).
Regolazione corsa con deceleratori	+0,6 ÷ -10 mm (per lato).
Oltrecorsa totale	+ 1,2 mm.
Velocità con fermi meccanici	30 ÷ 100 mm/s.
Velocità con deceleratori	30 ÷ 300 mm/s.
Carico massimo	3 Kg.
Precisione antirotazione ad inizio corsa	± 0,02°.
Pressione d'esercizio	2 ÷ 9 bar.

THEORETICAL THRUSTS FORZE TEORICHE SVILUPPATE

Bore Alesaggio	Theoretical output force (Kg) Forze (Kg) teoriche di spinta								
	Operating pressure (bar) Pressione d'esercizio (bar)								
	2	3	4	5	6	7	8	9	
16	4,9	7,35	9,8	12,2	14,7	17,1	19,6	22	
25	11,6	17,4	23,2	29	34,8	40,6	46,4	52,2	

SHOCK ABSORBER DECELERATORI

Shock absorber code Codice deceleratori	DEC 16	DEC 25
Bore slide Alesaggio slitta	16 mm	25 mm
Max. energy absorbed Max. energia assorbita	0,1 Kgm	0,4 Kgm
Max. frequency Max. frequenza	1 Hz	1,2 Hz

WEIGHT WITH STOPPER BOLT PESO CON FERMI MECCANICI

Bore Alesaggio	Weight (Kg) with stopper bolt without switch Peso (Kg) con fermi meccanici senza finecorsa							
	stroke / corsa							
	25	50	75	100	125	150	175	200
16	0,440	0,540	0,640	0,740	0,840	0,940	1,040	1,140
25	1,210	1,440	1,670	1,900	2,130	2,360	2,590	2,820

PISTON RODS DEFLECTION PS SERIES / FLESSIONE DEGLI STELI SERIE PS

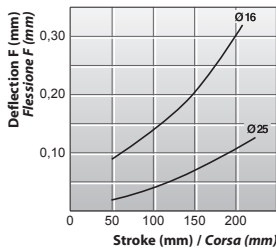
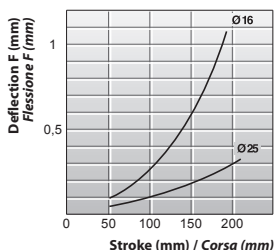
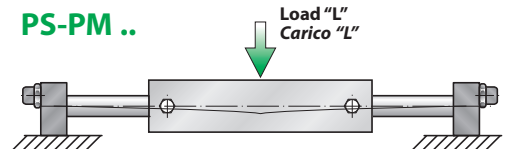


Plate mounting
Deflection (mm) of piston rods.
Test data with concentrated load as figure.

A piastre fisse
Flessione (mm) degli steli.
Dati ricavati con il carico
posizionato come in figura.

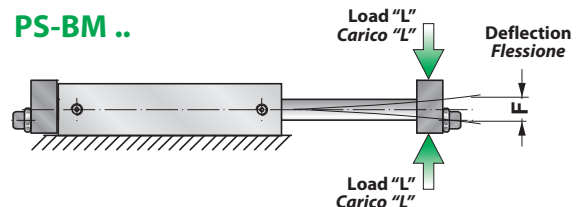
Bore Alesaggio	Load (Kg) Carico (Kg)
16	2
25	5



Body mounting
Deflection (mm) of piston rods.
Test data with concentrated load as figure.

A corpo fisso
Flessione (mm) degli steli.
Dati ricavati con il carico
posizionato come in figura.

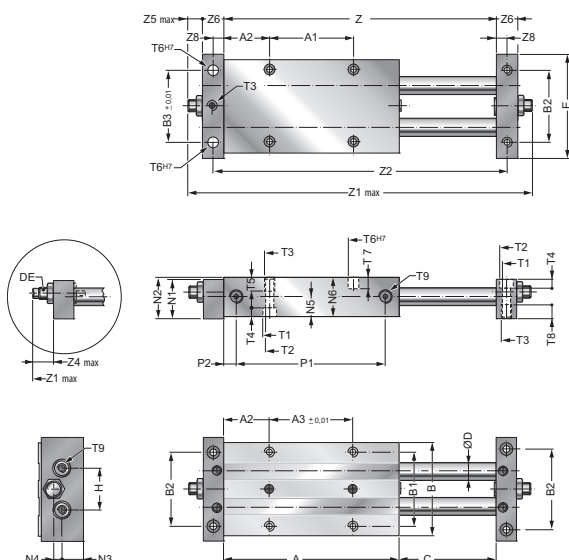
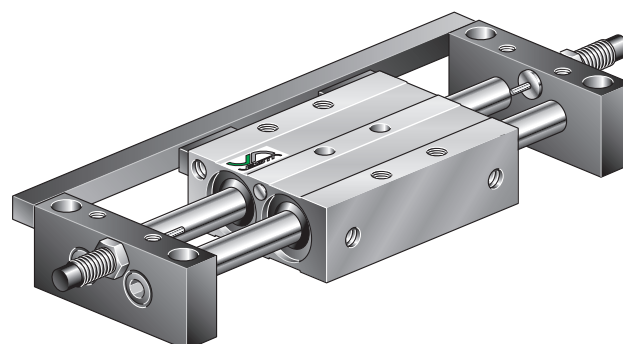
Bore Alesaggio	Load (Kg) Carico (Kg)
16	0,5
25	1,2



PNEUMATIC SLIDES PS SERIES / SLITTE PNEUMATICHE SERIE PS

LINEAR CONTROL UNITS Ø16
UNITA' DI GUIDA Ø16

PS-..-16-...-



Stroke Corsa	Z1																			
	A	A1	A2	A3	C	P1	Z	Stopper bolt Fermo mecc.		Shock absorber Deceleratore								Z2		
25	69	20	24,5	20	27	50	96	132		156		106								
50	94	45	24,5	45	52	75	146	182		206		156								
75	119	65	27	65	77	100	196	232		256		206								
100	144	90	27	90	102	125	246	282		306		256								
125	169	90	39,5	90	127	150	296	332		356		306								
150	194	90	52	90	152	175	346	382		406		356								
175	219	90	64,5	90	177	200	396	432		456		406								
200	244	90	77	90	202	225	446	482		506		456								

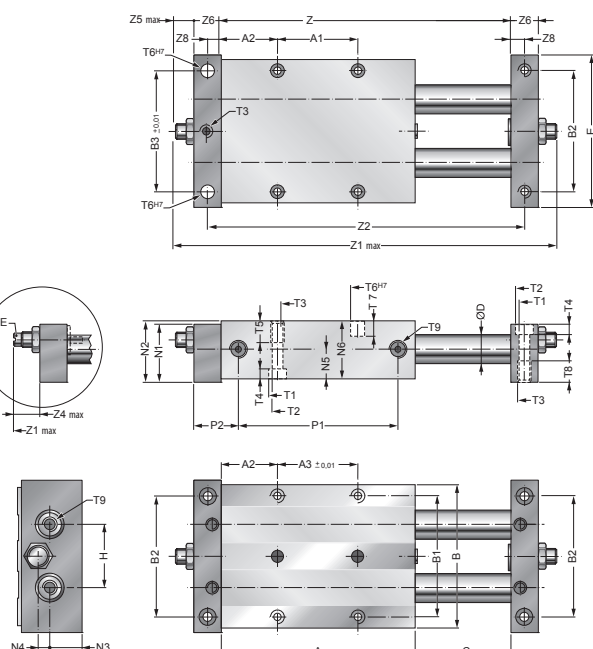
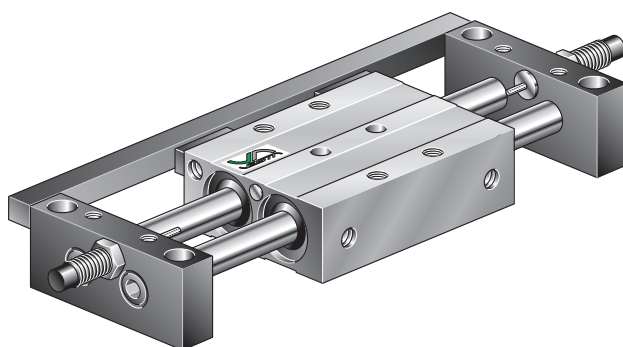
Bore Alesaggio	B	B1	B2	B3	ØD	E	H	N1	N2	N3	N4	N5	N6	P2	ØT1	ØT2	ØT3	T4	T5	ØT6	T7	T8	ØT9	Z4	Z5	Z6	Z8
16	50	41	40	40	10	55	19,5	21	22	11,5	4,5	10,5	21	9,5	4,2	7,2	M5	4	6	5	4,5	9	M5	20	8	10	5

- The standard stroke can be adjusted with stopper bolt or with shock absorber
- Magnetic switches indicate the position
- Shock absorber auto compensating

- Regolazione corsa con fermo meccanico anche con deceleratore
- Finecorsa magnetici per rilevamento posizione
- Deceleratori autocompensanti

LINEAR CONTROL UNITS Ø25
UNITA' DI GUIDA Ø25

PS-..-25-...-



Stroke Corsa	Z1																			
	A	A1	A2	A3	C	P1	Z	Stopper bolt Fermo mecc.		Shock absorber Deceleratore								Z2		
25	82	25	28,5	25	27	63	109	165		189		125								
50	107	45	31	45	52	88	159	215		239		175								
75	132	65	33,5	65	77	113	209	265		289		225								
100	157	90	33,5	90	102	138	259	315		339		275								
125	182	90	46	90	127	163	309	365		389		325								
150	207	90	58,5	90	152	188	359	415		439		375								
175	232	90	71	90	177	213	409	465		489		425								
200	257	90	83,5	90	202	238	459	515		539		475								

Bore Alesaggio	B	B1	B2	B3	ØD	E	H	N1	N2	N3	N4	N5	N6	P2	ØT1	ØT2	ØT3	T4	T5	ØT6	T7	T8	ØT9	Z4	Z5	Z6	Z8
25	79	67	67	67	16	84	35	32	34	18	5	16	32	9,5	5,2	8,7	M6	5,5	12	6	8	12	G1/8	25	13	15	8

- The standard stroke can be adjusted with stopper bolt or with shock absorber
- Magnetic switches indicate the position
- Shock absorber auto compensating

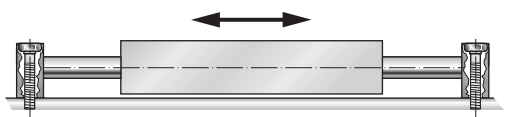
- Regolazione corsa con fermo meccanico anche con deceleratore
- Finecorsa magnetici per rilevamento posizione
- Deceleratori autocompensanti



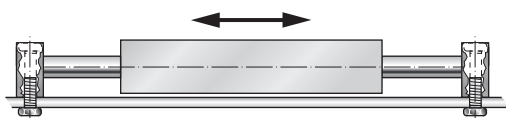
MOUNTING TYPE AND FIXING POSSIBILITY / TIPI DI MONTAGGI E POSSIBILITA' DI FISSAGGIO

PS-PM ..

PNEUMATIC SLIDE AT PLATE MOUNTING
SLITTA PNEUMATICA A PIASTRE FISSE



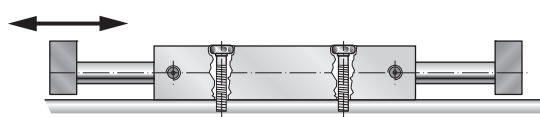
Mounting from upper face
Fissaggio con viti dall'alto



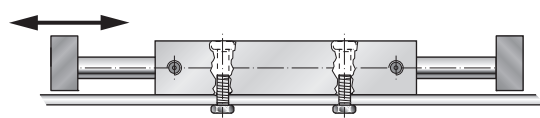
Mounting from lower face
Fissaggio con viti da sotto

PS-BM ..

PNEUMATIC SLIDE AT BODY MOUNTING
SLITTA PNEUMATICA A CORPO FISSO

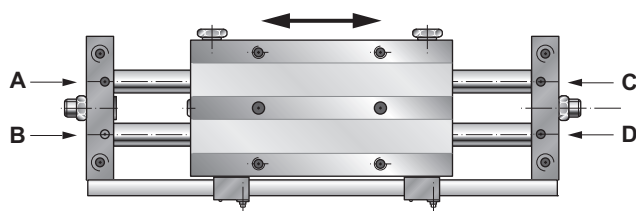


Mounting from upper face
Fissaggio con viti dall'alto

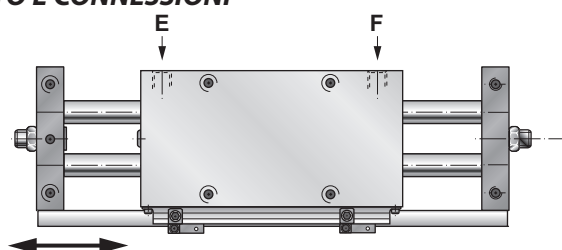


Mounting from lower face
Fissaggio con viti da sotto

WORKING DIRECTION AND PORTS / DIREZIONE DI MOVIMENTO E CONNESSIONI



Port	A	B	C	D
Ingresso				
Plate working direction	Right	Left	Right	Left
Direzione di lavoro delle piastre	destra	sinistra	destra	sinistra

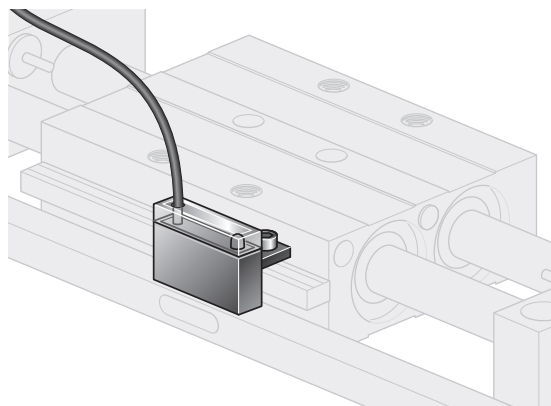


Port	E	F
Ingresso		
Plate working direction	Right	Left
Direzione di lavoro delle piastre	destra	sinistra

MAGNETIC SWITCHES POSITIONING / POSIZIONAMENTO DEI FINECORSI

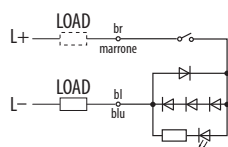
FIV 306 V

MAGNETIC SWITCH
FINECORSI MAGNETICO



Bore	R	R1	R2	R3	R4	R5	R6	R7	R8
Alesaggio									
16	22	8	39	21	1	5	40	8	1,5
25	22	8	53	33	11	5	54	10	2,5

FIV circuit
Circuito FIV



Body mounting:
Corpo fisso:

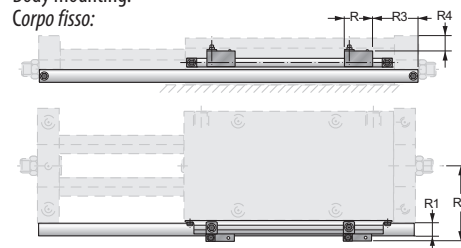
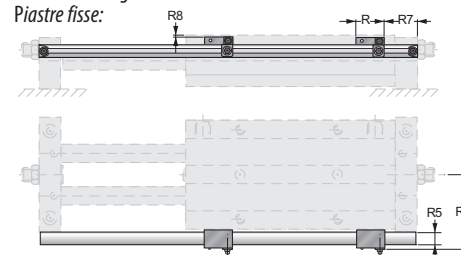


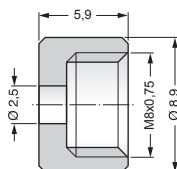
Plate mounting:
Piastrine fisse:



Code	Voltage range	Switching current	Switching capacity	Degree of protection	Working temperature	Contact function
Codice	Tensione Corrente V	Potenza mA	VA/W	Temperatura Protezione	°C	Contatto
FIV 306 V	10-220 (AC-DC)	200	15/10	IP67	-25 ÷ +75°C	NO-NC

GH-DEC 16

PROTECTION FOR PNEUMATIC SLIDE Ø 16
GHIERA DI PROTEZIONE PER ALESAGGIO Ø 16



DUAL ROD CYLINDERS Ø16 ÷ Ø32 SEMISLITTE PNEUMATICHE Ø16 ÷ Ø32

SERIE **HPSK**

- BS** Brass bearing and guide stems in chromium-plated steel
Bronzine a strisciamento e steli guida in acciaio cromato
- BB** Ball bushing and guide stems in hardened chromium-plated and rectified steel.
Cuscinetti a ricircolo di sfere e steli guida in acciaio temprato cromato e rettificato.

HPSK-

Series / Serie:

bore / Alesaggio (mm):

Ø16 **16**
Ø20 **20**
Ø25 **25**
Ø32 **32**

Stroke / Corsa (mm):

**10, 20,
30, 40,
50, 75,
100.**

TECHNICAL FEATURES

Environment temperature range 0 °C ÷ +80 °C.
Temperature range of medium 0 °C ÷ +40 °C.
Lubrication Not required.
Medium Filtered air.
Operating pressure range 2 ÷ 8 bar.
Magnetic switches Reed type.

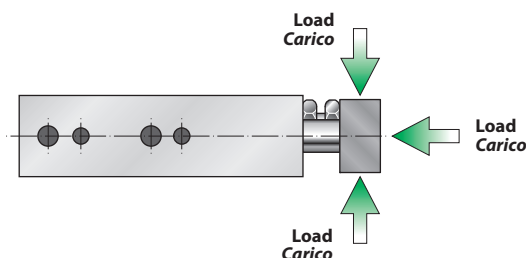
Bearings Slide bearing or ball bushing.
Piston speed 30 ÷ 300 mm/s.
Port size Ø16 ÷ 20 M5 x 0,8.
Ø25 ÷ 32 G1/8.
Stroke adjustment 0 ÷ -5 mm.
Cushion Mechanical buffer.

CARATTERISTICHE TECNICHE

Temperatura ambiente 0 °C ÷ +80 °C.
Temperatura fluido 0 °C ÷ +40 °C.
Lubrificazione Non necessaria.
Fluido Aria filtrata.
Pressione d'esercizio 2 ÷ 8 bar.
Finecorsa Magnetici Tipo reed.

Cuscinetti A strisciamento o a ricircolo di sfere.
Velocità di attuazione 30 ÷ 300 mm/s.
Attacchi per l'alimentazione Ø16 ÷ 20 M5 x 0,8.
Ø25 ÷ 32 G1/8.
Regolazione della corsa 0 ÷ -5 mm.
Ammortizzatore Smorzatore d'urto meccanico.

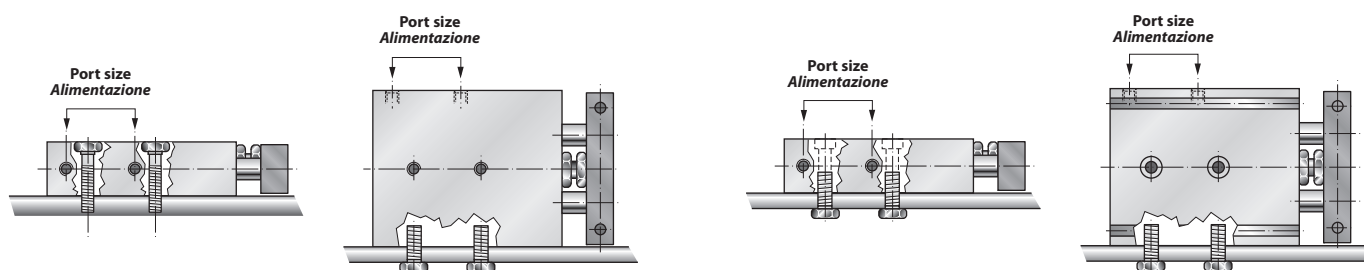
WORKING LOAD / APPLICAZIONI DEL CARICO



THEORETICAL THRUSTS / FORZE TEORICHE SVILUPPATE

Bore Alesaggio (Ø mm)		Theoretical output force (kgf) at pressure (Bar) Forze teoriche di spinta alla pressione (Bar)						
		2	3	4	5	6	7	8
16	in	6	9	12	15	18	21	24
	out	8	12	16	20	24	28	32
20	in	9,4	14	19	23,6	28	33	37,7
	out	12,6	19	25	31,4	37,7	44	50
25	in	15	22,7	30	38	45,5	53	60,5
	out	19,6	29,5	39	49	59	68,7	78,6
32	in	24	36	48	60	72	84,4	96,5
	out	32	48	64	80,4	96,5	113	129

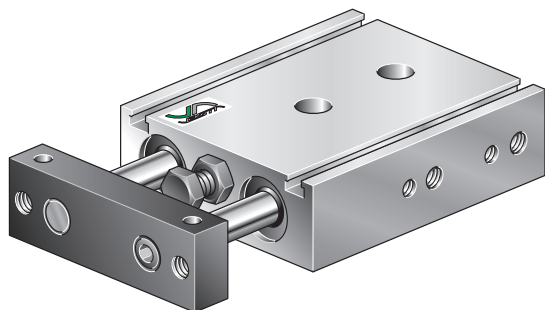
MOUNTING EXAMPLES HPSK SERIE / ESEMPI DI MONTAGGIO SERIE HPSK



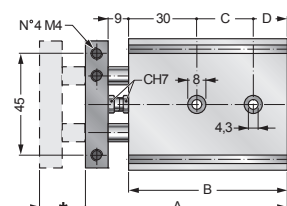
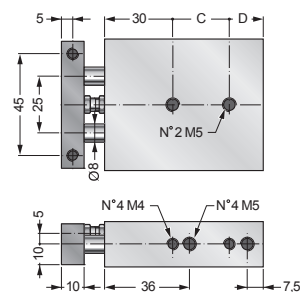
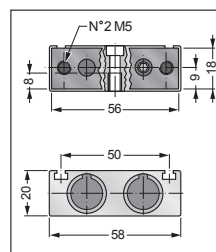


HPSK-..-16-..-...

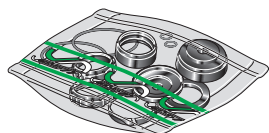
DUAL ROD CYLINDER Ø16
SEMISLITTA PNEUMATICA Ø16



Stroke Corsa (mm)	A	B	C	D
10	89	70	25	15
20	99	80	25	25
30	109	90	35	25
40	119	100	35	35
50	129	110	35	45
75	154	135	35	70



* = Stroke / Corsa



Seals kit for dual rod cylinder HPSK Ø16 serie
Kit guarnizioni semislitte pneumatiche serie HPS K Ø16

Bore
Alesaggio

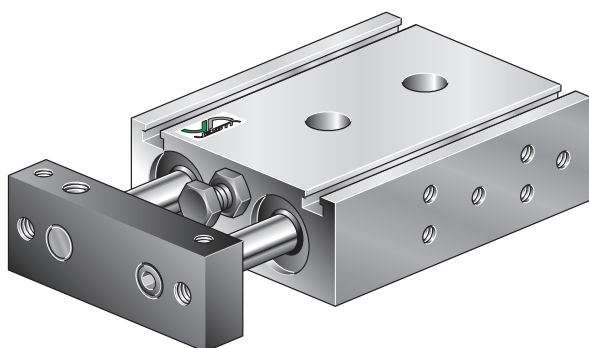
Seals kit code
Codice guarnizioni

16

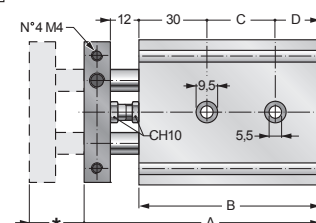
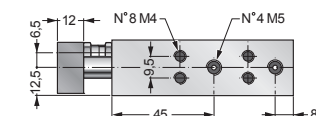
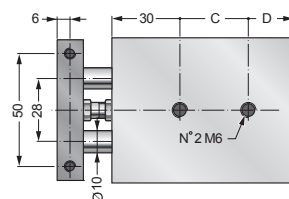
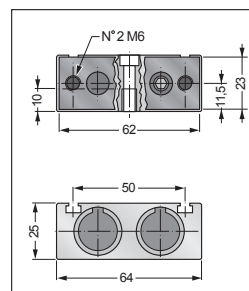
HPSK16SG

HPSK-..-20-..-...

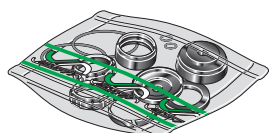
DUAL ROD CYLINDER Ø20
SEMISLITTA PNEUMATICA Ø20



Stroke Corsa (mm)	A	B	C	D
10	104	80	30	20
20	114	90	30	30
30	124	100	40	30
40	134	110	40	40
50	144	120	40	50
75	169	145	60	55
100	194	170	60	80



* = Stroke / Corsa



Seals kit for dual rod cylinder HPSK Ø20 serie
Kit guarnizioni semislitte pneumatiche serie HPS K Ø20

Bore
Alesaggio

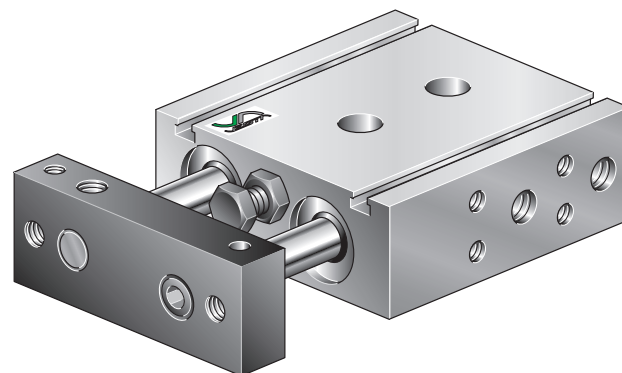
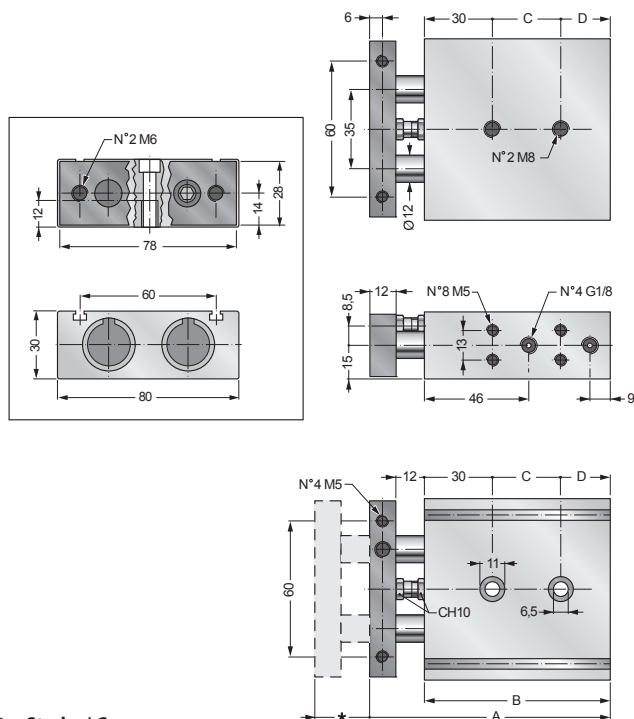
Seals kit code
Codice guarnizioni

20

HPSK20SG

DUAL ROD CYLINDER Ø25
SEMISLITTA PNEUMATICA Ø25

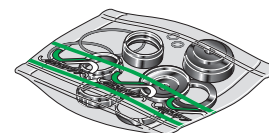
HPSK-..-25-..-...



Stroke Corsa (mm)	A	B	C	D
10	106	82	30	22
20	116	92	30	32
30	126	102	40	32
40	136	112	40	42
50	146	122	40	52
75	171	147	60	57
100	196	172	60	82

Seals kit for dual rod cylinder HPSK Ø25 serie
Kit guarnizioni semislitte pneumatiche serie HPSK Ø25

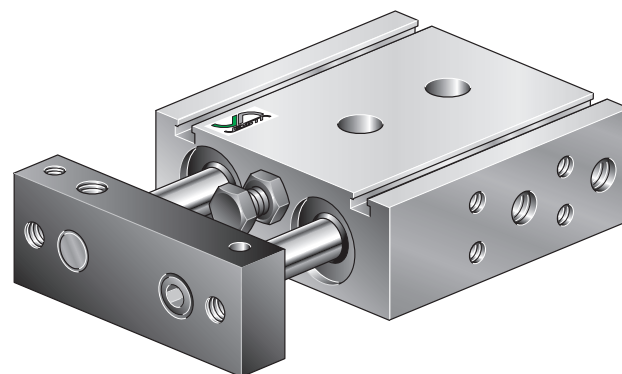
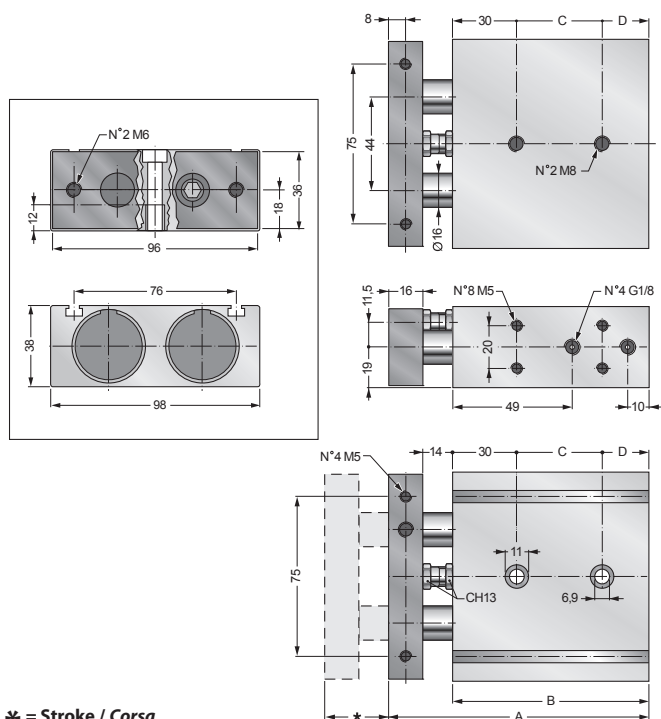
Bore Alesaggio	Seals kit code Codice guarnizioni
25	HPSK25SG



* = Stroke / Corsa

DUAL ROD CYLINDER Ø32
SEMISLITTA PNEUMATICA Ø32

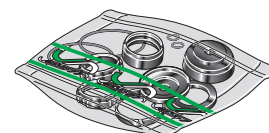
HPSK-..-32-..-...



Stroke Corsa (mm)	A	B	C	D
10	122	92	40	22
20	132	102	40	32
30	142	112	50	32
40	152	122	50	42
50	162	132	50	52
75	187	157	70	57
100	212	182	70	82

Seals kit for dual rod cylinder HPSK Ø32 serie
Kit guarnizioni semislitte pneumatiche serie HPSK Ø32

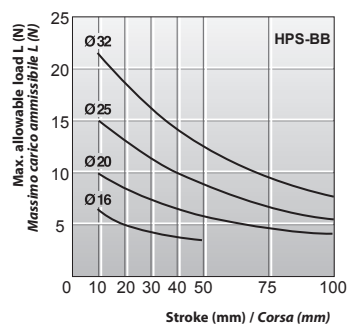
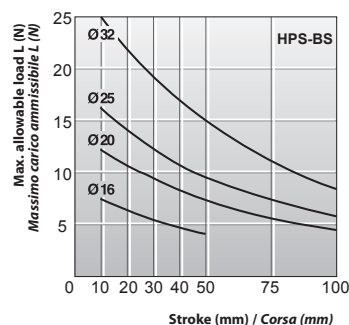
Bore Alesaggio	Seals kit code Codice guarnizioni
32	HPSK32SG



* = Stroke / Corsa



MAXIMUM ALLOWABLE LOAD **HPSK** SERIE / CARICO MASSIMO AMMISSIBILE SERIE **HPSK**

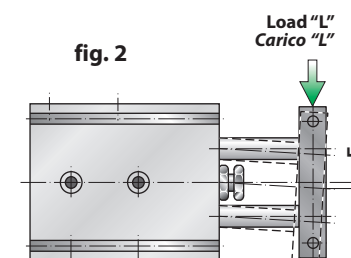
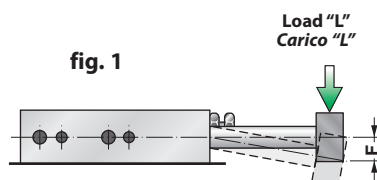
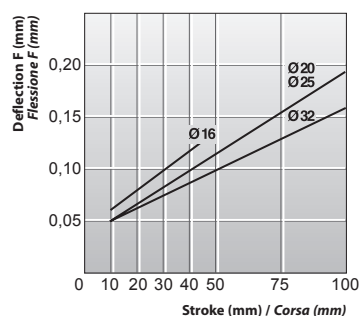


Graphics of maximum allowable load for dual rod cylinder "**BS**" serie (with rod bearing brass) and **BB** serie (with ball bushing)

Diagrammi del carico massimo ammissibile per semislitte pneumatiche della **serie BS** (con bronzine a strisciamento) e della **serie BB** (con cuscinetti a ricircolo di sfere)



PISTON RODS DEFLECTION / FLESSIONE DEGLI STELI



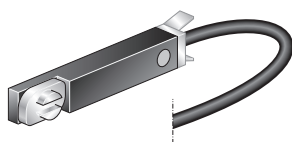
The graph shows the standard value of piston rod deflection (F) with a load of 10 N.

The piston rods deflection value in the case shown in fig. 2 is 30% less than value shown in the graph referred to fig. 1

Il grafico riporta i valori standard della flessione (F) degli steli nella condizione di carico per L=10 N.

I valori della flessione degli steli nella condizione di carico della fig.2 sono inferiori del 30% rispetto ai valori di carico della fig.1 da cui è ricavato il grafico.

MAGNETIC SWITCHES FOR **HPSK** CYLINDERS / FINECORSA MAGNETICI PER CILINDRI **HPSK**

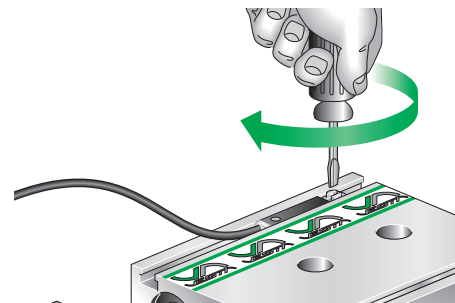
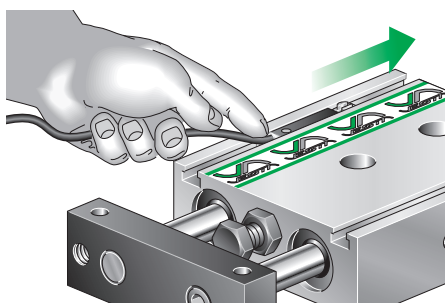
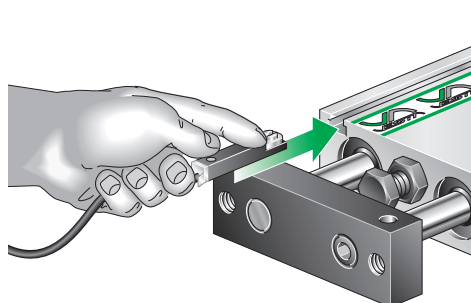


For magnetic switches features see:
Caratteristiche finecorsa magnetici vedi:

**VNCR2, VNPR2,
VNCE3, VNPE3.**

Pag. A-19

MAGNETIC SWITCH POSITIONING / POSIZIONAMENTO DEI FINECORSA MAGNETICI



ANTI-ROTATION CYLINDERS CILINDRI ANTIROTAZIONE

SERIE **AW** ..

TECHNICAL FEATURES / CARATTERISTICHE COSTRUTTIVE

VESTA pneumatic cylinders series **AW** are available with twin or triple piston rods. They feature reliability, high resistance to side movement and are manufactured to meet the needs of modern flexible automation.

The materials of construction have been carefully selected to ensure high performance.

All piston rods are guided on self-lubricated bearings, giving low friction and a high load capacity.

Magnetic pistons allow the use of magnetic switches on all models.

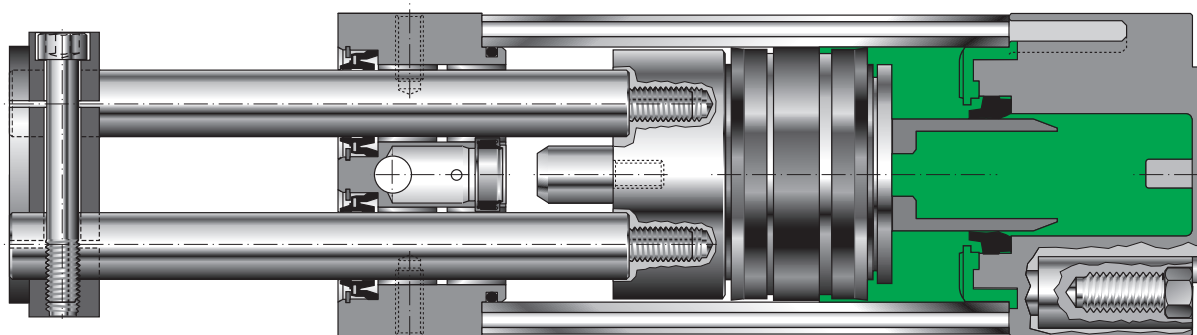
Fully adjustable cushioning is featured on each cylinder with micrometric control. Lubrication is not required.

Telescopic piston rods with hollow bores enable the user to transport air or vacuum signals through the length of the piston rod.

*Gli attuatori pneumatici appartenenti alla serie **AW** a due e tre steli, nascono per garantire prestazioni e durata notevoli del cilindro anche in presenza di carichi sullo stelo che ne determinano un momento torcente o flettente, incrementando in maniera considerevole la resistenza a tali sollecitazioni. La scelta di materiali di prima qualità, l'accuratezza nelle lavorazioni e il controllo del prodotto finito garantiscono una perfetta funzionalità dello stesso.*

Gli steli sono guidati su boccole autolubrificanti a lunga durata, basso coefficiente d' attrito ed elevata capacità di carico; il pistone è guidato e magnetico di serie, onde consentire su tutti i modelli l'uso di finecorsa.

*Ogni cilindro può essere utilizzato anche con aria non lubrificata ed è dotato di ammortizzatori pneumatici con regolazione micrometrica. All'interno della serie **AW** spiccano particolarmente i cilindri a steli cavi che, oltre a garantire la non rotazione dello stelo, consentono l'utilizzo di aria o vuoto attraverso gli steli stessi (vedi gli esempi di pagina A-75).*



PRECAUTIONS BEFORE USE / RACCOMANDAZIONI PER L'INSTALLAZIONE

- Avoid impacts and abrasion of piston rods, or else the correct functioning of the anti-rotation cylinder can be endangered by uneven wear of the bearings or seals.
- Lubrication is not necessary, but if it is provided, use only ISO VG 32 oil. Do not use engine oil or spindle oil.
- Before each pneumatic connection, clean tubes and fittings carefully.
- Evitare urti ed abrasioni degli steli, in caso contrario si comprometterebbe il buon funzionamento della stessa con anomale usure dei cuscinetti e delle guarnizioni.
- La lubrificazione non è necessaria, ma se prevista usare olio ISO VG 32. Non usare olio per motori o per mandrini.
- Prima di ogni collegamento pneumatico pulire accuratamente tubi e raccordi.



SERIE **AR2 - AR3**

TWIN PISTON RODS PNEUMATIC CYLINDERS Ø25 CILINDRI ANTIROTAZIONE A STELI GEMELLATI Ø25

AR - 25 -

2 basic cylinder (twin piston rods)
cilindro base (steli gemellati)

3 cylinder with twin piston rods and through piston rod
cilindro steli gemellati con stelo trapassante

Stroke / Corsa (mm):

Bore Alesaggio	Standard stroke / Corse Standard						
25	25	50	80	100	125	160	200 250
	•	•	•	•	•	•	•

TECHNICAL FEATURES

Heads Aluminium alloy.
Piston rods Stainless steel X5CrNi 1810.
Barrel Anodized aluminium.
Seals NBR rubber.
Cushioning Mechanical.

Environment temperature range $-10^{\circ}\text{C} \div +80^{\circ}\text{C}$.
Temperature range of medium $0^{\circ}\text{C} \div +40^{\circ}\text{C}$.
Lubrication Not required.
Medium filtered air.
Max operating pressure 10 bar.

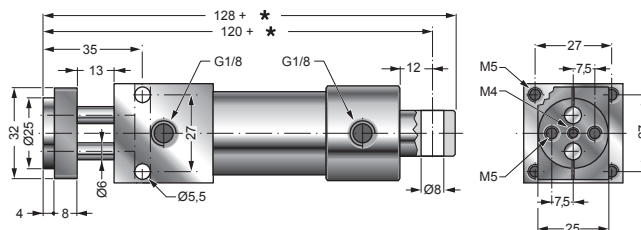
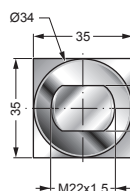
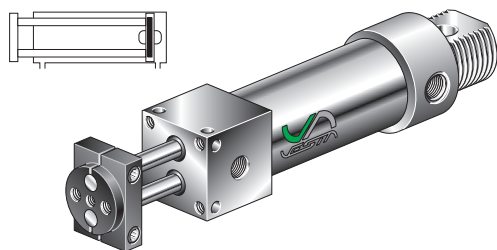
CARATTERISTICHE TECNICHE

Testate Lega di alluminio.
Steli Acciaio inox X5CrNi 1810.
Camicia Alluminio anodizzato.
Guarnizioni Tutte in NBR con profili antiusura e prelubrificate.
Ammortizzatori Meccanici.

Temperatura ambiente $-10^{\circ}\text{C} \div +80^{\circ}\text{C}$.
Temperatura fluido $0^{\circ}\text{C} \div +40^{\circ}\text{C}$.
Lubrificazione Non necessaria.
Fluido Aria filtrata.
Pressione max d'esercizio 10 bar.

AR2-25-...

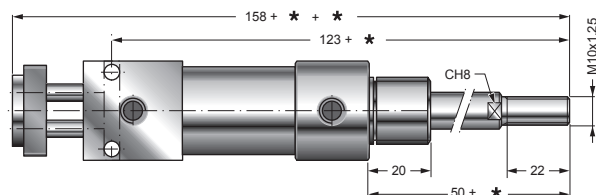
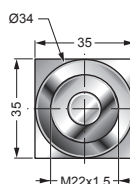
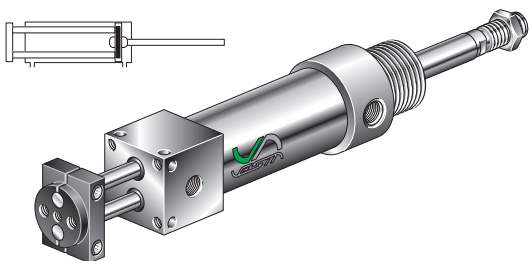
TWIN PISTON RODS BASIC CYLINDER; Ø25
CILINDRO BASE STELI GEMELLATI; Ø25



* = Stroke / Corsa

AR3-25-...

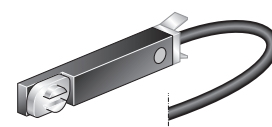
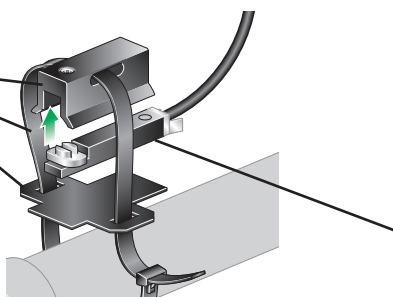
TWIN PISTON RODS+THROUGH PISTON ROD; Ø25
CILINDRO STELI GEMELLATI E PASSANTE; Ø25



* = Stroke / Corsa

MAGNETIC SWITCHES FOR Ø 25 mm CYLINDER / FINECORSA MAGNETICI PER CILINDRI Ø 25 mm

FFS 01 VN



Instruction for mounting see:
Per le istruzioni di montaggio vedi: **Pag. A-11**

For magnetic switches features see:
Caratteristiche finecorsa magnetici vedi:
VNCR2, VNPR2, VNCE3, VNPE3. Pag. A-19

TWIN PISTON RODS PNEUMATIC CYLINDERS CILINDRI ANTIROTAZIONE A STELI GEMELLATI

SERIE **AW2** - **AW3** - **AW4**

2 basic cylinder (twin piston rods)
cilindro base steli gemellati

3 cylinder with twin piston rods and through piston rod
cilindro steli gemellati con stelo trapassante

4 cylinder with twin piston rods and two through piston rods
cilindro steli gemellati con due steli trapassanti

AW - - -

Bore / Alesaggio (mm):

Ø32 **32**; Ø63 **63**;
Ø40 **40**; Ø80 **80**;
Ø50 **50**; Ø100 **100**.

Stroke
Corsa
(mm):

Bore Alesaggio	25	50	80	100	125	160	200	250	300	350	400	450	500
32	•	•	•	•	•	•	•	•	•	•	•	•	•
40	•	•	•	•	•	•	•	•	•	•	•	•	•
50	•	•	•	•	•	•	•	•	•	•	•	•	•
63	•	•	•	•	•	•	•	•	•	•	•	•	•
80	•	•	•	•	•	•	•	•	•	•	•	•	•
100	•	•	•	•	•	•	•	•	•	•	•	•	•

Standard stroke / Corse Standard

Features of reed switches see:
Caratteristiche finecorsa magnetici: **Pag. A-19.**

TECHNICAL FEATURES

Heads Aluminium alloy.
Piston rods Stainless steel X20 Cr 13.
Barrel Extruded profiled aluminium tube.
Seals NBR rubber and polyurethane.
Cushioning Pneumatic adjusting cushions.

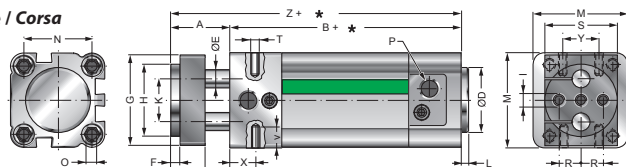
Environment temperature range -10 °C ÷ +80 °C.
Temperature range of medium 0 °C ÷ +40 °C.
Lubrication Not required.
Medium filtered air.
Max operating pressure 10 bar.

CARATTERISTICHE TECNICHE

Testate Lega di alluminio.
Steli Acciaio inox X20 Cr 13.
Camicia Tubo profilato ed anodizzato d' alluminio.
Guarnizioni In NBR e poliuretano.
Ammortizzatori Pneumatici regolabili progressivi.

Temperatura ambiente -10 °C ÷ +80 °C.
Temperatura fluido 0 °C ÷ +40 °C.
Lubrificazione Non necessaria.
Fluido Aria filtrata.
Pressione max d'esercizio 10 bar.

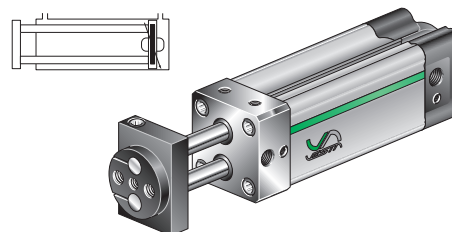
* = Stroke / Corsa



Bore Alesaggio	A	B	C	ØD	ØE	F	G	ØH	ØI	L	M	N	ØO	ØP	R	S	ØT	V	W	X	Y	Z	K
32	26	102	15	30	8	4	40	32	M6	4	45	32,5	M6	G1/8	9,5	32	M5	10	11	15	16	128	18
40	30	112	15	35	10	4	45	40	M8	4	55	38	M6	G1/4	11,5	40	M6	10	15	17,5	21	142	21
50	34	117	18	40	12	5	55	50	M8	4	65	46,5	M8	G1/4	15	50	M8	12	16	16	24	151	26
63	36	124	22	45	16	5	70	63	M10	4	80	56,5	M8	G3/8	19	63	M8	12	14	18	33	160	35
80	38	136	22	45	20	5	95	80	M12	4	100	72	M10	G3/8	25	80	M10	18	16	19	40	174	46
100	38	143	22	55	20	5	115	100	M12	4	115	89	M10	G1/2	35	100	M10	18	16	19	58	181	70

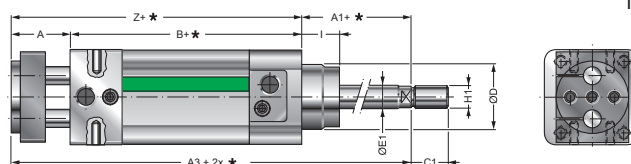
TWIN PISTON RODS BASIC CYLINDER CILINDRO BASE STELI GEMELLATI

AW2-...-...



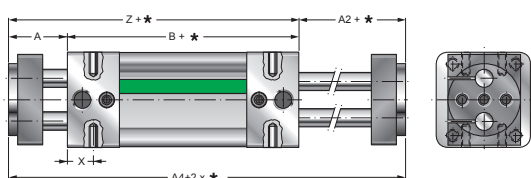
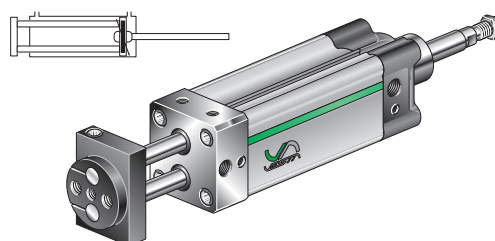
TWIN PISTON RODS CYLINDER+THROUGH PISTON ROD CILINDRO STELI GEMELLATI+STELO TRAPASSANTE

AW3-...-...



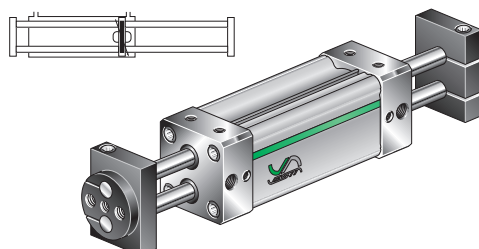
* = Stroke / Corsa

Bore Alesaggio	A	A1	A3	B	C1	CH	ØD	ØE1	I	ØH1
32	26	26	154	102	20	10	30	12	18	M10x1,25
40	30	30	172	112	24	13	35	16	21,5	M12x1,25
50	34	37	188	117	32	17	40	20	28	M16x1,5
63	36	37	197	124	32	17	45	20	28,5	M16x1,5
80	38	46	220	136	40	21	45	25	34,5	M20x1,5
100	38	51	232	143	40	25	55	30	38	M20x1,5



CYLINDER THROUGH TWIN PISTON RODS CILINDRO STELI GEMELLATI PASSANTI

AW4-...-...

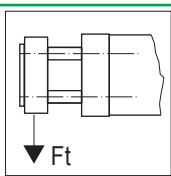
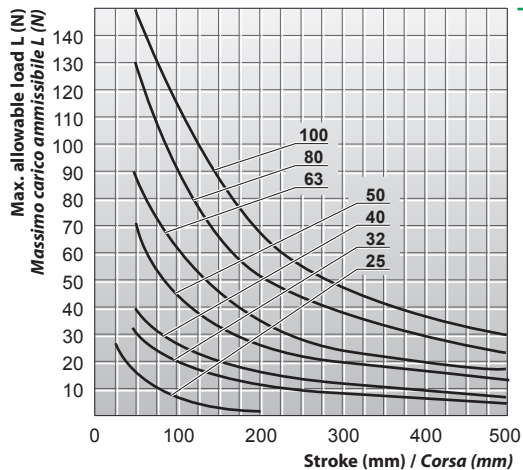


* = Stroke / Corsa

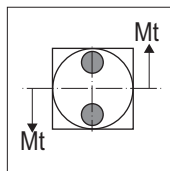
Bore Alesaggio	A	A2	A4	B	X	Z
32	26	26	154	102	15	128
40	30	30	172	112	17,5	142
50	34	34	185	117	16	151
63	36	36	196	125	18	160
80	38	38	212	136	19	174
100	38	38	219	143	19	181



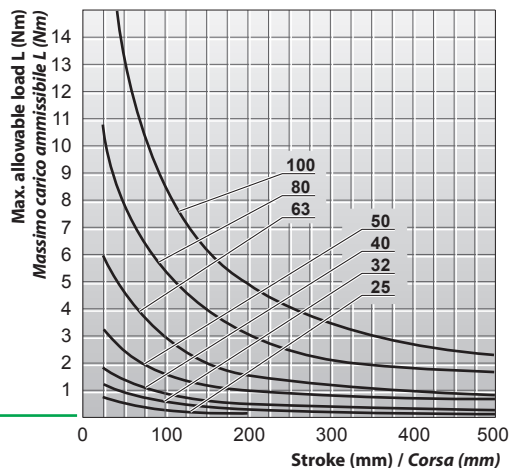
TRANSVERSE FORCE GRAPH AND TORQUE GRAPH AW2 SERIES DIAGRAMMI DI FLESSIONE E MOMENTO TORCENTE SERIE AW2



Transverse force
Flessione

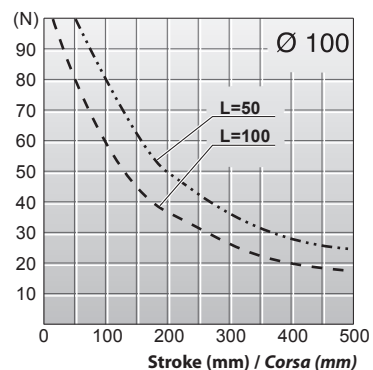
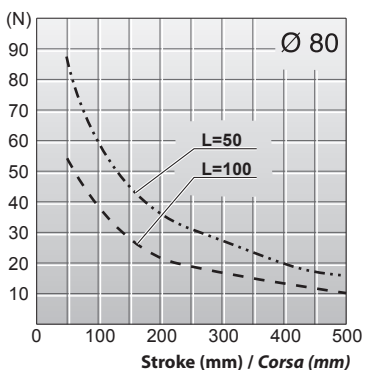
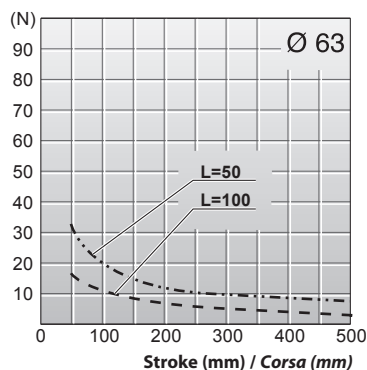
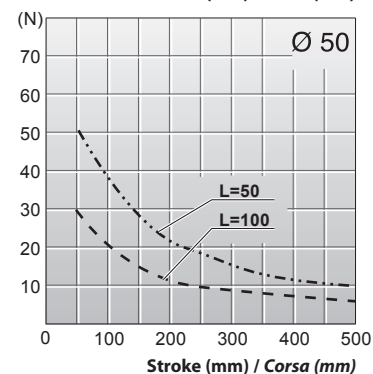
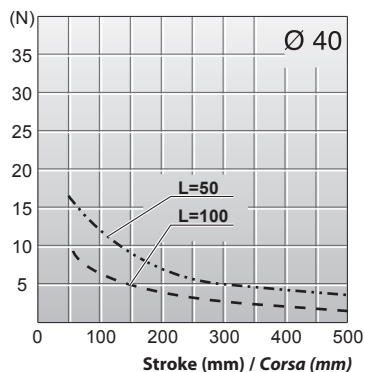
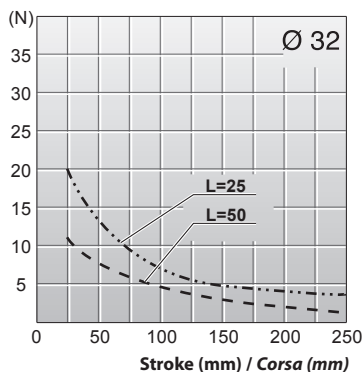
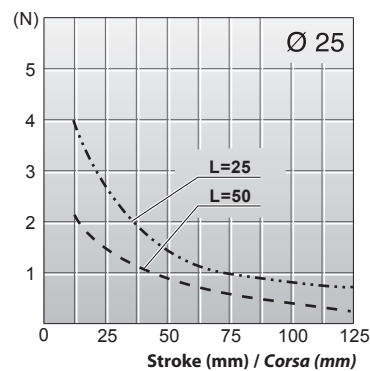
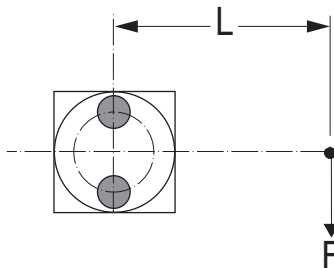


Torque moment
Momento torcente



BENDINGS MOMENTS GRAPH AW2 SERIES DIAGRAMMI DI FLESSOTORSIONE SERIE AW2

Maximum allowable load F (N)
Massimo carico F (N)



FIXING ACCESSORIES FOR **AW2, AW3 AND AW4** CYLINDER / ACCESSORI DI FISSAGGIO PER CILINDRI **AW2, AW3 E AW4**

For fixing accessories on double piston roded units, please contact our technical sales department.
The accessories can be mounted on the profiled tube or on the end-caps using standard fixings, see pp. **A-22 ÷ A-26**.

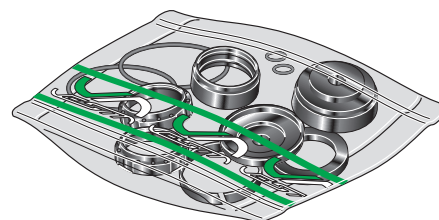
*Per i fissaggi da applicare alla testata a doppio stelo si prega di consultare il nostro ufficio tecnico-commerciale.
I fissaggi che possono essere montati sulla camicia o sulla testata posteriore sono fissaggi standard specificati a pp. **A-22 ÷ A-26**.*

SEALS KIT
KIT GUARNIZIONI DI RICAMBIO - **SG**

Seals kit code = **Antirotation cylinder code + Bore + - SG:**
(The kit includes all seals).

Codice del kit = **Codice del cilindro antirotazione + Alesaggio + - SG:**
(Il kit comprende tutte le guarnizioni necessarie).

Example / Esempio: **AW3 50 - SG**





SERIE **AW6 - AW8**

TRIPLE PISTON RODS PNEUMATIC ANTIROTATION CYLINDERS CILINDRI ANTIROTAZIONE PNEUMATICI A TRIPLO STELO

AW - -

Stroke / Corsa (mm):

6 triple piston rods antirotation cylinder
cilindro base antirotazione a 3 steli

8 triple piston rods cylinder
with through piston rod
cilindro antirotazione a 3 steli
con stelo trapassante

Bore / Alesaggio
(mm):

Ø32 **32**;
Ø40 **40**;
Ø50 **50**;
Ø63 **63**.

Features of reed switches see:

Caratteristiche finecorsa magnetici: **Pag. A-19.**

Bore Alesaggio	Standard stroke / Corse Standard									
	25	50	100	160	200	250	300	350	400	500
32	•	•	•	•	•	•	•	•	•	•
40	•	•	•	•	•	•	•	•	•	•
50	•	•	•	•	•	•	•	•	•	•
63	•	•	•	•	•	•	•	•	•	•

TECHNICAL FEATURES

End caps Aluminium alloy.
Piston rods Stainless steel X20 Cr 13.
Barrel Extruded profiled aluminium tube.
Seals NBR rubber and polyurethane.

Cushioning Micrometric control.
Environment temperature range -10 °C ÷ +80 °C.
Temperature range of medium 0 °C ÷ +40 °C.
Lubrication Not required.
Medium filtered air.
Max operating pressure 10 bar.

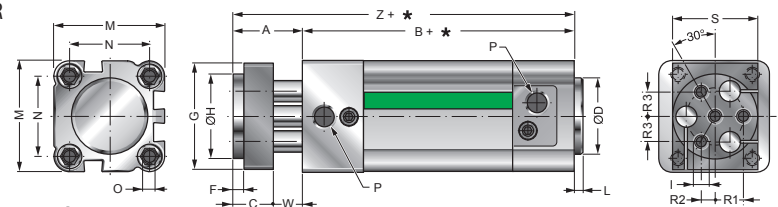
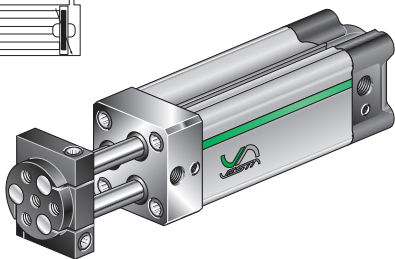
CARATTERISTICHE TECNICHE

Testate Lega di alluminio.
Steli Acciaio inox X20 Cr 13.
Camicia Tubo profilato ed anodizzato d' alluminio.
Guarnizioni In NBR e poliuretano.

Ammortizzatori Con regolazione micrometrica.
Temperatura ambiente -10 °C ÷ +80 °C.
Temperatura fluido 0 °C ÷ +40 °C.
Lubrificazione Non necessaria.
Fluido Aria filtrata.
Pressione max d'esercizio 10 bar.

AW6-.-.-

TRIPLE PISTON RODS BASIC CYLINDER
CILINDRO BASE CON 3 STELI

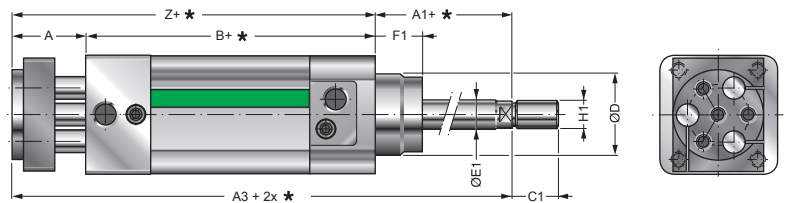
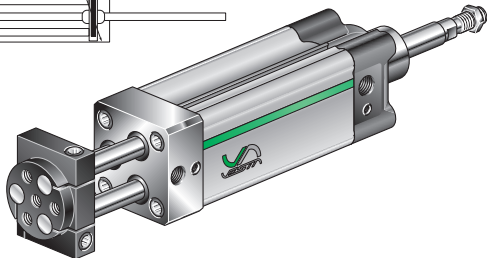
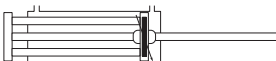


* = Stroke / Corsa

Bore Alesaggio	A	B	C	ØD	F	G	ØH	ØI	L	M	N	ØO	ØP	R1	R2	R3	S	W	Z	Stems diameter Diametro steli
32	26	102	15	30	4	40	32	M6	4	45	32,5	M6	G1/8	10	5	8,7	40	11	128	8
40	30	112	15	35	4	45	40	M8	4	55	38	M6	G1/4	12,5	6,3	9,3	40	15	142	12
50	34	117	18	40	5	55	50	M8	4	65	46,5	M8	G1/4	15,5	7,8	13,4	50	16	151	12
63	36	124	22	45	5	70	63	M10	4	80	56,5	M8	G3/8	19	9,5	15,2	63	14	160	16

AW8-.-.-

TRIPLE PISTON RODS + THROUGH PISTON ROD
CILINDRO CON 3 STELI E STELO TRAPASSANTE



* = Stroke / Corsa

Bore Alesaggio	A	A1	A3	B	C1	CH	ØD	ØE1	F1	H1	Z
32	26	26	154	102	20	10	30	12	18	M10x1,25	128
40	30	30	172	112	24	13	35	16	21,5	M12x1,25	142
50	34	37	194	117	32	17	40	20	28	M16x1,5	151
63	36	37	197	124	32	17	45	20	28,5	M16x1,5	160

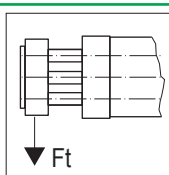
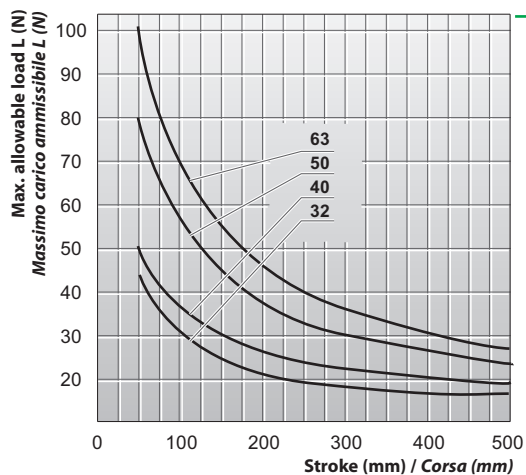
FIXING ACCESSORIES FOR **AW6** AND **AW8** CYLINDER / ACCESSORI DI FISSAGGIO PER CILINDRI **AW6** E **AW8**

For fixing accessories mounting on triple piston rods end-cap, please contact our technical sales department.
The accessories can be mounting on profiled tube or rear end-cap used standard fixing, see pp. **A-22** ÷ **A-26**.

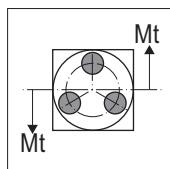
Per i fissaggi da applicare alla testata a triplo stelo si prega di consultare il nostro ufficio tecnico-commerciale.

I fissaggi che possono essere montati sulla camicia o sulla testata posteriore sono fissaggi standard specificati a pp. **A-22** ÷ **A-26**.

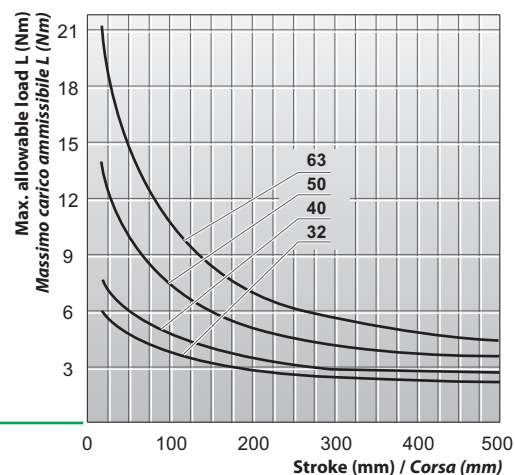
TRANSVERSE FORCE AND TORQUE GRAPHS AW6 AND AW8 SERIES CYLINDERS DIAGRAMMI FLESSIONE E MOMENTO TORCENTE CILINDRI SERIE AW6 E AW8



Transverse force
Flessione



Torque moment
Momento torcente

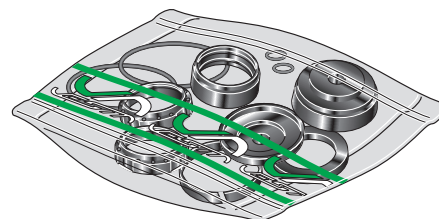


SEALS KIT
KIT GUARNIZIONI DI RICAMBIO - SG

Seals kit code = **Antirotation cylinder code + Bore + - SG:**
(The kit includes all seals).

Codice del kit = **Codice del cilindro antirotazione + Alesaggio + - SG:**
(Il kit comprende tutte le guarnizioni necessarie).

Example / Esempio: **AW8 50 - SG**





SERIE **AW1 - AW5 - AW7**

HOLED TELESCOPIC PISTON RODS CYLINDERS CILINDRI A STELI CAVI

- AW** - -
- 1** cylinder with holed telescopic piston rod
cilindro con stelo cavo passante interno
- 5** twin holed telescopic piston rods cylinder
cilindro antirotazione con 2 steli gemellati cavi
- 7** triple holed telescopic piston rods cylinder
cilindro antirotazione con 3 steli cavi
- Bore / Alesaggio (mm):
Ø32 **32**;
Ø40 **40**;
Ø50 **50**;
Ø63 **63**.
- Stroke / Corsa (mm):

Features of reed switches see:
Caratteristiche finecorsa magnetici: **Pag. A-19.**

TECHNICAL FEATURES

End caps Aluminium alloy.
Piston rod Chromium-plated and rectified steel.
Barrel Extruded profiled aluminium tube.
Seals NBR rubber and polyurethane.

Cushioning Micrometric control.
Environment temperature range -10 °C ÷ +80 °C.
Temperature range of medium 0 °C ÷ +40 °C.
Lubrication Not required.
Medium filtered air.
Max operating pressure 10 bar.

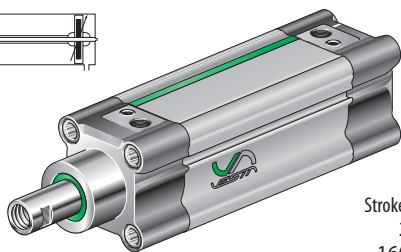
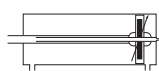
CARATTERISTICHE TECNICHE

Testate Lega di alluminio.
Stelo Acciaio cromato rettificato.
Camicia Tubo profilato ed anodizzato d'alluminio.
Guarnizioni In NBR e poliuretano.

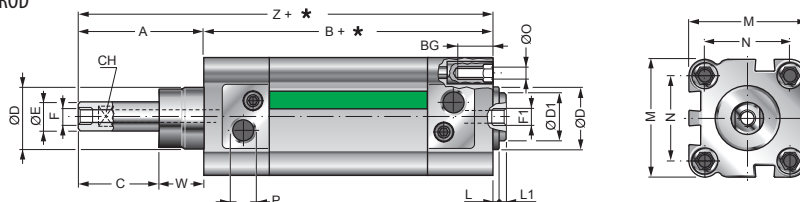
Ammortizzatori Con regolazione micrometrica.
Temperatura ambiente -10 °C ÷ +80 °C.
Temperatura fluido 0 °C ÷ +40 °C.
Lubrificazione Non necessaria.
Fluido Aria filtrata.
Pressione max d'esercizio 10 bar.

AW1-.-.-

SINGLE HOLED TELESCOPIC PISTON ROD CILINDRO STELO CAVO TELESCOPICO



Stroke / Corsa (mm):
25, 50, 100,
160, 200, 300.

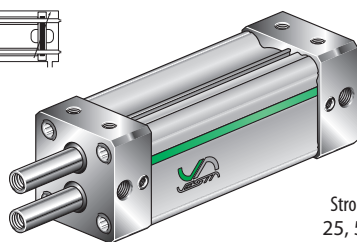


* = Stroke / Corsa

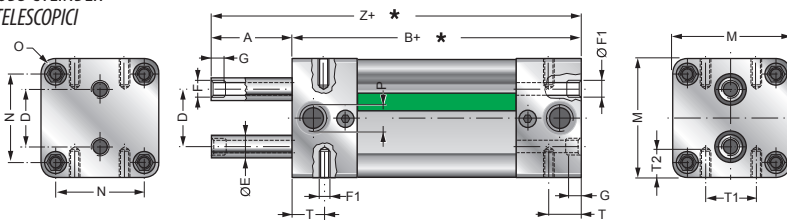
Bore Alesaggio	A	B	BG	C	CH	ØD	ØD1	ØE	F	F1	L	L1	M	N	ØO	ØP	W	Z
32	37	94	15	19	11	30	24	27	12	G1/8	G1/8	4	45	32,5	M6	G1/8	18	131
40	40	105	15	18,5	14	35	35	16	G1/4	G1/8	4	5	54	38	M6	G1/4	21,5	145
50	41	106	15	13	18	40	40	20	G3/8	G1/8	4	5	64	46,5	M8	G1/4	28	147

AW5-.-.-

TWIN HOLED TELESCOPIC PISTON RODS CYLINDER CILINDRO A 2 STELI GEMELLATI CAVI TELESCOPICI



Stroke / Corsa (mm):
25, 50, 100, 160,
200, 250, 300.

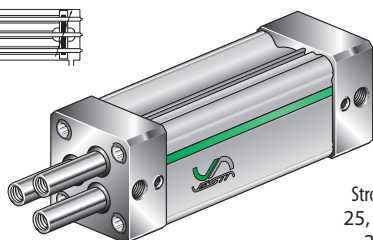


* = Stroke / Corsa

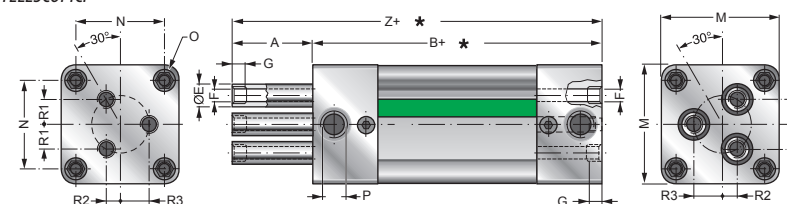
Bore Alesaggio	A	B	D	ØE	ØF1	ØF	G	M	N	ØO	ØP	T	T1	T2	Z
40	40	125	21	12	G1/8	G1/8	8	55	38	M6	G1/4	17	21	10	165
50	40	136	28	16	G1/4	G1/4	11	65	46,5	M8	G1/4	18	24	12	176
63	40	133	35	16	G1/4	G1/4	11	80	56,5	M8	G3/8	18	33	14	173

AW7-.-.-

TRIPLE HOLED TELESCOPIC PISTON RODS CYLINDER CILINDRO A 3 STELI GEMELLATI CAVI TELESCOPICI



Stroke / Corsa (mm):
25, 50, 100, 160,
200, 250, 300.



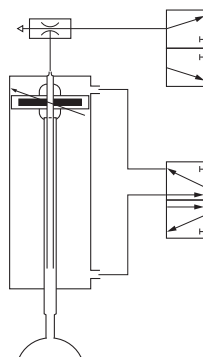
* = Stroke / Corsa

Bore Alesaggio	A	B	ØE	F	G	M	N	O	P	R1	R2	R3	Z
40	40	125	12	G1/8	8	55	38	M6	G1/4	9,3	5,4	10,8	165
50	40	135	12	G1/8	8	65	46,5	M8	G1/4	13,4	7,75	15,5	175
63	40	133	16	G1/4	11	80	56,5	M8	G3/8	15,2	8,75	17,5	173

EXAMPLE OF APPLICATION HOLED CYLINDERS **AW1, **AW5**, **AW7** AND GRIPPERS SERIES **MH****
ESEMPIO DI IMPIEGO DEI CILINDRI CAVI SERIE **AW1, **AW5**, **AW7** E MANI DI PRESA SERIE **MH****

EXAMPLE OF APPLICATION
ESEMPIO DI IMPIEGO

AW1... +

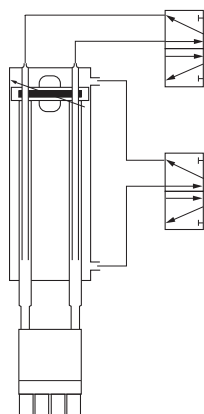


Valve to operate vacuum generator
 Valvola di alimentazione generatore per vuoto

Valve to operate double acting cylinder
 Valvola di comando cilindro doppio effetto

EXAMPLE OF APPLICATION
ESEMPIO DI IMPIEGO

AW5... + MH...

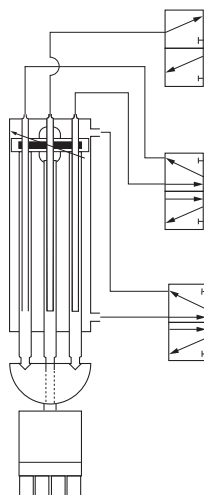


Valve to operate double acting gripper
 Valvola di comando mano di presa a doppio effetto

Valve to operate double acting cylinder
 Valvola di comando cilindro doppio effetto

EXAMPLE OF APPLICATION
ESEMPIO DI IMPIEGO

AW7... + MH...



Valve to operate single acting gripper
 Valvola di comando mano di presa a semplice effetto

Valve to operate double acting gripper rotary unit
 Valvola di comando cilindro rotante doppio effetto

Valve to operate double acting cylinder
 Valvola di comando cilindro doppio effetto

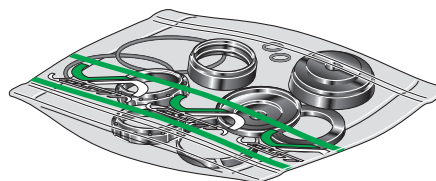
For further information about special application, please contact our technical sales office
Per altre applicazioni delle mani di presa o assemblaggi di componenti speciali contattare il nostro ufficio tecnico commerciale

SEALS KIT
 KIT GUARNIZIONI DI RICAMBIO **..... - SG**

Seals kit code = **Holed piston rods cylinder code + Bore + - SG:**
 (The kit includes all seals).

Codice del kit = **Codice del cilindro steli cavi + Alesaggio + - SG:**
 (Il kit comprende tutte le guarnizioni necessarie).

Example / Esempio: **AW7 50 - SG**





SERIE HNG

PROFILE COMPACT GUIDE PNEUMATIC CYLINDERS CILINDRI PNEUMATICI COMPATTI GUIDATI A PROFILO

HNG

Bore / Alesaggio (mm):
Ø16 16
Ø20 20
Ø25 25
Ø32 32
Ø40 40
Ø50 50
Ø63 63

Stroke / Corsa (mm):

Standard stroke / Corse Standard																	
Bore Alesaggio		10	20	25	30	40	50	75	100	125	150	175	200				
16																	
20																	
25																	
32																	
40																	
50																	
63																	

BS with brass bearing
con bronzine a strisciamento

BB with ball bushing
con cuscinetti a ricircolo di sfere

- The new compact magnetic cylinder **HNG** series is made for demanding applications with guiding system in chromium plate steel on brass bushes bearing or hardened steel with ball bushing bearing. They offer a high resistance event if non axial loads are applied while a good sliding is assured (see tables feature). **HNG** series is very versatile in fixing system, as it is made to offer many ways to fit directly to the machine.

- La nuova serie **HNG** di cilindri magnetici compatti guidati è concepita per impieghi gravosi, con aste di guida in acciaio cromato guidate su bronzine autolubrificanti o con aste di guida in acciaio temprato guidate su boccole a ricircolazione di sfere. Offrono grande resistenza anche a sforzi non assiali, mantenendo adeguata scorrevolezza. Offrono inoltre grande versatilità di fissaggio per accoppiamento diretto su macchina in quanto provvisti di forature di fissaggio su vari lati.

TECHNICAL FEATURES

Cylinder body	Anodized aluminium.
Seals	Poliurethan
Piston rod	C40 chromium plated
Guiding stems	C45 chromium plated steel for BS series C45 chromium plated hardened steel for BB series

Environment temperature range	-20 ÷ +80 °C
Temperature range of medium	0 ÷ +40 °C
Lubrication	Not required.
Medium	Filtered air.
Max operating pressure	10 bar.

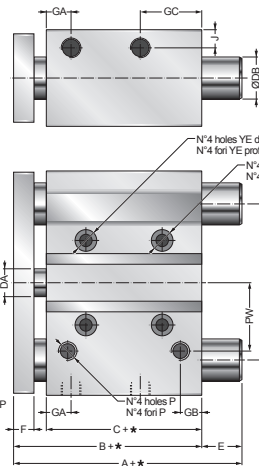
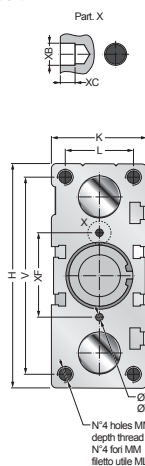
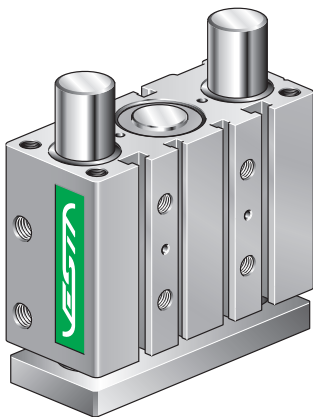
CARATTERISTICHE TECNICHE

Corpo cilindro	Alluminio anodizzato.
Guarnizioni	Tutte in poliuretano
Stelo	Acciaio C40 cromato
Aste di guida	Acciaio C45 cromato per serie BS Acciaio C45 cromato e temprato per serie BB

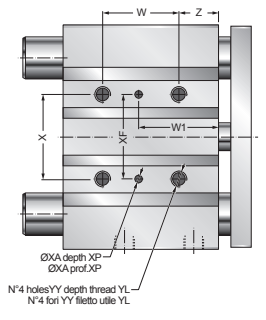
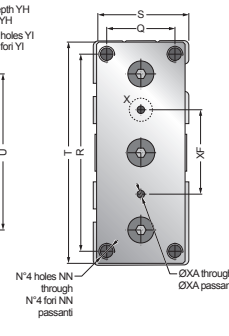
Temperatura ambiente	-20 °C ÷ +80 °C
Temperatura fluido	0 °C ÷ +40 °C
Lubrificazione	Non necessaria.
Fluido	Aria filtrata.
Pressione max d'esercizio	10 bar.

HNG

COMPACT GUIDE PNEUMATIC CYLINDERS
CILINDRI PNEUMATICI COMPATTI GUIDATI



* = Stroke / Corsa

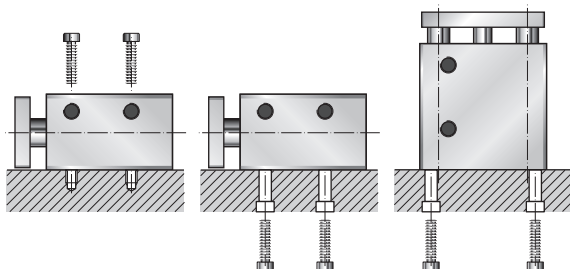


Ø	B	C	DA	F	GA	GB	GC	H	J	K	L	MM	ML	NN	P	PW	Q	R	S	T	U	V	X	YY	YL	YE	YH	YI	Z	XF	XA	XP	XB	XC
16	46	33	8	8	11	8	18	64	5	30	22	M5	12	M5	M5	19	16	54	25	62	46	56	24	M5	10	8	4,5	4,3	5	24	3	6	3,5	3
20	53	37	10	10	10,5	8,5	24,5	83	6,5	36	24	M5	13	M5	G1/8	25	18	70	30	81	54	72	28	M6	12	9,5	5,5	5,6	17	28	3	6	3,5	3
25	53,5	37,5	10	10	11,5	9	25	93	7,5	42	30	M6	15	M6	G1/8	28,5	26	78	38	91	64	82	34	M6	12	9,5	5,5	5,6	17	34	4	6	4,5	3
32	59,5	37,5	12	12	12,5	9	30,5	112	9	48	34	M8	20	M8	G1/8	34	30	96	44	110	78	98	42	M8	16	11	7,5	6,6	21	42	4	6	4,5	3
40	66	44	12	12	14	10	31	120	9	54	40	M8	20	M8	G1/8	38	30	104	44	118	86	106	50	M8	16	11	7,5	6,6	22	50	4	6	4,5	3
50	72	44	16	16	14	11	35	148	9,5	64	46	M10	22	M10	G1/4	47	40	130	60	146	110	130	66	M10	20	14	9	8,6	24	66	5	8	6	4
63	77	49	16	16	16,5	13,5	35	162	11	78	58	M10	22	M10	G1/4	55	50	130	70	158	124	142	80	M10	20	14	9	8,6	24	80	5	8	6	4

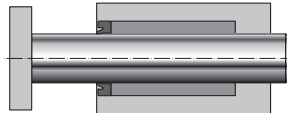
		Sintered bronze Bussole sinterizzate					Ball bushing Manicotti a ricircolo di sfere					Dimensions W - W1 Dimensioni W - W1				
Ø	DB	A Stroke/Corsa		E Stroke/Corsa		DB	A Stroke/Corsa		E Stroke/Corsa		W Stroke/Corsa		W1 Stroke/Corsa			
16	10	46 10÷50	64,5 75÷100	0 10÷50	18,5 75÷100	8	46 10÷30	66 40÷100	0 10÷30	20 40÷100	24 10÷30	44 40÷100		17 10÷30	27 40÷100	
20	12	53 20÷50	84,5 75÷200	0 20÷50	31,5 75÷200	12	53 20÷30	85,5 40÷200	0 20÷30	32,5 40÷200	24 20÷30	44 40÷100	120 125÷200	29 20÷30	39 40÷100	77 125÷200
25	16	53,5 20÷50	85 75÷200	0 20÷50	31,5 75÷200	12	53,5 20÷30	86 40÷200	0 20÷30	32,5 40÷200	24 20÷30	44 40÷100	120 125÷200	29 20÷30	39 40÷100	77 125÷200
32	20	97 25÷50	107 75÷200	37,5 25÷50	47,5 75÷200	20	97 25÷50	107 75÷200	37,5 25÷50	47,5 75÷200	24 25	48 50÷100	124 125÷200	33 25	45 50÷100	83 125÷200
40	20	97 25÷50	107 75÷200	31 25÷50	41 75÷200	20	97 25÷50	107 75÷200	31 25÷50	41 75÷200	24 25	48 50÷100	124 125÷200	34 25	46 50÷100	84 125÷200
50	25	106,5 25÷50	118 75÷200	34,5 25÷50	46 75÷200	25	106,5 25	114 50	118 75÷200	34,5 25	42 50	46 75÷200	24 25	48 50÷100	124 125÷200	86 125÷200
63	25	106,5 25÷50	118 75÷200	29,5 25÷50	41 75÷200	25	106,5 25	114 50	118 75÷200	29,5 25	37 50	41 75÷200	28 25	52 50÷100	128 125÷200	88 125÷200

WORKING PRINCIPLE FOR HNG / PRINCIPIO DI FUNZIONAMENTO PER HNG

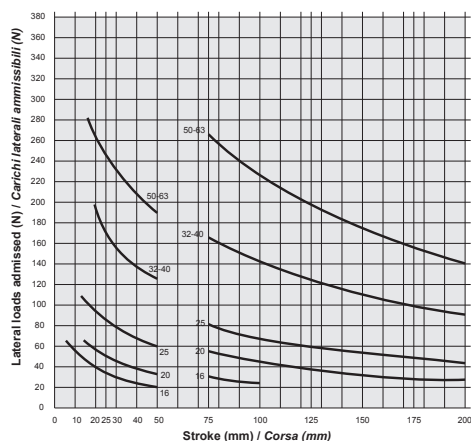
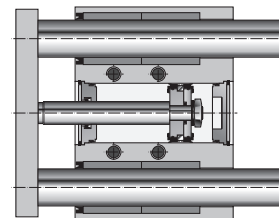
System of assembly / Sistema di montaggio



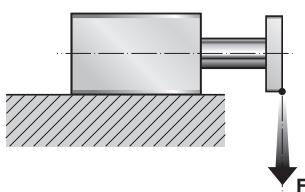
Strokes ≤ 50 mm / Corsa ≤ 50 mm



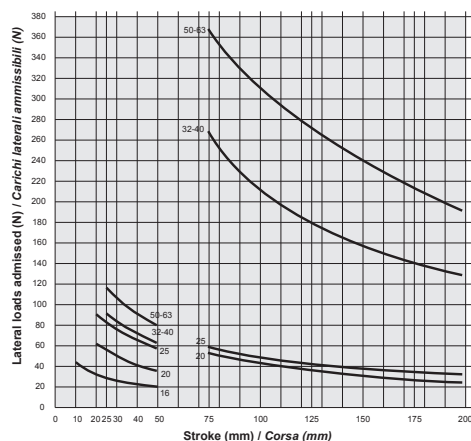
Strokes > 50 mm / Corsa > 50 mm



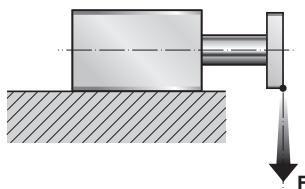
LATERAL LOADS ALLOWED WITH SELF-LUBRICATING SINTERED BRONZE CARICHI LATERALI AMMISSIBILI CON BUSSOLE AUTOLUBRIFICANTI



Load / Carico (N)		Strokes / Corsa													
$\emptyset$	10	20	25	30	40	50	75	100	125	150	175	200			
16	56	40		30	25	21	30	24							
20		57		46	38	33	55	45	38	33,5	30	27			
25			93	78	68	60	81	67	60	54	48	43			
32				170		125	166	142	124	110	99	90			
40					170		125	166	142	124	110	99	90		
50						250	190	265	227	197	177	156	141		
63							250	190	265	227	197	177	156	141	



LATERAL LOADS ALLOWED WITH RECIRCULATING BALL BUSHING CARICHI LATERALI AMMISSIBILI CON MANICOTTI A RICIRCOLO DI SFERE



Load / Carico (N)		Strokes / Corsa													
$\emptyset$	10	20	25	30	40	50	75	100	125	150	175	200			
16	44	34		27	23	21									
20		62		50	42	36	53	42	36	31	27	25			
25			94	79	68	60	59	50	43	39	35	33			
32				84		58	270	213	180	159	142	130			
40					92		64	270	213	180	159	142	130		
50						117	81	370	312	275	243	216	193		
63							117	81	370	312	275	243	216	193	

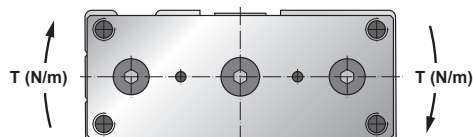
TORQUE - MOMENTO TORCENTE

Torque / Momento (Nm)

		With self-lubricating sintered bronze Con bussole autolubrificanti													
		Strokes / Corsa													
$\emptyset$	10	20	25	30	40	50	75	100	125	150	175	200			
16	0,65	0,51		0,42	0,36	0,32							0,83	0,65	
20		0,99		0,84	0,71	0,64	0,97	0,78	0,63	0,54	0,48	0,43		1,20	
25			1,98	1,67	1,45	1,28	1,73	1,43	1,31	1,18	1,05	0,94		2,00	
32				4,10		3,19	3,97	3,36	2,46	2,20	2,00	1,84		2,04	
40					4,51	3,51	4,38	3,70	2,46	2,20	2,00	1,84		2,47	
50						6,60	5,19	6,68	5,72	4,68	4,25	3,88	3,50	3,22	
63							6,60	5,19	6,68	5,72	4,68	4,25	3,88	3,22	

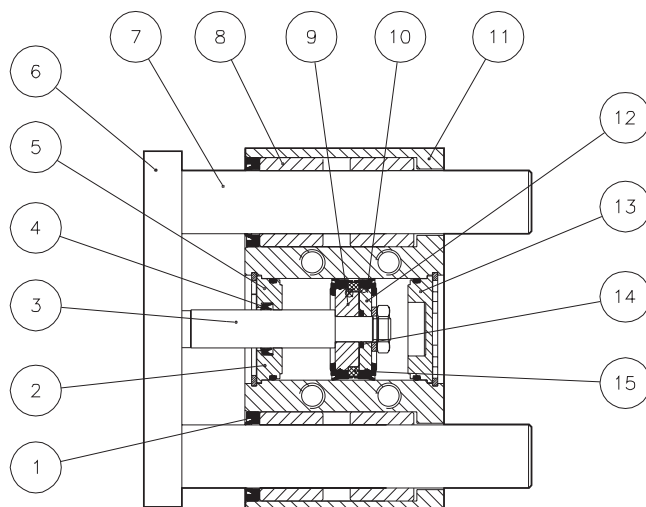
With recirculating ball bushing
Con manicotti a ricircolo di sfere

		Strokes / Corsa													
$\emptyset$	10	20	25	30	40	50	75	100	125	150	175	200			
16	0,65			0,52	0,44	0,40									
20		0,96	0,81	0,69	1,02	0,93	0,82	0,71	0,64	0,58					
25			1,69	1,45	1,28	1,26	1,09	0,98	0,87	0,79	0,70				
32				2,04		1,41	6,58	5,19	4,49	3,87	3,58	3,17			
40					2,47	1,72	7,25	5,72	4,49	3,87	3,58	3,17			
50						3,22	2,22	10,17	8,58	7,75	6,86	5,99	5,30		
63							3,22	2,22	10,17	8,58	7,75	6,86	5,99	5,30	

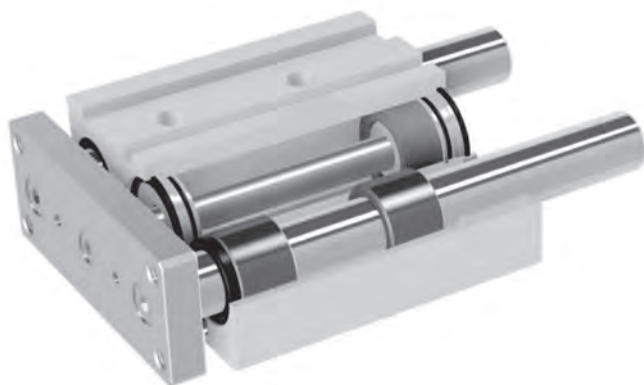




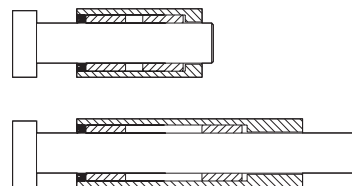
COMPONENTS/COMPONENTI



N°	Description/descrizione	Material/materiale
1	Wiperod seal/guarnizione asta	NBR
2	O-ring/	NBR
3	Rod/stelo	Steel C40 chromed/acciaio C40 cromato
4	Rod seal/guarnizione stelo	Polyurethane/poliuretano
5	Front cap/testata anteriore	Alluminium/alluminio
6	Plate/piastra	Nickeled steel/acciaio nichelato
7	Guide rod/asta guida	Steel C40 chromed/acciaio C40 cromato Steel C40 tempered/acciaio C40 temprato
8	Slide bearing/bronzine	Bronze/bronzo Steel/acciaio
9	Semipiston/semipistone	Alluminium/alluminio
10	Seal piston/guarnizione pistone	Polyurethane/poliuretano
11	Boby cilinder/corpo slitta	Alluminium/alluminio
12	Semipiston/semipistone	Alluminium/alluminio
13	Rear cap/testata posteriore	Alluminium/alluminio



All sizes and all strokes, have n°4 slide bearing
Tutti gli alesaggi e tutte le corse hanno n°4 bussole in bronzo.



SEALS KIT FOR SLIDE BEARINGS VERSION BS
KIT DI GUARNIZIONI PER LA VERSIONE CON BRONZINE BS

HNG - Ø - BS SG

SEALS KIT FOR BALL BUSHINGS VERSION BB
KIT DI GUARNIZIONI PER LA VERSIONE CON CUSCINETTI A SFERE BB

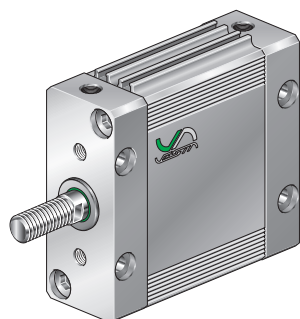
HNG - Ø - BB SG

SEALS KIT
KIT DI GUARNIZIONI DI RICAMBIO

..... - SG

SERIE NCV 63

FLAT CYLINDERS CILINDRI PIATTI



NCV 63



Stroke
Corsi
(mm)

VS High temperature (-25°C / + 120 °C)
HT Polyurethane rod seal
Guarnizione dello stelo in Poliuretano per alte temperature (-25 °C / + 120 °C)

**With magnetic piston
Con pistone magnetico**

Features of reed switches see:
Caratteristiche finecorsa magnetici:
..... **Pag. A-19.**

P Through rod cylinder
Cilindro stelo passante

TN2 Multi Thrust tandem cylinder
Cilindro Tandem multispinta

AR No rotating cylinder
Cilindro Antirotazione

Vesta introduces new flat NCV-63 series cylinder to meet applications when both thrust and reduced dimensions are needed.
High quality components, high precision machining and treatments grant reliability and high performances together with long lasting life of cylinders.
Compact and robust, it is most used in welding plants, packaging machines and linear motion applications.

Vesta presenta il nuovo cilindro serie NCV-63 piatto a sezione ovale per soddisfare applicazioni dove la necessità di forza si unisce ad esigenze di ingombri ridotti o di antirotazione.
Di costruzione robusta e compatta, garantisce lunga durata e prestazioni elevate, grazie a lavorazioni di precisione ad alta scelta di componenti di grande qualità ed affidabilità.
Trova grande impiego nei sistemi ed impianti di saldatura a punti, di movimentazione lineare e in macchine ed attrezzature settore packaging.

TECHNICAL FEATURES

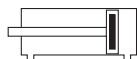
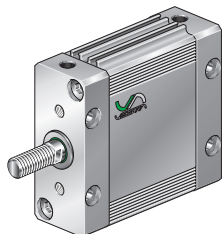
Piston rod	Stainless steel
Seals	Polyurethane piston rod, NBR piston seals
Lubrication	Not required.
Medium	Filtered air.
Cushioning	Mechanical buffers at end of strokes.

CARATTERISTICHE TECNICHE

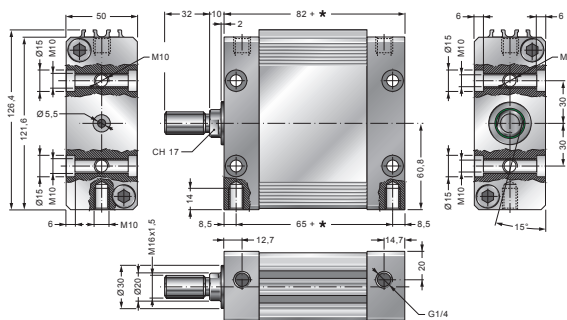
Stelo	Acciaio inox
Guarnizioni	Stelo in Poliuretano, pistone in NBR
Lubrificazione	Non necessaria.
Fluido	Aria filtrata.
Ammortizzatori	Smorzatori d'urto di fine corsa.

NCV 63

FLAT CYLINDERS CILINDRI PIATTI

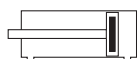
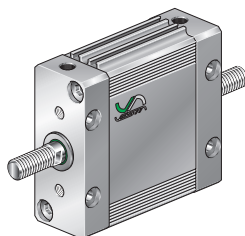


* = Stroke / Corsa

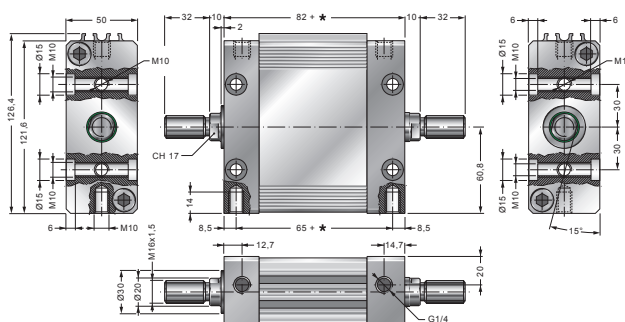


NCV 63 P

THROUGH ROD FLAT CYLINDERS CILINDRI PIATTI STELO PASSANTE

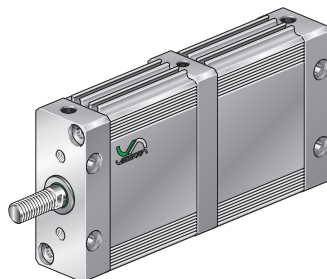


* = Stroke / Corsa

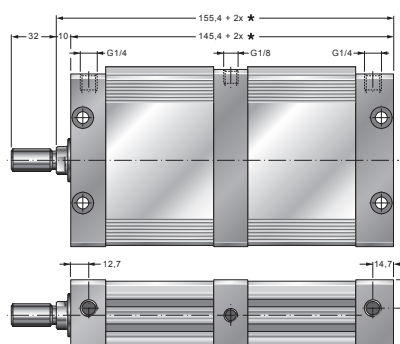


NCV 63 TN2

MULTI THRUST TANDEM FLAT CYLINDERS CILINDRI PIATTI TANDEM MULTISPINTA



* = Stroke / Corsa

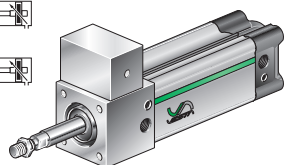




INDEX / INDICE

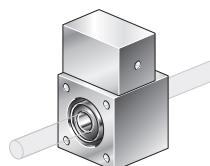
PISTON ROD BRAKING DEVICE / DISPOSITIVO DI BLOCCAGGIO DELLO STELO

pag. A-83



RW. ...

PNEUMATIC CYLINDER WITH PISTON-ROD
BRAKE DEVICE, SINGLE OR DOUBLE ACTING
CILINDRO PNEUMATICO CON DISPOSITIVO DI
BLOCCAGGIO DELLO STELO, A SEMPLICE E DOPPIO
EFFETTO



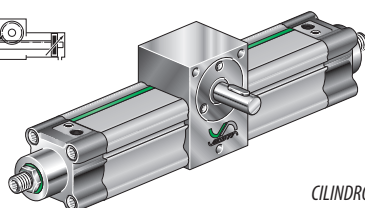
DC. ..

BRAKING DEVICE
SINGLE ACTING OR DOUBLE ACTING
DISPOSITIVO DI BLOCCAGGIO
A SEMPLICE O DOPPIO EFFETTO

pag. A-84

ROTARY CYLINDERS / CILINDRI ROTANTI

pag. A-85

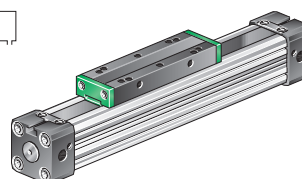


CRW ...

ROTARY CYLINDER **UNI 6604-69**
CILINDRO AD ALBERO ROTANTE **UNI 6604-69**

RODLESS CYLINDERS / CILINDRI SENZA STELO

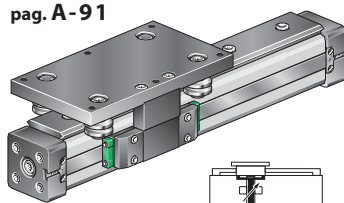
pag. A-87



RLF./....

RODLESS PNEUMATIC CYLINDERS
CILINDRI PNEUMATICI SENZA STELO

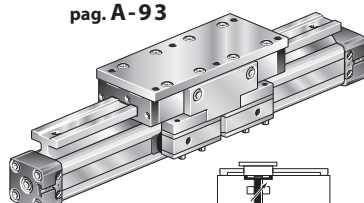
pag. A-91



RLFR./....

RODLESS CYL. WITH DUAL "V" EDGE SLIDE SYSTEM
CILINDRI SENZA STELO CON GUIDA PRISMATICA
E CUSCINETTI A RULLO DOPPIA "V"

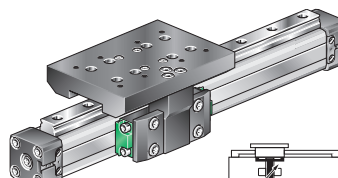
pag. A-93



RLFG./....

RODLESS CYLINDERS WITH GLIDING CARRIAGE
CILINDRI SENZA STELO CON CARRO GUIDATO

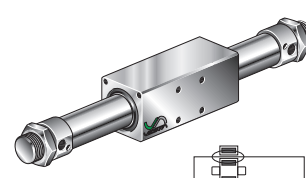
pag. A-95



RLFH.. ./....

RODLESS CYLINDERS WITH BALL BEARING GUIDES
CILINDRI SENZA STELO CON CARRO GUIDATO A
RICIRCOLO DI SFERE

pag. A-98



TM ...

RODLESS CYLINDER
CILINDRO SENZA STELO

FIXING AND MAGNETIC SWITCHES FOR RODLESS CYLINDERS / ACCESSORI DI FISSAGGIO E FINECORSO MAGNETICI PER CILINDRI SENZA STELO

pag. A-89, A-90, A-97, A-99

ELECTRICAL ACTUATED CYLINDERS / ATTUATORI ELETTRICI

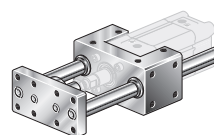
pag. A-101



ESNW../...-...-... .

ELECTRICAL ACTUATED CYLINDERS
ATTUATORI ELETTRICI

pag. A-102



GLE .. / ...

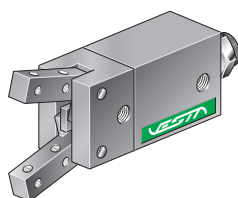
LINEAR CONTROL UNITS FOR ELECTRICAL CYLINDERS
UNITA' DI GUIDA PER ATTUATORI ELETTRICI

FIXING AND MAGNETIC SWITCHES FOR ELECTRICAL ACTUATED CYLINDERS / ACCESSORI DI FISSAGGIO E FINECORSO MAGNETICI PER ATTUATORI ELETTRICI

pag. A-19, A-22 ÷ A-25

PNEUMATIC GRIPPERS / MANI DI PRESA PNEUMATICHE

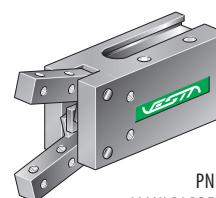
pag. A-105



MH .. .

Ø 16; 20; 32; 50.
PNEUMATIC GRIPPERS
MANI DI PRESA PNEUMATICHE

pag. A-107



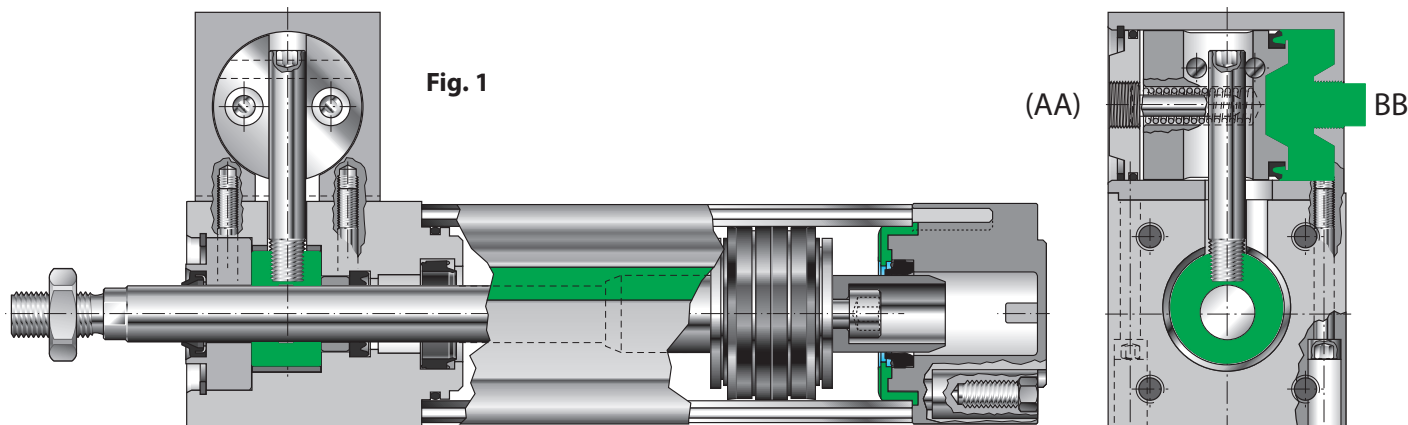
MHM .. .

Ø 20; 32; 50.
PNEUMATIC GRIPPERS. MAGNETIC VERSION
MANI DI PRESA PNEUMATICHE, VERSIONI MAGNETICHE

MAGNETIC SWITCHES FOR **MHM** GRIPPERS / FINECORSO MAGNETICI PER MANI DI PRESA **MHM** pag. A-108



WORKING PRINCIPLE FOR RWD - RWS / PRINCIPIO DI FUNZIONAMENTO PER RWD - RWS



With the Double Acting brake unit, type **RWD**, the brake is applied by supplying air to port **AA**. To release the brake, air must be removed from port **AA** and applied to port **BB**. The clamping force of this unit is directly proportioned to the supply pressure at port **AA**.

With the Single Acting brake unit, type **RWS** (see **fig. 1**), the brake is normally applied to the piston-rod with a clamping force as shown in the table (see page A-82). To release the brake, air is supplied to port **BB**.

In both DA & SA versions the brake may be applied at any point of the cylinder stroke, in every direction of the piston rod.

*Il bloccaggio dello stelo, nel cilindro **RWD** con dispositivo a doppio effetto, avviene inviando aria compressa all'ingresso **AA** in modo continuativo. Lo sbloccaggio si effettua mediante l'invio di un impulso d'aria all'ingresso **BB**. La forza di bloccaggio sarà direttamente proporzionale alla pressione di ingresso in **AA**.*

*Nei cilindri con dispositivo di bloccaggio a semplice effetto **RWS** (vedi **fig. 1**), lo stelo in assenza d'aria è bloccato con una forza costante come indicato nella tabella esplicativa (vedi pagina A-82). Lo sbloccaggio si effettua mediante invio continuativo di aria compressa all'orifizio **BB**.*

Il bloccaggio dello stelo, in tutte le versioni, può avvenire in qualsiasi punto della corsa ed in entrambe le direzioni.

EXAMPLE FOR RWD - RWS CONNECTION / ESEMPIO DI COLLEGAMENTO PER RWD - RWS

This system realizes the best conditions for the exploitation of RWD - RWS cylinders operating features: **speedy stop, stopping accuracy, starts without jerks**. Making use of the two valves 5/2 (**4-5**) besides taking advantages of "closed centres in pressure" system, we have the possibility to allow the inlet pressure of the rear port to be lower, to compensate for the piston-rod.

*Con questo sistema si realizzano le migliori condizioni per lo sfruttamento delle caratteristiche dei cilindri RWD - RWS: **velocità di intervento, precisione nell'arresto, partenze senza scatti**. L'impiego di due valvole monostabili (**4 e 5**) oltre ad ottenere i vantaggi del sistema "centri chiusi in pressione", offre la possibilità di alimentare la camera posteriore del cilindro da bloccare ad una pressione inferiore per compensare la differenza di sezione di spinta dovuta allo stelo.*

A Double acting braking device

B Simple acting braking device

2 Flow regulators

3 Shuttle valve

4 5/2 solenoid valve

5 5/2 solenoid valve

6 Pressure regulator

7 5/2 pneumatic valve

Components can be supplied assembled on base.

A Dispositivo di bloccaggio doppio effetto

B Dispositivo di bloccaggio semplice effetto

2 Regolatori di flusso

3 Valvola selettiva

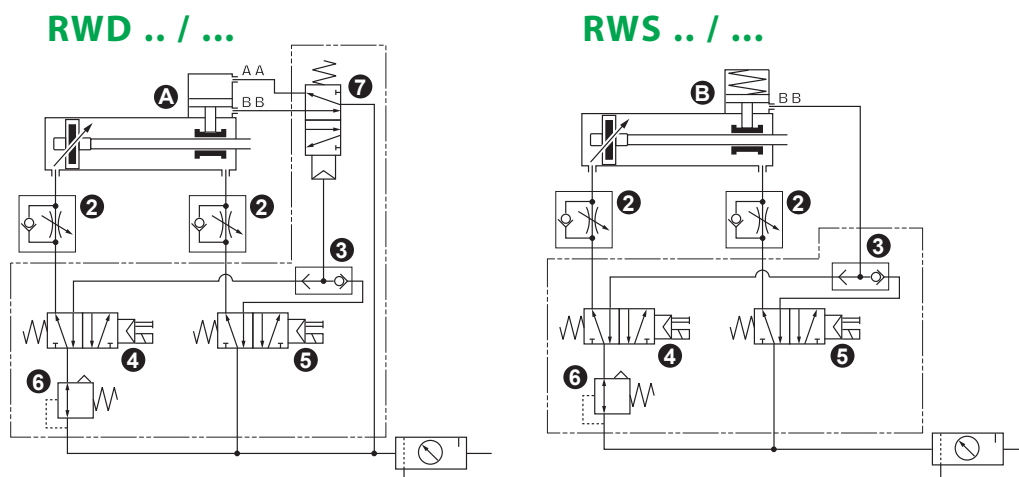
4 Elettrovalvola 5/2

5 Elettrovalvola 5/2

6 Riduttore di pressione

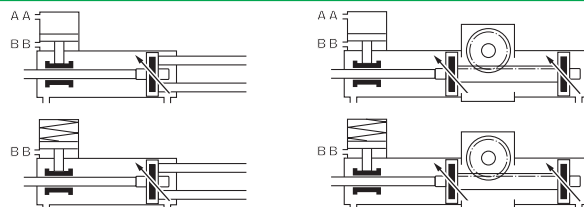
7 Valvola pneumatica monostabile

I componenti possono essere forniti assemblati su base.



For other connections please contact our technical-sales office. / Per altri sistemi di collegamento interpellare il nostro ufficio tecnico.

- Special production: on request, the piston-rod brake device, can be jointed to twin rod cylinder with double piston-rod "AW series" and to torque actuator "CRW series".
- Esecuzioni particolari: a richiesta il gruppo dispositivo di bloccaggio può essere applicato, all'origine, ai cilindri antirrotazione a steli gemellati Vesta serie AW passanti ed ai cilindri rotanti Vesta serie CRW.



PNEUMATIC CYLINDER WITH PISTON - ROD BRAKE CILINDRO CON BLOCCAGGIO DELLO STELO

SERIE RW

With magnetic piston / Con pistone magnetico

RW ☐ ☐ ☐ / ☐ ☐ ☐

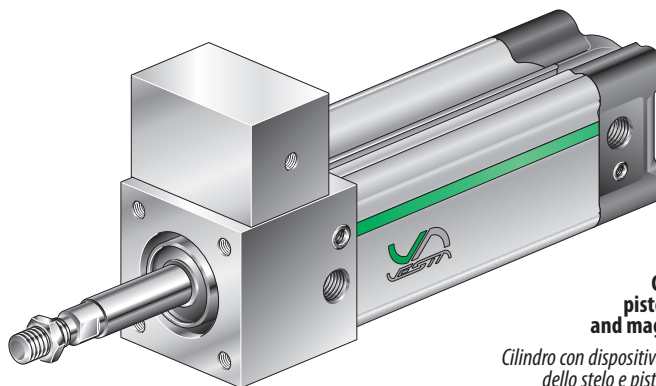
D Double acting brake
Freno doppio effetto

S Single acting brake
Freno semplice effetto

Stroke / Corsa (mm)

Bore / Alesaggio (mm):

Ø32 **32** Ø63 **63**
Ø40 **40** Ø80 **80**
Ø50 **50** Ø100 **100**



Cylinder with
piston-rod brake
and magnetic piston

Cilindro con dispositivo di bloccaggio
dello stelo e pistone magnetico

RW cylinder fixing see:
Fissaggi per cilindri RW vedi:
..... **Pag. A-22 ÷ A-26.**

Features of reed switches see:
Caratteristiche finecorsa magnetici:
..... **Pag. A-19.**

Effective cushion length Lunghezza utile ammortizzatore	
Bore Alesaggio	Length Lunghezza
32	24
40	27
50	30
63	30
80	36
100	38

Standard stroke / Corse Standard	
Bore Alesaggio	25 50 80 100 125 160 200 250 300 350 400 450 500
32	• • • • • • • • • • • • • •
40	• • • • • • • • • • • • • •
50	• • • • • • • • • • • • • •
63	• • • • • • • • • • • • • •
80	• • • • • • • • • • • • • •
100	• • • • • • • • • • • • • •

End caps	Aluminium alloy.
Piston rod	chromium-plated steel.
Tie rods	Stainless steel X10CrNiS 1809.
Barrel	Anodized aluminium tube.
Seals	NBR rubber.
Cushioning	Pneumatic adjusting cushions.

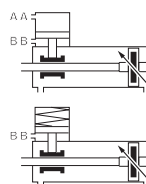
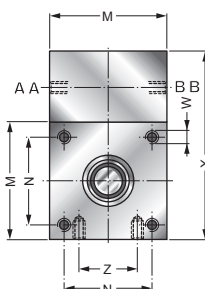
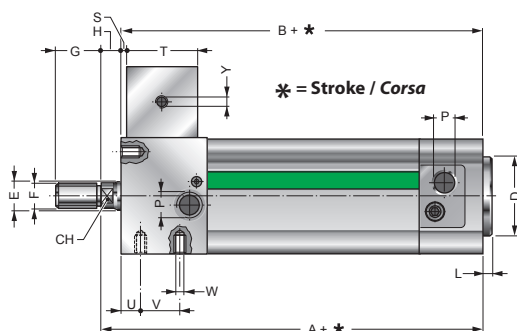
Ambient temperature range	-10 °C ÷ +80 °C.
Temperature range of medium	0 °C ÷ +40 °C.
Lubrication	Not required.
Medium	Filtered air.
Operating pressure range	2 ÷ 10 bar.
Max locking pressure (AA)	7 bar.

TECHNICAL FEATURES

Testate	Lega di alluminio.
Stelo	Acciaio cromato rettificato.
Tiranti	Acciaio inox X10CrNiS 1809.
Camicia	Alluminio anodizzato duro.
Guarnizioni	Tutte in NBR.
Ammortizzatori	Pneumatici regolabili progressivi.

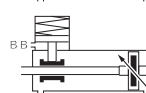
Temperatura ambiente	-10 °C ÷ +80 °C.
Temperatura fluido	0 °C ÷ +40 °C.
Lubrificazione	Non necessaria.
Fluido	Aria filtrata.
Pressione d'esercizio	2 ÷ 10 bar.
Max pressione bloccaggio (AA)	7 bar.

CARATTERISTICHE TECNICHE



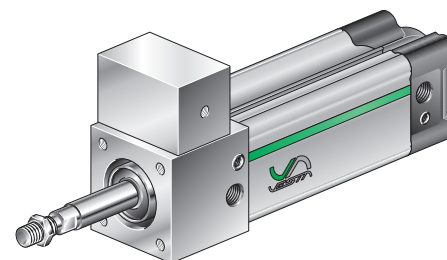
DOUBLE ACTING BRAKE
BLOCCO DOPPIO EFFETTO

RWD .. /...



SINGLE ACTING BRAKE
BLOCCO SEMPLICE EFFETTO

RWS .. /...

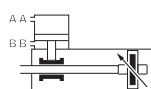


Bore Alesaggio	A	B	CH	D	E	F	G	H	L	M	N	P	S	T	U	V	W	X	Y	Z	Code Codice
32	120	113	10	30	12	M10x1,25	20	7	4	50	32,5	G1/8	2	40	19	25	M6	89	G1/8	20	RW. 32/...
40	135	127	13	35	16	M12x1,25	24	8	4	55	38	G1/4	2	45	16	35	M6	99	G1/8	26	RW. 40/...
50	144	133	17	40	20	M16x1,5	32	11	4	65	46,5	G1/4	4	45	20	35	M8	109	G1/8	30	RW. 50/...
63	158	145	17	45	20	M16x1,5	32	13	4	80	56,5	G3/8	2	50	20	35	M8	129	G1/8	40	RW. 63/...
80	194	178	21	45	25	M20x1,5	40	16	4	100	72	G3/8	8	60	28	48	M10	159	G1/8	50	RW. 80/...
100	214	193	26	55	30	M20x1,5	40	21	4	115	89	G1/2	8	65	30	55	M10	179	G1/8	65	RW. 100/...

Speed Velocità	Stopping tolerances Tolleranze di arresto	
	RWD	RWS
50 mm/s	+/- 0,3 mm	+/- 0,8 mm
100 mm/s	+/- 0,5 mm	+/- 1,2 mm
150 mm/s	+/- 1,3 mm	+/- 2,2 mm

Code Codice	Static force applicable on the piston-rod / Forza statica assiale							Bar (AA)
RWD 32/...	60	90	120	150	180	210		daN
RWD 40/...	80	130	180	230	280	330		daN
RWD 50/...	90	150	210	270	330	390		daN
RWD 63/...	145	220	290	360	440	510		daN
RWD 80/...	220	350	500	650	800	950		daN
RWD 100/...	350	525	700	880	1050	1230		daN

Minimum pressure unclamping:
Pressione minima di sbloccaggio: 2 bar (BB)



Code Codice	Static force applicable on the piston-rod Forza statica assiale
RWS 32/...	90 daN
RWS 40/...	150 daN
RWS 50/...	180 daN
RWS 63/...	260 daN
RWS 80/...	380 daN
RWS 100/...	500 daN

Minimum pressure unclamping:
Pressione minima di sbloccaggio: 4 bar (BB)

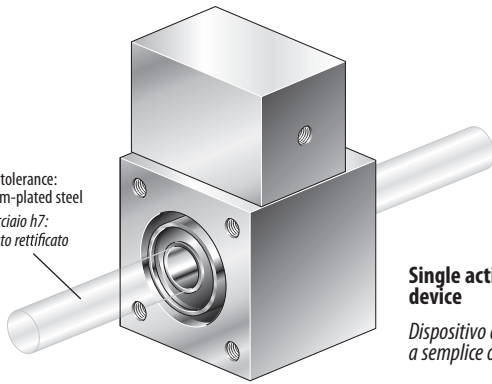
Static force (Kg.) can be applied on the piston rod with hight lubrication in case of lack or insufficient lubrication the values must be increased of 10%.
Forza statica (Kg.) applicabile sullo stelo in condizioni di lubrificazione abbondante. Dati che nel caso di lubrificazione normale o assente aumentano del 10%.



SERIE DC

BRAKING DEVICE DISPOSITIVO DI BLOCCAGGIO

Only h7 tolerance:
C45 chromium-plated steel
Solo acciaio h7:
C45 cromato rettificato



Single acting or double acting braking device

Dispositivo di bloccaggio a semplice o doppio effetto

DC

D Double acting
Doppio effetto
S Single acting
Semplice effetto

Shaft / Albero
(mm):

Ø12 **12**
Ø16 **16**
Ø20 **20**
Ø25 **25**
Ø30 **30**

Note: NOT usable as end-caps for **RW** cylinder
*Nota: NON utilizzabile come testata per il cilindro **RW***

TECHNICAL FEATURES

Material Aluminium alloy.
Seals NBR rubber.
Ambient temperature range -10 °C ÷ +80 °C.

Temperature range of medium 0 °C ÷ +40 °C.
Lubrication Not required.
Medium Filtered air.
Operating pressure range 2 ÷ 10 bar.

CARATTERISTICHE TECNICHE

Materiale Lega di alluminio.
Guarnizioni Tutte in NBR con profili antiusura e prelubrificate.
Temperatura ambiente -10 °C ÷ +80 °C.

Temperatura fluido 0 °C ÷ +40 °C.
Lubrificazione Non necessaria.
Fluido Aria filtrata.
Pressione d'esercizio 2 ÷ 10 bar.

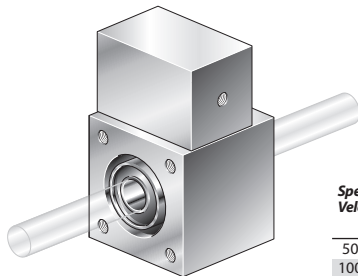
DCD ..

DOUBLE ACTING BRAKE
BLOCCO DOPPIO EFFETTO

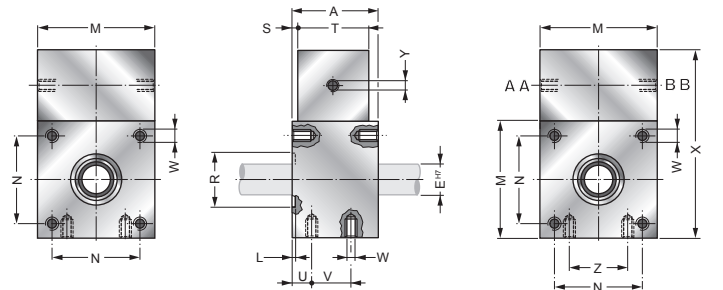


DCS ..

SINGLE ACTING BRAKE
BLOCCO SEMPLICE EFFETTO



Speed Velocità	Stopping tolerances Tolleranze di arresto
	DCD DCS
50 mm/s	+/- 0,3 mm +/- 0,8 mm
100 mm/s	+/- 0,5 mm +/- 1,2 mm
150 mm/s	+/- 1,3 mm +/- 2,2 mm

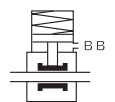


Piston-rod "E" Stelo "E"	A	L	M	N	R	S	T	U	V	W	X	Y	Z	Code Codice
12	50,5	2	50	32,5	32	2	40	19	25	M6	89	G1/8	20	DC. 12
16	57,5	2	55	38	38	2	45	16	35	M6	99	G1/8	26	DC. 16
20	62,5	2	65	46,5	42	4	45	20	35	M8	109	G1/8	30	DC. 20
25	91	2	100	72	58	8	60	28	48	M10	159	G1/8	50	DC. 25
30	99	2	115	89	63	8	65	30	55	M10	179	G1/8	65	DC. 30

Code Codice	Static force applicable on the piston-rod / Forza statica assiale						
	2	3	4	5	6	7	Bar (AA)
DCD 12	60	90	120	150	180	210	daN
DCD 16	80	130	180	230	280	330	daN
DCD 20	90	150	210	270	330	390	daN
DCD 25	220	350	500	650	800	950	daN
DCD 30	350	525	700	880	1050	1230	daN



Code Codice	Static force applicable on the piston-rod Forza statica assiale
DCS 12	90 daN
DCS 16	150 daN
DCS 20	180 daN
DCS 25	380 daN
DCS 30	500 daN



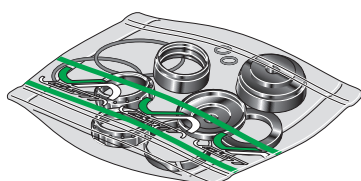
Minimum pressure unclamping:
Pressione minima di sbloccaggio: 2 bar (BB)

Minimum pressure unclamping:
Pressione minima di sbloccaggio: 3,5 bar (BB)

Static force (Kg.) can be applied on the piston rod with hight lubrication. In case of lack or insufficient lubrication the values must be increased of 10%.
Forza statica (Kg.) applicabile sullo stelo in condizioni di lubrificazione abbondante. Dati che nel caso di lubrificazione normale o assente aumentano del 10%.

..... - SG

SEALS KIT
KIT GUARNIZIONI DI RICAMBIO



Seals kit code for RW cylinders =
Cylinder code + Bore + - SG:
(The kit includes all seals).

Codice del kit per cilindri RW =
Codice del cilindro + Alesaggio + - SG:
(Il kit comprende tutte le guarnizioni necessarie).

Example / Esempio: **RWD 50 - SG**

Seals kit code for DC device =
Device code + Shaft bore + - SG:
(The kit includes all seals).

Codice del kit per dispositivi DC =
Codice del dispositivo + Alesaggio albero + - SG:
(Il kit comprende tutte le guarnizioni necessarie).

Example / Esempio: **DCS 20 - SG**

WORKING PRINCIPLE FOR CRW CYLINDER / PRINCIPIO DI FUNZIONAMENTO DEI CILINDRI CRW

The **CRW** cylinder is a rotary actuator which converts linear piston motion into angular drive using a rack and pinion coupling. The inlet pressure produces the output rotation. Male and female pinions as well as standard rotations (90, 180 and 360 degrees) are available in **CRW** series. Non standard rotations can be manufactured according to customer's requirements.

The working principle of **CRW** cylinder consists of a toothed pinion fitted on to a shaft and supported by ball bearings coupled to a square section rack. Thanks to a guiding plate which supports and guides the rack, it is possible to recover any slack between rack and pinion using a spring adjustment. An articulated coupling fitted to the rack grants a perfect linear movement of the piston. Long life time is granted by piston in aluminium with polyurethane seals and PTFE guiding ring. A tolerance of $\pm 1^\circ$ is acceptable in **CRW** cylinders without final angular adjustment.

*Il cilindro della nuova serie **CRW** è un cilindro ad albero rotante in grado di convertire il moto lineare del pistone in un moto angolare attraverso un accoppiamento cremagliera-pignone sfruttando: la coppia torcente variabile in funzione della pressione di utilizzo, il tipo di accoppiamento albero maschio o femmina, il numero di alesaggi offerti che vanno dal Ø 25 al 100, le rotazioni che, oltre agli standard 90°, 180° e 360°, sono personalizzabili a seconda della richiesta del cliente.*

*Il cuore del cilindro **CRW** è costituito da un pignone dentato montato su di un albero e sostenuto da cuscinetti a sfere, accoppiato ad una cremagliera a sezione quadrata a sua volta sostenuta e guidata da un piattino in materiale plastico che tramite un sistema di regolazione a molle consente di recuperare il gioco che si crea tra i denti. La linearità del movimento del pistone nella camicia in tubo profilato di alluminio anodizzato è garantita da un accoppiamento snodato con la cremagliera, il pistone inoltre è in alluminio con guarnizioni di tenuta in poliuretano, fascia di guida in PTFE ed anello magnetico. Per i cilindri senza regolazione di rotazione si deve tenere conto di un'errore pari a $\pm 1^\circ$, mentre grazie al sistema di recupero del gioco questo viene totalmente annullato e quindi si garantisce la ripetibilità della rotazione.*

The **CRW**

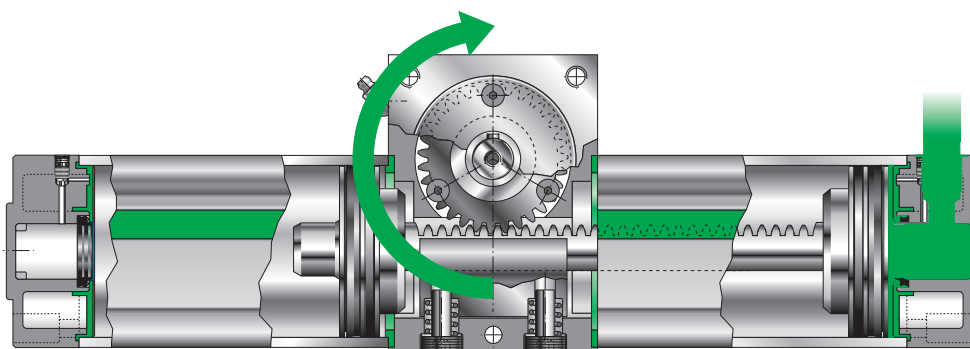


Fig. 2

ROTARY ACTUATORS UNI 6604 - 69 CILINDRI AD ALBERO ROTANTE UNI 6604 - 69

SERIE **CRW**

CRW ☐ ☐ ☐ ☐ ☐ ☐

Bore
Alesaggio (mm):

Ø25 ... **25**
Ø32 ... **32**
Ø40 ... **40**
Ø50 ... **50**
Ø63 ... **63**
Ø80 ... **80**
Ø100 ... **100**

Rotation angles
Angolo di rotazione

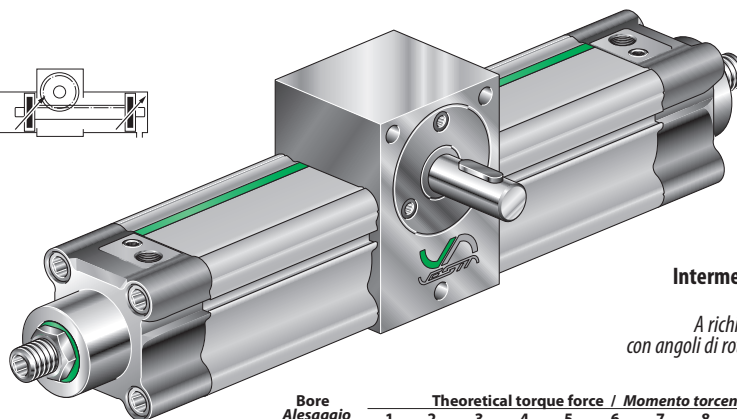
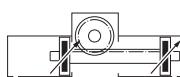
90; 180; 360.

0 Male pinion
Albero maschio

1 Female pinion
Albero femmina

0 Basic / Base

1 With final angular adjustment
Regolazione rotazione finale



**Intermediate rotations
upon request.**

A richiesta sono fornibili
con angoli di rotazione intermedi.

CRW cylinder fixing see / Fissaggi per cilindri CRW vedi: **Pag. A-22 ÷ A-26**

Features of reed switches see / Caratteristiche finecorsa magnetici: **Pag. A-19**

Bore Alesaggio	Theoretical torque force / Momento torcente teorico										Bar
	1	2	3	4	5	6	7	8	9	10	
25	0,07	0,14	0,21	0,28	0,35	0,42	0,49	0,56	0,63	0,70	Kgm
32	0,12	0,24	0,36	0,48	0,60	0,72	0,84	0,96	1,08	1,20	Kgm
40	0,23	0,46	0,69	0,92	1,15	1,38	1,61	1,84	2,07	2,30	Kgm
50	0,44	0,88	1,32	1,76	2,20	2,64	3,08	3,48	3,92	4,36	Kgm
63	0,80	1,60	2,40	3,20	4,00	4,80	5,60	6,40	7,20	8,00	Kgm
80	1,75	3,50	5,25	7,00	8,75	10,5	12,2	14,0	15,7	17,5	Kgm
100	3,23	6,46	9,69	12,9	16,1	19,3	22,6	25,8	29,0	32,3	Kgm

End caps	Aluminium alloy.
Body	Aluminium alloy.
Shaft	C45 steel.
Shaft guide	Acetalic polymer.
Piston	Aluminium with polyurethane seals, magnet and guide ring.
Barrel	Anodized profiled aluminium tube.
Seals	Polyurethane rubber.

Cushioning	Pneumatic adjusting cushions.
Ambient temperature range	-10 °C ÷ +80 °C.
Temperature range of medium	0 °C ÷ +40 °C.
Lubrication	Not required.
Medium	Filtered air.
Max operating pressure	1 ÷ 10 bar.

TECHNICAL FEATURES

Testate	Lega di alluminio.
Corpo centrale	Lega di alluminio.
Albero	Acciaio C45.
Pattino di guida	Resina acetica.
Pistone	In alluminio con guarnizioni in poliuretano, magneti e fascia di guida.
Camicia	Tubo anodizzato d' alluminio.
Guarnizioni	Tutte in poliuretano.

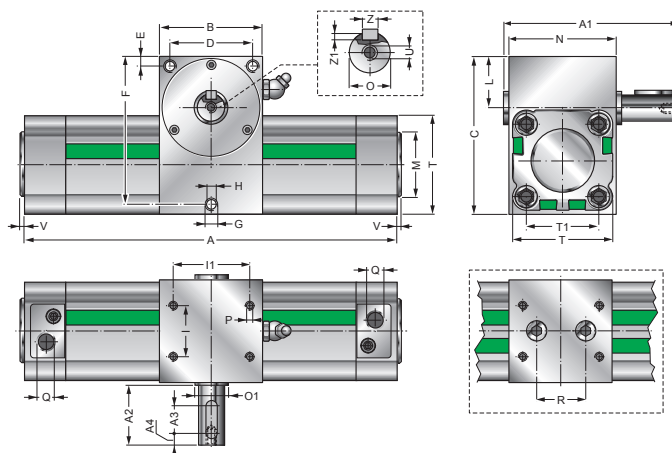
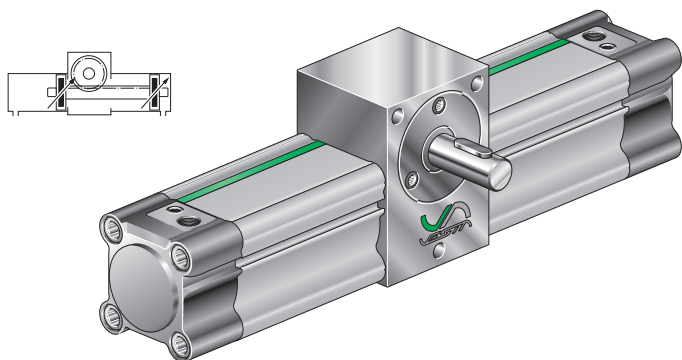
Ammortizzatori	Pneumatici regolabili progressivi.
Temperatura ambiente	-10 °C ÷ +80 °C.
Temperatura fluido	0 °C ÷ +40 °C.
Lubrificazione	Non necessaria.
Fluido	Aria filtrata.
Pressione max d'esercizio	1 ÷ 10 bar.

CARATTERISTICHE TECNICHE



CRW ... 0..

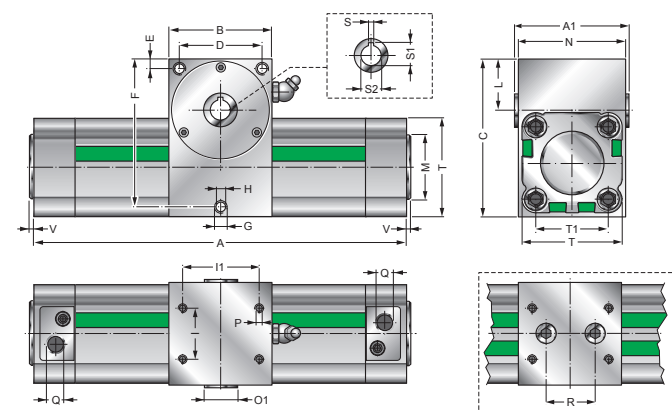
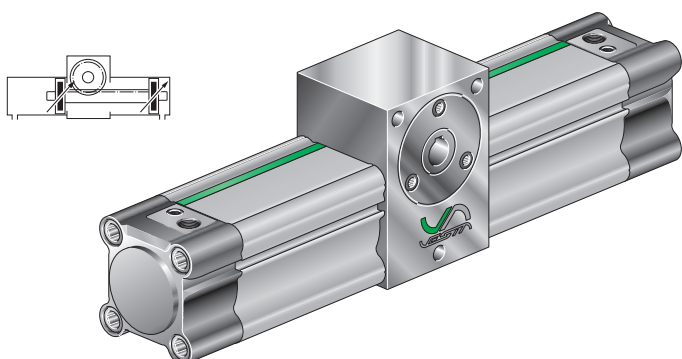
MALE PINION CYLINDER CILINDRO ROTANTE ALBERO MASCHIO



Bore Alesaggio	A			A1	A2	A3	A4	B	C	D	E	F	G	H	I	I1	L	ØM	N	O	O1	P	Q	R	T	T1	U	V	Z	Z1	Code Codice
	90°	180°	360°																												
25	157	198	280	67	25	15	7	43	62	34	5	54,5	---	M6X8	25	16	22	---	40	Ø10	Ø12	M5X6	G1/8	20	40	26	M4X9	---	3	2	CRW 25 ... 0..
32	208	256	350	82	33	15	8	54	74	44	5	69	Ø5,2	M6X12	18	33	27	30	47	Ø14	Ø17	M6X10	G1/8	25	45	32,5	M5X12	4	5	3	CRW 32 ... 0..
40	237	294	407	91	33	15	8	60	84	46	7	77	Ø6,5	M8X15	22	40	30	35	56	Ø15	Ø17	M6X12	G1/4	25	54	38	M5X15	4	5	3	CRW 40 ... 0..
50	263	329	461	110	40	24	8	75	102	58	9	93	Ø6,5	M8X15	25	50	39	40	68	Ø18	Ø25	M8X12	G1/4	30	64	46,5	M6X15	4	6	3,5	CRW 50 ... 0..
63	307	389	552	124	44	29	8	85	116	69	8	108	Ø8,5	M10X15	35	60	43	45	78	Ø20	Ø30	M8X12	G3/8	40	75	56,5	M6X15	4	6	3,5	CRW 63 ... 0..
80	364	474	694	148	48	32	9	110	149	90	10	140	Ø10,5	M12X20	50	80	54	45	98	Ø25	Ø35	M10X15	G3/8	50	93	72	M8X15	4	8	4	CRW 80 ... 0..
100	403	532	792	177	60	40	10	120	172	96	12	160	Ø10,5	M12X20	60	80	60	55	115	Ø35	Ø50	M10X15	G1/2	60	110	89	M10X15	4	10	5	CRW 100 ... 0..

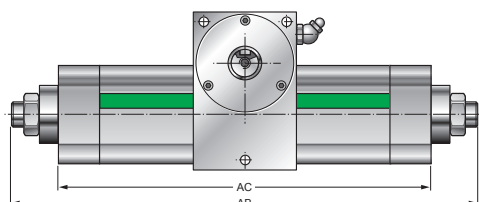
CRW ... 1..

FEMALE PINION CYLINDER CILINDRO ROTANTE ALBERO FEMMINA



Bore Alesaggio	A			A1	B	C	D	E	F	G	H	I	I1	L	ØM	N	O1	P	Q	R	T	T1	V	S	S1	S2	Code Codice
	90°	180°	360°																								
25	159,2	198	280	42	43	62	34	5	54,5	---	M6X8	25	16	22	---	40	Ø12	M5X6	G1/8	20	40	26	---	3	9,4	8	CRW 25 ... 1..
32	208	256	350	49	54	74	44	5	69	Ø5,2	M6X12	18	33	27	30	47	Ø17	M6X10	G1/8	25	45	32,5	4	3	9,4	8	CRW 32 ... 1..
40	235	291,4	404,4	58	60	84	46	7	77	Ø6,5	M8X15	22	40	30	35	56	Ø17	M6X12	G1/4	25	54	38	4	3	11	10	CRW 40 ... 1..
50	261	328,4	460,4	70	75	102	58	9	93	Ø6,5	M8X15	25	50	39	40	68	Ø18	M8X12	G1/4	30	64	46,5	4	5	16	14	CRW 50 ... 1..
63	306	386	550	80	85	116	69	8	108	Ø8,5	M10X15	35	60	43	45	78	Ø20	M8X12	G3/8	40	75	56,5	4	6	23	20	CRW 63 ... 1..
80	361,2	471,2	691	100	110	149	90	10	140	Ø10,5	M12X20	60	80	54	45	98	Ø35	M10X15	G3/8	50	93	72	4	6	23	20	CRW 80 ... 1..
100	402,4	532	791,2	117	120	172	96	12	160	Ø10,5	M12X20	60	80	60	55	115	Ø50	M10X15	G1/2	60	110	89	4	8	28	25	CRW 100 ... 1..

FINAL ANGULAR ADJUSTMENT ROTATION / REGOLAZIONE ROTAZIONE FINALE



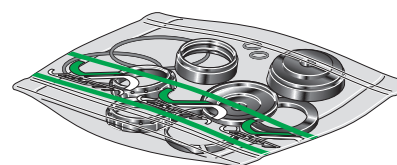
Bore Alesaggio	AC			AB						CH
	90°	180°	360°	90° max.	180° min.	360° max.	90° min.	180° min.	360° min.	
25	166,4	206,4	288,4	203	197	244	238	322	317	4*
32	212	260	354	258	250	306	298	400	392	10
40	243	300	413	293	286	350	343	462	456	10
50	275	340	473	319	310	385	377	517	509	10
63	316	396	560	367	357	443	433	612	602	10
80	373,2	483,2	703	436	423	546	533	766	753	13
100	416,8	546,4	805,6	481	465	610	594	870	854	13

* Inside exagon / Esagono incassato

Final angular adjustment: -8°; +5° /
Regolazione rotazione finale da -8° a +5°

..... - SG

SEALS KIT KIT GUARNIZIONI DI RICAMBIO

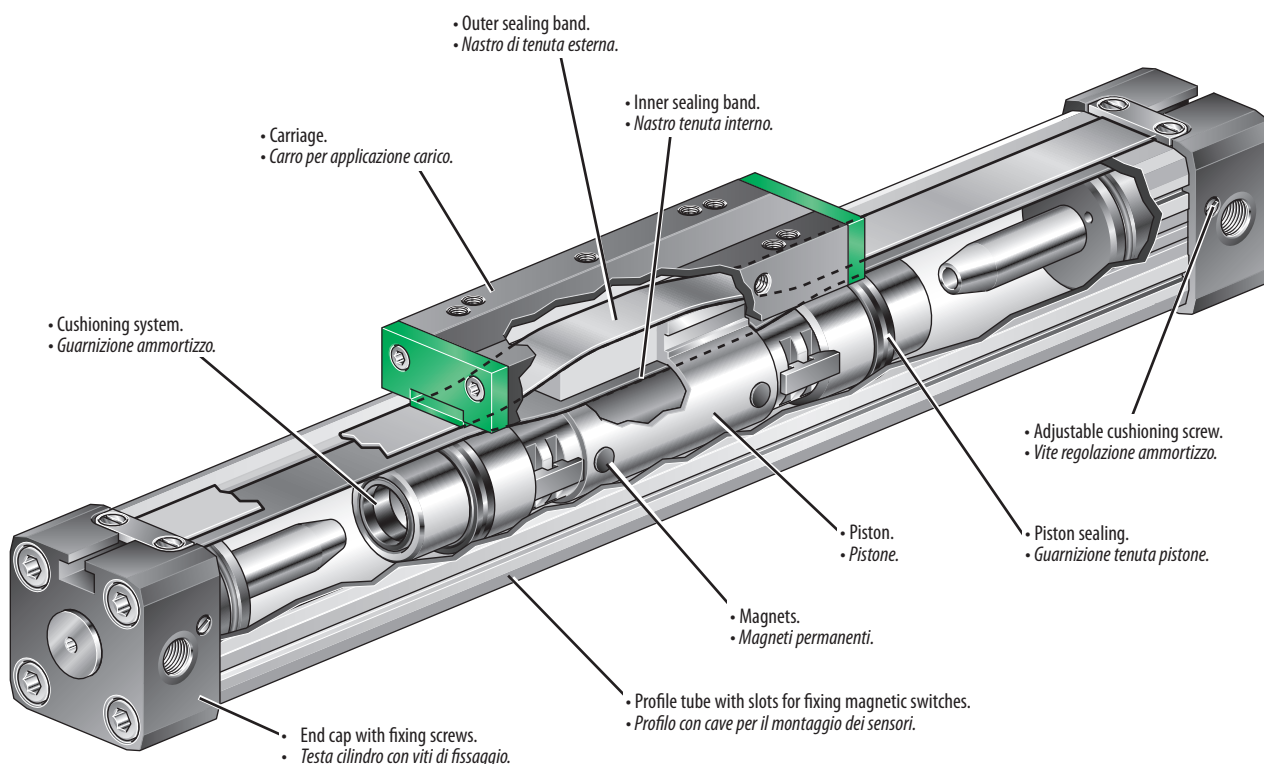


Seals kit code for CRW cylinders =
Rotary cylinder code + Bore + - SG:
(The kit includes all seals).

Codice del kit per cilindri CRW =
Codice cilindro rotante + Alesaggio + - SG:
(Il kit comprende tutte le guarnizioni necessarie).

Example / Esempio: **CRW 63 - SG**

RODLESS, CUSHIONED, MAGNETIC CYLINDER CILINDRI PNEUMATICI SENZA STELO, AMMORTIZZATI, MAGNETICI

SERIE **RLF**

DESCRIPTION OF FUNCTION AND DESIGN / PRINCIPIO DI FUNZIONAMENTO

Vesta Automation rodless cylinders RLF series are made of a special tube with a slot along the full length. The inside piston assembly is connected directly with the outside carriage through the slot of the tube.

A flexible stainless steel ground inner band runs along the slot passing through the piston assembly, thus enabling the sealing of the tube.

In addition there is an outer stainless steel band passing through the carriage and covering the slot in order to keep out dust and dirt. The two bands keep position by magnetic strips in the tube (pay attention to steel chips: they can be attracted by magnetic strips damaging cylinders).

The mechanically strong connection, the use of low friction materials and the complete range of available guiding systems allow a wide range of loads and moments of inertia to be applied to these cylinders granting fast and competitive solutions to many linear motion applications.

I cilindri senza stelo Vesta Automation serie RLF nascono dall'esigenza di riduzione dell'ingombro assiale di cilindri nel caso di corse particolarmente lunghe. Sono costituiti da un profilo estruso con una cava aperta superiore in tutta la sua lunghezza. Questa apertura consente il collegamento meccanico tra pistone e il carro superiore dove si effettua l'applicazione del carico esterno. Questa cava viene chiusa inferiormente da una sottile lamina di acciaio indurito che passa attraverso il pistone e che garantisce la tenuta metallica dell'aria. Superiormente la feritoia viene chiusa da un'altra lamina dello stesso materiale che impedisce a corpi estranei di penetrare nel cilindro. I due nastri di chiusura aderiscono alla cava superiore del profilo estruso grazie alla presenza di 2 fasce magnetiche annegate nel profilo stesso (nota: prestare attenzione a trucioli o limature ferromagnetiche che possono essere attratte dal campo magnetico). Il passaggio del pistone divarica le due lamine per consentire il passaggio del collegamento meccanico tra carro superiore e pistone stesso, e le richiude a passaggio avvenuto. Le guarnizioni del pistone sono posizionate rispettivamente prima della divaricazione delle lamine e dopo il loro riposizionamento in tenuta, pertanto le due camere d'aria del pistone risultano sempre in tenuta. Il pistone è fornito di magneti permanenti per l'utilizzo di sensori magnetici di fine corsa da montarsi sulle apposite cave del profilo. Il cilindro è dotato di ammortizzatori pneumatici regolabili di finecorsa.

ADVANTAGES / VANTAGGI

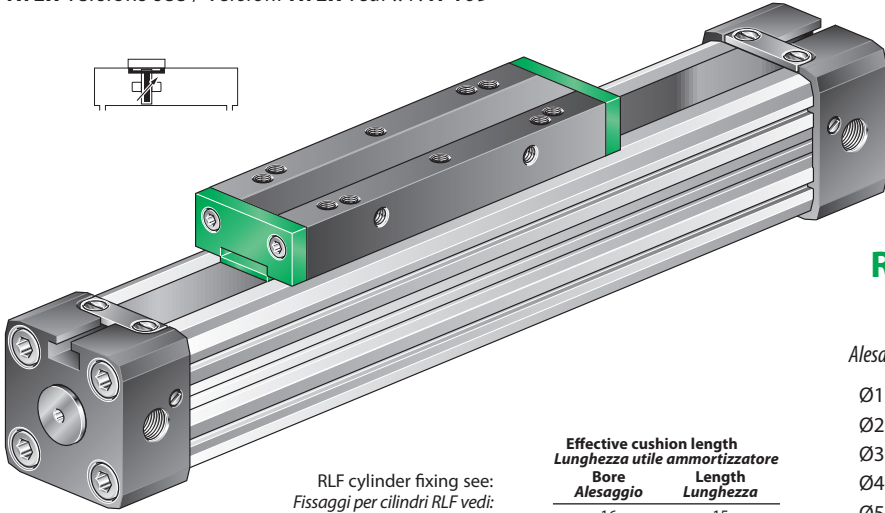
- Equal forces on both ends of the piston.
- Force connection direct, torque safe.
- 50% space saving.
- Long strokes up to 5700mm.
- End caps with 3 air connections and adjustable cushioning.
- Guided versions are available for heavy duty use.
- Cilindro con forze uguali in tiro ed in spinta.
- Connessione meccanica rigida e a basso attrito di scorrimento tra pistone e carro.
- Ingombro assiale molto ridotto, specialmente su corse lunghe.
- Corsa massima di 5700mm.
- Testate con 3 ingressi dell'aria e ammortizzi regolabili.
- Disponibili versioni guidate per applicazioni gravose.



SERIE RLF

RODLESS PNEUMATIC CYLINDERS CILINDRI PNEUMATICI SENZA STELO

ATEX versions see / Versioni ATEX vedi .. P. A-109



RLF cylinder fixing see:
Fissaggi per cilindri RLF vedi:
..... **Pag. A-88 ÷ A-89**

Features of reed switches see:
Caratteristiche finecorsa magnetici:
..... **Pag. A-97**

Effective cushion length Lunghezza utile ammortizzatore	
Bore Alesaggio	Length Lunghezza
16	15
25	21
32	26
40	32
50	32
63	40

With magnetic piston / Con pistone magnetico

RLF /

Bore Alesaggio (mm):	
Ø16	16
Ø25	25
Ø32	32
Ø40	40
Ø50	50
Ø63	63

Stroke
Corsa (mm):

- O** Standard
- V** Viton seals ($v \geq 1$ m/s)
Guarnizioni in Viton ($v \geq 1$ m/s)
- X** Stainless steel screws
Viti inox
- VX** Viton + Stainless steel screws
Viton + viti inox

Stroke { Ø25÷Ø63 = 100÷5700mm
Corsa (mm): { Ø16 = 100÷3300mm

TECHNICAL FEATURES

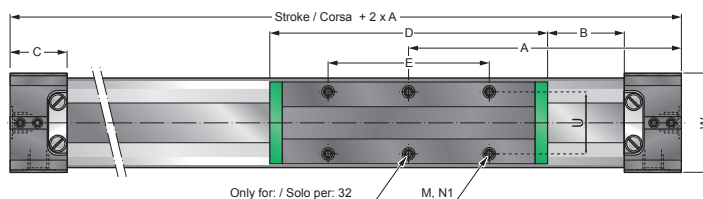
End caps	Anodised aluminium.
Barrel	Anodised aluminium.
Seals	NBR standard (for $v \leq 1$ m/s).
Carriage	Anodised aluminium.
Sealing bands	Stainless steel.

Cushioning	Pneumatic adjusting cushions.
Ambient temperature	-15 °C ÷ +80 °C.
Temperature range of medium	0 °C ÷ +40 °C.
Lubrication	Not required.
Medium	Filtered air.
Pressure range	0,5 ÷ 8 bar.

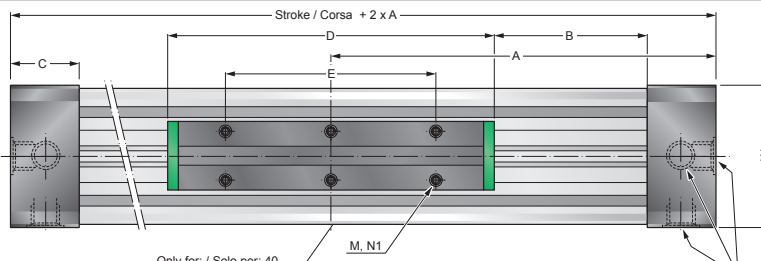
CARATTERISTICHE TECNICHE

Testate	Alluminio anodizzato.
Camicia	Alluminio anodizzato.
Guarnizioni	NBR standard (per $v \leq 1$ m/s).
Carro	Alluminio anodizzato.
Lamine di tenuta	Acciaio inossidabile.

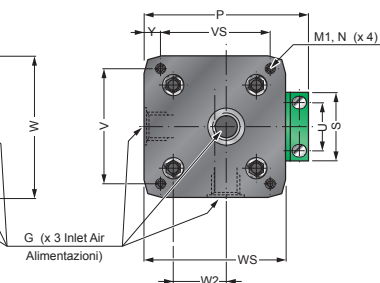
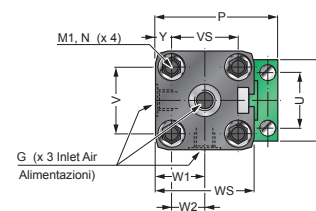
Ammortizzatori	Pneumatici progressivi regolabili.
Temperatura ambiente	-15 °C ÷ +80 °C.
Temperatura fluido	0 °C ÷ +40 °C.
Lubrificazione	Non necessaria.
Fluido	Aria filtrata.
Pressione d'esercizio	0,5 ÷ 8 bar.



RLF 16 - RLF 25 - RLF 32

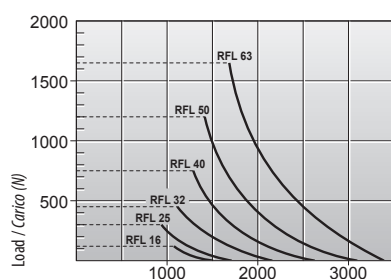


RLF 40 - RLF 50 - RLF 63

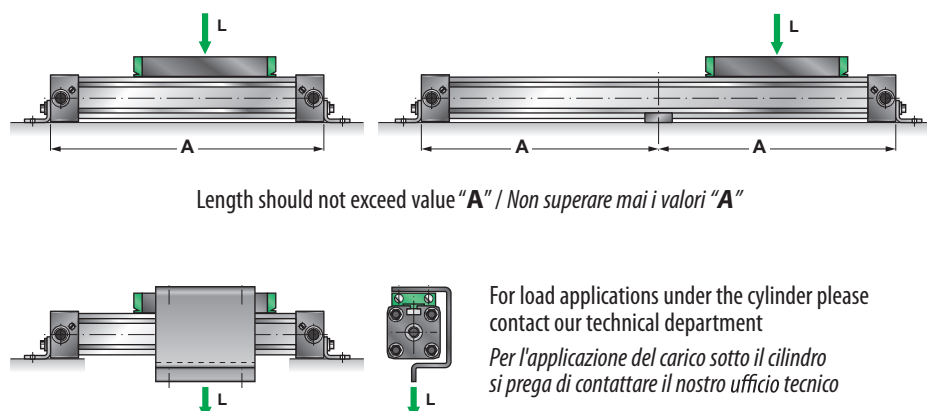


Bore Alesaggio	A	B	C	D	E	G	M	M1	N	N1	P	S	U	V	VS	W	WS	W2	Y	Code Codice
16	65	15,5	15	69	36	M5	M4	M3	7	7	36,5	22	16,5	18	18	27	27	17,1	4,5	RLF 16/.... ..
25	100	21,5	23	111	65	G1/8	M5	M5	12	10	52,5	33	25	27	27	40	40	25,8	6,5	RLF 25/.... ..
32	125	21	27	152	90	G1/4	M6	M6	14	7	66,5	36	27	36	40	52	56	39	8	RLF 32/.... ..
40	150	44	30	152	90	G1/4	M6	M6	17	10	80	36,4	27	54	54	72	69	48,8	9	RLF 40/.... ..
50	175	42	33	200	110	G1/4	M6	M6	18	6	89	56	27	70	70	80	80	44,5	5	RLF 50/.... ..
63	215	48,5	50	233	155	G3/8	M8	M8	18	15	123	50	36	78	78	106	106	48,8	14,5	RLF 63/.... ..

TRANSVERSE FORCE GRAPH RLF SERIES / DIAGRAMMI DI FLESSIONE SERIE RLF



Distances "A" of mounting with deflection 1mm.
Distanza "A" fra i supporti con inflessione 1mm.



For load applications under the cylinder please contact our technical department

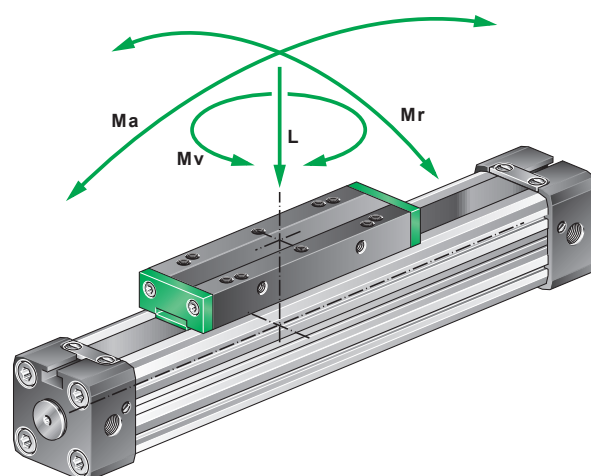
Per l'applicazione del carico sotto il cilindro si prega di contattare il nostro ufficio tecnico

FORCES AND TORQUE / FORZE E MOMENTI TORCENTI

The figures above are max. values based on light shock free duty and speed of 0,45 m/s.
Max. pressure 6 bar. An exceeding of the values in dynamic operations, even for short moments, has to be avoided.
Attention: Resulting forces could lead to extreme exceedings of the values.
In case of undefinable situations the above max. values have to be reduced by 20%.

Valori di carico massimi singolarmente applicati con V 0,45 m/s e pressione max = 6 bar
In condizioni dinamiche, anche per brevi istanti, non superare mai i carichi indicati.
In condizioni di carico non esattamente definite o calcolabili ridurre i valori indicati del 20%.
Inadatto a sopportare combinazioni di più carichi applicati contemporaneamente.

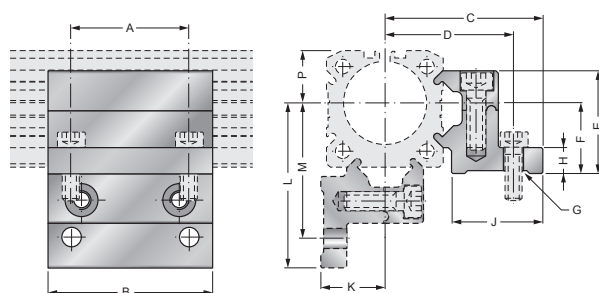
Cylinder Cilindro Ø	Thrust force (N) Forza di spinta (N) (6 bar)	Max allowed load(N) Carico max(N)	Max allowed bending moments(Nm) Momento flettente max(Nm)	Max allowed torque(Nm) Torsione max(Nm)	
		L	M _a axial	M _r radial	M _v central
16	110	120	4	0,3	0,5
25	250	300	15	1	3
32	420	450	30	2	4,5
40	640	750	60	4	8
50	1000	1200	115	7	15
63	1550	1650	200	8	24



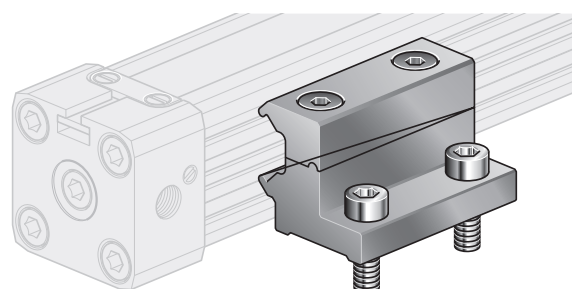
FIXING ACCESSORIES / ACCESSORI DI FISSAGGIO

MID SUPPORT
SUPPORTO INTERMEDIO

RLMW- ..

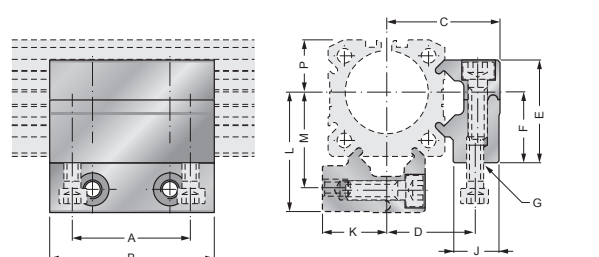


Bore Alésaggio	A	B	C	D	E	F	G	H	J	K	L	M	P	Code Codice
25	36	50	47,5	40	31,3	22	Ø5,5	10	26	20	49,5	42	16	RLMW- 25
32	36	50	56	47,5	39	30	Ø6,5	10	28,5	27,6	61	52,5	21,5	RLMW- 32

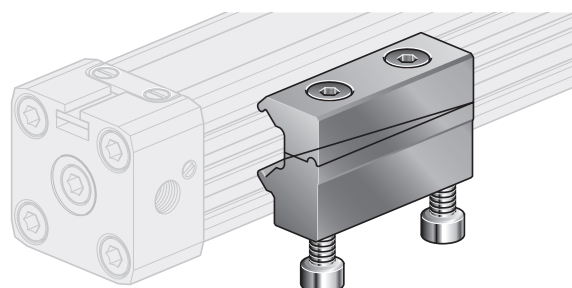


MID SUPPORT
SUPPORTO INTERMEDIO

RLMG- ..



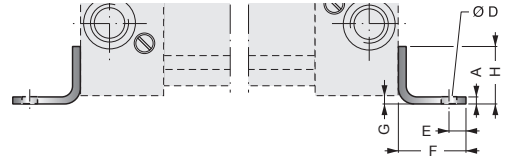
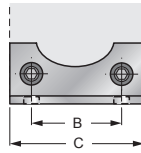
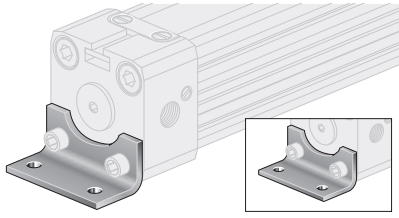
Bore Alésaggio	A	B	C	D	E	F	G	J	K	L	M	P	Code Codice
25	36	50	34,5	27	31,3	22	M5	14	20	36,5	29	16	RLMG- 25
32	36	50	41,8	34,2	39	30	M6	14	27,6	47	39,5	21,5	RLMG- 32





RLP- ..

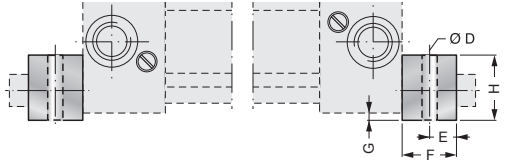
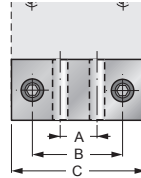
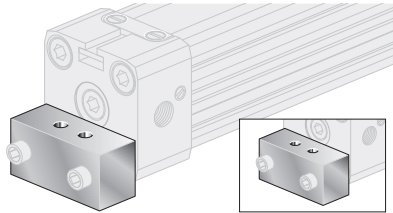
FOOT MOUNTING
MONTAGGIO A PIEDINI



Bore Alesaggio	A	B	C	ØD	E	F	G	H	Code Codice
16	1,5	18	26	3,6	4,0	14	1,5	12,5	RLP- 16
25	2,5	27	40	5,5	6,0	22	2	18	RLP- 25

RLQ- ..

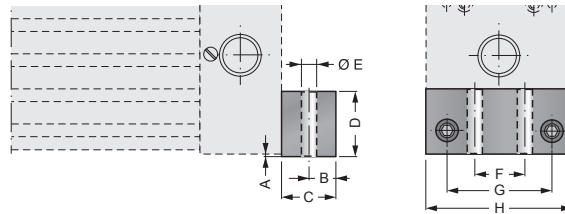
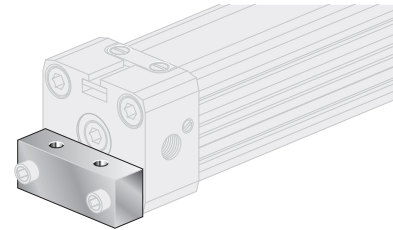
SQUARE FOOT MOUNTING
MONTAGGIO A PIEDINI QUADRI



Bore Alesaggio	A	B	C	ØD	E	F	G	H	Code Codice
32	20	36	51	6,5	8	24	4	20	RLQ- 32
40	30	54	71	9,0	11,5	24	2	20	RLQ- 40

RLQ- ..

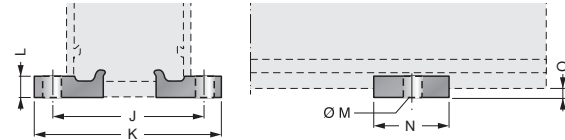
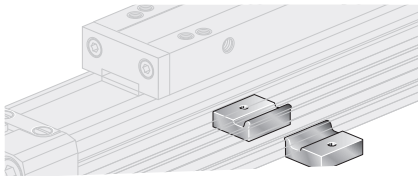
SQUARE FOOT MOUNTING
MONTAGGIO A PIEDINI QUADRI



Bore Alesaggio	A	B	C	D	ØE	F	G	H	Code Codice
50	1	12,5	25	25	9	45	70	80	RLQ- 50
63	2	15	30	40	11	48	78	105	RLQ- 63

RLMI- ..

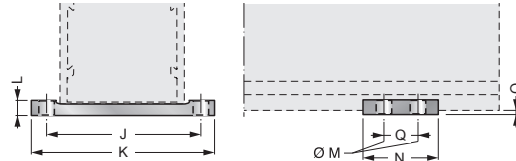
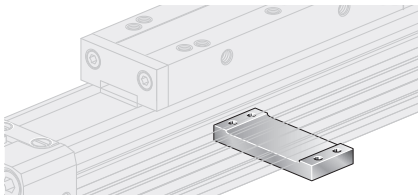
MID SUPPORTS
SUPPORTI INTERMEDI



Bore Alesaggio	J	K	L	ØM	N	O	Code Codice
16	41,5	53,5	5	5,5	20	3	RLMI- 16
25	48,5	60	6	5,5	20	4	RLMI- 25

RLMU- ..

MID SUPPORT
SUPPORTO INTERMEDIO

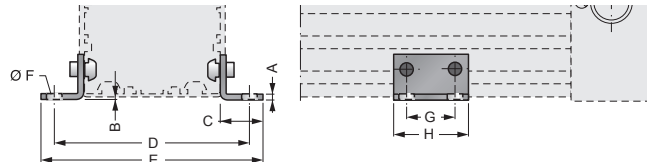
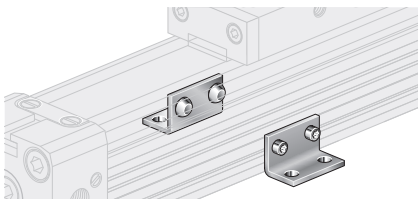


Bore Alesaggio	J	K	L	ØM	N	O	Q	Code Codice
32	61	73	10	6,5	55	6	40	RLMU- 32
40	70	85	10	6,5	60	8,5	45	RLMU- 40

(*) On request / Su richiesta

RLML- ..

MID SUPPORTS
SUPPORTI INTERMEDI



Bore Alesaggio	A	B	C	D	E	ØF	G	H	Code Codice
50	5	1	35	123	148	6,5	30	45	RLML- 50
63	5	3,5	35	147	172	6,5	30	45	RLML- 63

(*) On request / Su richiesta

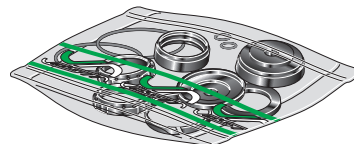
RL.. - SG

SEALS KIT
KIT GUARNIZIONI DI RICAMBIO

Seals kit code = **RL** + **Bore** + **- SG**: (The kit includes all seals).

Codice del kit = **RL** + **Alesaggio** + **- SG**: (Il kit comprende tutte le guarnizioni necessarie).

Example / Esempio: **RL 32 V - SG**



RODLESS CYLINDERS WITH DUAL "V" EDGE SLIDE SYSTEM CILINDRI SENZA STELO CON GUIDA PRISMATICA E CUSCINETTI A RULLO DOPPIA "V"

SERIE **RLFR**

With magnetic piston / Con pistone magnetico

RLFR /

Bore
Alesaggio (mm):

Ø25 **25**

Ø32 **32**

Ø40 **40**

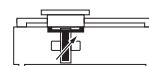
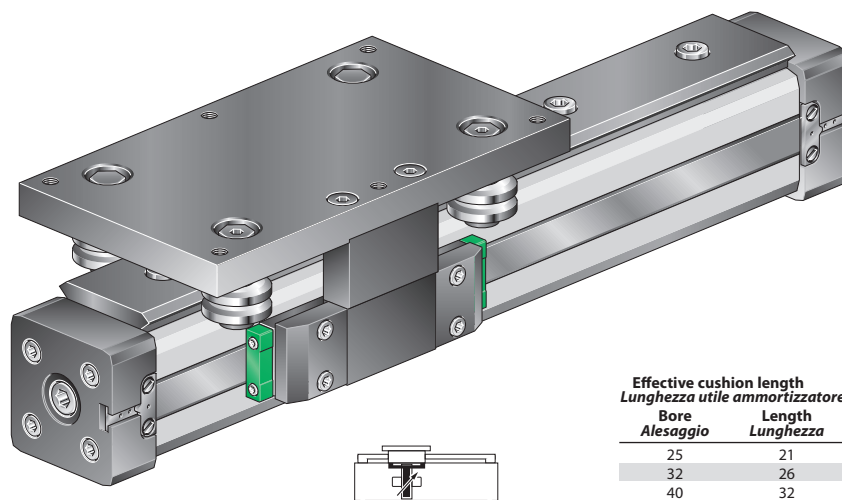
Stroke
Corsa (mm):

O Standard
Standard

V Viton seals ($v \geq 1$ m/s)
Guarnizioni in Viton ($v \geq 1$ m/s)

Features of reed switches see:
Caratteristiche finecorsa magnetici:
..... **Pag. A-97**

RLFH cylinder fixing see:
Fissaggi per cilindri RLFH vedi:
..... **Pag. A-88 ÷ A-89**



Effective cushion length Lunghezza utile ammortizzatore	
Bore Alesaggio	Length Lunghezza
25	21
32	26
40	32

ADVANTAGES / VANTAGGI

An extremely robust linear system with hard wearing "v" running surfaces. It ensures a high level of guidance over the entire stroke and allows the cylinder to accept high direct bending moments and loads. Especially developed for linear motion in machine tools and robotics, it is sealed to prevent dirt infiltration.

Questa guida lineare estremamente robusta è stata studiata appositamente per il suo utilizzo nelle macchine utensili e nell'industria robotica.

La grande capacità di carico e precisione sono garantite da un sistema di guida costituito da una guida prismatica in acciaio sulla quale scorrono rulli a cuscinetti a "V".

- High loading features
- Quiet and smooth running
- Robust bearing housing
- Hardened and grinded guiderail
- Low friction bearing
- Easy maintenance
- Alte capacità di carico
- Scorrimento regolare e silenzioso
- Robusto alloggiamento di guida
- Rotaia di guida temprata e indurita
- Guida a basso coefficiente d'attrito di scorrimento
- Facile intercambiabilità degli elementi di guida

TECHNICAL FEATURES

End caps Anodised aluminium.
Barrel Anodised aluminium.
Seals NBR standard (for $v \leq 1$ m/s).
Carriage Anodised aluminium.
Sealing bands Stainless steel.
Cushioning Pneumatic adjusting cushions

Ambient temperature range $-15^{\circ}\text{C} \div +80^{\circ}\text{C}$.
Temperature range of medium $0^{\circ}\text{C} \div +40^{\circ}\text{C}$.
Lubrication Not required.
Medium Filtered air.
Pressure range $0,5 \div 8$ bar.

CARATTERISTICHE TECNICHE

Testate Alluminio anodizzato.
Camicia Alluminio anodizzato.
Guarnizioni NBR standard (per $v \leq 1$ m/s).
Carro Alluminio anodizzato.
Lamine di tenuta Acciaio inossidabile.
Ammortizzatori Pneumatici progressivi regolabili.

Temperatura ambiente $-15^{\circ}\text{C} \div +80^{\circ}\text{C}$.
Temperatura fluido $0^{\circ}\text{C} \div +40^{\circ}\text{C}$.
Lubrificazione Non necessaria.
Fluido Aria filtrata.
Pressione d'esercizio $0,5 \div 8$ bar.

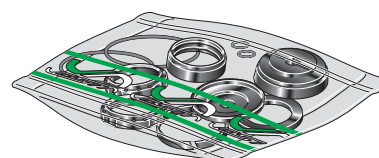
SEALS KIT
KIT GUARNIZIONI DI RICAMBIO

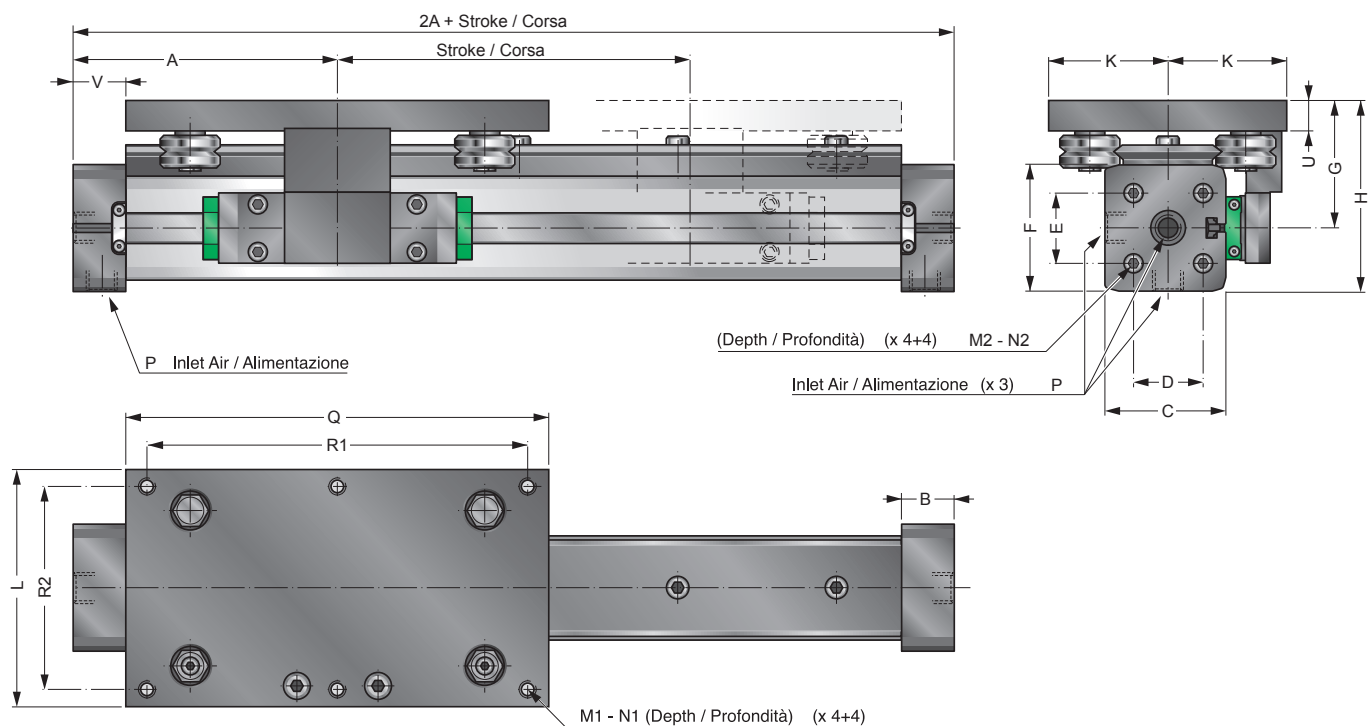
RL.. - SG

Seals kit code = **RL** + **Bore** + **- SG**: (The kit includes all seals).

Codice del kit = **RL** + **Alesaggio** + **- SG**: (Il kit comprende tutte le guarnizioni necessarie).

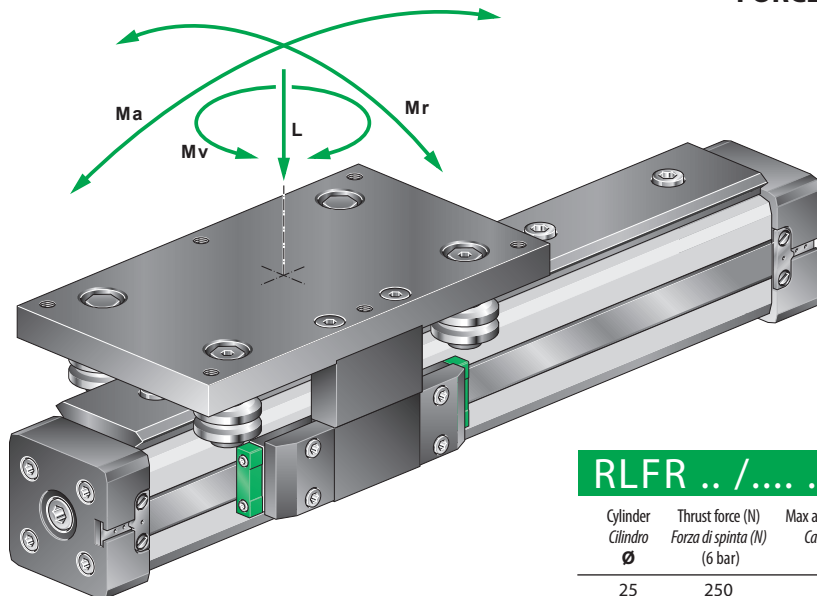
Example / Esempio: **RL 32 V - SG**





Bore Alesaggio	A	B	C	D	E	F	G	H	K	L	M1	M2	N1	N2	P	Q	R1	R2	U	V	Code Codice
25	100	23	40	27	27	40	53,5	73,5	40	80	M6	M5	11	10	G1/8	135	120	65	11	32,5	RLFR 25/...
32	125	27	56	40	36	52	64	90	58	116	M8	M6	14,5	14	G1/4	180	160	96	14,5	35	RLFR 32/...
40	150	30	69	54	54	72	72,5	108,5	67,5	135	M8	M6	16,5	17	G1/4	240	216	115	17,5	30	RLFR 40/...

FORCES AND TORQUE / FORZE E MOMENTI TORCENTI



Combined loads:
The combined forces and torque moments
can be calculated using the following formula:

Carichi combinati:
Le sollecitazioni combinate di forze e
momenti torcenti sono calcolabili con la seguente formula:

$$\frac{M_a}{M_{a \max}} + \frac{M_r}{M_{r \max}} + \frac{M_v}{M_{v \max}} + \frac{L}{L_{\max}} \leq 1$$

RLFR .. /

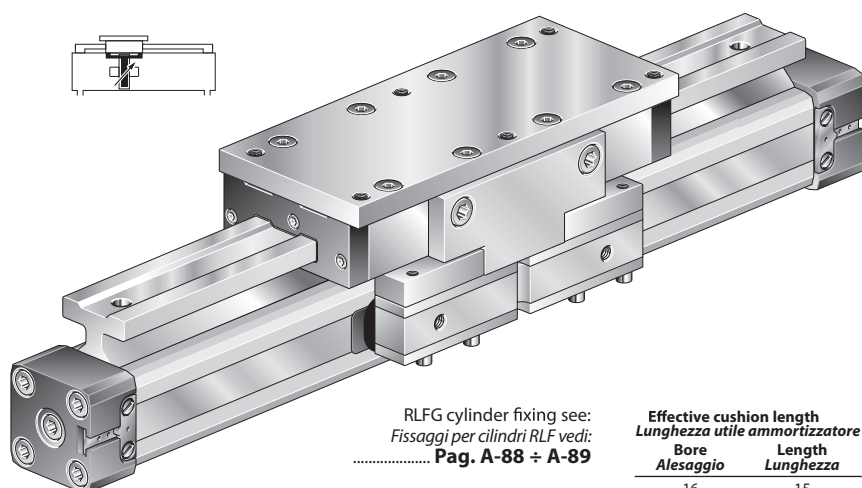
RODLESS CYLINDER WITH DUAL "V" EDGE SLIDE SYSTEM
CILINDRO SENZA STELO CON GUIDA PRISMATICA E CUSCINETTI A RULLO DOPPIA "V"

Cylinder <i>Cilindro</i> Ø	Thrust force (N) <i>Forza di spinta (N)</i> (6 bar)	Max allowed load(N) <i>Carico max(N)</i> L	Max allowed bending moments(Nm) <i>Momento flettente max(Nm)</i>		Max allowed torque(Nm) <i>Torsione max(Nm)</i>
			M_a axial	M_r radial	M_v central
25	250	1400	50	14	50
32	420	3100	165	65	165
40	640	3100	250	90	250

The above mentioned moments ($M_a \max \dots$) are related to the guide rail centre. *I momenti ($M_a \max \dots$) sono calcolati rispetto all'asse della guida.*

RODLESS CYLINDERS WITH GLIDING CARRIAGE CILINDRI SENZA STELO CON CARRO GUIDATO

SERIE **RLFG**



RLFG cylinder fixing see:
Fissaggi per cilindri RLF vedi:
..... **Pag. A-88 ÷ A-89**

Features of reed switches see:
Caratteristiche finecorsa magnetici:
..... **Pag. A-97**

Effective cushion length
Lunghezza utile ammortizzatore

Bore Alesaggio	Length Lunghezza
16	15
25	21
32	26
40	32

With magnetic piston / Con pistone magnetico

RLFG ☐ ☐ / ☐ ☐ ☐ ☐ ☐

Bore
Alesaggio (mm):

Ø16 **16**
Ø25 **25**
Ø32 **32**
Ø40 **40**

Stroke
Corsa (mm):

O Standard
Standard
V Viton seals ($v \geq 1 \text{ m/s}$)
Guarnizioni in Viton ($v \geq 1 \text{ m/s}$)

ADVANTAGES / VANTAGGI

This particular strong linear guiding system was specially developed for medium heavy applications in linear motions.
Questo sistema di scorrimento ottenuto con pattino di guida in tecnopolimero su rotaia in alluminio indurito è realizzato per applicazioni di carichi esterni sul carro cilindro

- High resistance to wear.
- Adjustable tolerance.
- High resistance to corrosion.
- Quiet running.
- Resistance to high loads & moments in all directions.
- Resistance to shock loadings and vibrations against blows and vibrations.
- High resistance to dirt & moisture.
- Low weight
- Easy maintenance of gliding elements.
- Alta resistenza all'usura.
- Tolleranza regolabile.
- Alta resistenza alla corrosione.
- Scorrimento silenzioso e a basso attrito.
- Capacità di sopportare carichi e momenti in tutte le direzioni.
- Capacità di sopportare carichi impulsivi e vibrazioni.
- Alta resistenza in ambienti sporchi e umidi.
- Basso peso.
- Intercambiabilità degli elementi striscianti.

TECHNICAL FEATURES

Ambient temperature range	-15 °C ÷ +80 °C.
Temperature range of medium	0 °C ÷ +40 °C.
Lubrication	Not required.
Medium	Filtered air.
Pressure range	0,5 ÷ 8 bar.

CARATTERISTICHE TECNICHE

Temperatura ambiente	-15 °C ÷ +80 °C.
Temperatura fluido	0 °C ÷ +40 °C.
Lubrificazione	Non necessaria.
Fluido	Aria filtrata.
Pressione d'esercizio	0,5 ÷ 8 bar.

End caps	Anodised aluminium.
Barrel	Anodised aluminium.
Seals	NBR standard (for $v \leq 1 \text{ m/s}$).
Carriage	Anodised aluminium.
Sealing bands	Stainless steel.
Cushioning	Pneumatic adjusting cushions.

Testate	Alluminio anodizzato.
Camicia	Alluminio anodizzato.
Guarnizioni	NBR standard (per $v \leq 1 \text{ m/s}$).
Carro	Alluminio anodizzato.
Lamine di tenuta	Acciaio inossidabile.
Ammortizzatori	Pneumatici progressivi regolabili.

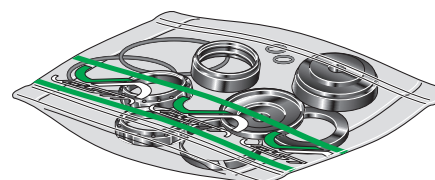
Seals kit code = **RL + Bore + - SG**:
(The kit includes all seals).

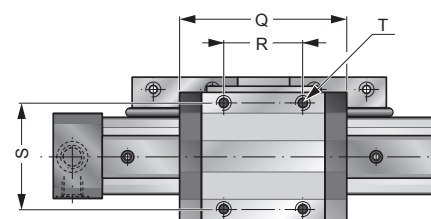
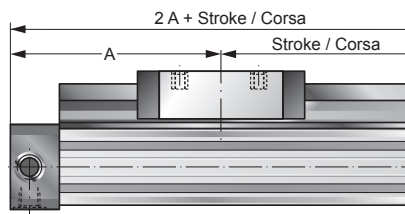
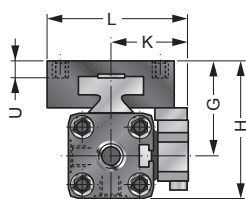
Codice del kit = **RL + Alesaggio + - SG**:
(Il kit comprende tutte le guarnizioni necessarie).

Example / Esempio: **RL 32 V - SG**

SEALS KIT
KIT GUARNIZIONI DI RICAMBIO

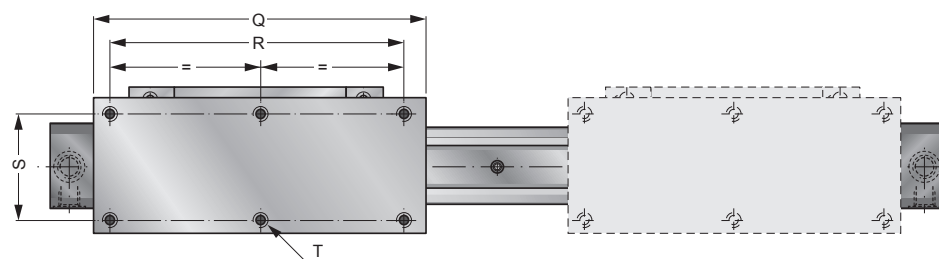
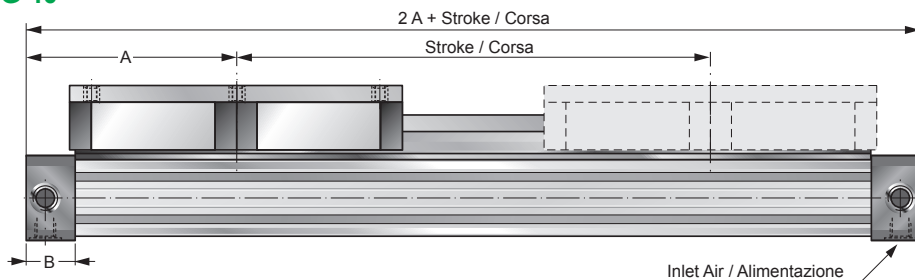
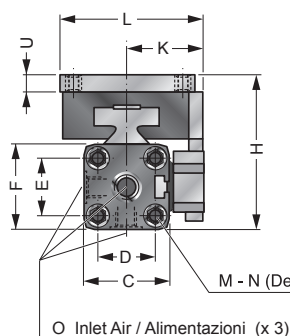
RL.. - SG





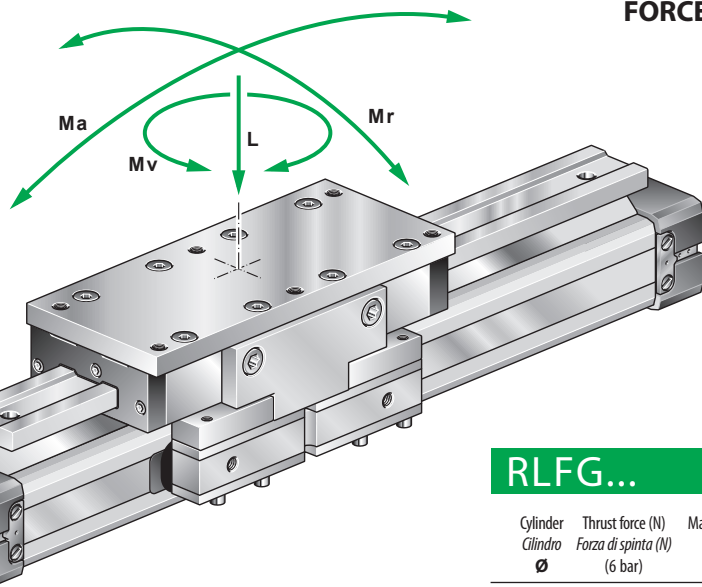
RLFG 16

RLFG 25 - RLFG 32 - RLFG 40



Bore Alesaggio	A	B	C	D	E	F	H	K	L	M	N	O	Q	R	S	T	U	Code Codice
16	65	15	27	18	18	27	48,5	31,5	63	M3	7	M5	90	40	36	M4	8	RLFG.16/...
25	100	23	40	27	27	40	76	32,5	70	M5	10	G1/8	162	148	53	M6	8	RLFG.25/...
32	125	27	52	36	40	52	88,5	32,5	70	M6	14	G1/4	162	148	53	M6	8	RLFG.32/...
40	150	30	69	54	54	72	103	32,5	70	M6	17	G1/4	162	148	53	M6	8	RLFG.40/...

FORCES AND TORQUE / FORZE E MOMENTI TORCENTI



Combined loads:
The combined forces and torque moments can be calculated using the following formula:

Carichi combinati:
Le sollecitazioni combinate di forze e momenti torcenti sono calcolabili con la seguente formula:

$$\frac{M_a}{M_{a \max}} + \frac{M_r}{M_{r \max}} + \frac{M_v}{M_{v \max}} + \frac{L}{L_{\max}} \leq 1$$

RLFG...

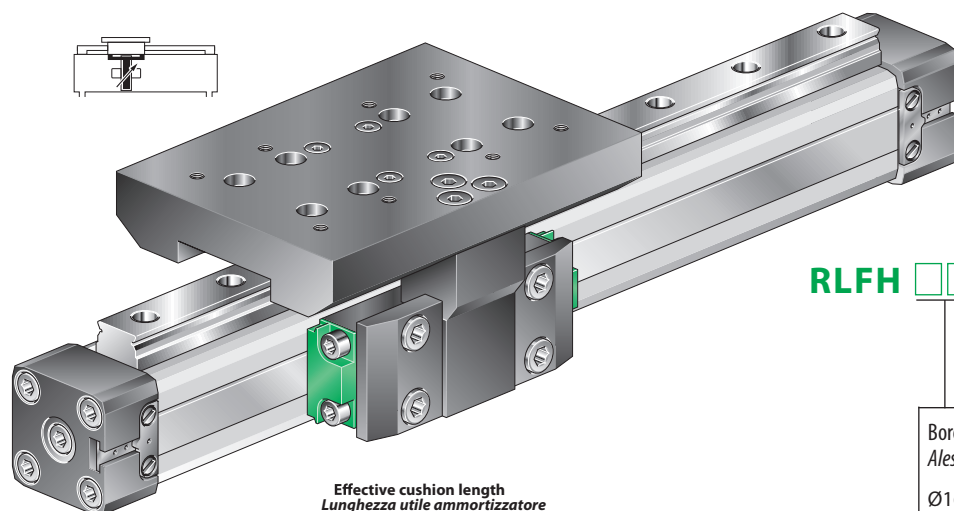
SLIDING PARTS WITH WAGON GUIDE
CARRO CON PATTINI GUIDA IN TECNOPOLIMERO

Cylinder Cilindro	Thrust force (N) Forza di spinta (N)	Max allowed load(N) Carico max(N)	Max allowed bending moments(Nm) Momento flettente max(Nm)		Max allowed torque(Nm) Torsione max(Nm)
Ø	(6 bar)	L	M _a axial	M _r radial	M _v central
16	110	350	6	4	6
25	250	1000	40	14	40
32	420	2000	68	24	68
40	640	2800	103	37	103

The above mentioned moments (M_a max ...) are related to the plane surface.
I momenti (M_a max ...) sono calcolati rispetto al piano della flangia.

RODLESS CYLINDERS WITH BALL BEARING GUIDES CILINDRI SENZA STELO CON CARRO GUIDATO A RICIRCOLO DI SFERE

SERIE **RLFH**



With magnetic piston / Con pistone magnetico

RLFH /

Stroke
Corsa (mm):

Bore
Alesaggio (mm):

Ø16 **16**
Ø25 **25**
Ø32 **32**
Ø40 **40**

O Standard
Standard
V Viton seals (v ≥ 1 m/s)
Guarnizioni in Viton
(v ≥ 1 m/s)

1 Sliding system with
one wagon guide
Carro con 1 pattino guida
2 Sliding system with
two wagons guide
Carro con 2 pattini guida

Effective cushion length Lunghezza utile ammortizzatore	Bore Alesaggio	Length Lunghezza
16	15	
25	21	
32	26	
40	32	

Characteristic reed switches see:
Caratteristiche finecorsa magnetici:
..... **Pag. A-97**

RLFH cylinder fixing see:
Fissaggi per cilindri RLFH vedi:
..... **Pag. A-88 ÷ A-89**

ADVANTAGES / VANTAGGI

A strong ball bearing system ensures a high level of guidance over the entire stroke and allows the cylinder to accept high direct bending moments and loads. Especially developed for linear motion in machine tools and robotics.

Questa guida lineare estremamente robusta è stata studiata appositamente per il suo utilizzo nelle macchine utensili e nell'industria robotica, grazie alla sua grande capacità di carico esterno (forze e movimenti) ed alla grande precisione di guida.

- High loading characteristics
- Quiet and smooth running
- Robust bearing housing
- Easy access to grease nipple
- Hardened and grinded guiderail
- Low friction bearing
- Easy maintenance
- Alte capacità di carico
- Scorrimento regolare e silenzioso
- Robusto alloggiamento di guida
- Facile accesso agli ingrassatori
- Rotaia di guida temprata e indurita
- Guida a basso coefficiente d'attrito di scorrimento
- Facile intercambiabilità degli elementi di guida

TECHNICAL FEATURES

End caps	Anodised aluminium.
Barrel	Anodised aluminium.
Seals	NBR standard (for v ≤ 1 m/s).
Carriage	Anodised aluminium.
Sealing bands	Stainless steel.
Cushioning	Pneumatic adjusting cushions.

Ambient temperature range	-15 °C ÷ +80 °C.
Temperature range of medium	0 °C ÷ +40 °C.
Lubrication	Not required.
Medium	Filtered air.
Pressure range	0,5 ÷ 8 bar.

Testate	Alluminio anodizzato.
Camicia	Alluminio anodizzato.
Guarnizioni	NBR standard (per v ≤ 1 m/s).
Carro	Alluminio anodizzato.
Lamine di tenuta	Acciaio inossidabile.
Ammortizzatori	Pneumatici progressivi regolabili.

Temperatura ambiente	-15 °C ÷ +80 °C.
Temperatura fluido	0 °C ÷ +40 °C.
Lubrificazione	Non necessaria.
Fluido	Aria filtrata.
Pressione d'esercizio	0,5 ÷ 8 bar.

CARATTERISTICHE TECNICHE

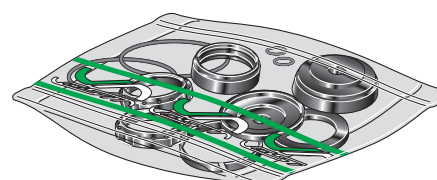
SEALS KIT
KIT GUARNIZIONI DI RICAMBIO

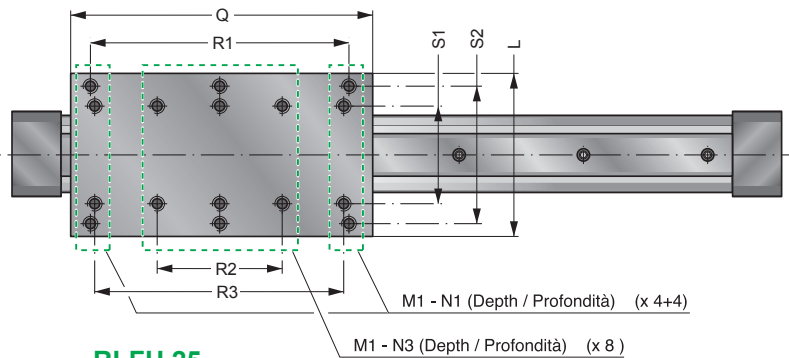
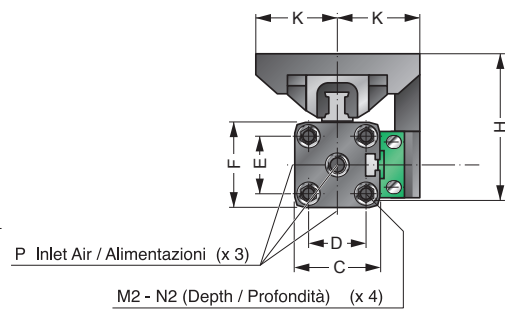
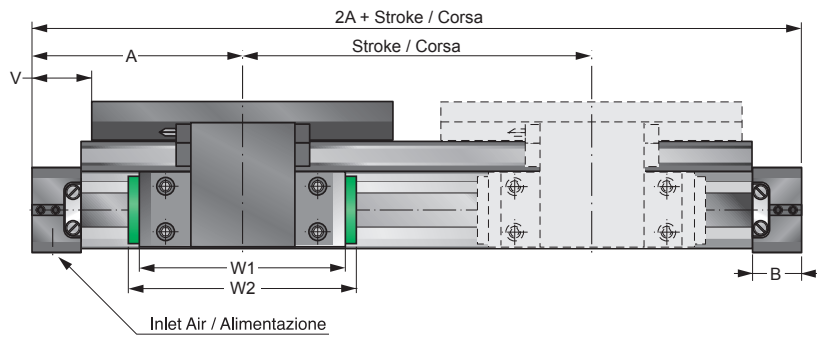
RL.. - SG

Seals kit code = **RL + Bore + - SG**:
(The kit includes all seals).

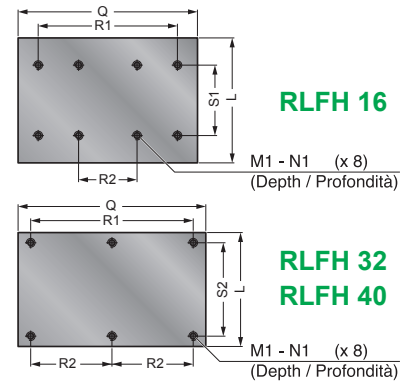
Codice del kit = **RL + Alesaggio + - SG**:
(Il kit comprende tutte le guarnizioni necessarie).

Example / Esempio: **RL 32 V - SG**





RLFH 25

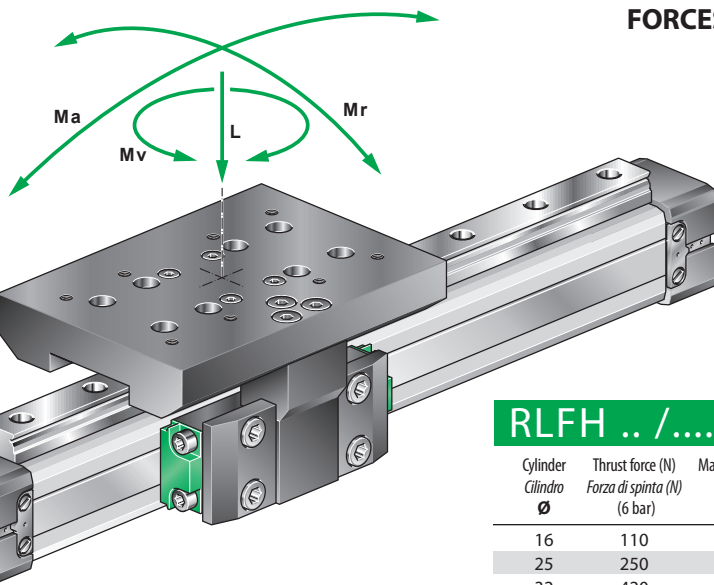


RLFH 16

RLFH 32
RLFH 40

Bore Alesaggio	A	B	C	D	E	F	H	K	L	M1	M2	N1	N2	N3	P	Q	R1	R2	R3	S1	S2	V	W1	W2	Code Codice
16	65	15	27	18	18	27	48,5	31,5	63,0	M4	M3	10	7	-	M5	90	70	30	-	36	-	20	60	69	RLFH 16/...
25	100	23	40	27	27	40	73	40	80	M6	M5	12	11	10	G1/8	145	125	60	120	50	64	27,5	102	112	RLFH 25/...
32	125	27	56	40	36	52	90	57,5	115	M8	M6	13	15	-	G1/4	190	164	82	-	-	96	30	135	152	RLFH 32/...
40	150	30	69	54	54	72	105	57,5	115	M8	M6	18	17	-	G1/4	190	164	82	-	-	96	55	135	152	RLFH 40/...

FORCES AND TORQUE / FORZE E MOMENTI TORCENTI



Combined loads:

The combined forces and torque moments can be calculated using the following formula:

Carichi combinati:

Le sollecitazioni combinate di forze e momenti torcenti sono calcolabili con la seguente formula:

$$\frac{M_a}{M_{a \max}} + \frac{M_r}{M_{r \max}} + \frac{M_v}{M_{v \max}} + \frac{L}{L_{\max}} \leq 1$$

RLFH .. /....1.

SLIDING SYSTEM WITH **ONE** WAGON GUIDE
CARRO CON 1 PATTINO GUIDA

Cylinder Cilindro Ø	Thrust force (N) Forza di spinta (N) (6 bar)	Max allowed load(N) Carico max(N) L	Max allowed bending moments(Nm) Momento flettente max(Nm)	Max allowed torque(Nm) Torsione max(Nm)
			M_a axial	M_r radial
16	110	500	4	6
25	250	1500	40	14
32	420	2950	61	30
40	640	3960	115	52

RLFH .. /....2.

SLIDING SYSTEM WITH **TWO** WAGONS GUIDE
CARRO CON 2 PATTINI GUIDA

Cylinder Cilindro Ø	Thrust force (N) Forza di spinta (N) (6 bar)	Max allowed load(N) Carico max(N) L	Max allowed bending moments(Nm) Momento flettente max(Nm)	Max allowed torque(Nm) Torsione max(Nm)
			M_a axial	M_r radial
16	110	500	8	10
25	250	1550	85	20
32	420	3020	85	45
40	640	4030	130	65

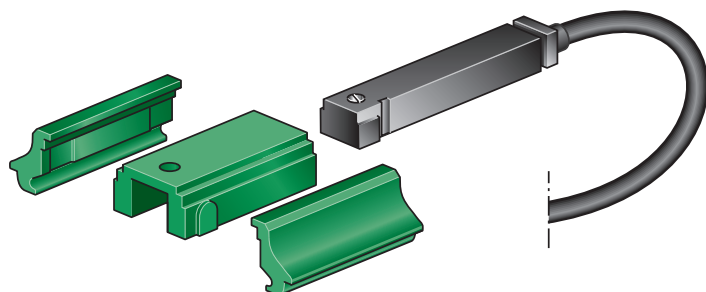
The above mentioned moments (M_a max ...) are related to the guide rail centre.

I momenti (M_a max ...) sono calcolati rispetto all'asse della guida.

MAGNETIC SWITCHES FOR RL.. CYLINDERS / FINECOSA MAGNETICI PER CILINDRI RL..

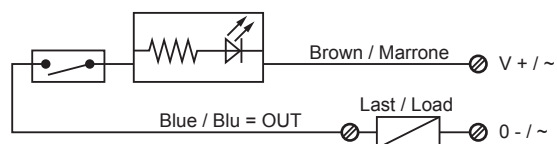
REED SWITCH
SENSORE REED

ZRS 11



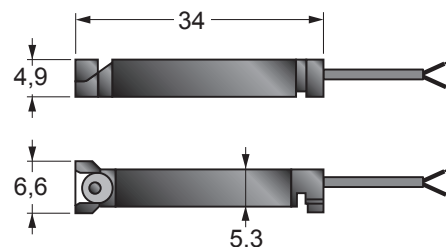
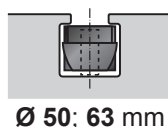
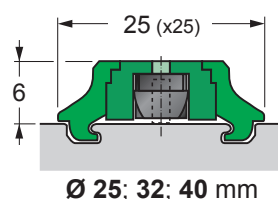
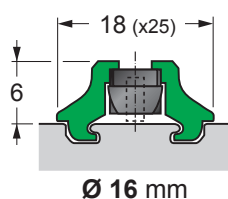
Cable standard length / Lunghezza cavo standard: 5000 mm

circuit / Circuito

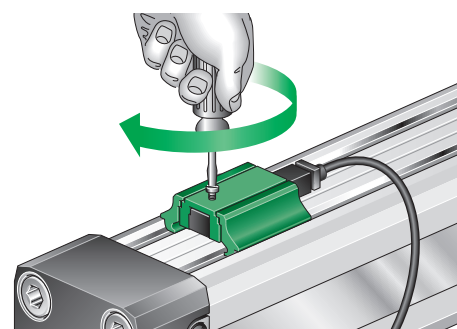
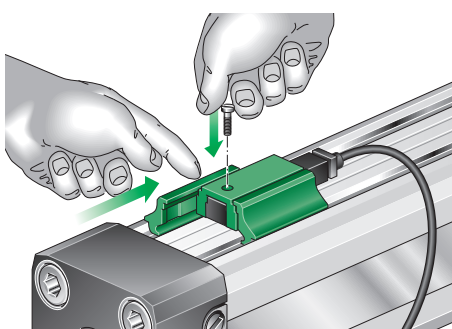
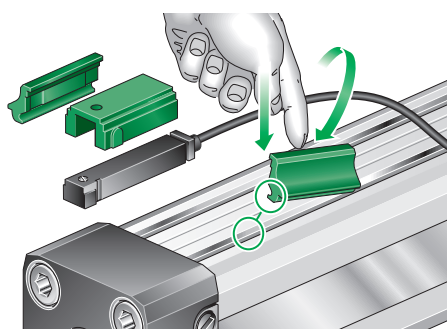


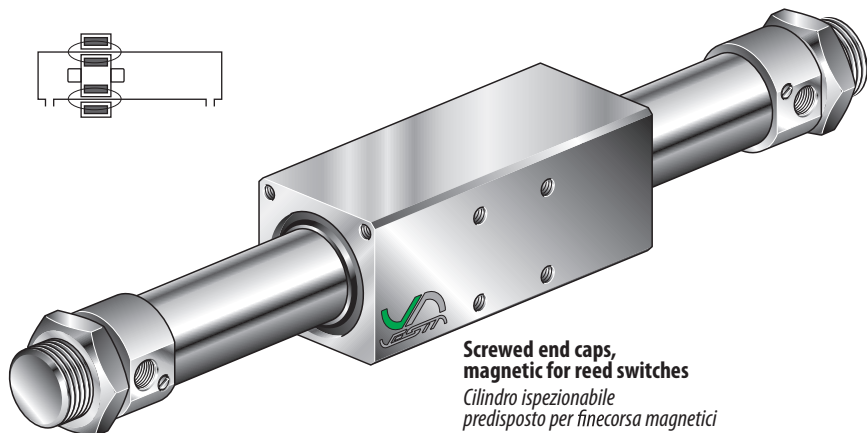
Code Codice	Voltage range Tensione max	Switching current Corrente a 25 °C	Switching power (resistive) Potenza Induttiva	Degree of protection Grado di protezione	Working temperature Temperatura di lavoro	Switch Hysteresis Isteresi di inserzione	ON / OFF time Tempo di inserzione / disin.	Electric life Vita elettrica	Contact function Contatto
ZRS 11	5-130 AC-DC	200 mA	6W	IP67	-15 ÷ +60	3 mm	1 - 0,3 msec	1 x 10 ⁷	-

MAGNETIC SWITCH BRACKET FOR RODLESS CYLINDER / FISSAGGIO PER SENSORE MAGNETICO SU CILINDRI SENZA STELO



MAGNETIC SWITCH POSITIONING / POSIZIONAMENTO DEI FINECOSA MAGNETICI



SERIE **TM****RODLESS MAGNETIC COUPLING CYLINDER**
CILINDRO SENZA STELO A TRASCINAMENTO MAGNETICO

**Screwed end caps,
magnetic for reed switches**
*Cilindro ispezionabile
predisposto per finecorsa magnetici*

TM / Bore / Alesaggio
(mm):Ø12 **12**Ø20 **20**Stroke / Corsa
(mm):

Bore Alesaggio	Standard stroke / Corse Standard															
12	25	50	80	100	125	160	200	250	300	350	400	450	500			
20	•	•	•	•	•	•	•	•	•	•	•	•	•			

WORKING PRINCIPLE / PRINCIPIO DI FUNZIONAMENTO

Vesta rodless series "TM" cylinder is a pneumatic linear drive unit with magnetic coupling. Its dimensions are smaller than ISO 6432 Standard cylinder. It has pneumatic cushioning for Ø 20, mechanical cushioning for Ø 12. Available upon request fixing accessories and switches.

Il cilindro Vesta serie "TM" è un'unità in cui il collegamento tra pistone e cursore è realizzato per mezzo di un campo magnetico di elevata intensità.

E' privo di stelo e quindi, è di dimensioni molto contenute. E' fornito di serie con ammortizzo pneumatico per il Ø 20 e meccanico per il Ø 12, ed è predisposto per l'uso di sensori magnetici; a richiesta sono fornibili gli accessori e i sensori magnetici per il rilevamento della posizione del cursore.

TECHNICAL FEATURES

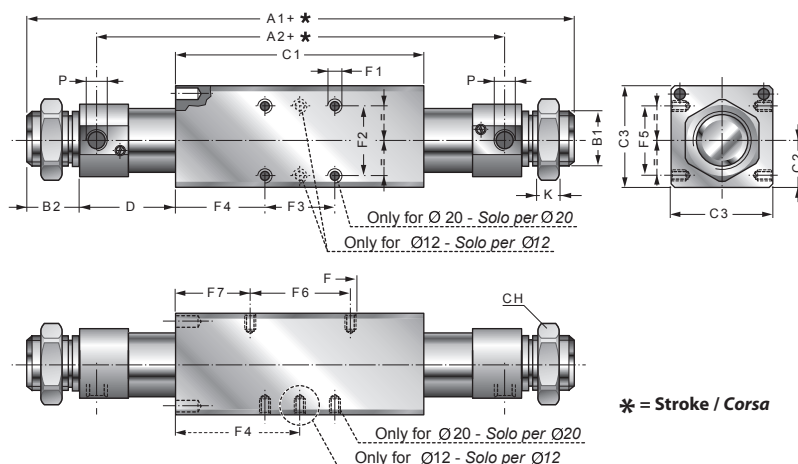
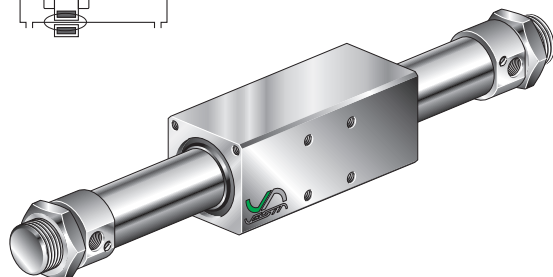
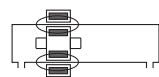
Seals	Polyurethane for extended durability.
Cushioning	Pneumatic and mechanical for Ø20, mechanical for Ø12.
Barrel	Stainless steel X5 Cr Ni 18-10.
Stroke	Ø12: < 1000 mm. Ø20: < 2500 mm.
Magnetic force	Ø12: 100 N. Ø20: 270 N.

Ambient temperature range	-10 °C ÷ +80 °C.
Temperature range of medium	0 °C ÷ +40 °C.
Lubrication	Not required.
Medium	filtered air.
Max operating pressure	7 bar.

CARATTERISTICHE TECNICHE

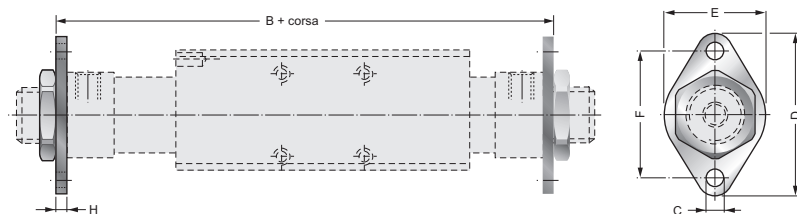
Guarnizioni	Poliuretano.
Ammortizzatori	Pneumatico e meccanico per Ø20, meccanico per Ø12.
Camicia	Acciaio inox X5 Cr Ni 18-10.
Corse	Ø12: fino a 1000 mm. Ø20: fino a 2500 mm.
Forza magnetica	Ø12: 100 N. Ø20: 270 N.

Temperatura ambiente	-10 °C ÷ +80 °C.
Temperatura fluido	0 °C ÷ +40 °C.
Lubrificazione	Non necessaria.
Fluido	Aria filtrata.
Pressione max d'esercizio	7 bar.

TM .. /...**RODLESS CYLINDER**
CILINDRO BASE SENZA STELO

* = Stroke / Corsa

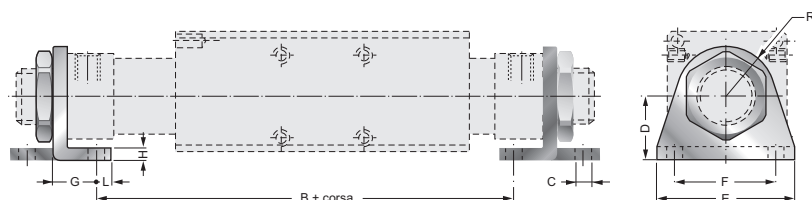
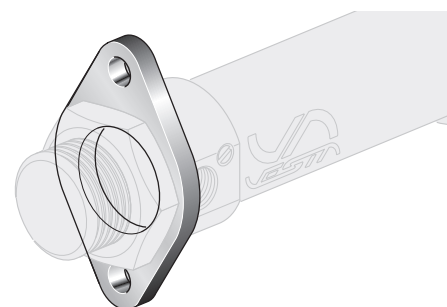
Bore Alesaggio	A1	A2	B1	B2	C1	C2	C3	D	F	F1	F2	F3	F4	F5	F6	F7	K	CH	P	Code Codice
12	156	115	M16x1,5	15	86	15	35	20	M3	M5	22	0	43	16	30	28	8	24	M5	TM 12
20	214	162	M22x1,5	18	110	20	45	34	M5	M5	32	32	39	30	43	33,5	10	30	G1/8	TM 20



Bore Alesaggio	B	ØC	D	E	F	H	Code Codice
12	134	5,5	52	30	40	4	FL/12
20	188	6,6	66	40	50	5	FL/20

FLANGE MOUNTING
MONTAGGIO A FLANGIA

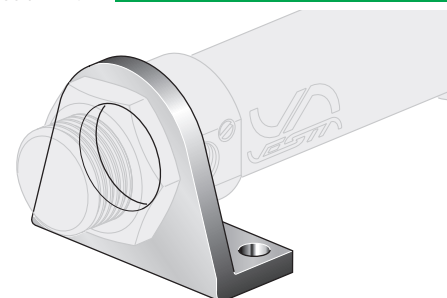
FL/..



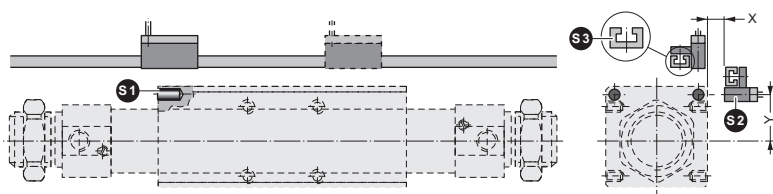
Bore Alesaggio	B	ØC	D	E	F	G	H	L	R	Code Codice
12	106	5,5	20	42	32	14	4	7	13	P/12
20	154	6,6	25	54	40	17	5	7	20	P/20

FOOT MOUNTING
MONTAGGIO A PIEDINI

P/..



MAGNETIC SWITCHES / FINECOSA MAGNETICI PER CILINDRI SERIE TM



- S1 Magnet for reed switch / Magnete per finecosa
S2 Reed switch / Finecosa magnetico
S3 Aluminium rail for reed switch mounting
Profilo di alluminio per montaggio finecosa

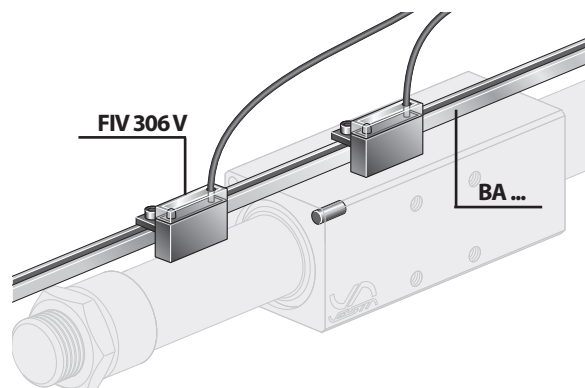
Bore Alesaggio	X	Y
12	7	16,5
20	7	25

REED SWITCH
FINECOSA MAGNETICO

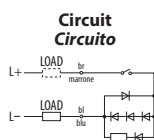
FIV 306 V

FIXING FOR REED SWITCH
SUPPORTO PER FINECOSA MAGNETICI

BA ...



Fixing dimensions **BA...** = cylinder stroke + A1 (except different customer request)
Dimensioni supporto **BA...** = corsa cilindro + A1 (salvo diversa specifica del cliente)



Band code Codice barra	Circuit code Codice circuito	Voltage Tensione V	Switching current Corrente mA	Switching capacity Potenza VA/W	Protection Protezione	Working temperature Temperatura °C	Contact Contatto
BA...	FIV 306V	10-220 AC-DC	200	10/10	IP65	-25 ÷ +75	

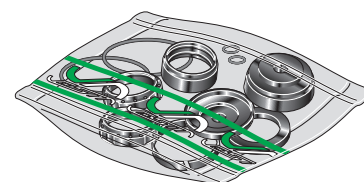
SEALS KIT
KIT GUARNIZIONI DI RICAMBIO

..... - SG

Seals kit code = **Rodless cylinder code** + **Bore** + **- SG**:
(The kit includes all seals).

Codice del kit = **Codice del cilindro senza stelo** + **Alesaggio** + **- SG**:
(Il kit comprende tutte le guarnizioni necessarie).

Example / Esempio: **TM 20 - SG**





TECHNICAL FEATURES **ESNW** CYLINDERS / CARATTERISTICHE TECNICHE CILINDRI **ESNW**

In some applications the evolution of automation means very precise and controlled linear motions.

The **ESNW** actuators are developed for applications requiring linear movements and positioning to a high degree of accuracy, repeatability and speed variations in synchronised system. They are made with a ball screw, which is rotated by an electric motor, and a ball nut driving the external piston rod of the ISO 15552 cylinder.

The **ESNW** actuators are available in two versions: the **ESNW - L** with direct co axial transmission and the **ESNW - G** with driving gear transmission.

The available bore sizes for both the L and G versions are 32 and 50 mm in diameter. The pitch on the ball screw can be either 5 or 12,7 mm.

They are made with the body of the ISO 15552 NWT series cylinder, therefore most of the standard ISO fixing accessories can be used.

The 32-diameter version needs to prevent rotation of the piston rod by additional external system like the GLC or GLH, or alternatively a strong locking piston rod to the linear moving part of the machine. The 50-diameter version however has an internal guiding anti-rotational system for the piston rod and should stronger anti-rotational forces be required, the use of GLCE or GLHE guides may be used.

The 32- diameter version is supplied standard, with a flange to suite a size 23 stepping motor and the 50-diameter version is supplied with a flange to suite a size 34 stepping motor. Upon request the ESNW actuators are available with flange to suite other types of electrical motors.

Upon request the ESNW actuators are equipped and supplied with step motors: MP2331300 AP08-1,6 Nm for Ø32, MP3438430 AX08-4,6 Nm or MP3451640 AX08-7,6 Nm for Ø50.

The full range of ESNW cylinders are very suitable for vertical axis, assembling systems, testing systems, palletising and driving systems.

New bores 63 and 80 are now available.

L'evoluzione dei sistemi di automazione richiede spesso movimenti precisi e controllati. Gli attuatori ESNW sono stati studiati con lo scopo di soddisfare l'esigenza di posizionamenti multipli, ripetitivi e di precisione, realizzando sistemi di automazione sincronizzati con possibilità di cambiare i parametri di movimento senza modifiche meccaniche.

La serie di attuatori ESNW impiega viti a ricircolo di sfere che movimentano lo stelo di un cilindro ISO 15552. Il corpo dell'attuatore è infatti costituito da testate e camicia dei cilindri ISO 15552 serie NWT che permettono facile intercambiabilità con i cilindri stessi e l'utilizzo della maggior parte dei sistemi di fissaggio ISO. La serie ESNW è disponibile nelle versioni con diametro Ø32 e Ø50 entrambe con possibilità di montare motori accoppiati in linea nella serie ESNW - L o rinviati in parallelo nella serie ESNW - G. Ogni versione è fornibile con vite a passo 5 mm per impostazioni di rampe di accelerazione brevi con carichi e forze elevati o con vite a passo 12,7 mm per velocità maggiori con ottimi rendimenti dinamici (ideali per movimenti orizzontali veloci).

Il Ø32 necessita di accoppiamento antirotazione ottenibile mediante solido fissaggio dello stelo all'organo in movimento o con il montaggio di sistemi antirotazione tipo GLCE o GLHE, mentre il Ø50 monta un sistema antirotazione interno e non necessita quindi di sistemi di guida antirotazione per lo stelo; tuttavia il loro impiego garantisce ulteriore rigidità all'attuatore. Il Ø32 è fornito nella versione standard con flangia per accoppiamento con motori passo passo taglia 23 mentre il Ø50 viene fornito con flangia per motore passo passo taglia 34. Sono fornibili a richiesta flangiate per motori di tipo diverso. Sempre su richiesta gli attuatori possono essere forniti completi di motore passo passo già montato e testato: per il Ø32: MP2331300 AP08-1,6 Nm, per il Ø50: MP3438430 AX08-4,6 Nm o MP3451640 AX08-7,6 Nm.

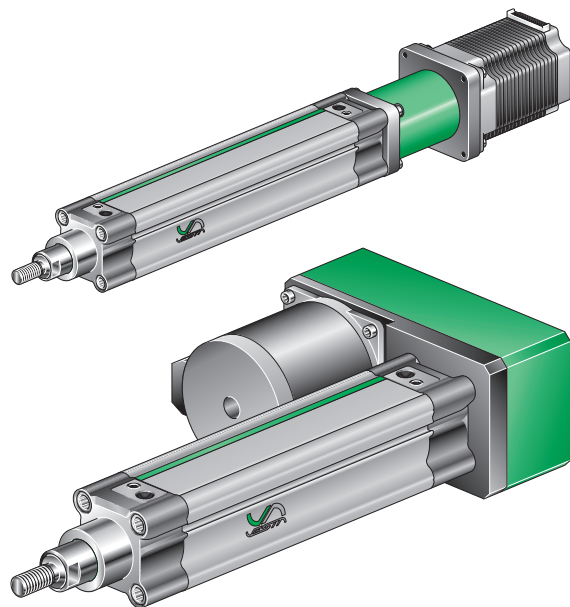
- Ogni modello e versione della serie ESNW è fornibile in una vasta gamma di corse che ne permettono l'impiego in modo versatile ed ideale per asservimenti di impianti automatici, assi verticali ed orizzontali, sistemi di palletizzazione, di montaggio e collaudo.

Ora disponibile anche gli alesaggi 63 e 80.

DYNAMIC FEATURES / CARATTERISTICHE DINAMICHE

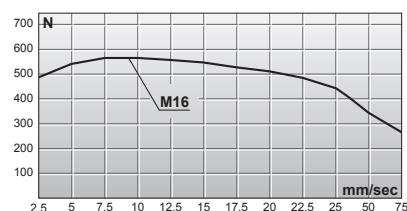
The pitch on the ball screw can be either 5 or 12,7 mm.

Ogni versione è fornibile con vite a passo 5 mm o 12,7 mm.



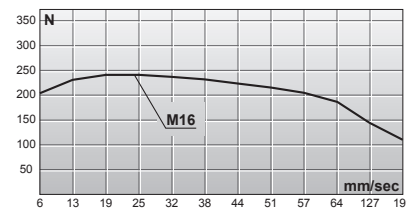
Ø 32 p = 5 mm

Max dynamic load on the screw	3435 N
Max carico dinamico della vite	3435 N
Max static load on the screw	1920 N
Max carico statico della vite	1920 N
Max thrust / Max forza di spinta generata	M16 = 570 N
Max speed	75 mm/sec.
Max velocità di traslazione	75 mm/sec.
Max torque allowed	2 Nm
Coppia max. applicabile	2 Nm



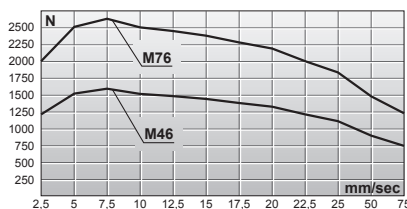
Ø 32 p = 12,7 mm

Max dynamic load on the screw	3435 N
Max carico dinamico della vite	3435 N
Max static load on the screw	1920 N
Max carico statico della vite	1920 N
Max thrust / Max forza di spinta generata	M16 = 220 N
Max speed	190 mm/sec.
Max velocità di traslazione	190 mm/sec.
Max torque allowed	2 Nm
Coppia max. applicabile	2 Nm



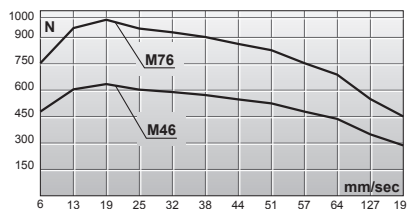
Ø 50 p = 5 mm

Max dynamic load on the screw	4690 N
Max carico dinamico della vite	4690 N
Max static load on the screw	2380 N
Max carico statico della vite	2380 N
Max thrust / Max forza di spinta generata	M46 = 1600 N M76 = 2600 N
Max speed	75 mm/sec.
Max velocità di traslazione	75 mm/sec.
Max torque allowed	7,5 Nm
Coppia max. applicabile	7,5 Nm



Ø 50 p = 12,7 mm

Max dynamic load on the screw	4690 N
Max carico dinamico della vite	4690 N
Max static load on the screw	2380 N
Max carico statico della vite	2380 N
Max thrust / Max forza di spinta generata	M46 = 640 N M76 = 1000 N
Max speed	190 mm/sec.
Max velocità di traslazione	190 mm/sec.
Max torque allowed	7,5 Nm
Coppia max. applicabile	7,5 Nm



ELECTRICAL ACTUATED CYLINDERS
ATTUATORI ELETTRICISERIE **ESNW**

With magnetic piston / Con pistone magnetico

ESNW / - - Bore
Alesaggio (mm):

Ø32 **32**
 Ø50 **50**
 Ø63 **63**
 Ø80 **80**

Pitch ball screw
Passo vite:

050 ... 5 mm
100 ... 10 mm (ø80)
127 ... 12,7 mm (ø32-50)
200 ... 20 mm (ø63)

Stroke / Corsa
(mm):

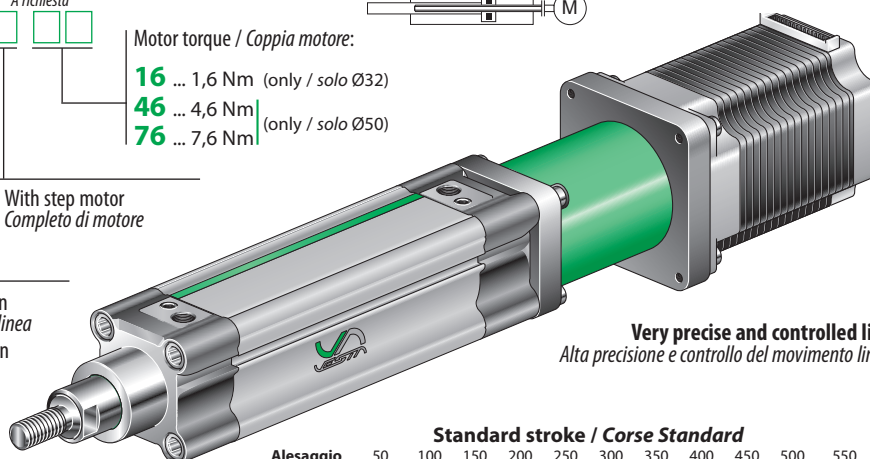
L Linear direct transmission
Trasmissione diretta, in linea
G Gear parallel transmission
Rinvio parallelo

Upon request
A richiesta

M With step motor
Completo di motore

Motor torque / Coppia motore:

16 ... 1,6 Nm (only / solo Ø32)
46 ... 4,6 Nm (only / solo Ø50)
76 ... 7,6 Nm (only / solo Ø50)



Very precise and controlled linear
Alta precisione e controllo del movimento lineare.

ESNW cylinder fixing see:

Fissaggi per cilindri ESNW vedi:

..... **Pag. A-22 ÷ A-25**

Features of reed switches see:

Caratteristiche finecorsa magnetici:

..... **Pag. A-19**

Standard stroke / Corse Standard													
Alesaggio		50	100	150	200	250	300	350	400	450	500	550	600
32		•	•	•	•	•	•	•	•	•	•	•	•
50		•	•	•	•	•	•	•	•	•	•	•	•
63		•	•	•	•	•	•	•	•	•	•	•	•
80		•	•	•	•	•	•	•	•	•	•	•	•

For other strokes please contact our technical sales department

Per corse superiori contattare l'Ufficio Tecnico

Heads Die-cast aluminium alloy, painted.
 Piston rod Chromium-plated steel.
 Barrel Anodized profiled aluminium tube.

Seals Polyurethane.
 Ambient temperature range -10 °C ÷ +80 °C.
 Lubrication Not required.

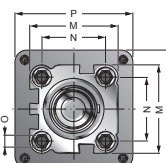
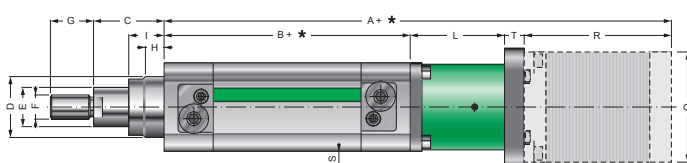
TECHNICAL FEATURES

Testate Pressofuse in lega di alluminio e verniciate.
 Stelo Acciaio cromato.
 Camicia Tubo profilato ed anodizzato in alluminio.

Guarnizioni Tutte in poliuretano.
 Temperatura ambiente -10 °C ÷ +80 °C.
 Lubrificazione Non necessaria.

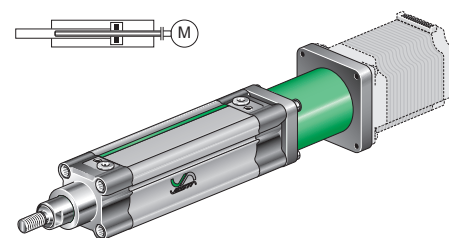
CARATTERISTICHE TECNICHE

* = Stroke / Corsa

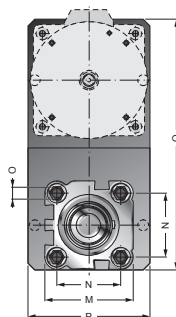
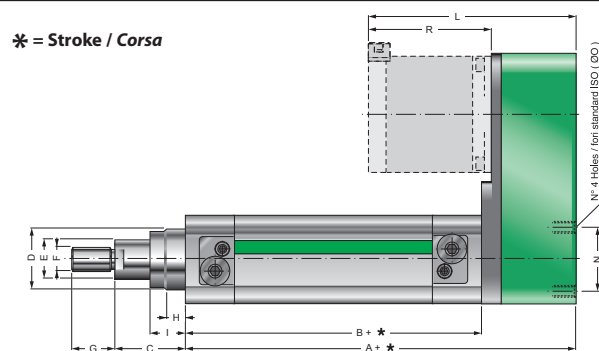


Bore Alesaggio	A	B	C	ØD	ØE	ØF	G	H	I	L	M	N	ØO	P	Q	R	S	T	Code Codice
32 (M16)	279,5	137	28	30	20	M10x1,25	22	10	18	48	45	32,5	M6	60	57,2	78,5	7,5	10	ESNW 32/... L M16
50 (M46)	303	149	38	40	25	M16x1,5	32	12,1	28	48	64	46,5	M8	86	86	94	11	12	ESNW 50/... L M46
50 (M76)	341	149	38	40	25	M16x1,5	32	12,1	28	48	64	46,5	M8	86	86	132	11	12	ESNW 50/... L M76
63	263	176	38	45	30	M16x1,5	32	11,5	28	77	75	56,5	M8	90	-	-	-	-	ESNW 63/... L
80	300	176	31,5	45	35	M20x1,5	40	12	34,5	105	93	72	M10	110	-	-	-	-	ESNW 80/... L

LINEAR DIRECT TRASMISSION
 TRASMISSIONE DIRETTA, IN LINEA

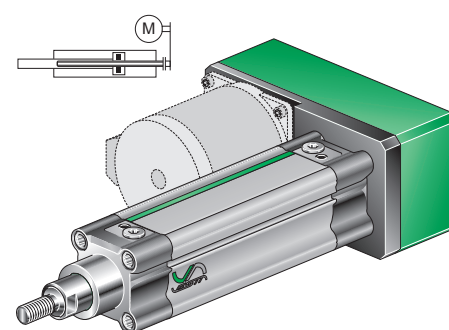
ESNW ... L

* = Stroke / Corsa



Bore Alesaggio	A	B	C	ØD	ØE	ØF	G	H	I	L	M	N	ØO	P	Q	R	Code Codice
32 (M16)	185	137	28	30	20	M10x1,25	22	10	18	117	45	32,5	M6	60	110	78,5	ESNW 32/... G M16
50 (M46)	214	149	38	40	25	M16x1,5	32	12,1	28	147	64	46,5	M8	90	170	94	ESNW 50/... G M46
50 (M76)	214	149	38	40	25	M16x1,5	32	12,1	28	185	64	46,5	M8	90	175	132	ESNW 50/... G M76
63	247	176	38	45	30	M16x1,5	32	11,5	28	-	75	56,5	M8	90	200	-	ESNW 63/... G
80	247	176	31,5	45	35	M20x1,5	40	12	34,5	-	93	56,5	M10	110	212	-	ESNW 80/... G

GEAR PARALLEL TRASMISSION
 RINVIO PARALLELO

ESNW ... G



SERIE **GLCE** ; **GLHE**

LINEAR CONTROL UNITS FOR ELECTRICAL CYLINDER UNITA' DI GUIDA PER ATTUATORI ELETTRICI

TECHNICAL FEATURES / CARATTERISTICHE COSTRUTTIVE

The linear control units **GLCE** and **GLHE** series can be assembled to cylinders in compliance with ISO 6432 and ISO 15552 standards. Anti-rotation is guaranteed by two steel guide stems, whose movement is supported by four brass bushes in **GLCE ...** and **GLHE ... BS** series, and by four ball bushings in the **GLHE ... BB** series. The piston rod is connected to the front flange by a rigid joint to prevent its rotations.

Versatility of mounting is assured by either mounting directly to the unit, or by the use of standard accessories (mountings).

All the linear control units GLHE-BS and BB series are supplied with scraper seals and grease box. The unit is supplied already lubricated.

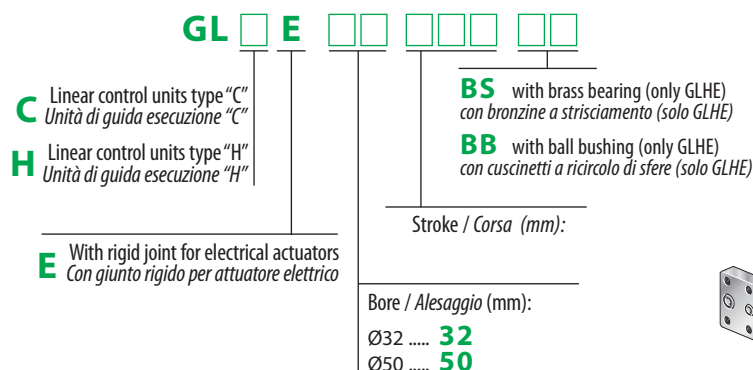
Le unità di guida serie **GLCE** e **GLHE** sono assemblabili a cilindri rispondenti alla norma ISO 6432-15552.

L'antirotazione è garantita da due steli guida in acciaio il cui movimento è supportato da quattro bronzine a strisciamento nella serie **GLCE ...** e **GLHE ... BS**, oppure da quattro cuscinetti con ricircolo di sfere nella serie **GLHE ... BB**.

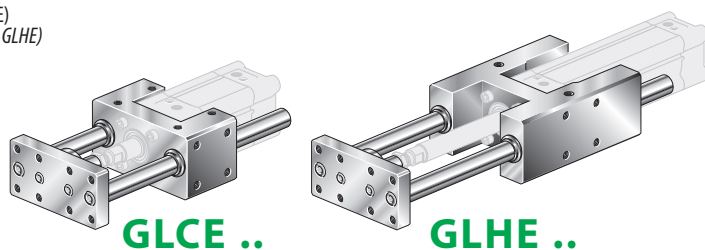
Lo stelo del cilindro è collegato alla flangia frontale con un giunto rigido che ne garantisce l'antirotazione.

La versatilità d'impiego è stata realizzata mediante tre possibili superfici di fissaggio e di piastre per il fissaggio orizzontale o verticale.

Tutte le unità di guida, oltre ad essere fornite già prelubrificate, sono corredate di rischiatopolvere ed ingrassatori.

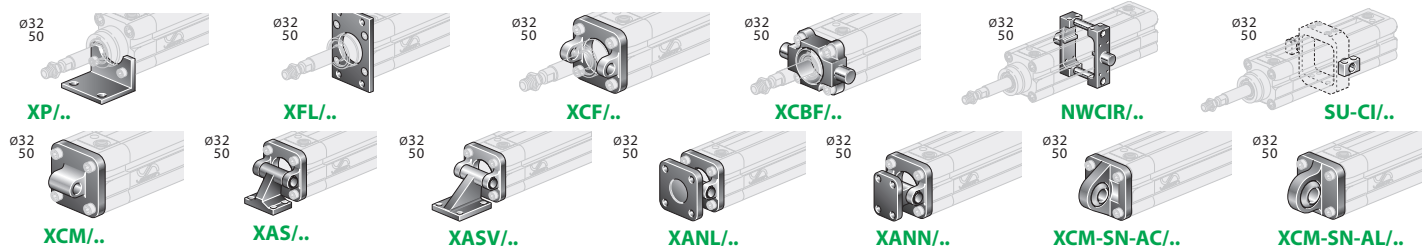


Fixing, materials and dimensions of GLCE and GLHE linear control units see:
Per dimensioni, materiali e fissaggi delle serie GLCE e GLHE vedi:
..... **Pag. A-52 ÷ A-55**

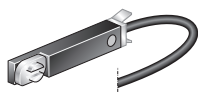


ACCESSORIES / ACCESSORI

Note: the fixing screws are not included with the supply of mountings
le viti di fissaggio non sono comprese nella fornitura dell'accessorio.
For dimensions fixing see: / Per le dimensioni dei fissaggi vedi **A-22 ÷ A-25**.



MAGNETIC SWITCHES FOR **ESNW** CYLINDERS / FINECOSA MAGNETICI PER CILINDRI **ESNW**



For magnetic switches features see:
Caratteristiche finecorsa magnetici vedi:

**VNCR2, VNPR2,
VNCE3, VNPE3.**

Pag. A-19

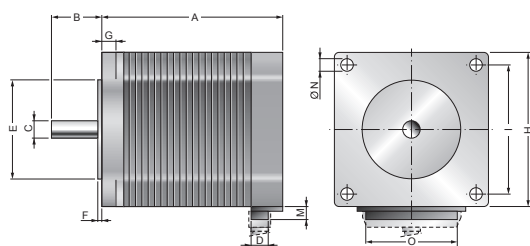
For further information on the resistance of materials to aggressive agents, please contact our technical sales department.
Per informazioni sul grado di resistenza dei finecorsa magnetici in ambienti specifici contattare il nostro ufficio tecnico-commerciale.

HYBRID STEPPER MOTORS FOR ESNW CYLINDERS / MOTORI ELETTRICI PER CILINDRI ESNW

STEPPER MOTOR
MOTORE PASSO-PASSO

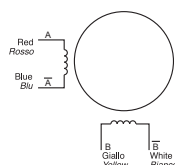
MP 2331-M16

For size Ø32 / Per taglia Ø32



Code Codice	A	B	C	D	E	F	G	H	I	M	ØN	O
MP 2331-M16	78,5	21	6,3	7	38,1	1,6	4,8	56,4	47,1	5,5	5	32,2

Circuit / Circuito



Bipolar connection / Connessione bipolare:

Phase/Fase	
A1	Red/Rosso
A2	Blue/Blu
B1	Yellow/Giallo
B2	White/Bianco

Step angle	1,8 ± 5%
Number of Phase	2
Insulation resistance	100 MΩ Min (500V DC)
Insulation class	Class B
Holding Torque	16 Kg·cm

Rated Voltage	5,0 V
Rated Current	1,8 A
Resistance per Phase	2,75 Ω
Inductance per Phase	10,8 mH

GENERAL AND ELECTRICAL SPECIFICATIONS

Angolo Passo	1,8 ± 5%
Numero di Fasi	2
Isolamento	100 MΩ Min (500V DC)
Classe di isolamento	Class B
Coppia	16 Kg·cm

Voltaggio	5,0 V
Corrente	1,8 A
Resistenza per Fase	2,75 Ω
Induttanza per Fase	10,8 mH

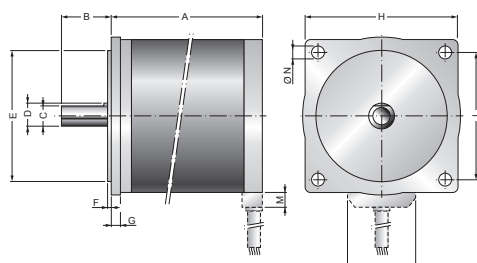
CARATTERISTICHE GENERALI ED ELETTRICHE

Cable standard length / Lunghezza cavo standard: 300 mm

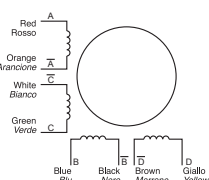
STEPPER MOTOR
MOTORE PASSO-PASSO

MP 3438-M46

For size Ø50 / Per taglia Ø50

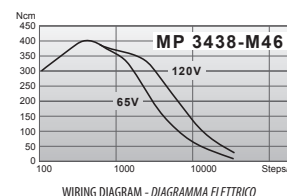


Code Codice	A	B	C	D	E	F	G	H	I	L	M	ØN
MP 3438-M46	94	30,2	8,5	9,5	73	1,6	4,8	82,5	69,6	37	16	5,5



Bipolar parallel connection / Connessione bipolare parallela:

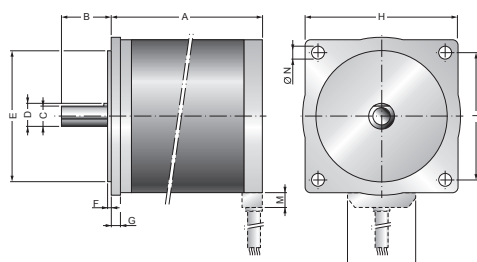
Phase/Fase	
A1	Red/Rosso + White/Bianco
A2	Orange/Arancione + Green/Verde
B1	Blue/Blu + Brown/Marrone
B2	Black/Nero + Yellow/Giallo



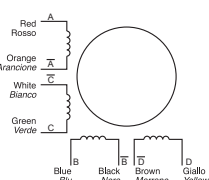
STEPPER MOTOR
MOTORE PASSO-PASSO

MP 3451-M76

For size Ø50 / Per taglia Ø50

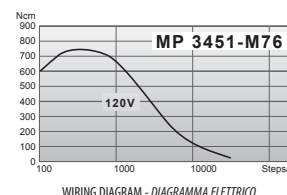


Code Codice	A	B	C	D	E	F	G	H	I	L	M	ØN
MP 3451-M76	132	30,2	8,5	9,5	73	1,6	4,8	82,5	69,6	37	16	5,5



Bipolar parallel connection / Connessione bipolare parallela:

Phase/Fase	
A1	Red/Rosso + White/Bianco
A2	Orange/Arancione + Green/Verde
B1	Blue/Blu + Brown/Marrone
B2	Black/Nero + Yellow/Giallo



GENERAL AND ELECTRICAL SPECIFICATIONS

	MP 3438-M46	MP 3451-M76		MP 3438-M46	MP 3451-M76
Step angle	1,8 ± 5%	1,8 ± 5%	Rated Voltage	2,76 V	5,64 V
Number of Phase	4	4	Rated Current	4,6 A	6 A
Insulation resistance	100 MΩ Min (500V DC)	100 MΩ Min (500V DC)	Resistance per Phase	0,6 Ω ± 10%	0,94 Ω ± 10%
Insulation class	Class B	Class B	Inductance per Phase	2,7 mH ± 20%	4,5 mH ± 20%
Weight	2,6 Kg	4,5 Kg	Holding Torque	40 Kg·cm	75 Kg·cm
Rotator inertia	1200 g·cm	-	Detent torque	0,8 Kg·cm	0,8 Kg·cm

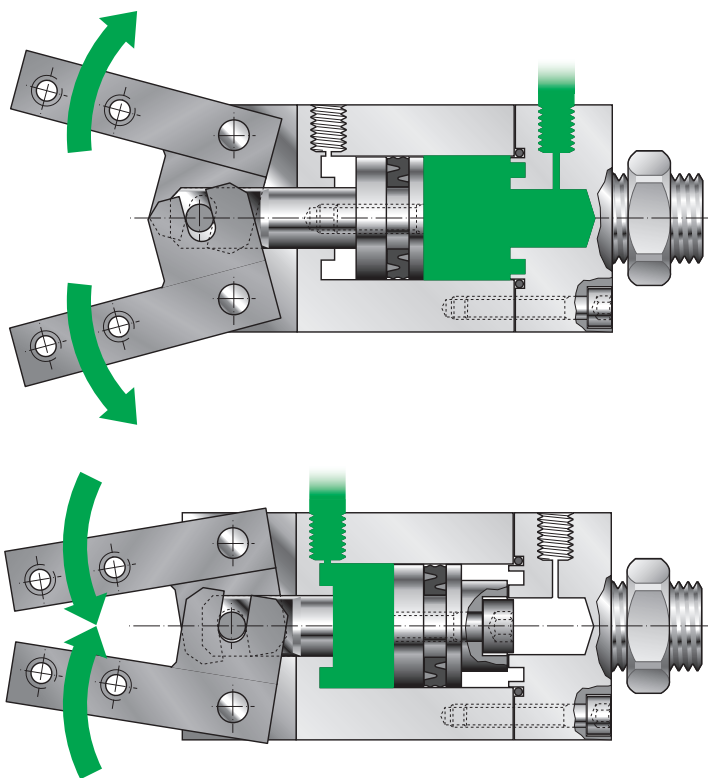
CARATTERISTICHE GENERALI ED ELETTRICHE

	MP 3438-M46	MP 3451-M76		MP 3438-M46	MP 3451-M76
Angolo Passo	1,8 ± 5%	1,8 ± 5%	Voltaggio	2,76 V	5,64 V
Numero di Fasi	4	4	Corrente	4,6 A	6 A
Isolamento	100 MΩ Min (500V DC)	100 MΩ Min (500V DC)	Resistenza per Fase	0,6 Ω ± 10%	0,94 Ω ± 10%
Classe di isolamento	Classe B	Classe B	Induttanza per Fase	2,7 mH ± 20%	4,5 mH ± 20%
Peso	2,6 Kg	4,5 Kg	Coppia	40 Kg·cm	75 Kg·cm
Inerzia Rotore	1200 g·cm	-	Detent torque	0,8 Kg·cm	0,8 Kg·cm



SERIE **MH** - **MHM**

PNEUMATIC GRIPPERS SERIES MANI DI PRESA A COMANDO PNEUMATICO SERIE



MH pneumatic grippers are available in single and double effect versions for bores 16-20-32-50.

The magnetic version (**MHM**) is available starting from bore 20. Gripping force from 4 Kg. to 60 Kg. at 6 bar.

Le unità di presa Vesta serie **MH** a semplice e doppio effetto sono prodotte nei 4 alesaggi 16-20-32-50, magnetiche a partire dal diametro 20 (**MHM**).

La forza di bloccaggio va da 4 a 60 Kg. a 6 bar.

E' disponibile anche una versione a stelo posteriore uscente.

GRIPPERS CODE SERIE **MH** / CODICE DI IDENTIFICAZIONE DELLE MANI DI PRESA SERIE **MH**

Base / Base	MH ☐ - ☐ - ☐	NA Normally open <i>Normalmente aperta</i>
M Magnetic <i>Predisposto per interruttori magnetici</i>	Bore Alesaggio (mm): Ø16 16 Ø20 20 Ø32 32 Ø50 50	NC Normally closed <i>Normalmente chiusa</i>
	SE Simple effect <i>Semplice effetto</i>	☐ ☐
	DE Double effect <i>Doppio effetto</i>	☐
		0 Base <i>Base</i>
		1 Back through rod <i>Stelo posteriore uscente</i>

For Ø16 no version M (Magnetic); for Ø50 no versions SE NA (Simple effect normally open) and SE NC (Double effect normally closed).

Per Ø16 la versione M (Magnetico) non è prevista; per Ø50 le versioni SE NA ed SE NC non sono previste.

TECHNICAL FEATURES

Body	Aluminium alloy.
Seals	Pre-lubricated lip seals.
Lubrication	Not required.
Medium	Filtered air.

Fingers and trunnions	Carbonium steel
Environment temperature range	-20 °C ÷ +80 °C
Bore	Ø16 ÷ Ø50
Max operating pressure	10 bar

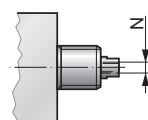
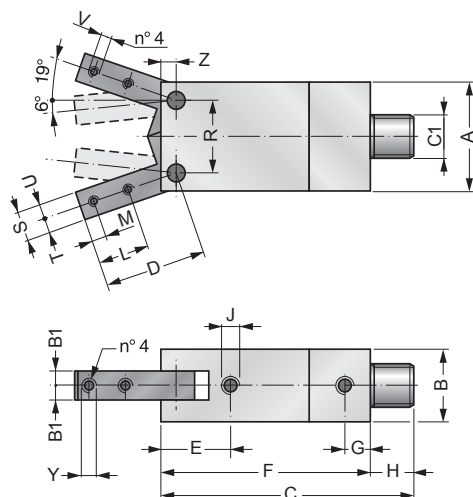
CARATTERISTICHE TECNICHE

Corpo	Lega di alluminio.
Guarnizioni	Con profilo del labbro antiusura prelubrificato con grasso tipo "Long-Time".
Lubrificazione	Non necessaria.
Fluido	Aria filtrata.

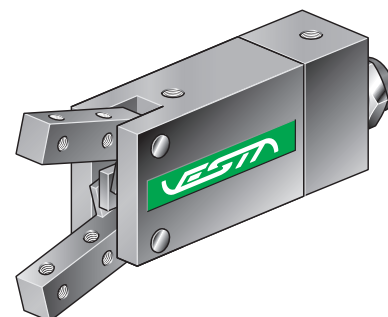
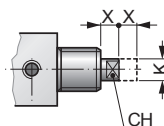
Dita di presa e perni	Acciaio al carbonio
Temperatura ambiente	-20 °C ÷ +80 °C
Alesaggi	Ø16 ÷ Ø50
Pressione max d'esercizio	10 bar

GRIPPER Ø16
UNITA' DI PRESA Ø16

MH 16



Through rod version
Versione stelo passante

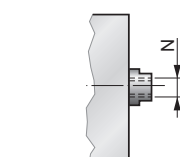
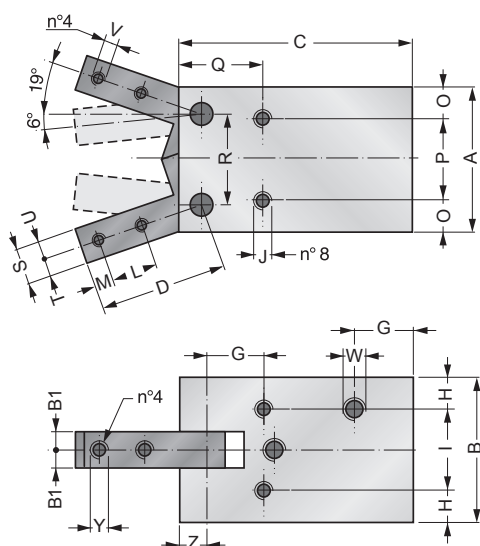


A	B	B1	C	ØC1	CH	D	E	F	G	H	ØJ	ØK	L	M	ØN	R	S	T	U	ØV	X	ØY	Z
30	20	3,95	68,7	M12x1,25	5	28	21,2	56,7	7	12	M5x0,8	6	14	4	M3x0,5 (8mm)	20	8	4,5	3,5	M3x0,5	5	M4x0,7	6,2

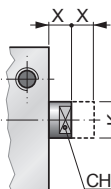
Weight / Peso : 125 g

6 bar gripping
force at 15 mm. from fingers fulcrum:
Forze di bloccaggio a 6 bar
a 15 mm di distanza dal fulcro delle dita:

MH 16 DE	6,5 Kg	opening / in apertura	5,5 Kg	closing / in chiusura
MH 16 SE NC	5,2 Kg	opening / in apertura		
MH 16 SE NA	4 Kg	closing / in chiusura		

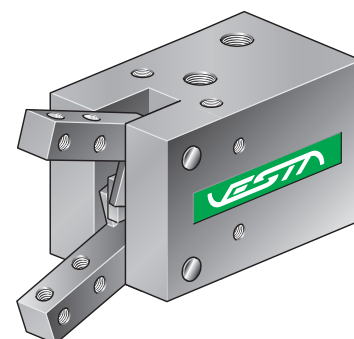


Through rod version
Versione stelo passante



GRIPPER Ø20
UNITA' DI PRESA Ø20

MH 20



A	B	B1	C	CH	D	G	H	I	ØJ	ØK	L	M	ØN	O	P	Q	R	S	T	U	ØV	X	ØY	Z	W
32	32	3,95	53,5	6	28	13,5	7	18	M4x0,7	8	10	4	M4x0,7 (8mm)	7	18	19,7	20	8	4,5	3,5	M3x0,5	5	M4x0,7	6,2	M5x0,8

Weight / Peso : 175 g

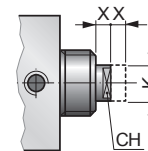
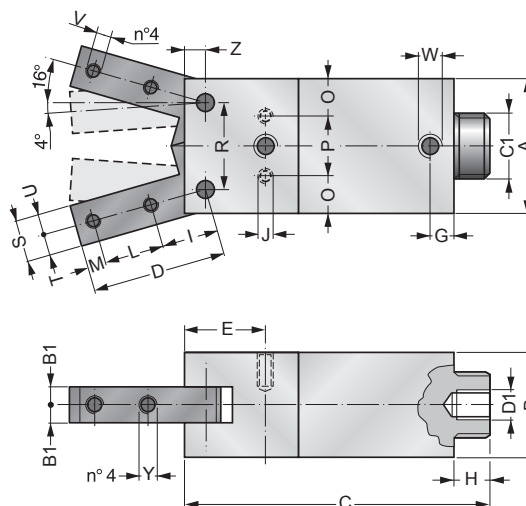
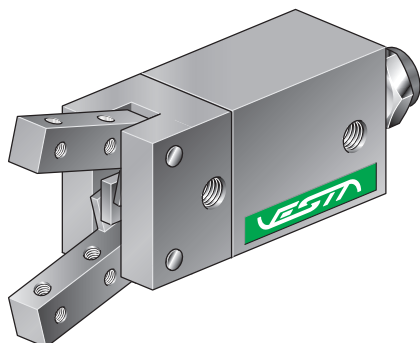
6 bar gripping
force at 15 mm. from fingers fulcrum:
Forze di bloccaggio a 6 bar
a 15 mm di distanza dal fulcro delle dita:

MH 20 DE	12 Kg	opening / in apertura	10 Kg	closing / in chiusura
MH 20 SE NC	8,5 Kg	opening / in apertura		
MH 20 SE NA	7,5 Kg	closing / in chiusura		

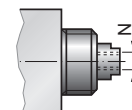


MH 32

GRIPPER Ø32
UNITA' DI PRESA Ø32



Through rod version
Versione stelo passante



A	B	B1	C	ØC1	CH	D	ØD1	E	G	H	ØJ	ØK	I	L	M	ØN	O	P	R	S	T	U	ØV	ØW	X	ØY	Z
45	35	5,95	105,2	M22x1,5	10	45	M10x1,25	30,2	8	12	M5x0,8	12	19	20	6	M5x0,8 (10mm)	12,5	20	28	14	8	6	M5x0,8	G1/8"	5	M6x1	10,2

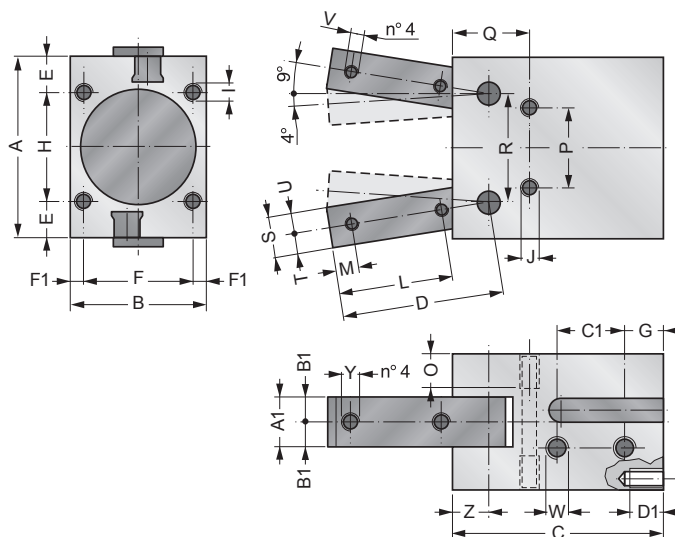
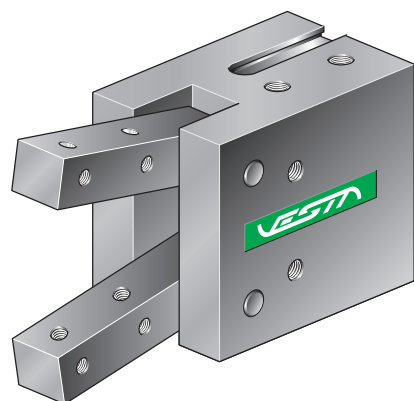
Weight / Peso : 490 g

6 bar gripping
force at 15 mm. from fingers fulcrum:
Forze di bloccaggio a 6 bar
a 15 mm di distanza dal fulcro delle dita:

MH 32 DE	24 Kg	opening / in apertura	22 Kg	closing / in chiusura
MH 32 SE NC	19,5 Kg	opening / in apertura		
MH 32 SE NA	16,5 Kg	closing / in chiusura		

MHM 16

GRIPPER Ø16
UNITA' DI PRESA Ø16

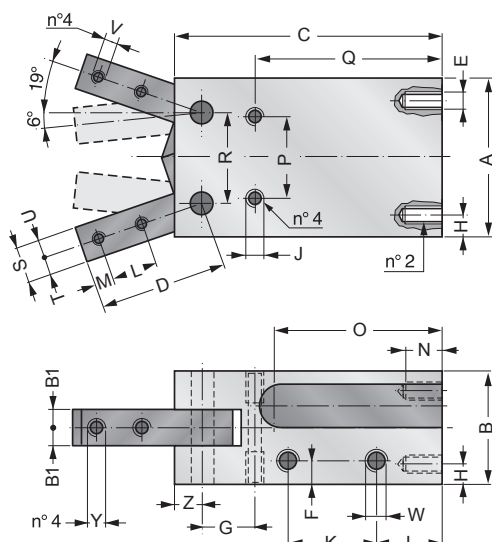


A	A1	B	B1	C	C1	D	D1	E	F	F1	G	H	ØI	ØJ	L	M	O	P	Q	R	S	T	U	ØV	ØW	ØY	Z
30	7,9	20	4	57	19	28	8	4	12	4	13	22	M4x0,7	M4x0,7	14	4	7	17	18	20	8	4,5	3,5	M3x0,5	M5x0,8	M4x0,7	6,2

Weight / Peso : 125 g

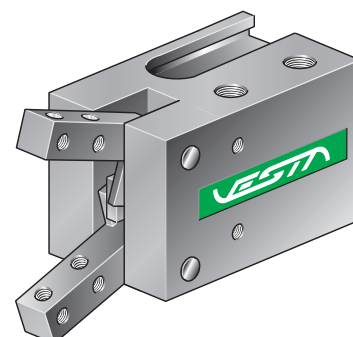
6 bar gripping
force at 15 mm. from fingers fulcrum:
Forze di bloccaggio a 6 bar
a 15 mm di distanza dal fulcro delle dita:

MHM 16 DE	6,5 Kg	opening / in apertura	5,5 Kg	closing / in chiusura
MHM 16 SE NC	5,2 Kg	opening / in apertura		
MHM 16 SE NA	4 Kg	closing / in chiusura		



MAGNETIC GRIPPER Ø20
UNITA' MAGNETICA Ø20

MHM 20

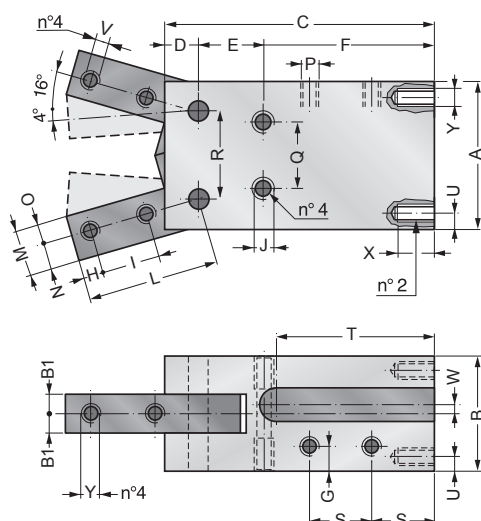


A	B	B1	C	D	E	F	G	H	I	ØJ	K	L	M	N	O	P	Q	R	S	T	U	ØV	ØY	Z	W
35	25	3,95	59	28	M4x 0,7	5,2	11,5	4	14,5	M4x0,7	19,5	10	4	8	37	18	41,3	20	8	4,5	3,5	M3x0,5	M4x0,7	6,2	M5x0,8

Weight / Peso : 175 g

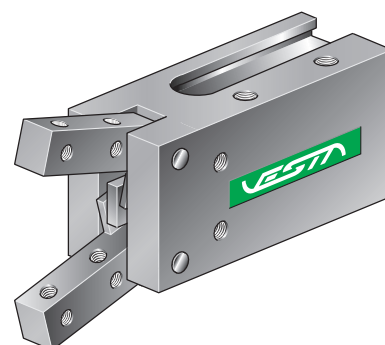
**6 bar gripping
force at 15 mm. from fingers fulcrum:**
*Forze di bloccaggio a 6 bar
a 15 mm di distanza dal fulcro delle dita:*

MHM 20 DE	12 Kg	opening / in apertura	10 Kg	closing / in chiusura
MHM 20 SE NC	8,5 Kg	opening / in apertura		
MHM 20 SE NA	7,5 Kg	closing / in chiusura		



MAGNETIC GRIPPER Ø32
UNITA' MAGNETICA Ø32

MHM 32



A	B	B1	C	D	E	F	G	H	I	ØJ	L	M	N	O	P	Q	R	S	T	U	ØV	W	X	ØY
45	35	5,95	82	10,2	20	51,8	7	6	20	M6x1 (10mm)	45	14	8	6	M5x0,8	20	28	19	48	5	M5x0,8	2	11	M6x1

Weight / Peso : 490 g

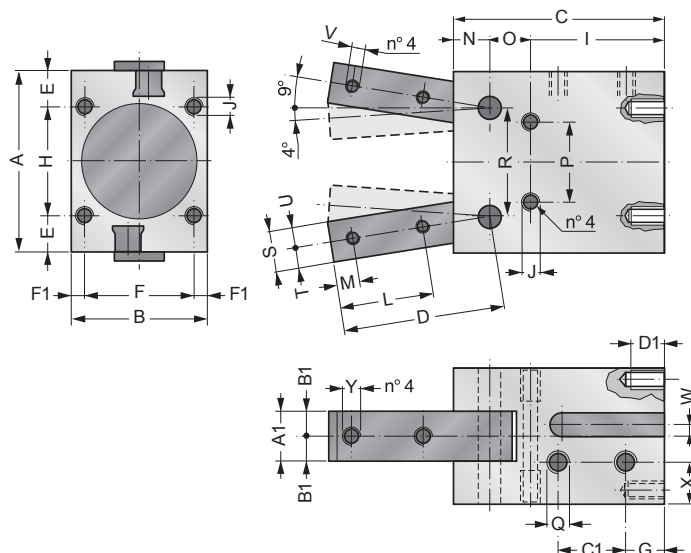
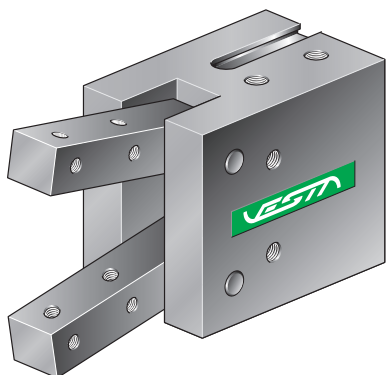
**6 bar gripping
force at 15 mm. from fingers fulcrum:**
*Forze di bloccaggio a 6 bar
a 15 mm di distanza dal fulcro delle dita:*

MHM 32 DE	24 Kg	opening / in apertura	22 Kg	closing / in chiusura
MHM 32 SE NC	19,5 Kg	opening / in apertura		
MHM 32 SE NA	16,5 Kg	closing / in chiusura		



MHM 50

MAGNETIC GRIPPER Ø50
UNITA' MAGNETICA Ø50



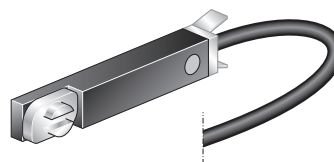
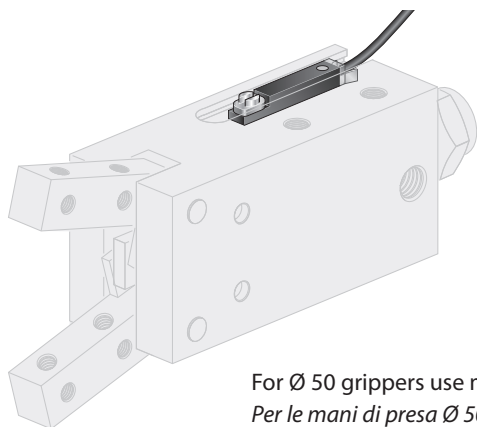
Weight / Peso : 1680 g

6 bar gripping
force at 30 mm. from fingers fulcrum:

Forze di bloccaggio a 6 bar
a 30 mm di distanza dal fulcro delle dita:

MHM 50 DE	60 Kg	opening / in apertura	52 Kg	closing / in chiusura
MHM 50 SE NC	49 Kg	opening / in apertura		
MHM 50 SE NA	46 Kg	closing / in chiusura		

MAGNETIC SWITCHES FOR MHM .. GRIPPERS / FINECORSA PER MANI DI PRESA SERIE MHM ..



For magnetic switches features see: - Caratteristiche finecorsa magnetici vedi:

VNCR2, VNPR2, VNCE3, VNPE3.

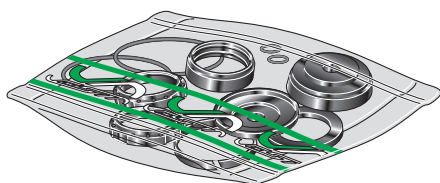
Pag. A-19

For Ø 50 grippers use magnetic switches **FTV 306 V** (see page A-38).

Per le mani di presa Ø 50 mm usare sensori **FTV 306 V** (vedere pag. A-38).

..... - SG

SEALS KIT
KIT GUARNIZIONI DI RICAMBIO



Seals kit code = **Gripper code** + **Bore** + **- SG**:
(The kit includes all seals).

Codice del kit = **Codice della mano di presa** + **Alesaggio** + **- SG**:
(Il kit comprende tutte le guarnizioni necessarie).

Example / Esempio: **MHM 32 - SG**



ATEX CYLINDERS RANGE GAMMA CILINDRI ATEX

SERIE **ATEX**

TECHNICAL FEATURES / CARATTERISTICHE COSTRUTTIVE

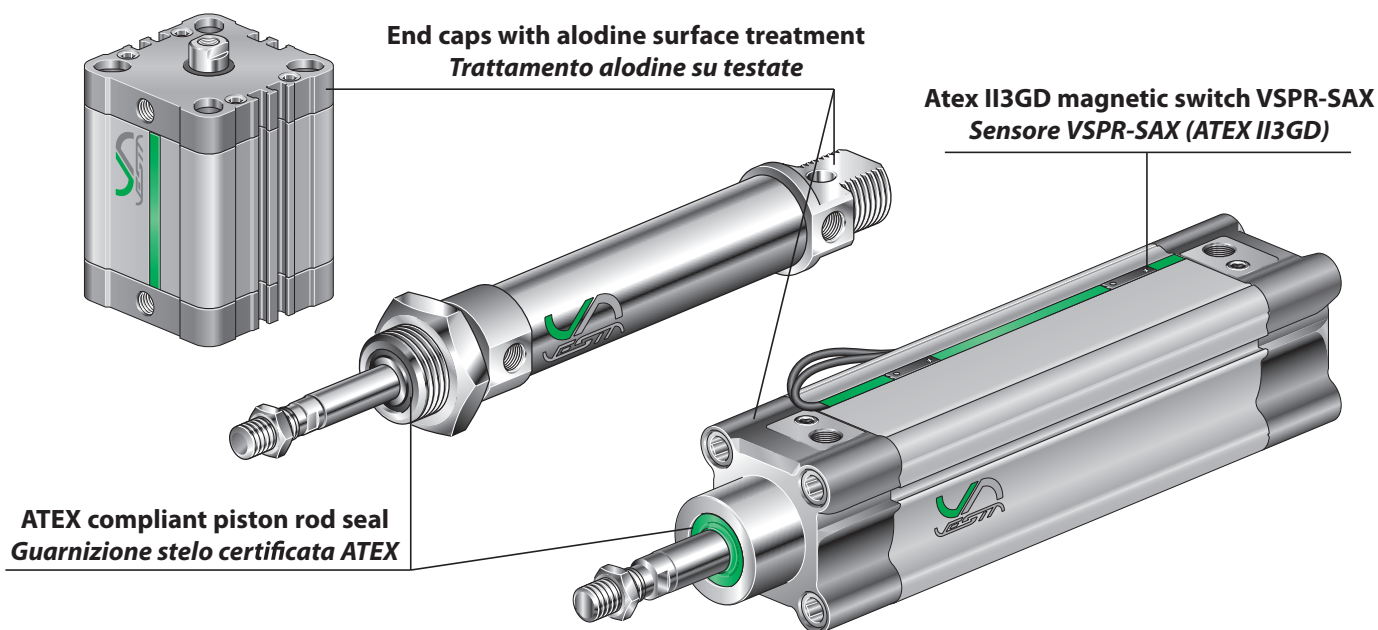
Vesta ATEX cylinders satisfy all directives 94/9/EC to avoid mechanical risks of ignition in explosive atmosphere (category II3GD). Design, materials and technical solutions are made to prevent mechanical sparks, electrostatic charges, heating of surfaces due to friction, etc. "Construction safety" of Vesta ATEX cylinders is granted by all the above mentioned features. They grant the earthing of all their parts. This treatment grants protection to products, while allows electrical conduction. All the parts are Atex compliant and cylinders have overcome Atex impact tests and protection degree IP65 tests.

I cilindri ATEX VESTA rispettano tutti i requisiti di sicurezza previsti dalla direttiva 94/9/CE per evitare il rischio meccanico di accensione di atmosfere potenzialmente esplosive di categoria II3GD.

Questo risultato si è ottenuto con la scelta progettuale di materiali e di soluzioni tecniche atti a prevenire scintille, accumuli di cariche elettrostatiche, surriscaldamenti locali per attrito o sfregamento, ecc; pertanto la protezione viene garantita attraverso la sicurezza costruttiva.

I cilindri ATEX Vesta consentono la messa a terra di tutte le loro parti.

Tutta la componentistica utilizzata soddisfa i requisiti Atex. I cilindri hanno superato i test d'impatto previsti dalla direttiva, nonché il test del grado di protezione IP 65.



TECHNICAL FEATURES - CARATTERISTICHE TECNICHE

- Atex category II3GD
- IP65 protection degree
- Seals (XNWT, XSK, XXJSS), polyurethane and NBR (XDVM; XACM; XD5M).
- End caps with alodine surface treatment
- Stainless steel piston rod
- Medium T: 0° < Tfluid < 25°C
- Environment T: -5° < Tamb < 50°C
- Medium: filtered air (quality 5 ISO 8573-1)
- Lubrication not required
- For technical features of atex cylinders please see the correspondent non atex cylinder
- For use instructions please see www.vesta.it
- For 94/9/EC atex directive please see pag B-113

- Classificazione atex II3GD
- Protezione IP65
- Guarnizioni poliuretano (XNWT, XNSK, XXJSS), poliuretano e NBR (XDVM; XACM; XD5M)
- Testate con trattamento alodine
- Steli in acciaio inox
- T fluido: 0° < Tfluid < 25°C
- T ambiente: -5° < Tamb < 50°C
- Fluido: aria filtrata (qualità 5 secondo ISO 8573-1)
- Lubrificazione non necessaria
- Per caratteristiche pneumatiche vedere codici corrispondenti senza la "X"
- Per manuale di uso e manutenzione consultare il sito www.vesta.it
- Per informazioni su direttiva 94/9/CE atex vedere pag B-113

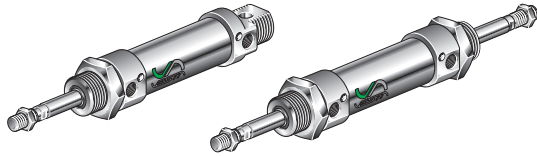


ATEX SERIE

**ATEX CYLINDERS RANGE
GAMMA CILINDRI ATEX**



Pag. A-06 A-07



XACM .. /... SINGLE ROD / CILINDRO BASE STELO SEMPLICE

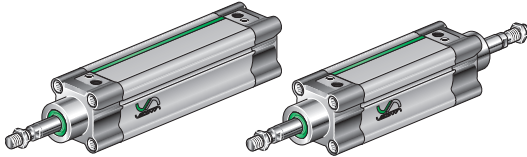
XACM .. /... P THROUGH ROD / STELO PASSANTE

XDVM .. /... SINGLE ROD / CILINDRO BASE STELO SEMPLICE

XDVM .. /... P THROUGH ROD / STELO PASSANTE

ISO 6432 CE Ex II 3GD c T5 T 165 °C -5 < Ta < 50 °C

Pag. A-16

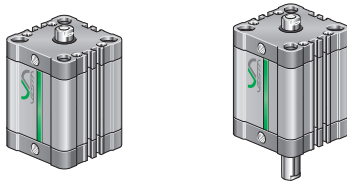


XNWT .. /... SINGLE ROD / CILINDRO BASE STELO SEMPLICE

XNWT .. /... P THROUGH ROD / STELO PASSANTE

ISO 15552 CE Ex II 3GD c T5 T 160 °C -5 < Ta < 50 °C

Pag. A-29

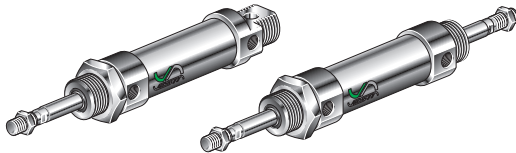


XNSK .. /... SINGLE ROD / CILINDRO BASE STELO SEMPLICE

XNSK .. /... P THROUGH ROD / STELO PASSANTE

UNITOP CE Ex II 3GD c T5 T 165 °C -5 < Ta < 50 °C
ISO 21287

Pag. A-40

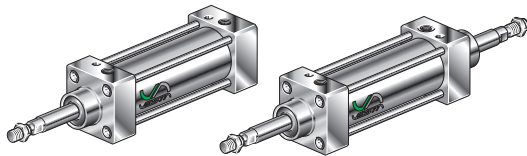


XDSM .. /... SINGLE ROD / CILINDRO BASE STELO SEMPLICE

XDSM .. /... P THROUGH ROD / STELO PASSANTE

ISO 6432 CE Ex II 3GD c T5 T 165 °C -5 < Ta < 50 °C

Pag. A-46

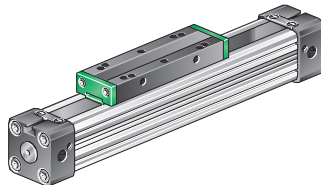


XXJSS .. /... SINGLE ROD / CILINDRO BASE STELO SEMPLICE

XXJSS .. /... P THROUGH ROD / STELO PASSANTE

ISO 15552 CE Ex II 3GD c T4 T 170 °C -5 < Ta < 50 °C

Pag. A-88



XRLF .. /... RODLESS PNEUMATIC CYLINDER / CILINDRI PNEUMATICI SENZA STELO

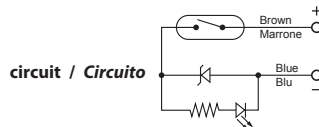
CE Ex II 2G c T4 T -10 °C < Ta < + 60 °C

MAGNETIC SWITCHES FOR ATEX CYLINDERS / FINECORSA MAGNETICI PER CILINDRI ATEX

VSPR-SAX

WITH DIRECT CABLE
CON CAVO DIRETTO

CE Ex II 3GD EEx n IIC T6 IP67 T 100 °C -20 < Ta < 70 °C

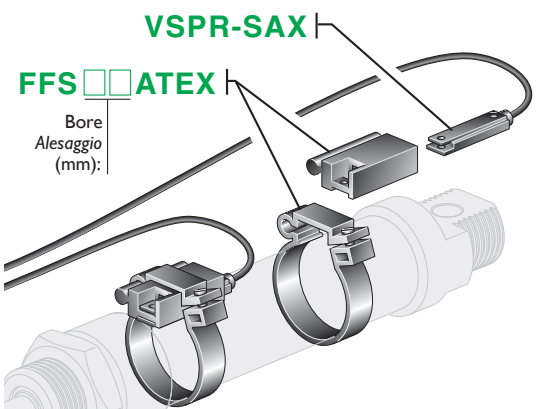


Max ammitted current
Switching power
Nominal voltage DC/AC
Visual signal Led
Potential drop
Electrical nominal life
Mechanical nominal life
Repeatability const. temp.
Max working temperature
Protection class

Corrente max ammessa
Potenza induttiva
Tensione nominale DC/AC
Led di segnalazione
Caduta di tensione
Vita elettrica nominale
Vita meccanica nominale
Ripetibilità a temp. costante
Temp. max di funzionamento
Grado di protezione

0,1 A
3 W
24 V
Si / Yes
3 V
10 E 6
10 E 9
0,1 mm
70 °C
IP 67

ATEX roud cylinders fixing / Staffa per cilindri tondi ATEX





valves, solenoid valves
and manifolds
*valvole, elettrovalvole
e connessioni multipolari*





MULTIPOLE CONNECTION SYSTEM SISTEMA DI CONNESSIONE MULTIPOLARE

SERIE **4HF**

The **4HF system** is Vesta modular solution for multiple connection of valves.

This compact solution grants high flow in small dimensions and easy way of expansion by adding new modules (even odd positions).

The **4HF system** is available in two preassembled electrical configurations: 25 pin Sub-D for a max of 22 solenoids and 37 pin Sub-D for a max of 32 solenoids, suitable for 24 V. DC. and 24 V. AC. with led and varistor protection.

Il sistema Vesta 4HF per il collegamento in isole modulari di elettrovalvole con tecnologia di connessione elettrica integrata, permette soluzioni personalizzate facili da assemblare con espansioni e modifiche veloci e flessibili da realizzare. Il sistema molto compatto consente notevole risparmio di spazio pur garantendo portate molto elevate e permette di ridurre in modo considerevole i tempi di assemblaggio.

E' composto di moduli a due posizioni valvola espandibili fino ad un massimo di 8 moduli e quindi un massimo di 16 posizioni di valvole, ognuna delle quali definita e personalizzata nella sua funzione.

E' previsto inoltre, per numero di valvole dispari, un modulo a singolo posto valvola da montare solo come ultima posizione.

Il sistema 4HF è fornibile nelle due versioni di connessione:

- sub D25, per un massimo di 22 solenoidi collegati;

- sub D37, per un massimo di 32 solenoidi collegati.

Unitamente al voltaggio standard 24V.DC., sono disponibili connessioni e solenoidi in versione 24V.AC.

ed entrambe le soluzioni hanno circuito di protezione con led a varistore.



TECHNICAL FEATURES

Standard voltages	24 V. DC. - 24V. AC.
Protection class	IP65
Nominal flow	850 NI/min.
Power consumption	1 Watt (DC) - 3 VA (AC).
Lubrication	Not required.
Working pressure supply	-0,9 ÷ 10 bar
Pilot pressure supply	2,5 ÷ 8 bar
Connections	Sub-D 25 for 22 solenoid connections Sub-D 37 for 32 solenoid connections
Coil signal	Led + varistor protection.

Working ports Bottom and side G1/8", or push-in fittings Ø8 on side.

Manual override Push and with detent.

4HF valve functions..... 5/2 - 5/3 - 3/2 NO - 3/2 NC.

Average response and frequency (pilot pressure = 6 bar):

Average actioning response	16ms (1 solenoid valve) 12ms (2 solenoids valve)
Average disactioning response	22ms (1 solenoid valve)
Nominal max frequency	22Hz (1 solenoid valve) 35Hz (2 solenoids valve)

CARATTERISTICHE TECNICHE

Tensioni standard	24 V DC - 24V AC
Grado di protezione	IP65
Portata nominale	850 NI/min.
Potenza assorbita	1 Watt (DC) - 3 VA (AC).
Lubrificazione	Non richiesta.
Pressione di lavoro	-0,9 ÷ 10 bar
Pressione di pilotaggio	2,5 ÷ 8 bar
Connessioni	Sub-D 25 per 22 solenoidi Sub-D 37 per 32 solenoidi
Segnale solenoide	Circuito di protezione con led a varistore.

Utilizzi Sul fondo e laterali G1/8" o laterali tubo Ø8.

Comando manuale Premere e ruotare per bloccaggio

Tipo valvola 4HF 5/2 - 5/3 - 3/2 NO - 3/2 NC.

Tempi di risposta e frequenze (con pressione di alimentazione dei pilotaggi = 6 bar):

Tempo di inserzione	16ms (valvole 1 solenoide) 12ms (valvole 2 solenoidi)
Tempo di disinserzione	22ms (valvole 1 solenoide)
Frequenza massima	22Hz (valvole 1 solenoide) 35Hz (valvole 2 solenoidi)

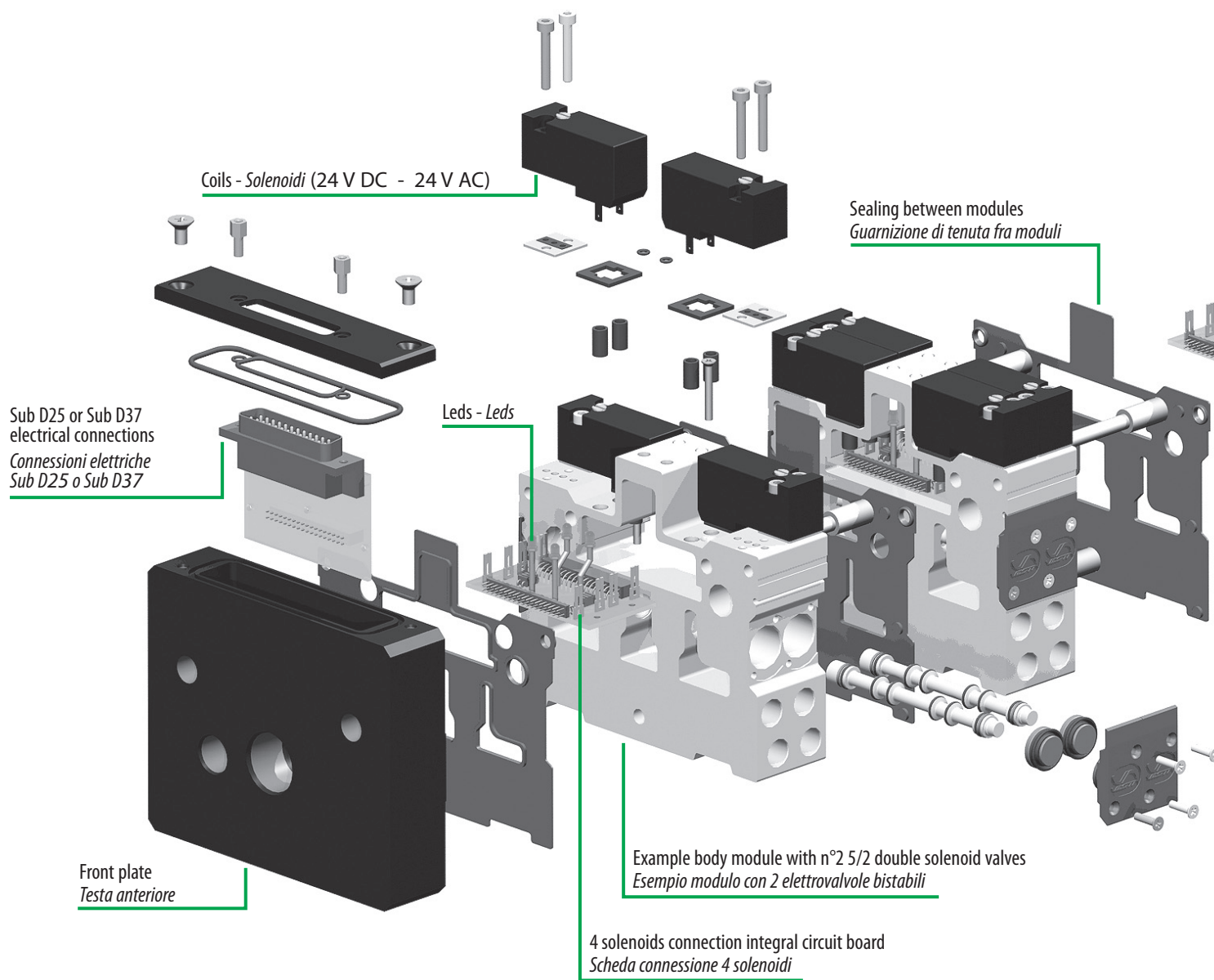


4HF MODULAR SYSTEM TECHNICAL FEATURES / CARATTERISTICHE TECNICHE SISTEMA MODULARE 4HF

Every **4HF** module grants electrical and pneumatic connection of the system through an electronic board (piloted by a main head) and sealing. In each modules two valves are present (except odd positions) according to the following possible configurations: 5/2, 5/3 or double 3/2 valves. 24v DC/AC can be used.

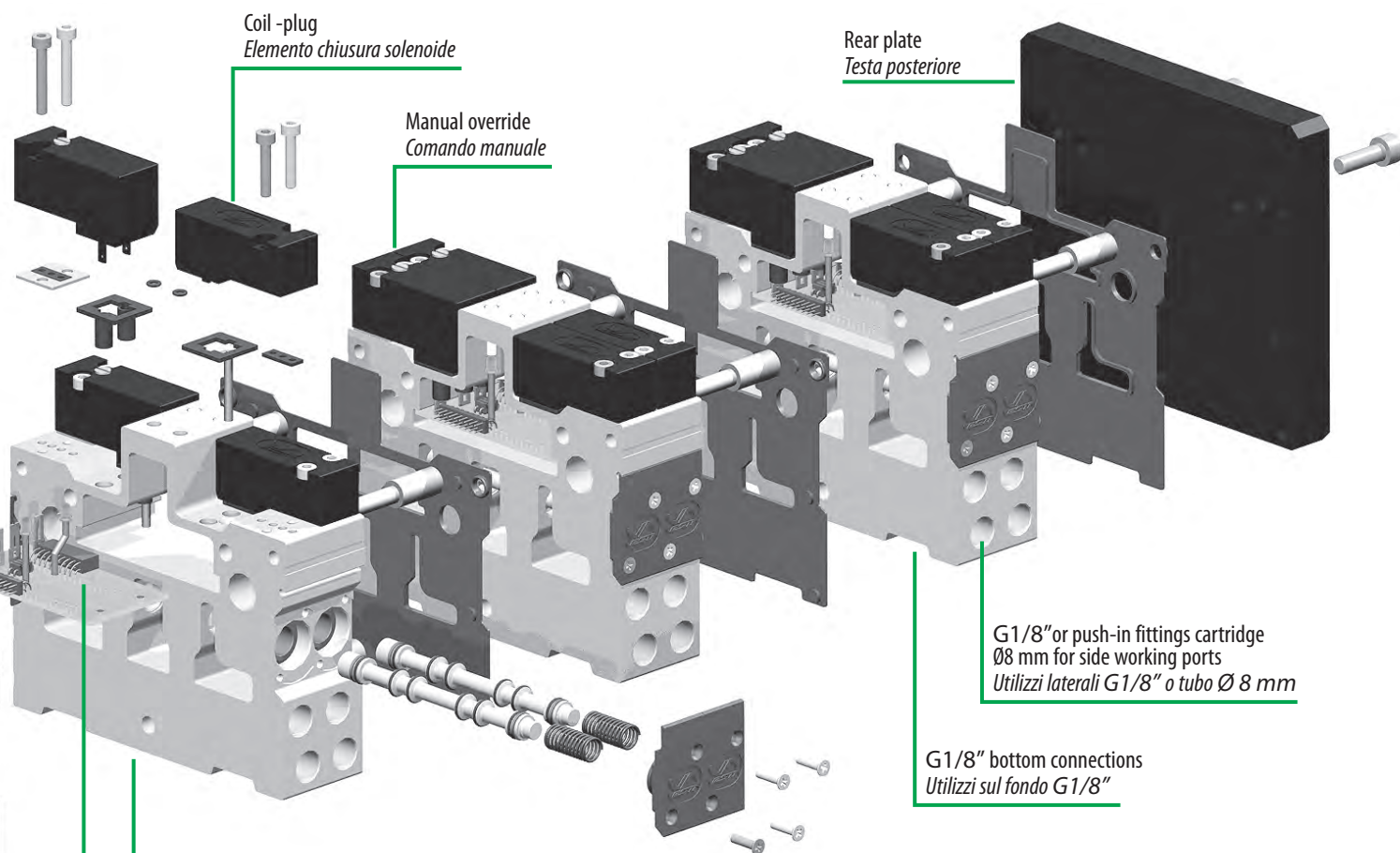
*La composizione del **sistema 4HF** è ottenuta mediante accostamento in tenuta di moduli dotati ognuno di scheda a circuito stampato, con led e varistore di protezione, per il collegamento e la trasmissione dei segnali ai solenoidi secondo posizioni Sub D (rif. pagine B09).*

Ogni modulo è costituito da n°2 posti valvola 5/2 o 5/3 o di max n° 4 posti valvola 3/2, ciascuna delle quali si può definire nella sua funzione individuale e combinare con ognuna delle altre, in modo flessibile e rapido per l'ottenimento di isole personalizzate e flessibili, seguendo schemi di pagg. B-08. Per numero di posizione valvole dispari è disponibile il modulo singolo da montare solo come ultima posizione.



MULTIPOLE CONNECTION SYSTEM SISTEMA DI CONNESSIONE MULTIPOLARE

SERIE **4HF**



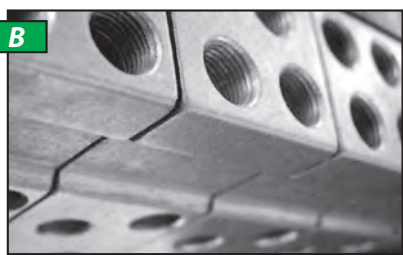
Example body module with n°2 5/2 single solenoid valves
Esempio modulo con 2 elettrovalvole monostabili

2 solenoids connection integral circuit board
Scheda connessione 2 solenoidi

BUILDING FEATURES / CARATTERISTICHE COSTRUTTIVE



Manual override push and with detent.
Comando manuale: premere e ruotare per bloccaggio.



Working ports: bottom and side 1/8" ported or push-in fittings Ø8.
Utilizzi: sul fondo e laterali 1/8" o laterali tubo Ø8.



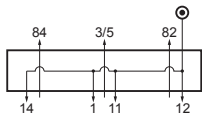
Sub-D 25 for 22 solenoid connections.
Sub-D 37 for 32 solenoid connections.
Sub-D 25 per 22 solenoidi.
Sub-D 37 per 32 solenoidi.



EXAMPLES COMBINATION MODULES / ESEMPI DI CONFIGURAZIONE MODULI

4HF..CS-.-...

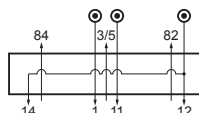
FRONT PLATE
TESTATA ANTERIORE



Front plate common supply
Testata anteriore ingressi in comune

4HF..SS-.-...

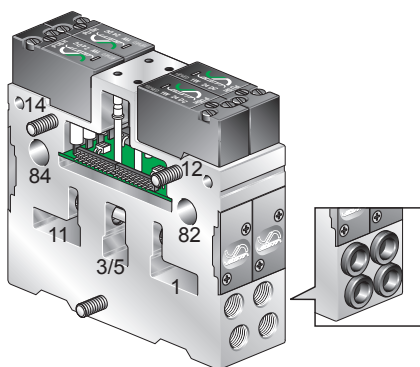
FRONT PLATE
TESTATA ANTERIORE



Front plate with three separate supplies
Testata anteriore ingressi separati

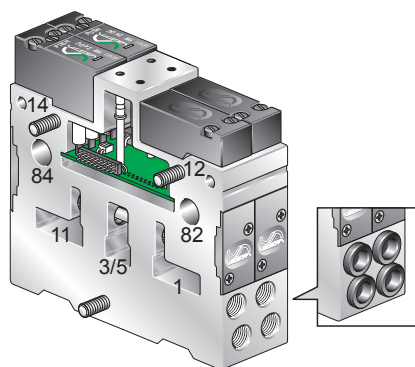
- □ □ -

DOUBLE SOLENOID VALVES COMBINATION MODULE
CONFIGURAZIONE MODULO VALVOLE A DOPPIO SOLENOIDE



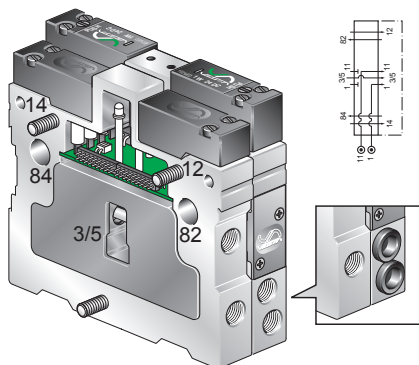
- □ □ -

SINGLE SOLENOID VALVES COMBINATION MODULE
CONFIGURAZIONE MODULO VALVOLE A SINGOLO SOLENOIDE



-X□-

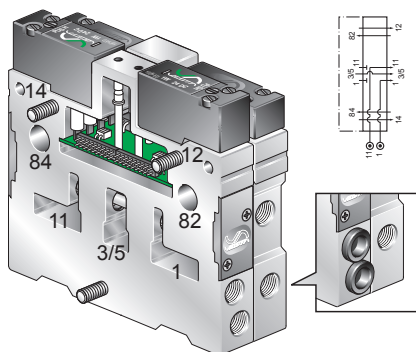
FRONT INTERMEDIATE PRESSURE
SEPARATOR WITH SINGLE VALVE MODULE
ELEMENTO SEPARAZIONE PRESSIONI DISPARI



With intermediate air supplies
Con alimentazioni supplementari

-□Y-

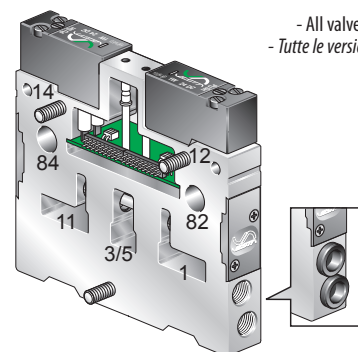
FRONT INTERMEDIATE PRESSURE
SEPARATOR WITH SINGLE VALVE MODULE
ELEMENTO SEPARAZIONE PRESSIONI PARI



With intermediate air supplies
Con alimentazioni supplementari

-□-

SINGLE VALVE MODULE
POSTO VALVOLA SINGOLO

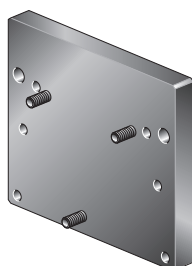
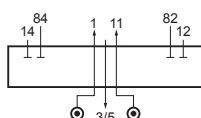


- All valve functions
- Tutte le versioni valvola

Only rear last odd position on manifold
Solo come ultimo posto dispari

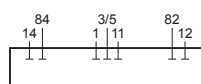
4HF....-.-P..

REAR BLIND PLATE
TESTATA POSTERIORE



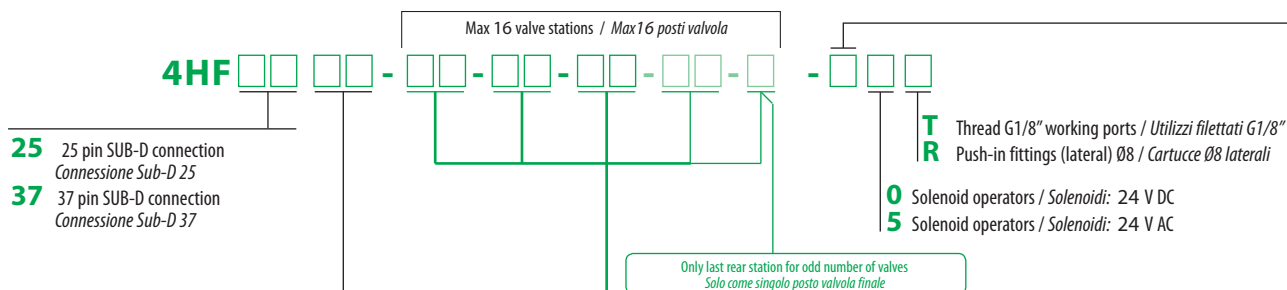
4HF....-.-S..

REAR PLATE
TESTATA POSTERIORE

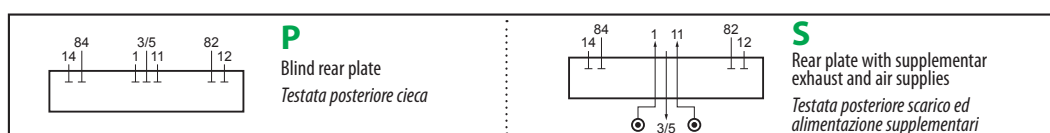
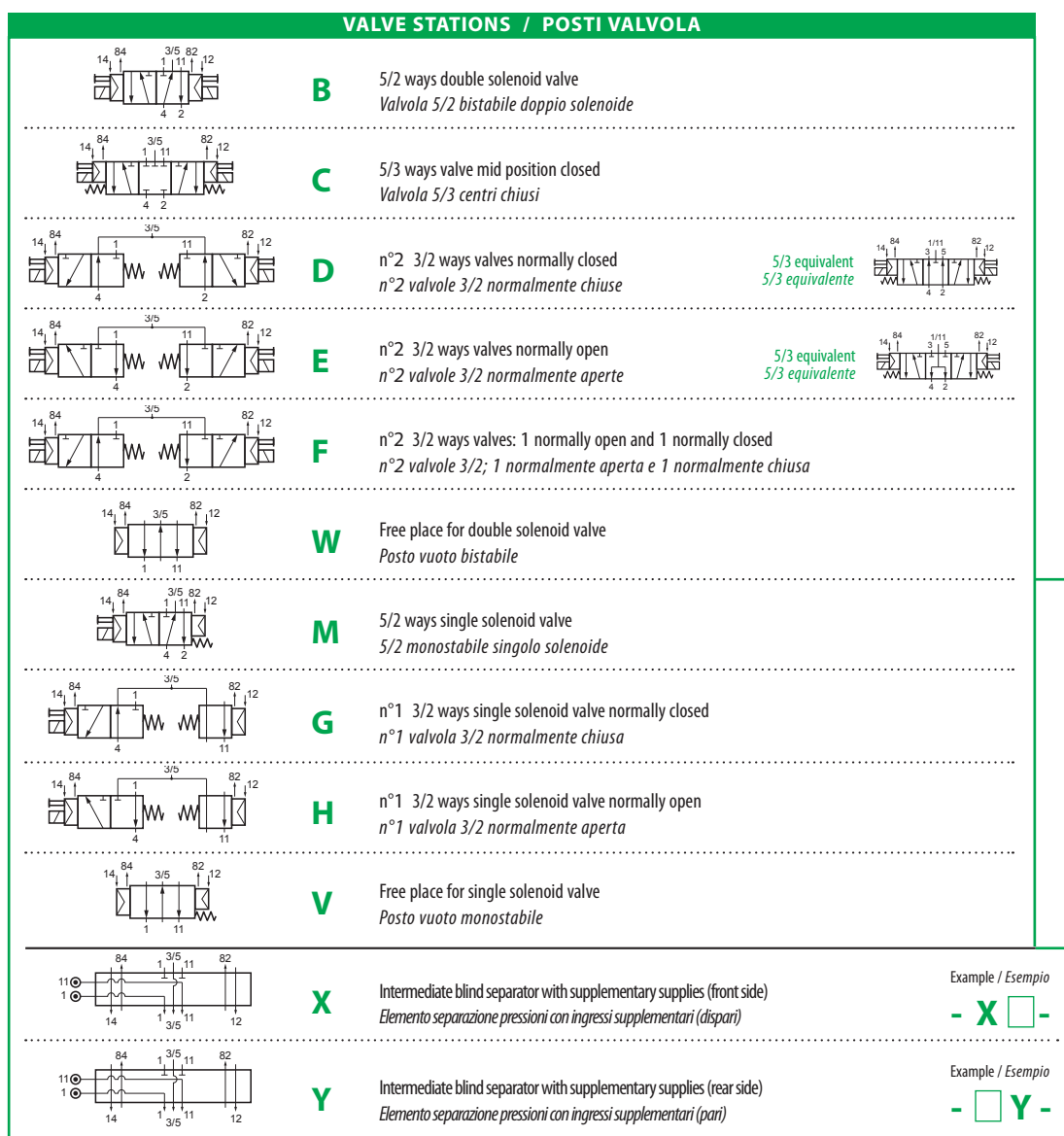


Supplementar exhaust and supplies
Testata posteriore con scarico ed alimentazione supplementari

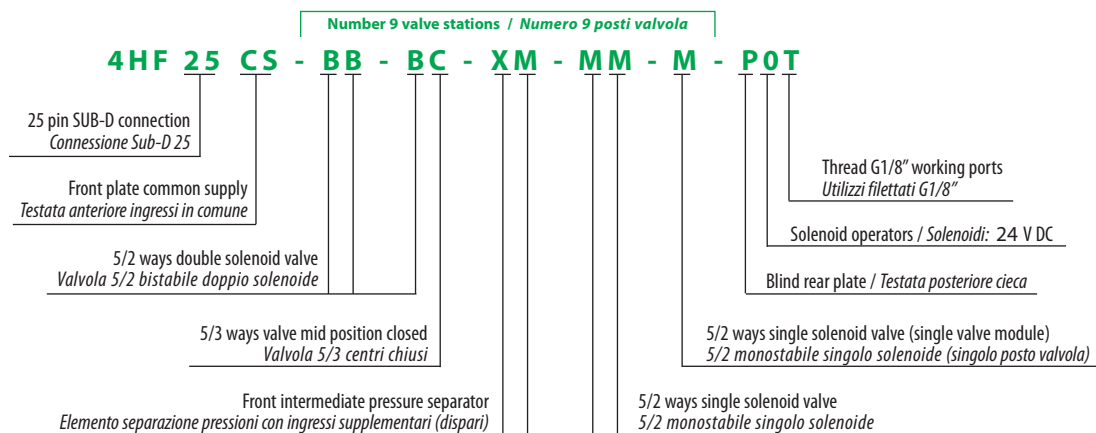
4HF MODULAR SYSTEM IDENTIFICATION CODE / CODICE DI IDENTIFICAZIONE SISTEMA MODULARE 4HF



MANIFOLD VALVE FUNCTIONS PRIORITY FROM FRONT TO REAR
SEQUENZA DI MONTAGGIO FUNZIONI VALVOLE DALLA TESTATA ANTERIORE

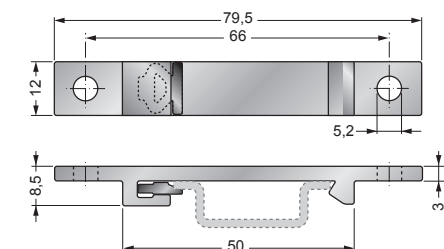


CODE EXAMPLE / ESEMPIO DI ORDINAZIONE

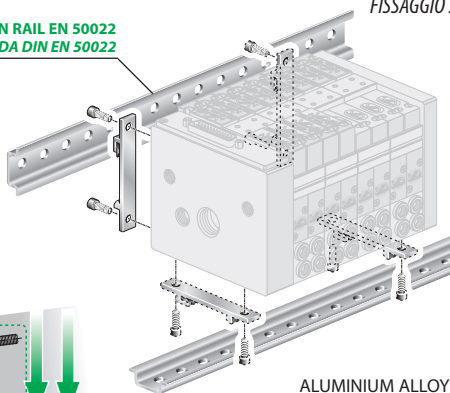


FIXING ACCESSORIES / ACCESSORI DI FISSAGGIO

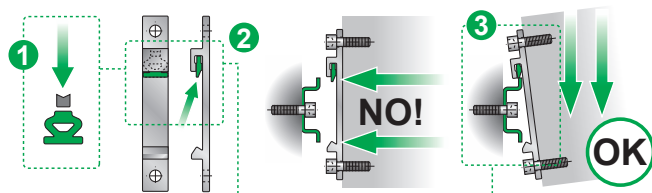
Note: the fixing screws (N°2 M5x10) are included in the supply of the fittings. The brackets are supplied in couple
 le viti di fissaggio (N°2 M5x10) sono comprese nella fornitura degli accessori. Le staffe vengono fornite in coppia.



DIN RAIL EN 50022
GUIDA DIN EN 50022

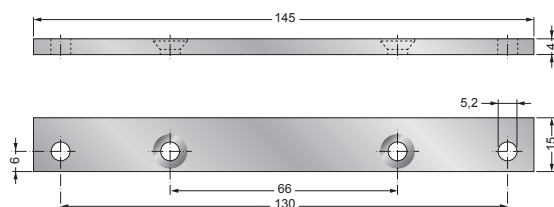


ALUMINIUM ALLOY
LEGA DI ALLUMINIO

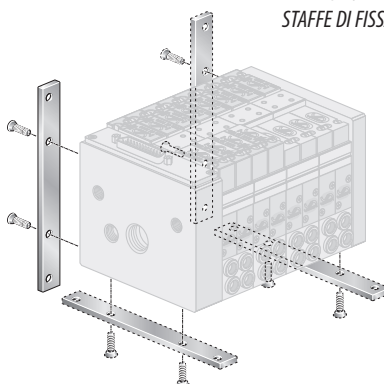


BRACKETS FOR FIXING ON DIN RAIL
FISSAGGIO SU GUIDA DIN

BRHF

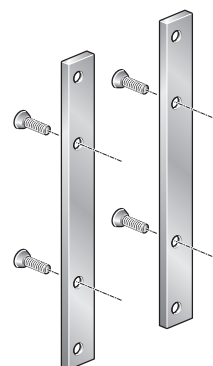


ALUMINIUM ALLOY / LEGA DI ALLUMINIO



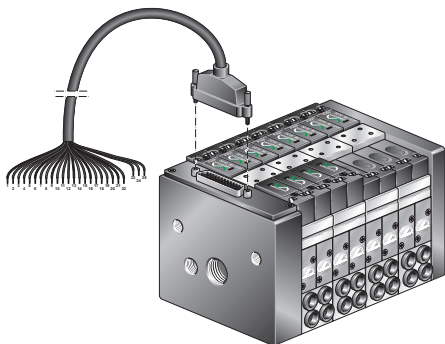
FIXING FOR WALL MOUNTING
STAFFE DI FISSAGGIO A PARETE

FLHF





ELECTRICAL CONNECTIONS / CONNESSIONI ELETTRICHE



Cable has color coated wires connecting solenoid valves in according to their phisycal position on the manifold.
With a single system you can operate up to 32 solenoids for SUB D 37 or 22 solenoids for SUB D 25 in any valves configuration.

Pin SUB D sequence number and wires colour are specified in the connection package.

La corrispondenza tra colore del conduttore e elettrovalvola segue la posizione di montaggio fisico della valvola.

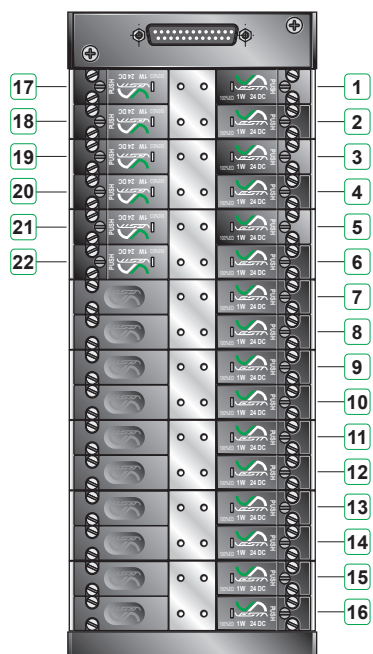
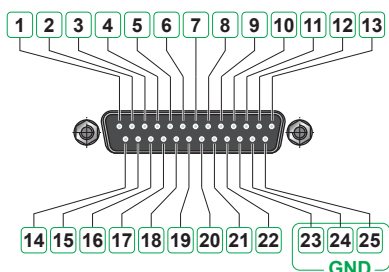
Nella configurazione SUB D 37 si possono comandare fino ad un massimo di 32 solenoidi, o un massimo di 22 nella configurazione SUB D 25, in qualsiasi combinazione di valvole adottata.

La corrispondenza tra N° di sequenza dei PIN del SUB-D e colore dei cavi é specificata nel foglio allegato alla confezione del cavo.

SUB D 25

Reference position coils for **Sub D25** connections (max 22 coils).

*Riferimento di posizione solenoidi per collegamenti a connessione **Sub D25** (max 22 solenoidi).*



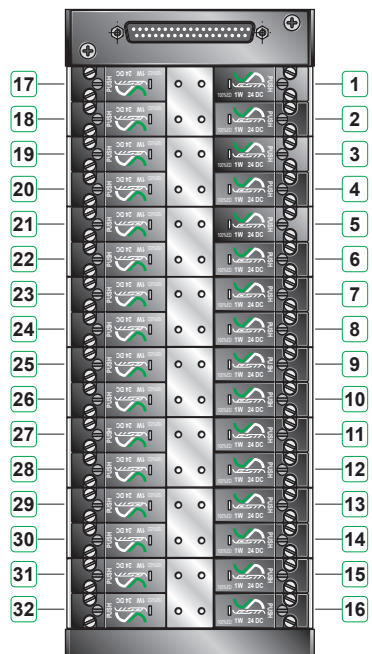
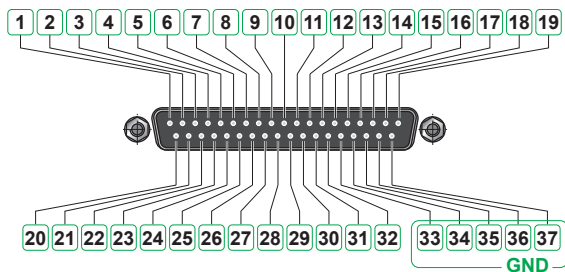
- FRONT -

- REAR -

SUB D 37

Reference position coils for **Sub D37** connections (max 32 coils).

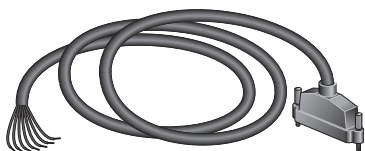
*Riferimento di posizione solenoidi per collegamenti a connessione **Sub D37** (max 32 solenoidi).*



WPC-..-...

CONNECTION CABLE FOR SUB D
CAVO DI CONNESSIONE SUB D

WPC-25- ☐ ☐ For / per SUB D 25
WPC-37- ☐ ☐ For / per SUB D 37



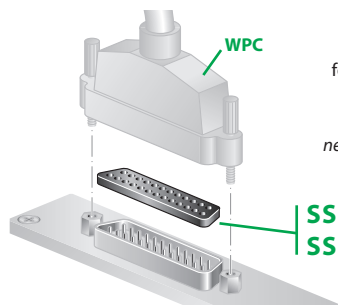
Standard lenght
Lunghezza standard

025 - 2500 mm

050 - 5000 mm

SSPC-..

CONNECTION SEAL
GUARNIZIONE PER CONNETTORE



WPC connection seal
for granting IP 65 protection

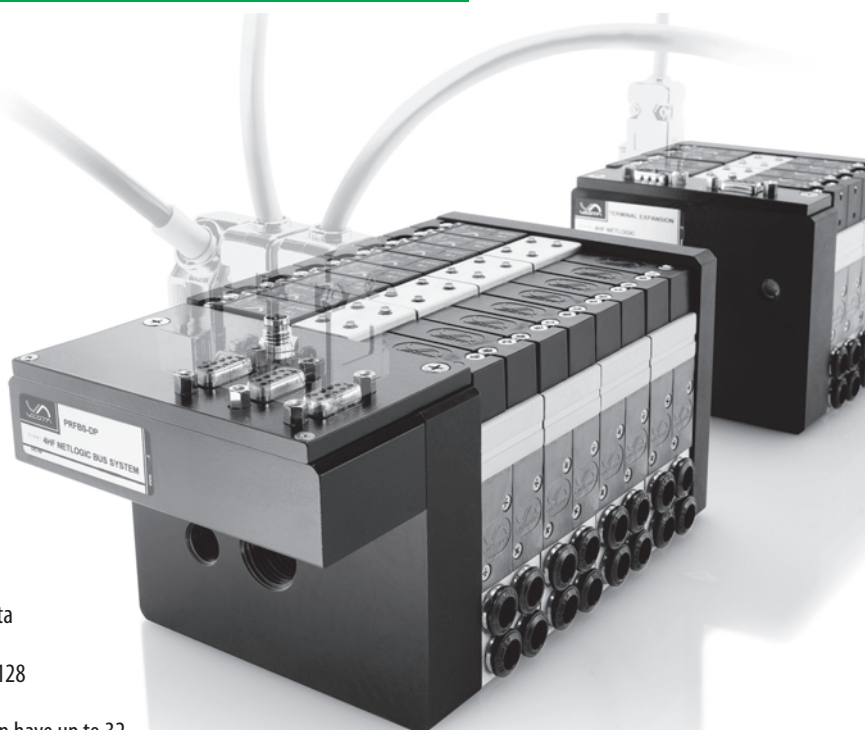
*Guarnizione per garantire
la protezione IP 65
nella connessione del cavo **WPC***

SSPC-25 For / per **WPC-25**
SSPC-37 For / per **WPC-37**

VESTA FIELDBUS SYSTEM

4hf NETLOGIC

4hf NETLOGIC



- The 4hf NETLOGIC fieldbus slave node is an integrated system that allows to run and operate a complete set of digital process data in both directions: from/to master to/from field.
- The slave node is made by a bus processor able to manage up to 128 digital outputs (solenoids) and up to 128 digital inputs (switches).
- The bus processor is integrated in the initial slave island which can have up to 32 solenoids and 6 further expansion islands with max 16 solenoids each. It's also available an 8 connections output box to operate remote digital outputs with a power up to 10W each.
- Digital inputs can be connected by input collector boxes with 8 connectors each.
- All the above makes the 4hf NETLOGIC a very flexible, capable and compact solution for easy installation and excellent performances.

• Il nodo VESTA input/output 4hf-NETLOGIC realizza uno slave da inserire in una rete fieldbus. Nella sua massima potenzialità è composto da un'isola 4HF iniziale con un processore integrato, da max 6 isole 4HF di espansione, da max 16 ciabatte di raccolta segnali digitali dal campo ed eventuali ciabatte di output per segnali digitali di comando remoti nel campo.

• La soluzione intergrata è molto compatta e flessibile, consente il massimo sfruttamento delle potenzialità dello slave grazie alle batterie di espansione alle ciabatte di input e output.

Expansion strenght (output and input) - Espandibilità massima (output e input)

OUTPUT	Max 128 (up to 128 included remote outputs) Max 128 (Bobine 4hf digitali 24V DC 1 WATT, comprese altre uscite digitali 10W 24V DC con ciabatte di output).
INPUT	128 (digital 24V dc) - 128 (digitali 24V DC)

- IP65 (M12 version - in versione M12)
- Environment temperature range -10 ÷ +50°C / Temperatura ambiente -10 ÷ +50°C
- Bus specific diagnostic leds / Led di diagnostica di comunicazione specifici del bus
- Single node electrical supply 24V DC on initial 4hf island / Unica alimentazione 24V DC su isola 4hf iniziale

Transmission Protocols - Protocolli bus	PROFibus	DeviceNet	Ethernet/IP	CANopen
Baud Rate - Velocità di trasmissione	9600bit/s-12Mbit/s	125-500kbit/s	10-100Mbit/s	10kbit/s-1Mbit/s
Suplly Voltage - Tensione alimentazione	24V DC (DC±10%)	24V DC (DC±10%)	24V DC (DC±10%)	24V DC
Max current allowed - Max assorbimento	3A = max 68 coils contemporary supplied 3A = max n°68 solenoidi contemporaneamente attivati			

(*) Gds file to install and operating instructions are available on www.vesta.it
Per file GSD di installazione e per istruzioni operative consultare il sito www.vesta.it

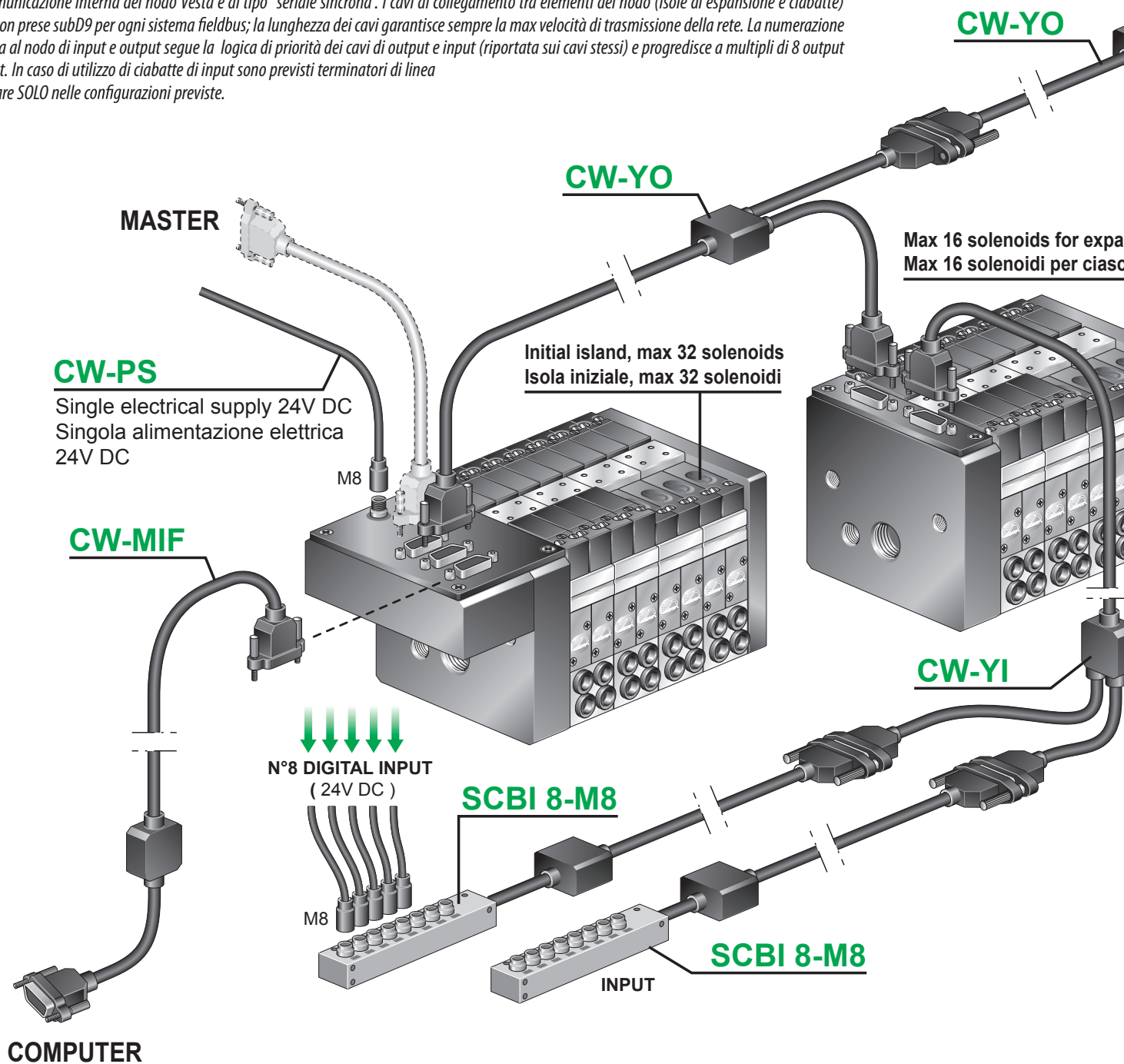
(**) Dimensions and function of station valves are shown in 4hf system
Per dimensioni e funzioni delle valvole vedere 4hf standard.



4HF NETLOGIC VESTA FIELDBUS SYSTEM

The inner communication of 4HF Netlogic works as a synchronous serial communication. A SUB-D9 connector is used on every expansion and cable length is designed to grant the fastest communication. The system is plug & play and internal addressing of the valves/inputs/outputs is made in function of the connection mode. Please be aware that end line plugs (ELP E/ELP I) are needed for the correct functioning. Read carefully the instructions manual before the installation.

La Comunicazione interna del nodo Vesta è di tipo "seriale sincrona". I cavi di collegamento tra elementi del nodo (isole di espansione e ciabatte) sono con prese subD9 per ogni sistema fieldbus; la lunghezza dei cavi garantisce sempre la max velocità di trasmissione della rete. La numerazione interna al nodo di input e output segue la logica di priorità dei cavi di output e input (riportata sui cavi stessi) e progredisce a multipli di 8 output e input. In caso di utilizzo di ciabatte di input sono previsti terminatori di linea da usare SOLO nelle configurazioni previste.

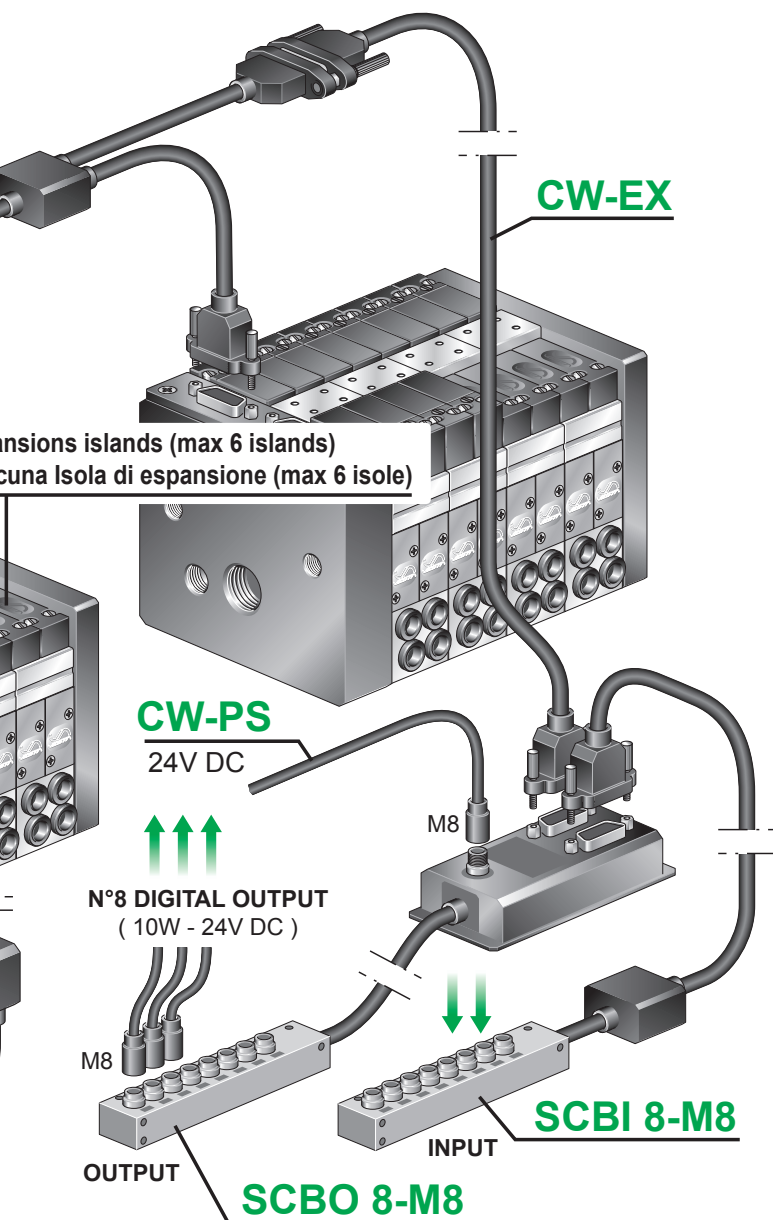


NODE ADDRESSING AND DIAGNOSTIC

The input SUB-D9 port on the initial island is also used to program the system by using only a Vesta MIF cable (CW MIF). The programming and diagnostic of the island can be made through hyper terminal application of Windows or similar software with other operating systems.

4HF NETLOGIC VESTA FIELDBUS SYSTEM

4hf NETLOGIC



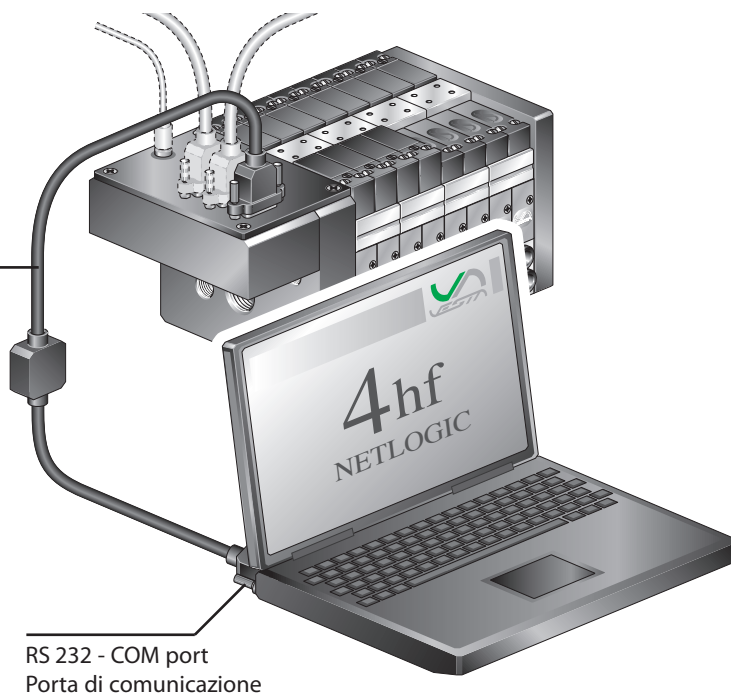
INDIRIZZAMENTO E DIAGNOSTICA

Sulla testata dell'isola iniziale del nodo (con processore) la presa subD9 di ingresso dei segnali dal campo è anche una porta MIF (Monitor Interface), che consente l'indirizzamento del nodo collegandosi alla porta seriale COM di un PC con l'apposito cavo MIF di programmazione. Il cavo MIF consente la diagnostica del nodo (verifica hardware del nodo, ossia verifica n° output e n° input collegati; verifica della velocità di trasmissione con il PLC; verifica dello stato di ciascun output e input, cioè controllo passo-passo del ciclo macchina; verifica e scrittura dell'indirizzo dello slave). La diagnostica e l'indirizzamento del nodo vengono fatte da PC con l'applicazione Windows "Hyper Terminal" (o software analogo per altri sistemi operativi).

The 4hf netlogic system recognises automatically the I/O digital process data and stores them byte by byte (8 bits). In the system this way avoids wrong addresses of I/O. The bus controller sets automatically baud rate to the same of fieldbus network Profibus, Devicenet or Ethernet. For Canopen the baud rate must be set.

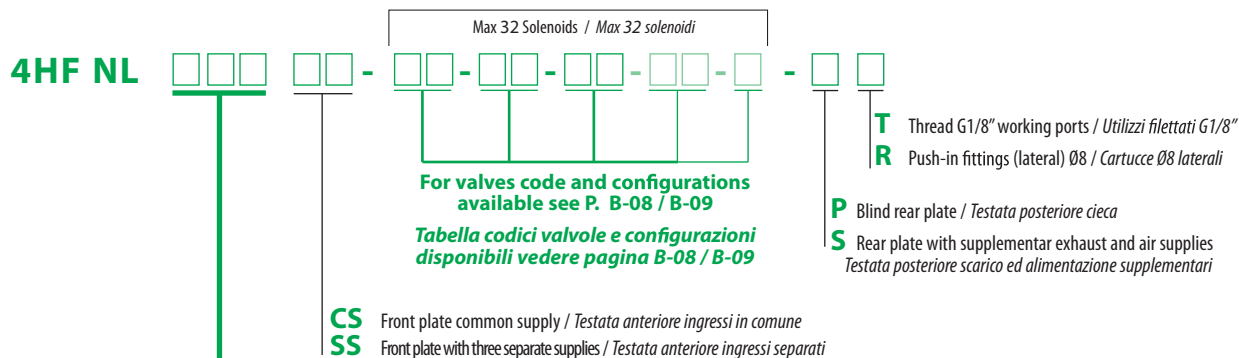
L'occupazione automatica di output e input fatta dal processore 4hf netlogic a multipli di 8bit (con riconoscimento automatico) facilita la programmazione e impedisce l'appropriazione indebita di input ed output della rete fieldbus. La configurazione del nodo slave Vesta è perciò automatica dal punto di vista logico.

Il processore slave adegua in automatico la velocità trasmissione del nodo (baud rate), in funzione della velocità della rete Profibus, Devicenet e Ethernet in cui il nodo Vesta è inserito (per Canopen il baud rate è invece un parametro da configurare).

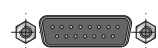




4HF NETLOGIC IDENTIFICATION CODE / CODICE DI IDENTIFICAZIONE



Master input
Ingresso dal master



PROFIBUS: 4HF NL PFD -....
DB9 (IP 54)



ETHERNET/IP: 4HF NL ETH -....
M12 (IP 65)



PROFIBUS: 4HF NL PFM -....
M12 (IP 65)



CANOPEN: 4HF NL CNO -....
M12 (IP 65)



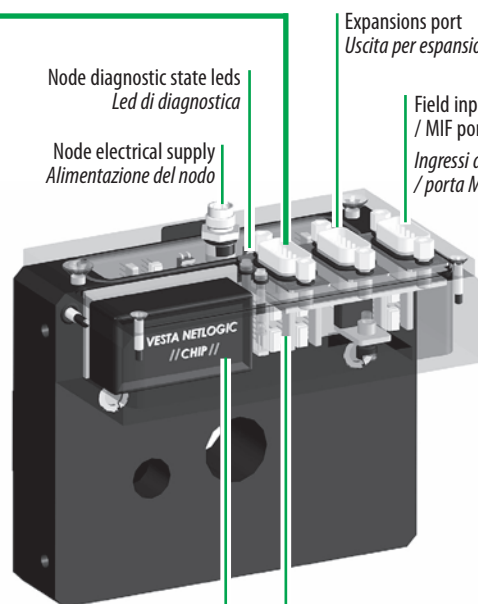
DEVICENET: 4HF NL DNM -....
M12 (IP 65)

Node diagnostic state leds
Led di diagnostica

Node electrical supply
Alimentazione del nodo

Expansions port
Uscita per espansioni

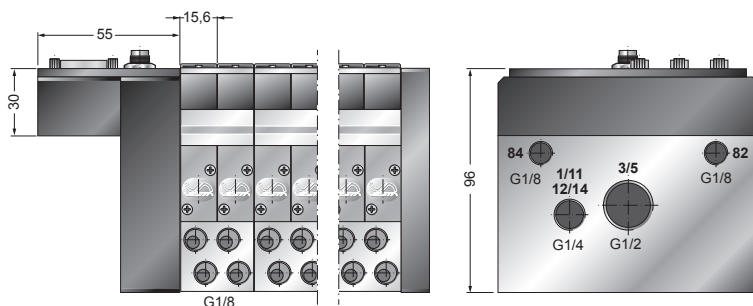
Field inputs
/ MIF port
Ingressi dal campo
/ porta MIF



Optically isolated bus chip
Optoisolatori di protezione bus

Bus chip controller
Processore specifico del bus

OVERALL DIMENSIONS / DIMENSIONI DI INGOMBRO

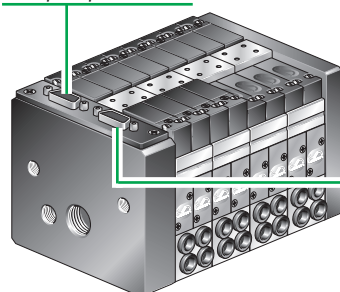


4HF NL EX

EXPANSION ISLAND
ISOLA DI ESPANSIONE MODULARE

4HF NL EX - [] [] - [] [] - [] [] - [] [] - [] []

Expansions port
Uscita per espansioni



Input port
Porta input

CS
SS

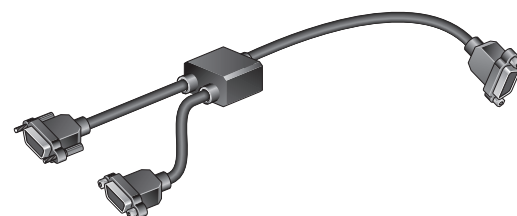
For valves code and configurations available see P. B-08 / B-09
Tabella codici valvole e configurazioni disponibili vedere pagina B-08 / B-09

P
S

T
R

CW-MIF

PROGRAMMING CABLE
CAVO DI COLLEGAMENTO
PER PROGRAMMAZIONE

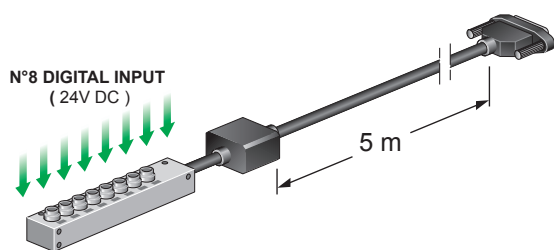


Do not use a standard serial cable for programming
Non utilizzare un cavo seriale standard per la programmazione

MAX 16 SOLENOIDS
16 SOLENOIDI MAX

INPUT COLLECTOR BOX
BOX RACCOLTA INPUT

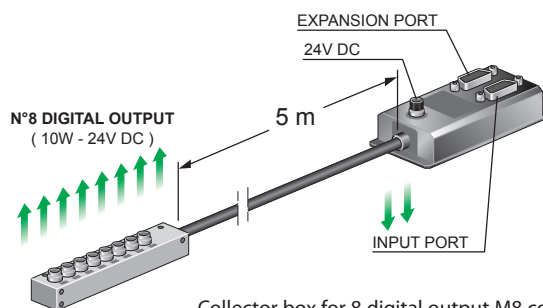
SCBI 8-M8



Collector box for 8 digital input M8 connection
Box raccolta 8 input digitali con connessioni M8

OUTPUT COLLECTOR BOX
BOX DISTRIBUZIONE OUTPUT

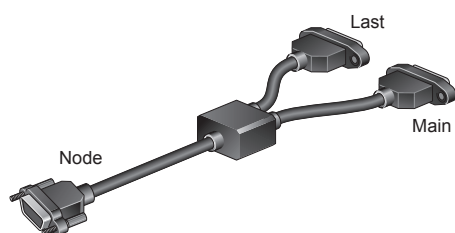
SCBO 8-M8



Collector box for 8 digital output M8 connection
Box distribuzione 8 output digitali con connessioni M8

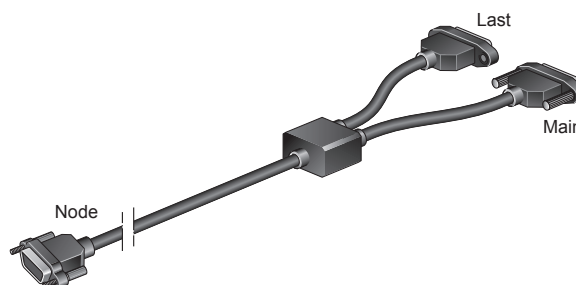
INPUT "Y" CABLE
CAVO AD "Y" PER INPUT

CW-YI



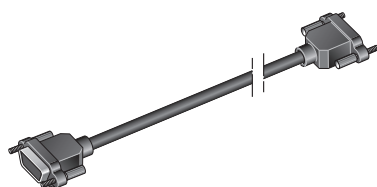
EXPANSION "Y" CABLE
CAVO AD "Y" DI ESPANSIONE

CW-YO



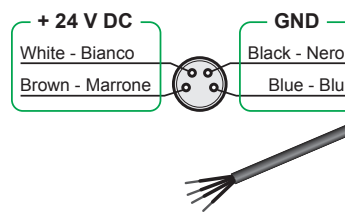
CABLE FOR SINGLE OR LAST EXPANSION
CAVO PER SINGOLA O ULTIMA ESPANSIONE

CW-EX



POWER SUPPLY CABLE M8
CAVO DI ALIMENTAZIONE M8

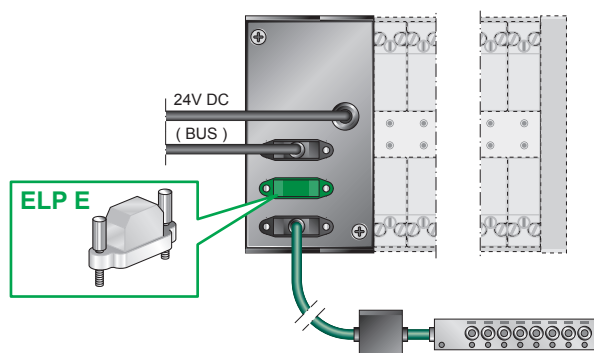
CW-PS



END LINE PLUG FOR EXPANSION PORT
TERMINATORE DI LINEA PER PORTA DI ESPANSIONE

ELP E

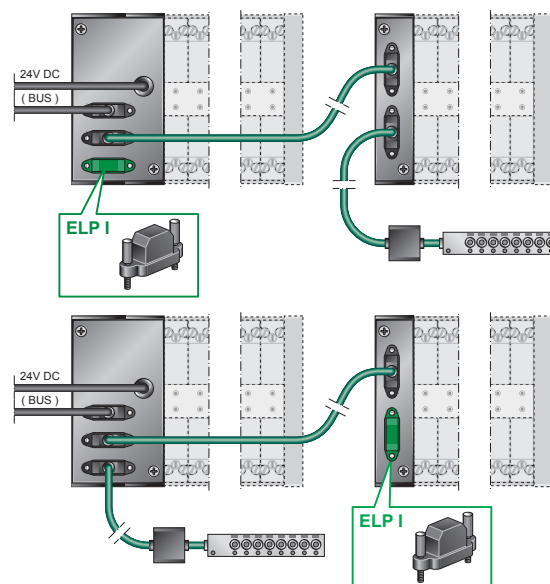
Example / Esempio:



END LINE PLUG FOR INPUT PORT
TERMINATORE DI LINEA PER PORTA INPUT

ELP I

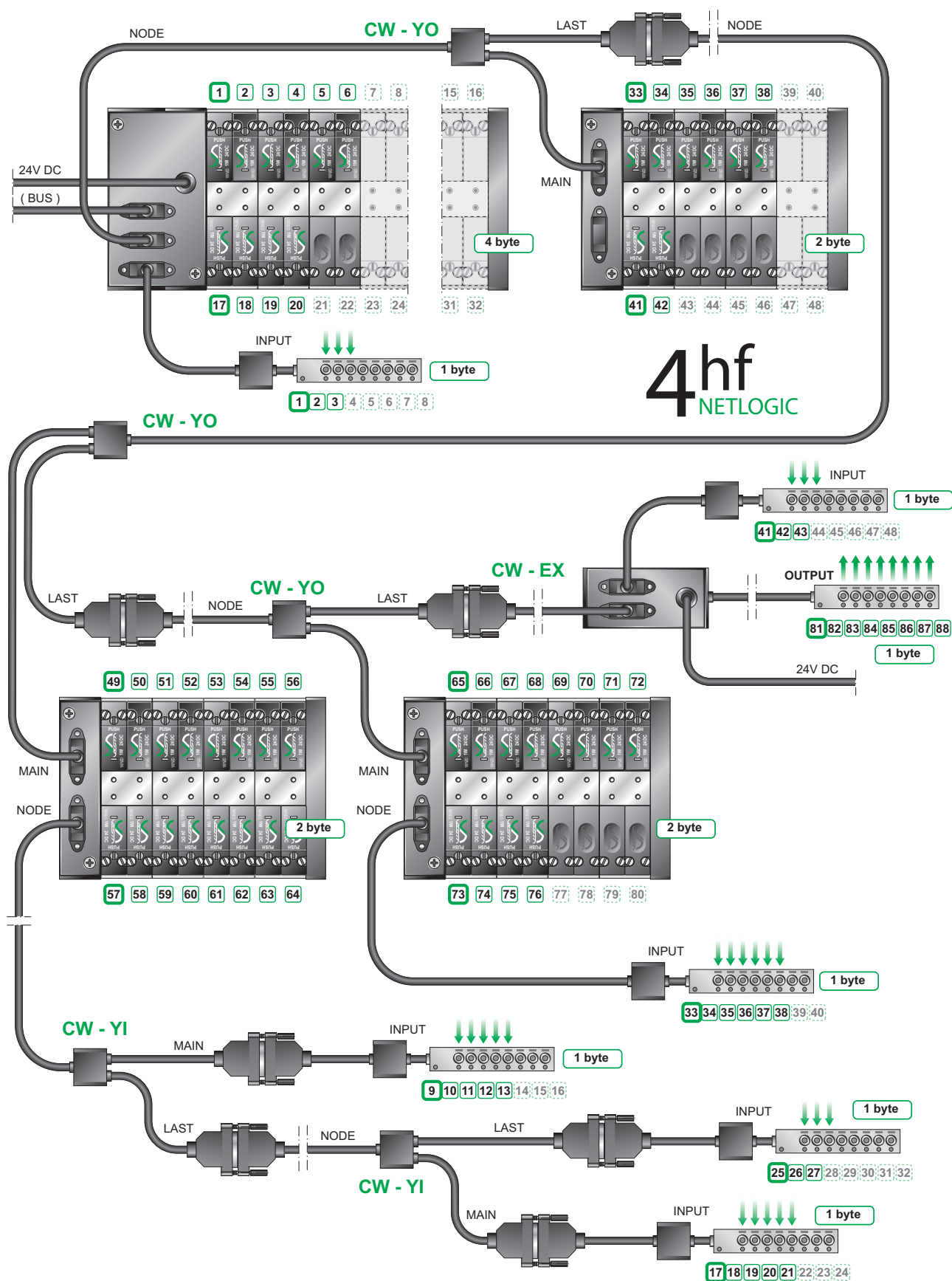
Example / Esempio:



For ELP E connection please see operating instructions available on www.vesta.it
Per connessione dei terminatori vedere istruzioni operative disponibili su www.vesta.it

For ELP I connection please see operating instructions available on www.vesta.it
Per connessione dei terminatori vedere istruzioni operative disponibili su www.vesta.it

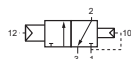
EXAMPLE OF CONNECTIONS / ESEMPIO DI CONNESSIONE



INDEX / INDICE

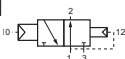
VALVES AND SOLENOID VALVES / VALVOLE ED ELETTROVALVOLE G1/8

pag. B-24



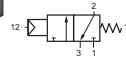
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SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN
COMANDO PNEUMATICO - MOLLA PNEUMATICA



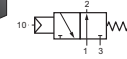
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SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN
COMANDO PNEUMATICO - MOLLA PNEUMATICA



V32V1P6M8

SINGLE PNEUMATIC PILOT - SPRING RETURN
COMANDO PNEUMATICO - MOLLA MECCANICA

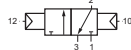


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SINGLE PNEUMATIC PILOT - SPRING RETURN
COMANDO PNEUMATICO - MOLLA MECCANICA

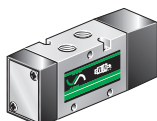
pag. B-25

pag. B-26



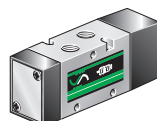
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DOUBLE PNEUMATIC PILOT
DOPPIO COMANDO PNEUMATICO



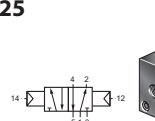
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SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN
COMANDO PNEUMATICO - MOLLA PNEUMATICA



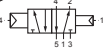
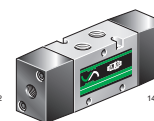
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SINGLE PNEUMATIC PILOT - SPRING RETURN
COMANDO PNEUMATICO - MOLLA MECCANICA



V52V2P018

DOUBLE PNEUMATIC PILOT
DOPPIO COMANDO PNEUMATICO

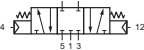
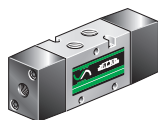


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..... CON DIFFERENZIALE

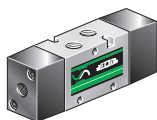
pag. B-26

pag. B-27



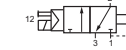
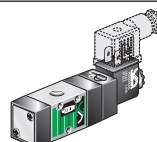
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DOUBLE PNEUMATIC PILOT - CENTER POSITION CLOSED
DOPPIO COMANDO PNEUMATICO - CENTRI CHIUSI



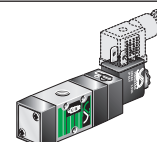
V53V2P918

DOUBLE PNEUMATIC PILOT - CENTER POSITION OPEN
DOPPIO COMANDO PNEUMATICO - CENTRI APERTI



E32W1S618 -.....

SINGLE SOLENOID VALVE - INTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - MOLLA PNEUMATICA

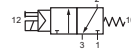
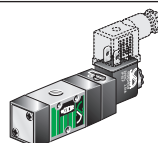


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SINGLE SOLENOID VALVE - INTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - MOLLA PNEUMATICA

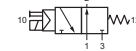
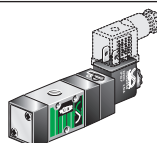
pag. B-27

pag. B-28



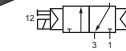
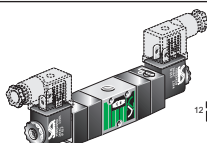
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SINGLE SOLENOID VALVE - SPRING RETURN
COMANDO ELETTROPNEUMATICO - MOLLA MECCANICA



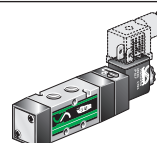
E32W1S9M8 -.....

SINGLE SOLENOID VALVE - SPRING RETURN
COMANDO ELETTROPNEUMATICO - MOLLA MECCANICA



E32W2S018 -.....

DOUBLE SOLENOID VALVE
DOPPIO COMANDO ELETTROPNEUMATICO

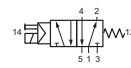
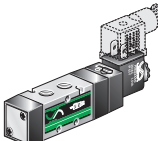


E52W1S018 -.....

SINGLE SOLENOID VALVE - INTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - MOLLA PNEUMATICA

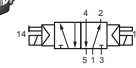
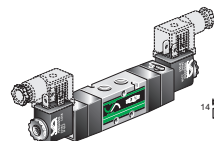
pag. B-28

pag. B-29



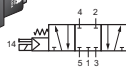
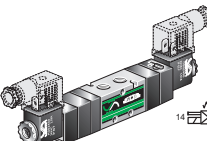
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SINGLE SOLENOID VALVE - SPRING RETURN
COMANDO ELETTROPNEUMATICO - MOLLA MECCANICA



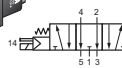
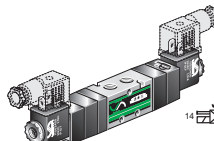
E52W2S018 -.....

DOUBLE SOLENOID VALVE
DOPPIO COMANDO ELETTROPNEUMATICO



E53W2S618 -.....

DOUBLE SOLENOID VALVE - CENTER POSITION CLOSED
DOPPIO COMANDO ELETTROPNEUMATICO - CENTRI CHIUSI



E53W2S918 -.....

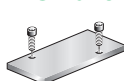
DOUBLE SOLENOID VALVE - CENTER POSITION OPEN
DOPPIO COMANDO ELETTROPNEUMATICO - CENTRI APERTI

COMPONENTS FOR ASSEMBLING AND SPARE PARTS / COMPONENTI PER L'ASSEMBLAGGIO E RICAMBI G1/8

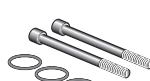
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PCH 018

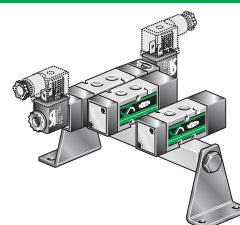


KM 018



pag. B-30

pag. B-32



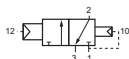
RTCOV.18
SBCOV.18
SACOV.18



INDEX / INDICE

(*) ATEX versions see / Versioni ATEX vedi P. B-113

G1/4 VALVES AND SOLENOID VALVES / VALVOLE ED ELETTROVALVOLE



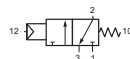
V32V1P614

SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN
COMANDO PNEUMATICO - MOLLA PNEUMATICA



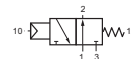
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SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN
COMANDO PNEUMATICO - MOLLA PNEUMATICA



(*) V32V1P6M4

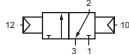
SINGLE PNEUMATIC PILOT - SPRING RETURN
COMANDO PNEUMATICO - MOLLA MECCANICA



(*) V32V1P9M4

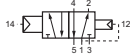
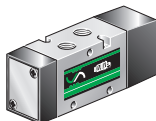
SINGLE PNEUMATIC PILOT - SPRING RETURN
COMANDO PNEUMATICO - MOLLA MECCANICA

pag. B-24



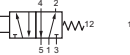
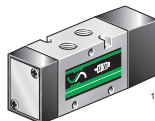
(*) V32V2P014

DOUBLE PNEUMATIC PILOT
DOPPIO COMANDO PNEUMATICO



V52V1P014

SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN
COMANDO PNEUMATICO - MOLLA PNEUMATICA

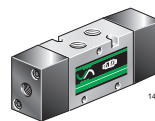


(*) V52V1PM14

SINGLE PNEUMATIC PILOT - SPRING RETURN
COMANDO PNEUMATICO - MOLLA MECCANICA

(*) V52V2P014

DOUBLE PNEUMATIC PILOT
DOPPIO COMANDO PNEUMATICO

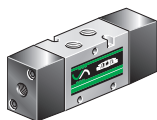


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..... WITH DIFFERENTIAL
..... CON DIFFERENZIALE

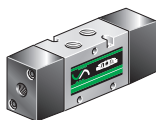
pag. B-25

pag. B-26



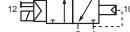
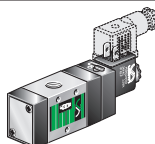
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DOUBLE PNEUMATIC PILOT - CENTER POSITION CLOSED
DOPPIO COMANDO PNEUMATICO - CENTRI CHIUSI



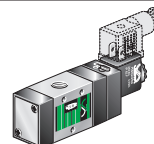
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DOUBLE PNEUMATIC PILOT - CENTER POSITION OPEN
DOPPIO COMANDO PNEUMATICO - CENTRI APERTI



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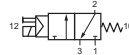
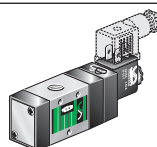
SINGLE SOLENOID VALVE - INTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - MOLLA PNEUMATICA



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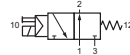
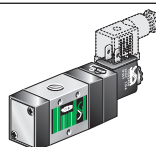
SINGLE SOLENOID VALVE - INTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - MOLLA PNEUMATICA

pag. B-27



(*) E32W1S6M4 -

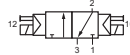
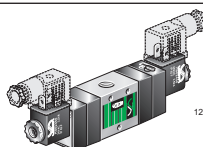
SINGLE SOLENOID VALVE - SPRING RETURN
COMANDO ELETTROPNEUMATICO - MOLLA MECCANICA



(*) E32W1S9M4 -

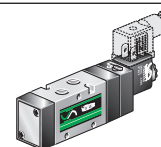
SINGLE SOLENOID VALVE - SPRING RETURN
COMANDO ELETTROPNEUMATICO - MOLLA MECCANICA

pag. B-27



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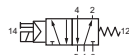
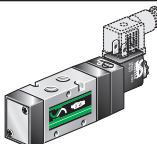
DOUBLE SOLENOID VALVE
DOPPIO COMANDO ELETTROPNEUMATICO



E52W1S014 -

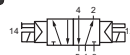
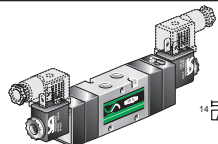
SINGLE SOLENOID VALVE - INTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - MOLLA PNEUMATICA

pag. B-28



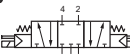
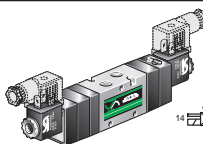
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SINGLE SOLENOID VALVE - SPRING RETURN
COMANDO ELETTROPNEUMATICO - MOLLA MECCANICA



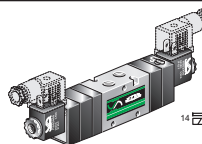
(*) E52W2S014 -

DOUBLE SOLENOID VALVE
DOPPIO COMANDO ELETTROPNEUMATICO



(*) E53W2S614 -

DOUBLE SOLENOID VALVE - CENTER POSITION CLOSED
DOPPIO COMANDO ELETTROPNEUMATICO - CENTRI CHIUSI



(*) E53W2S914 -

DOUBLE SOLENOID VALVE - CENTER POSITION OPEN
DOPPIO COMANDO ELETTROPNEUMATICO - CENTRI APERTI

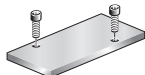
pag. B-29

G1/4 COMPONENTS FOR ASSEMBLING AND SPARE PARTS / COMPONENTI PER L'ASSEMBLAGGIO E RICAMBI

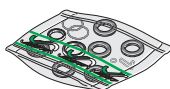
(*) ME .14



PCH 014



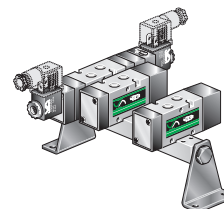
SET1 1/4 SG SET2 1/4 SG



KM 014



pag. B-30



pag. B-33

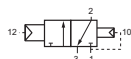
RTCOV.14
SBCOV.14
SACOV.14

INDEX / INDICE

(*) ATEX versions see / Versioni ATEX vedi P. B-113

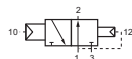
VALVES AND SOLENOID VALVES / VALVOLE ED ELETTROVALVOLE G1/2

pag. B-24



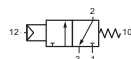
V32V1P612

SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN
COMANDO PNEUMATICO - MOLLA PNEUMATICA



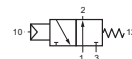
V32V1P912

SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN
COMANDO PNEUMATICO - MOLLA PNEUMATICA



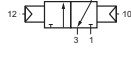
(*) **V32V1P6M2**

SINGLE PNEUMATIC PILOT - SPRING RETURN
COMANDO PNEUMATICO - MOLLA MECCANICA



(*) **V32V1P9M2**

SINGLE PNEUMATIC PILOT - SPRING RETURN
COMANDO PNEUMATICO - MOLLA MECCANICA



(*) **V32V2P012**

DOUBLE PNEUMATIC PILOT
DOPPIO COMANDO PNEUMATICO



V52V1P012

SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN
COMANDO PNEUMATICO - MOLLA PNEUMATICA



(*) **V52V1PM12**

SINGLE PNEUMATIC PILOT - SPRING RETURN
COMANDO PNEUMATICO - MOLLA MECCANICA



(*) **V52V2P012**

DOUBLE PNEUMATIC PILOT
DOPPIO COMANDO PNEUMATICO

pag. B-25

pag. B-26



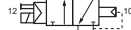
(*) **V53V2P612**

DOUBLE PNEUMATIC PILOT - CENTER POSITION CLOSED
DOPPIO COMANDO PNEUMATICO - CENTRI CHIUSI



(*) **V53V2P912**

DOUBLE PNEUMATIC PILOT - CENTER POSITION OPEN
DOPPIO COMANDO PNEUMATICO - CENTRI APERTI



E32W1S612 -

SINGLE SOLENOID VALVE - INTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - MOLLA PNEUMATICA



E32W1S912 -

SINGLE SOLENOID VALVE - INTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - MOLLA PNEUMATICA

pag. B-26

pag. B-27



(*) **E32W1S6M2 -**

SINGLE SOLENOID VALVE - SPRING RETURN
COMANDO ELETTROPNEUMATICO - MOLLA MECCANICA



(*) **E32W1S9M2 -**

SINGLE SOLENOID VALVE - SPRING RETURN
COMANDO ELETTROPNEUMATICO - MOLLA MECCANICA



(*) **E32W2S012 -**

DOUBLE SOLENOID VALVE
DOPPIO COMANDO ELETTROPNEUMATICO



E52W1S012 -

SINGLE SOLENOID VALVE - INTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - MOLLA PNEUMATICA

pag. B-27

pag. B-28



(*) **E52W1SM12 -**

SINGLE SOLENOID VALVE - SPRING RETURN
COMANDO ELETTROPNEUMATICO - MOLLA MECCANICA



(*) **E52W2S012 -**

DOUBLE SOLENOID VALVE
DOPPIO COMANDO ELETTROPNEUMATICO



(*) **E53W2S612 -**

DOUBLE SOLENOID VALVE - CENTER POSITION CLOSED
DOPPIO COMANDO ELETTROPNEUMATICO - CENTRI CHIUSI



(*) **E53W2S912 -**

DOUBLE SOLENOID VALVE - CENTER POSITION OPEN
DOPPIO COMANDO ELETTROPNEUMATICO - CENTRI APERTI

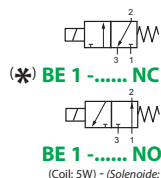
pag. B-28

pag. B-29

(*) ATEX versions see / Versioni ATEX vedi P. B-113

DIRECT ACTING SOLENOID VALVES AND SPARE PARTS / ELETTROVALVOLE A COMANDO DIRETTO E RICAMBI

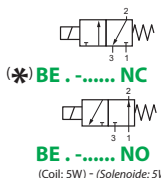
pag. B-35



(*) **BE 1 -** NC

BE 1 - NO
(Coil: 5W) - (Solenoid: 5W)

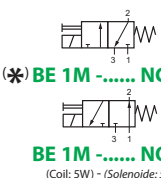
DIRECT ACTING SOLENOID VALVE
ELETTROVALVOLE A COMANDO DIRETTO



(*) **BE -** NC

BE - NO
(Coil: 5W) - (Solenoid: 5W)

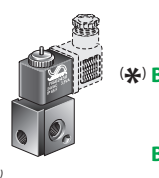
DIRECT ACTING SOLENOID VALVES - MANIFOLD
ELETTROVALVOLE A COMANDO DIRETTO IN BATTERIA



(*) **BE 1M -** NC

BE 1M - NO
(Coil: 5W) - (Solenoid: 5W)

DIRECT ACTING SOLENOID VALVE WITH MANUAL CONTROL
ELETTROVALVOLE A COMANDO DIRETTO CON CONTROLLO MANUALE



(*) **BE M -** NC

BE M - NO
(Coil: 5W) - (Solenoid: 5W)

DIRECT ACTING SOLENOID VALVES WITH MANUAL CONTROL - MANIFOLDS
ELETTROVALVOLE A COMANDO DIRETTO CON CONTROLLO MANUALE IN BATTERIA

PL-BE

KM-BE



GE 1

GE

MBE-4-....

pag. B-35

MBE-8NC-....

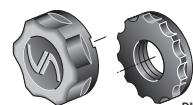
MBE-8NO-....

MS

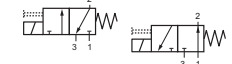
CEP-1

SET1 1/2 SG
SET2 1/2 SG

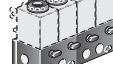
pag. B-36



DIRECT ACTING SOLENOID VALVES 3/2 TUBE Ø4mm - MANIFOLD
ELETTROVALVOLE A COMANDO DIRETTO 3/2 TUBO Ø4mm IN BATTERIA



DIRECT ACTING SOLENOID VALVES 3/2 G1/8 - MANIFOLD
ELETTROVALVOLE A COMANDO DIRETTO 3/2 G1/8 IN BATTERIA





BUILDING FEATURES / CARATTERISTICHE COSTRUTTIVE

VESTA valves and solenoid valves with **G1/8, G1/4** and **G1/2** ports are available in the 3/2, 5/2 and 5/3 versions, with different forms of control (i.e. solenoid / pilot etc). The choice of high quality materials and technical solutions allows the valves to reach good performances even in harsh environmental conditions.

The spool is made in light aluminium alloy nickel treated by Niploy Process (see fig. **A**).

Its shape grants high nominal flow rates (see fig. **D**). Self lubricating lip seals (see fig. **B**) reduce internal friction (see fig. **C**) and provide the valve with a long lasting durable life.

Valves and Solenoid valves with connections **G1/8; G1/4** and **G1/2** ports can operate continuously without lubrication (see fig. **E**).

*Le valvole ed elettrovalvole VESTA con connessioni **G1/8; G1/4** e **G1/2** sono disponibili nelle versioni 3/2, 5/2 e 5/3 con più sistemi di attuazione e riposizionamento.*

Le soluzioni tecniche adottate ed i materiali impiegati hanno permesso di realizzare un prodotto che presenta elevate prestazioni funzionali anche in condizioni di impiego particolarmente gravose.

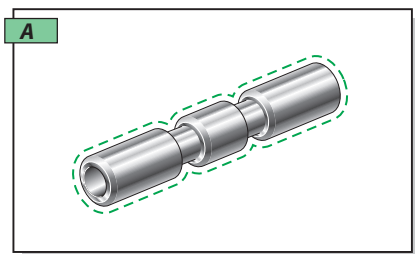
*La spola, costruita in lega leggera e progettata per consentire elevate portate nominali (**D**), viene trattata superficialmente al nickel (Niploy Process) (**A**) onde acquisire una durezza maggiore ed una più elevata resistenza agli agenti aggressivi.*

*La combinazione tra la spola e le guarnizioni in elastomero nitrilico con profilo del labbro antiusura (**B**), permette, accanto ad una riduzione degli attriti, un'alta velocità di scambio e cicli di lavoro elevati (**C**), garantendo una maggiore durata della meccanica interna.*

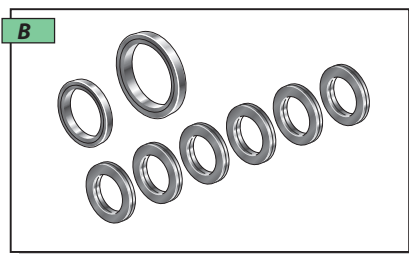
*Tutti i modelli di valvole con connessioni **G1/8; G1/4** e **G1/2** possono essere utilizzati anche in assenza di lubrificazione (**E**).*

*L'ermeticità di funzionamento verso l'ambiente di lavoro ne fa inoltre un prodotto adatto all'impiego in settori cosiddetti "difficili" (**F**).*

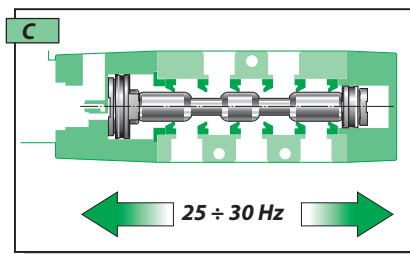
Nelle pagine che seguono tutte le caratteristiche funzionali di ciascuna valvola sono convalidate dal Dipartimento di Meccanica del Politecnico di Torino.



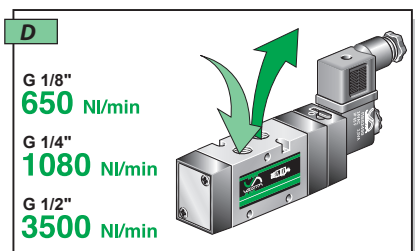
Light alloy spool with Niploy Process treated surface.
Spola in lega leggera con trattamento superficiale Niploy Process.



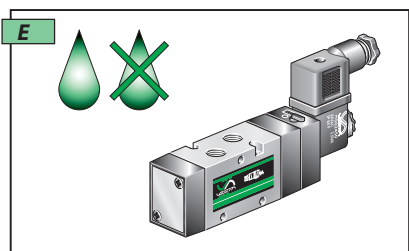
Self lubricating lip rubber seals.
Guarnizioni in elastomero nitrilico con profilo del labbro antiusura.



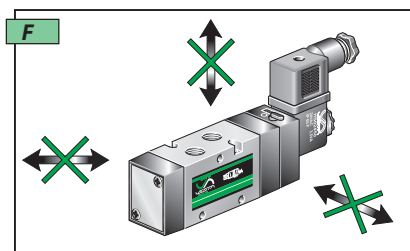
High working frequency.
Alta velocità di scambio per cicli di lavoro elevati.



High nominal air flow.
Alta portata nominale.



Possibility of operating continuously without lubrication.
Possibilità di funzionamento continuo privo di lubrificazione.



Protected against working environment (no spring return versions).
Protezione di funzionamento verso l'ambiente di lavoro (non nelle versioni con ritorno a molla).

WORKING PRINCIPLE / PRINCIPIO DI FUNZIONAMENTO

In the example here below, when the 5/2 valve **E52W1S018 - 02450** stands in the normal position, ports **4 - 5** and **1 - 2** are connected and the position is kept thanks to the pressure assured to the smallest piston (right side of the valve). When the valve is actuated, the same pressure is fed to the biggest piston. Its bigger surface create a force which allows to the spool to move and therefore to connect ports **4 - 1** and **2 - 3**.

In the mechanical spring version, the valve is kept in the normal position by a mechanical spring.

In the bistable versions, the position of the valve remains in its last switched state.

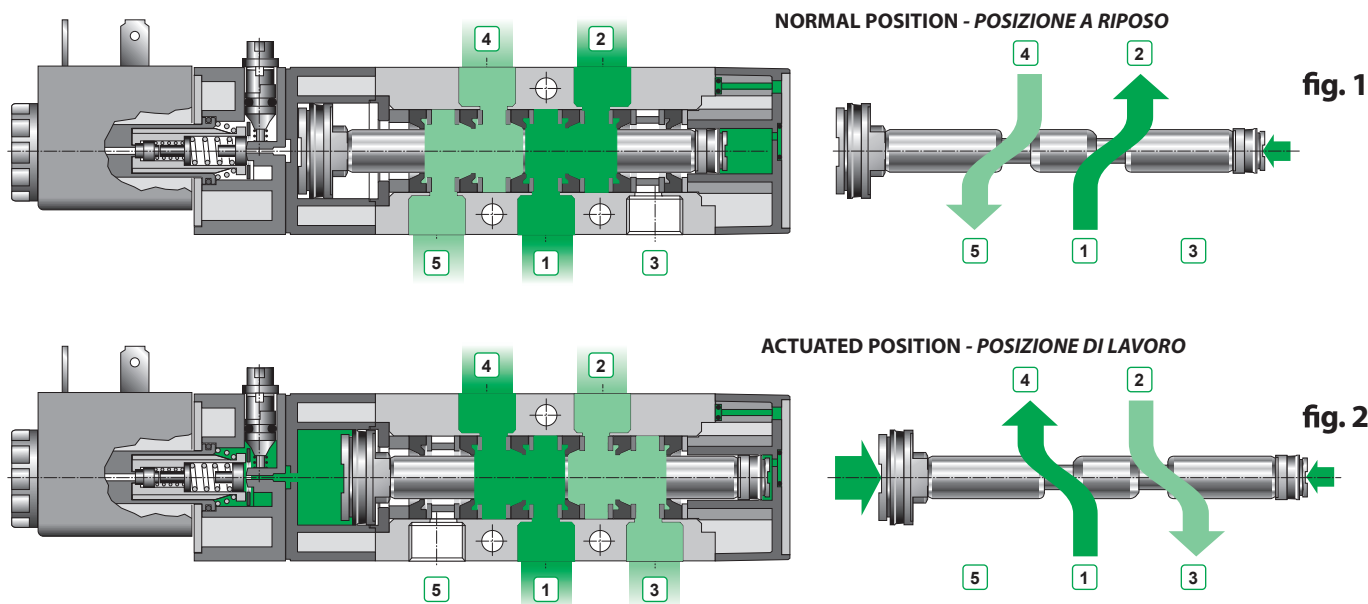
*Il principio di funzionamento del distributore 5/2 (nell'esempio la valvola a comando elettropneumatico e riposizionamento a molla pneumatica **E52W1S018 - 02450**) consiste nel mantenere costantemente in pressione il pistone di riposizionamento (fig. 1), utilizzando la fonte d'aria compressa presente nel condotto di alimentazione **1**, collegando le vie **1 - 2** e **4 - 5**.*

*L'eccitazione del solenoide mette in comunicazione il condotto in pressione **1** con la camera dove è alloggiato il pistone di comando.*

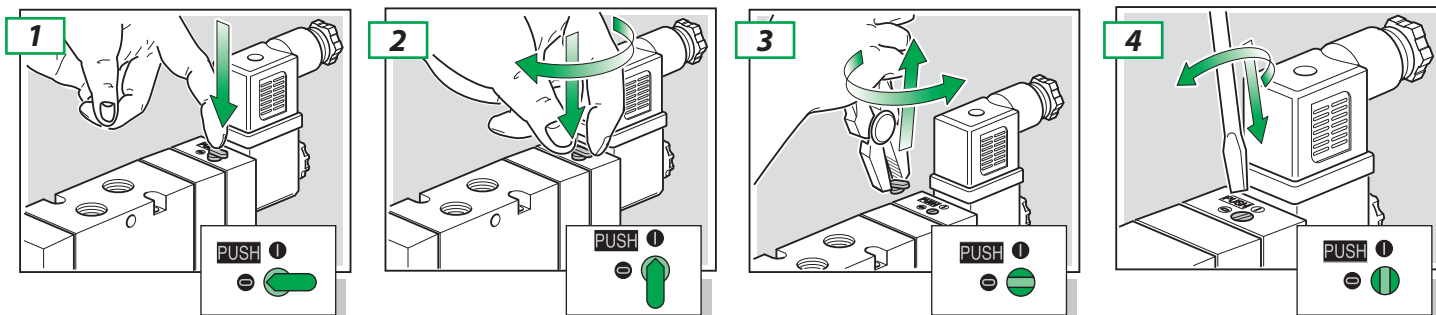
*Quest'ultimo, avendo un'area di spinta maggiore del pistone di riposizionamento, sposta la spola in modo tale da collegare i canali **1 - 4** e **2 - 3** (fig. 2).*

Diseccitando il solenoide si ripristina la posizione iniziale.

Nei sistemi bistabili (doppio comando elettropneumatico o doppio comando pneumatico) in assenza di segnale rimangono i collegamenti dell'ultimo azionamento.



MANUAL OVERRIDING / AZIONAMENTO COMANDO MANUALE



Push to actuated valve without locking. **Release the button to get back to normal position.**

*Per azionare la valvola, durante la fase di collaudo con pressione in linea senza collegamento elettrico, premere la leva del comando manuale. **Rilasciare per ripristinare la condizione di riposo.***

To actuate the valve permanently push the M/O (manual override) and rotate clockwise 90°. **To return to normal position, push the M/O again and turn 90° anticlockwise.**

*Per azionare la valvola in modo permanente premere la leva del comando manuale e ruotare in senso orario sino alla posizione 1. **Ruotare in senso antiorario per ripristinare la condizione di riposo.***

If the M/O is no longer required, then turn the M/O anticlockwise until it breaks off.

Terminato il collaudo ruotare in senso antiorario la leva sino alla rottura.

If the M/O is required after breaking off a screwdriver can be used.

Per interventi successivi sul comando manuale usare un adeguato cacciavite ed operare come al punto 1 o 2.



SERIE **G1/8, G1/4, G1/2**

VALVES AND SOLENOID VALVES "E" SERIES VALVOLE ED ELETTROVALVOLE SERIE "E"

COMMON FEATURES VALVES **G1/8** SERIES / CARATTERISTICHE COMUNI VALVOLE SERIE **G1/8**

G1/8

Port connections	G1/8
Pilot connections	G1/8
Flow section	Ø 6 mm
Environment temperature range	-10 °C ÷ +50 °C
Temperature range of medium	0 °C ÷ +40 °C
Lubrication	Not required
Medium	Filtered air
Reference temperature	+20 °C
Reference pressure	6 bar

3/2 VALVES AND SOLENOID VALVES

Fixing.....	n°3 holes Ø 4,25 manifold system see p. 30.
Nominal air flow	650 NI/min
Fluid conductance "C".....	2,7 NI/s bar
Critical pressure ratio "b".....	0,203

5/2 VALVES AND SOLENOID VALVES

Fixing.....	n°3 holes Ø 4,25 manifold system pp. 30 ÷ 32.
Nominal air flow.....	650 NI/min
Fluid conductance "C".....	2,7 NI/s bar
Critical pressure ratio "b".....	0,203

5/3 VALVES AND SOLENOID VALVES

Fixing.....	n°3 holes Ø 4,25 manifold system pp. 30 ÷ 32.
Nominal air flow.....	530 NI/min
Fluid conductance "C".....	2,17 NI/s bar
Critical pressure ratio "b".....	0,236

Connessioni di lavoro	G1/8
Connessioni operatori.....	G1/8
Diametro nominale.....	Ø 6 mm
Temperatura ambiente.....	-10 °C ÷ +50 °C
Temperatura fluido.....	0 °C ÷ +40 °C
Lubrificazione.....	Non necessaria
Fluido.....	Aria filtrata
Temperatura nominale.....	+20 °C
Pressione nominale.....	6 bar

VALVOLE ED ELETTROVALVOLE 3/2

Fissaggio.....	n°3 fori laterali Ø 4,25 su collettore vedi p. 32
Portata nominale.....	650 NI/min
Valore conduttanza "C".....	2,7 NI/s bar
Rapporto critico delle pressioni "b".....	0,203

VALVOLE ED ELETTROVALVOLE 5/2

Fissaggio	n°3 fori laterali Ø 4,25 su collettore vedi p. 32
su base vedi pp. 30 ÷ 31	
Portata nominale	650 NI/min
Valore conduttanza "C".....	2,7 NI/s bar
Rapporto critico delle pressioni "b".....	0,203

VALVOLE ED ELETTROVALVOLE 5/3

Fissaggio	n°3 fori laterali Ø 4,25 su collettore vedi p. 32
su base vedi pp. 30 ÷ 31	
Portata nominale	530 NI/min
Valore conduttanza "C".....	2,17 NI/s bar
Rapporto critico delle pressioni "b".....	0,236

VALVES AND SOLENOID VALVES **G1/4** SERIES / VALVOLE ED ELETTROVALVOLE SERIE **G1/4**

G1/4

Port connections	G1/4
Pilot connections	G1/8
Flow section	Ø 8 mm
Environment temperature range	-10 °C ÷ +50 °C
Temperature range of medium	0 °C ÷ +40 °C
Lubrication	Not required
Medium	Filtered air
Reference temperature	+20 °C
Reference pressure	6 bar

3/2 VALVES AND SOLENOID VALVES

Fixing.....	n°3 holes Ø 4,25 manifold system see p. 33.
Nominal air flow	1080 NI/min
Fluid conductance "C".....	4,34 NI/s bar
Critical pressure ratio "b".....	0,212

5/2 VALVES AND SOLENOID VALVES

Fixing.....	n°3 holes Ø 4,25 manifold system pp. 30 ÷ 31, 33.
Nominal air flow.....	1080 NI/min
Fluid conductance "C".....	4,34 NI/s bar
Critical pressure ratio "b".....	0,212

5/3 VALVES AND SOLENOID VALVES

Fixing.....	n°3 holes Ø 4,25 manifold system pp. 30 ÷ 31, 33.
Nominal air flow.....	800 NI/min
Fluid conductance "C".....	3,22 NI/s bar
Critical pressure ratio "b".....	0,265

Connessioni di lavoro	G1/4
Connessioni operatori.....	G1/8
Diametro nominale.....	Ø 8 mm
Temperatura ambiente.....	-10 °C ÷ +50 °C
Temperatura fluido.....	0 °C ÷ +40 °C
Lubrificazione.....	Non necessaria
Fluido.....	Aria filtrata
Temperatura nominale.....	+20 °C
Pressione nominale.....	6 bar

VALVOLE ED ELETTROVALVOLE 3/2

Fissaggio.....	n°3 fori laterali Ø 4,25 su collettore vedi p. 33
Portata nominale.....	1080 NI/min
Valore conduttanza "C".....	4,34 NI/s bar
Rapporto critico delle pressioni "b".....	0,212

VALVOLE ED ELETTROVALVOLE 5/2

Fissaggio	n°3 fori laterali Ø 4,25 su collettore vedi p. 33
su base vedi pp. 30 ÷ 31	
Portata nominale	1080 NI/min
Valore conduttanza "C".....	4,34 NI/s bar
Rapporto critico delle pressioni "b".....	0,212

VALVOLE ED ELETTROVALVOLE 5/3

Fissaggio	n°3 fori laterali Ø 4,25 su collettore vedi p. 33
su base vedi pp. 24 ÷ 25	
Portata nominale	800 NI/min
Valore conduttanza "C".....	3,22 NI/s bar
Rapporto critico delle pressioni "b".....	0,265

VALVES AND SOLENOID VALVES **G1/2** SERIES / VALVOLE ED ELETTROVALVOLE SERIE **G1/2**

G1/2

Port connections	G1/2
Pilot connections	G1/8
Flow section	Ø 15 mm
Environment temperature range	-10 °C ÷ +50 °C
Temperature range of medium	0 °C ÷ +40 °C
Lubrication	Not required
Medium	Filtered air
Reference temperature	+20 °C
Reference pressure	6 bar

3/2 VALVES AND SOLENOID VALVES

Fixing.....	n°3 holes Ø 5,5
Nominal air flow	3500 NI/min
Fluid conductance "C".....	12,88 NI/s bar
Critical pressure ratio "b".....	0,393

5/2 VALVES AND SOLENOID VALVES

Fixing.....	n°3 holes Ø 5,5
Nominal air flow.....	3500 NI/min
Fluid conductance "C".....	12,88 NI/s bar
Critical pressure ratio "b".....	0,396

5/3 VALVES AND SOLENOID VALVES

Fixing.....	n°3 holes Ø 5,5
Nominal air flow.....	3000 NI/min
Fluid conductance "C".....	10,76 NI/s bar
Critical pressure ratio "b".....	0,42

Connessioni di lavoro	G1/2
Connessioni operatori.....	G1/8
Diametro nominale.....	Ø 15 mm
Temperatura ambiente.....	-10 °C ÷ +50 °C
Temperatura fluido.....	0 °C ÷ +40 °C
Lubrificazione.....	Non necessaria
Fluido.....	Aria filtrata
Temperatura nominale.....	+20 °C
Pressione nominale.....	6 bar

VALVOLE ED ELETTROVALVOLE 3/2

Fissaggio.....	n°3 fori laterali Ø 5,5
Portata nominale.....	3500 NI/min
Valore conduttanza "C".....	12,88 NI/s bar
Rapporto critico delle pressioni "b".....	0,393

VALVOLE ED ELETTROVALVOLE 5/2

Fissaggio	n°3 fori laterali Ø 5,5
Portata nominale.....	3500 NI/min
Valore conduttanza "C".....	12,88 NI/s bar
Rapporto critico delle pressioni "b".....	0,396

VALVOLE ED ELETTROVALVOLE 5/3

Fissaggio	n°3 fori laterali Ø 5,5
Portata nominale	3000 NI/min
Valore conduttanza "C".....	10,76 NI/s bar
Rapporto critico delle pressioni "b".....	0,42

PNEUMATIC VALVES FEATURES / CARATTERISTICHE VALVOLE PNEUMATICHE

Size Taglia	Code Codice	Nominal pilot pressure (bar) Pressione di pilotaggio nominale (bar)	Nominal max frequency (Hz) Frequenza max nominale (Hz)	Operating pressure range (bar) Pressione di esercizio (bar)
G 1/8"	V32V1P618	4,5 bar (10 bar)	31 Hz	2,2 ÷ 10 bar
	V32V1P918	4,5 bar (10 bar)	31 Hz	2,2 ÷ 10 bar
	V32V1P6M8	2,7 bar	13 Hz	1,5 ÷ 10 bar
	V32V1P9M8	2,7 bar	13 Hz	1,5 ÷ 10 bar
	V32V2P018	1,3 bar	43 Hz	1,2 ÷ 10 bar
	V52V1P018	4,5 bar (10 bar)	30 Hz	2,5 ÷ 10 bar
	V52V1PM18	2,7 bar	13 Hz	1,5 ÷ 10 bar
	V52V2P018	1,3 bar	42 Hz	1,5 ÷ 10 bar
	V52V2PD18	1,3 bar	42 Hz	1,5 ÷ 10 bar
	V53V2P618	3,2 bar	9 Hz	1,5 ÷ 10 bar
	V53V2P918	3,2 bar	9 Hz	1,5 ÷ 10 bar
G 1/4"	V32V1P614	4 bar (10 bar)	22 Hz	2,2 ÷ 10 bar
	V32V1P914	4 bar (10 bar)	22 Hz	2,2 ÷ 10 bar
	V32V1P6M4	2,85 bar	11 Hz	1,5 ÷ 10 bar
	V32V1P9M4	2,85 bar	11 Hz	1,5 ÷ 10 bar
	V32V2P014	1,3 bar	31 Hz	1,2 ÷ 10 bar
	V52V1P014	4 bar (10 bar)	21 Hz	2,5 ÷ 10 bar
	V52V1PM14	2,85 bar	10 Hz	1,5 ÷ 10 bar
	V52V2P014	1,3 bar	30 Hz	1,5 ÷ 10 bar
	V52V2PD14	1,3 bar	30 Hz	1,5 ÷ 10 bar
	V53V2P614	3,6 bar	8 Hz	1,5 ÷ 10 bar
	V53V2P914	3,6 bar	8 Hz	1,5 ÷ 10 bar
G 1/2"	V32V1P612	4 bar (10 bar)	12 Hz	2,2 ÷ 10 bar
	V32V1P912	4 bar (10 bar)	12 Hz	2,2 ÷ 10 bar
	V32V1P6M2	2,85 bar	8 Hz	1,5 ÷ 10 bar
	V32V1P9M2	2,85 bar	8 Hz	1,5 ÷ 10 bar
	V32V2P012	1,3 bar	14 Hz	1,2 ÷ 10 bar
	V52V1P012	4 bar (10 bar)	12 Hz	2,5 ÷ 10 bar
	V52V1PM12	2,85 bar	7 Hz	1,5 ÷ 10 bar
	V52V2P012	1,3 bar	13 Hz	1,5 ÷ 10 bar
	V53V2P612	3,2 bar	6 Hz	1,5 ÷ 10 bar
	V53V2P912	3,2 bar	6 Hz	1,5 ÷ 10 bar

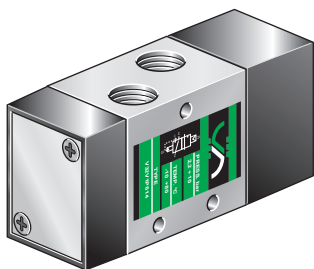
SOLENOID VALVES FEATURES / CARATTERISTICHE ELETTROVALVOLE

Size Taglia	Code Codice	Average actining response (ms) Tempo medio di risposta in eccitazione (ms)		Average disactining response (ms) Tempo medio di risposta in diseccitazione (ms)		Nominal max frequency (Hz) Frequenza max nominale (Hz)		Operating pressure range (bar) Pressione di esercizio (bar)
		AC	DC	AC	DC	AC	DC	
G 1/8"	E32W1S618	17 ms	19 ms	20 ms	24 ms	29 Hz	18 Hz	2,2 ÷ 10 bar
	E32W1S918	17 ms	19 ms	20 ms	24 ms	29 Hz	18 Hz	2,2 ÷ 10 bar
	E32W1S6M8	17 ms	19 ms	21 ms	34 ms	13 Hz	13 Hz	3,2 ÷ 10 bar
	E32W1S9M8	17 ms	19 ms	21 ms	34 ms	13 Hz	13 Hz	3,2 ÷ 10 bar
	E32W2S018	10 ms	12 ms	10 ms	12 ms	31 Hz	23 Hz	1,2 ÷ 10 bar
	E52W1S018	10 ms	17 ms	20 ms	24 ms	29 Hz	17 Hz	2,5 ÷ 10 bar
	E52W1SM18	17 ms	19 ms	21 ms	34 ms	13 Hz	13 Hz	3,2 ÷ 10 bar
	E52W2S018	10,5 ms	12,5 ms	10,5 ms	12,5 ms	31 Hz	22 Hz	1,5 ÷ 10 bar
	E53W2S618	16 ms	19 ms	16 ms	19 ms	9 Hz	9 Hz	3 ÷ 10 bar
	E53W2S918	16 ms	19 ms	16 ms	19 ms	9 Hz	9 Hz	3 ÷ 10 bar
G 1/4"	E32W1S614	18 ms	21 ms	33 ms	44 ms	17 Hz	14 Hz	2,2 ÷ 10 bar
	E32W1S914	18 ms	21 ms	33 ms	44 ms	17 Hz	14 Hz	2,2 ÷ 10 bar
	E32W1S6M4	19 ms	21 ms	35 ms	46 ms	11 Hz	11 Hz	2,5 ÷ 10 bar
	E32W1S9M4	19 ms	21 ms	35 ms	46 ms	11 Hz	11 Hz	2,5 ÷ 10 bar
	E32W2S014	11 ms	14 ms	11 ms	14 ms	27 Hz	22 Hz	1,2 ÷ 10 bar
	E52W1S014	18 ms	21 ms	33 ms	44 ms	16 Hz	13 Hz	2,5 ÷ 10 bar
	E52W1SM14	19 ms	21 ms	35 ms	46 ms	11 Hz	11 Hz	2,5 ÷ 10 bar
	E52W2S014	11 ms	14 ms	11 ms	14 ms	27 Hz	21 Hz	1,5 ÷ 10 bar
	E53W2S614	17 ms	20 ms	17 ms	20 ms	8 Hz	8 Hz	3 ÷ 10 bar
	E53W2S914	17 ms	20 ms	17 ms	20 ms	8 Hz	8 Hz	3 ÷ 10 bar
G 1/2"	E32W1S612	43 ms	45 ms	55 ms	55 ms	13 Hz	12 Hz	2,2 ÷ 10 bar
	E32W1S912	43 ms	45 ms	55 ms	55 ms	13 Hz	12 Hz	2,2 ÷ 10 bar
	E32W1S6M2	47 ms	49 ms	60 ms	60 ms	8 Hz	8 Hz	2,5 ÷ 10 bar
	E32W1S9M2	47 ms	49 ms	60 ms	60 ms	8 Hz	8 Hz	2,5 ÷ 10 bar
	E32W2S012	22 ms	26 ms	22 ms	26 ms	16 Hz	15 Hz	1,2 ÷ 10 bar
	E52W1S012	47 ms	49 ms	58 ms	58 ms	11 Hz	10 Hz	2,5 ÷ 10 bar
	E52W1SM12	47 ms	49 ms	60 ms	60 ms	8 Hz	8 Hz	2,5 ÷ 10 bar
	E52W2S012	24 ms	28 ms	24 ms	28 ms	14 Hz	13 Hz	1,5 ÷ 10 bar
	E53W2S612	49 ms	49 ms	60 ms	60 ms	6 Hz	6 Hz	3 ÷ 10 bar
	E53W2S912	49 ms	49 ms	60 ms	60 ms	6 Hz	6 Hz	3 ÷ 10 bar

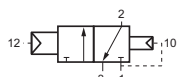
For electrical features solenoid pilot see pp. B-35 and B-37.
Caratteristiche elettriche elettrovalvole per solenoide vedi pp. B-35 e B-37.



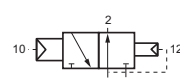
V32V1P . 1.



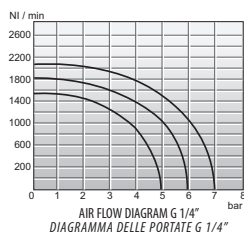
SIMBOLS / SIMBOLI



V32V1P61.



V32V1P91.



DIAGRAMS / DIAGRAMMI

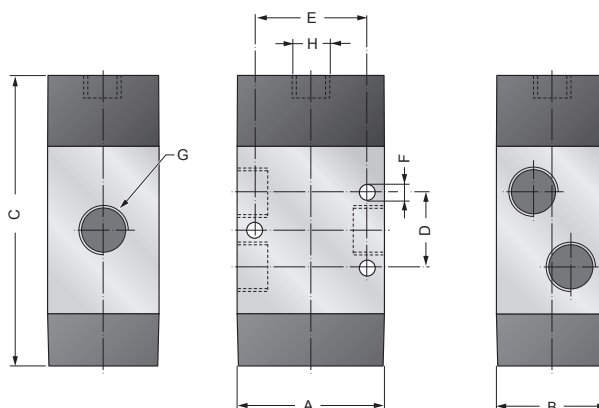
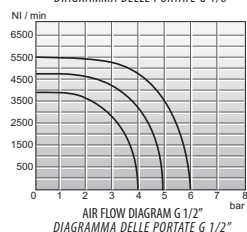
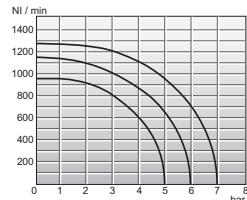
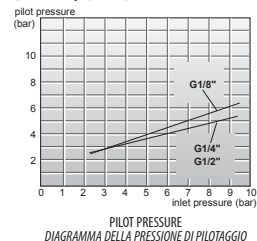
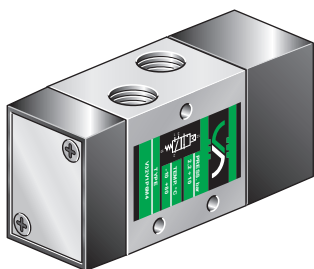


DIAGRAM / DIAGRAMMA

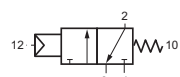


Size Taglia	A	B	C	D	E	ØF	G	H
G1/8	30	26	74	18	23	4,25	G1/8	G1/8
G1/4	40	30	81,5	20	30	4,25	G1/4	G1/8
G1/2	60	40	127	40	50	5,5	G1/2	G1/8

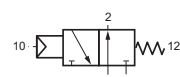
V32V1P . M.



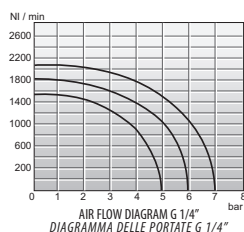
SIMBOLS / SIMBOLI



V32V1P6M.



V32V1P9M.



DIAGRAMS / DIAGRAMMI

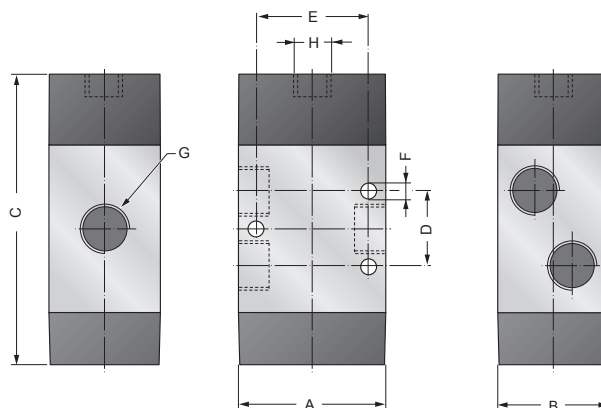
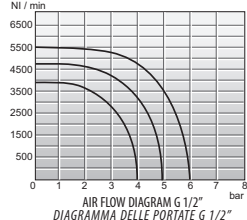
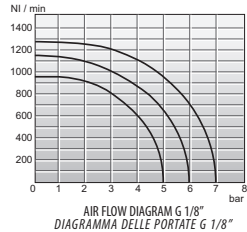
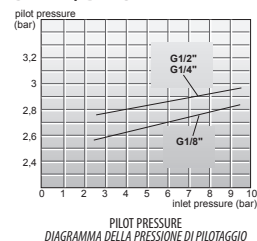


DIAGRAM / DIAGRAMMA



(*) ATEX versions see / Versioni ATEX vedi P. B-113

Size Taglia	A	B	C	D	E	ØF	G	H
G1/8	30	26	74	18	23	4,25	G1/8	G1/8
(*) G1/4	40	30	81,5	20	30	4,25	G1/4	G1/8
(*) G1/2	60	40	118	40	50	5,5	G1/2	G1/8

VALVE / VALVOLA 3/2
DOUBLE PNEUMATIC PILOT / DOPPIO COMANDO PNEUMATICO

V32V2P01.

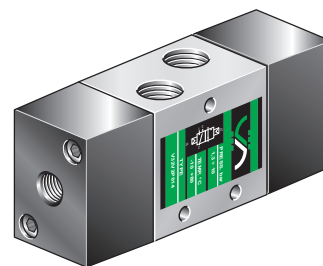
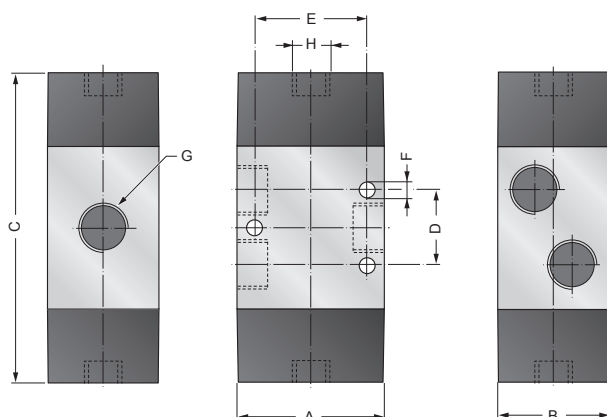
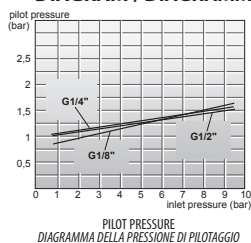


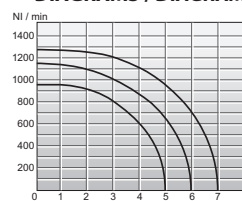
DIAGRAM / DIAGRAMMA



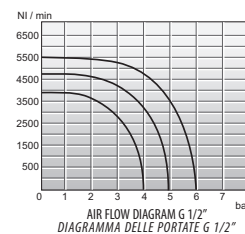
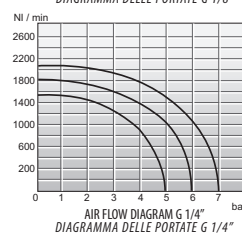
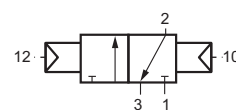
(*) ATEX versions see / Versioni ATEX vedi P. B-113

Size Taglia	A	B	C	D	E	ØF	G	H
G1/8	30	26	79	18	23	4,25	G1/8	G1/8
(*) G1/4	40	30	87	20	30	4,25	G1/4	G1/8
(*) G1/2	60	40	132	40	50	5,5	G1/2	G1/8

DIAGRAMS / DIAGRAMMI



SIMBOL / SIMBOLO



VALVE / VALVOLA 5/2
SINGLE PNEUMATIC PILOT / COMANDO PNEUMATICO

V52V1P . 1.

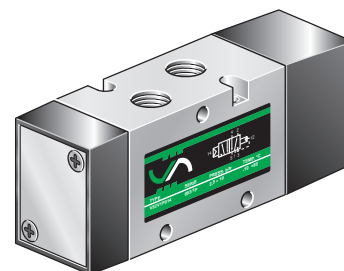
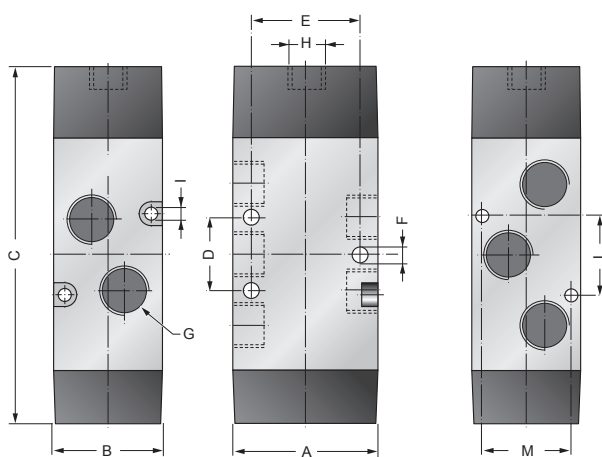
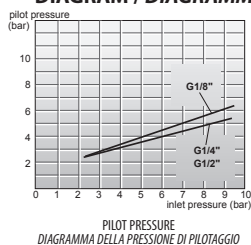


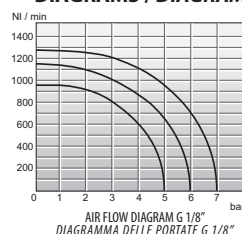
DIAGRAM / DIAGRAMMA



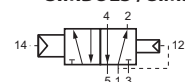
(*) ATEX versions see / Versioni ATEX vedi P. B-113

Size Taglia	A	B	C	D	E	ØF	G	H	ØI	L	M
1/8	30	26	91	18	23	4,25	G1/8	G1/8	3,25	28,6	20
(*) 1/4	40	30	100	20	30	4,25	G1/4	G1/8	3,25	21	24,6
(*) 1/2	60	40	167	40	50	5,5	G1/2	G1/8	—	—	—

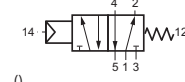
DIAGRAMS / DIAGRAMMI



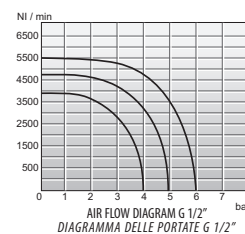
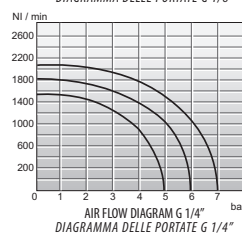
SIMBOLS / SIMBOLI



V52V1P01.

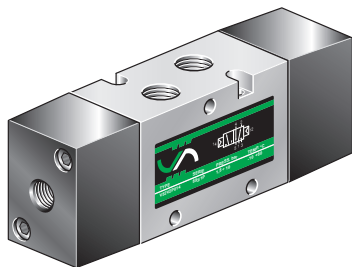


V52V1PM1.





V52V2P . 1.



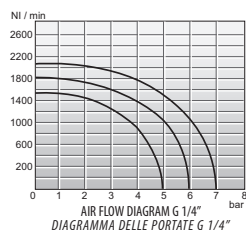
SIMBOLS / SIMBOLI



V52V2P01.

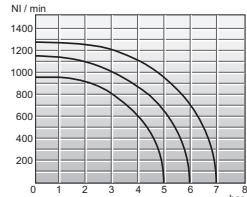


V52V2PD1.

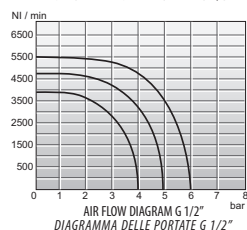


AIR FLOW DIAGRAM G 1/4"
DIAGRAMMA DELLE PORTATE G 1/4"

DIAGRAMS / DIAGRAMMI



AIR FLOW DIAGRAM G 1/8"
DIAGRAMMA DELLE PORTATE G 1/8"



AIR FLOW DIAGRAM G 1/2"
DIAGRAMMA DELLE PORTATE G 1/2"

VALVE / VALVOLA 5/2

DOUBLE PNEUMATIC PILOT / DOPPIO COMANDO PNEUMATICO

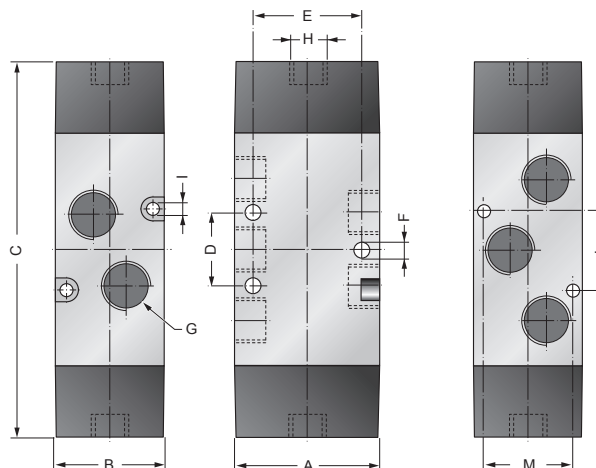
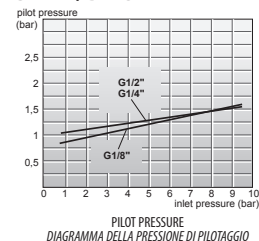


DIAGRAM / DIAGRAMMA

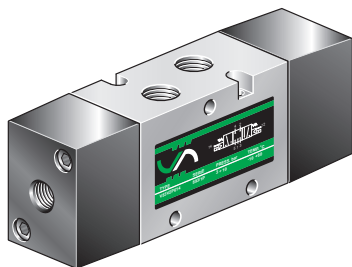


PILOT PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO

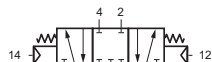
(*) ATEX versions see / Versioni ATEX vedi P. B-113

Size Taglia	A	B	C	D	E	ØF	G	H	ØI	L	M
1/8	30	26	96	18	23	4,25	G1/8	G1/8	3,25	28,6	20
(*) 1/4	40	30	105	20	30	4,25	G1/4	G1/8	3,25	21	24,6
(*) 1/2	60	40	172	40	50	5,5	G1/2	G1/8	—	—	—

V53V2P . 1.



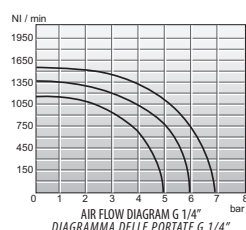
SIMBOLS / SIMBOLI



V53V2P61.

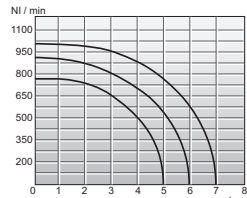


V53V2P91.

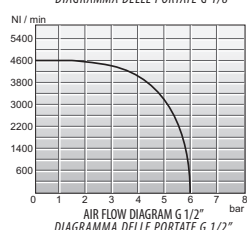


AIR FLOW DIAGRAM G 1/4"
DIAGRAMMA DELLE PORTATE G 1/4"

DIAGRAMS / DIAGRAMMI



AIR FLOW DIAGRAM G 1/8"
DIAGRAMMA DELLE PORTATE G 1/8"



AIR FLOW DIAGRAM G 1/2"
DIAGRAMMA DELLE PORTATE G 1/2"

VALVE / VALVOLA 5/3

DOUBLE PNEUMATIC PILOT / DOPPIO COMANDO PNEUMATICO

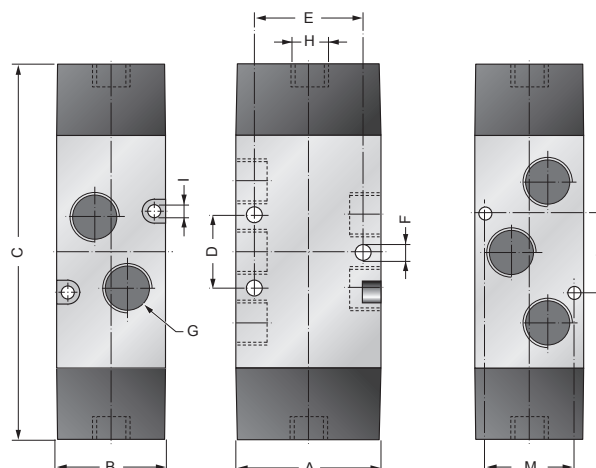
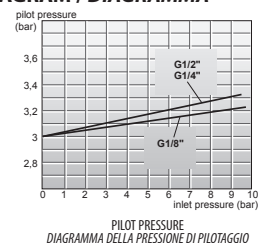


DIAGRAM / DIAGRAMMA

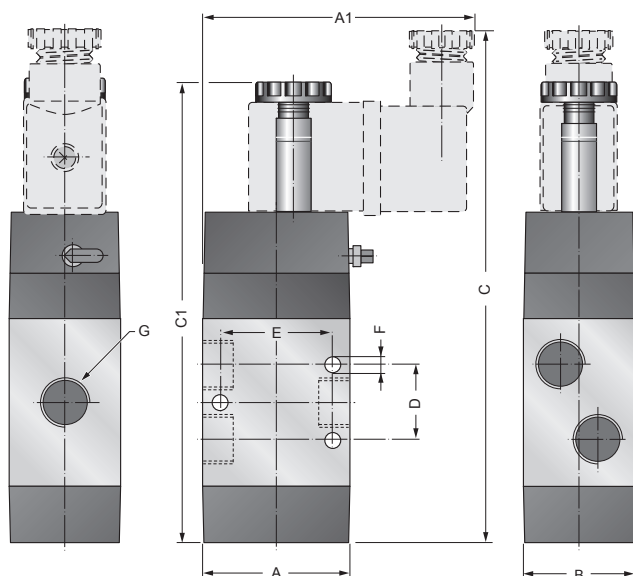


PILOT PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO

(*) versions see / Versioni vedi P. B-113

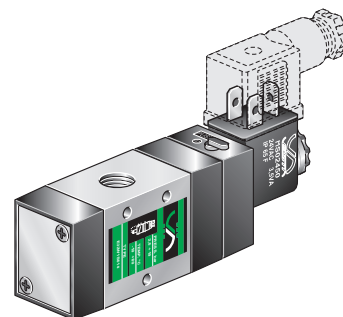
Size Taglia	A	B	C	D	E	ØF	G	H	ØI	L	M
1/8	30	26	108	18	23	4,25	G1/8	G1/8	3,25	28,6	20
1/4	40	30	105	20	30	4,25	G1/4	G1/8	3,25	21	24,6
1/2	60	40	192	40	50	5,5	G1/2	G1/8	—	—	—

SOLENOID VALVE / 3/2
SINGLE SOLENOID VALVE - INTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - RIPOSIZIONAMENTO MOLLA PNEUMATICA

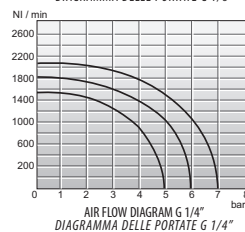
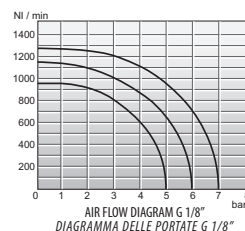


Size Taglia	A	A1	B	C	C1	D	E	ØF	G
1/8	30	63	26	133	119	18	23	4,25	G1/8
1/4	40	73	30	140	125	20	30	4,25	G1/4
1/2	60	60	40	181	167	40	50	5,5	G1/2

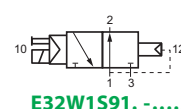
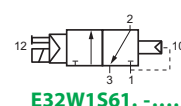
E32W1S . 1. -



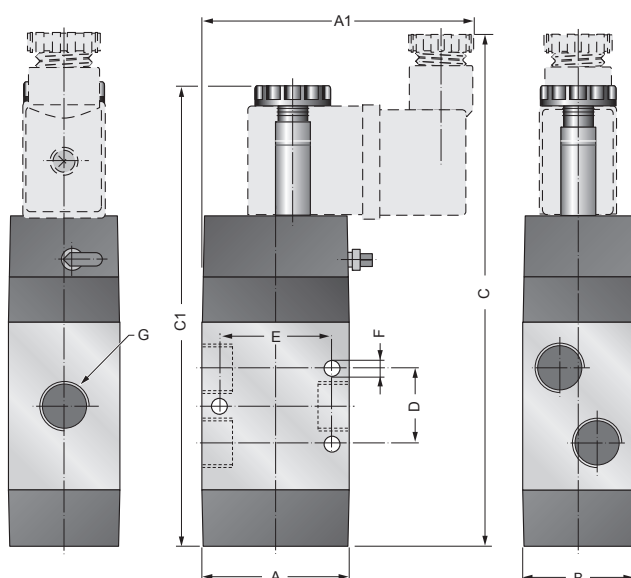
DIAGRAMS / DIAGRAMMI



SIMBOLS / SIMBOLI



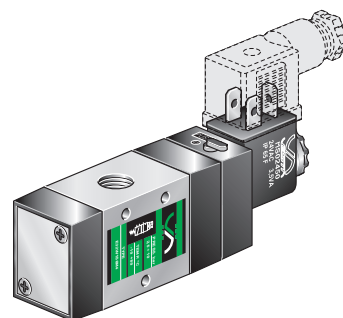
SOLENOID VALVE / ELETTROVALVOLA 3/2
SINGLE SOLENOID VALVE - SPRING RETURN
COMANDO ELETTROPNEUMATICO - RIPOSIZIONAMENTO MOLLA MECCANICA



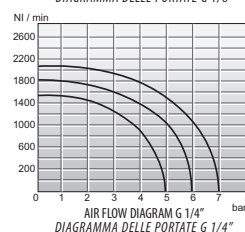
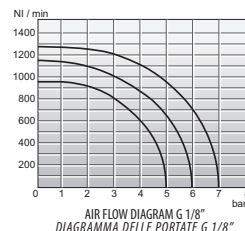
(*) ATEX versions see / Versioni ATEX vedi P.

Size Taglia	A	A1	B	C	C1	D	E	ØF	G
1/8	30	63	26	133	119	18	23	4,25	G1/8
(*) 1/4	40	73	30	140	125	20	30	4,25	G1/4
(*) 1/2	60	60	40	172	158	40	50	5,5	G1/2

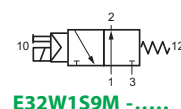
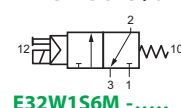
E32W1S . M. -



DIAGRAMS / DIAGRAMMI

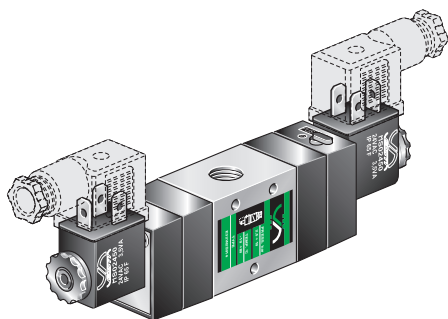


SIMBOLS / SIMBOLI

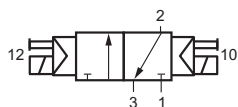




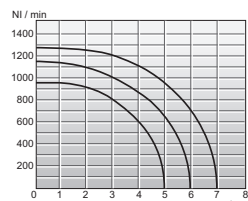
E32W2S01. -



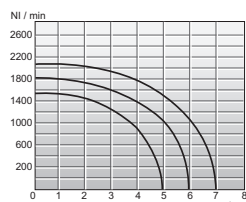
SIMBOL / SIMBOLO



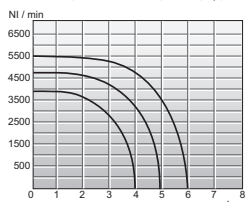
DIAGRAMS / DIAGRAMMI



AIR FLOW DIAGRAM G 1/8"
DIAGRAMMA DELLE PORTATE G 1/8"

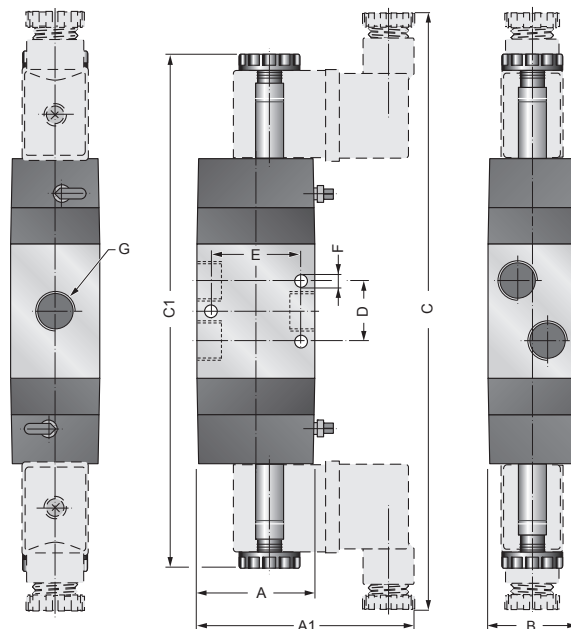


AIR FLOW DIAGRAM G 1/4"
DIAGRAMMA DELLE PORTATE G 1/4"



AIR FLOW DIAGRAM G 1/2"
DIAGRAMMA DELLE PORTATE G 1/2"

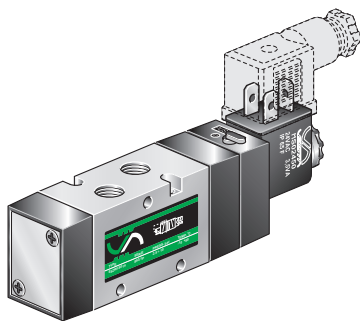
SOLENOID VALVE / 3/2 DOUBLE SOLENOID VALVE / DOPPIO COMANDO ELETTROPNEUMATICO



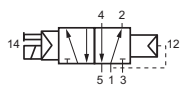
(*) ATEX versions see / Versioni ATEX vedi P. B-113

Size Taglia	A	A1	B	C	C1	D	E	ØF	G
1/8	30	63	26	197	169	18	23	4,25	G1/8
(*) 1/4	40	73	30	203	175	20	30	4,25	G1/4
(*) 1/2	60	60	40	240	212	40	50	5,5	G1/2

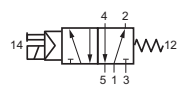
E52W1S.1. -



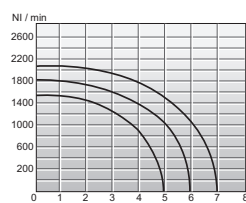
SIMBOLS / SIMBOLI



E52W1S01. -

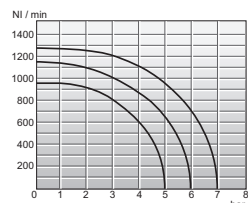


(*) E52W1SM1. -

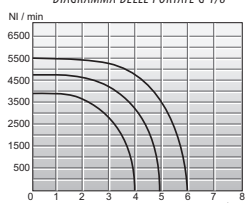


AIR FLOW DIAGRAM G 1/4"
DIAGRAMMA DELLE PORTATE G 1/4"

DIAGRAMS / DIAGRAMMI

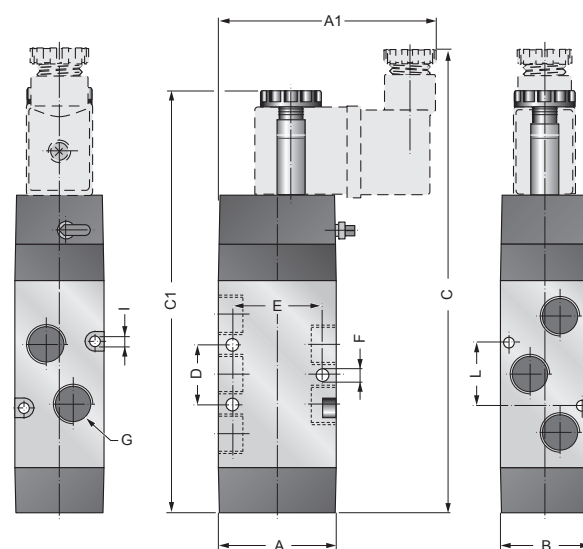


AIR FLOW DIAGRAM G 1/8"
DIAGRAMMA DELLE PORTATE G 1/8"



AIR FLOW DIAGRAM G 1/2"
DIAGRAMMA DELLE PORTATE G 1/2"

SOLENOID VALVE / 5/2 SINGLE SOLENOID VALVE / COMANDO ELETTROPNEUMATICO



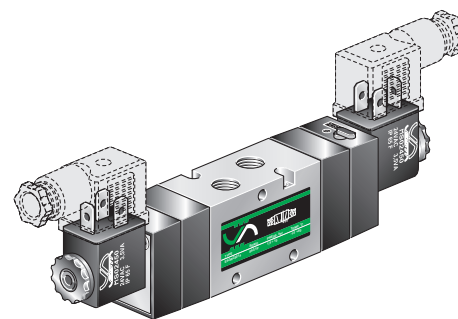
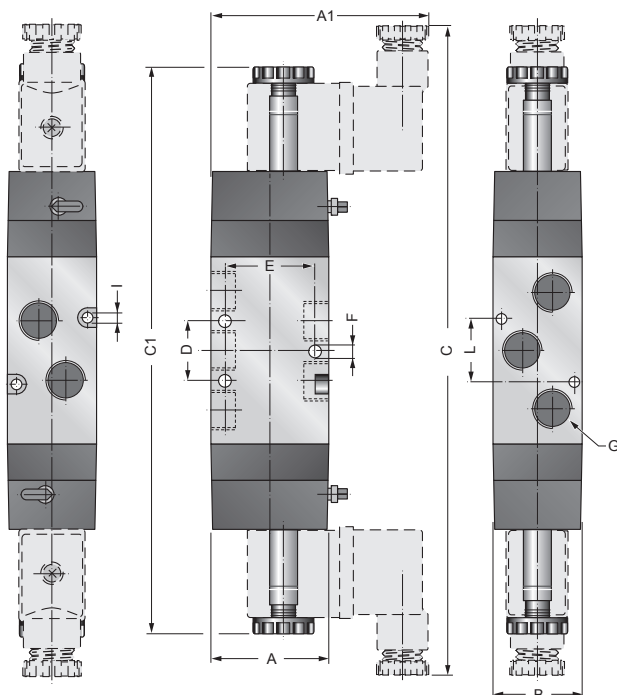
(*) ATEX versions see / Versioni ATEX vedi P. B-113

Size Taglia	A	A1	B	C	C1	D	E	ØF	G	ØI	L
1/8	30	63	26	150	136	18	23	4,25	G1/8	3,25	28,6
(*) 1/4	40	73	30	158	143	20	30	4,25	G1/4	3,25	21
(*) 1/2	60	60	40	221	207	40	50	5,5	G1/2	—	—

SOLENOID VALVE / 5/2

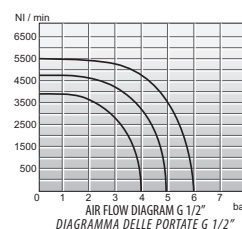
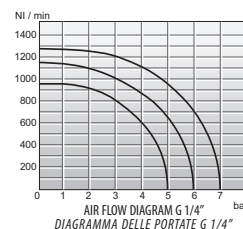
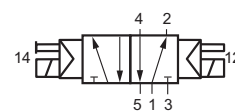
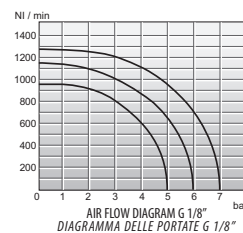
DOUBLE SOLENOID VALVE / DOPPIO COMANDO ELETTROPNEUMATICO

E52W2S01. -



DIAGRAMS / DIAGRAMMI

SIMBOL / SIMBOLO



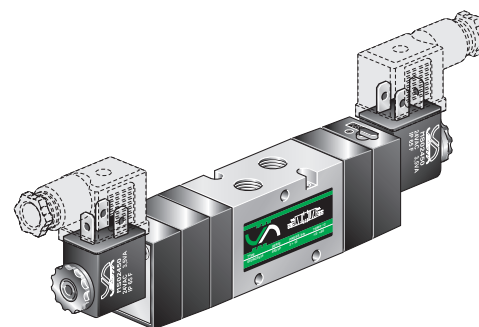
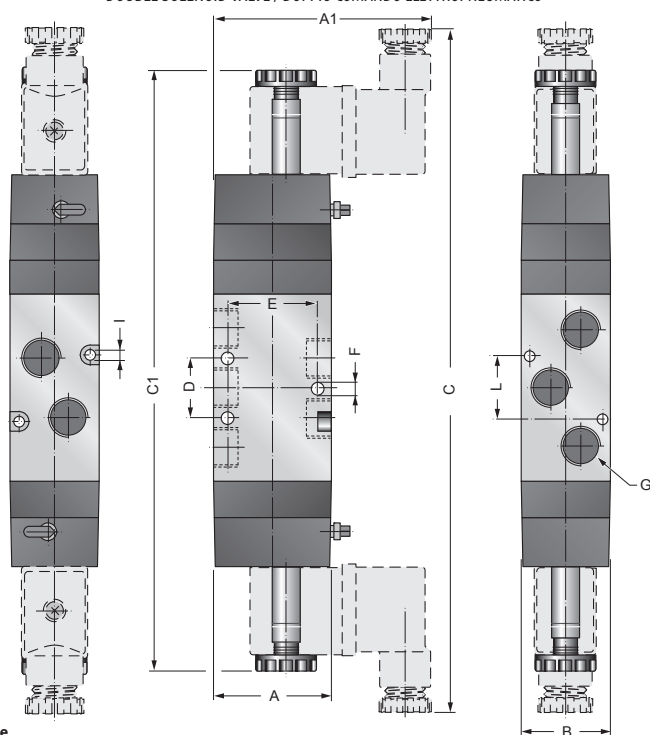
Size Taglia	A	A1	B	C	C1	D	E	ØF	G	ØI	L
1/8	30	63	26	215	186	18	23	4,25	G1/8	3,25	28,6
(*) 1/4	40	73	30	220	191	20	30	4,25	G1/4	3,25	21
(*) 1/2	60	60	40	280	252	40	50	5,5	G1/2	—	—

(*) ATEX versions see P. B-113
Versioni ATEX vedi P. B-113

SOLENOID VALVE / 5/3

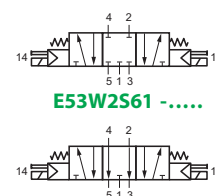
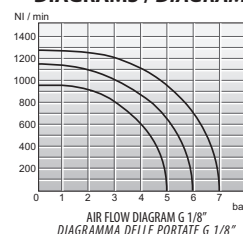
DOUBLE SOLENOID VALVE / DOPPIO COMANDO ELETTROPNEUMATICO

E53W2S. 1. -



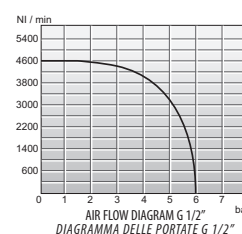
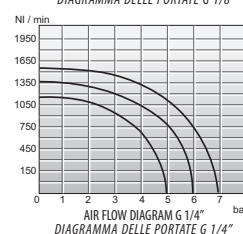
DIAGRAMS / DIAGRAMMI

SIMBOLS / SIMBOLI



E53W2S61 -.....

E53W2S91 -.....



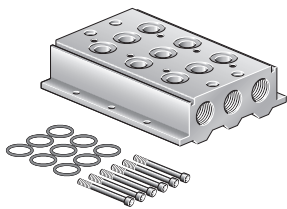
Size Taglia	A	A1	B	C	C1	D	E	ØF	G	ØI	L
1/8	30	63	26	227	198	18	23	4,25	G1/8	3,25	28,6
1/4	40	73	30	232	203	20	30	4,25	G1/4	3,25	21
1/2	60	60	40	280	252	40	50	5,5	G1/2	—	—

(*) ATEX versions see P. B-113
Versioni ATEX vedi P. B-113

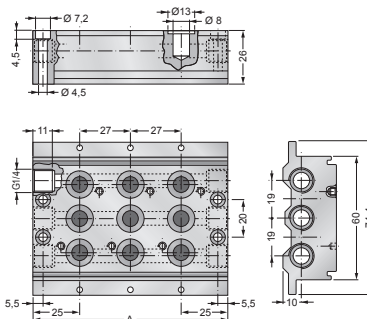


ME .18

DOUBLE INLET MANIFOLD FOR ASSEMBLING VALVES AND SOLENOID VALVES G1/8
BASE A DOPPIO INGRESSO PER ASSEMBLAGGIO VALVOLE ED ELETTROVALVOLE G1/8



- Gaskets and screws for assembling valves on manifold are included.
- Nella confezione sono presenti le guarnizioni e le viti per fissare le valvole alla base.



CODES / CODICI

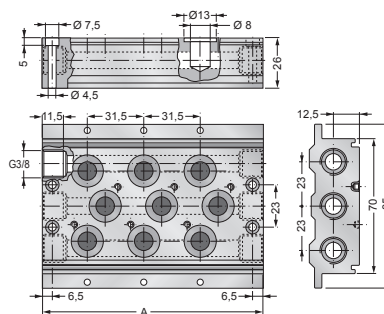
Code Codice	A A	Place Posti
ME 218	77	2
ME 318	104	3
ME 418	131	4
ME 518	158	5
ME 618	185	6
ME 718	212	7
ME 818	239	8
ME 918	266	9
ME 1018	293	10

ME .14

DOUBLE INLET MANIFOLD FOR ASSEMBLING VALVES AND SOLENOID VALVES G1/4
(*) BASE A DOPPIO INGRESSO PER ASSEMBLAGGIO VALVOLE ED ELETTROVALVOLE G1/4



- Gaskets and screws for assembling valves on manifold are included.
- Nella confezione sono presenti le guarnizioni e le viti per fissare le valvole alla base.



CODES / CODICI

Code Codice	A A	Place Posti
ME 214	91,5	2
ME 314	123	3
ME 414	154,5	4
ME 514	186	5
ME 614	217,5	6
ME 714	249	7
ME 814	280,5	8
ME 914	312	9
ME 1014	343,5	10

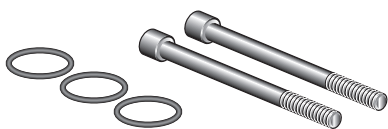
(*) ATEX versions see / Versioni ATEX vedi P. B-116

SEALS KIT AND ACCESSORIES FOR VALVES AND SOLENOID VALVES G 1/8 AND G 1/4 RICAMBI ED ACCESSORI PER VALVOLE ED ELETTROVALVOLE G 1/8 E G 1/4

KM 018 (G1/8)

KM 014 (G1/4)

ASSEMBLING KIT
KIT DI ASSEMBLAGGIO

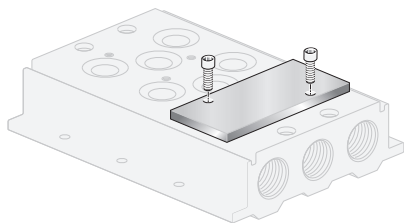


- Subbases are supplied with assembling screws and seals.
- Kit of screws and seals can be supplied also as spare parts with the code **KM 018** and **KM 014**.
- Le basi sono complete delle viti e delle guarnizioni necessarie per il fissaggio delle valvole. Tuttavia può essere fornito come ricambio il kit **KM 018** per il fissaggio di singole valvole da G1/8 oppure **KM 014** per il fissaggio di singole valvole da G1/4

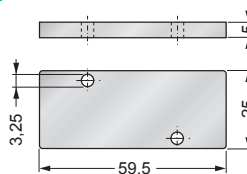
PCH 018 (G1/8)

PCH 014 (G1/4)

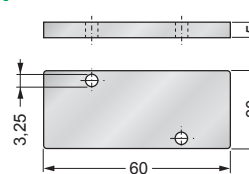
PLUG-FLAT
CHIUSURA POSTO INUTILIZZATO



PCH018

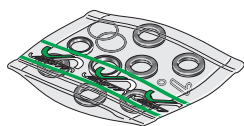


PCH014



SET .1/4 e 1/2 SG

SEALS KIT
KIT GUARNIZIONI DI RICAMBIO



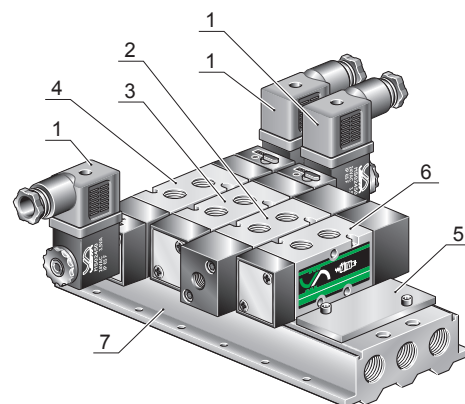
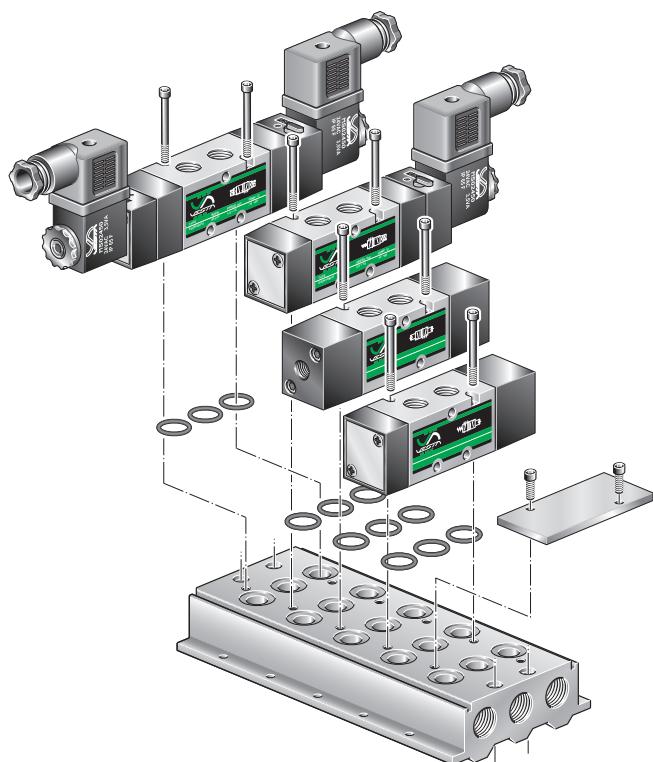
Seals kit code - Codice del kit

- SET 1 1/4 SG:** for G1/4 **mono-stable** valves - per valvole **monostabili** G1/4.
- SET 2 1/4 SG:** for G1/4 **bi-stable** valves - per valvole **bistabili** G1/4
- SET 1 1/2 SG:** for G1/2 **mono-stable** valves - per valvole **monostabili** G1/2.
- SET 2 1/2 SG:** for G1/2 **bi-stable** valves - per valvole **bistabili** G1/2.

Example / Esempio: E52W1SM14-02400 → SET 1 1/4 SG

E52W2S014-02400 → SET 2 1/4 SG

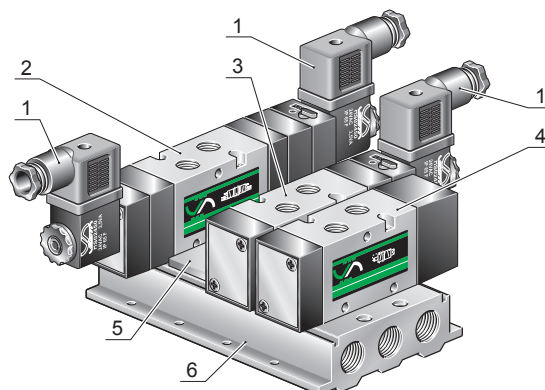
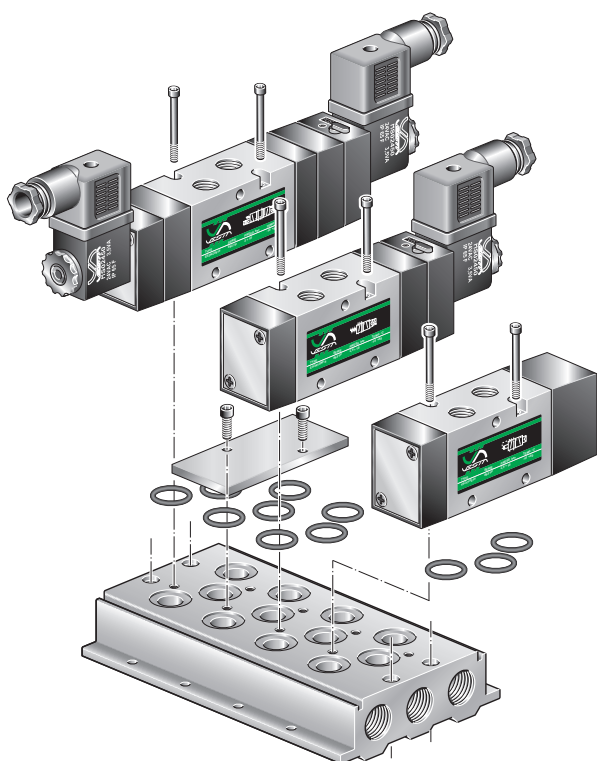
EXAMPLE OF MODULAR ASSEMBLING OF VALVES AND SOLENOID VALVES G1/8 ESEMPIO DI ASSEMBLAGGIO MODULARE DI VALVOLE ED ELETTROVALVOLE G1/8



Components needed for assembling the manifold on the picture.
Esempio di componenti necessari a realizzare la batteria raffigurata.

Position Posizione	Quantity Quantità	Code Codice
1	N° 3	CEP/1
2	N° 1	V52V2P018
3	N° 1	E52W1S018 - 02450
4	N° 1	E52W2S018 - 02450
5	N° 1	PCH 018
6	N° 1	V52V1PM18
7	N° 1	ME 518

EXAMPLE OF MODULAR ASSEMBLING OF VALVES AND SOLENOID VALVES G1/4 ESEMPIO DI ASSEMBLAGGIO MODULARE DI VALVOLE ED ELETTROVALVOLE G1/4



Components needed for assembling the manifold on the picture.
Esempio di componenti necessari a realizzare la batteria raffigurata.

Position Posizione	Quantity Quantità	Code Codice
1	N° 3	CEP/1
2	N° 1	E53W2S914 - 02450
3	N° 1	E52W1SM14 - 02450
4	N° 1	V52V1PM14
5	N° 1	PCH014
6	N° 1	ME 414



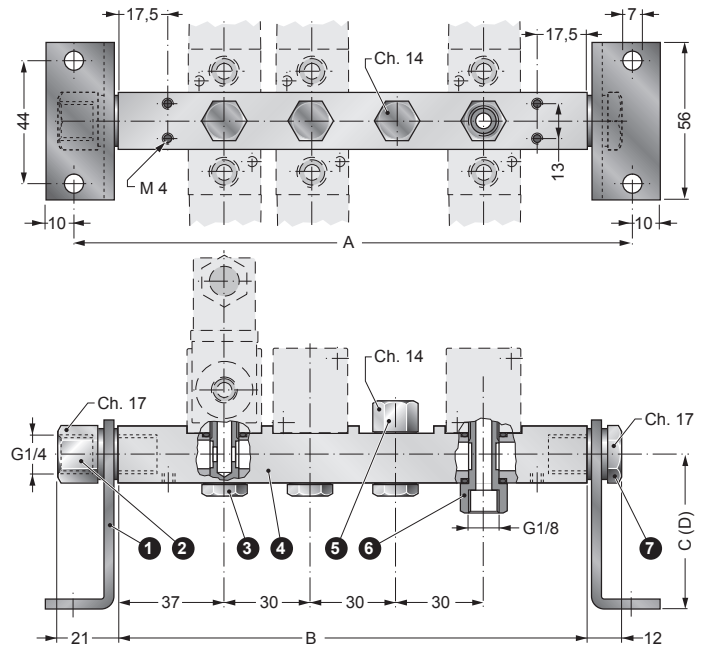
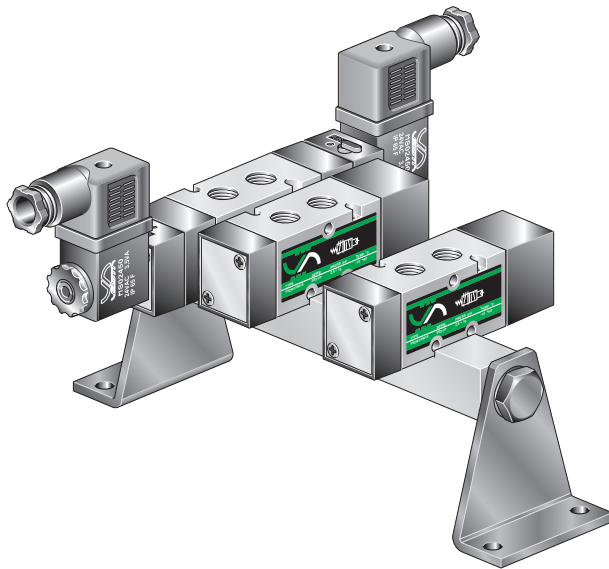
COLLECTOR FOR VALVES AND SOLENOID VALVES G1/8 ASSEMBLAGGIO SU COLLETTORE DELLE VALVOLE ED ELETTROVALVOLE G 1/8

RTCOV . 18

SBCOV . 18

SACOV . 18

MANIFOLDS WITH COMMON INLET AIR FOR G1/8 VALVES
COLLETTORI PER VALVOLE FILETTATE G1/8



CODES / CODICI

Code
Codice

	A	B	C	D	Place Posti
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ASSEMBLED MANIFOLD **RT018** WITH FITTINGS
COLLETTORE **RT018** COMPLETO DI RACCORDI

RTCOV218	-	104	-	-	2
RTCOV318	-	134	-	-	3
RTCOV418	-	164	-	-	4
RTCOV518	-	194	-	-	5

ASSEMBLED MANIFOLD **RT018** WITH FITTINGS AND LOW SUPPORTS **SB018**
COLLETTORE **RT018** COMPLETO DI RACCORDI E SUPPORTI BASSI **SB018**

SBCOV218	134	104	72	-	2
SBCOV318	164	134	72	-	3
SBCOV418	194	164	72	-	4
SBCOV518	224	194	72	-	5

ASSEMBLED MANIFOLD **RT018** WITH FITTINGS AND HIGH SUPPORTS **SA018**
COLLETTORE **RT018** COMPLETO DI RACCORDI E SUPPORTI ALTI **SA018**

SACOV218	134	104	-	125	2
SACOV318	164	134	-	125	3
SACOV418	194	164	-	125	4
SACOV518	224	194	-	125	5

Position Posizione	Code Codice	Description Descrizione
1	SB018 (ref. C) SA018 (ref. D)	Low supports mounted "C" / Supporto basso "C" High supports mounted "D" / Supporto alto "D"
2	RFS18	Fixing supports fitting with air inlet Raccordo fissaggio supporto con connessione
3	RT018	Fixing valve fitting Raccordo fissaggio valvola
4	COV218 COV318 COV418 COV518	Manifold 2 valves / Collettore 2 valvole Manifold 3 valves / Collettore 3 valvole Manifold 4 valves / Collettore 4 valvole Manifold 5 valves / Collettore 5 valvole
5	TF018	Closed fitting Tappo chiusura raccordo
6	RTP18	Fixing valve fitting with air inlet Raccordo di fissaggio valvola passante
7	RC018	Fixing supports fitting Raccordo di chiusura collettore

The maximum allowed numbers of valves you can use on a single collector depends on the air consumption of the valves, number of valves actuated at the same time and the air consumption downstream.
Fittings and supports are supplied with washers

Il numero massimo di valvole dipende dal consumo totale d'aria, da quante valvole vengono azionate contemporaneamente e dalla portata degli utilizzi collegati a valle. I raccordi di fissaggio valvole e supporti vengono forniti completi di rondelle di tenuta.

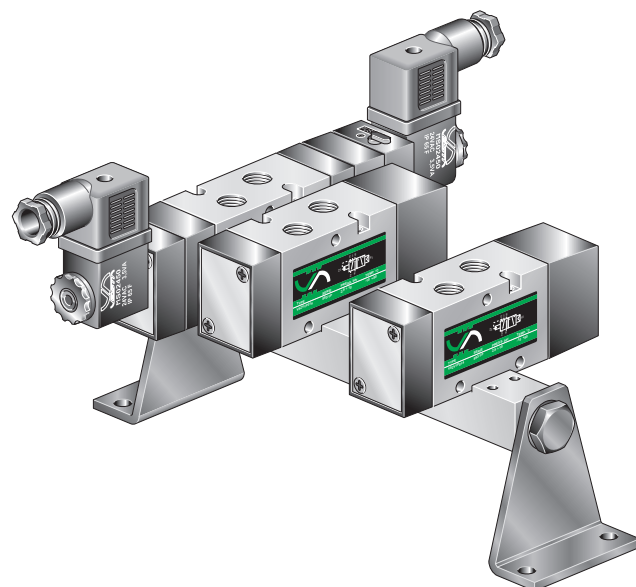
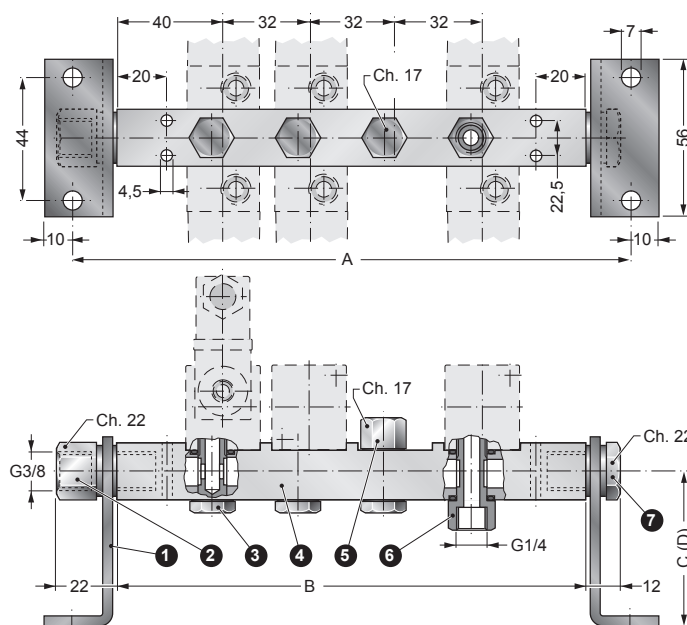
COLLECTOR FOR VALVES AND SOLENOID VALVES G1/4 ASSEMBLAGGIO SU COLLETTORE DELLE VALVOLE ED ELETTROVALVOLE G 1/4

RTCOV . 14

SBCOV . 14

SACOV . 14

MANIFOLDS WITH COMMON INLET AIR FOR G1/4 VALVES
COLLETTORI PER VALVOLE FILETTATE G1/4



CODES / CODICI

Code Codice	A	B	C	D	Place Posti
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ASSEMBLED MANIFOLD **RT014** WITH FITTINGS
COLLETTORE **RT014** COMPLETO DI RACCORDI

RTCOV214	-	112	.....	-	.....	2
RTCOV314	-	144	.....	-	.....	3
RTCOV414	-	176	.....	-	.....	4
RTCOV514	-	208	.....	-	.....	5

ASSEMBLED MANIFOLD **RT014** WITH FITTINGS AND LOW SUPPORTS **SB014**
COLLETTORE **RT014** COMPLETO DI RACCORDI E SUPPORTI BASSI **SB014**

SBCOV214	134	104	.....	95	.....	2
SBCOV314	164	134	.....	95	.....	3
SBCOV414	194	164	.....	95	.....	4
SBCOV514	224	194	.....	95	.....	5

ASSEMBLED MANIFOLD **RT014** WITH FITTINGS AND HIGH SUPPORTS **SA014**
COLLETTORE **RT014** COMPLETO DI RACCORDI E SUPPORTI ALTI **SA014**

SACOV214	134	104	.....	-	133	.....	2
SACOV314	164	134	.....	-	133	.....	3
SACOV414	194	164	.....	-	133	.....	4
SACOV514	224	194	.....	-	133	.....	5

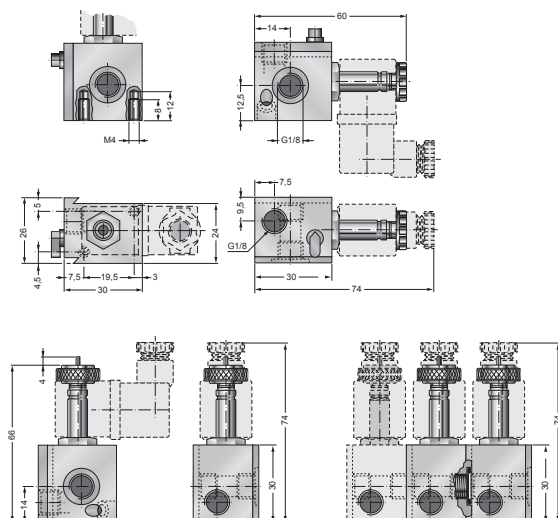
Position Posizione	Code Codice	Description Descrizione
1	SB014 (ref. C)	Low supports mounted "C" / Supporto basso "C"
	SA014 (ref. D)	High supports mounted "D" / Supporto alto "D"
2	RFS14	Fixing supports fitting with air inlet Raccordo fissaggio supporto con connessione
3	RT014	Fixing valve fitting Raccordo fissaggio valvola
4	COV214	Manifold 2 valves / Collettore 2 valvole
	COV314	Manifold 3 valves / Collettore 3 valvole
	COV414	Manifold 4 valves / Collettore 4 valvole
	COV514	Manifold 5 valves / Collettore 5 valvole
5	TF014	Closed fitting Tappo chiusura raccordo
6	RTP14	Fixing valve fitting with air inlet Raccordo di fissaggio valvola passante
7	RC014	Fixing supports fitting Raccordo di chiusura collettore

The maximum allowed numbers of valves you can use on a single collector depends on the air consumption of the valves, number of valves actuated at the same time and the air consumption downstream.

Fittings and supports are supplied with washers

Il numero massimo di valvole dipende dal consumo totale d'aria, da quante valvole vengono azionate contemporaneamente e dalla portata degli utilizzi collegati a valle. I raccordi di fissaggio valvola e supporti vengono forniti completi di rondelle di tenuta.

BE 1M -

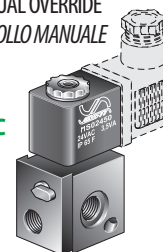


BE 1M NC (*)



WITH MANUAL OVERRIDE
CON CONTROLLO MANUALE

.. NC



(*) **ATEX** versions see
versioni **ATEX** vedi *P. B-113*

COILS AND ACCESSORIES FOR SOLENOID VALVES / SOLENOIDI ED ACCESSORI PER ELETTROVALVOLE

G1/8 PLUG
TAPPO G1/8

PL-BE

Plug for single valve function (**BE 1**) or for manifold.
*Tappo di chiusura per elettropilota singolo
oppure per elettropiloti in batteria*



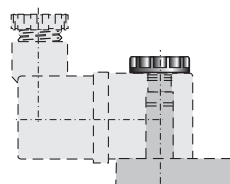
ASSEMBLING KIT
KIT DI ASSEMBLAGGIO

KM-BE

Kit for assembling single valve into multiple station subbase.
*kit **KM BE** composto da 1 vite + 1 O-Ring necessario
 per il fissaggio di ogni elettropilota **BE 1** in batteria.*

STANDARD
STANDARD

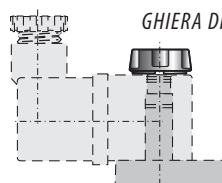
GE



Coil locking nut with open exhaust (standard equipment).
Ghiera di bloccaggio bobina con scarico aperto (dotazione standard).

COIL LOCKING NUT **MS**
BLOCCAGGIO BOBINA **MS**

GE1



On request, solenoid valves available with coil locking nut with radial exhaust valve.
A richiesta le elettrovalvole sono fornite con ghiera di bloccaggio bobina con scarico radiale.

DIRECT ACTUATED VALVES 3/2 NC TUBE Ø4mm Elettrovalvole a comando diretto 3/2 NC tubo Ø4mm

MBE - [] 4- [][][][][]

Number of station valves
Numero posti
2, 4, 6, ..., 16

| Coil / Solenoide: (see **CS** / vedere **CS P. B-52**)

00000	..	No coil / Senza solenoide
01200	..	12 V DC
02400	..	24 V DC
02450	..	24 V 50/60Hz AC
11550	..	115 V 50/60Hz AC
23050	..	230 V 50/60Hz AC

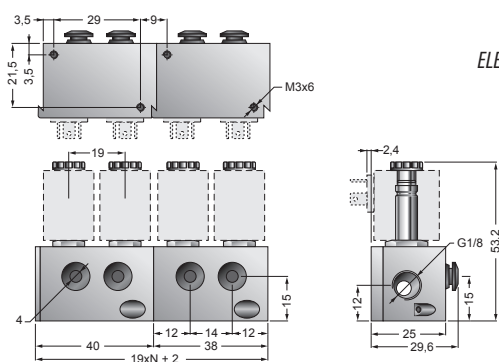
TECHNICAL FEATURES

Flow section	Ø1 mm
Nominal flow	50NI/min
Working pressure	0-9bar
Environment temperature range	-10 °C ÷ +50 °C
Temperature range of medium	0 °C ÷ +40 °C
Solenoids	Refer to CS series page B-52

CARATTERISTICHE TECNICHE

Diametro nominale	Ø1 mm
Portata nominale	50 Nl/min
Pressione esercizio	0-9 bar
Temperatura ambiente	-10 °C ÷ +50 °C
Temperatura fluido	0 °C ÷ +40 °C
Solenoido	Vedere CS pag. 8-52

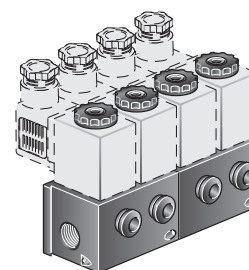
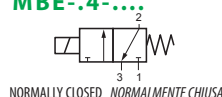
Nº = Numbers of base-plate / Numero di posti della base



DIRECT ACTING SOLENOID VALVES 3/2 TUBE Ø4mm - MANIFOLD
ELETTOVALVOLE A COMANDO DIRETTO 3/2 TUBO Ø4mm IN BATTERIA

MBE- . 4-.....

MBE-.4-....





DIRECT ACTUATED VALVES 3/2 NC G1/8 - ELETTROVALVOLE A COMANDO DIRETTO 3/2 NC G1/8

MBE - 8 - - -

Number of station valves
Numero posti
2, 4, 6, ..., 16

M with manual control
con controllo manuale
(Standard without manual control
Standard senza controllo manuale)

Coil / Solenoide: (see / vedere P.)

00000 .. No coil / Senza solenoide
01200 .. 12 V DC
02400 .. 24 V DC
02450 .. 24 V 50/60Hz AC
11550 .. 115 V 50/60Hz AC
23050 .. 230 V 50/60Hz AC

For versions
only 5 Watt coil.
Per versioni **NO**
solo solenoidi 5 Watt.

NC Normally closed
Normalmente chiusa
NO Normally open
Normalmente aperta

TECHNICAL FEATURES

Flow section	Ø1,2mm
Nominal Flow	80Nl/min
Working pressure	0-9bar
Environment temperature range	-10 °C ÷ +50 °C
Temperature range of medium	0 °C ÷ +40 °C
Solenoids	Refer to MS series page B-36

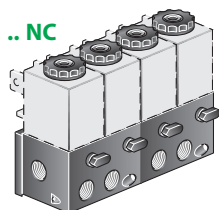
CARATTERISTICHE TECNICHE

Diametro nominale	Ø1,2mm
Portata nominale	80Nl/min
Pressione esercizio	0-9bar
Temperatura ambiente	-10 °C ÷ +50 °C
Temperatura fluido	0 °C ÷ +40 °C
Solenoide	Vedere MS pag. B-36

MBE- . 8-.-.-.-.....

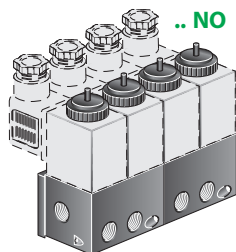
DIRECT ACTING SOLENOID VALVES 3/2 G1/8 - MANIFOLD
ELETTROVALVOLE A COMANDO DIRETTO 3/2 G1/8 IN BATTERIA

.. NC

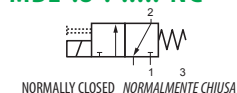


WITH MANUAL OVERRIDE
CON CONTROLLO MANUALE

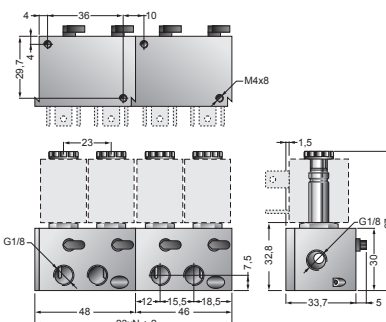
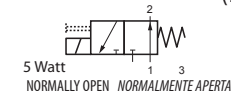
.. NO



MBE-8-.-.-.-.-NC



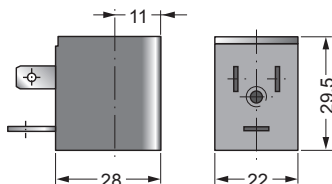
MBE-8-.-.-.-.-NO (#)



N° = Numbers of base-plate
Numero di posti della base

MS

COIL
SOLENOIDE



CODES / CODICI

Ordination code Codice ordinazione	Voltage Tensione
MS01200	12 V DC
MS02400	24 V DC
MS02450	24 V 50/60Hz AC
MS11550 (*)	115 V 50/60Hz AC
MS23050 (*)	230 V 50/60Hz AC

(*) Please see page / Vedi pag. B-37

TECHNICAL FEATURES

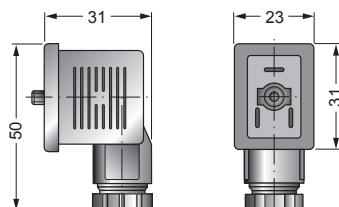
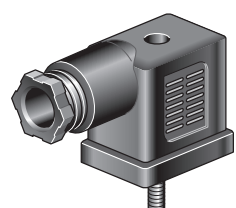
Standard voltage	12, 24 V DC 24,115, 230 V AC (50/60 Hz)
Solenoid characteristics	3 Watt in DC; 5 V A in AC
Tension	± 10%
Ambient temperature range	-20 °C ÷ +50 °C
Degree of	Class F
Expy	Incapsulated

CARATTERISTICHE TECNICHE

Tensione standard	12, 24 V DC 24,115, 230 V AC (50/60 Hz)
Prestazioni bobina	3 Watt in DC; 5 V A in AC
Tensione nominale	± 10% a bobina calda
Limiti di temperatura ambiente	-20 °C ÷ +50 °C
Protezione	IP 65 secondo IEC 144 con connettore e guarnizioni montate
Bobina	Classe F, Filo rame classe 200 °C
Sovrastampatura	Resina epossidica

CEP-1

SOLENOID CONNECTOR
CONNETTORE



CODES / CODICI

Description Descrizione	Code Codice	Tension Tensione
Universal connector Connettore universale	CEP-1	All tension Tutte le tensioni
Connector with led Connettore con led	CEP-1 L 10 / 50 CEP-1 L 70 / 250	10/50 V AC / DC 70/250 V AC / DC
Connector with led and varistor Connettore con led e varistore	CEP-1 LV 24 CEP-1 LV 110 CEP-1 LV 220	24 V AC / DC 115 V AC / DC 230 V AC / DC

TECHNICAL FEATURES

Wire connection	With screwed terminals
Gland thread	PG 9
Number of poles	2 Poles + earth
Housing colour	Black, transparent in the led version.

CARATTERISTICHE TECNICHE

Connessione cavi	Con morsetti a vite
Filettatura passacavo	PG 9
N° Poli	2 Poli + terra
Colori connettore	Nero, trasparente nelle versioni con led.

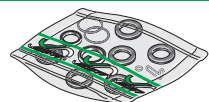
SET . 1/2 SG

SEALS KIT
KIT GUARNIZIONI DI RICAMBIO

Seals kit code - Codice del kit

SET 1 1/2 SG: for G1/2 **mono-stable** valves - per valvole **monostabili** G1/2.

SET 2 1/2 SG: for G1/2 **bi-stable** valves - per valvole **bistabili** G1/2.



Example / Esempio: **E52W1SM12-02400** → **SET 1 1/2 SG**

E52W2S012-02400 → **SET 2 1/2 SG**



INSTRUCTION MANUAL MANUALE USO E MANUTENZIONE



INSTRUCTIONS MANUAL OF THE FOLLOWING VESTA PRODUCTS

IL PRESENTE MANUALE DI USO E MANUTENZIONE È VALIDO PER I SEGUENTI PRODOTTI VESTA:

SINGLES OR ASSEMBLED COILS ON VALVES / SOLENOIDI SINGOLI O ASSEMBLATI SU ELETTROVALVOLE:

MS11550, MS23050, CS11550, CS23050, SCN11050, SCN22050, SCN23050

How to Keep IP65 protection while assembling coils with connectors

Please follow carefully the below instructions:

- Before cabling insert the grommet on the cable and screw the gland nut to the connector.
- Put the seal between coil and connector, then screw the connector to the coil using the supplied screw.
- Mount the coil on the valve and pay attention to put the "O" ring in the housing of the coil.

Prescrizioni di montaggio per preservare il grado di protezione IP65

Per preservare il grado di protezione IP65 del collegamento elettrico è necessario eseguire il montaggio nel seguente modo:

- Prima di effettuare il collegamento elettrico dei cavi al connettore infilare nel cavo stesso il pressacavo avvitando il serracavo sul connettore.
- Montare la guarnizione bobina fra bobina e connettore, quindi fissare il connettore alla bobina con l'apposita vite, avvitandola adeguatamente.
- Montare quindi la bobina sulla valvola posizionando l'anello di tenuta (OR) nell'apposita sede della bobina.

Ground connection

Ground connection must be secure and properly done.

Messa a terra

La bobina prevede il morsetto a terra che deve essere collegato opportunamente all'impianto di messa a terra dell'installazione che deve essere realizzata a regola d'arte.

Electrical connection

When choosing the cable for electrical connections, take into account the location and environment of the installation as well as the electrical features of the system (rated voltage and current). If possible follow the right and proper normative (ex. CEI EN 60204-1).

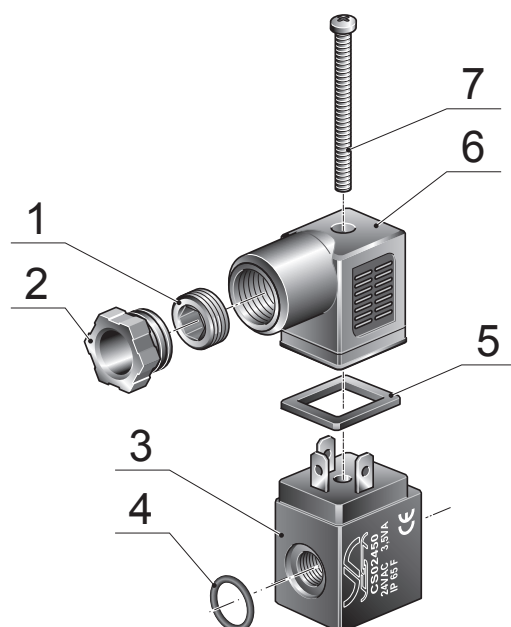
Collegamento elettrico

I conduttori utilizzati per il collegamento devono essere scelti e montati a regola d'arte tenuto conto dell'ambiente e delle condizioni di utilizzo nonché delle caratteristiche elettriche di impiego (tensione e corrente di esercizio). Si consiglia di seguire, ove applicabile, la pertinente normativa applicabile (ad es. CEI EN 60204-1).

Instructions must be followed carefully. Vesta Automation s.r.l. cannot be considered responsible for any damage caused by incorrect installation and use.

L'installatore e l'utilizzatore sono tenuti ad attenersi scrupolosamente alle indicazioni impartite.

Qualsiasi omissione solleverà Vesta Automation s.r.l. da ogni responsabilità e danno conseguenti.



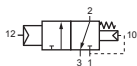
Coils and accessories for solenoid valves.
Solenoidi ed accessori per elettrovalvole.

Position Posizione	Description Descrizione
1	Grommet / Pressacavo
2	Gland nut / Serracavo
3	Solenoid coil / Bobina
4	O-Ring / OR
5	Coil seal / Guarnizione bobina
6	Connector / Connettore
7	Fixing screw / Vite



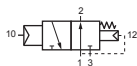
INDEX / INDICE

G1/8 MINI VALVES AND MINI SOLENOID VALVES SERIES "K" / MINI VALVOLE E MINI ELETTROVALVOLE SERIE "K"



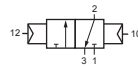
K32P1618

SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN
COMANDO PNEUMATICO - RIT. MOLLA MECCANICA E PNEUMATICA



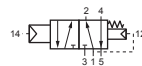
K32P1918

SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN
COMANDO PNEUMATICO - RIT. MOLLA MECCANICA E PNEUMATICA



K32P2018

DOUBLE PNEUMATIC PILOT
DOPPIO COMANDO PNEUMATICO

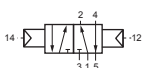


K52P1018

SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN
COMANDO PNEUMATICO - RIT. MOLLA MECCANICA E PNEUMATICA

pag. B-43

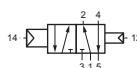
pag. B-44



K52P2018

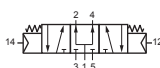
DOUBLE PNEUMATIC PILOT
DOPPIO COMANDO PNEUMATICO

pag. B-44



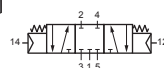
K52DP218

DOUBLE DIFFERENTIAL PNEUMATIC PILOT
DOPPIO COMANDO PNEUMATICO DIFFERENZIALE



K53P2318

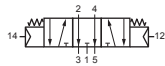
DOUBLE PNEUMATIC PILOT (MID-POSITION PRESSURIZED)
DOPPIO COMANDO PNEUMATICO (CENTRI IN PRESSIONE)



K53P2618

DOUBLE PNEUMATIC PILOT (MID-POSITION CLOSED)
DOPPIO COMANDO PNEUMATICO (CENTRI CHIUSI)

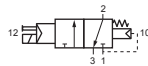
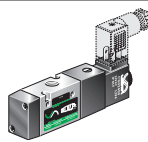
pag. B-45



K53P2918

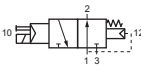
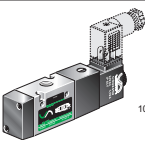
DOUBLE PNEUMATIC PILOT (MID-POSITION EXHAUSTED)
DOPPIO COMANDO PNEUMATICO (CENTRI APERTI)

pag. B-45



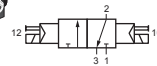
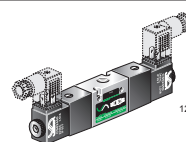
K32W1S618

SINGLE SOLENOID PILOT - INTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - RIPOSIZIONAMENTO A MOLLA



K32W1S918

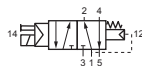
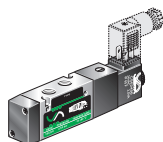
SINGLE SOLENOID PILOT - INTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - RIPOSIZIONAMENTO A MOLLA



K32W2S018

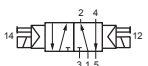
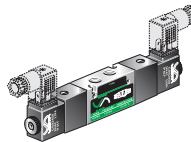
DOUBLE SOLENOID PILOT
DOPPIO COMANDO ELETTROPNEUMATICO

pag. B-46



K52W1018

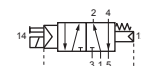
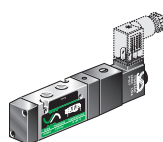
SINGLE SOLENOID PILOT - INTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - RIPOSIZIONAMENTO A MOLLA



K52W2018

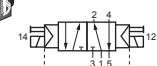
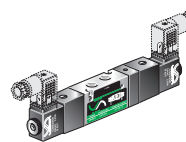
DOUBLE SOLENOID PILOT
DOPPIO COMANDO ELETTROPNEUMATICO

pag. B-47



K52W10E8

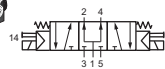
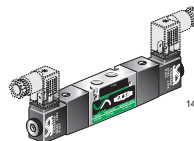
SINGLE SOLENOID PILOT - EXTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - PILOTAGGIO ESTERNO



K52W20E8

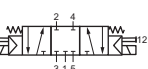
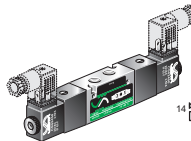
DOUBLE SOLENOID PILOT - EXTERNAL PRESSURE RETURN
DOPPIO COMANDO ELETTROPNEUM. - PILOTAGGIO ESTERNO

pag. B-48



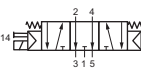
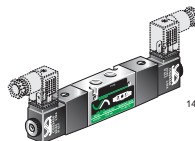
K53W2S318

DOUBLE SOLENOID PILOT (MID-POSITION PRESSURIZED)
DOPPIO COMANDO ELETTROPNEUM. (CENTRI IN PRESSIONE)



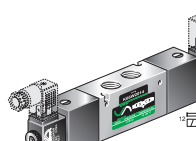
K53W2S618

DOUBLE SOLENOID PILOT (MID-POSITION CLOSED)
DOPPIO COMANDO ELETTROPNEUMATICO (CENTRI CHIUSI)



K53W2S918

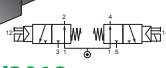
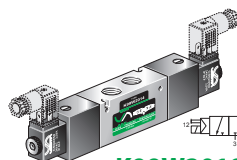
DOUBLE SOLENOID PILOT (MID-POSITION EXHAUSTED)
DOPPIO COMANDO ELETTROPNEUMATICO (CENTRI APERTI)



K66W2018

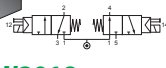
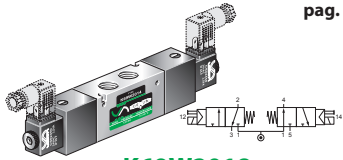
DOUBLE 3/2 N.C. SPRING RETURN VALVE
DOPPIA VALVOLA 3/2 N.C. RITORNO A MOLLA MECCANICA

pag. B-49



K99W2018

DOUBLE 3/2 N.O. SPRING RETURN VALVE
DOPPIA VALVOLA 3/2 N.O. RITORNO A MOLLA MECCANICA



K69W2018

3/2 N.C. + 3/2 N.O. VALVES SPRING RETURN
VALVOLA 3/2 N.C. + VALVOLA 3/2 N.O. RITORNO A MOLLA MECCANICA

pag. B-50

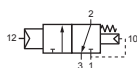


KME . 18

ENBLOC TILL 10 SIZES MAX
BASE DOPPIO INGRESSO FINO A 10 POSTI

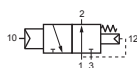
pag. B-51

MINI VALVES AND MINI SOLENOID VALVES SERIES "K" / MINI VALVOLE E MINI ELETTROVALVOLE SERIE "K" G1/4-G1/2



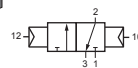
K32P161.

SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN
COMANDO PNEUMATICO - RIT. MOLLA MECCANICA E PNEUMATICA



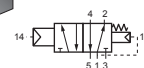
K32P191.

SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN
COMANDO PNEUMATICO - RIT. MOLLA MECCANICA E PNEUMATICA



K32P201.

DOUBLE PNEUMATIC PILOT
DOPPIO COMANDO PNEUMATICO



K52P101.

SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN
COMANDO PNEUMATICO - RIT. MOLLA MECCANICA E PNEUMATICA

pag. B-43

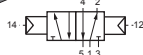
pag. B-44



K52DP214

DOUBLE DIFFERENTIAL PNEUMATIC PILOT
DOPPIO COMANDO PNEUMATICO DIFFERENZIALE

pag. B-44



K52P201.

DOUBLE PNEUMATIC PILOT
DOPPIO COMANDO PNEUMATICO



K53P231.

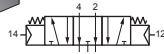
DOUBLE PNEUMATIC PILOT (MID-POSITION PRESSURIZED)
DOPPIO COMANDO PNEUMATICO (CENTRI IN PRESSIONE)

pag. B-45



K53P261.

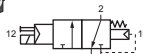
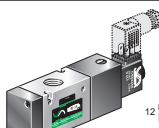
DOUBLE PNEUMATIC PILOT (MID-POSITION CLOSED)
DOPPIO COMANDO PNEUMATICO (CENTRI CHIUSI)



K53P291.

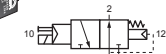
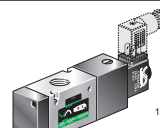
DOUBLE PNEUMATIC PILOT (MID-POSITION EXHAUSTED)
DOPPIO COMANDO PNEUMATICO (CENTRI APERTI)

pag. B-45



K32W1S61.

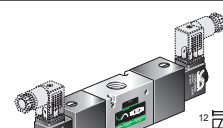
SINGLE SOLENOID PILOT - INTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - RIPOSIZIONAMENTO A MOLLA



K32W1S91.

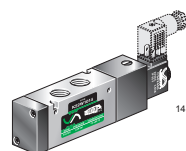
SINGLE SOLENOID PILOT - INTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - RIPOSIZIONAMENTO A MOLLA

pag. B-46



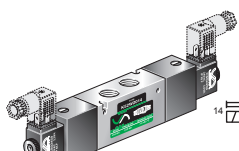
K32W2S01.

DOUBLE SOLENOID PILOT
DOPPIO COMANDO ELETTROPNEUMATICO



K52W101.

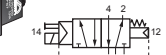
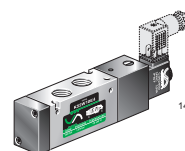
SINGLE SOLENOID PILOT - INTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - RIPOSIZIONAMENTO A MOLLA



K52W201.

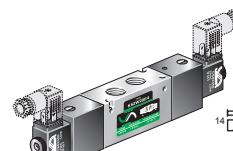
DOUBLE SOLENOID PILOT
DOPPIO COMANDO ELETTROPNEUMATICO

pag. B-47



K52W10E.

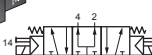
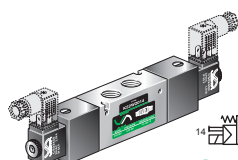
SINGLE SOLENOID PILOT - EXTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - PILOTAGGIO ESTERNO



K52W20E.

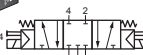
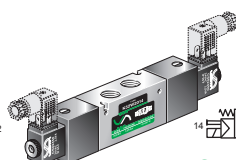
DOUBLE SOLENOID PILOT - EXTERNAL PRESSURE RETURN
DOPPIO COMANDO ELETTROPNEUM. - PILOTAGGIO ESTERNO

pag. B-48



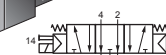
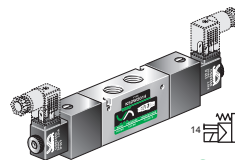
K53W2S31.

DOUBLE SOLENOID PILOT (MID-POSITION PRESSURIZED)
DOPPIO COMANDO ELETTROPNEUM. (CENTRI IN PRESSIONE)



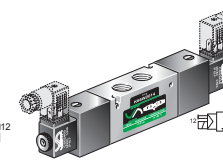
K53W2S61.

DOUBLE SOLENOID PILOT (MID-POSITION CLOSED)
DOPPIO COMANDO ELETTROPNEUMATICO (CENTRI CHIUSI)



K53W2S91.

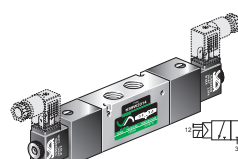
DOUBLE SOLENOID PILOT (MID-POSITION EXHAUSTED)
DOPPIO COMANDO ELETTROPNEUMATICO (CENTRI APERTI)



K66W2014

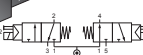
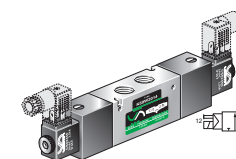
DOUBLE 3/2 N.C. SPRING RETURN VALVE
DOPPIA VALVOLA 3/2 N.C. RITORNO A MOLLA MECCANICA

pag. B-49



K99W2014

DOUBLE 3/2 N.O. SPRING RETURN VALVE
DOPPIA VALVOLA 3/2 N.O. RITORNO A MOLLA MECCANICA



K69W2014

3/2 N.C. + 3/2 N.O. VALVES SPRING RETURN
VALVOLA 3/2 N.C. + VALVOLA 3/2 N.O. RITORNO A MOLLA MECCANICA

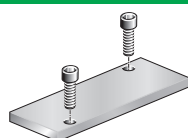
pag. B-50



KME . 14

ENBLOC TILL 10 SIZES MAX
BASE DOPPIO INGRESSO FINO A 10 POSTI

pag. B-51



KPCH0..

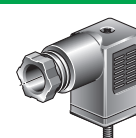
PLUG FLAT
CHIUSURA POSTO INUTILIZZATO

pag. B-52



CS.....

COILS
SOLENOIDI PER ELETTROVALVOLE



CEP/0... ..

SOLENOID CONNECTORS
CONNETTORI

pag. B-52

ACCESSORIES / ACCESSORI



DESIGN FEATURES / CARATTERISTICHE COSTRUTTIVE

Mini-valves and solenoid valves of **K** series are designed in compact dimensions and therefore they are proper to be assembled on manifolds.

Every single part and component has been developed to achieve the best performances.

K series can operate continuously without lubrication (**A**). The spool in light alloy is manufactured to grant low inertia (**B**). All the internal moving parts are designed to reduce friction.

SO, **K** series grants lasting durability and high working frequency (**E**). For a better resistance to external aggressive agents we perform on the body a nickel treatment (**C**).

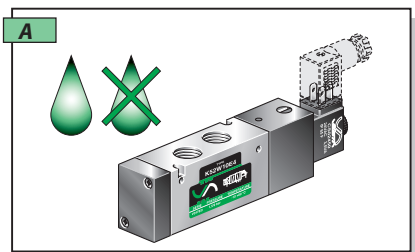
Despite of its small dimensions, the nominal air flow of the valve is around 730, 1300, 4000 NL/min. (**D**).

The solenoid valves, complete with coil and connector, follow EEC directives on the electromagnetic compatibility (89/336/EEC) and low voltage (73/23/EEC).

*Le mini valvole ed elettrovalvole Vesta serie **K** funzionano secondo il principio del cassetto bilanciato (vedi fig. 1 e 2), presentano ingombri molto ridotti e la possibilità di assemblaggio in batterie compatte.*

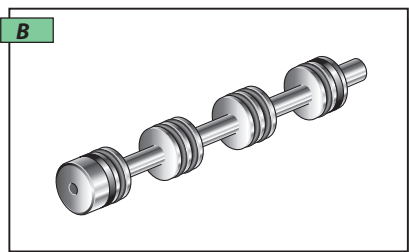
*Particolare cura è stata prestata nella progettazione e realizzazione di ogni singolo componente del prodotto, al fine di consentire elevate prestazioni funzionali. Caratteristiche comuni a tutte le valvole della serie sono l'alta velocità di scambio (**E**), la possibilità di funzionamento continuo privo di lubrificazione (**A**) ottenuto con l'impiego di materiali particolari come, ad esempio, la spola, realizzata in lega leggera (**B**), ed il corpo, in alluminio trattato al nichel (**C**). Tutto ciò garantisce una elevata frequenza di lavoro e una lunga vita del sistema, grazie ad una riduzione dell'inerzia delle parti mobili, ad una riduzione degli attriti interni e ad un maggior grado di resistenza agli agenti aggressivi esterni. Particolarmente interessante, nonostante le ridotte dimensioni, la portata nominale: 730, 1300, 4000 NL/min. (**D**).*

Le elettrovalvole complete di bobina e connettore, sono conformi alle direttive CEE relative alla compatibilità elettromagnetica (89/336/CEE) ed alla bassa tensione (73/23/CEE).



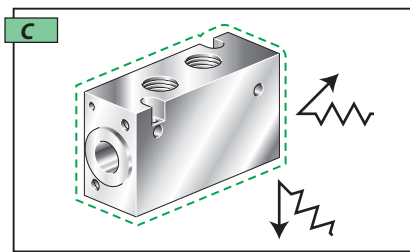
Possibility to operate continuously without lubrication.

Possibilità di funzionamento continuo privo di lubrificazione.



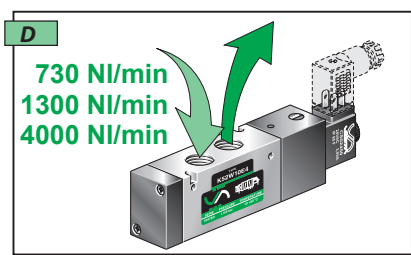
Light alloy spool.

Spola in lega leggera.



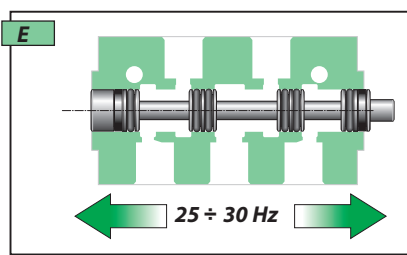
Nickel treated body.

Corpo in alluminio trattato al nichel.



Nominal air flow: (730, 1300, 4000 NL/min).

Alta portata nominale: (730, 1300, 4000 NL/min a 6 bar).



High working frequency.

Alta velocità di scambio.

WORKING PRINCIPLE / PRINCIPIO DI FUNZIONAMENTO

In the below example (**K52W1018-02450** - 5/2 valve, single solenoid, spring return), when the valve stands in the normal position, ports **4 - 5** and **1 - 2** are connected and the position is kept thanks to the pressure applied to the smallest piston and thanks to the spring force (right side of the valve). When the valve is actuated, the same pressure is fed to the biggest piston. Its bigger surface creates a force which allows to the spool to move and therefore to connect ports **4 - 1** and **2 - 3**. Spring return grants the normal position of the spool even without inlet pressure.

In the bistable versions, the position of the valve remains in its last switched state.

*Il principio di funzionamento del distributore 5/2 (nell'esempio l'elettrovalvola **K52W1018-02450** con comando elettropneumatico e riposizionamento a molla) consiste nel mantenere la spola in posizione di riposo per azione sia di una molla meccanica che per effetto della pressione creata dalla fonte d'aria compressa presente nel condotto di alimentazione **1** sulla spola stessa (fig. 1) collegando le vie **1-2** e **4-5**.*

*L'eccitazione del solenoide mette in comunicazione il condotto **1** con la camera dove è alloggiato il pistone di comando. Quest'ultimo contrasta l'insieme delle forze create dalla molla e dalla pressione sul lato opposto della spola, spostandola in modo tale da collegare i canali **1-4** e **2-3** (fig. 2).*

Diseccitando il solenoide si ripristina la posizione iniziale. La combinazione del sistema a molla meccanica con il riposizionamento pneumatico consente di avere sempre la spola in posizione di riposo anche dopo la caduta di pressione del sistema.

Nei sistemi bistabili (doppio comando elettropneumatico o doppio comando pneumatico) in assenza di segnale rimangono i collegamenti formatisi nell'ultimo azionamento.

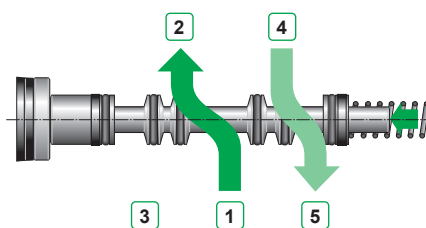
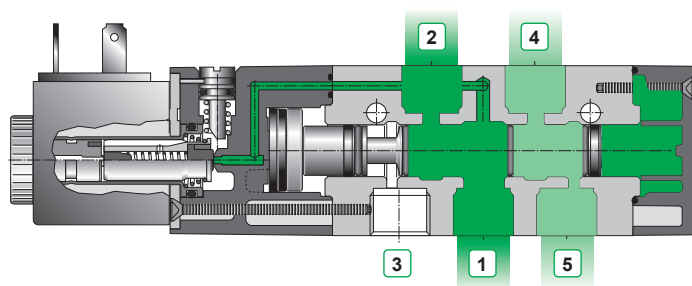


fig. 1

NORMAL POSITION / POSIZIONE A RIPOSO

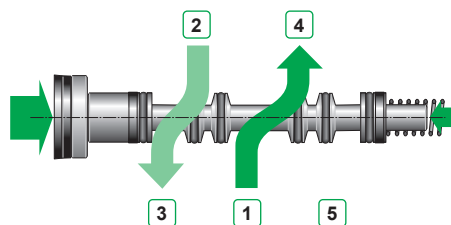
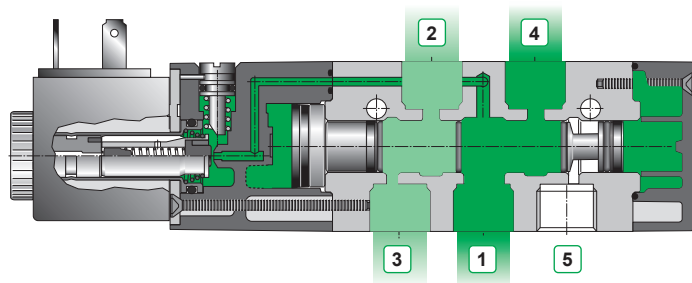
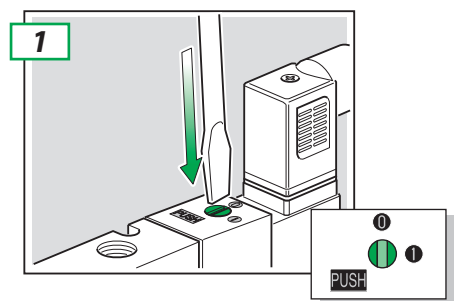


fig. 2

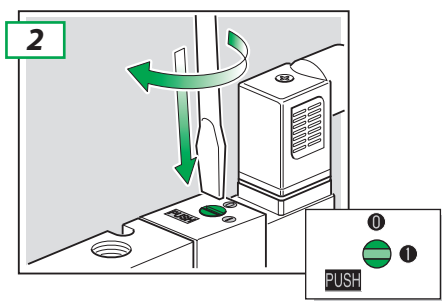
ACTUATED POSITION / POSIZIONE DI LAVORO

MANUAL OVERRIDING / AZIONAMENTO COMANDO MANUALE



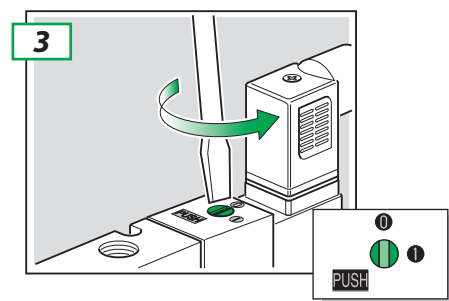
Push to actuate valve without locking. **Release the button to get back to normal position.**

*Per azionare la valvola, durante la fase di collaudo con pressione in linea senza collegamento elettrico, usare un adeguato cacciavite per premere la vite del comando manuale. **Rilasciare per ripristinare la condizione di riposo.***



To actuate the valve permanently, push the M/O using a screwdriver and rotate clockwise 90°.

Per azionare la valvola in modo permanente premere la vite del comando manuale e ruotare in senso orario sino alla posizione 1.



To get back to normal position push the M/O again and turn 90° anti-clockwise.

Ruotare in senso antiorario la vite del comando manuale per ripristinare la condizione di riposo.



SERIE K

TECHNICAL FEATURES / CARATTERISTICHE TECNICHE

COMMON TECHNICAL FEATURES K SERIE / CARATTERISTICHE TECNICHE COMUNI SERIE K

Port connections	G1/8, G1/4
Flow section	G1/8" = Ø 6 mm
	G1/4" = Ø 8 mm
	G1/2" = Ø 14 mm
Environment temperature range	-10 °C ÷ +50 °C
Temperature range of medium	0 °C ÷ +40 °C
Lubrication	Not required
Medium	Filtered air
Reference pressure	6 bar
Nominal air flow 3/2 and 5/2 valves (valves 5/3)	G1/8" : 730 (552) NI/min
	G1/4" : 1300 (1040) NI/min
	G1/2" : 4000 (3500) NI/min

Connessioni di lavoro	G1/8, G1/4
Diametro nominale	G1/8" = Ø 6 mm
	G1/4" = Ø 8 mm
	G1/2" = Ø 14 mm
Temperatura ambiente	-10 °C ÷ +50 °C
Temperatura fluido	0 °C ÷ +40 °C
Lubrificazione	Non necessaria
Fluido	Aria filtrata
Pressione nominale	6 bar
Portata nominale valvole 3/2 e 5/2 (valvole 5/3)	G1/8" : 730 (552) NI/min
	G1/4" : 1300 (1040) NI/min
	G1/2" : 4000 (3500) NI/min

PNEUMATIC VALVES FEATURES / CARATTERISTICHE VALVOLE PNEUMATICHE

G 1/8"

	K32P1618	K32P1918	K32P2018	K52P1018	K52DP218	K52P2018	K53P2318	K53P2618	K53P2918
Nominal pilot pressure (bar) Pressione di pilotaggio nominale (bar)	3,1 bar (9 bar)	3,1 bar (9 bar)	0,97 bar	3,1 bar (9 bar)	(12) 1,35 bar (14) 0,97 bar	0,97 bar	3 bar	3 bar	3 bar
Nominal max frequency (Hz) Frequenza max nominale (Hz)	30 Hz	30 Hz	33 Hz	30 Hz	30 Hz	33 Hz	10 Hz	10 Hz	10 Hz
Operating pressure range (bar) Pressione di esercizio (bar)	2,5 ÷ 9 bar	2,5 ÷ 9 bar	0 ÷ 9 bar	2,5 ÷ 9 bar	0 ÷ 9 bar	0 ÷ 9 bar	0 ÷ 9 bar	0 ÷ 9 bar	0 ÷ 9 bar

G 1/4"

	K32P1614	K32P1914	K32P2014	K52P1014	K52DP214	K52P2014	K53P2314	K53P2614	K53P2914
Nominal pilot pressure (bar) Pressione di pilotaggio nominale (bar)	3,1 bar (9 bar)	3,1 bar (9 bar)	0,97 bar	3,1 bar (9 bar)	(12) 1,35 bar (14) 0,97 bar	0,97 bar	3 bar	3 bar	3 bar
Nominal max frequency (Hz) Frequenza max nominale (Hz)	30 Hz	30 Hz	33 Hz	30 Hz	30 Hz	33 Hz	10 Hz	10 Hz	10 Hz
Operating pressure range (bar) Pressione di esercizio (bar)	2,5 ÷ 9 bar	2,5 ÷ 9 bar	0 ÷ 9 bar	2,5 ÷ 9 bar	0 ÷ 9 bar	0 ÷ 9 bar	0 ÷ 9 bar	0 ÷ 9 bar	0 ÷ 9 bar

G 1/2"

	K32P1612	K32P1912	K32P2012	K52P1012	-	K52P2012	K53P2312	K53P2612	K53P2912
Nominal pilot pressure (bar) Pressione di pilotaggio nominale (bar)	3,1 bar (9 bar)	3,1 bar (9 bar)	0,97 bar ^r	3,1 bar (9 bar)	-	0,97 bar	3 bar	3 bar	3 bar
Nominal max frequency (Hz) Frequenza max nominale (Hz)	15 Hz	15 Hz	18 Hz	15 Hz	-	18 Hz	10 Hz	10 Hz	10 Hz
Operating pressure range (bar) Pressione di esercizio (bar)	2,5 ÷ 9 bar	2,5 ÷ 9 bar	0 ÷ 9 bar	2,5 ÷ 9 bar	-	0 ÷ 9 bar	0 ÷ 9 bar	0 ÷ 9 bar	0 ÷ 9 bar

SOLENOID VALVES FEATURES / CARATTERISTICHE ELETTROVALVOLE

G 1/8"

	K32W1S618	K32W1918	K32W2S018	K52W1018	K52W2018	K52W10E8	K52W20E8	K53W2S318 K53W2S618 K53W2S918	K66W2018 K99W2018 K69W2018
Nominal max frequency (Hz) Frequenza max nominale (Hz)	27Hz AC 17Hz DC	27Hz AC 17Hz DC	42Hz AC 34Hz DC	27Hz AC 17Hz DC	42Hz AC 34Hz DC	27Hz AC 17Hz DC	42Hz AC 34Hz DC	12Hz AC 10Hz DC	27Hz AC 17Hz DC
Operating pressure range (bar) Pressione di esercizio (bar)	2,5÷9 bar	2,5÷9 bar	1,5÷9 bar	2,5÷9 bar	1,5÷9 bar	0÷9 bar	0÷9 bar	3÷9 bar	3÷9 bar
External pilot port Connessione di pilotaggio esterna	-	-	-	-	-	M5	M5	-	-
Pilot pressure Pressione di pilotaggio	-	-	-	-	-	3÷9 bar	3÷9 bar	-	-

G 1/4"

	K32W1S614	K32W1914	K32W2S014	K52W1014	K52W2014	K52W10E4	K52W20E4	K53W2S314 K53W2S614 K53W2S914	K66W2014 K99W2014 K69W2014
Nominal max frequency (Hz) Frequenza max nominale (Hz)	27Hz AC 17Hz DC	27Hz AC 17Hz DC	42Hz AC 34Hz DC	27Hz AC 17Hz DC	42Hz AC 34Hz DC	27Hz AC 17Hz DC	42Hz AC 34Hz DC	12Hz AC 10Hz DC	27Hz AC 17Hz DC
Operating pressure range (bar) Pressione di esercizio (bar)	2,5÷9 bar	2,5÷9 bar	1,5÷9 bar	2,5÷9 bar	1,5÷9 bar	0÷9 bar	0÷9 bar	3÷9 bar	3÷9 bar
External pilot port Connessione di pilotaggio esterna	-	-	-	-	-	M5	M5	-	-
Pilot pressure Pressione di pilotaggio	-	-	-	-	-	3÷9 bar	3÷9 bar	-	-

G 1/2"

	K32W1S612	K32W1912	K32W2S012	K52W1012	K52W2012	K52W10E2	K52W20E2	K53W2S312 K53W2S612 K53W2S912	K66W2012 K99W2012 K69W2012	K53W2S912
Nominal max frequency (Hz) Frequenza max nominale (Hz)	13Hz AC 11Hz DC	13Hz AC 11Hz DC	17Hz AC 16Hz DC	13Hz AC 11Hz DC	17Hz AC 16Hz DC	13Hz AC 11Hz DC	17Hz AC 16Hz DC	13Hz AC 8Hz DC	13Hz AC 8Hz DC	13Hz AC 8Hz DC
Operating pressure range (bar) Pressione di esercizio (bar)	2,5÷9 bar	2,5÷9 bar	1,5÷9 bar	2,5÷9 bar	1,5÷9 bar	0÷9 bar	0÷9 bar	3÷9 bar	3÷9 bar	3÷9 bar
External pilot port Connessione di pilotaggio esterna	-	-	-	-	-	M5	M5	-	-	-
Pilot pressure Pressione di pilotaggio	-	-	-	-	-	3÷9 bar	3÷9 bar	-	-	-

For electrical features solenoid pilot see p. B-52 for G1/8.

Caratteristiche elettriche elettrovalvole per solenoide vedi p. B-52 per G1/8.

VALVE / VALVOLA 3/2

SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN AND SPRING
COMANDO PNEUMATICO - RIPOSIZIONAMENTO A MOLLA PNEUMATICA E MECCANICA

K32P1.1.

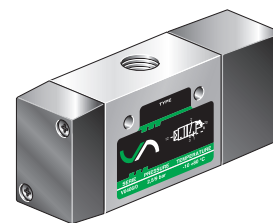
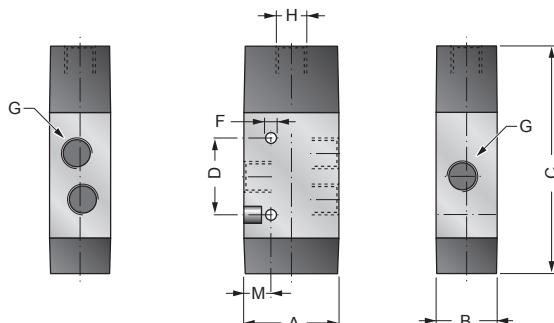
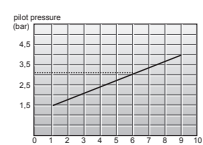
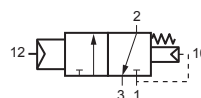


DIAGRAM / DIAGRAMMA

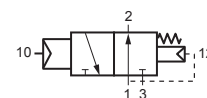


PILOT PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO

Size Taglia	A	B	C	D	ØF	G	H	ØI	M
1/8	28	18	66,2	22,2	3,2	G1/8	G1/8	3,2	8
1/4	32	22	75,3	29,3	4,2	G1/4	G1/8	3,5	7,3
1/2	50	30	108	45,6	5,2	G1/2	G1/8	-	11

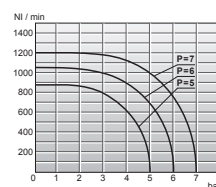


K32P1.1.

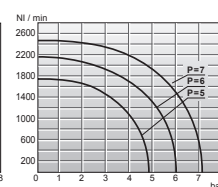


K32P1.1.

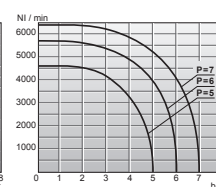
DIAGRAMS / DIAGRAMMI



AIR FLOW DIAGRAM G1/8"
DIAGRAMMA DELLE PORTATE G1/8"



AIR FLOW DIAGRAM G1/4"
DIAGRAMMA DELLE PORTATE G1/4"



AIR FLOW DIAGRAM G1/2"
DIAGRAMMA DELLE PORTATE G1/2"

VALVE / VALVOLA 3/2

DOUBLE PNEUMATIC PILOT / DOPPIO COMANDO PNEUMATICO

K32P201.

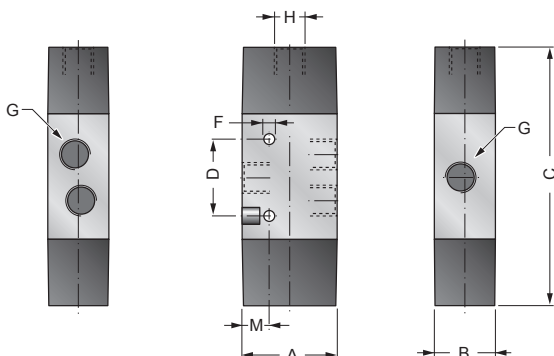
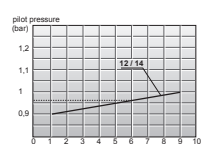
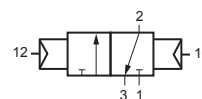


DIAGRAM / DIAGRAMMA



PILOT PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO

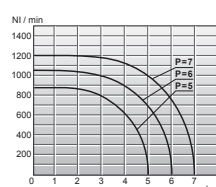
Size Taglia	A	B	C	D	ØF	G	H	ØI	M
1/8	28	18	76,2	22,2	3,2	G1/8	G1/8	3,2	8
1/4	32	22	88,3	29,3	4,2	G1/4	G1/8	3,5	7
1/2	50	30	121	45,6	5,2	G1/2	G1/8	-	11



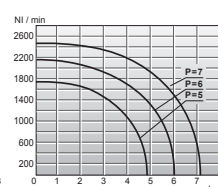
K32P201.

SIMBOL / SIMBOLO

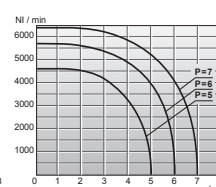
DIAGRAMS / DIAGRAMMI



AIR FLOW DIAGRAM G1/8"
DIAGRAMMA DELLE PORTATE G1/8"



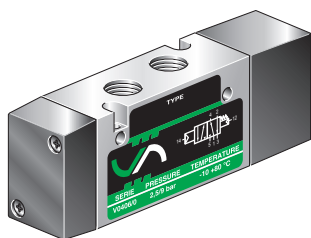
AIR FLOW DIAGRAM G1/4"
DIAGRAMMA DELLE PORTATE G1/4"



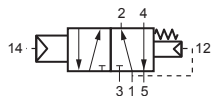
AIR FLOW DIAGRAM G1/2"
DIAGRAMMA DELLE PORTATE G1/2"



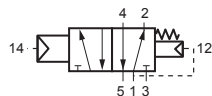
K52P101.



SIMBOLS / SIMBOLI

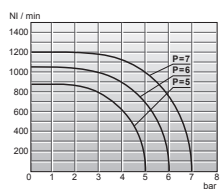


K52P1018

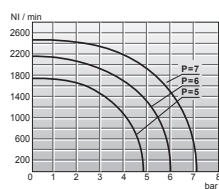


K52P1014 - K52P1012

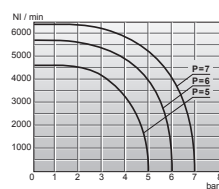
DIAGRAMS / DIAGRAMMI



AIR FLOW DIAGRAM G1/8"
DIAGRAMMA DELLE PORTATE G1/8"



AIR FLOW DIAGRAM G1/4"
DIAGRAMMA DELLE PORTATE G1/4"



AIR FLOW DIAGRAM G1/4"
DIAGRAMMA DELLE PORTATE G1/4"

VALVE / VALVOLA 5/2

SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN AND SPRING
COMANDO PNEUMATICO - RIPOSIZIONAMENTO A MOLLA PNEUMATICA E MECCANICA

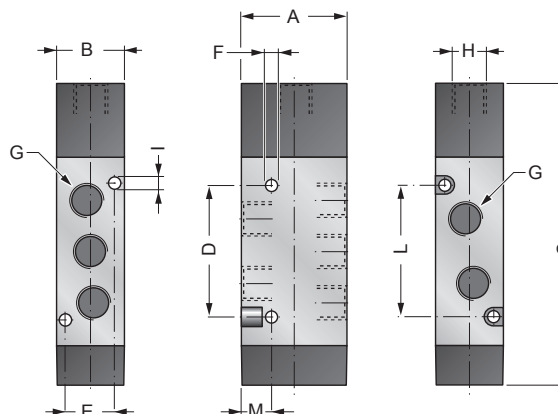
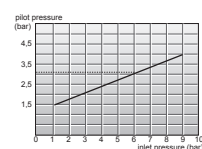


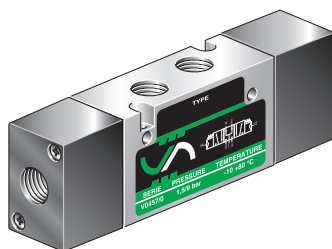
DIAGRAM / DIAGRAMMA



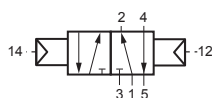
PILOT PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO

Size Taglia	A	B	C	D	E	ØF	G	H	ØI	L	M
1/8	28	18	80	35	13	3,2	G1/8	G1/8	3,2	35	8
1/4	32	22	96	50	16,2	4,2	G1/4	G1/8	3,5	50	7,3
1/2	50	30	137	74,6	-	5,2	G1/2	G1/8	-	-	11

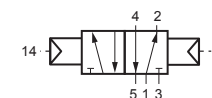
K52P201.



SIMBOLS / SIMBOLI

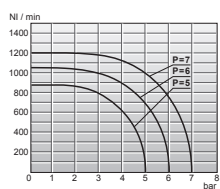


K52P2018

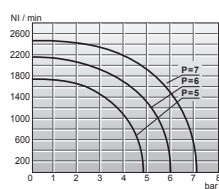


K52P2014 - K52P2012

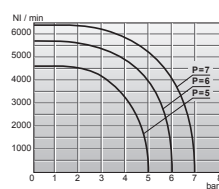
DIAGRAMS / DIAGRAMMI



AIR FLOW DIAGRAM G1/8"
DIAGRAMMA DELLE PORTATE G1/8"



AIR FLOW DIAGRAM G1/4"
DIAGRAMMA DELLE PORTATE G1/4"



AIR FLOW DIAGRAM G1/2"
DIAGRAMMA DELLE PORTATE G1/2"

VALVE / VALVOLA 5/2

DOUBLE PNEUMATIC PILOT / DOPPIO COMANDO PNEUMATICO

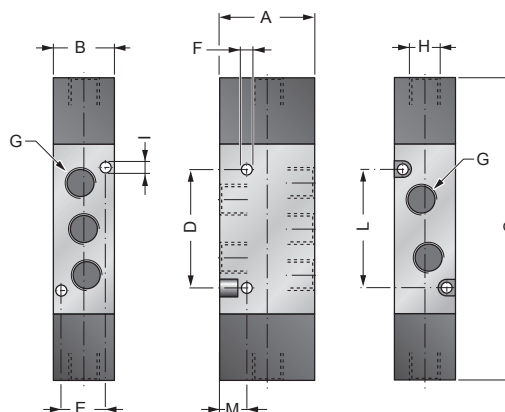
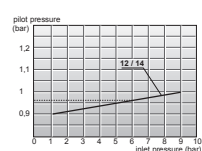


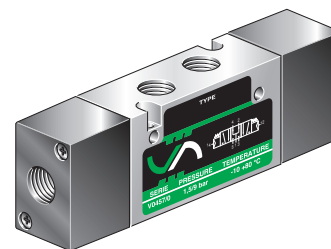
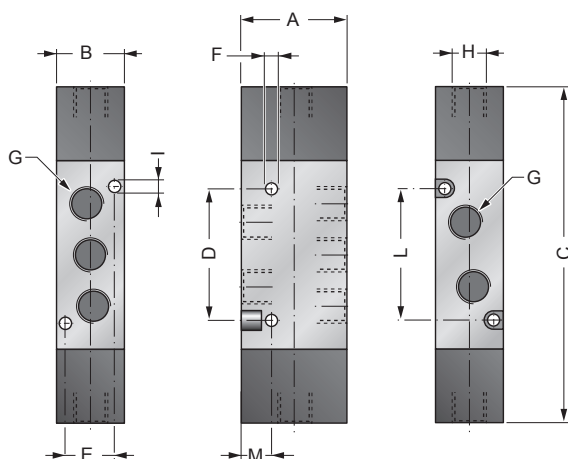
DIAGRAM / DIAGRAMMA



PILOT PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO

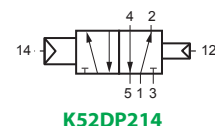
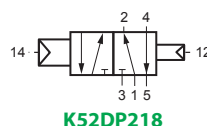
Size Taglia	A	B	C	D	E	ØF	G	H	ØI	L	M
1/8	28	18	89	35	13	3,2	G1/8	G1/8	3,2	35	8
1/4	32	22	109	50	16,2	4,2	G1/4	G1/8	3,5	50	7,3
1/2	50	30	150	74,6	-	5,2	G1/2	G1/8	-	-	11

VALVE / 5/2
DOUBLE DIFFERENTIAL PNEUMATIC PILOT
DOPPIO COMANDO PNEUMATICO DIFFERENZIALE



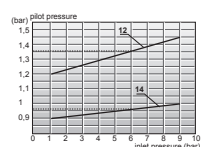
K52DP21.

SIMBOLS /



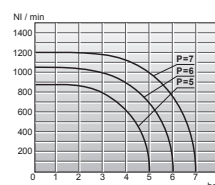
DIAGRAMS / DIAGRAMMI

DIAGRAM / DIAGRAMMA

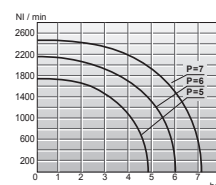


PILOT PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO

Size Taglia	A	B	C	D	E	ØF	G	H	ØI	L	M
1/8	28	18	89	35	13	3,2	G1/8	G1/8	3,2	35	8
1/4	32	22	109	50	16,2	4,2	G1/4	G1/8	3,5	50	7,3

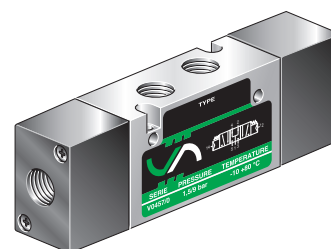
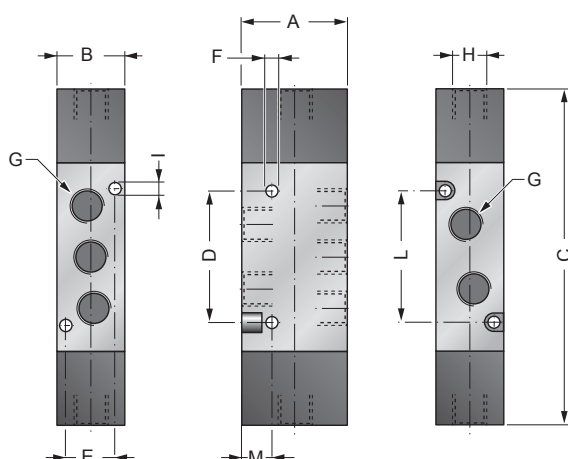


AIR FLOW DIAGRAM G1/8"
DIAGRAMMA DELLE PORTATE G1/8"



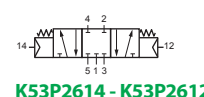
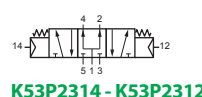
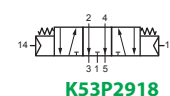
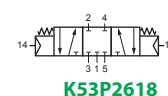
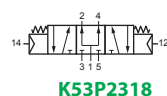
AIR FLOW DIAGRAM G1/4"
DIAGRAMMA DELLE PORTATE G1/4"

VALVE / VALVOLA 5/3
DOUBLE PNEUMATIC PILOT (MID-POSITION PRESSURIZED) / DOPPIO COMANDO PNEUMATICO (CENTRI IN PRESSIONE)
DOUBLE PNEUMATIC PILOT (MID-POSITION CLOSED) / DOPPIO COMANDO PNEUMATICO (CENTRI CHIUSI)
DOUBLE PNEUMATIC PILOT (MID-POSITION EXHAUSTED) / DOPPIO COMANDO PNEUMATICO (CENTRI APERTI)



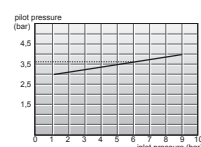
K53P2.1.

SIMBOLS / SIMBOLI



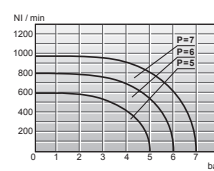
DIAGRAMS / DIAGRAMMI

DIAGRAM / DIAGRAMMA

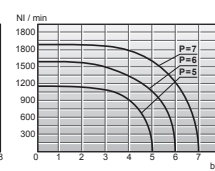


PILOT PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO

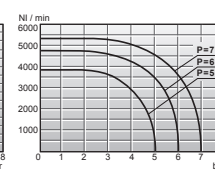
Size Taglia	A	B	C	D	E	ØF	G	H	ØI	L	M
1/8	28	18	89	35	13	3,2	G1/8	G1/8	3,2	35	8
1/4	32	22	109	50	16,2	4,2	G1/4	G1/8	3,5	50	7,3
1/2	50	30	150	74,6	-	5,2	G1/2	G1/8	-	-	11



AIR FLOW DIAGRAM G1/8"
DIAGRAMMA DELLE PORTATE G1/8"



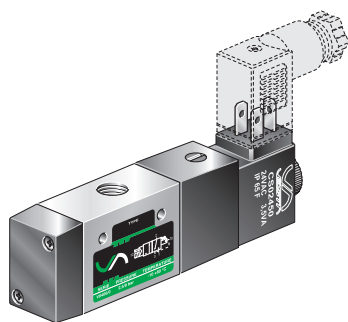
AIR FLOW DIAGRAM G1/4"
DIAGRAMMA DELLE PORTATE G1/4"



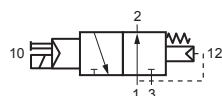
AIR FLOW DIAGRAM G1/2"
DIAGRAMMA DELLE PORTATE G1/2"



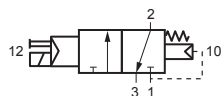
K32W1S.1.



SIMBOLS / SIMBOLI

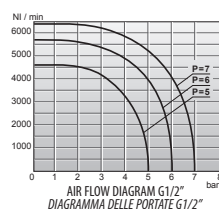
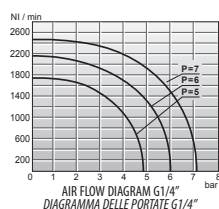
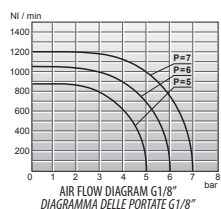


K32W1S918 - K32W1S914
K32W1S912



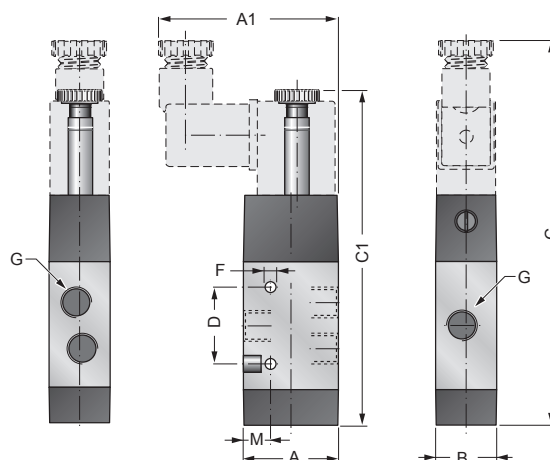
K32W1S618 - K32W1S614
K32W1S612

DIAGRAMS / DIAGRAMMI



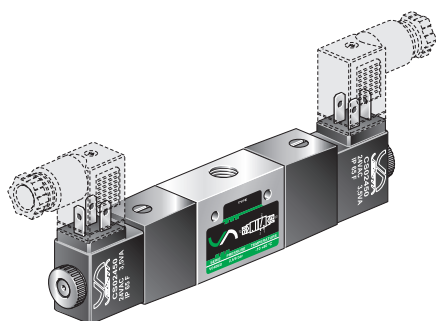
VALVE / 3/2

SINGLE SOLENOID PILOT - INTERNAL PRESSURE RETURN AND SPRING
COMANDO ELETTROPNEUMATICO - RIPOSIZIONAMENTO A MOLLA PNEUMATICA E MECCANICA

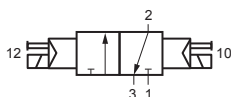


Size Taglia	A	A1	B	C	C1	D	ØF	G	ØI	M
1/8	28	~53	18	112,5	~99	22,2	3,2	G1/8	3,2	8
1/4	32	~55	22	121	~107,5	29,3	4,2	G1/4	3,5	7,3
1/2	50	~75	30	~150	~137	45,6	5,2	G1/2	-	11

K32W2S01.

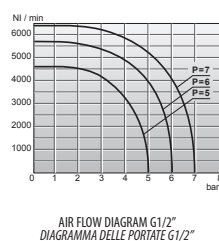
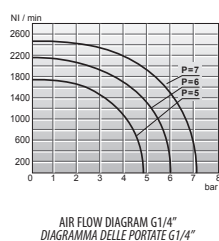
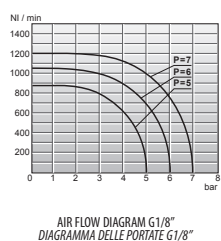


SIMBOLS / SIMBOLI



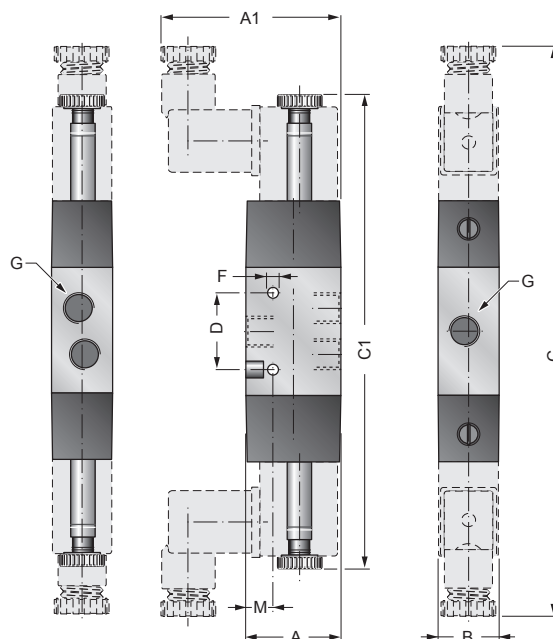
K32W2S018 - K32W2S014 - K32W2S012

DIAGRAMS / DIAGRAMMI



VALVE / VALVOLA 3/2

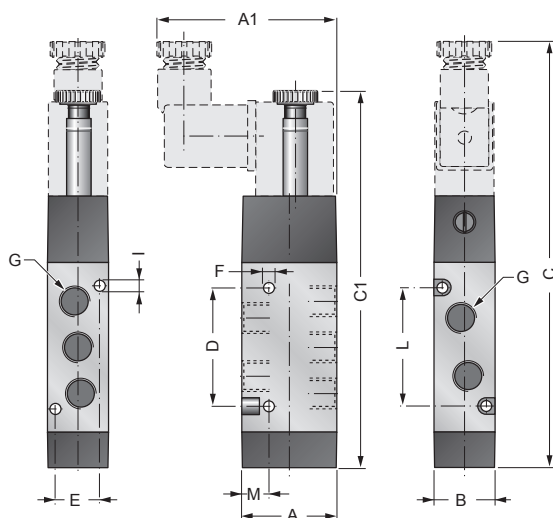
DOUBLE SOLENOID PILOT / DOPPIO COMANDO ELETTROPNEUMATICO



Size Taglia	A	A1	B	C	C1	D	ØF	G	ØI	M
1/8	28	~53	18	170	~143	22,2	3,2	G1/8	3,2	8
1/4	32	~55	22	181	~154	29,3	4,2	G1/4	3,5	7,3
1/2	50	~75	30	~210	~180	45,6	5,2	G1/2	-	11

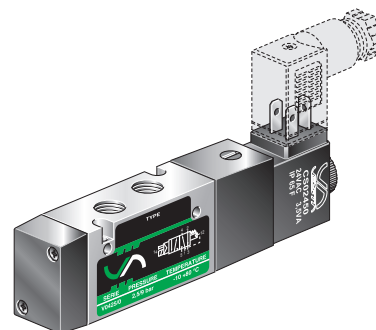
VALVE / VALVOLA 5/2

SINGLE SOLENOID PILOT - INTERNAL PRESSURE RETURN AND SPRING
COMANDO ELETTROPNEUMATICO - RIPOSIZIONAMENTO A MOLLA PNEUMATICA E MECCANICA

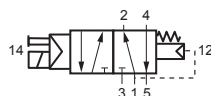


Size Taglia	A	A1	B	C	C1	D	E	ØF	G	ØI	L	M
1/8	28	~53	18	~125,5	112	35	13	3,2	G1/8	3,2	35	8
1/4	32	~55	22	~142,5	~129	50	16,2	4,2	G1/4	3,5	50	7,3
1/2	50	~75	30	~180	~166	74,6	-	5,2	G1/2	-	-	11

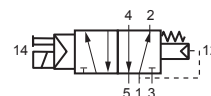
K52W101.



SIMBOLS / SIMBOLI

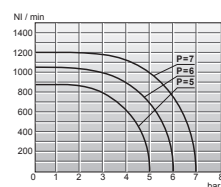


K52W1018

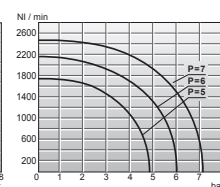


K52W1014 - K52W1012

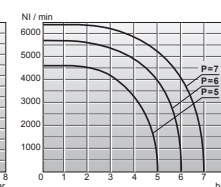
DIAGRAMS / DIAGRAMMI



AIR FLOW DIAGRAM G1/8"
DIAGRAMMA DELLE PORTATE G1/8"



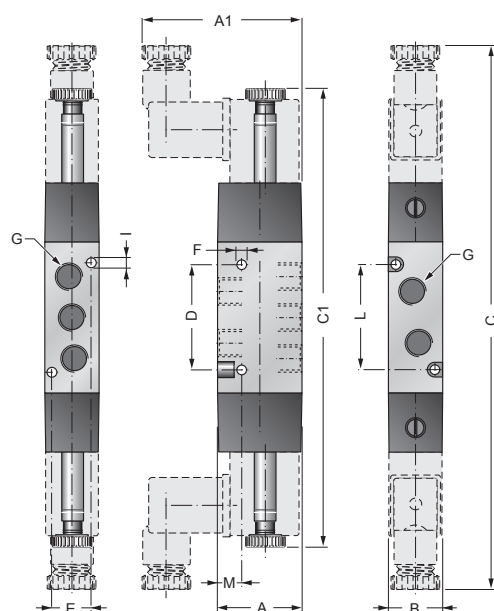
AIR FLOW DIAGRAM G1/4"
DIAGRAMMA DELLE PORTATE G1/4"



AIR FLOW DIAGRAM G1/2"
DIAGRAMMA DELLE PORTATE G1/2"

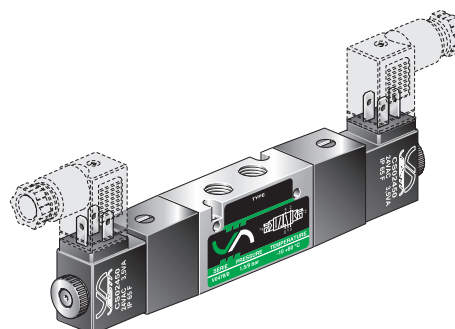
VALVE / 5/2

DOUBLE SOLENOID PILOT / DOPPIO COMANDO ELETTROPNEUMATICO

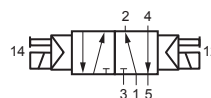


Size Taglia	A	A1	B	C	C1	D	E	ØF	G	ØI	L	M
1/8	28	~53	18	180	~152	35	13	3,2	G1/8	3,2	35	8
1/4	32	~55	22	202	~174	50	16,2	4,2	G1/4	3,5	50	7,3
1/2	50	~75	30	~240	~210	74,6	-	5,2	G1/2	-	-	11

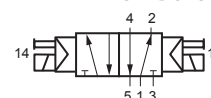
K52W201.



SIMBOLS / SIMBOLI

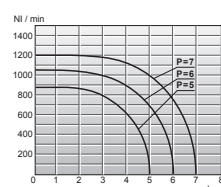


K52W2018

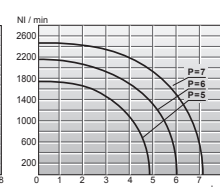


K52W2014 - K52W2012

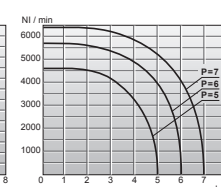
DIAGRAMS / DIAGRAMMI



AIR FLOW DIAGRAM G1/8"
DIAGRAMMA DELLE PORTATE G1/8"



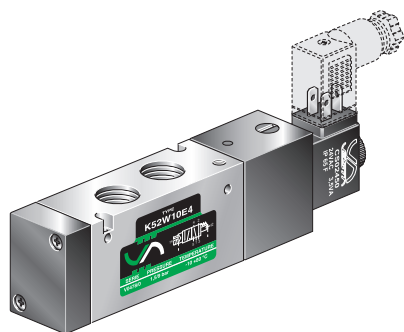
AIR FLOW DIAGRAM G1/4"
DIAGRAMMA DELLE PORTATE G1/4"



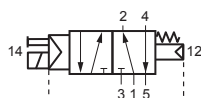
AIR FLOW DIAGRAM G1/2"
DIAGRAMMA DELLE PORTATE G1/2"



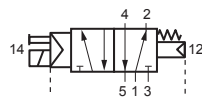
K52W10E.



SIMBOLS / SIMBOLI

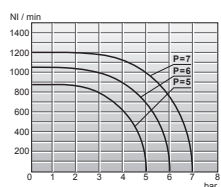


K52W10E8

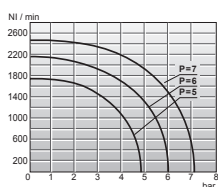


K52W10E4 - K52W10E2

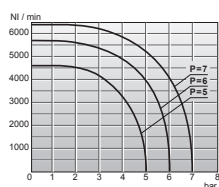
DIAGRAMS / DIAGRAMMI



AIR FLOW DIAGRAM G1/8"
DIAGRAMMA DELLE PORTATE G1/8"



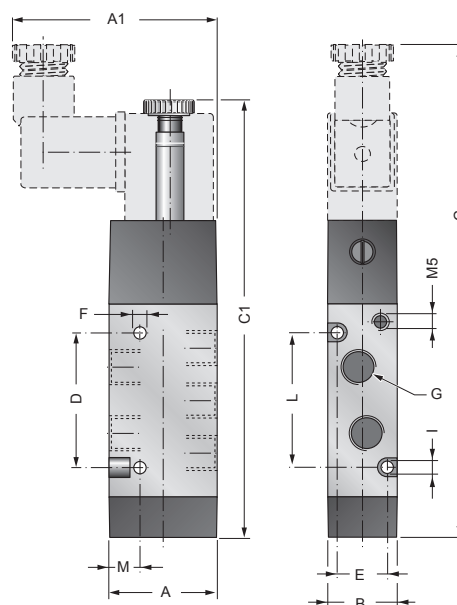
AIR FLOW DIAGRAM G1/4"
DIAGRAMMA DELLE PORTATE G1/4"



AIR FLOW DIAGRAM G1/2"
DIAGRAMMA DELLE PORTATE G1/2"

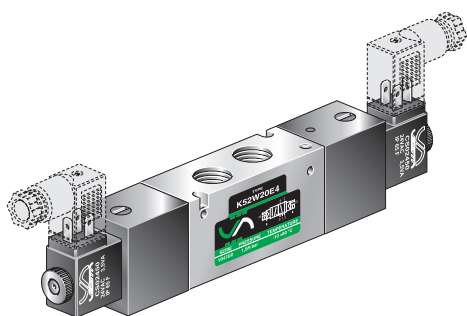
VALVE / 5/2

SINGLE SOLENOID PILOT - EXTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - PILOTAGGIO ESTERNO

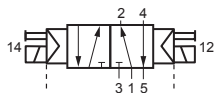


Size Taglia	A	B	C	D	E	ØF	G	ØI	L	M	A1	C1
1/8	28	18	127	35	13	3,2	G1/8	3,2	35	8	53	112
1/4	32	22	142,5	50	16,2	4,2	G1/4	3,5	50	7,3	55	129
1/2	50	30	~180	74,6	-	5,2	G1/2	-	-	11	~75	~166

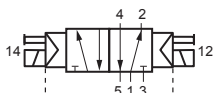
K52W20E.



SIMBOLS / SIMBOLI

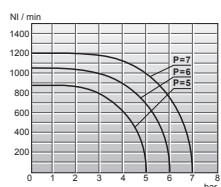


K52W20E8

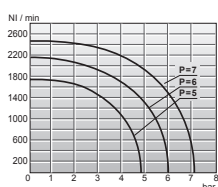


K52W20E4 - K52W20E2

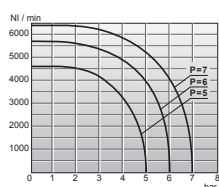
DIAGRAMS / DIAGRAMMI



AIR FLOW DIAGRAM G1/8"
DIAGRAMMA DELLE PORTATE G1/8"



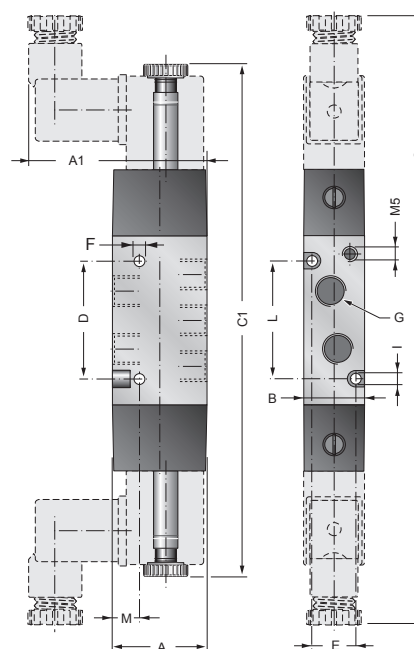
AIR FLOW DIAGRAM G1/4"
DIAGRAMMA DELLE PORTATE G1/4"



AIR FLOW DIAGRAM G1/2"
DIAGRAMMA DELLE PORTATE G1/2"

VALVE / VALVOLA 5/2

DOUBLE SOLENOID PILOT - EXTERNAL PRESSURE RETURN
DOPPIO COMANDO ELETTROPNEUMATICO - PILOTAGGIO ESTERNO



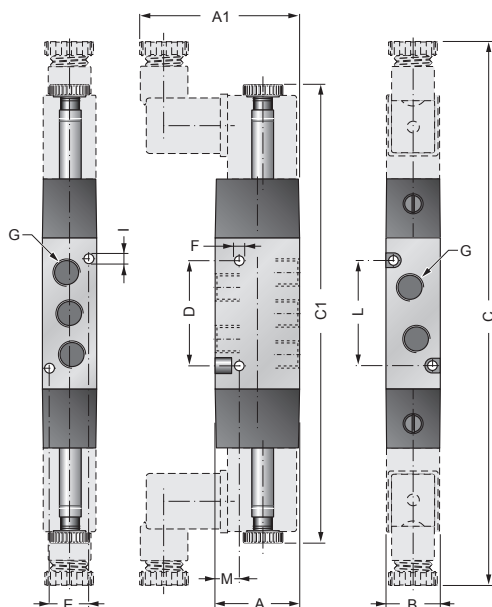
Size Taglia	A	B	C	D	E	ØF	G	ØI	L	M	A1	C1
1/8	28	18	180	35	13	3,2	G1/8	3,2	35	8	53	152
1/4	32	22	202	50	16,2	4,2	G1/4	3,5	50	7,3	55	174
1/2	50	30	~240	74,6	-	5,2	G1/2	-	-	11	~75	~210

VALVE / 5/3

DOUBLE PNEUMATIC PILOT (MID-POSITION PRESSURIZED) / DOPPIO COMANDO PNEUMATICO (CENTRI IN PRESSIONE)

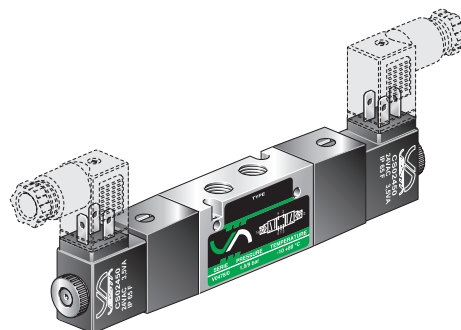
DOUBLE PNEUMATIC PILOT (MID-POSITION CLOSED) / DOPPIO COMANDO PNEUMATICO (CENTRI CHIUSI)

DOUBLE PNEUMATIC PILOT (MID-POSITION EXHAUSTED) / DOPPIO COMANDO PNEUMATICO (CENTRI APERTI)

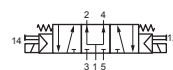


Size Taglia	A	A1	B	C	C1	D	E	ØF	G	ØI	L	M
1/8	28	~53	18	180	~152	35	13	3,2	G1/8	3,2	35	8
1/4	32	~55	22	202	~174	50	16,2	4,2	G1/4	3,5	50	7,3
1/2	50	~75	30	~240	~210	74,6	-	5,2	G1/2	-	-	11

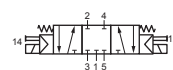
K53W2S.1.



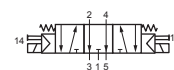
SIMBOLS / SIMBOLI



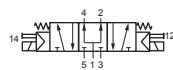
K53W2S318



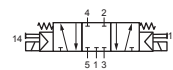
K53W2S618



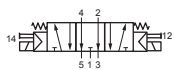
K53W2S918



K53W2S314
K53W2S312

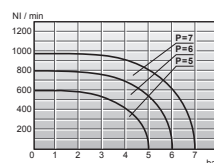


K53W2S614
K53W2S612

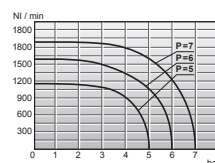


K53W2S914
K53W2S912

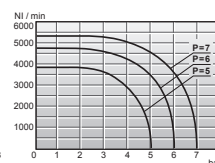
DIAGRAMS / DIAGRAMMI



AIR FLOW DIAGRAM G1/8"
DIAGRAMMA DELLE PORTATE G1/8"



AIR FLOW DIAGRAM G1/4"
DIAGRAMMA DELLE PORTATE G1/4"

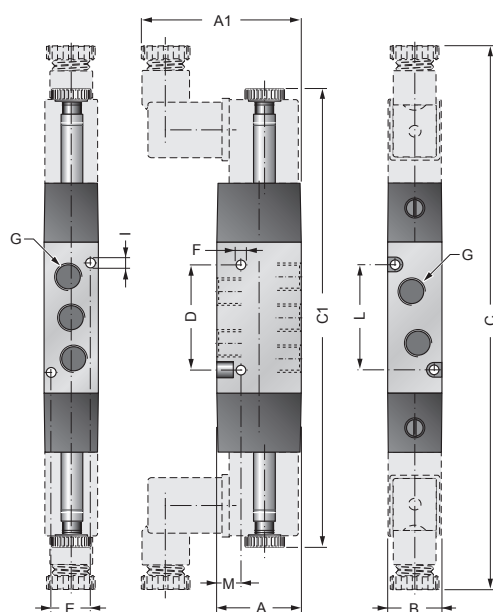


AIR FLOW DIAGRAM G1/2"
DIAGRAMMA DELLE PORTATE G1/2"

DOUBLE 3/2 VALVE / DOPPIA 3/2

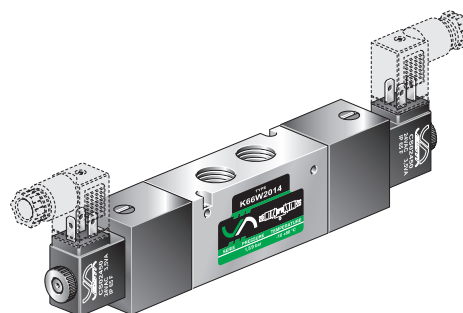
DUBLE 3/2 N.C. SPRING RETURN VALVE

DOPPIA VALVOLA 3/2 N.C. RITORNO A MOLLA MECCANICA

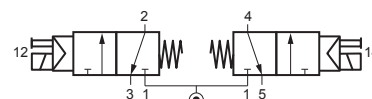


Size Taglia	A	A1	B	C	C1	D	E	ØF	G	ØI	L	M
1/8	28	~53	18	180	~152	35	13	3,2	G1/8	3,2	35	8
1/4	32	~55	22	202	~174	50	16,2	4,2	G1/4	3,5	50	7,3

K66W201.

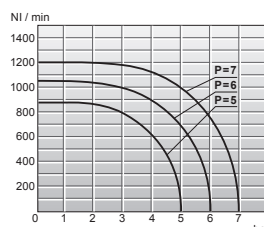


SIMBOLS / SIMBOLI

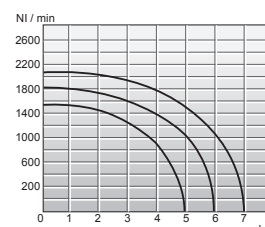


K66W2018 - K66W2014

DIAGRAMS / DIAGRAMMI



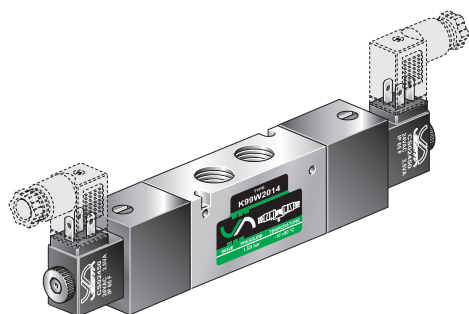
AIR FLOW DIAGRAM G1/8"
DIAGRAMMA DELLE PORTATE G1/8"



AIR FLOW DIAGRAM G1/4"
DIAGRAMMA DELLE PORTATE G1/4"



K99W201.

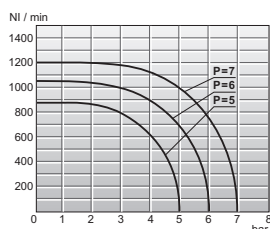


SIMBOLS / SIMBOLI

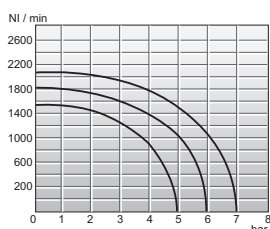


K99W2018 - K99W2014

DIAGRAMS / DIAGRAMMI



AIR FLOW DIAGRAM G1/8"
DIAGRAMMA DELLE PORTATE G1/8"

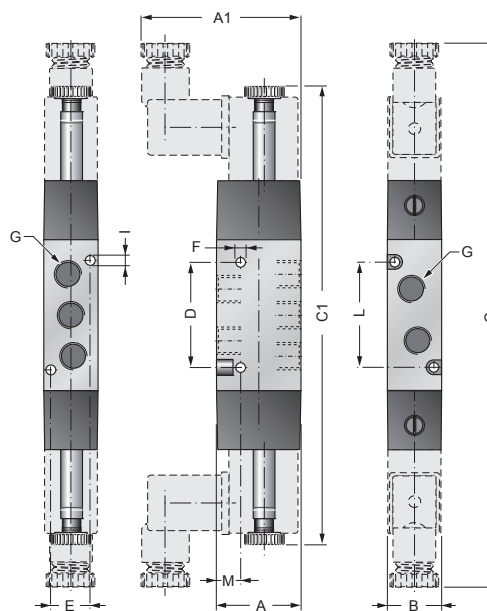


AIR FLOW DIAGRAM G1/4"
DIAGRAMMA DELLE PORTATE G1/4"

DOUBLE 3/2 VALVE / DOPPIA VALVOLA 3/2

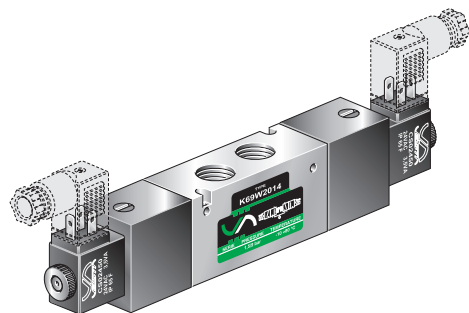
DUBLE 3/2 N.O. SPRING RETURN VALVE

DOPPIA VALVOLA 3/2 N.O. RITORNO A MOLLA MECCANICA



Size Taglia	A	A1	B	C	C1	D	E	ØF	G	ØI	L	M
1/8	28	~53	18	180	~152	35	13	3,2	G1/8	3,2	35	8
1/4	32	~55	22	202	~174	50	16,2	4,2	G1/4	3,5	50	7,3

K69W201.

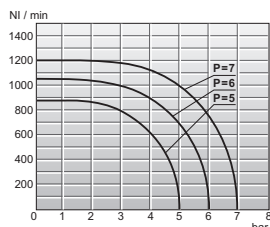


SIMBOLS / SIMBOLI

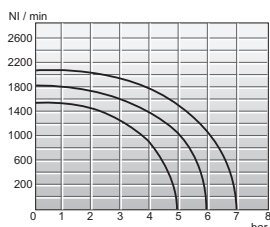


K69W2018 - K69W2014

DIAGRAMS / DIAGRAMMI



AIR FLOW DIAGRAM G1/8"
DIAGRAMMA DELLE PORTATE G1/8"

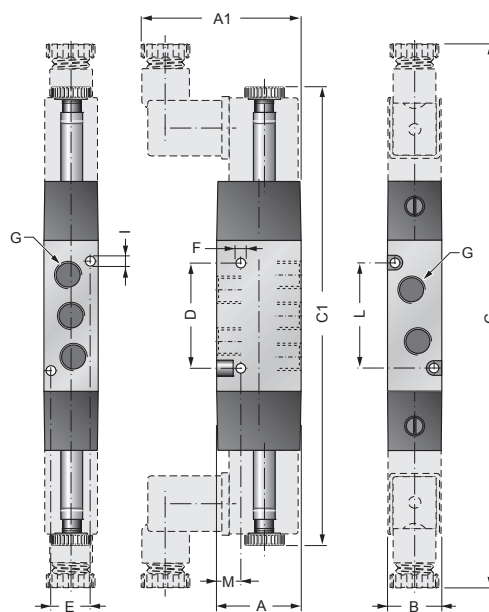


AIR FLOW DIAGRAM G1/4"
DIAGRAMMA DELLE PORTATE G1/4"

DOUBLE 3/2 VALVE / DOPPIA VALVOLA 3/2

3/2 N.C. + 3/2 N.O. VALVES SPRING RETURN

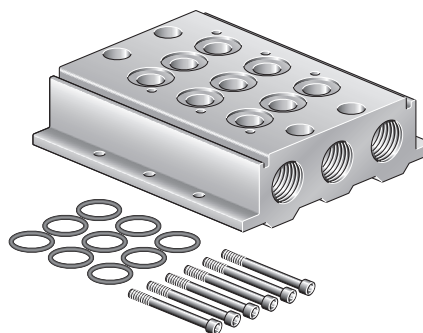
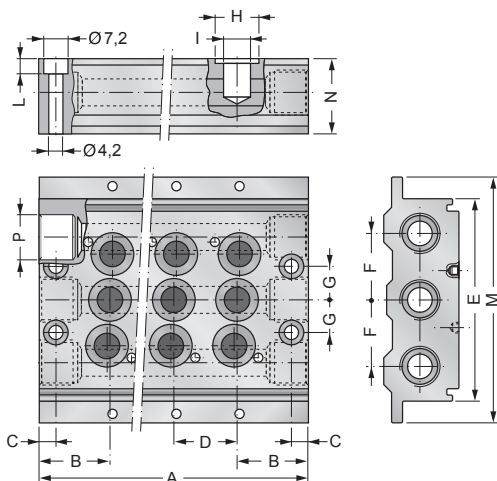
VALVOLA 3/2 N.C. + VALVOLA 3/2 N.O. RITORNO A MOLLA MECCANICA



Size Taglia	A	A1	B	C	C1	D	E	ØF	G	ØI	L	M
1/8	28	~53	18	180	~152	35	13	3,2	G1/8	3,2	35	8
1/4	32	~55	22	202	~174	50	16,2	4,2	G1/4	3,5	50	7,3

MANIFOLD
BASE A DOPPIO INGRESSO

KME ...



Size Taglia	B	C	D	E	F	G	ØH	ØI	L	M	N	P
1/8	21	5	19	60	19	10	13	8	4,5	74,5	26	G1/4
1/4	25	6,5	23	70	23	11,5	15,9	10	5	85	26	G3/8

CODES / CODICI

Code Codice	A	Place Posti
KME218	61	2
KME318	80	3
KME418	99	4
KME518	118	5
KME618	137	6
KME718	156	7
KME818	175	8
KME918	194	9
KME1018	213	10
KME1218	251	12
KME1418	289	14
KME1618	327	16
KME214	73	2
KME314	96	3
KME414	119	4
KME514	142	5
KME614	165	6
KME714	188	7
KME814	211	8
KME914	234	9
KME1014	257	10
KME1214	303	12
KME1414	349	14
KME1614	395	16

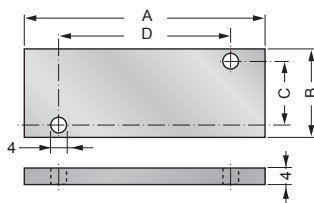
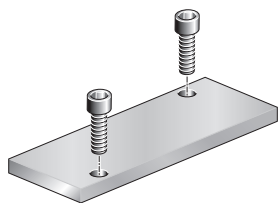
- Available upon request manifold up to 20 places.
- Valves fixing screws and seals are supplied with manifold.
- Subbase fixing screws not supplied.
- Manifold supplied assembled on demand.
- A richiesta sono fornibili basi sino a 20 posti
- Le viti e le guarnizioni per il fissaggio delle valvole vengono fornite con la base.
- Il fissaggio alla base è a cura del cliente.
- A richiesta, la base può essere fornita preassemblata.



COILS SOLENOID VALVES AND ACCESSORIES - SOLENOIDI PER ELETTROVALVOLE ED ACCESSORI

KPCH01.

PLUG FLAT
CHIUSURA POSTO INUTILIZZATO



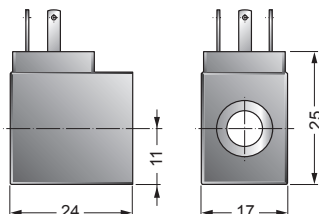
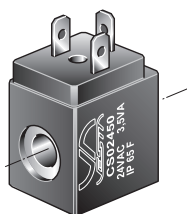
Plug flat includes assembling screws.

La piastrina di chiusura dei posti non utilizzati della base è fornita con le relative viti di fissaggio.

Size Taglia	A	B	C	D	Code Codice
1/8	49	18	13	35,5	KPCH018
1/4	60	22	16,2	50	KPCH014

CS.....

COILS
SOLENOIDI PER ELETTROVALVOLE



CODES / CODICI

Code ordination Codice ordinazione	Voltage Tensione
CS01200	12 V DC
CS02400	24 V DC
CS02450	24 V 50/60Hz AC
CS11550 (*)	115 V 50/60Hz AC
CS23050 (*)	230 V 50/60Hz AC

(*) Please see page / Vedi pag. B-37

TECHNICAL FEATURES

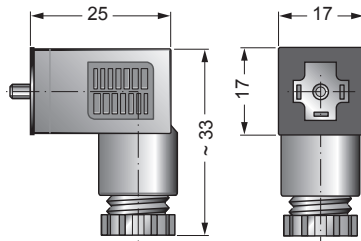
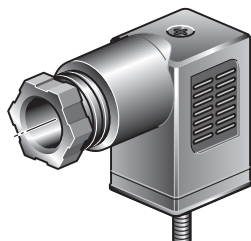
Standard tensions	12, 24, V DC 24, 115, 230 V AC (50/60 Hz)
Other tensions	Contact our commercial department
Duty cycle	100% (continuous)
Power at 20 °C	2,5 Watt DC; 3,6 VA AC
Nominal tension	± 10% during normal working
Operating temperature range	-20 °C ÷ +50 °C
Degree of protection	Fixed plug IP 65 (IEC 144) with connector
Insulation	Class F
Materials	Wire class H - coil moulding glass filled nylon

CARATTERISTICHE TECNICHE

Tensioni standard	12, 24, V DC 24, 115, 230 V AC (50/60 Hz)
Altre tensioni	Interpellare il ns. servizio tecnico commerciale
Funzionamento	100% ED alla potenza ed alla temperatura ambiente indicata
Potenza assorbita a 20 °C	2,5 Watt in DC; 3,6 VA in AC
Tensione nominale	± 10% a bobina calda
Limiti di temperatura ambiente	-20 °C ÷ +50 °C
Protezione	IP 65 secondo IEC 144 con connettore
Bobina	Bobina completa classe F
Materiali	Rivestimento nylon caricato vetro filo di rame classe H

CEP/ 0.....

SOLENOID CONNECTORS
CONNETTORI



CODES / CODICI

Description Descrizione	Code Codice	Voltage Tensione
Universal connector Connettore universale	CEP/0	All tension Tutte le tensioni
Connector with led Connettore con led	CEP/0 L 10 / 50 CEP/0 L 70 / 250	10/50 V AC / DC 70/250 V AC / DC
Connector with led and varistor Connettore con led e varistore	CEP/0 LV 24 CEP/0 LV 110 CEP/0 LV 220	24 V AC / DC 115 V AC / DC 230 V AC / DC

TECHNICAL FEATURES

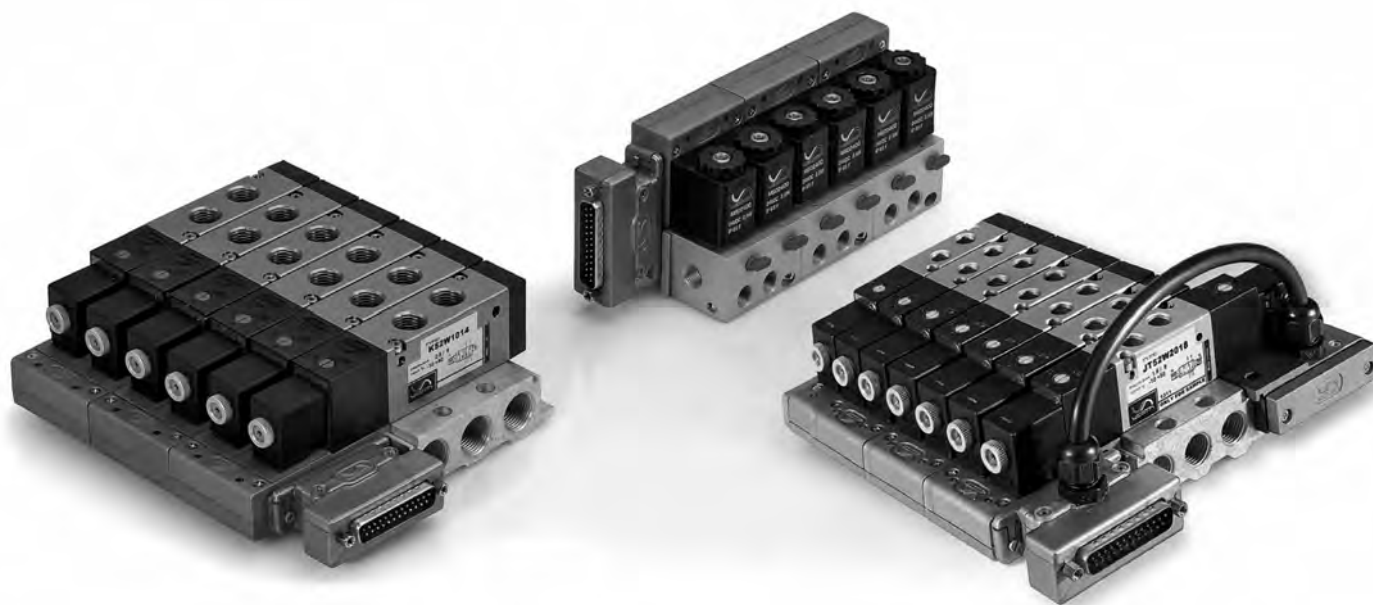
Wire connection	With screwed terminals
Gland thread	PG 7
Number of poles	2 Poles + earth
Housing colour	Black, transparent in the led version.

CARATTERISTICHE TECNICHE

Connessione cavi	Con morsetti a vite
Filettatura passacavo	PG 7
N° Poli	2 Poli + terra
Colori connettore	Nero, trasparente nelle versioni con led.

VERSATILE MULTIPOLE CONNECTION CONNESSIONE MULTIPOLARE VERSATILE

MPV



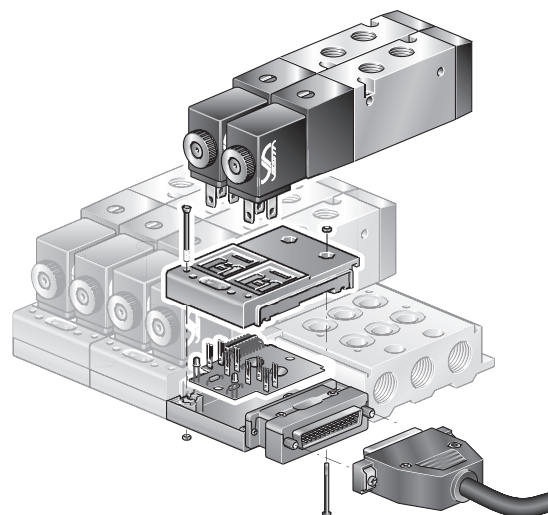
With **Vesta MPV** System, offering integrated electrical connections, it is possible to connect different versions of manifold valves.

Connection Modules are designed for 2 coil connections or for single odd coil connection and they are available in two different sizes: size T1 and size T2.

With size T1 it is possible to assemble manifolds of K or JT 1/8 valves and direct actuated valves MPB Ø4;
With size T2 it is possible to assemble manifolds of K or JT 1/4 valves and direct actuated valves MPB G1/8.

The **MPV** system is available with solenoid valves K or JT 1/8 and K or JT 1/4 series in all versions 5/2, 5/3 and 2x3/2 functions.

The **Vesta MPV** system is compact, versatile, easy to assemble and can operate up to 24 solenoids. It is available with 24V DC or 24 V AC voltage solenoids with led and varistor protection as standard.



*Il sistema **Vesta MPV** di connessione elettrica integrata consente di collegare isole di valvole di taglia e tipologia differenti.*

I moduli di collegamento elettrico sono disponibili a 2 collegamenti per solenoidi-valvola o per singolo collegamento solenoide-valvola e sono fornibili in due taglie differenti: la taglia T1 e la taglia T2.

La taglia T1 collega valvole K-JT 1/8 in batteria e valvole ad azionamento diretto della serie MPB Ø4;

La taglia T2 collega valvole K-JT 1/4 in batteria e valvole ad azionamento diretto della serie MPB G1/8.

*Il sistema **MPV** supporta tutte le versioni di elettrovalvole 5/2, 5/3 e 2x3/2 della serie K-JT 1/8 e K-JT 1/4.*

La soluzione compatta, robusta e facile da assemblare consente di controllare fino a 24 solenoidi.

La tensione dei solenoidi è di 24V DC o AC, ogni output è dotato di Led di presenza segnale e varistore di protezione alle sovratensioni.



MPV T1

ELECTRICAL CONNECTION MODULE SIZE T1 MODULO DI COLLEGAMENTO ELETTRICO TAGLIA T1

MODULE FOR ASSEMBLING
OF FOLLOWING MANIFOLD:

MODULO PER ASSEMBLARE
LE SEGUENTI BATTERIE:

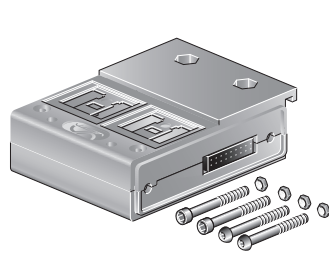
MPK-18

K1/8-JT1/8 SOLENOID VALVES
ELETTROVALVOLE K1/8 JT 1/8

MPB-4

DIRECT ACTUATED
VALVES 3/2 TUBE Ø 4

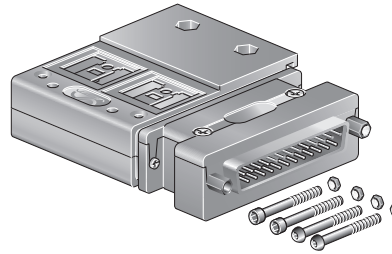
ELETTROVALVOLE A COMANDO
DIRETTO 3/2 TUBO Ø 4



Connection for 2 valve stations
Connessione per 2 valvole

MPV T1 - S

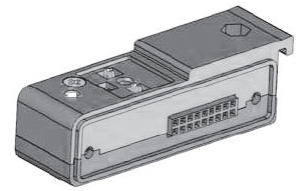
- S** To use with cable MPW-SD25
Position N°0÷16
Per cavo MPW-SD25
Posizione N°0÷16
- D** To use with cable MPW-SD25
Position N°18÷25
Per cavo MPW-SD25
Posizione N°18÷25



FRONT connection for 2 valve stations
Connessione FRONTALE per 2 valvole

MPV T1 - S SBD25

- To use with cable MPW-SD25
Position N°0÷16
Per cavo MPW-SD25
Posizione N°0÷16



Single connection module for last odd position
Modulo di connessione finale per posizione dispari

MPV T1 - SL

- SL** For single solenoid valve
Per valvole a singolo solenoide
- DL** For double solenoid valve
Per valvole a doppio solenoide

MANIFOLD OF DIRECT ACTUATED VALVES 3/2 NC TUBE Ø4mm IN MULTIPOLE CONNECTION SYSTEM BATTERIA MULTIPOLARE DI ELETTROVALVOLE A COMANDO DIRETTO 3/2 NC TUBO Ø4mm

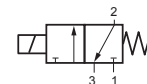
MPB-4- - -

Number of station valves
Numero posti
2, 4, 6, ..., 16

CS Solenoid (refer to page B-52)
Solenoide CS (vedere pag. B-52)
24V dc: **00**
24V ac: **50**

- S** To use with cable MPW-SD25
Position N°0÷16
Per cavo MPW-SD25
Posizione N°0÷16

SIMBOL / SIMBOLO

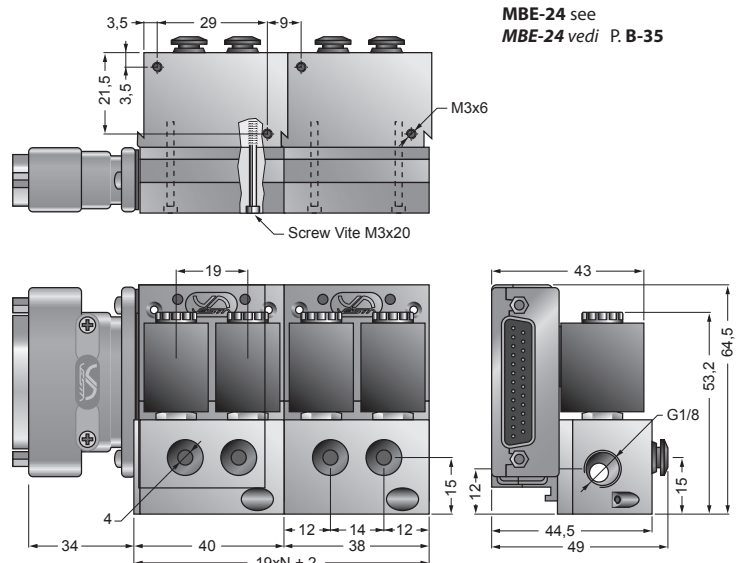
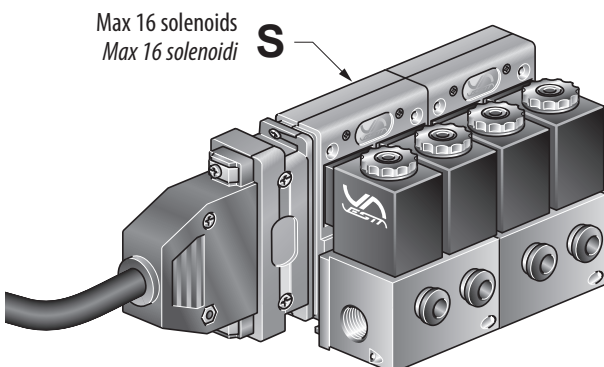


TECHNICAL FEATURES

Flow section	Ø1mm
Nominal Flow	50NI/min
Working pressure	0-9bar
Environment temperature range	-10 °C ÷ +50 °C
Temperature range of medium	0 °C ÷ +40 °C
Solenoids	Refer to CS series page B-52

CARATTERISTICHE TECNICHE

Diametro nominale	Ø1mm
Portata nominale	50NI/min
Pressione esercizio	0-9bar
Temperatura ambiente	-10 °C ÷ +50 °C
Temperatura fluido	0 °C ÷ +40 °C
Solenoide	Vedere CS pag. B-52



MBE-24 see
MBE-24 vedi P. B-35

MANIFOLD OF K1/8 VALVES IN MULTIPOLE CONNECTION SYSTEM BATTERIA MULTIPOLARE DI VALVOLE K1/8

MP ☐ -18- ☐ ☐ - ☐ ☐ - ☐ ☐ - ☐ ☐ - ☐ ☐ - ☐ ☐ - ☐ ☐ ☐ - ☐ ☐

Valve series K
Valvole serie K

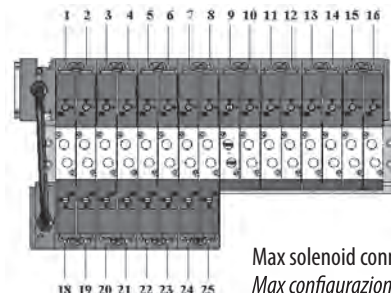
K

Valve series JT
Valvole serie JT

T

- B** 5/2 ways double solenoid valve (K52W2018)
5/2 bistabile (K52W2018)
- C** 5/3 ways mid position closed (K53W2S618)
5/3 centri chiusi (K53W2S618)
- D** 2x3/2 NC or 5/3 mid position open (K66W2018 o K53W2S918)
2x3/2 NC o 5/3 centri aperti (K66W2018 o K53W2S918)
- E** 2x3/2 NO or 5/3 mid position pressurized (K99W2018 o K53W2S318)
2x3/2 NO o 5/3 centri in pressione (K99W2018 o K53W2S318)
- F** 3/2NC + 3/2NO (K96W2018)
3/2NC + 3/2NO (K96W2018)
- M** 5/2 ways single solenoid valve (K52W1018)
5/2 monostabile (K52W1018)
- V** free place for single solenoid valve
posto vuoto singolo solenoide
- W** free place for double solenoid valve
posto vuoto doppio solenoide

CS Solenoid (refer to page B-52)
Solenoide CS (vedere pag. B-52)
00 24V dc
50 24V ac



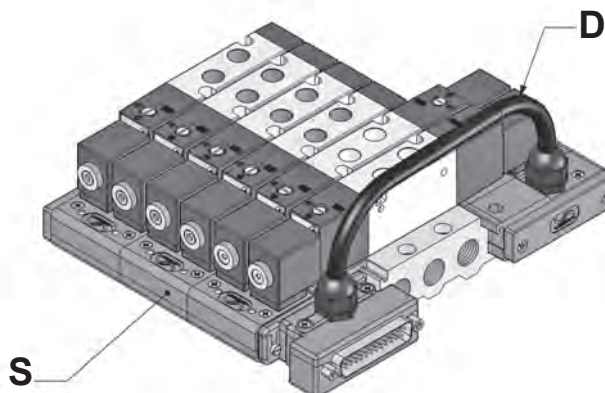
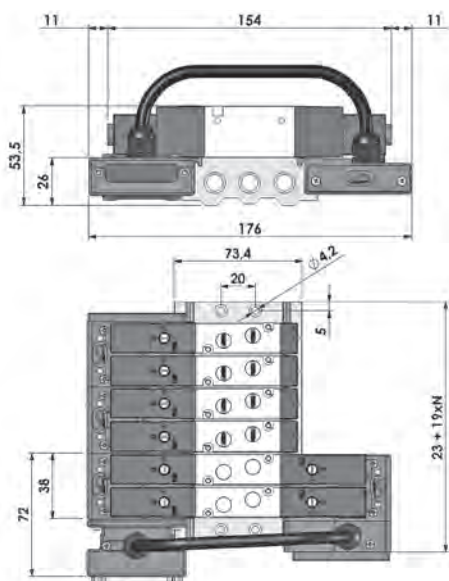
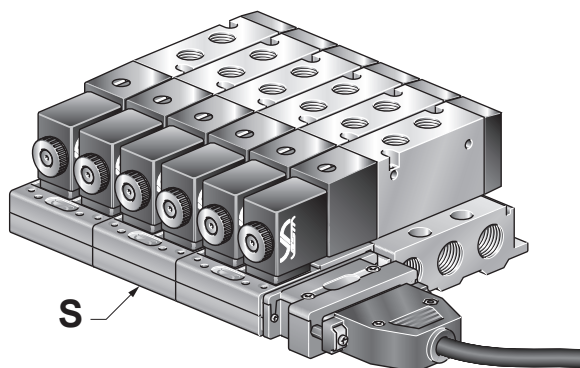
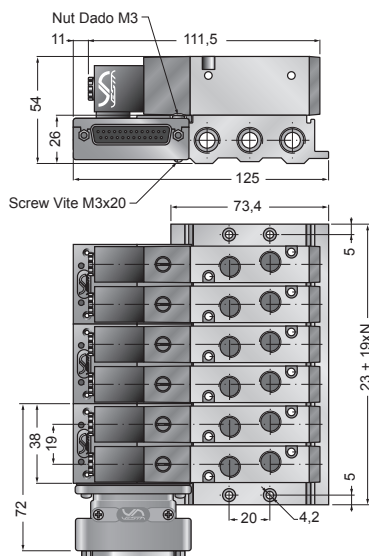
Max solenoid connections
Max configurazione valvole

TECHNICAL FEATURES

Working pressure	0-9bar
Environment temperature range	-10 °C ÷ +50 °C
Temperature range of medium	0 °C ÷ +40 °C
Valves	Refer to K1/8 series page B-42
Air flow	730NI/min

CARATTERISTICHE TECNICHE

Pressione esercizio	0-9bar
Temperatura ambiente	-10 °C ÷ +50 °C
Temperatura fluido	0 °C ÷ +40 °C
Valvole	Vedere K1/8 pag. B-42
Portata	730NI/min





MPV T2

ELECTRICAL CONNECTION MODULE SIZE T2 MODULO DI COLLEGAMENTO ELETTRICO TAGLIA T2

MODULE FOR ASSEMBLING OF
FOLLOWING MANIFOLD:

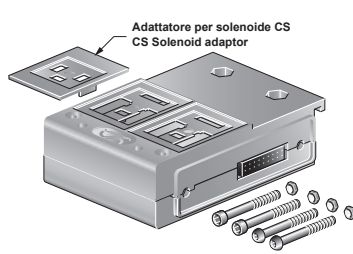
MODULO PER ASSEMBLARE
LE SEGUENTI BATTERIE:

MPK-14

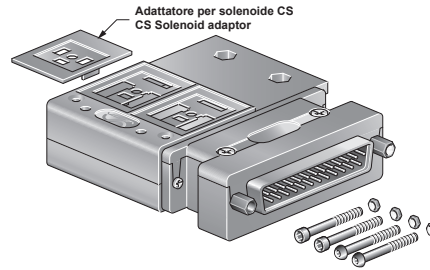
K1/4-JT/14 SOLENOID VALVES
ELETTROVALVOLE K1/4 - JT 1/4

MPB-8

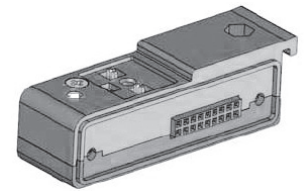
DIRECT ACTUATED
VALVES 3/2G1/8
ELETTROVALVOLE A
COMANDO DIRETTO 3/2 G1/8



Connection for 2 valve stations
Connessione per 2 valvole



FRONT connection for 2 valve stations
Connessione FRONTALE per 2 valvole



Single connection module for last odd position
Modulo di connessione finale per posizione dispari

MPV T2 - □

- S** To use with cable MPW-SD25
Position N°0÷16
Per cavo MPW-SD25
Posizione N°0÷16
- D** To use with cable MPW-SD25
Position N°18÷25
Per cavo MPW-SD25
Posizione N°18÷25

MPV T2 -S SBD25

- S** To use with cable MPW-SD25
Position N°0÷16
Per cavo MPW-SD25
Posizione N°0÷16

MPV T2 - □

- SL** For singlesolenoid valve
Per valvole a singolo solenoide
- DL** For doublesolenoid valve
Per valvole a doppio solenoide

MANIFOLD OF DIRECT ACTUATED VALVES 3/2 NC - G1/8 IN MULTIPOLE CONNECTION SYSTEM BATTERIA MULTIPOLARE DI ELETTROVALVOLE A COMANDO DIRETTO 3/2 NC G1/8

MPB-8-□-□-□-□-□

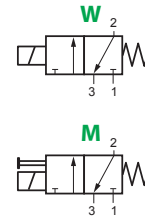
Number of station valves
Numero posti
2, 4, 6, ..., 16

With override **M**
Manuale
Without override **W**
Senza manuale

MS Solenoid (refer to page B-36)
Solenoide MS (vedere pag. B-36)
24V dc: **00**
24V ac: **50**

- S** To use with cable MPW-SD 25
Position N°0÷16
Per cavo MPW-SD 25
Posizione N°0÷16

SIMBOLS / SIMBOLI



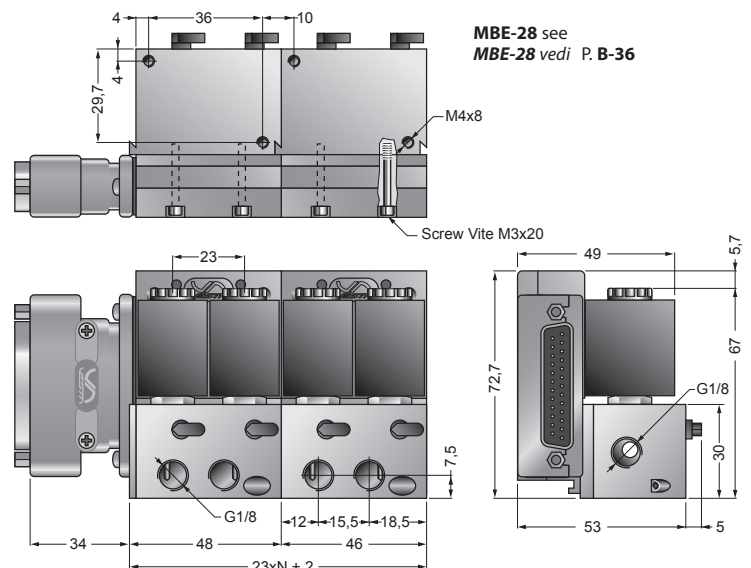
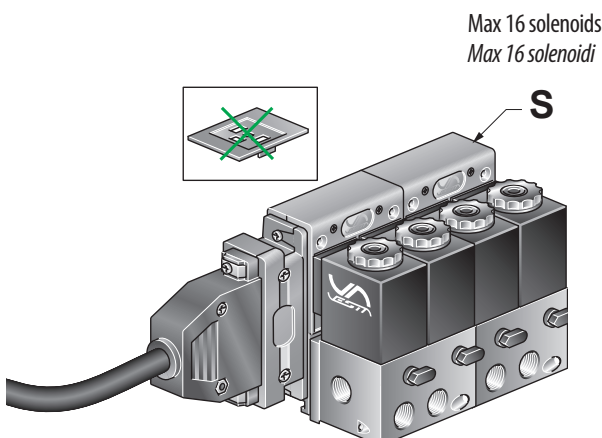
(*) Available upon request N.O. solenoid operator max 6 bar
Disponibile anche operatore N.A. su richiesta, max 6 bar

TECHNICAL FEATURES

Flow section	Ø1,2mm
Nominal Flow	80NI/min
Working pressure	0-9bar
Environment temperature range	-10 °C ÷ +50 °C
Temperature range of medium	0 °C ÷ +40 °C
Solenoids	Refer to MS series page B-36

CARATTERISTICHE TECNICHE

Diametro nominale	Ø1,2mm
Portata nominale	80NI/min
Pressione esercizio	0-9bar
Temperatura ambiente	-10 °C ÷ +50 °C
Temperatura fluido	0 °C ÷ +40 °C
Solenoidi	Vedere MS pag. B-36



MANIFOLD OF K1/4 VALVES IN MULTIPOLE CONNECTION SYSTEM BATTERIA MULTIPOLARE DI VALVOLE K1/4

MP ☐ -14- ☐ ☐ - ☐ ☐ - ☐ ☐ - ☐ ☐ - ☐ ☐ - ☐ ☐ - ☐ ☐ - ☐ ☐

Valve series K
Valvole serie K

K

Valve series JT
Valvole serie JT

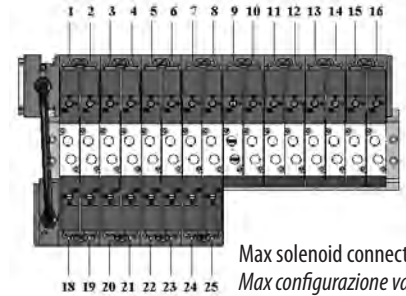
T

- B** 5/2 ways double solenoid valve (K52W2014)
5/2 bistabile (K52W2014)
- C** 5/3 ways mid position closed (K53W2S614)
5/3 centri chiusi (K53W2S614)
- D** 2x3/2 NC o 5/3 mid position open (K66W2014 o K53W2S914)
2x3/2 NC o 5/3 centri aperti (K66W2014 o K53W2S914)
- E** 2x3/2 NO o 5/3 mid position pressurized (K99W2014 o K53W2S314)
2x3/2 NO o 5/3 centri in pressione (K99W2014 o K53W2S314)
- F** 3/2NC + 3/2NO (K96W2014)
3/2NC + 3/2NO (K96W2014)
- M** 5/2 ways single solenoid valve (K52W1014)
5/2 monostabile (K52W1014)
- V** free place for single solenoid valve
posto vuoto singolo solenoide
- W** free place for double solenoid valve
posto vuoto doppio solenoide

CS Solenoid (refer to page B-52)
Solenoide CS (vedere pag. B-52)

00 24V dc

50 24V ac



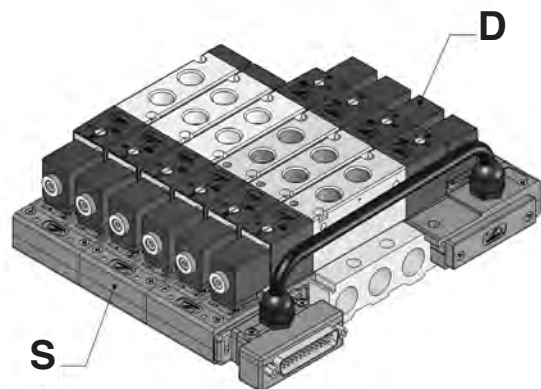
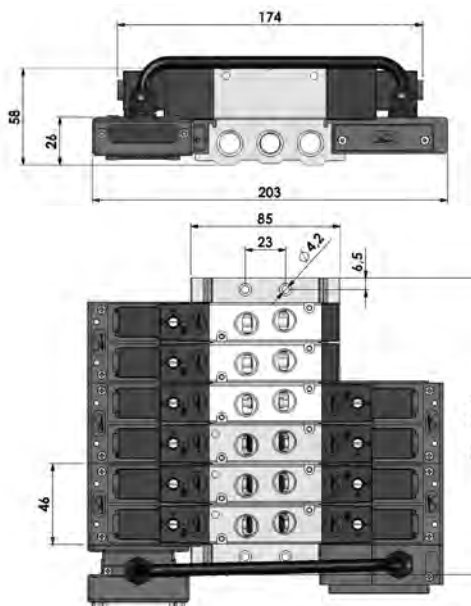
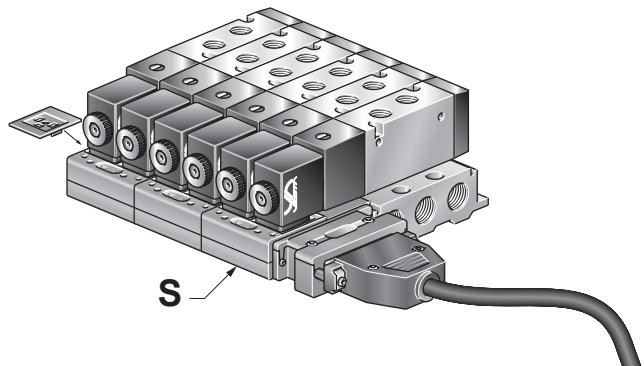
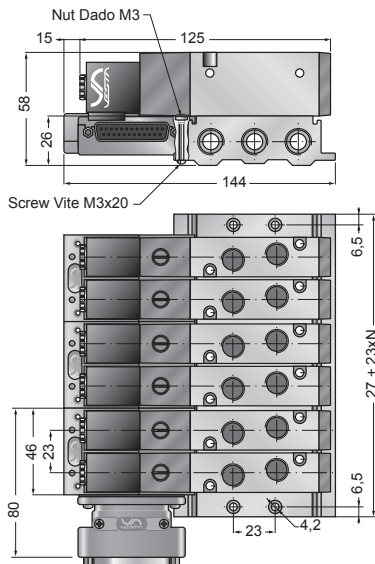
Max solenoid connections
Max configurazione valvole

TECHNICAL FEATURES

Working pressure	0-9bar
Environment temperature range	-10 °C ÷ +50 °C
Temperature range of medium	0 °C ÷ +40 °C
Valves	Refer to K1/4 series page B-42
Air flow	1300NI/min

CARATTERISTICHE TECNICHE

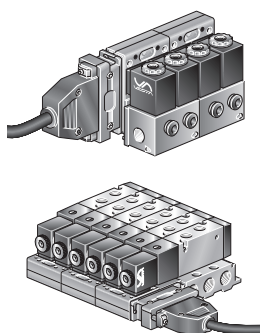
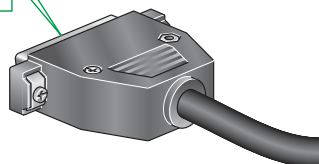
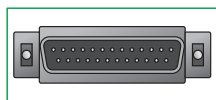
Pressione esercizio	0-9bar
Temperatura ambiente	-10 °C ÷ +50 °C
Temperatura fluido	0 °C ÷ +40 °C
Valvole	Vedere K1/4 pag. B-42
Portata	1300NI/min





MPW-SD25...

CABLE FOR CONNECTION
CAVO DI CONNESSIONE



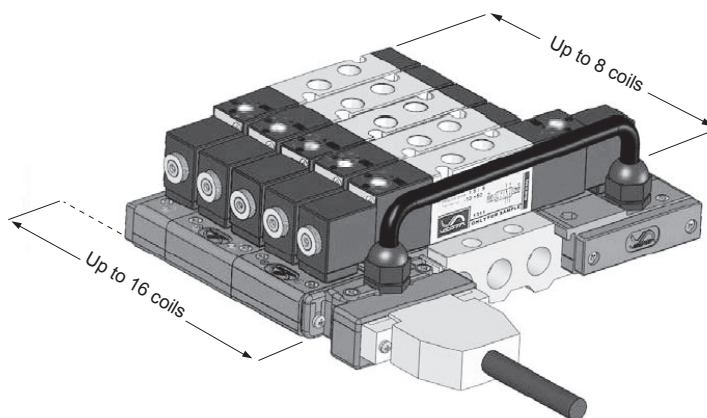
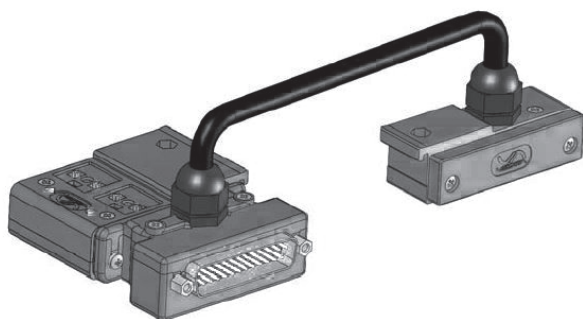
Cable lenght
Lunghezza cavo

025 - 2500 mm
050 - 5000 mm

MPV T □ - BK

INITIAL COMMON CONNECTION KIT FOR DOUBLE SOLENOID VALVES
KIT DI CONNESSIONE INIZIALE PER BATTERIE DI VALVOLE A DOPPIO SOLENOIDE

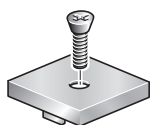
- 1 For valve G1/8
Per valvole da G1/8
- 2 For valve G1/4
Per valvole da G 1/4



ACCESSORIES / ACCESSORI

MPS

Plug for missing solenoid
Chiusura per solenoide mancante

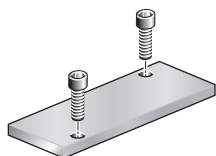


MPFP

End plug
Terminale di chiusura



KPCH01 .



Features see:
Caratteristiche vedi: **Pag. B-52**

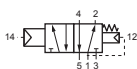
KME ...



Features see:
Caratteristiche vedi: **Pag. B-51**

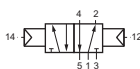
INDEX / INDICE

MINI VALVES AND MINI SOLENOID VALVES ISO 18 SERIES / MINI VALVOLE E MINI ELETTROVALVOLE SERIE ISO 18



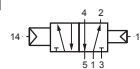
SVP18 52 100

SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN
COMANDO PNEUMATICO - RIPOSIZIONAMENTO MOLLA PNEUMATICA



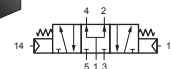
SVP18 52 200

DOUBLE PNEUMATIC PILOT
DOPPIO COMANDO PNEUMATICO



SVP18 52 2D0

DOUBLE DIFFERENTIAL PNEUMATIC PILOT
DOPPIO COMANDO PNEUMATICO DIFFERENZIALE



SVP18 53 230

DOUBLE PNEUMATIC PILOT (CENTRE POSITION IN PRESSURE)
DOPPIO COMANDO PNEUMATICO (CENTRI IN PRESSIONE)

pag. B-62

pag. B-63



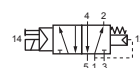
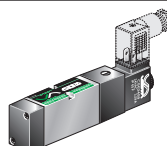
SVP18 53 260

DOUBLE PNEUMATIC PILOT (CENTRE POSITION CLOSED)
DOPPIO COMANDO PNEUMATICO (CENTRI CHIUSI)



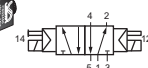
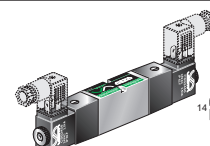
SVP18 53 290

DOUBLE PNEUMATIC PILOT (CENTRE POSITION OPEN)
DOPPIO COMANDO PNEUMATICO (CENTRI APERTI)



SVE18 52 100 -

SINGLE SOLENOID PILOT - INTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - RIPOSIZIONAMENTO MOLLA PNEUMATICA

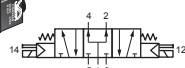
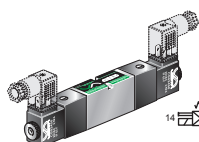


SVE18 52 200 -

DOUBLE SOLENOID PILOT
DOPPIO COMANDO ELETTROPNEUMATICO

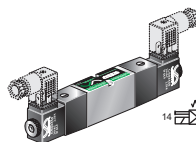
pag. B-63

pag. B-64



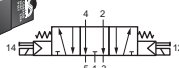
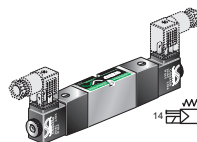
SVE18 53 230 -

DOUBLE SOLENOID PILOT (CENTRE POSITION IN PRESSURE)
DOPPIO COMANDO ELETTROPNEUMATICO (CENTRI IN PRESSIONE)



SVE18 53 260 -

DOUBLE SOLENOID PILOT (CENTRE POSITION CLOSED)
DOPPIO COMANDO ELETTROPNEUMATICO (CENTRI CHIUSI)



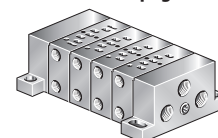
SVE18 53 290 -

DOUBLE SOLENOID PILOT (CENTRE POSITION OPEN)
DOPPIO COMANDO ELETTROPNEUMATICO (CENTRI APERTI)

pag. B-65

pag. B-66

BTC 18
BMI 18 E
BMI 18 EP
BTI 18
PCBM 18



ISO-VDMA 24563 MODULAR MANIFOLD SIZE 18 mm
BASI MODULARI ISO-VDMA TAGLIA 18 mm



BUILDING FEATURES ISO 24563 / CARATTERISTICHE COSTRUTTIVE VALVOLE ISO 24563

Series **SV . 18** valves and solenoid valves are built in compact dimensions for very flexible and small manifolds.

The solenoid valves, complete with coil and connector, follows EEC directives on the electromagnetic compatibility (89/336/EEC) and low voltage (73/23/EEC). The **SV . 18** valves are built with high quality materials and components, and thanks to this the quality, reliability and performances are very high

*Le valvole ed elettrovalvole Vesta serie **SV . 18** funzionano secondo il principio del cassetto bilanciato (vedi fig. 1 e 2), presentano ingombri molto ridotti per l'assemblaggio in batterie compatte.*

*Le elettrovalvole complete di bobina e connettore, sono conformi alle direttive CEE relative alla compatibilità elettromagnetica (89/336/CEE) ed alla bassa tensione (73/23/CEE). L'impiego di materiali e componenti di alta qualità conferisce alla serie **SV . 18** caratteristiche di qualità, prestazioni ed affidabilità molto elevate.*

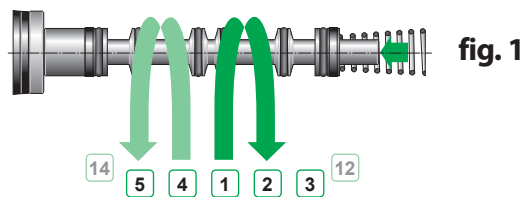
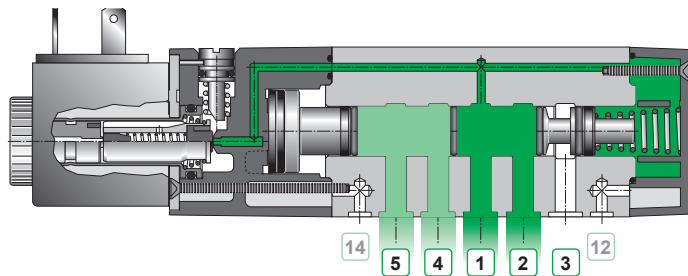


fig. 1

NORMAL POSITION / POSIZIONE A RIPOSO

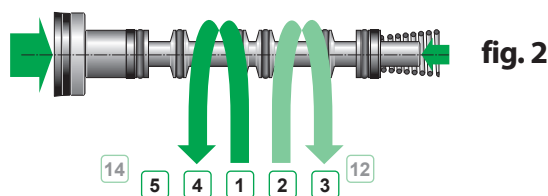
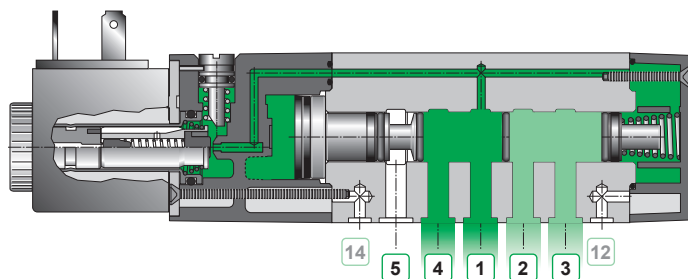


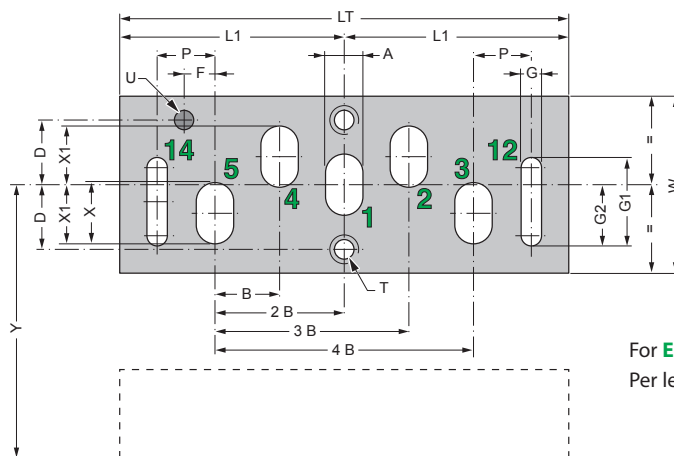
fig. 2

ACTUATED POSITION / POSIZIONE DI LAVORO

MOUNTING INTERFACE SURFACE ISO 24563 / DIMENSIONI DEI PIANI DI POSA ISO 24563

Standard **ISO - 24563**, indicates the main dimensions of the mounting interface surface; the minimum distance of each subbase and the port connection numbers as figure shows. VESTA subbase design is in compliance with the VDMA standards.

*La norma **ISO - 24563**, emanata dall'Organismo Internazionale di Standardizzazione e accettata da tutti i grandi utilizzatori, stabilisce le dimensioni del piano di posa del distributore, l'interasse minimo tra due basi affiancate e la numerazione delle connessioni di entrata e di uscita come da schema a fianco riportato. Nella concezione delle basi VESTA, inoltre, si sono seguite le raccomandazioni VDMA che definiscono in maniera più precisa la geometria della base stessa.*



For **E** and **EP** manifold version see
Per le basi versione **E** ed **EP** vedi **Pag. B-66**

	A	B	D	F	G	G1	G2	L1	LT	P	T	U	W min.	X	X1	Y	Area mm ²
ISO 18 mm	3,5	7	6,25	3	2	8	6	25	50	6	M3	Ø3,2 x 4	18	6,5	5,25	19	20

TECHNICAL FEATURES / CARATTERISTICHE TECNICHE

SERIE SVP18 - SVE18

COMMON TECHNICAL FEATURES SVP18 AND SVE18

Fixing	2 manifold holes Ø 3,1
Port connections	ISO -VDMA 24563 standard
Flow section	Ø 4,5 mm
Ambient temperature range	-10 °C / +50 °C
Temperature range of medium	0 °C / +40 °C

Lubrication	Not required
Medium	Filtered air
Reference pressure	6 bar
Nominal air flow 5/2 valves	480 NI/min
Nominal air flow 5/3 valves	390 NI/min

PNEUMATIC VALVES FEATURES SVP18

SVP18 52 100	Nominal pilot pressure	3,1 bar (9 bar)
	Nominal max. frequency	30 Hz
	Operating pressure range	2,5 ÷ 9 bar
SVP18 52 2D0	Nominal pilot (12) pressure	1,35 bar
	Nominal pilot (14) pressure	0,97 bar
	Nominal max. frequency	30 Hz
	Operating pressure range	0 ÷ 9 bar
SVP18 53 260	Nominal pilot pressure	3 bar
	Nominal max. frequency	10 Hz
	Operating pressure range	0 ÷ 9 bar

SVP18 52 200	Nominal pilot pressure	0,97 bar
	Nominal max. frequency	33 Hz
	Operating pressure range	0 ÷ 9 bar
SVP18 53 230	Nominal pilot pressure	3 bar
	Nominal max. frequency	10 Hz
	Operating pressure range	0 ÷ 9 bar
SVP18 53 290	Nominal pilot pressure	3 bar
	Nominal max. frequency	10 Hz
	Operating pressure range	0 ÷ 9 bar

SOLENOID VALVES FEATURES SVE18

	AC	DC
SVE18 52 100	Nominal max. frequency	27 Hz
	Operating pressure range ...	2,5 ÷ 9 bar
SVE18 53 230	Nominal max. frequency	12 Hz
	Operating pressure range ...	3 ÷ 9 bar
SVE18 53 290	Nominal max. frequency	12 Hz
	Operating pressure range ...	3 ÷ 9 bar

	AC	DC
SVE18 52 200	Nominal max. frequency	42 Hz
	Operating pressure range ...	1,5 ÷ 9 bar
SVE18 53 260	Nominal max. frequency	12 Hz
	Operating pressure range ...	3 ÷ 9 bar

For electrical features solenoid pilot SVE18 serie see pp. B-52

CARATTERISTICHE TECNICHE COMUNI SVP18 E SVE18

Fissaggio	2 fori Ø 3,1 per montaggio su base
Connessioni	ISO -VDMA 24563 standard
Diametro nominale	Ø 4,5 mm
Temperatura ambiente	-10 °C / +50 °C
Temperatura fluido	0 °C / +40 °C

Lubrificazione	Non necessaria
Fluido	Aria filtrata
Pressione nominale	6 bar
Portata nominale valvole 5/2	480 NI/min
Portata nominale valvole 5/3	390 NI/min

CARATTERISTICHE VALVOLE PNEUMATICHE SVP18

SVP18 52 100	Pressione di pilotaggio nominale	3,1 bar (9 bar)
	Frequenza max. nominale	30 Hz
	Pressione di esercizio	2,5 ÷ 9 bar
SVP18 52 2D0	Pressione di pilotaggio (12) nominale	1,35 bar
	Pressione di pilotaggio (14) nominale	0,97 bar
	Frequenza max. nominale	30 Hz
	Pressione di esercizio	0 ÷ 9 bar
SVP18 53 260	Pressione di pilotaggio nominale	3 bar
	Frequenza max. nominale	10 Hz
	Pressione di esercizio	0 ÷ 9 bar

SVP18 52 200	Pressione di pilotaggio nominale	0,97 bar
	Frequenza max. nominale	33 Hz
	Pressione di esercizio	0 ÷ 9 bar
SVP18 53 230	Pressione di pilotaggio nominale	3 bar
	Frequenza max. nominale	10 Hz
	Pressione di esercizio	0 ÷ 9 bar
SVP18 53 290	Pressione di pilotaggio nominale	3 bar
	Frequenza max. nominale	10 Hz
	Pressione di esercizio	0 ÷ 9 bar

CARATTERISTICHE ELETTROVALVOLE SVE18

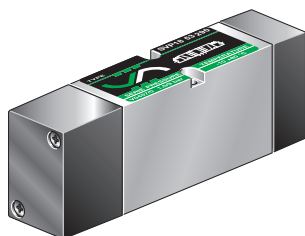
	AC	DC
SVE18 52 100	Frequenza max. nominale	27 Hz
	Pressione di esercizio	2,5 ÷ 9 bar
SVE18 53 230	Frequenza max. nominale	12 Hz
	Pressione di esercizio	3 ÷ 9 bar
SVE18 53 290	Frequenza max. nominale	12 Hz
	Pressione di esercizio	3 ÷ 9 bar

	AC	DC
SVE18 52 200	Frequenza max. nominale	42 Hz
	Pressione di esercizio	1,5 ÷ 9 bar
SVE18 53 260	Frequenza max. nominale	12 Hz
	Pressione di esercizio	3 ÷ 9 bar

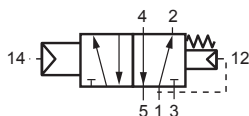
Caratteristiche elettriche bobina per elettrovalvole SVE18 vedi pp. B-52



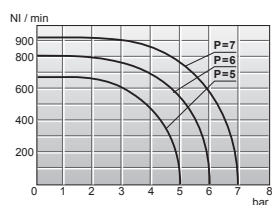
SVP18 52 100



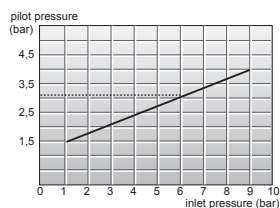
SIMBOL / SIMBOLO



DIAGRAMS / DIAGRAMMI

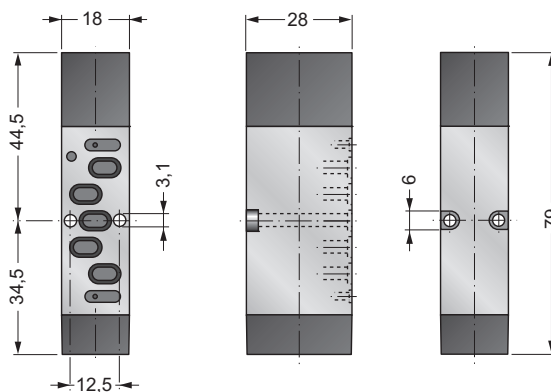


AIR FLOW DIAGRAM
DIAGRAMMA DELLE PORTATE

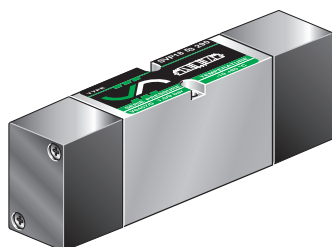


PILOT PRESSURE / INLET PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO

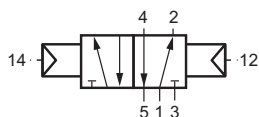
VALVE / VALVOLA 5/2 SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN COMANDO PNEUMATICO - RIPOSIZIONAMENTO A MOLLA PNEUMATICA



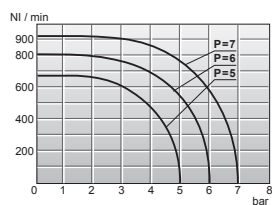
SVP18 52 200



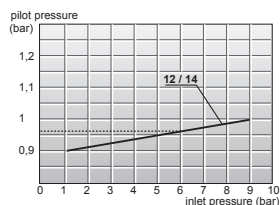
SIMBOL / SIMBOLO



DIAGRAMS / DIAGRAMMI

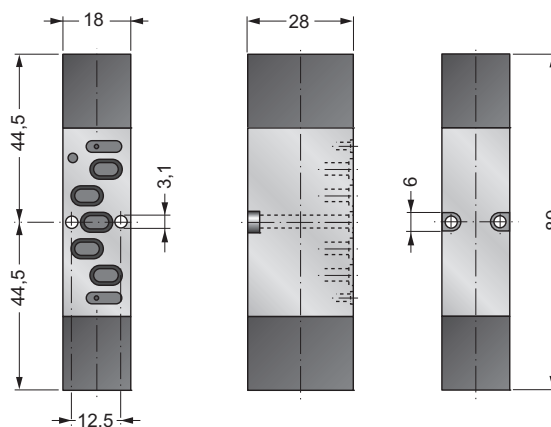


AIR FLOW DIAGRAM
DIAGRAMMA DELLE PORTATE



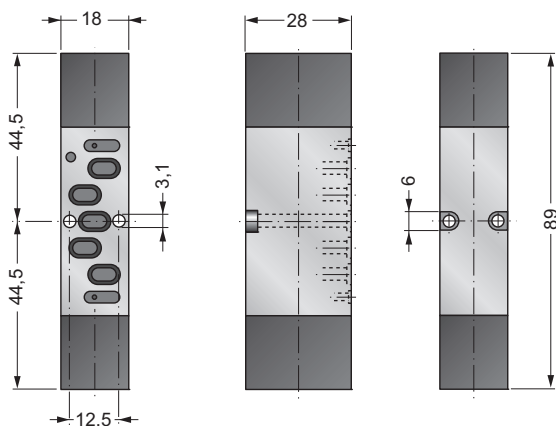
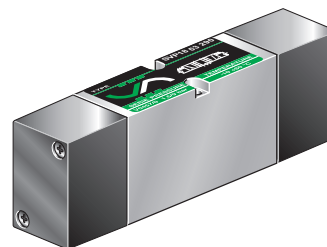
PILOT PRESSURE / INLET PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO

VALVE / VALVOLA 5/2 DOUBLE PNEUMATIC PILOT DOPPIO COMANDO PNEUMATICO

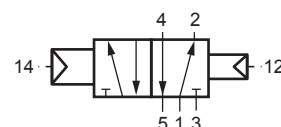


VALVE / VALVOLA 5/2
DOUBLE DIFFERENTIAL PNEUMATIC PILOT
DOPPIO COMANDO PNEUMATICO DIFFERENZIALE

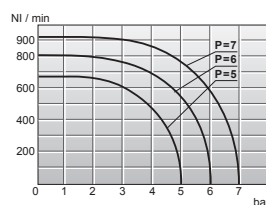
SVP18 52 2D0



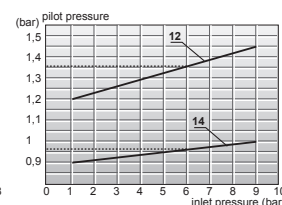
SIMBOL / SIMBOLO



DIAGRAMS / DIAGRAMMI



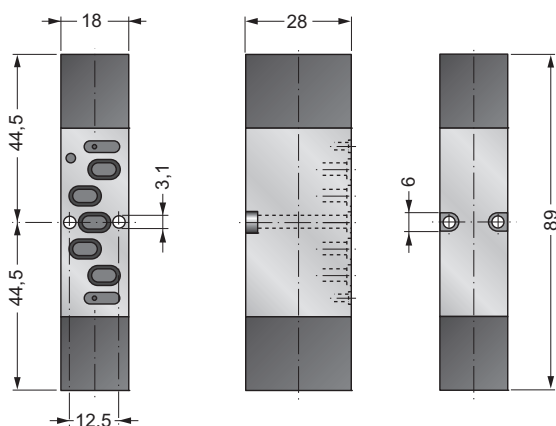
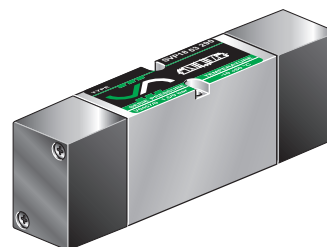
AIR FLOW DIAGRAM
DIAGRAMMA DELLE PORTATE



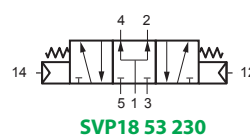
PILOT PRESSURE / INLET PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO

VALVE / VALVOLA 5/3
DOUBLE PNEUMATIC PILOT - SPRING RETURN
DOPPIO COMANDO PNEUMATICO - RITORNO A MOLLA

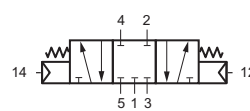
SVP18 53 2.0



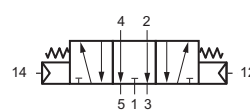
SIMBOLS / SIMBOLI



SVP18 53 230

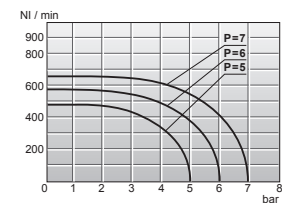


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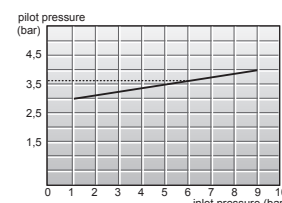


SVP18 53 290

DIAGRAMS / DIAGRAMMI



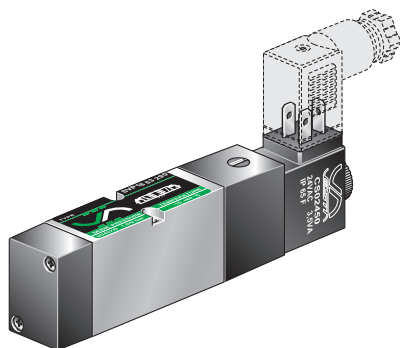
AIR FLOW DIAGRAM / DIAGRAMMA DELLE PORTATE



PILOT PRESSURE / INLET PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO



SVE18 52 100 -



SIMBOL / SIMBOLO

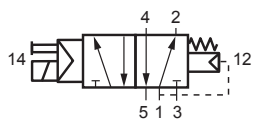
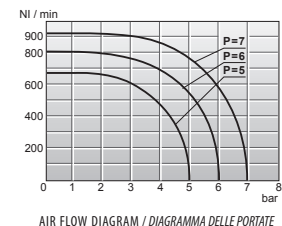


DIAGRAM / DIAGRAMMA



CODES / CODICI

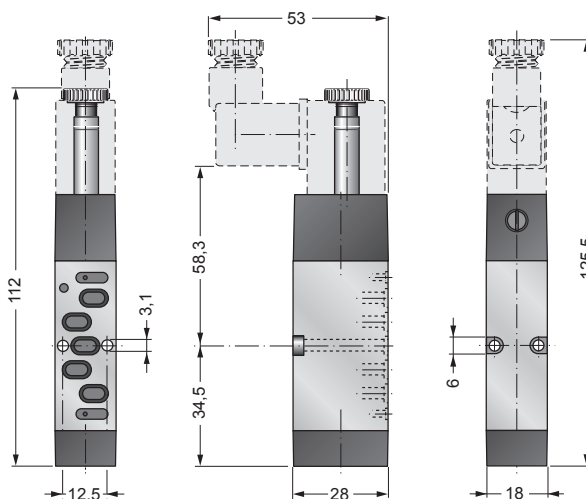
Ordination code Codice ordinazione

SVE18 52 100-00000	.....	No coil / Senza solenoide
SVE18 52 100-01200	.....	12 V DC
SVE18 52 100-02400	.....	24 V DC
SVE18 52 100-02450	.....	24 V 50/60Hz AC
SVE18 52 100-11550	.....	115 V 50/60Hz AC
SVE18 52 100-23050	.....	230 V 50/60Hz AC

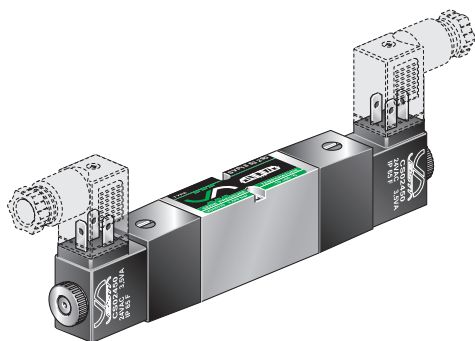
Voltage Tensione

SOLENOID VALVE / ELETTRORVALVOLA 5/2

SINGLE SOLENOID PILOT - INTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - RIPOSIZIONAMENTO A MOLLA PNEUMATICA



SVE18 52 200 -



SIMBOL / SIMBOLO

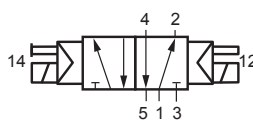
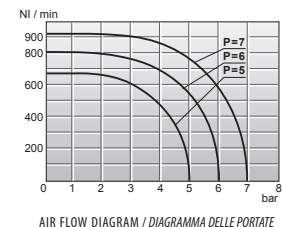


DIAGRAM / DIAGRAMMA



CODES / CODICI

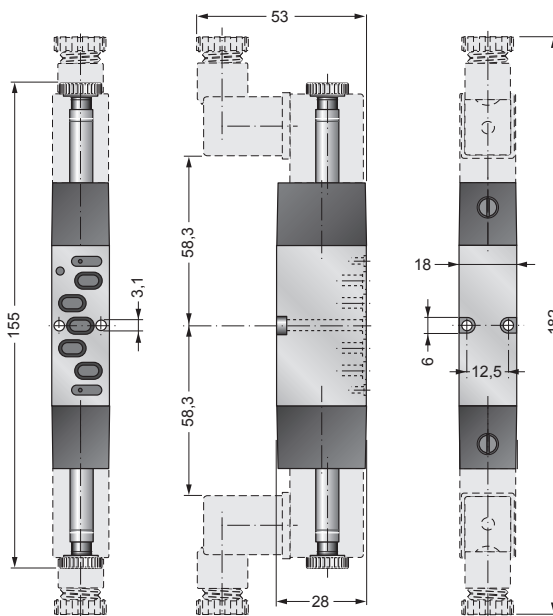
Ordination code Codice ordinazione

SVE18 52 200-00000	.....	No coils / Senza solenoidi
SVE18 52 200-01200	.....	12 V DC
SVE18 52 200-02400	.....	24 V DC
SVE18 52 200-02450	.....	24 V 50/60Hz AC
SVE18 52 200-11550	.....	115 V 50/60Hz AC
SVE18 52 200-23050	.....	230 V 50/60Hz AC

Voltage Tensione

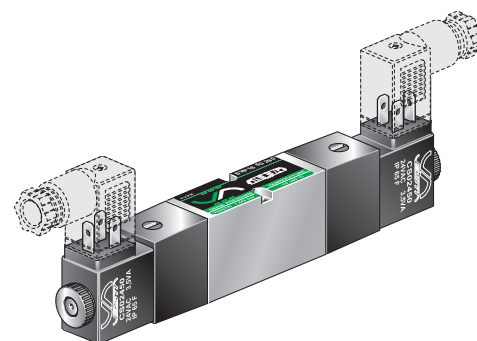
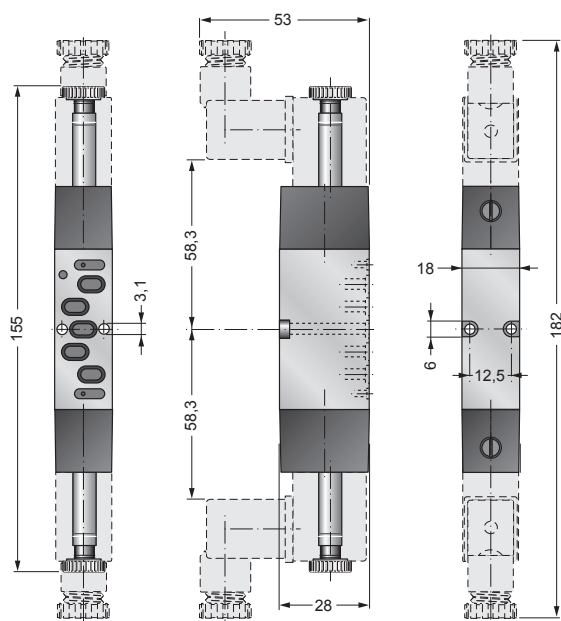
SOLENOID VALVE / 5/2

DOUBLE SOLENOID PILOT
DOPPIO COMANDO ELETTROPNEUMATICO



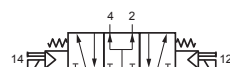
SOLENOID VALVE / ELETTRORVALVOLA 5/3
DOUBLE SOLENOID PILOT
DOPPIO COMANDO ELETTROPNEUMATICO

SVE18 53 2.0 -

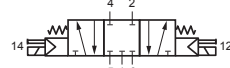


SIMBOL / SIMBOLO

DIAGRAM / DIAGRAMMA



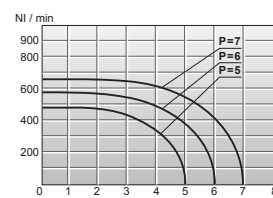
SVE18 53 230 -.....



SVE18 53 260 -.....



SVE18 53 290 -.....



AIR FLOW DIAGRAM / DIAGRAMMA DELLE PORTATE

CODES / CODICI

**Ordination code
Codice ordinazione**

SVE18 53 2.0-00000
SVE18 53 2.0-01200
SVE18 53 2.0-02400
SVE18 53 2.0-02450
SVE18 53 2.0-11550
SVE18 53 2.0-23050

**Voltage
Tensione**

No coils / Senza solenoidi
12 V DC
24 V DC
24 V 50/60Hz AC
115 V 50/60Hz AC
230 V 50/60Hz AC

ISO 18 MANIFOLD / BATTERIA ISO 18

BTC 18

END PLATE
BASE DI CHIUSURA

BMI 18 E

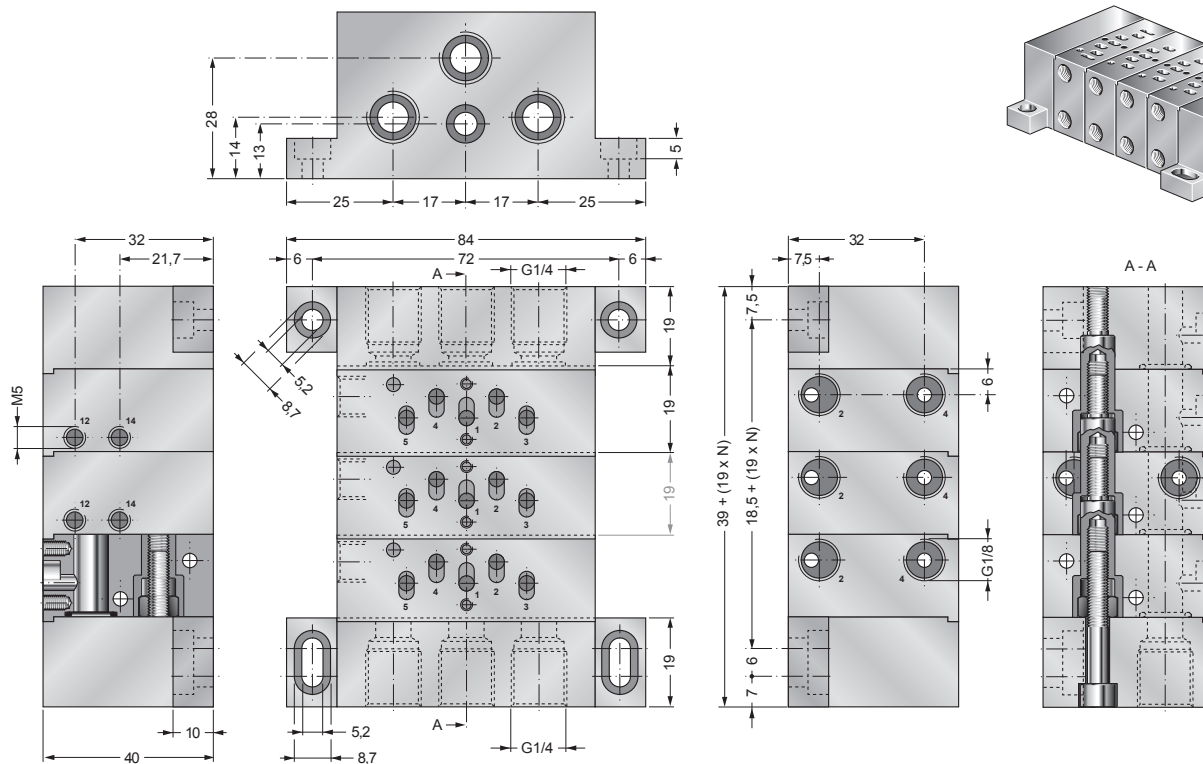
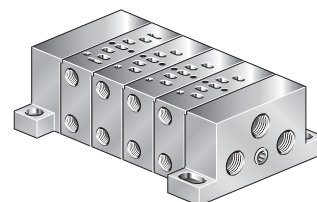
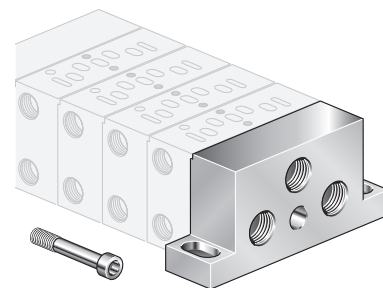
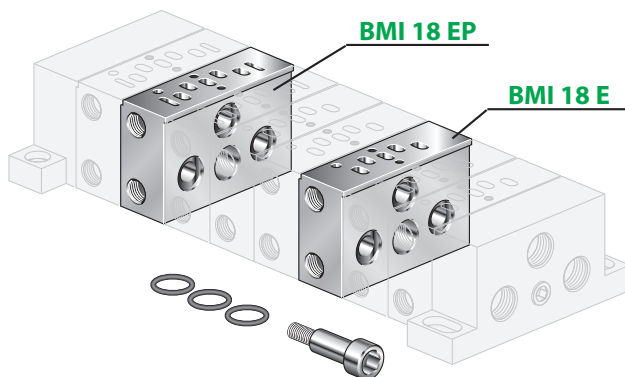
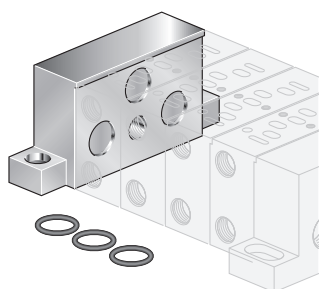
MIDDLE PLATE FOR SOLENOID VALVE MOUNTING
BASE INTERMEDIA PER IL MONTAGGIO DI ELETTROVALVOLE

BTI 18

INLET END PLATE
BASE DI INGRESSO

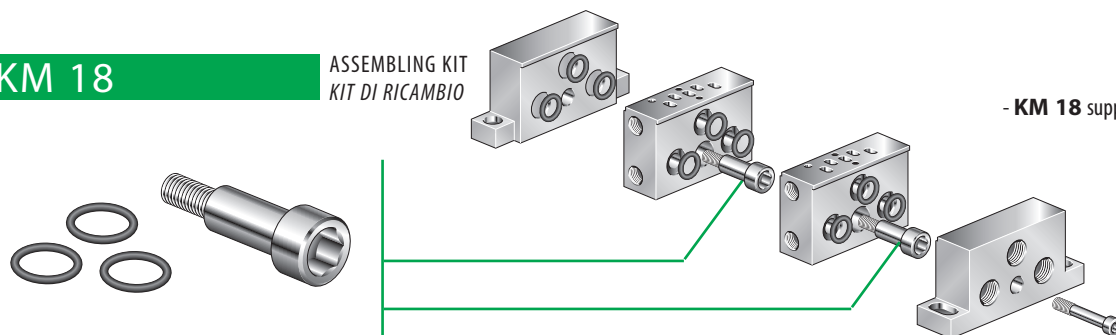
BMI 18 EP

MIDDLE PLATE FOR PNEUMATIC AND SOLENOID VALVE MOUNTING
BASE INTERMEDIA PER IL MONTAGGIO DI VALVOLE PNEUMATICHE
ED ELETTROPNEUMATICHE



KM 18

ASSEMBLING KIT
KIT DI RICAMBIO



- **KM 18** supplied with **BMI 18 E** and **BTI 18 P**,
- Supplied separatly on demand.

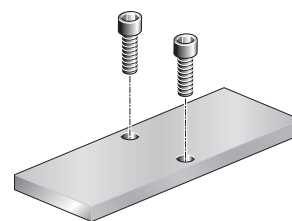
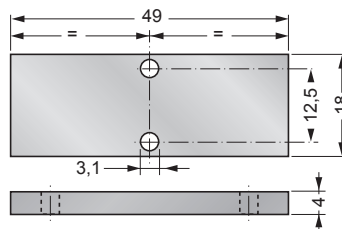
- Il kit **KM 18** viene fornito con le basi **BMI 18 E** e **BTI 18 P**,
- A richiesta può essere fornito come ricambio.

PLUG FLAT
CHIUSURA POSTO INUTILIZZATO

PCBM 18

Plug flat includes assembling screws.

La piastrina di chiusura dei posti non utilizzati della base è fornita con le relative viti di fissaggio.



HOW TO ASSEMBLE ISO 18 MANIFOLD / ESEMPIO DI ASSEMBLAGGIO BATTERIA ISO 18

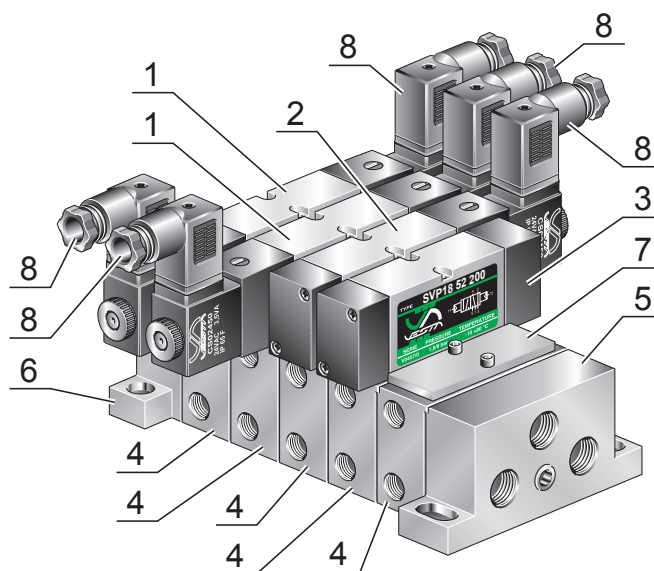
Components needed to assemble the manifold in figure.

Esempio di componenti necessari a realizzare la batteria raffigurata.

Position Posizione	Quantity Quantità	Ordination code Codice ordinazione
1	N° 2	SVE18 52 200 - 02450
2	N° 1	SVE18 52 100 - 02450
3	N° 1	SVP18 52 200
4	N° 5	BMI 18
5	N° 1	BTI 18
6	N° 1	BTC 18
7	N° 1	PCBM 18
8	N° 5	CEP/0

- Valves fixing screws and seals are supplied with valves.
- Subbase fixing screws not supplied.
- Manifold supplied assembled on demand.
- **KM 18** available as spare part separatly.

- Le viti e le guarnizioni per il fissaggio vengono fornite con le valvole.
- Il fissaggio alla base è a cura del cliente.
- A richiesta, la base può essere fornita preassemblata.
- A richiesta, il kit **KM 18** può essere fornito come ricambio.



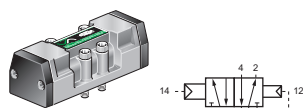
For electrical features solenoid pilot see p. B-52.
Caratteristiche elettriche bobina per elettrovalvole vedi p. B-52.



INDEX / INDICE

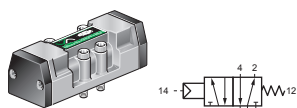
(*) ATEX versions see / Versioni ATEX vedi P. B-113

VALVES AND SOLENOID VALVES ISO 5599 SIZE 1 / VALVOLE E ELETTROVALVOLE ISO 5599 TAGLIA 1



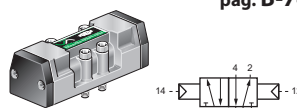
SVP4 52 100

SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN
COMANDO PNEUMATICO - RIPOSIZIONAMENTO PNEUMATICO



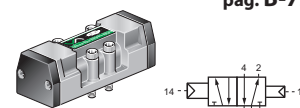
(*) SVP4 52 1M0

SINGLE PNEUMATIC PILOT - SPRING RETURN
COMANDO PNEUMATICO - RIPOSIZIONAMENTO MOLLA MECCANICA



(*) SVP4 52 200

DOUBLE PNEUMATIC PILOT
DOPPIO COMANDO PNEUMATICO

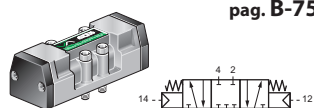


SVP4 52 2D0

DOUBLE DIFFERENTIAL PNEUMATIC PILOT
DOPPIO COMANDO PNEUMATICO DIFFERENZIALE

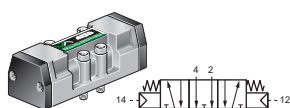
pag. B-74

pag. B-75



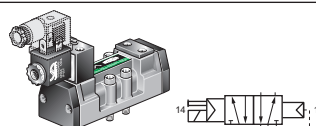
SVP4 53 260

DOUBLE PNEUMATIC PILOT (CENTRE POSITION CLOSED)
DOPPIO COMANDO PNEUMATICO (CENTRI CHIUSI)



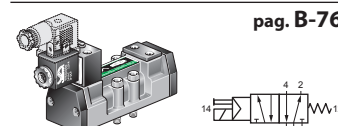
SVP4 53 290

DOUBLE PNEUMATIC PILOT (CENTRE POSITION OPEN)
DOPPIO COMANDO PNEUMATICO (CENTRI APERTI)



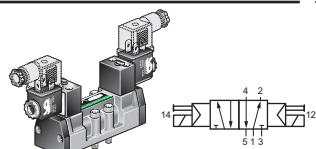
SVE5 52 100 -

SINGLE SOLENOID PILOT - INTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - RIPOSIZIONAMENTO PNEUMATICO



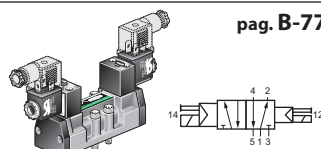
(*) SVE5 52 1M0 -

SINGLE SOLENOID PILOT - SPRING RETURN
COMANDO ELETTROPNEUMATICO - RIPOSIZ. MOLLA MECCANICA



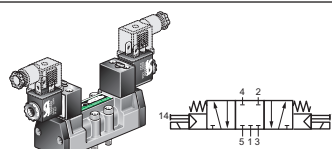
(*) SVE5 52 200 -

DOUBLE SOLENOID PILOT
DOPPIO COMANDO ELETTROPNEUMATICO



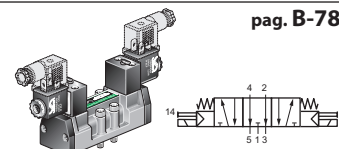
SVE5 52 2D0 -

DOUBLE DIFFERENTIAL SOLENOID PILOT
DOPPIO COMANDO ELETTROPNEUMATICO DIFFERENZIALE



SVE5 53 260 -

DOUBLE SOLENOID PILOT (CENTRE POSITION CLOSED)
DOPPIO COMANDO ELETTROPNEUMATICO (CENTRI CHIUSI)

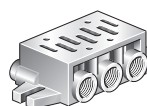


SVE5 53 290 -

DOUBLE SOLENOID PILOT (CENTRE POSITION OPEN)
DOPPIO COMANDO ELETTROPNEUMATICO (CENTRI APERTI)

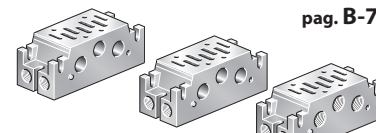
pag. B-77

pag. B-78



(*) BS 1

ISO 5599 SINGLE MANIFOLD BASE SIZE 1
BASE SINGOLA ISO 5599 TAGLIA 1

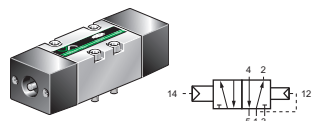


(*) BTC 1 (*) BMI 1 (*) BTI 1

ISO 5599 MODULAR MANIFOLD BASES SIZE 1
BASI MODULARI ISO 5599 TAGLIA 1

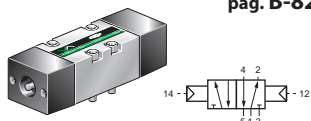
pag. B-79

VALVES AND SOLENOID VALVES ISO 5599 SIZE 2 / VALVOLE E ELETTROVALVOLE ISO 5599 TAGLIA 2



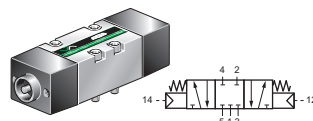
SVP2 52 100

SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN
COMANDO PNEUMATICO - RIPOSIZIONAMENTO PNEUMATICO



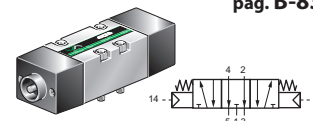
SVP2 52 200

DOUBLE PNEUMATIC PILOT
DOPPIO COMANDO PNEUMATICO



SVP2 53 260

DOUBLE PNEUMATIC PILOT (CENTRE POSITION CLOSED)
DOPPIO COMANDO PNEUMATICO (CENTRI CHIUSI)

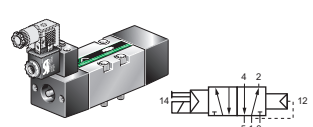


SVP2 53 290

DOUBLE PNEUMATIC PILOT (CENTRE POSITION OPEN)
DOPPIO COMANDO PNEUMATICO (CENTRI APERTI)

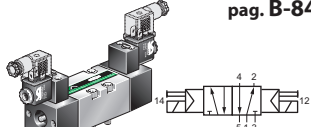
pag. B-82

pag. B-83



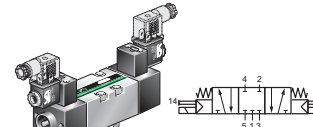
SVE2 52 100 -

SINGLE SOLENOID PILOT - INTERNAL PRESSURE RETURN
COMANDO ELETTROPNEUMATICO - RIPOSIZIONAMENTO PNEUMATICO



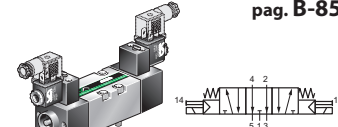
SVE2 52 200 -

DOUBLE SOLENOID PILOT
DOPPIO COMANDO ELETTROPNEUMATICO



SVE2 53 260 -

DOUBLE SOLENOID PILOT (CENTRE POSITION CLOSED)
DOPPIO COMANDO ELETTROPNEUMATICO (CENTRI CHIUSI)



SVE2 53 290 -

DOUBLE SOLENOID PILOT (CENTRE POSITION OPEN)
DOPPIO COMANDO ELETTROPNEUMATICO (CENTRI APERTI)

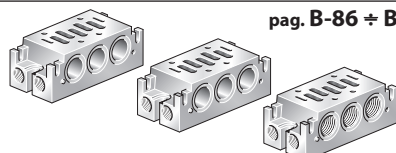
pag. B-84

pag. B-85



BS 2

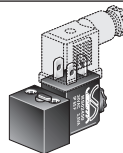
ISO 5599 SINGLE MANIFOLD BASE SIZE 2
BASE SINGOLA ISO 5599 TAGLIA 2



BTC 2 BMI 2 BTI 2

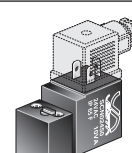
ISO 5599 MODULAR MANIFOLD BASES SIZE 2
BASI MODULARI ISO 5599 TAGLIA 2

pag. B-86 + B-87



ELBAC -

CNOMO SOLENOID VALVE 2,5 Watt - 3,5 V A COIL
ELETTROPILOTA CNOMO CON BOBINA 2,5 Watt - 3,5 V A



ELCDC -

CNOMO SOLENOID VALVE 2,5 Watt - 3,5 V A COIL
ELETTROPILOTA CNOMO CON BOBINA 2,5 Watt - 3,5 V A

pag. B-88 + B-89



BUILDING FEATURES / CARATTERISTICHE COSTRUTTIVE

Valves and solenoid valves series **SVE** and **SVP** are manufactured according to the ISO 5599/1 standards (see here below).

The choice of high quality materials and the technical solution adopted allows to the ISO valves to reach a good performance even in harsh environmental conditions. The spool, made by a light alloy aluminium, nickel treated by Niploy Process (see fig. **A**) to give its surface a smooth finish and a better resistance to aggressive agent. Its particular shape allows high nominal flow rates (see fig. **D**) and the combination with self lubricating lip rubber seals (see fig. **B**) bring to reduced internal friction (see fig. **C**) and provides the valve with a long lasting durable life span.

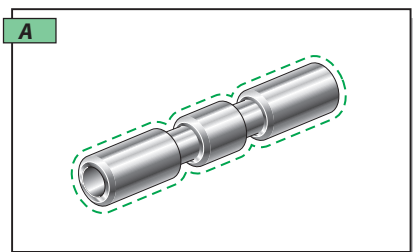
The ISO valves can operate continuously without lubrication (see fig. **E**) and are sealed against working environment.

*Le valvole ed elettrovalvole VESTA serie **SVE** e **SVP** sono prodotte in conformità alle normative ISO 5599/1 (si veda la scheda tecnica a fondo pagina).*

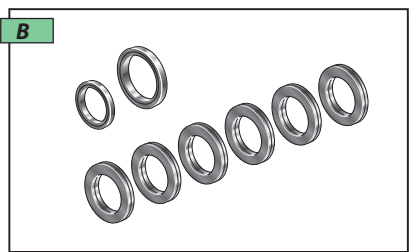
Le soluzioni tecniche adottate ed i materiali impiegati hanno permesso di realizzare un prodotto che presenta elevate prestazioni funzionali anche in condizioni di impiego particolarmente gravose.

*La spola, costruita in lega leggera e progettata per consentire elevate portate nominali (**D**), viene trattata superficialmente al nickel (Niploy Process) (**A**) onde acquisire una durezza maggiore ed una più elevata resistenza agli agenti aggressivi. La combinazione tra la spola e le guarnizioni in elastomero nitrilico con profilo del labbro anti-usura (**B**), permette, accanto ad una riduzione degli attriti, una alta velocità di scambio e cicli di lavoro elevati (**C**), garantendo una maggiore durata della meccanica interna. Tutti i modelli di valvola serie **SVE** e **SVP** possono essere utilizzati anche in assenza di lubrificazione (**E**). L'ermeticità di funzionamento verso l'ambiente di lavoro ne fa inoltre un prodotto adatto all'impiego in settori cosiddetti "difficili" (**F**).*

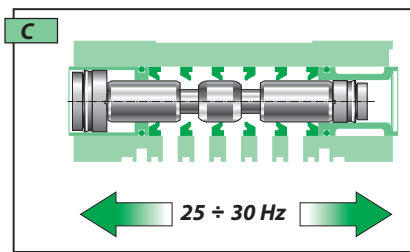
Nelle pagine che seguono tutte le caratteristiche funzionali di ciascuna valvola sono convalidate dal Dipartimento di Meccanica del Politecnico di Torino.



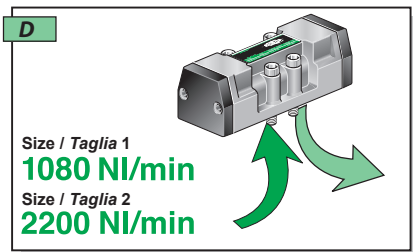
Light alloy spool with Niploy Process treated surface.
Spola in lega leggera con trattamento superficiale Niploy Process.



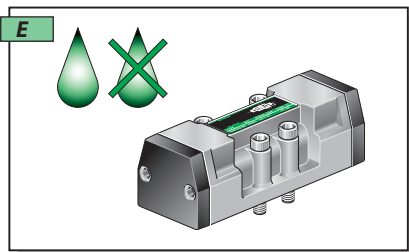
Self lubricating lip rubber seals.
Guarnizioni in elastomero nitrilico con profilo del labbro antiusura.



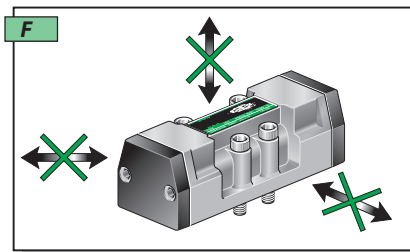
High working frequency.
Alta velocità di scambio per cicli di lavoro elevati.



Nominal air flow (1080 and 2200 NI/min 5/2 valves).
Alta portata nominale (1080 e 2200 NI/min per le valvole 5/2).



Possibility of operating continuously without lubrication.
Possibilità di funzionamento continuo privo di lubrificazione.



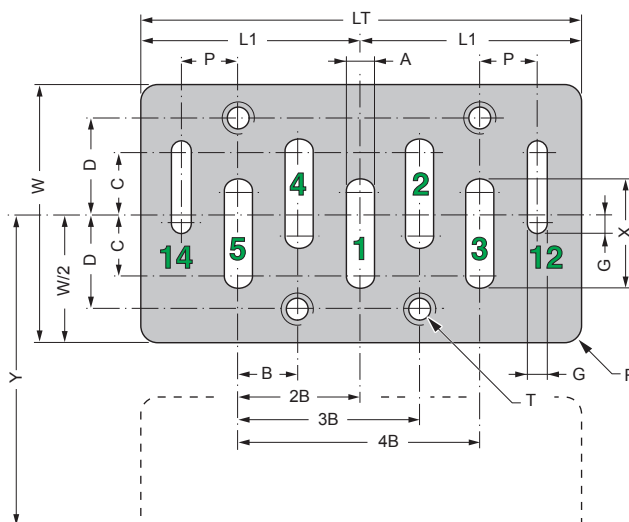
Sealed against working environment.
Ermeticità di funzionamento verso l'ambiente di lavoro.

MOUNTING INTERFACE SURFACE ISO 5599 / 1 / DIMENSIONI DEI PIANI DI POSA ISO 5599 / 1

Standard **ISO 5599/1**, indicates the main dimensions of the mounting interface surface; the minimum distance of each subbase and the port connection numbers as figure shows.

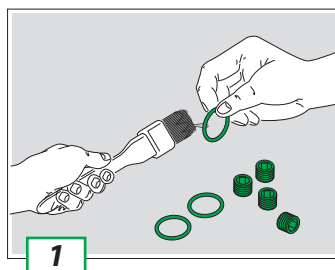
While VESTA subbase design is in compliance with the CEPTOP standards and the solenoid pilot mounting interface surface follows the CNOMO standard.

La norma **ISO 5599/1**, emanata dall'Organismo Internazionale di Standardizzazione e accettata da tutti i grandi utilizzatori, stabilisce le dimensioni del piano di posa del distributore, l'interasse minimo tra due basi affiancate e la numerazione delle connessioni di entrata e di uscita come da schema a fianco riportato. Nella concezione delle basi VESTA, inoltre, si sono seguite le raccomandazioni CETOP che definiscono in maniera più precisa la geometria della base stessa. Il piano di posa dell'elettropilota, infine, è conforme a quanto previsto dalle normative CNOMO.



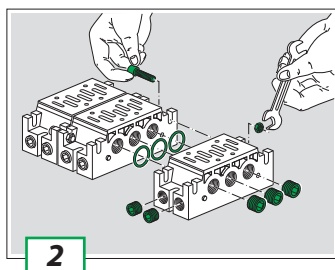
	A	B	C	D	G	L1 min.	LT min.	P	R max	T	W min.	X	Y min.	
SIZE 1	4,5	9	9	14	3	32,5	65	8,5	2,5	M5x0,8	38	16,5	43	TAGLIA 1
SIZE 2	7	12	10	19	3	40,5	81	10	3	M6x1	50	22	56	TAGLIA 2

HOW TO ASSEMBLE MANIFOLDS AND RELATED ACCESSORIES CONSIGLI DI MONTAGGIO DELLE BASI MODULARI E RELATIVI ACCESSORI



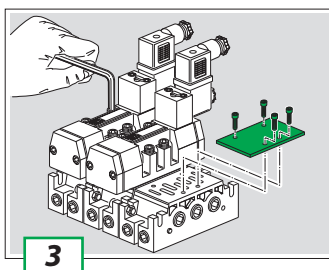
1
Before assembling the single subbases :
- lubricate seals with grease;
- cover all male thread with teflon or glue.

Prima di assemblare tra di loro le basi lubrificare le guarnizioni con apposito grasso, rivestire la parte filettata dei tappi di chiusura delle connessioni inutilizzate nonché dei raccordi di collegamento con collante fermafiletti o teflon, avendo cura che i residui non vengano dispersi nei condotti.



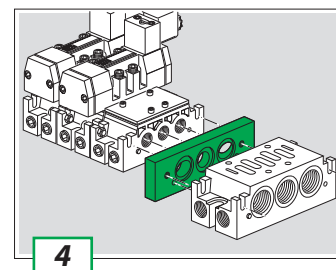
2
Verify the right position of the seals to avoid leakages.
Fix the fixing screws untill tight.

E' importante verificare il corretto montaggio delle guarnizioni sulle relative sedi per evitare che durante il serraggio delle basi possano subire schiacciamenti o tagli. Posizionare inoltre i bulloni di fissaggio completamente in fondo alle rispettive asole per garantire la stabilità del fissaggio.



3
Lubricate coupling valve seals.
Close the unused subbase with a flat plate.

Lubrificare la guarnizione di accoppiamento delle valvole e procedere al montaggio delle stesse.
Chiudere le basi eventualmente inutilizzate con l'apposita piastrina di chiusura.



4
It is possible to interface manifold size 1 and 2 with the **INTF 1-2** adapter plate, following the assembly instruction above indicated.

E' possibile interfacciare basi di taglia 1 con basi di taglia 2 per mezzo dell'interfaccia **INTF 1-2**, seguendo le stesse modalità di montaggio delle basi sopra descritte.



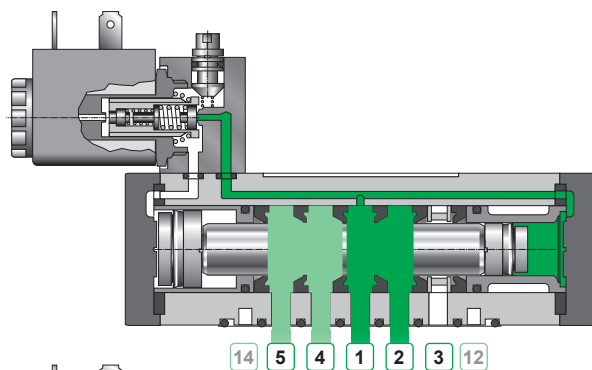
WORKING PRINCIPLE / PRINCIPIO DI FUNZIONAMENTO

In the example below, when the valve stands in the normal position, ports 4 - 5 and 1 - 2 are connected and the position is kept thanks to the pressure assured to the smallest piston (right side of the valve). When the valve is actuated, the same pressure is fed to the biggest piston. It's bigger surface create a force which allows the spool to move and therefore to connect ports 4 - 1 and 2 - 3. In the mechanical spring version, the valve is kept in the normal position by a mechanical spring. In the bistable version, the position of the valve remains in its last switched state.

Il principio di funzionamento del distributore 5/2 (nell'esempio l'elettrovalvola **SVE5 52 100 - 02450** con comando elettropneumatico e riposizionamento a molla pneumatica) consiste nel mantenere costantemente in pressione il pistone di riposizionamento (fig. 1), utilizzando la fonte d'aria compressa presente nel condotto di alimentazione 1, collegando le vie 1 - 2 e 4 - 5. L'eccitazione del solenoide mette in comunicazione il condotto 1 con la camera dove è alloggiato il pistone di comando. Quest'ultimo, avendo un'area di spinta maggiore del pistone di riposizionamento, sposta la spola in modo tale da collegare i canali 1 - 4 e 2 - 3 (fig. 2). Diseccitando il solenoide si ripristina la posizione iniziale.

Nei sistemi bistabili (doppio comando elettropneumatico o doppio comando pneumatico) in assenza di segnale rimangono i collegamenti formatisi nell'ultimo azionamento.

fig. 1



NORMAL POSITION
POSIZIONE A RIPOSO

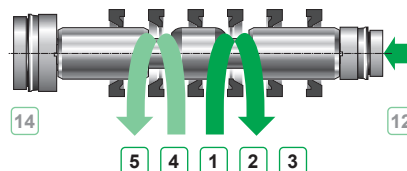
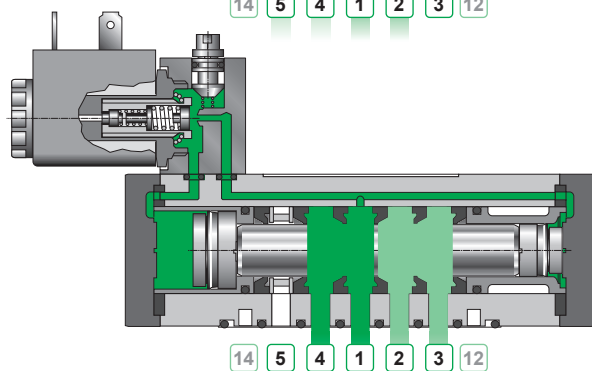
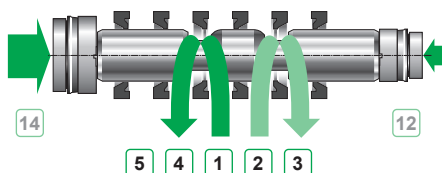


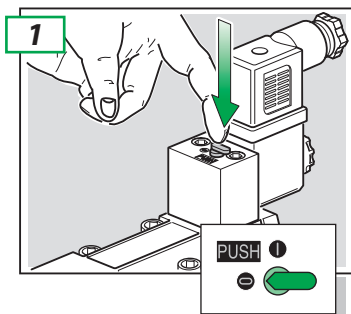
fig. 2



ACTUATED POSITION
POSIZIONE DI LAVORO

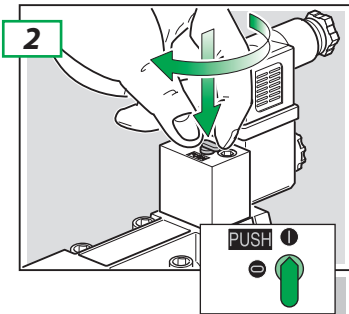


MANUAL OVERRIDING / AZIONAMENTO COMANDO MANUALE



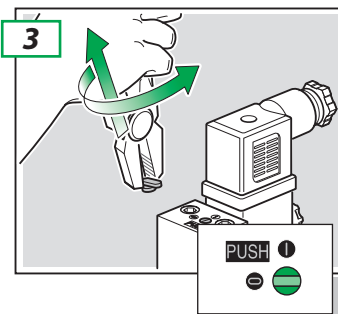
Push to actuated valve without locking. **Release the button to get back to normal position.**

Per azionare la valvola, durante la fase di collaudo con pressione in linea senza collegamento elettrico, premere la leva del comando manuale. **Rilasciare per ripristinare la condizione di riposo.**



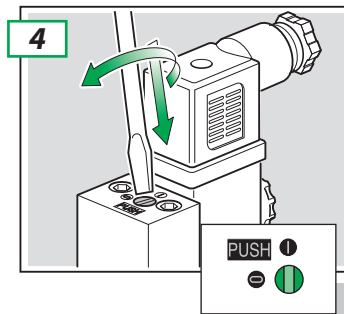
To activate the valve permanently push the M/O (manual override) and rotate clockwise 90°. **To return to normal position, push the M/O again and turn 90° anti-clockwise.**

Per azionare la valvola in modo permanente premere la leva del comando manuale e ruotare in senso orario sino alla posizione 1. **Ruotare in senso antiorario per ripristinare la condizione di riposo.**



Should the M/O no longer be required, then turn the M/O anticlockwise until it breaks off.

Terminato il collaudo ruotare in senso antiorario la leva sino alla rottura.



Should the M/O be required after breaking off, then a screwdriver may be used.

Per interventi successivi sul comando manuale usare un adeguato cacciavite ed operare come al punto 1 o 2.

TECHNICAL FEATURES / CARATTERISTICHE TECNICHE

SERIE **SVP4 - SVE5**

Fixing	Single subbase pag. B-71
Flow section	Manifold mounting pag. B-71
Ambient temperature range	Ø 8 mm
Temperature range of medium	-10 °C ÷ +50 °C
Lubrication	0 °C ÷ +40 °C
Medium	Not required
Reference temperature	Filtered air
Reference pressure	+20 °C
	6 bar

COMMON TECHNICAL FEATURES **SVP4 AND SVE5**

VALVES AND SOLENOID VALVES 5/2

Nominal air flow	1080 NI/min
Fluid conductance "C"	4,34 NI/s bar
Critical pressure ratio "b"	0,212

VALVES AND SOLENOID VALVES 5/3

Nominal air flow	800 NI/min
Fluid conductance "C"	3,22 NI/s bar
Critical pressure ratio "b"	0,265

PNEUMATIC VALVES FEATURES **SVP4**

SVP4 52 100	Nominal pilot pressure	4 bar (10 bar)
	Nominal max. frequency	21 Hz
	Operating pressure range	2,5 ÷ 10 bar

SVP4 52 2D0	Nominal pilot (12) pressure	1,4 bar
	Nominal pilot (14) pressure	2,2 bar
	Nominal max. frequency	25 Hz

SVP4 52 200	Nominal pilot pressure	1,3 bar
	Nominal max. frequency	30 Hz
	Operating pressure range	1,5 ÷ 10 bar

SVP4 53 260	Nominal pilot pressure	3,6 bar
SVP4 53 290	Nominal max. frequency	8 Hz
	Nominal suggested frequency	6 Hz
	Operating pressure range	3 ÷ 10 bar

SOLENOID VALVES FEATURES **SVE5**

	AC	DC
SVE5 52 100	Nominal frequency (max)	16 Hz 13 Hz
SVE5 52 1D0	Average actining response	18 ms 21 ms
	Average disactioning response	33 ms 44 ms
	Operating pressure range	2,5 ÷ 10 bar

SVE5 52 2D0	Nominal frequency (max)	25 Hz 19 Hz
	Average actining response	11 ms 14 ms
	Average disactioning response	12 ms 15 ms
	Operating pressure range	2,5 ÷ 10 bar

	AC	DC
SVE5 52 200	Nominal frequency (max)	27 Hz 21 Hz
	Average actining response	11 ms 14 ms
	Average disactioning response	11 ms 14 ms
	Operating pressure range	1,5 ÷ 10 bar

SVE5 53 260	Nominal frequency (max)	8 Hz 8 Hz
SVE5 53 290	Nominal frequency suggested	6 Hz 6 Hz
	Average actining response	30 ms 35 ms
	Average disactioning response	35 ms 40 ms
	Operating pressure range	3 ÷ 10 bar

For electrical features solenoid SVE5 with CNOMO pilot see pp. B-88.

Fissaggio	Base singola uscite frontali pag. B-71
Diametro nominale	Basi in batteria pag. B-71
Temperatura ambiente	Ø 8 mm
Temperatura fluido	-10 °C ÷ +50 °C
Lubrificazione	0 °C ÷ +40 °C
Fluido	Non necessaria
Temperatura nominale	Aria filtrata
Pressione nominale	+20 °C
	6 bar

CARATTERISTICHE TECNICHE COMUNI **SVP4 E SVE5**

VALVOLE ED ELETTROVALVOLE 5/2

Portata nominale	1080 NI/min
Valore conduttanza "C"	4,34 NI/s bar
Rapporto critico delle pressioni "b"	0,212

VALVOLE ED ELETTROVALVOLE 5/3

Portata nominale	800 NI/min
Valore conduttanza "C"	3,22 NI/s bar
Rapporto critico delle pressioni "b"	0,265

CARATTERISTICHE VALVOLE PNEUMATICHE **SVP4**

SVP4 52 100	Pressione di pilotaggio nominale	4 bar (10 bar)
	Frequenza max nominale	21 Hz

SVP4 52 2D0	Pressione di pilotaggio (12) nominale	1,4 bar
	Pressione di pilotaggio (14) nominale	2,2 bar
	Frequenza max nominale	25 Hz
	Pressione di esercizio	2,5 ÷ 10 bar

SVP4 52 200	Pressione di pilotaggio nominale	1,3 bar
	Frequenza max nominale	30 Hz

SVP4 53 260	Pressione di pilotaggio nominale	3,6 bar
SVP4 53 290	Frequenza max nominale	8 Hz
	Frequenza max consigliata	6 Hz
	Pressione di esercizio	3 ÷ 10 bar

CARATTERISTICHE ELETTROVALVOLE **SVE5**

	AC	DC
SVE5 52 100	Frequenza max nominale	16 Hz 13 Hz
SVE5 52 1D0	Tempo medio di risposta in eccitazione	18 ms 21 ms
	Tempo medio di risp. in diseccitazione	33 ms 44 ms
	Pressione di esercizio	2,5 ÷ 10 bar

SVE5 52 2D0	Frequenza max nominale	25 Hz 19 Hz
	Tempo medio di risposta in eccitazione	11 ms 14 ms
	Tempo medio di risp. in diseccitazione	12 ms 15 ms

	AC	DC
SVE5 52 200	Frequenza max nominale	27 Hz 21 Hz
	Tempo medio di risposta in eccitazione	11 ms 14 ms
	Tempo medio di risp. in diseccitazione	11 ms 14 ms
	Pressione di esercizio	1,5 ÷ 10 bar

SVE5 53 260	Frequenza max nominale	8 Hz 8 Hz
SVE5 53 290	Frequenza max nominale consigliata	6 Hz 6 Hz
	Tempo medio di risposta in eccitazione	30 ms 35 ms
	Tempo medio di risp. in diseccitazione	35 ms 40 ms
	Pressione di esercizio	3 ÷ 10 bar

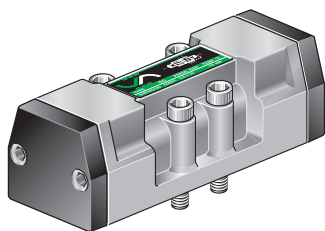
Caratteristiche elettriche bobina per elettrovalvole SVE5 con elettropilota CNOMO vedi pp. B-88



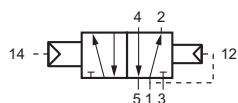
SVP4 52 100

SVP4 52 1M0

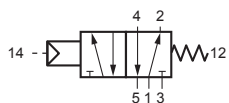
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SIMBOL / SIMBOLO

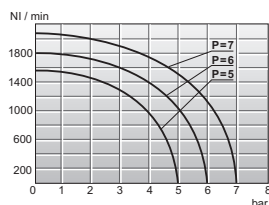


SVP4 52 100

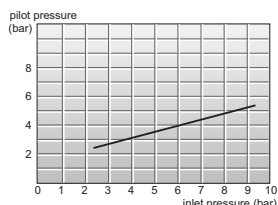


(*) SVP4 52 1M0

DIAGRAMS / DIAGRAMMI

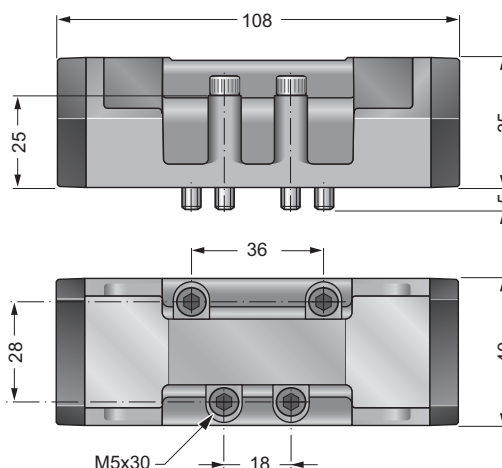


AIR FLOW DIAGRAM
DIAGRAMMA DELLE PORTATE



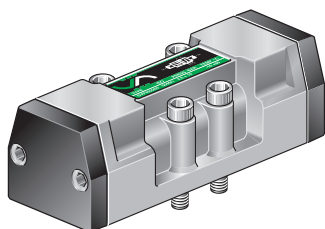
PILOT PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO

(*) ATEX versions see / Versioni ATEX vedi P. B-113

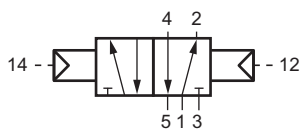


SVP4 52 200

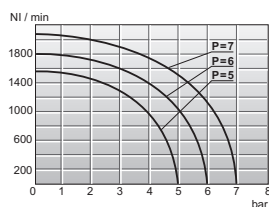
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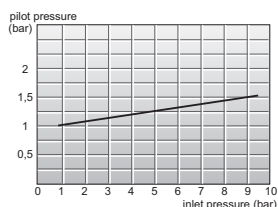
SIMBOL / SIMBOLO



DIAGRAMS / DIAGRAMMI

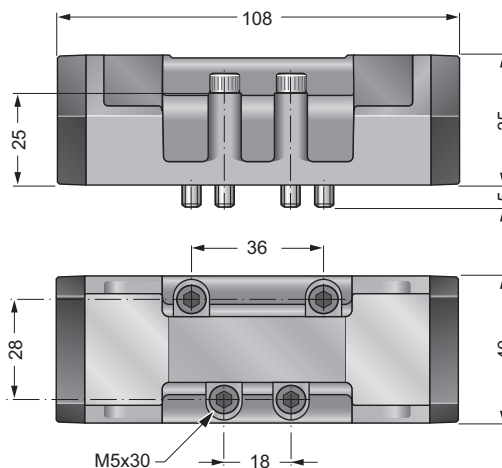


AIR FLOW DIAGRAM
DIAGRAMMA DELLE PORTATE

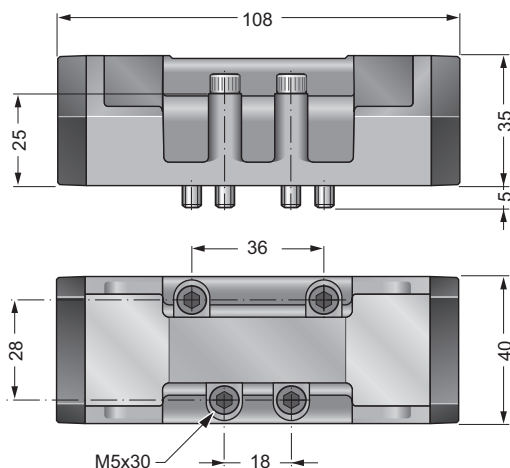


PILOT PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO

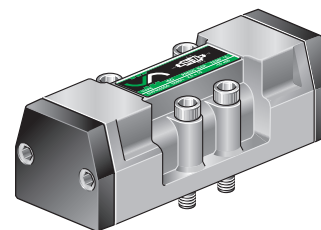
(*) ATEX versions see / Versioni ATEX vedi P. B-113



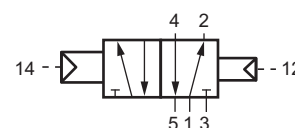
VALVE / VALVOLA 5/2
DOUBLE DIFFERENTIAL PNEUMATIC PILOT
DOPPIO COMANDO PNEUMATICO DIFFERENZIALE



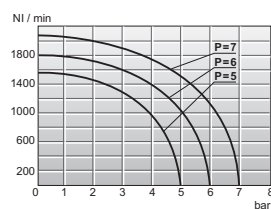
SVP4 52 2D0



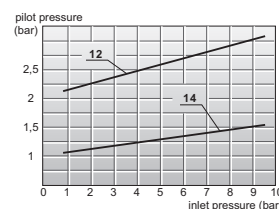
SIMBOL / SIMBOLO



DIAGRAMS / DIAGRAMMI

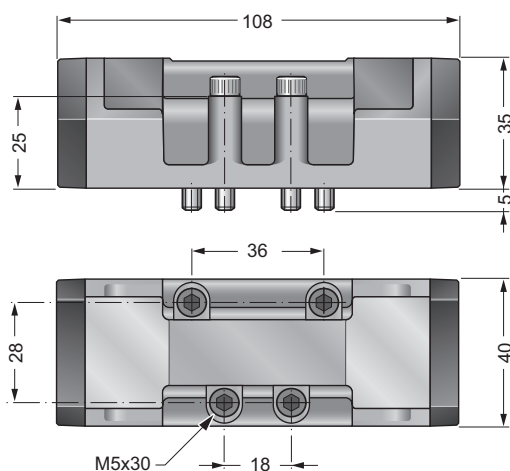


AIR FLOW DIAGRAM
DIAGRAMMA DELLE PORTATE

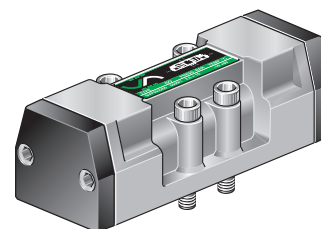


PILOT PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO

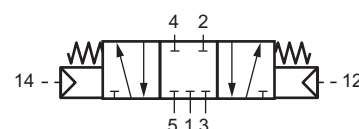
VALVE / VALVOLA 5/3
DOUBLE PNEUMATIC PILOT - CENTER POSITIO CLOSED
DOPPIO COMANDO PNEUMATICO - CENTRI CHIUSI



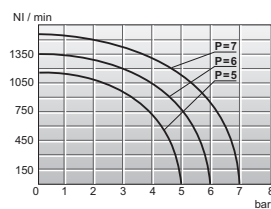
SVP4 53 260



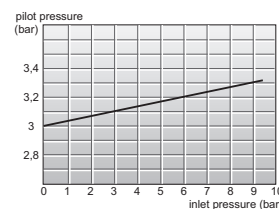
SIMBOL / SIMBOLO



DIAGRAMS / DIAGRAMMI



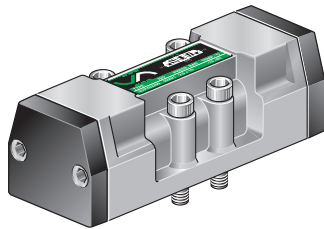
DAIR FLOW DIAGRAM
DIAGRAMMA DELLE PORTATE



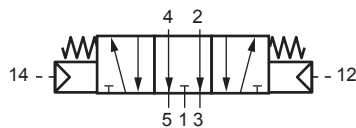
PILOT PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO



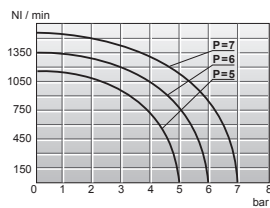
SVP4 53 290



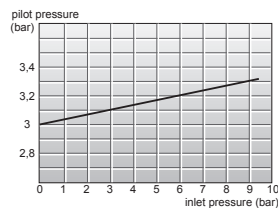
SIMBOL / SIMBOLO



DIAGRAMS / DIAGRAMMI

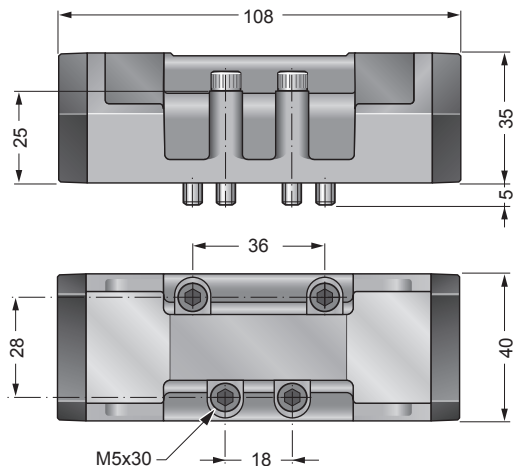


AIR FLOW DIAGRAM
DIAGRAMMA DELLE PORTATE



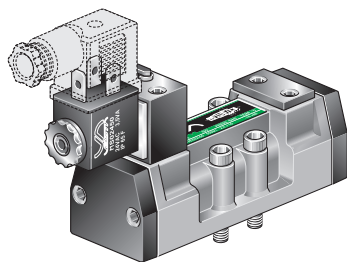
PILOT PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO

VALVE / VALVOLA 5/3 DOUBLE PNEUMATIC PILOT - CENTER POSITION OPEN DOPPIO COMANDO PNEUMATICO - CENTRI APERTI

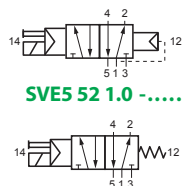


SVE5 52 100 -

SVE5 52 1M0 - (*)

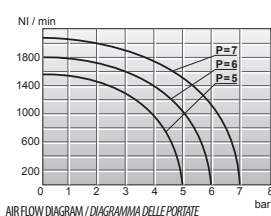


SIMBOL / SIMBOLO



(*) SVE5 52 1M0 -

DIAGRAM / DIAGRAMMA



AIR FLOW DIAGRAM / DIAGRAMMA DELLE PORTATE

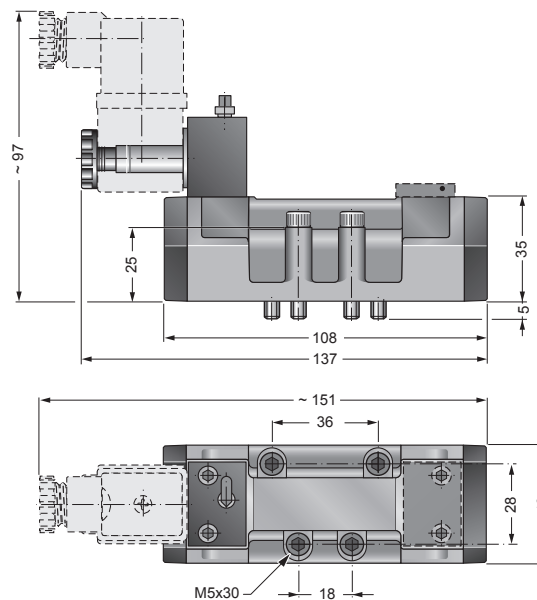
CODES / CODICI

Ordination code Codice ordinazione

SVE5 52 100-00000	No coil / Senza solenoide
SVE5 52 100-01200	12 V DC
SVE5 52 100-02400	24 V DC
SVE5 52 100-02450	24 V 50/60Hz AC
SVE5 52 100-11550	115 V 50/60Hz AC
SVE5 52 100-23050	230 V 50/60Hz AC

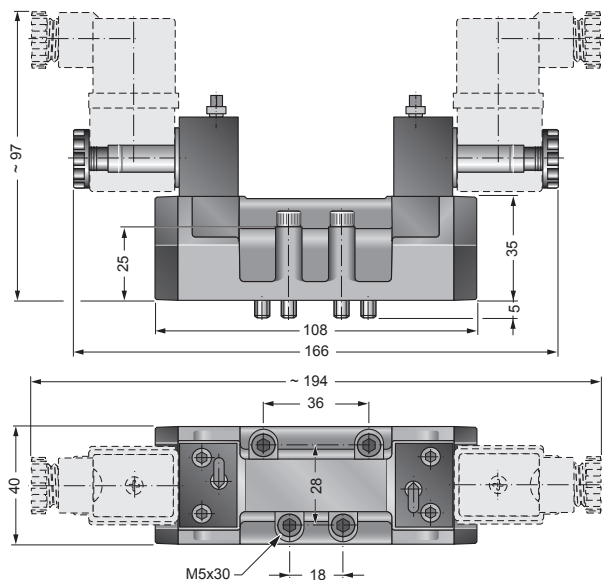
Voltage Tensione

SOLENOID VALVES / Elettrovalvola 5/2 SINGLE SOLENOID PILOT - INTERNAL PRESSURE RETURN OR SPRING RETURN COMANDO ELETTROPNEUMATICO - RIPOSIZIONAMENTO PNEUMATICO O MOLLA MECCANICA



(*) ATEX versions see / Versioni ATEX vedi P. B-113

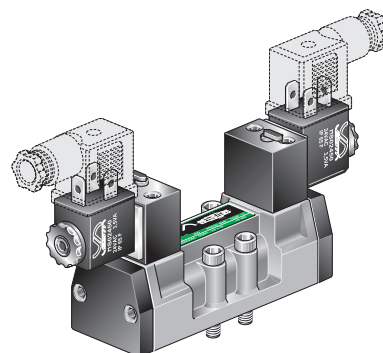
SOLENOID VALVES / ELETTRORVALVOLA 5/2
DOUBLE SOLENOID PILOT
DOPPIO COMANDO ELETTROPNEUMATICO



(*) ATEX versions see / Versioni ATEX vedi P. B-113

(*)

SVE5 52 200 -



SIMBOL / SIMBOLO

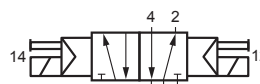
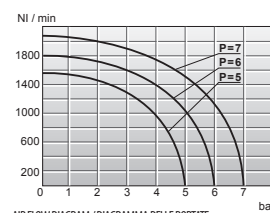


DIAGRAM / DIAGRAMMA



AIR FLOW DIAGRAM / DIAGRAMMA DELLE PORTATE

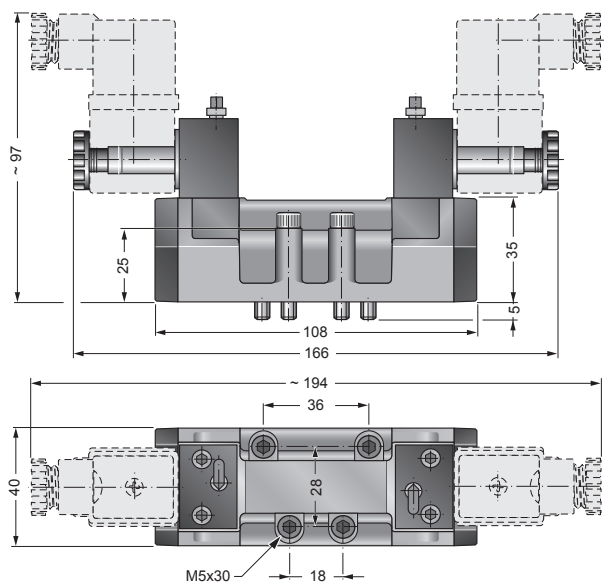
CODES / CODICI

Ordination code
Codice ordinazione

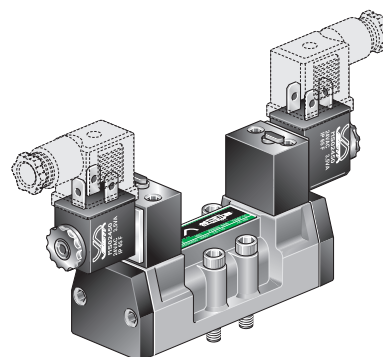
SVE5 52 200 - 00000	No coils / Senza solenoidi
SVE5 52 200 - 01200	12 V DC
SVE5 52 200 - 02400	24 V DC
SVE5 52 200 - 02450	24 V 50/60Hz AC
SVE5 52 200 - 11550	115 V 50/60Hz AC
SVE5 52 200 - 23050	230 V 50/60Hz AC

Voltage
Tensione

SOLENOID VALVES / ELETTRORVALVOLA 5/2
DOUBLE DIFFERENTIAL SOLENOID PILOT
DOPPIO COMANDO ELETTROPNEUMATICO DIFFERENZIALE



SVE5 52 2D0 -



SIMBOL / SIMBOLO

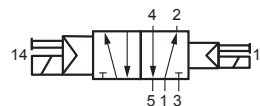
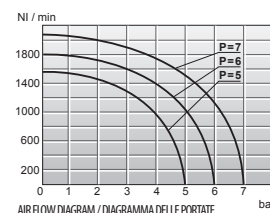


DIAGRAM / DIAGRAMMA



AIR FLOW DIAGRAM / DIAGRAMMA DELLE PORTATE

CODES / CODICI

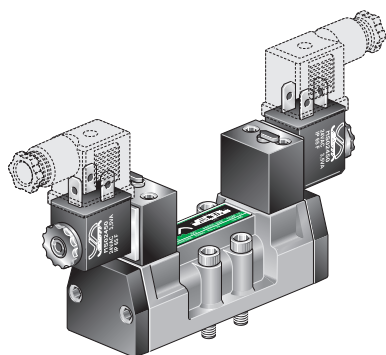
Ordination code
Codice ordinazione

SVE5 52 2D0 - 00000	No coils / Senza solenoidi
SVE5 52 2D0 - 01200	12 V DC
SVE5 52 2D0 - 02400	24 V DC
SVE5 52 2D0 - 02450	24 V 50/60Hz AC
SVE5 52 2D0 - 11550	115 V 50/60Hz AC
SVE5 52 2D0 - 23050	230 V 50/60Hz AC

Voltage
Tensione



SVE5 53 260 -



SIMBOL / SIMBOLO

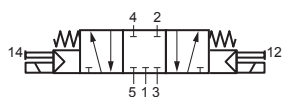
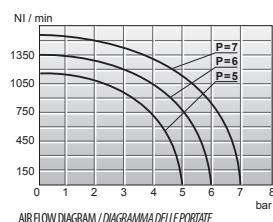


DIAGRAM / DIAGRAMMA



CODES / CODICI

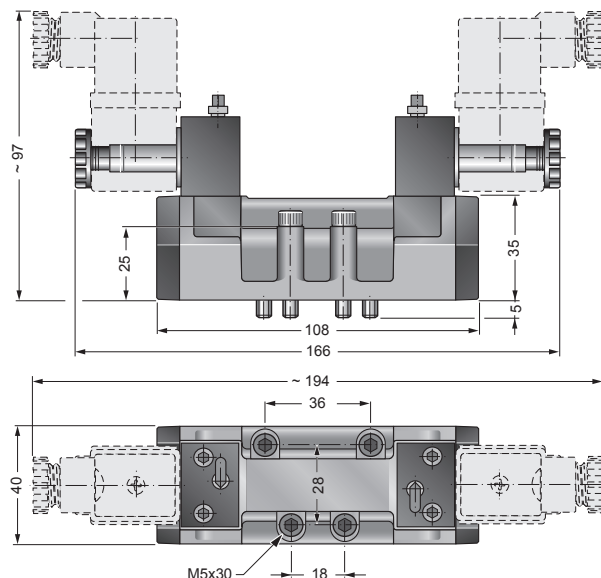
Ordination code Codice ordinazione

SVE5 53 260-00000	No coils / Senza solenoidi
SVE5 53 260-01200	12 V DC
SVE5 53 260-02400	24 V DC
SVE5 53 260-02450	24 V 50/60Hz AC
SVE5 53 260-11550	115 V 50/60Hz AC
SVE5 53 260-23050	230 V 50/60Hz AC

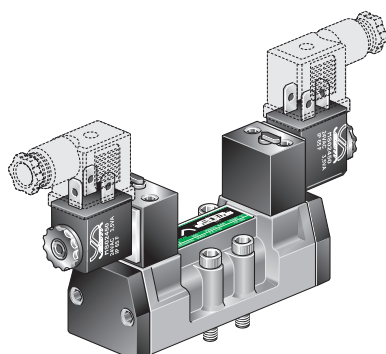
Voltage Tensione

SOLENOID VALVES / 5/3

DOUBLE SOLENOID PILOT - CENTER POSITION CLOSED
DOPPIO COMANDO ELETTROPNEUMATICO - CENTRI CHIUSI



SVE5 53 290 -



SIMBOL / SIMBOLO

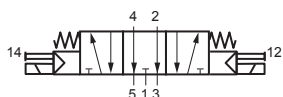
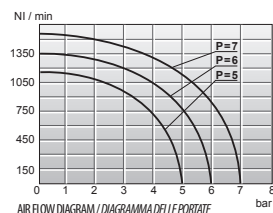


DIAGRAM / DIAGRAMMA



CODES / CODICI

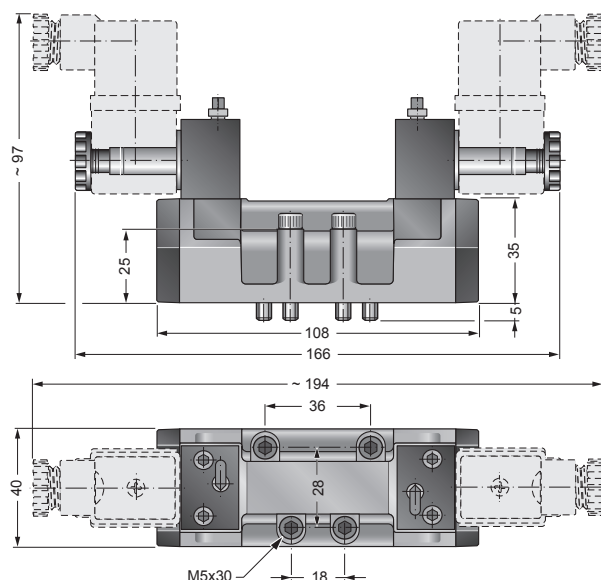
Ordination code Codice ordinazione

SVE5 53 290-00000	No coils / Senza solenoidi
SVE5 53 290-01200	12 V DC
SVE5 53 290-02400	24 V DC
SVE5 53 290-02450	24 V 50/60Hz AC
SVE5 53 290-11550	115 V 50/60Hz AC
SVE5 53 290-23050	230 V 50/60Hz AC

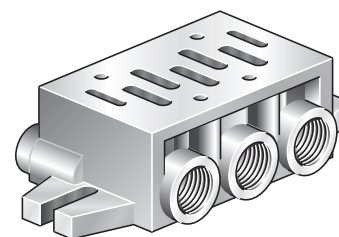
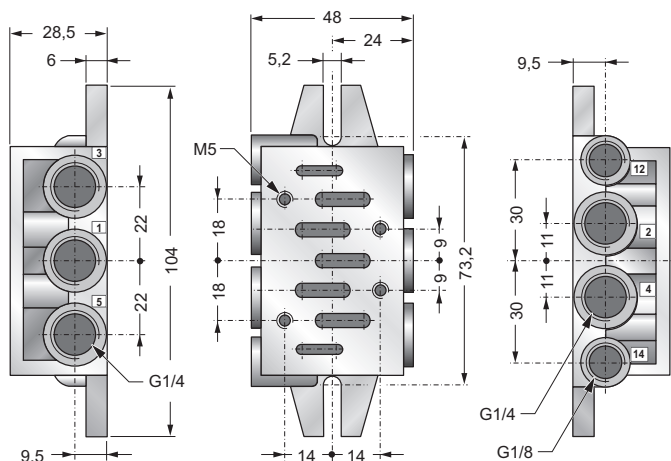
Voltage Tensione

SOLENOID VALVES / ELETTROVALVOLA 5/3

DOUBLE SOLENOID PILOT - CENTER POSITION OPEN
DOPPIO COMANDO ELETTROPNEUMATICO - CENTRI APERTI



BS 1

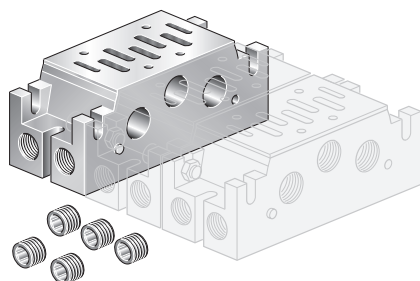


SINGLE SUBBASE
BASE SINGOLA USCITE LATERALI

- Valves fixing screws supplied with valves.
 - Subbase fixing screws not supplied.
 - Manifold supplied assembled on demand.
-
- *Le viti di fissaggio vengono fornite con le valvole.*
 - *Il fissaggio alla base è a cura del cliente.*
 - *La fornitura della base può essere completata, a richiesta, con il montaggio della valvola od elettrovalvola desiderata.*

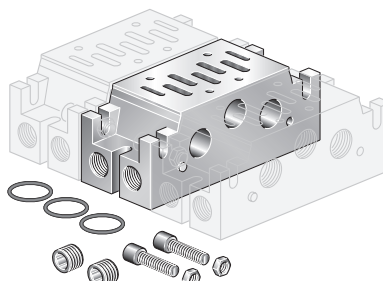
(*) **ATEX** versions see / *Versioni ATEX* vedi **P. B-113**

BTC 1



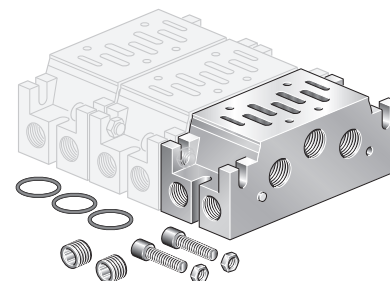
END PLATE / BOTTOM SIDE OUT LET
BASE DI CHIUSURA USCITE FONDO E LATERALI

BM I 1

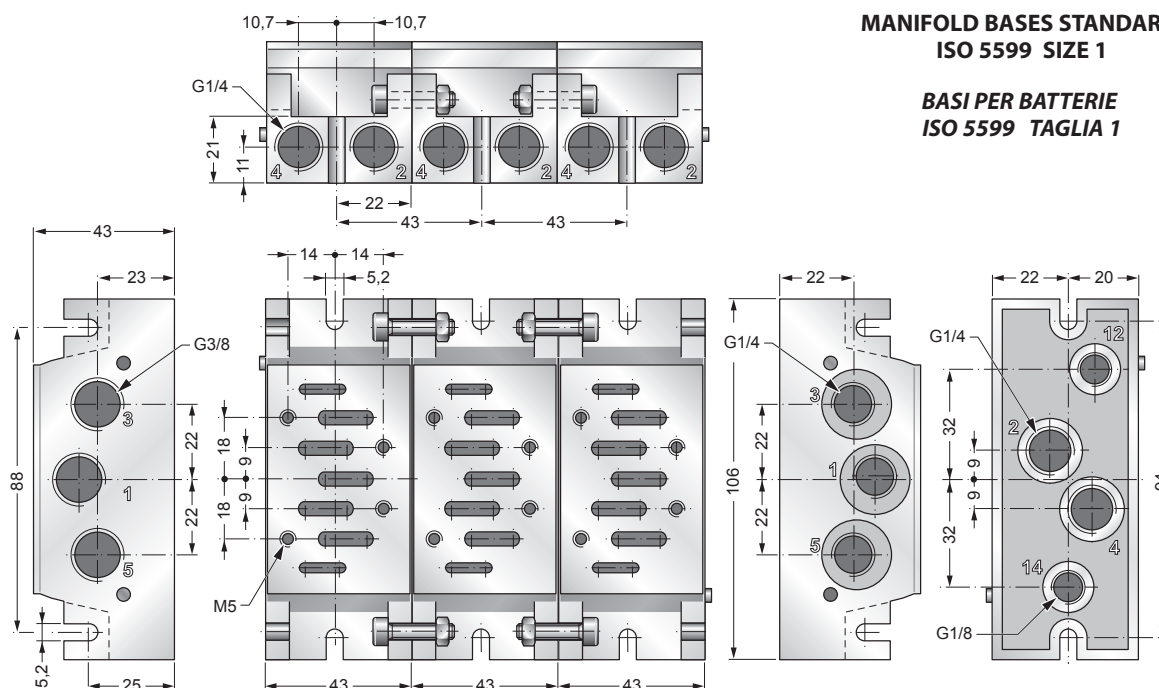


MIDDLE PLATE / BOTTOM SIDE OUT LET
BASE INTERMEDIA USCITE FONDO E LATERALI

BTI 1



INLET END PLATE / BOTTOM SIDE OUT LET
BASE DI INGRESSO USCITE FONDO E LATERALI



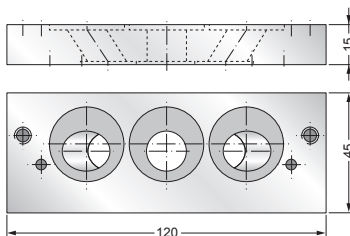
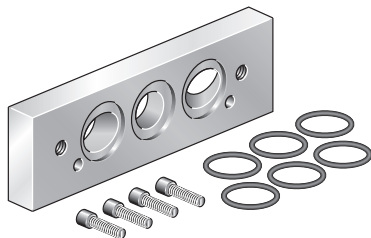
**MANIFOLD BASES STANDARD
ISO 5599 SIZE 1**

**BASI PER BATTERIE
ISO 5599 TAGLIA 1**



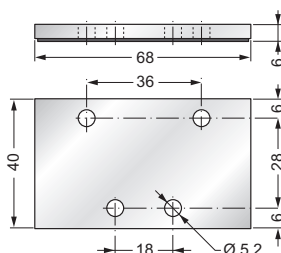
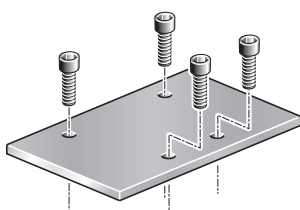
INTF 1-2

ADAPTOR PLATE FROM **SIZE 1 TO SIZE 2**
INTERFACCIA PER BASI DA **TAGLIA 1 A TAGLIA 2**



PCBM 1

PLUG FLAT
CHIUSURA POSTO INUTILIZZATO

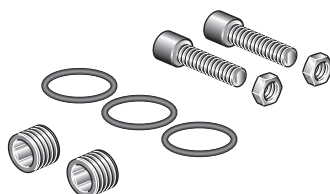


- Supplied with fixing screws.

- La piastrina di chiusura del posto inutilizzato viene fornita con le viti per il fissaggio sulla base.

KM 1

ASSEMBLING KIT
KIT DI RICAMBIO

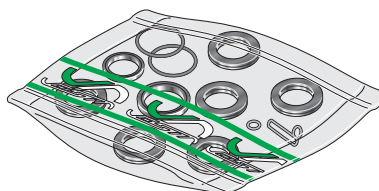


- **KM 1** supplied with **BMI 1** and **BTI 1**,
- Supplied separately on demand.

- Il kit **KM 1** viene fornito con le basi **BMI 1** e **BTI 1**,
- A richiesta può essere fornito come ricambio.

SET . 1/4 SG

SEALS KIT
KIT GUARNIZIONI DI RICAMBIO



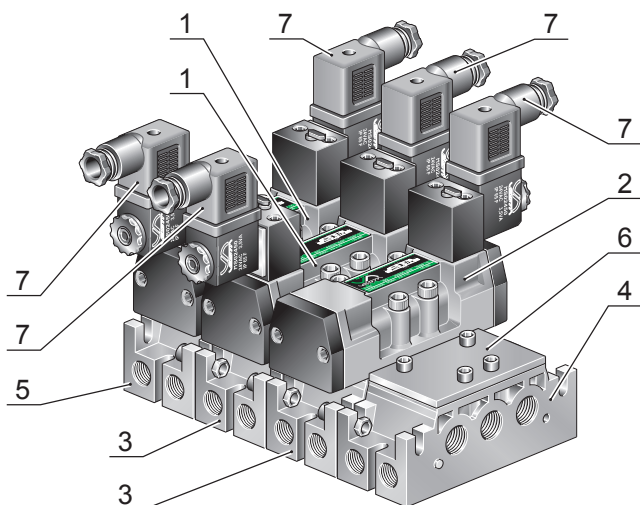
Seals kit code - Codice del kit

SET 1 1/4 SG: for ISO 1 **mono-stable** valves - per valvole **monostabili** ISO 1.

SET 2 1/4 SG: for ISO 1 **bi-stable** valves - per valvole **bistabili** ISO 1.

Example / Esempio: **SVE5 52 100 -02400** → **SET 1 1/4 SG**
SVE5 52 200 -02400 → **SET 2 1/4 SG**

HOW TO ASSEMBLE A SIZE 1 MANIFOLD / ESEMPIO DI ASSEMBLAGGIO BATTERIA TAGLIA 1



Components needed to assemble the manifold in figure.
Esempio di componenti necessari a realizzare la batteria raffigurata.

Pos. Posizione	Quantity Quantità	Code Codice ordinazione
1	N° 2	SVE5 52 200 - 02450
2	N° 1	SVE5 52 100 - 02450
3	N° 2	BMI 1
4	N° 1	BTI 1
5	N° 1	BTC 1
6	N° 1	PCBM 1
7	N° 5	CEP/1

- Valves fixing screws and seals are supplied with valves.
- Subbase fixing screws not supplied.
- Manifold supplied assembled on demand.
- Le viti e le guarnizioni per il fissaggio vengono fornite con le valvole.
- Il fissaggio alla base è a cura del cliente.
- A richiesta, la base può essere fornita preassemblata.

TECHNICAL FEATURES / CARATTERISTICHE TECNICHE

SERIE **SVP2** - **SVE2**

Fixing	Single subbase pag. B-80
Flow section	Manifold mounting pag. B-80
Ambient temperature range	Ø 8 mm
Temperature range of medium	-10 °C ÷ +50 °C
Lubrication	0 °C ÷ +40 °C
Medium	Not required
Reference temperature	Filtered air
Reference pressure	+20 °C
	6 bar

COMMON TECHNICAL FEATURES **SVP2** AND **SVE2**

VALVES AND SOLENOID VALVES 5/2

Nominal air flow	2200 NI/min
Fluid conductance "C"	7,6 NI/s bar
Critical pressure ratio "b"	0,38

VALVES AND SOLENOID VALVES 5/3

Nominal air flow	1800 NI/min
Fluid conductance "C"	7,1 NI/s bar
Critical pressure ratio "b"	0,45

SVP2 52 100	Nominal pilot pressure	4 bar (10 bar)
	Nominal max. frequency	16 Hz
	Operating pressure range	2,5 ÷ 10 bar
SVP2 53 260	Nominal pilot pressure	3,2 bar
	Nominal max. frequency	8 Hz
	Nominal suggested frequency	5 Hz
	Operating pressure range	3 ÷ 10 bar

SVP2 52 200	Nominal pilot pressure	1,3 bar
	Nominal max. frequency	25 Hz
	Operating pressure range	1,5 ÷ 10 bar
SVP2 53 290	Nominal pilot pressure	3,2 bar
	Nominal max. frequency	8 Hz
	Nominal suggested frequency	5 Hz
	Operating pressure range	3 ÷ 10 bar

PNEUMATIC VALVES FEATURES **SVP2**SOLENOID VALVES FEATURES **SVE2**

	AC	DC
SVE2 52 100	Nominal frequency (max)	13 Hz 10 Hz
	Average actining response	21 ms 24 ms
	Average disactioning response	36 ms 47 ms
	Operating pressure range	2,5 ÷ 10 bar
SVE2 53 260	Nominal frequency (max)	8 Hz 8 Hz
	Nominal frequency suggested	5 Hz 5 Hz
	Average actining response	30 ms 35 ms
	Average disactioning response	35 ms 40 ms
	Operating pressure range	3 ÷ 10 bar

	AC	DC
SVE2 52 200	Nominal frequency (max)	24 Hz 18 Hz
	Average actining response	14 ms 17 ms
	Average disactioning response	14 ms 17 ms
	Operating pressure range	1,5 ÷ 10 bar
SVE2 53 290	Nominal frequency (max)	8 Hz 8 Hz
	Nominal frequency suggested	5 Hz 5 Hz
	Average actining response	30 ms 35 ms
	Average disactioning response	35 ms 40 ms
	Operating pressure range	3 ÷ 10 bar

For electrical features solenoid SVE5 with CNOMO pilot see pp. B-88.

Fissaggio	Base singola uscite frontali pag. B-78
Diametro nominale	Basi in batteria pag. B-78
Temperatura ambiente	Ø 8 mm
Temperatura fluido	-10 °C ÷ +50 °C
Lubrificazione	0 °C ÷ +40 °C
Fluido	Non necessaria
Temperatura nominale	Aria filtrata
Pressione nominale	+20 °C
	6 bar

CARATTERISTICHE TECNICHE COMUNI **SVP2** E **SVE2**

VALVOLE ED ELETTROVALVOLE 5/2

Portata nominale	2200 NI/min
Valore conduttanza "C"	7,6 NI/s bar
Rapporto critico delle pressioni "b"	0,38

VALVOLE ED ELETTROVALVOLE 5/3

Portata nominale	1800 NI/min
Valore conduttanza "C"	7,1 NI/s bar
Rapporto critico delle pressioni "b"	0,45

SVP2 52 100	Pressione di pilotaggio nominale	4 bar (10 bar)
	Frequenza max nominale	16 Hz
	Pressione di esercizio	2,5 ÷ 10 bar
SVP2 53 260	Pressione di pilotaggio nominale	3,2 bar
	Frequenza max nominale	8 Hz
	Frequenza max consigliata	5 Hz
	Pressione di esercizio	3 ÷ 10 bar

CARATTERISTICHE VALVOLE PNEUMATICHE **SVP2**

SVP2 52 200	Pressione di pilotaggio nominale	1,3 bar
	Frequenza max nominale	25 Hz
	Pressione di esercizio	1,5 ÷ 10 bar
SVP2 53 290	Pressione di pilotaggio nominale	3,2 bar
	Frequenza max nominale	8 Hz
	Frequenza max consigliata	5 Hz
	Pressione di esercizio	3 ÷ 10 bar

CARATTERISTICHE ELETTROVALVOLE **SVE5**

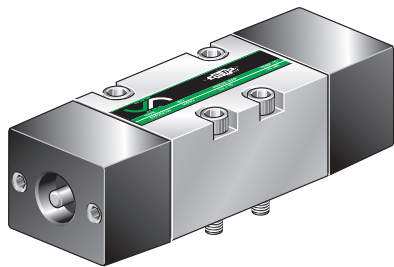
	AC	DC
SVE2 52 100	Frequenza max nominale	13 Hz 10 Hz
	Tempo medio di risposta in eccitazione	21 ms 24 ms
	Tempo medio di risp. in diseccitazione	36 ms 47 ms
	Pressione di esercizio	2,5 ÷ 10 bar
SVE2 53 260	Frequenza max nominale	8 Hz 8 Hz
	Frequenza max nominale consigliata	6 Hz 5 Hz
	Tempo medio di risposta in eccitazione	30 ms 35 ms
	Tempo medio di risp. in diseccitazione	35 ms 40 ms
	Pressione di esercizio	3 ÷ 10 bar

	AC	DC
SVE2 52 200	Frequenza max nominale	24 Hz 18 Hz
	Tempo medio di risposta in eccitazione	14 ms 17 ms
	Tempo medio di risp. in diseccitazione	14 ms 17 ms
	Pressione di esercizio	1,5 ÷ 10 bar
SVE2 53 290	Frequenza max nominale	8 Hz 8 Hz
	Frequenza max nominale consigliata	6 Hz 5 Hz
	Tempo medio di risposta in eccitazione	30 ms 35 ms
	Tempo medio di risp. in diseccitazione	35 ms 40 ms
	Pressione di esercizio	3 ÷ 10 bar

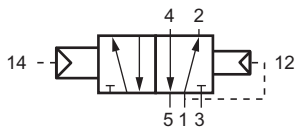
Caratteristiche elettriche bobina per elettrovalvole SVE5 con elettropilota CNOMO vedi pp. B-88.



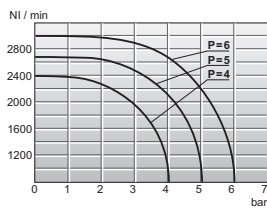
SVP2 52 100



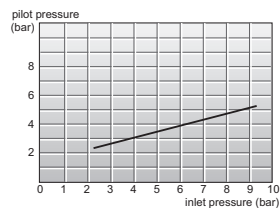
SIMBOL / SIMBOLO



DIAGRAMS / DIAGRAMMI

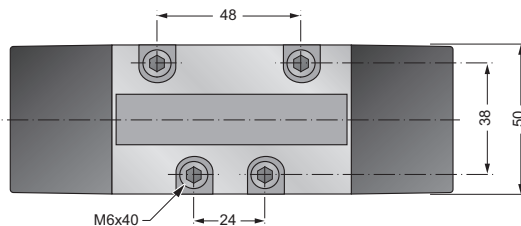
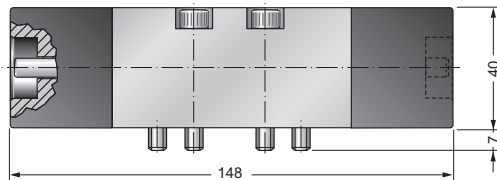


AIR FLOW DIAGRAM
DIAGRAMMA DELLE PORTATE

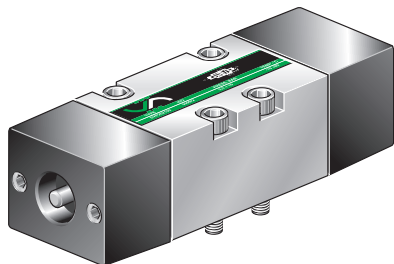


PILOT PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO

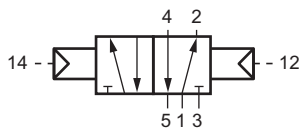
VALVE / VALVOLA 5/2 SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN COMANDO PNEUMATICO - RIPOSIZIONAMENTO MOLLA PNEUMATICA



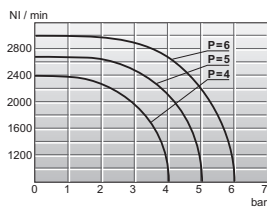
SVP2 52 200



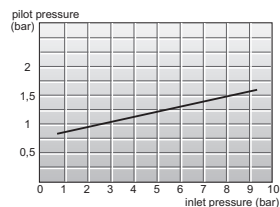
SIMBOL / SIMBOLO



DIAGRAMS / DIAGRAMMI

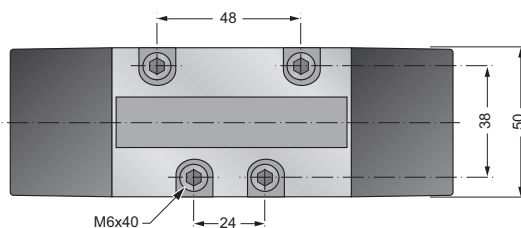
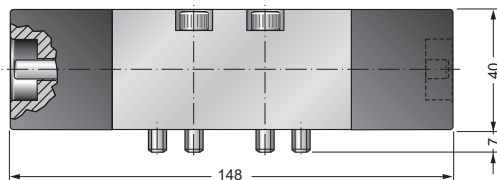


AIR FLOW DIAGRAM
DIAGRAMMA DELLE PORTATE

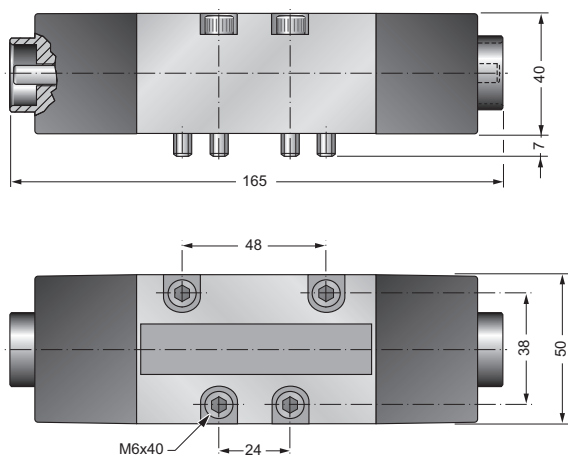


PILOT PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO

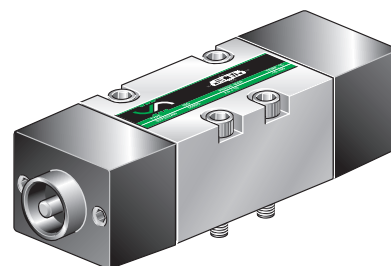
VALVE / VALVOLA 5/2 DOUBLE PNEUMATIC PILOT DOPPIO COMANDO PNEUMATICO



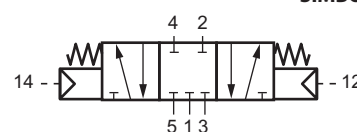
VALVE / VALVOLA 5/3
DOUBLE PNEUMATIC PILOT - CENTER POSITION CLOSED
DOPPIO COMANDO PNEUMATICO - CENTRI CHIUSI



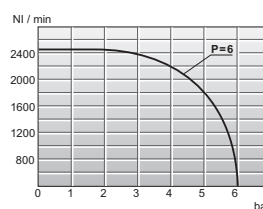
SVP2 53 260



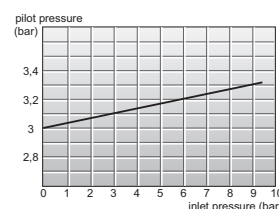
SIMBOL / SIMBOLO



DIAGRAMS / DIAGRAMMI

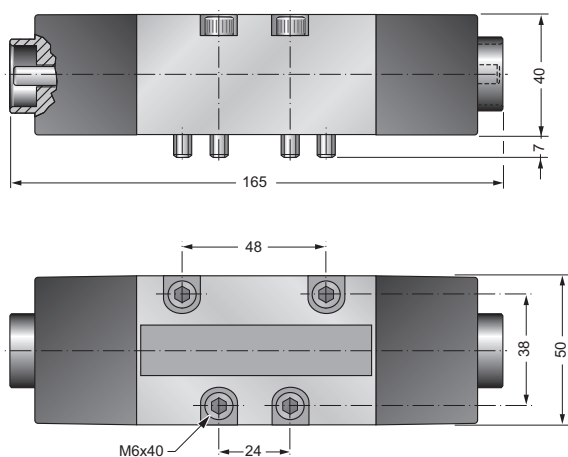


AIR FLOW DIAGRAM
DIAGRAMMA DELLE PORTATE

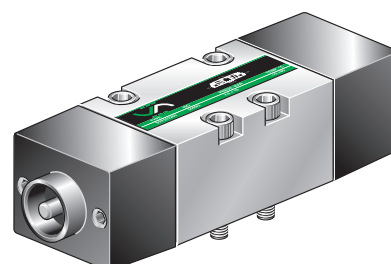


PILOT PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO

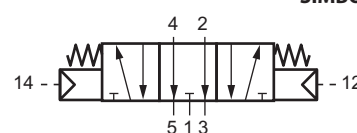
VALVE / VALVOLA 5/3
DOUBLE PNEUMATIC PILOT - CENTER POSITION OPEN
DOPPIO COMANDO PNEUMATICO - CENTRI APERTI



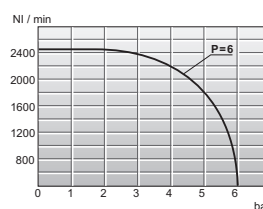
SVP2 53 290



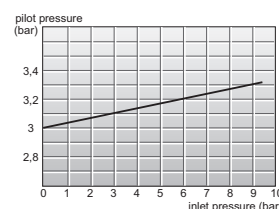
SIMBOL / SIMBOLO



DIAGRAMS / DIAGRAMMI



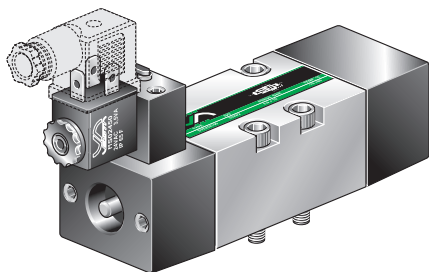
AIR FLOW DIAGRAM
DIAGRAMMA DELLE PORTATE



PILOT PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO



SVE2 52 100 -



SIMBOL / SIMBOLO

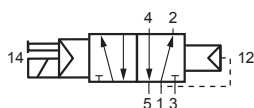
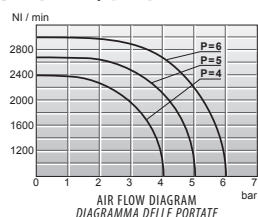


DIAGRAM / DIAGRAMMA



CODES / CODICI

Ordination code Codice ordinazione

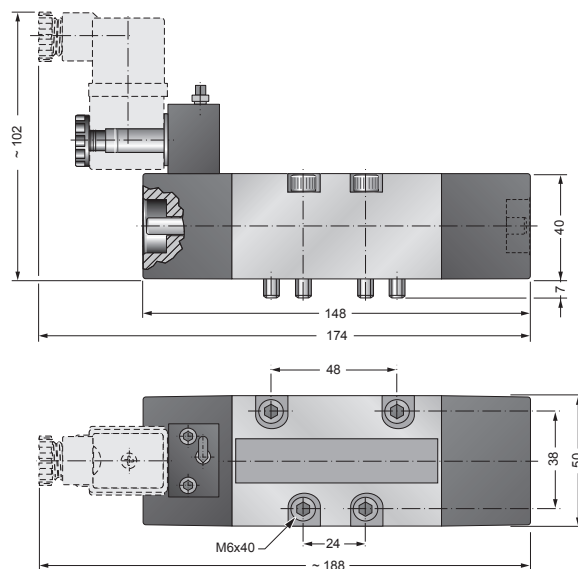
SVE2 52 100 -00000	No coil / Senza solenoide
SVE2 52 100 -01200	12 V DC
SVE2 52 100 -02400	24 V DC
SVE2 52 100 -02450	24 V 50/60Hz AC
SVE2 52 100 -11550	115 V 50/60Hz AC
SVE2 52 100 -23050	230 V 50/60Hz AC

Voltage Tensione

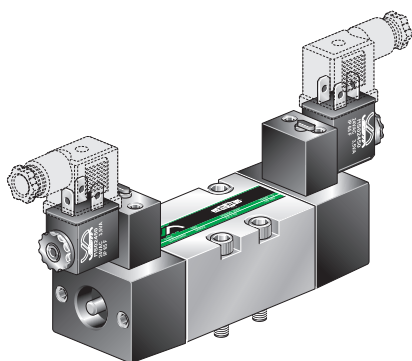
SOLENOID VALVES / ELETTRORVALVOLA 5/2

SOLENOID PILOT - INTERNAL PRESSURE RETURN

COMANDO ELETTROPNEUMATICO - RIPOSIZIONAMENTO MOLLA PNEUMATICA



SVE2 52 200 -



SIMBOL / SIMBOLO

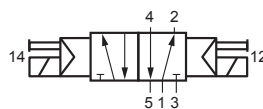
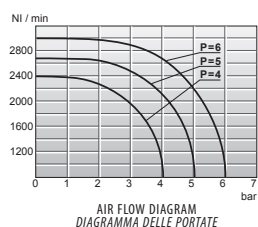


DIAGRAM / DIAGRAMMA



CODES / CODICI

Ordination code Codice ordinazione

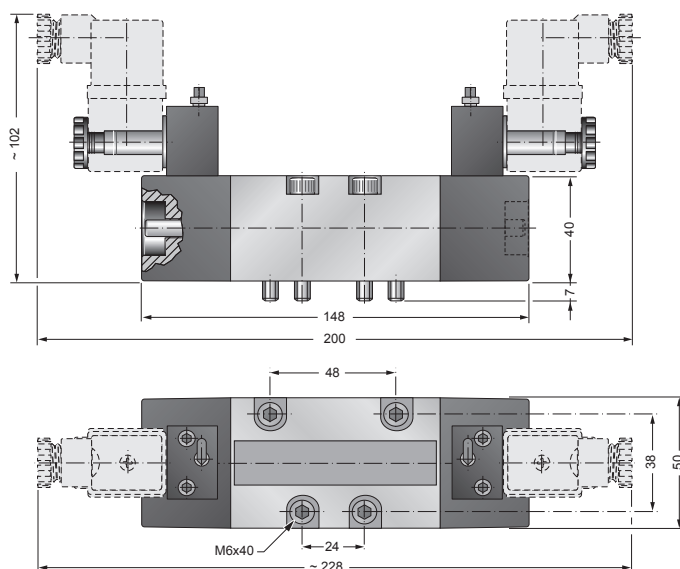
SVE2 52 200 -00000	No coils / Senza solenoidi
SVE2 52 200 -01200	12 V DC
SVE2 52 200 -02400	24 V DC
SVE2 52 200 -02450	24 V 50/60Hz AC
SVE2 52 200 -11550	115 V 50/60Hz AC
SVE2 52 200 -23050	230 V 50/60Hz AC

Voltage Tensione

SOLENOID VALVES / ELETTRORVALVOLA 5/2

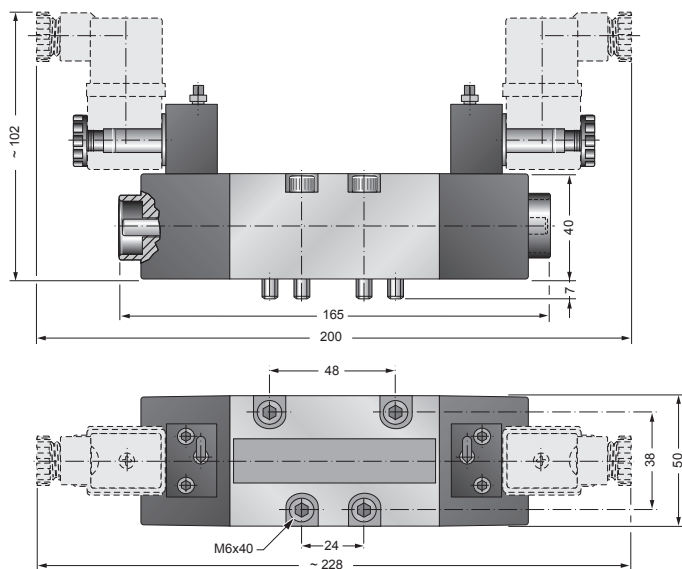
DOUBLE SOLENOID PILOT

DOPPIO COMANDO ELETTROPNEUMATICO

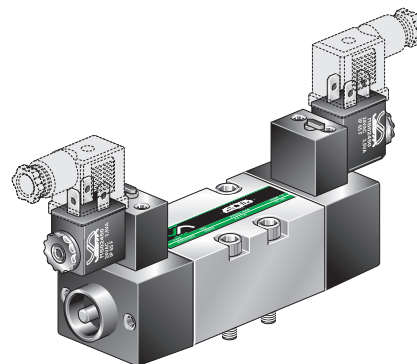


SOLENOID VALVES / ELETTRORVALVOLA 5/3

DOUBLE SOLENOID PILOT - CENTER POSITION CLOSED
DOPPIO COMANDO ELETTROPNEUMATICO - CENTRI CHIUSI



SVE2 53 260 -



SIMBOL / SIMBOLO

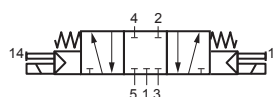
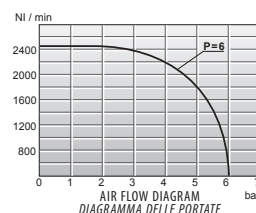


DIAGRAM / DIAGRAMMA



CODES / CODICI

Ordination code Codice ordinazione

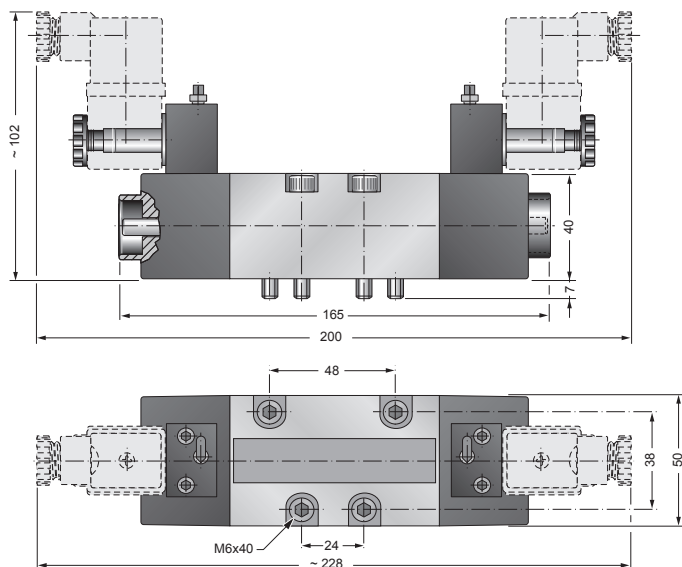
SVE2 53 260-00000	.....
SVE2 53 260-01200	.....
SVE2 53 260-02400	.....
SVE2 53 260-02450	.....
SVE2 53 260-11550	.....
SVE2 53 260-23050	.....

Voltage Tensione

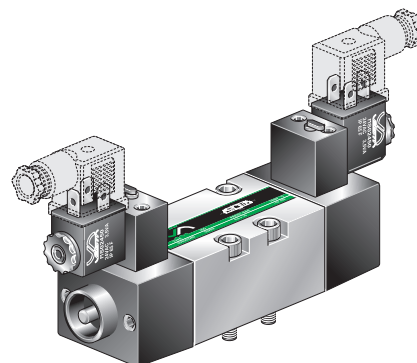
No coils / Senza solenoidi
12 V DC
24 V DC
24 V 50/60Hz AC
115 V 50/60Hz AC
230 V 50/60Hz AC

SOLENOID VALVES / ELETTRORVALVOLA 5/3

DOUBLE SOLENOID PILOT - CENTER POSITION OPEN
DOPPIO COMANDO ELETTROPNEUMATICO - CENTRI APERTI



SVE2 53 290 -



SIMBOL / SIMBOLO

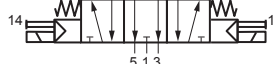
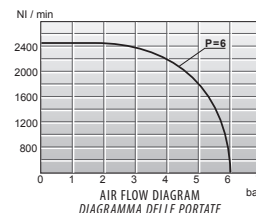


DIAGRAM / DIAGRAMMA



CODES / CODICI

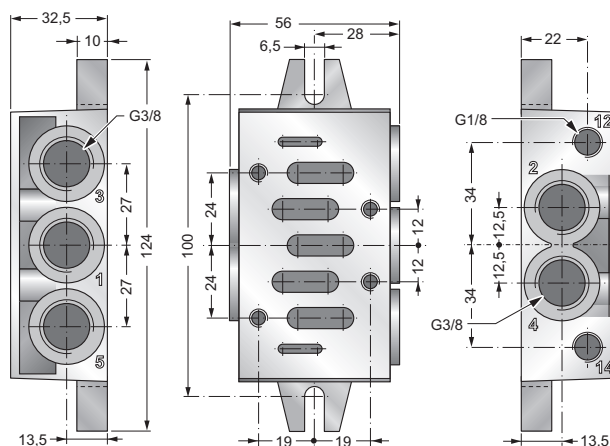
Ordination code Codice ordinazione

SVE2 53 290-00000	.....
SVE2 53 290-01200	.....
SVE2 53 290-02400	.....
SVE2 53 290-02450	.....
SVE2 53 290-11550	.....
SVE2 53 290-23050	.....

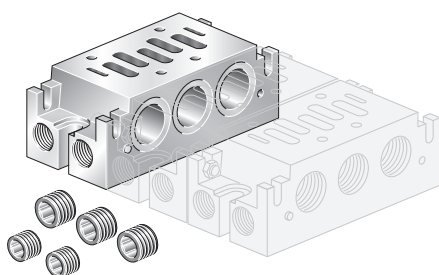
Voltage Tensione

No coils / Senza solenoidi
12 V DC
24 V DC
24 V 50/60Hz AC
115 V 50/60Hz AC
230 V 50/60Hz AC

- Le viti di fissaggio vengono fornite con le valvole.
- Il fissaggio alla base è a cura del cliente.
- La fornitura della base può essere completata, a richiesta, con il montaggio della valvola od elettrovalvola desiderata.

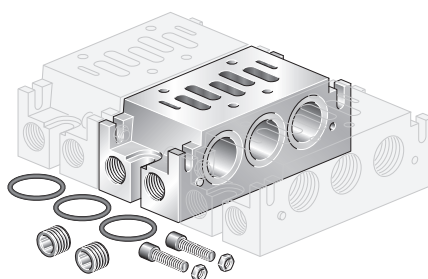


BTC 2



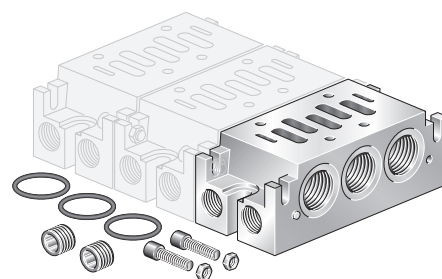
END PLATE / BOTTOM SIDE OUTLET
BASE DI CHIUSURA USCITE FONDO E LATERALI

BM I 2



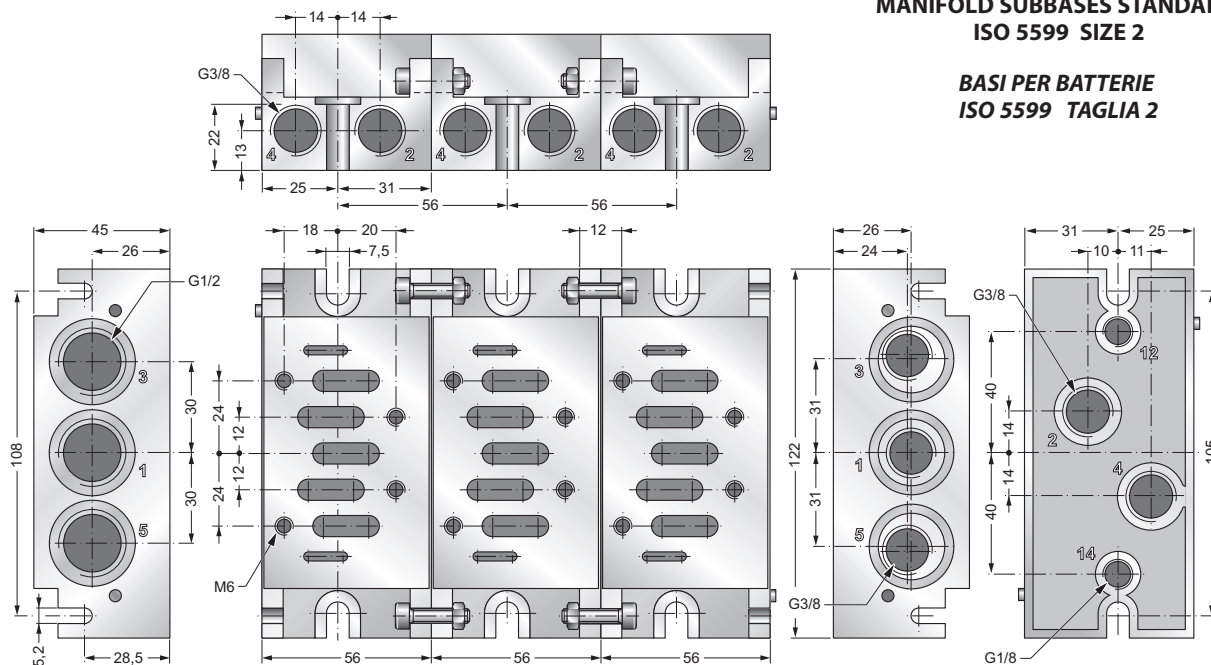
MIDDLE PLATE / BOTTOM SIDE OUTLET
BASE INTERMEDIA USCITE FONDO E LATERALE LATERALI

BTI 2



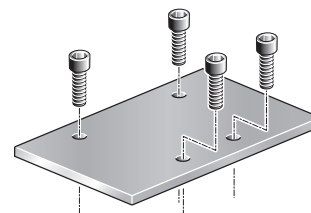
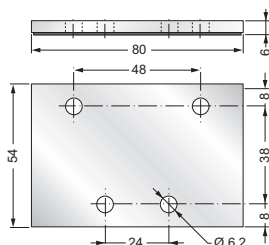
INLET END PLATE / BOTTOM SIDE OUTLET
BASE DI INGRESSO USCITE FONDO E LATERALI

**BASI PER BATTERIE
ISO 5599 TAGLIA 2**



PLUG FLAT
CHIUSURA POSTO INUTILIZZATO

PCBM 2

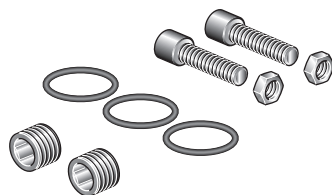


- Supplied with fixing screws.

- La piastrina di chiusura del posto inutilizzato viene fornita con le viti per il fissaggio sulla base.

ASSEMBLING KIT
KIT DI RICAMBIO

KM 2

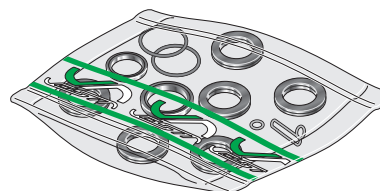


- **KM 2** supplied with **BMI 2** and **BTI 2**,
- Supplied separatly on demand.

- Il kit **KM 2** viene fornito con le basi **BMI 2** e **BTI 2**,
- A richiesta può essere fornito come ricambio.

SEALS KIT
KIT GUARNIZIONI DI RICAMBIO

SET . 1/2 SG



Seals kit code - Codice del kit

SET 1 1/2 SG: for ISO 2 **mono-stable** valves - per valvole **monostabili** ISO 2.

SET 2 1/2 SG: for ISO 2 **bi-stable** valves - per valvole **bistabili** ISO 2.

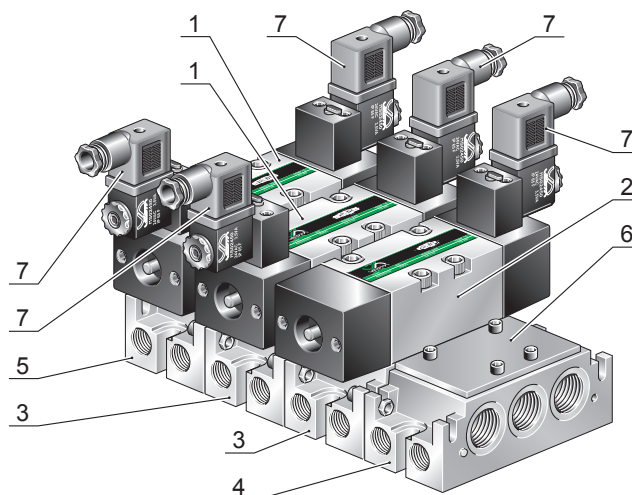
Example / Esempio: **SVE2 52 100 -02400** → **SET 1 1/2 SG**

SVE2 52 200 -02400 → **SET 2 1/2 SG**

HOW TO ASSEMBLE A SIZE 2 MANIFOLD / ESEMPIO DI ASSEMBLAGGIO BATTERIA TAGLIA 2

Components needed to assemble the manifold in figure.
Esempio di componenti necessari a realizzare la batteria raffigurata.

Pos. Posizione	Quantity Quantità	Code Codice ordinazione
1	N° 2	SVE2 52 200 - 02450
2	N° 1	SVE2 52 100 - 02450
3	N° 2	BMI 2
4	N° 1	BTI 2
5	N° 1	BTC 2
6	N° 1	PCBM 2
7	N° 5	CEP/ 1

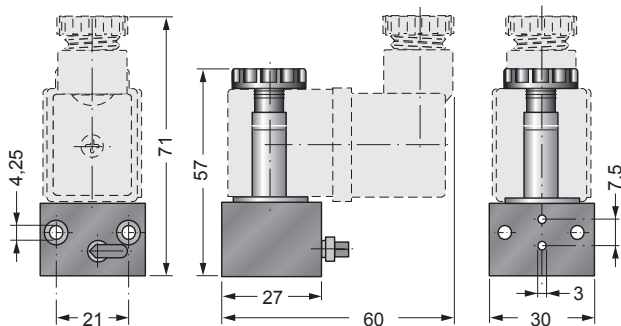
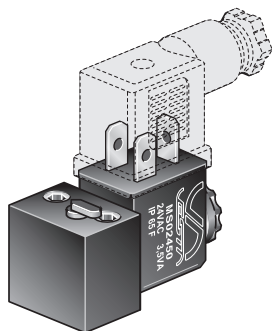




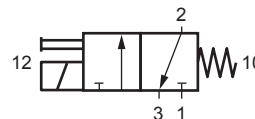
CNOMO PILOT CONTROL SOLENOID VALVES AND ACCESSORIES / ELETTROIPILOTI CNOMO ED ACCESSORI

ELBAC -

CNOMO PILOT CONTROL SOLENOID VALVE
ELETTROIPILOTA CNOMO CON BOBINA **DIN 43650-A**



SIMBOL / SIMBOLO



CODES / CODICI

Code Codice ordinazione	Voltage Tensione
ELBAC - 00000	No coil / Senza solenoide
ELBAC - 01200	12 V DC
ELBAC - 02400	24 V DC
ELBAC - 02450	24 V 50/60Hz AC
ELBAC - 11550 (*)	115 V 50/60Hz AC
ELBAC - 22050 (*)	220 V 50/60Hz AC
ELBAC - 23050 (*)	230 V 50/60Hz AC

(*) Please see page / Vedi pag. **B-37**

TECHNICAL FEATURES

Flow section	Ø 1 mm
Ambient temperature range	-10 °C ÷ +50 °C
Temperature range of medium	0 °C ÷ +50 °C
Lubrication	Not required
Medium	Filtered air
Operating pressure range	0 ÷ 10 bar
Reference temperature	+20 °C
Reference pressure	6 bar
Nominal air flow	80 NI/min

Coils electrical features See MS (pag. B-35 ÷ B-37)

CARATTERISTICHE TECNICHE

Diametro nominale	Ø 1 mm
Temperatura ambiente	-10 °C ÷ +50 °C
Temperatura fluido	0 °C ÷ +50 °C
Lubrificazione	Non necessaria
Fluido	Aria filtrata
Pressione d'esercizio	0 ÷ 10 bar
Temperatura nominale	+20 °C
Pressione nominale	6 bar
Portata nominale	80 NI/min

Caratteristiche elettriche bobina Vedi MS (pag. B-35 ÷ B-37)

SOLENOID VALVES OPTIONS SERIES SVE 5 ... AND SVE 2 ... OPZIONI PER ELETTRIVALVOLE SERIE SVE 5 ... E SVE 2 ...

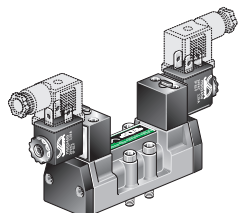
Series SVE5 ... and SVE2 ... **on request** can mount CNOMO solenoid pilots, with connectors in according DIN 43650 - B
(see **ELCDC** page **B-89**) changing the order codes in:

Le elettrovalvole SVE5 ... e SVE2 ... possono essere equipaggiate **su richiesta** con elettropiloti CNOMO con connettore
in accordo alle norme DIN 43650 - B (**vedi ELCDC pagina B-89**) sostituendo nell'ordinazione il codice standard:

SVE5 ... ----> SVE6 ... (size 1)

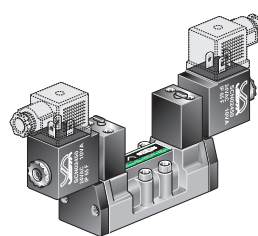
SVE2 ... ----> SVE3 ... (size 2).

example / esempio



SVE5 52 200-02450
with CNOMO solenoids
24 V at 50 Hz AC; 2,5 Watt
(**MS..** coil)

con elettropiloti CNOMO solenoidi da
24 V a 50 Hz AC; potenza di 2,5 Watt
(bobina **MS..**)



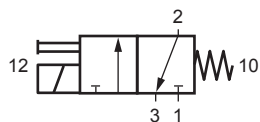
SVE6 52 200-02450
with CNOMO solenoids
24 V at 50 Hz AC; 2,5 Watt
in according DIN 43650 - B (**SCN..** coil)

con elettropiloti CNOMO solenoidi da
24 V a 50 Hz AC; potenza di 2,5 Watt
conforme DIN 43650 - B (bobina **SCN..**)

CNOMO PILOT CONTROL SOLENOID VALVE
ELETTROPILOTA CNOMO CON BOBINA **DIN 43650-B**

ELCDC -

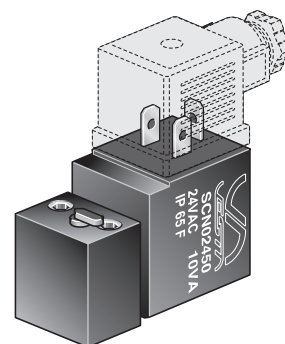
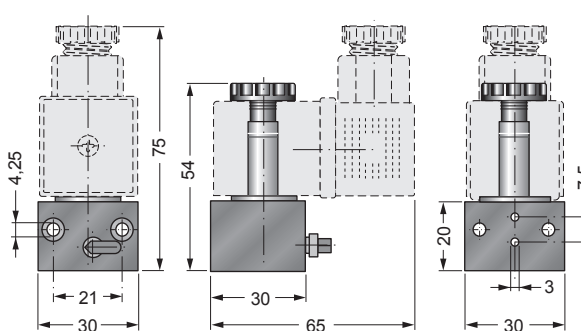
SIMBOL / SIMBOLO



CODES / CODICI

Ordination code Codice ordinazione	Voltage Tensione
ELCDC - 00000	No coil / Senza solenoide
ELCDC - 01200	12 V DC
ELCDC - 02400	24 V DC
ELCDC - 02450	24 V 50/60Hz AC
ELCDC - 11050 (*)	110 V 50/60Hz AC
ELCDC - 22050 (*)	220 V 50/60Hz AC
ELCDC - 23050 (*)	230 V 50/60Hz AC

(*) Please see page / Vedi pag. **B-37**



TECHNICAL FEATURES

Flow section	Ø 1,5 mm
Ambient temperature range	-10 °C ÷ +50 °C
Temperature range of medium	0 °C ÷ +50 °C
Lubrication	Not required
Medium	Filtered air
Operating pressure range	0 ÷ 10 bar
Reference temperature	+20 °C
Reference pressure	6 bar
Nominal air flow	100 NI / m in
Coils electrical features	See SCN..... (pag. B-89)

CARATTERISTICHE TECNICHE

Diametro nominale	Ø 1,5 mm
Temperatura ambiente	-10 °C ÷ +50 °C
Temperatura fluido	0 °C ÷ +50 °C
Lubrificazione	Non necessaria
Fluido	Aria filtrata
Pressione d'esercizio	0 ÷ 10 bar
Temperatura nominale	+20 °C
Pressione nominale	6 bar
Portata nominale	100 NI / m in
Caratteristiche elettriche bobina	Vedi SCN..... (pag. B-89)

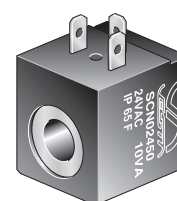
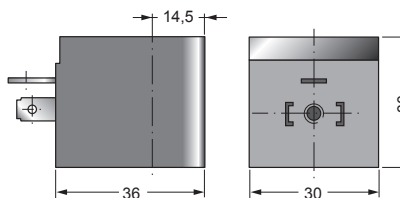
COIL FOR **ELCDC** SOLENOID VALVE
SOLENOIDE PER ELETTROPILOTA

SCN

CODES / CODICI

Ordination code Codice ordinazione	Voltage Tensione
SCN01200	12 V DC
SCN02400	24 V DC
SCN02450	24 V 50/60Hz AC
SCN11050 (*)	110 V 50/60Hz AC
SCN22050 (*)	220 V 50/60Hz AC
SCN23050 (*)	230 V 50/60Hz AC

(*) Please see page / Vedi pag. **B-37**



DIN 43650 - A

TECHNICAL FEATURES

Standard voltage	12, 24 V DC 24, 110, 220, 230, V AC (50/60 Hz)
Solenoid characteristics	2 Watt in DC; 5 VA in AC
Voltage	± 10% (continuos)
Ambient temperature range	-20 °C ÷ +50 °C
Degree of protection	Fixed plug IP 65 with connector
Pins according	DIN 43650 - A
Insulation	Class F
Exproy	Incapsulated

CARATTERISTICHE TECNICHE

Tensione standard	12, 24 V DC 24, 110, 220, 230 V AC (50/60 Hz)
Prestazioni bobina	2 Watt in DC; 5 VA in AC
Tensione nominale	± 10% a bobina calda
Limiti di temperatura ambiente	-20 °C ÷ +50 °C
Protezione	IP 65 secondo IEC 144 con connettore e guarnizioni montate
Connessione elettrica	Secondo norma DIN 43650 - A
Bobina	Classe F; Filo rame classe 200 °C
Sovrastampatura	Resina epossidica

SOLENOID CONNECTOR FOR **SCN** COIL
CONNETTORE PER SOLENOIDE SERIE **SCN**

CEP/2

CODES / CODICI

Description Descrizione	Code Codice	Voltage Tensione
Universal connector Connettore universale	CEP/2	All tension Tutte le tensioni
Connector with led Connettore con led	CEP/2 L 10 / 50 CEP/2 L 70 / 250 (*)	10/50 V AC / DC 70/250 V AC / DC
Connector with led and varistor Connettore con led e varistore	CEP/2 LV 24 CEP/2 LV 110 (*) CEP/2 LV 220 (*)	24 V AC / DC 110 V AC / DC 220 V AC / DC

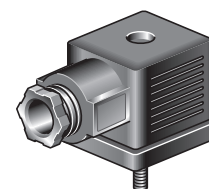
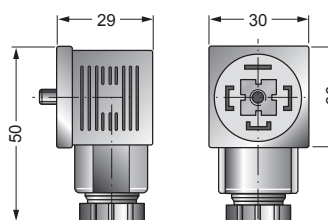
(*) Please see page / Vedi pag. **B-37**

TECHNICAL FEATURES

Wire connection	With screwed terminals
Gland thread	PG 11
Number of poles	2 Poles + earth
Housing colour	Black, transparent in the led version

CARATTERISTICHE TECNICHE

Connessione cavi	Con morsetti a vite
Filettatura passacavo	PG 11
N° Poli	2 Poli + terra
Colori connettore	Nero, trasparente nella versione con led.

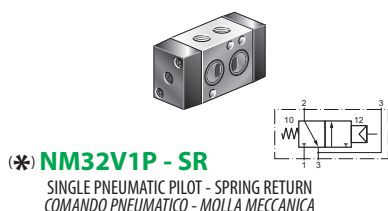




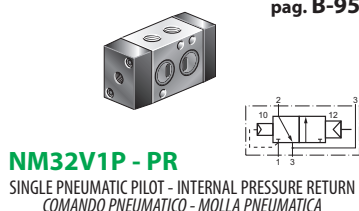
INDEX / INDICE

(*) ATEX versions see / Versioni ATEX vedi P. B-113

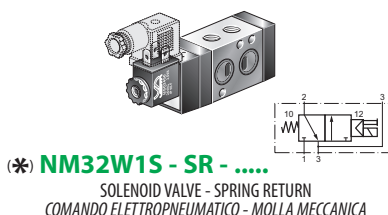
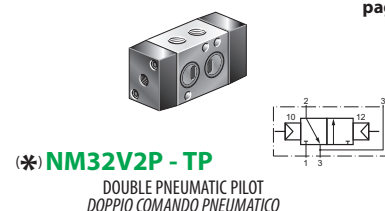
VALVES AND SOLENOID VALVES SERIES NAMUR 3/2 / VALVOLE ED ELETTROVALVOLE SERIE NAMUR 3/2



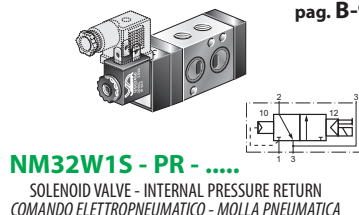
pag. B-95



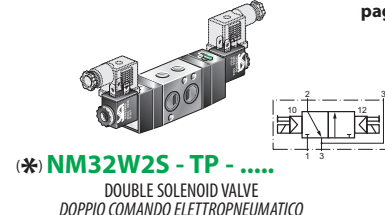
pag. B-96



pag. B-96

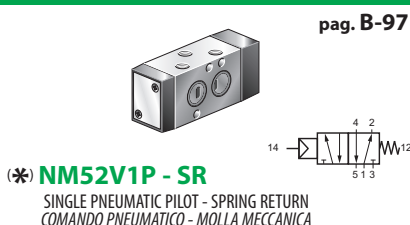


pag. B-97

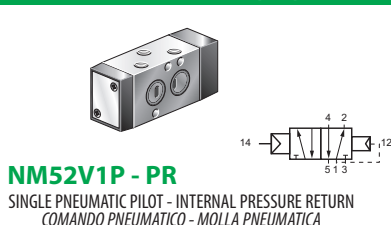


(*) ATEX versions see / Versioni ATEX vedi P. B-113

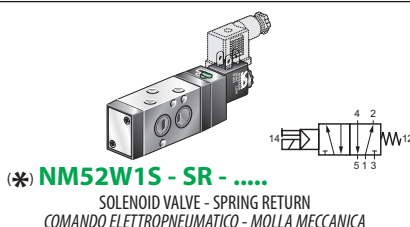
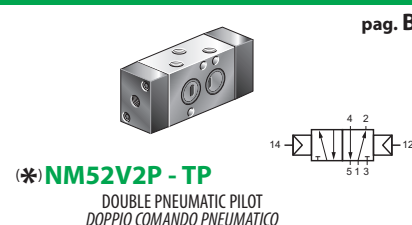
VALVES AND SOLENOID VALVES SERIES NAMUR 5/2 / VALVOLE ED ELETTROVALVOLE SERIE NAMUR 5/2



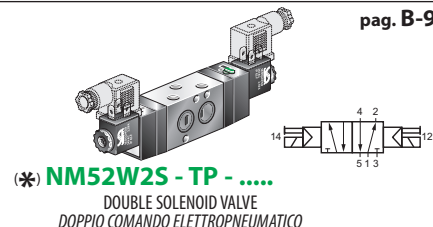
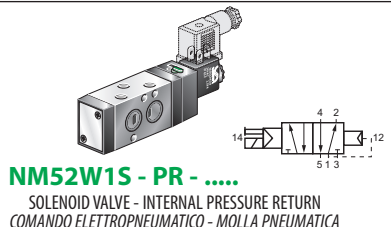
pag. B-97



pag. B-98



pag. B-99





BUILDING FEATURES / CARATTERISTICHE COSTRUTTIVE

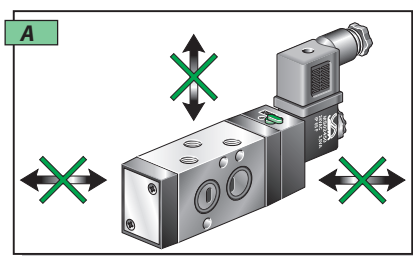
VESTA "NAMUR" valves are available in the 3/2 and 5/2 versions, with different forms of actuation (i.e. solenoid / pilot etc.).

This series of valves present a high nominal air flow and no environmental contact between the namur valve and the actuator being switched (See Fig. **A**). These namur valves have a high working frequency and can be used with lubricated or non-lubricated air (See Fig. **B**), thanks to a spool made of a light alloy aluminium, nickel treated by "Niploy Process" (See Fig. **C**) to give the surface a smooth finish. The self lubricating lip rubber seals which the spool runs in, assures the valves of a long lasting durable life span.

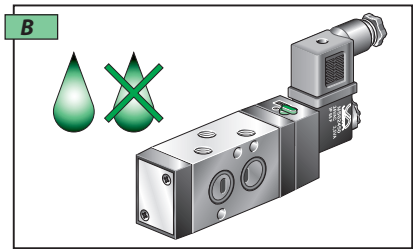
Le valvole ed elettrovalvole VESTA della serie **NAMUR** funzionano secondo il principio del distributore a cassetto bilanciato (vedi fig. **1 e 2**).

La serie, realizzata nelle funzioni 3/2 e 5/2, viene fornita con più sistemi di azionamento e riposizionamento.

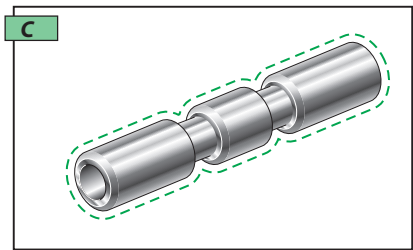
Le caratteristiche fondamentali sono: grande portata d'aria, ermeticità di funzionamento verso l'ambiente di lavoro nei modelli bistabili e in quelli con ritorno a molla pneumatica (**A**), alta velocità di scambio, possibilità di funzionamento continuo privo di lubrificazione (**B**) ottenuto con l'impiego di materiali particolari come, ad esempio, la spola realizzata in lega leggera con trattamento Niploy Process che le conferisce notevole durezza superficiale e caratteristiche autolubrificanti (**C**), e le guarnizioni in elastomero nitrilico con profilo a labbro antiusura.



Protected against working environment.
Protezione verso l'ambiente di lavoro.



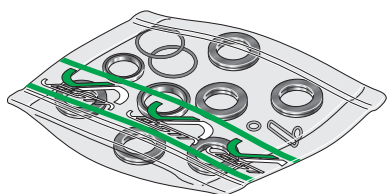
Possibility of operating continuously without lubrication.
Possibilità di funzionamento continuo privo di lubrificazione.



Light alloy spool with Niploy Process treated surface.
Spola in lega leggera con trattamento speciale Niploy Process.

SET . 1/4 SG

SEALS KIT
KIT GUARNIZIONI DI RICAMBIO



Seals kit code - Codice del kit

SET 1 1/4 SG for NAMUR **mono-stable** valves - per valvole NAMUR.

SET 2 1/4 SG for NAMUR **bi-stable** valves - per valvole NAMUR.

Example / Esempio: **NM32W1S-SR -02400** —> **SET 1 1/4 SG** **NM32W2S-TP -02400** —> **SET 2 1/4 SG**

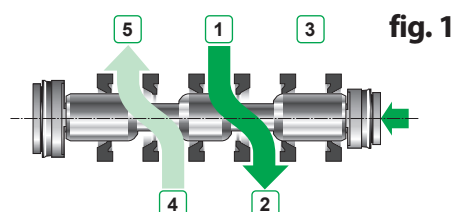
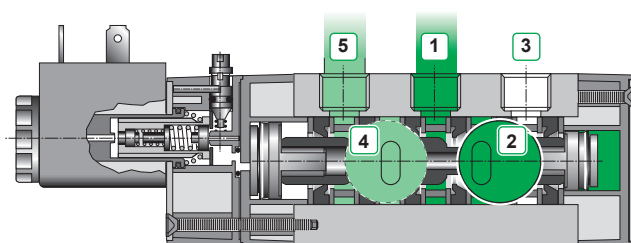
In the example here below, when the valve **NM52W1S-PR-02450** (see the draw) stands in the normal position, ports **4 - 5** and **1 - 2** are connected and the position is kept thanks to the pressure assured to the smallest piston (right side of the valve).

When the valve is actuated, the same pressure is fed to the biggest piston. It's bigger surface create a force which allows to the spool to move and therefore to connect ports **4 - 1** and **2 - 3**. In the mechanical spring version, the valve is kept in the normal position by a mechanical spring. In the bistable versions, the position of the valve remains in its last switched state.

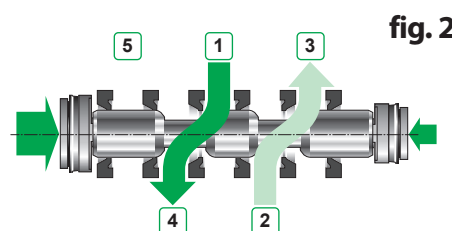
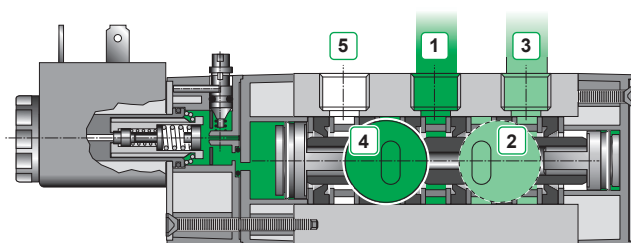
*Il principio di funzionamento dei distributori 3/2 e 5/2 (nell'esempio l'elettrovalvola **NM52W1S-PR-02450** con comando elettropneumatico e riposizionamento a molla pneumatica) consiste nel mantenere costantemente in pressione il pistone di riposizionamento (fig. 1), utilizzando la fonte d'aria compressa presente nel condotto di alimentazione **1**, collegando le vie **1- 2** e **4 - 5**.*

*L' eccitazione del solenoide mette in comunicazione il condotto **1** con la camera dove é alloggiato il pistone di comando. Quest'ultimo, avendo un'area di spinta maggiore del pistone di riposizionamento, sposta la spola in modo tale da collegare i canali **1- 4** e **2- 3** (fig. 2).*

Diseccitando il solenoide si ripristina la posizione iniziale. Nel sistema dotato di riposizionamento con molla meccanica il funzionamento é analogo, mentre nei sistemi bistabili (doppio comando elettropneumatico o doppio comando pneumatico) in assenza di segnale rimangono i collegamenti formatisi nell'ultimo azionamento.

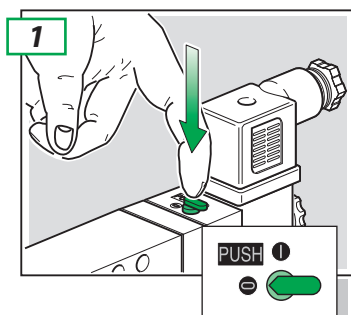


NORMAL POSITION / POSIZIONE A RIPOSO

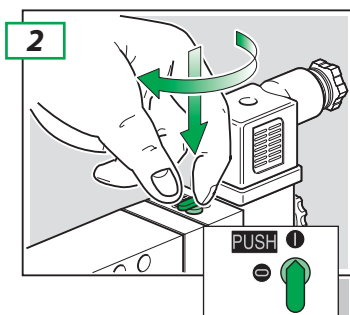


ACTUATED POSITION / POSIZIONE DI LAVORO

MANUAL OVERRIDING / AZIONAMENTO COMANDO MANUALE



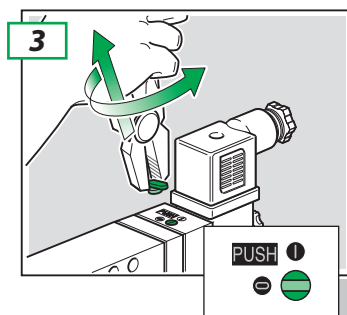
Push to actuated valve without locking. **Relise the button to get back to normal position.**



To active the valve permanently push the M/O (manual override) and rotate clockwise 90°. **To return to normal position, push the M/O again and turn 90° anti-clockwise.**

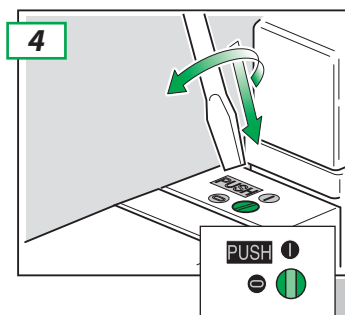
*Per azionare la valvola, durante la fase di collaudo con pressione in linea senza collegamento elettrico, premere la leva del comando manuale. **Rilasciare per ripristinare la condizione di riposo.***

*Per azionare la valvola in modo permanente premere la leva del comando manuale e ruotare in senso orario sino alla posizione 1. **Ruotare in senso antiorario per ripristinare la condizione di riposo.***



Should the M/O no longer be required, then turn the M/O anticlockwise until it breaks off.

Terminato il collaudo ruotare in senso antiorario la leva sino alla rottura.



Should the M/O be required after breaking off, then a screwdriver may be used.

Per interventi successivi sul comando manuale usare un adeguato cacciavite ed operare come al punto 1 o 2.



SERIE NM

TECHNICAL FEATURES / CARATTERISTICHE TECNICHE

COMMON TECHNICAL FEATURES NM

Fixing	N° 2 Holes Ø 5,3
Port connections	G 1/4
Flow section	Ø 8 mm
Environment temperature range	-10 °C / +50 °C
Temperature range of medium	0 °C / +40 °C
Lubrication	Not required

Medium	Filtered air
Reference temperature	+20 °C
Reference pressure	6 bar
Nominal air flow	1080 Nl/min
Fluid conductance "C"	4,34 Nl/s bar
Critical pressure ratio "b"	0,212

PNEUMATIC VALVES FEATURES NM

NM32V1P - SR NM52V1P - SR	Nominal max frequency	10 Hz
	Operating pressure range	2,5 ÷ 10 bar

NM32V1P - PR NM52V1P - PR	Nominal max frequency	20 Hz
	Operating pressure range	2,5 ÷ 10 bar

NM32V2P - TP NM52V2P - TP	Nominal max frequency	30 Hz
	Operating pressure range	1,5 ÷ 10 bar

SOLENOID VALVES FEATURES NM

	AC	DC
NM32W1S - SR NM52W1S - SR	Nominal max frequency	11 Hz 11 Hz
	Response time - switch ON	19 ms 21 ms
	Response time - switch OFF	35 ms 46 ms
	Operating pressure range	2,5 ÷ 10 bar

NM32W2S - TP NM52W2S - TP	Nominal max frequency	27 Hz 21 Hz
	Response time - switch ON	11 ms 14 ms
	Response time - switch OFF	11 ms 14 ms
	Operating pressure range	1,5 ÷ 10 bar

	AC	DC
NM32W1S - PR NM52W1S - PR	Nominal max frequency	16 Hz 13 Hz
	Response time - switch ON	18 ms 21 ms
	Response time - switch OFF	33 ms 44 ms
	Operating pressure range	2,5 ÷ 10 bar

For electrical features solenoid pilot NAMUR serie pp.
B-36 ÷ B-37.

CARATTERISTICHE TECNICHE COMUNI NM

Fissaggio	N° 2 fori Ø 5,3
Connessioni	G 1/4
Diametro nominale	Ø 8 mm
Temperatura ambiente	-10 °C / +50 °C
Temperatura fluido	0 °C / +40 °C
Lubrificazione	Non necessaria

Fluido	Aria filtrata
Temperatura nominale	+20 °C
Pressione nominale	6 bar
Portata nominale	1080 Nl/min
Valore conduttanza "C"	4,34 Nl/s bar
Rapporto critico delle pressioni "b"	0,212

CARATTERISTICHE VALVOLE PNEUMATICHE NM

NM32V1P - SR NM52V1P - SR	Frequenza max nominale	10 Hz
	Pressione di esercizio	2,5 ÷ 10 bar

NM32V1P - PR NM52V1P - PR	Frequenza max nominale	20 Hz
	Pressione di esercizio	2,5 ÷ 10 bar

NM32V2P - TP NM52V2P - TP	Frequenza max nominale	30 Hz
	Pressione di esercizio	1,5 ÷ 10 bar

CARATTERISTICHE ELETTROVALVOLE NM

	AC	DC
NM32W1S - SR NM52W1S - SR	Frequenza max nominale	11 Hz 11 Hz
	Tempo medio di risposta in eccitazione	19 ms 21 ms
	Tempo medio di risposta in diseccitazione	35 ms 46 ms
	Pressione di esercizio	2,5 ÷ 10 bar

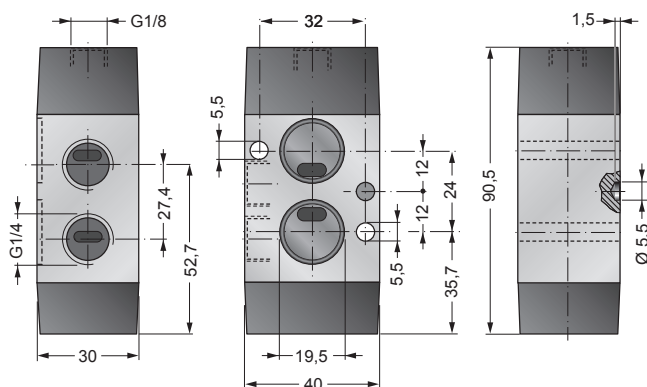
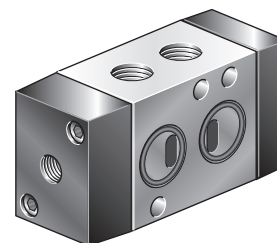
NM32W2S - TP NM52W2S - TP	Frequenza max nominale	27 Hz 21 Hz
	Tempo medio di risposta in eccitazione	11 ms 14 ms
	Tempo medio di risposta in diseccitazione	11 ms 14 ms
	Pressione di esercizio	1,5 ÷ 10 bar

	AC	DC
NM32W1S - PR NM52W1S - PR	Frequenza max nominale	16 Hz 13 Hz
	Tempo medio di risposta in eccitazione	18 ms 21 ms
	Tempo medio di risposta in diseccitazione	33 ms 44 ms
	Pressione di esercizio	2,5 ÷ 10 bar

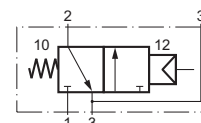
Caratteristiche elettriche bobina per elettrovalvole serie
NAMUR vedi pp. B-36 ÷ B-37.

VALVE / VALVOLA 3/2
SINGLE PNEUMATIC PILOT - SPRING RETURN
COMANDO PNEUMATICO - RIPOSIZIONAMENTO A MOLLA MECCANICA

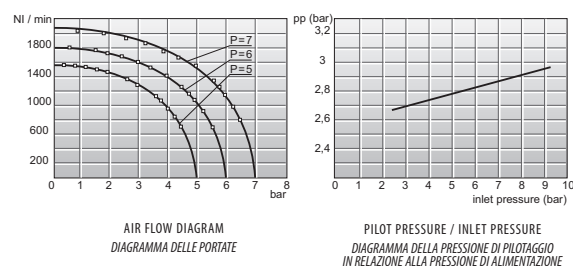
NM32V1P - SR



SIMBOL / SIMBOLO

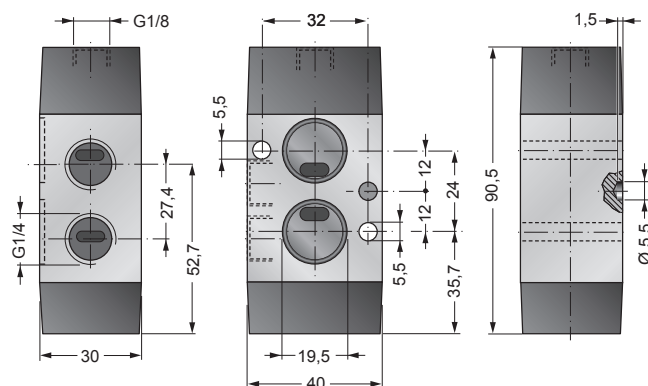
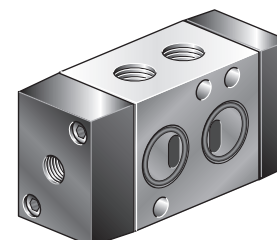


DIAGRAMS / DIAGRAMMI

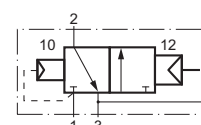


VALVE / VALVOLA 3/2
SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN
COMANDO PNEUMATICO - RIPOSIZIONAMENTO A MOLLA PNEUMATICA

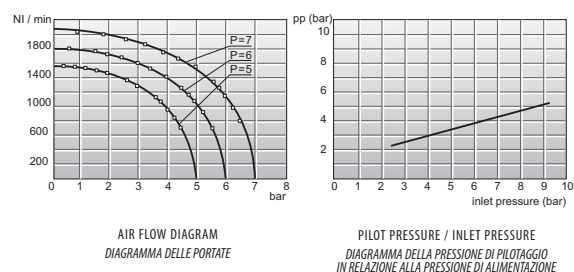
NM32V1P - PR



SIMBOL / SIMBOLO

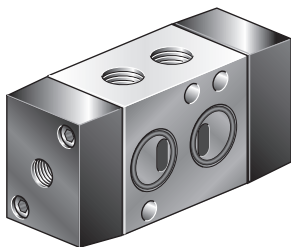


DIAGRAMS / DIAGRAMMI

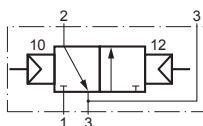




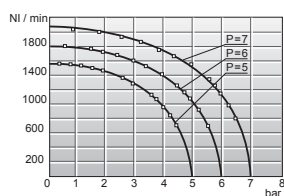
NM32V2P - TP



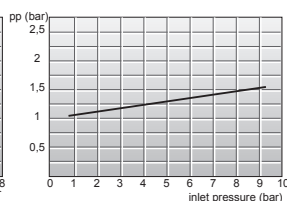
SIMBOL / SIMBOLO



DIAGRAMS / DIAGRAMMI

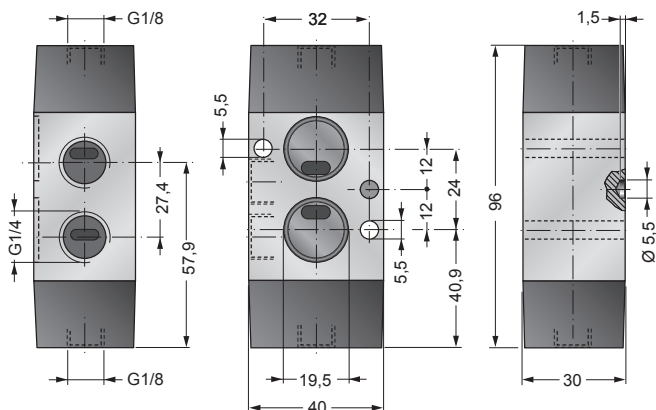


AIR FLOW DIAGRAM
DIAGRAMMA DELLE PORTATE

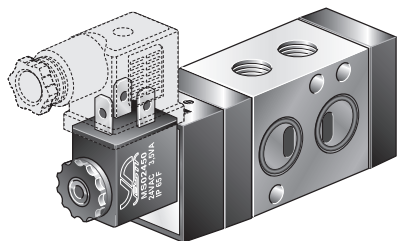


PILOT PRESSURE / INLET PRESSURE
DIAGRAMMA DELLA PRESSIONE DI PILOTAGGIO
IN RELAZIONE ALLA PRESSIONE DI ALIMENTAZIONE

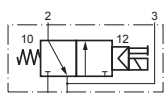
VALVE / VALVOLA 3/2 DOUBLE PNEUMATIC PILOT DOPPIO COMANDO PNEUMATICO



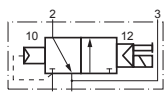
NM32W1S - .R -



SIMBOLS / SIMBOLI

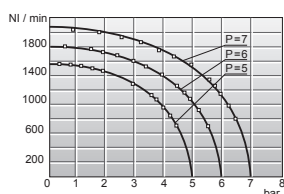


NM32W1S-SR-.....



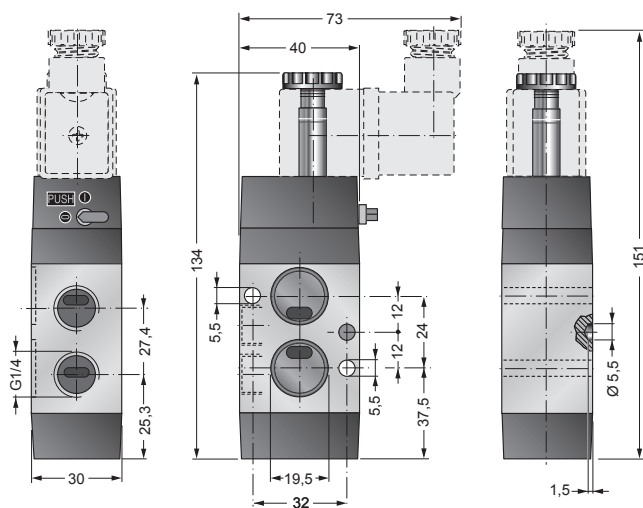
NM32W1S-PR-.....

DIAGRAM / DIAGRAMMA



AIR FLOW DIAGRAM
DIAGRAMMA DELLE PORTATE

VALVE / VALVOLA 3/2 SOLENOID VALVE COMANDO ELETTROPNEUMATICO



CODES / CODICI

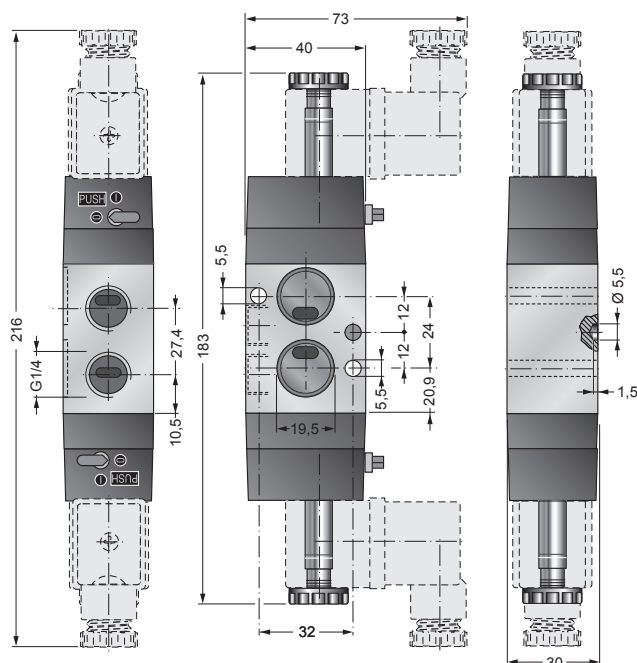
Ordination code
Codice ordinazione

NM32W1S - .R - 00000
NM32W1S - .R - 01200
NM32W1S - .R - 02400
NM32W1S - .R - 02450
NM32W1S - .R - 11550
NM32W1S - .R - 22050

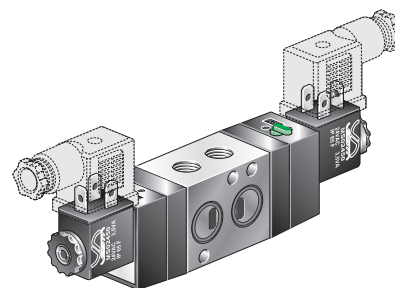
Voltage
Tensione

No coil / Senza solenoide
12 V DC
24 V DC
24 V 50/60Hz AC
115 V 50/60Hz AC
220 V 50/60Hz AC

VALVE / VALVOLA 3/2
DOUBLE SOLENOID VALVE
DOPPIO COMANDO ELETTROPNEUMATICO



NM32W2S - TP -



SIMBOL / SIMBOLO

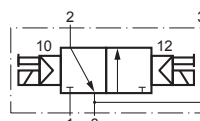
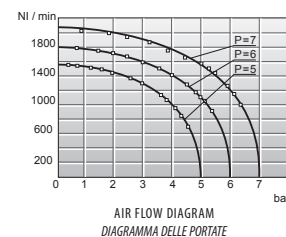


DIAGRAM / DIAGRAMMA



CODES / CODICI

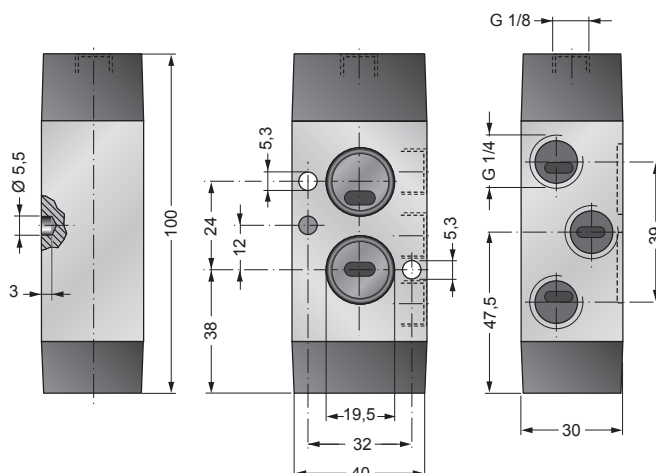
**Ordination code
Codice ordinazione**

NM32W2S - TP - 00000	
NM32W2S - TP - 01200	
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NM32W2S - TP - 11550	
NM32W2S - TP - 22050	

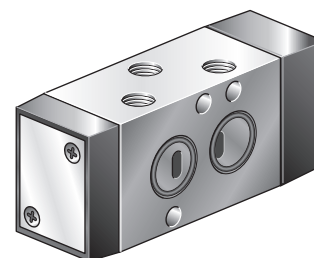
**Voltage
Tensione**

No coils / Senza solenoidi
12 V DC
24 V DC
24 V 50/60Hz AC
115 V 50/60Hz AC
220 V 50/60Hz AC

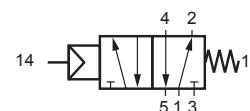
VALVE / VALVOLA 5/2
SINGLE PNEUMATIC PILOT - SPRING RETURN
COMANDO PNEUMATICO - RIPOSIZIONAMENTO A MOLLA MECCANICA



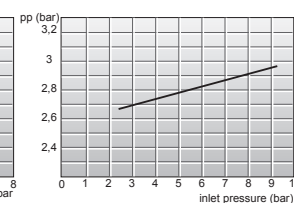
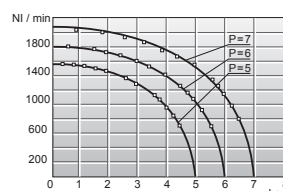
NM52V1P - SR



SIMBOL / SIMBOLO

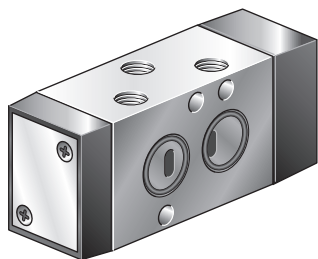


DIAGRAMS / DIAGRAMMI

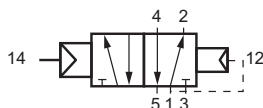




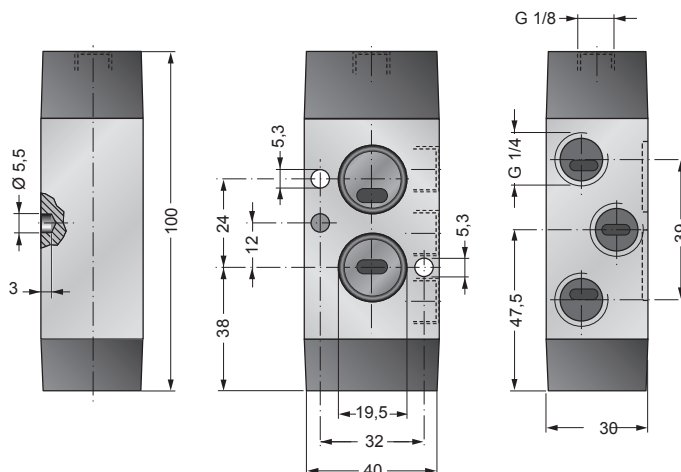
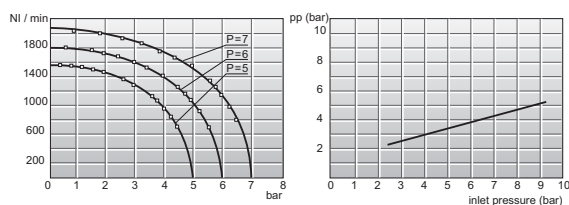
NM52V1P - PR



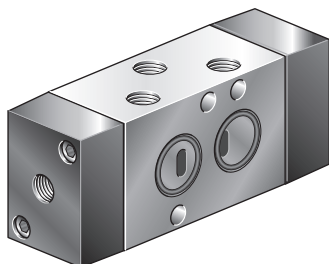
SIMBOL / SIMBOLO



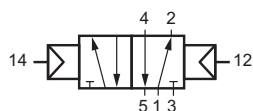
DIAGRAMS / DIAGRAMMI



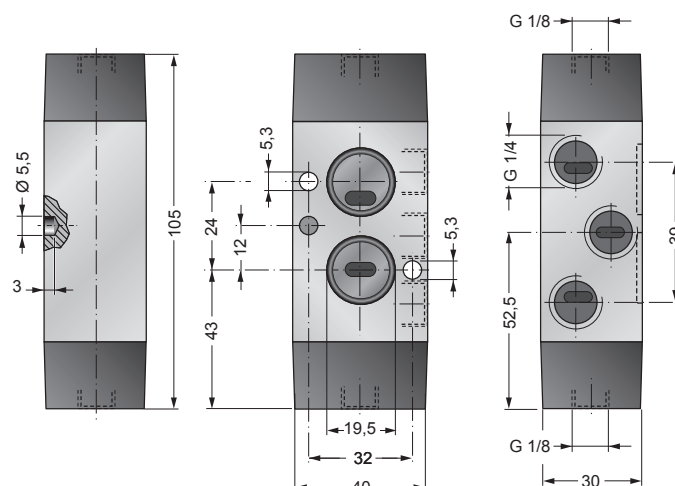
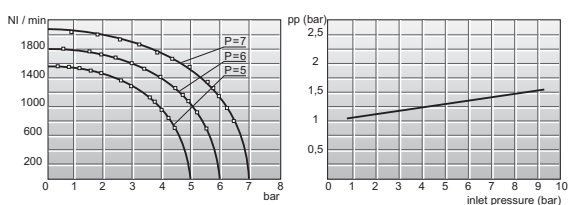
NM52V2P - TP



SIMBOL / SIMBOLO



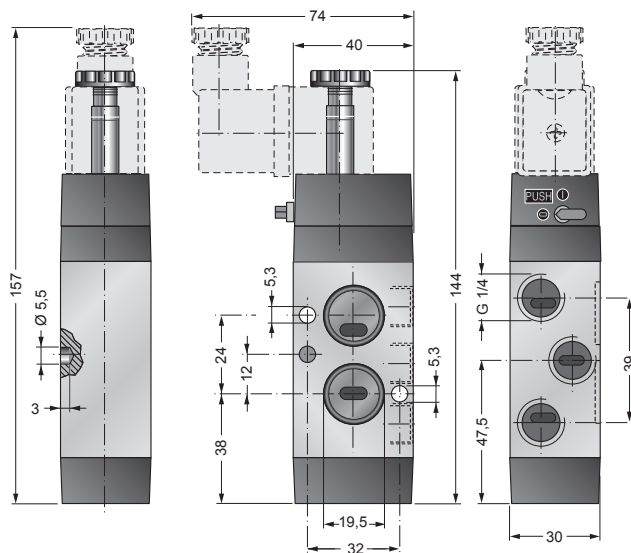
DIAGRAMS / DIAGRAMMI



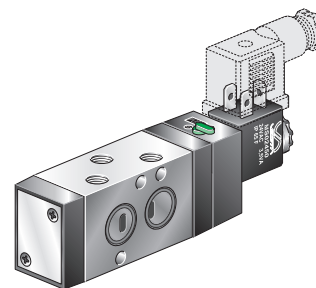
VALVE / VALVOLA 5/2

SOLENOID VALVE - SPRING RETURN

COMANDO ELETTROPNEUMATICO - RIPOSIZIONAMENTO A MOLLA MECCANICA

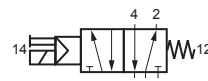


NM52W1S - .R -.....

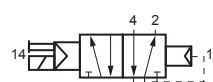


SIMBOLS / SIMBOLI

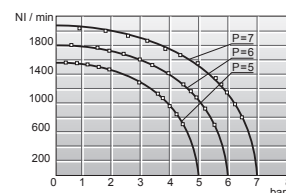
DIAGRAM / DIAGRAMMA



NM52W1S-SR-.....



NM52W1S-PR-.....



AIR FLOW DIAGRAM
DIAGRAMMA DELLE PORTATE

CODES / CODICI

Ordination code

NM52W1S - .R - 00000	.....
NM52W1S - .R - 01200	.....
NM52W1S - .R - 02400	.....
NM52W1S - .R - 02450	.....
NM52W1S - .R - 11550	.....
NM52W1S - .R - 22050	.....

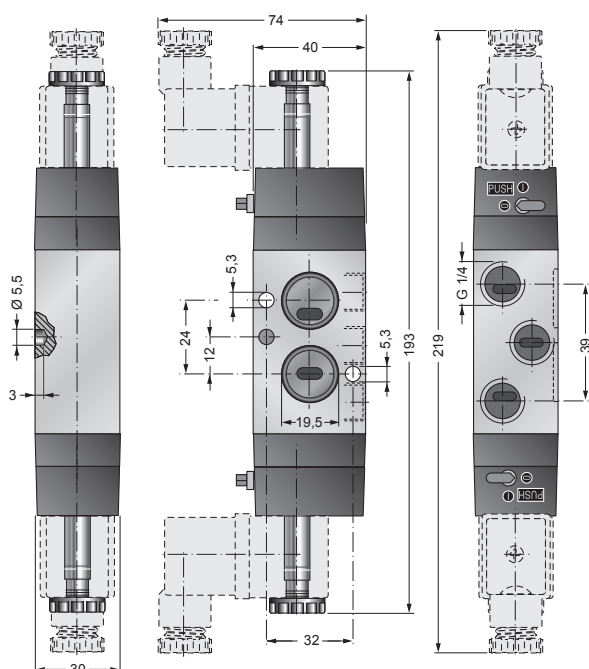
Voltage

No coil / Senza solenoide
12 V DC
24 V DC
24 V 50/60Hz AC
115 V 50/60Hz AC
220 V 50/60Hz AC

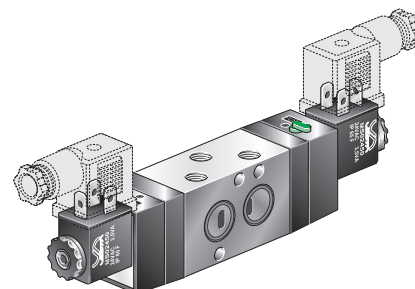
VALVE / 5/2

DOUBLE SOLENOID VALVE

DOPPIO COMANDO ELETTROPNEUMATICO

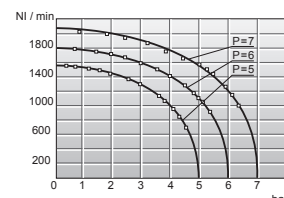
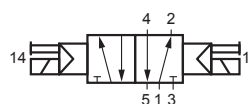


NM52W2S TP -.....



SIMBOL / SIMBOLO

DIAGRAM / DIAGRAMMA



AIR FLOW DIAGRAM
DIAGRAMMA DELLE PORTATE

CODES / CODICI

Ordination code Codice ordinazione

NM52W2S - TP - 00000	
NM52W2S - TP - 01200	
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NM52W2S - TP - 02450	
NM52W2S - TP - 11550	
NM52W2S - TP - 22050	

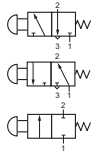
Voltage Tensione

No coils / Senza solenoidi
12 V DC
24 V DC
24 V 50/60Hz AC
115 V 50/60Hz AC
220 V 50/60Hz AC



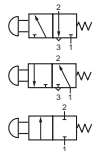
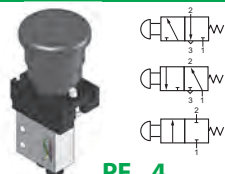
INDEX / INDICE

MANUAL VALVES / VALVOLE A COMANDO MANUALE



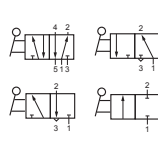
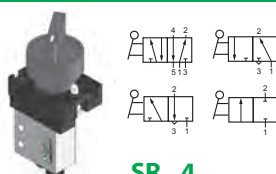
PGI ..4

PUSH BUTTON, SPRING RETURN
COMANDO A PULSANTE



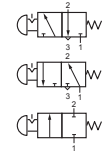
PF ..4

MUSHROOM PUSH BUTTON, SPRING RETURN
COMANDO A FUNGO



SR ..4

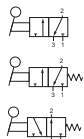
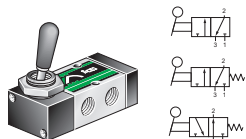
SHORT LEVER SELECTOR, MANUAL RETURN
COMANDO A SELETTORE



PFF ..4

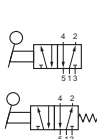
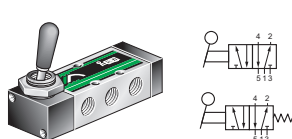
EMERGENCY PUSH BUTTON
PULSANTE D' EMERGENZA

pag. B-102



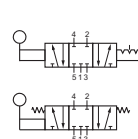
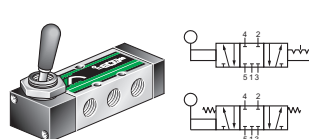
VCML32..8

VALVE 3/2, LEVER VALVE
VALVOLA 3/2, COMANDO A LEVA



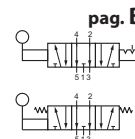
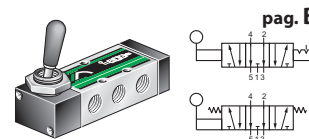
VCML52.18

VALVE 5/2, LEVER VALVE
VALVOLA 5/2, COMANDO A LEVA



VCML536.8

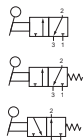
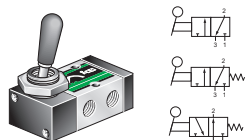
VALVE 5/3, LEVER VALVE
VALVOLA 5/3, COMANDO A LEVA



VCML539.8

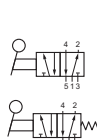
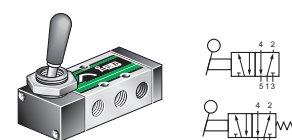
VALVE 5/3, LEVER VALVE
VALVOLA 5/3, COMANDO A LEVA

pag. B-103



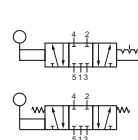
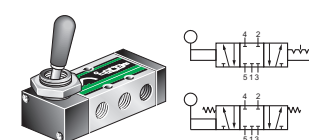
VCML32..4

VALVE 3/2, LEVER VALVE
VALVOLA 3/2, COMANDO A LEVA



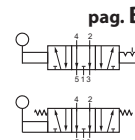
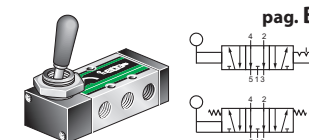
VCML52.14

VALVE 5/2, LEVER VALVE
VALVOLA 5/2, COMANDO A LEVA



VCML536.4

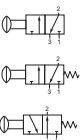
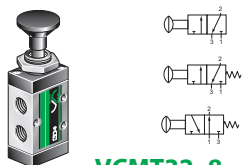
VALVE 5/3, LEVER VALVE
VALVOLA 5/3, COMANDO A LEVA



VCML539.4

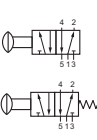
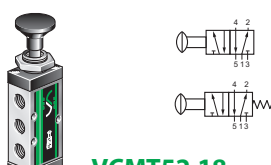
VALVE 5/3, LEVER VALVE
VALVOLA 5/3, COMANDO A LEVA

pag. B-103



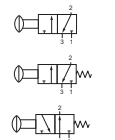
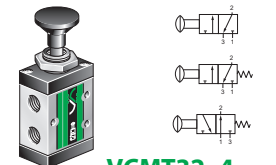
VCMT32..8

VALVE 3/2, BUTTON VALVE
VALVOLA 3/2, COMANDO A TIRETTO



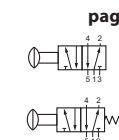
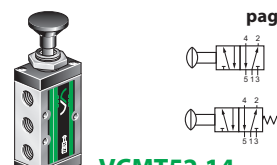
VCMT52.18

VALVE 3/2, BUTTON VALVE
VALVOLA 3/2, COMANDO A TIRETTO



VCMT32..4

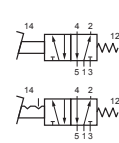
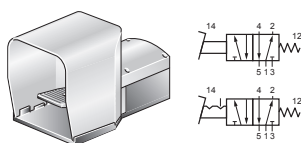
VALVE 3/2, BUTTON VALVE
VALVOLA 3/2, COMANDO A TIRETTO



VCMT52.14

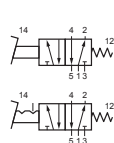
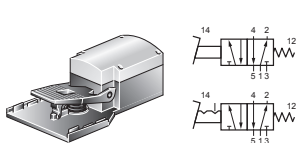
VALVE 3/2, BUTTON VALVE
VALVOLA 3/2, COMANDO A TIRETTO

pag. B-104



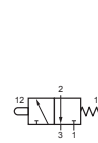
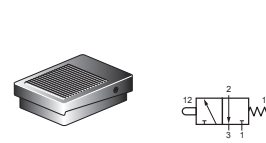
VFPP52..4

PORT CONNECTION G1/4 - FOOT-PEDAL VALVE
CONNESSIONI G1/4 - COMANDO A PEDALE



VFP52..4

PORT CONNECTION G1/4 - FOOT-PEDAL VALVE
CONNESSIONI G1/4 - COMANDO A PEDALE

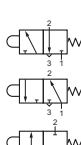
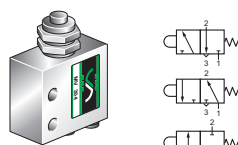


VFPPMA304

PORT CONNECTION Ø4 - FOOT-PEDAL VALVE
CONNESSIONI Ø4 - COMANDO A PEDALE

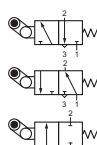
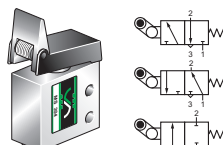
pag. B-105

MECHANICAL VALVES / VALVOLE A COMANDO MECCANICO



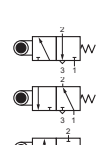
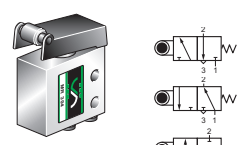
MV ..4

MECHANICAL VALVE
MICROVALVOLA FINECORSA



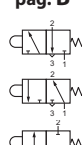
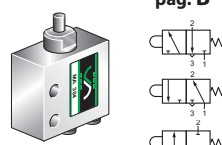
MS ..4

MECHANICAL VALVE
MICROVALVOLA FINECORSA



MR ..4

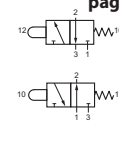
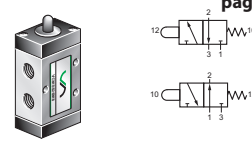
MECHANICAL VALVE
MICROVALVOLA FINECORSA



MA ..4

MECHANICAL VALVE
MICROVALVOLA FINECORSA

pag. B-106



VCMS32.M8

VALVE 3/2, CAM ACTUATED VALVE
VALVOLA 3/2, COMANDO A PUNTALE

pag. B-107

MECHANICAL VALVES / VALVOLE A COMANDO MECCANICO

pag. B-107



VCMS52M18
VALVE 5/2, CAM ACTUATED VALVE
VALVOLA 5/2, COMANDO A PUNTALE



VCMS52S18
VALVE 5/2, CAM ACTUATED VALVE
VALVOLA 5/2, COMANDO A PUNTALE



VCMS32.M4
VALVE 3/2, CAM ACTUATED VALVE
VALVOLA 3/2, COMANDO A PUNTALE

pag. B-108



VCMS52M14
VALVE 5/2, CAM ACTUATED VALVE
VALVOLA 5/2, COMANDO A PUNTALE



VCMS52S14
VALVE 5/2, CAM ACTUATED VALVE
VALVOLA 5/2, COMANDO A PUNTALE

pag. B-108



VCLR32.M8
VALVE 3/2, ROLLER-LEVER VALVE
VALVOLA 3/2, COMANDO A RULLO



VCLR52M18
VALVE 5/2, ROLLER-LEVER VALVE
VALVOLA 5/2, COMANDO A RULLO

pag. B-109



VCLR52018
VALVE 5/2, DUAL ROLLER-LEVER VALVE
VALVOLA 5/2, DOPPIO COMANDO A RULLO



VCLL32.M8
LATERAL ROLLER-LEVEL VALVE
VALVOLA AD AZIONAMENTO LEVA-RULLO LATERALE

pag. B-109



VCLL52M18
LATERAL ROLLER-LEVEL VALVE
VALVOLA AD AZIONAMENTO LEVA-RULLO LATERALE

AUTOMATIC VALVES / VALVOLE AUTOMATICHE

pag. B-110



AND
LOGIC ELEMENT "AND" FUNCTION
UNITA' LOGICA FUNZIONE "AND"



OR
LOGIC ELEMENT "OR" FUNCTION
UNITA' LOGICA FUNZIONE "OR"



YES
LOGIC ELEMENT "YES" FUNCTION
UNITA' LOGICA FUNZIONE "YES"



NOT
LOGIC ELEMENT "NOT" FUNCTION
UNITA' LOGICA FUNZIONE "NOT"

pag. B-111



SBI
TWO - HAND SAFETY VALVE
SICUREZZA BIMANUALE



VRF
FLOW REGULATORS
REGOLATORE DI FLUSSO

MANUAL - MECHANICAL OPERATED VALVES / VALVOLE MANUALI MECCANICHE

The choice of high quality materials and the technical solution adopted allows to the VESTA valves to reach good performances even in harsh environmental conditions. The spool is made in stainless steel. Its particular shape allows high nominal flow rates, and the combination with self lubricating lip rubber seals, reduce internal friction and provides the valve with a long lasting durable life span.

VESTA manual valves can operate continuously without lubrication.

Le valvole manuali e meccaniche VESTA sono disponibili in una vasta gamma di modelli e di taglie.

Le soluzioni tecniche adottate ed i materiali impiegati hanno permesso di realizzare un prodotto che presenta elevate prestazioni funzionali anche in condizioni di impiego particolarmente gravose. La combinazione tra la spola in acciaio inox e le guarnizioni in elastomero nitrilico con profilo del labbro anti-usura, permette, accanto ad una riduzione degli attriti, un' alta velocità di scambio e cicli di lavoro elevati, garantendo una maggiore durata della meccanica interna. Tutti i modelli di valvole possono essere utilizzati anche in assenza di lubrificazione.

TECHNICAL FEATURES / CARATTERISTICHE TECNICHE

SERIE **VC..**

COMMON TECHNICAL FEATURES VALVES VCM - VCP - VCLR - VCLL

Fixing	n°3 holes Ø 4,3
Port connection	G1/8
Flow section	G1/4
Flow section	Ø 6 mm for G1/8
Ambient temperature range	Ø 8 mm for G1/4
Temperature range of medium	-10 °C ÷ +50 °C
Temperature range of medium	0 °C ÷ +40 °C

Lubrication	Not required
Medium	Filtered air
Operating pressure range	0 ÷ 10 bar
Reference temperature	+20 °C
Reference pressure	6 bar
Nominal air flow	650 NI/min for G1/8
Nominal air flow	1080 NI/min for G1/4

CARATTERISTICHE COMUNI VALVOLE VCM - VCP - VCLR - VCLL

Fissaggio	n°3 fori laterali Ø 4,3
Connessioni	G1/8
Connessioni	G1/4
Diametro nominale	Ø 6 mm per G1/8
Diametro nominale	Ø 8 mm per G1/4
Temperatura ambiente	-10 °C ÷ +50 °C
Temperatura fluido	0 °C ÷ +40 °C

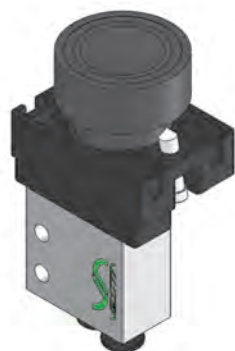
Lubrificazione	Non necessaria
Fluido	Aria filtrata
Pressione d'esercizio	0 ÷ 10 bar
Temperatura nominale	+20 °C
Pressione nominale	6 bar
Portata nominale	650 NI/min per G1/8
Portata nominale	1080 NI/min per G1/4



MANUAL MICROVALVES PUSH-IN Ø4 mm / MICROVALVOLE TUBO Ø4 mm

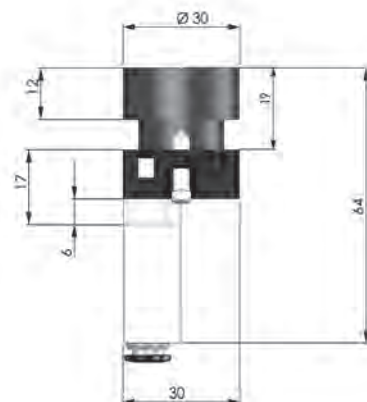
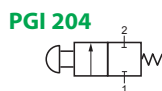
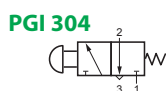
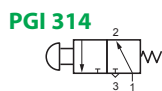
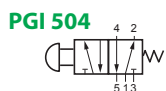
PGI ..4

PUSH BUTTON - SPRING RETURN
COMANDO A PULSANTE



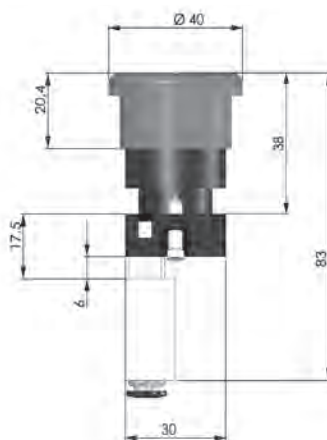
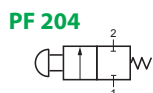
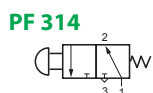
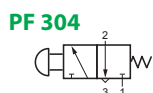
PGI ..4 R
Red - Rosso

PGI ..4 B
Black - Nero



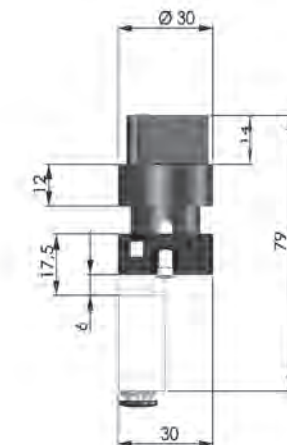
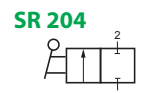
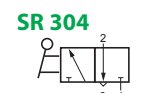
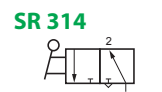
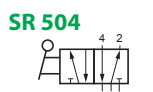
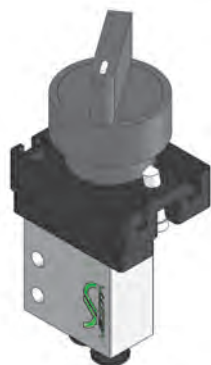
PF ..4

MUSHROOM PUSH BUTTON - SPRING RETURN
COMANDO A FUNGO



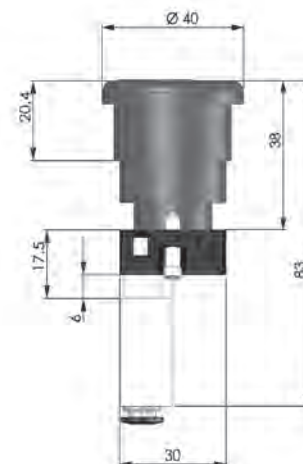
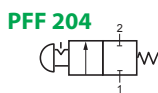
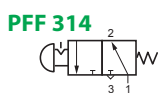
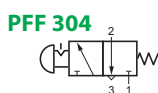
SR ..4

SHORT LEVER SELECTOR - MANUAL RETURN
COMANDO A SELETTORE



PFF ..4

EMERGENCY PUSH BUTTON
PULSANTE D' EMERGENZA

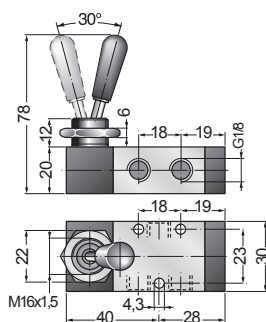
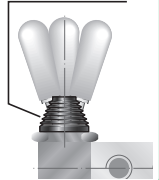


LEVER VALVES / VALVOLE COMANDO A LEVA

VALVE / VALVOLA 3/2

on request bellow protection
a richiesta soffietto di protezione

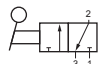
VCML ... BP



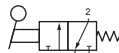
PORT CONNECTION G1/8 - LEVER VALVE
CONNESSIONI G1/8 - COMANDO MANUALE A LEVA

VCML32..8

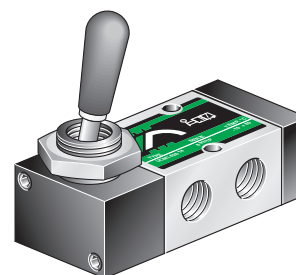
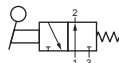
VCML32018



VCML326M8

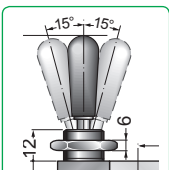


VCML329M8



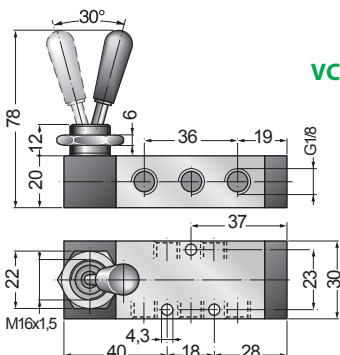
Available with rubber bellow protection
Disponibile con soffietto di protezione

VALVE / VALVOLA 5/2 - 5/3



on request bellow protection
a richiesta soffietto di protezione

VCML ... BP



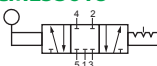
VCML52018



VCML52M18



VCML53618



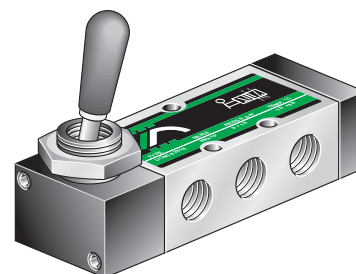
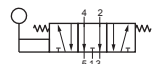
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VCML53918



VCML539M8

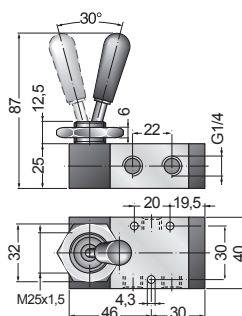


Available with rubber bellow protection
Disponibile con soffietto di protezione

VALVE / VALVOLA 3/2

on request bellow protection
a richiesta soffietto di protezione

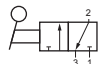
VCML ... BP



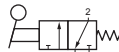
PORT CONNECTION G1/4 - LEVER VALVE
CONNESSIONI G1/4 - COMANDO MANUALE A LEVA

VCML32..4

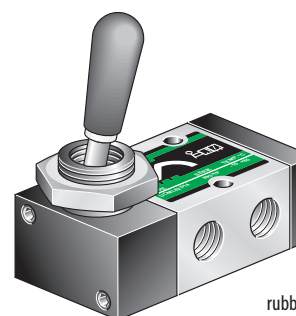
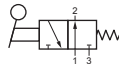
VCML32014



VCML326M4

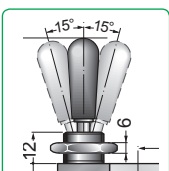


VCML329M4



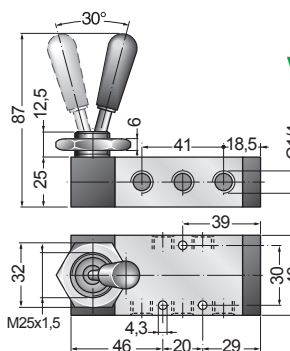
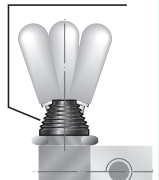
Available with
rubber bellow protection
Disponibile con soffietto di protezione

VALVE / VALVOLA 5/2 - 5/3



on request bellow protection
a richiesta soffietto di protezione

VCML ... BP



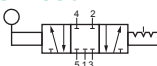
VCML52014



VCML52M14



VCML53614



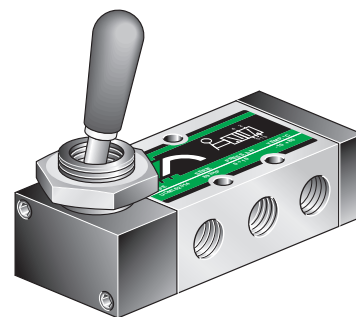
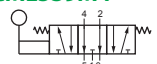
VCML536M4



VCML53914



VCML539M4



Available with rubber bellow protection
Disponibile con soffietto di protezione



BUTTON VALVES / VALVOLE COMANDO A TIRETTO

VCMT32..8

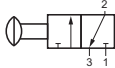
PORT CONNECTION G1/8 - BUTTON VALVE
CONNESSIONI G1/8 - COMANDO A TIRETTO

VALVE / VALVOLA 3/2

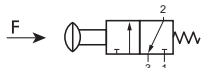
F min = 20N
F max = 40N



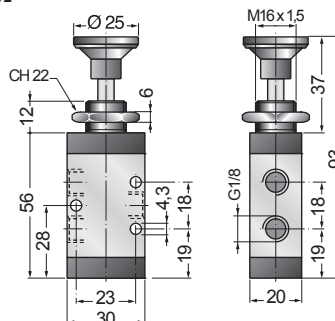
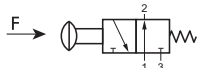
VCMT32018



VCMT326M8



VCMT329M8



VCMT52.18

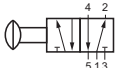
PORT CONNECTION G1/8 - BUTTON VALVE
CONNESSIONI G1/8 - COMANDO A TIRETTO

VALVE / VALVOLA 5/2

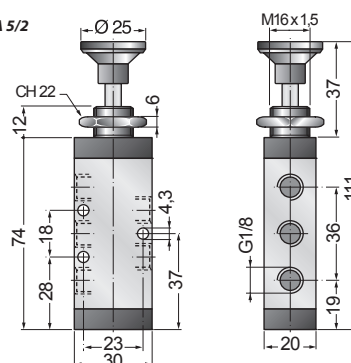
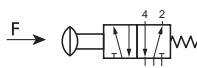
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F max = 40N



VCMT52018



VCMT52M18



VCMT32..4

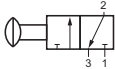
PORT CONNECTION G1/4 - BUTTON VALVE
CONNESSIONI G1/4 - COMANDO A TIRETTO

VALVE / VALVOLA 3/2

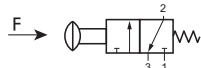
F min = 40N
F max = 60N



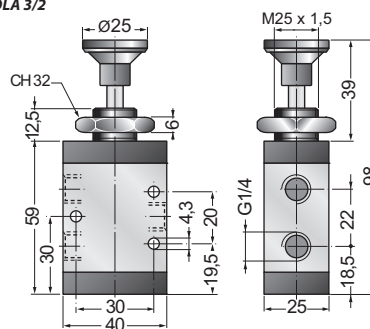
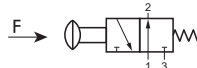
VCMT32014



VCMT326M4



VCMT329M4



VCMT52.14

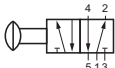
PORT CONNECTION G1/4 - BUTTON VALVE
CONNESSIONI G1/4 - COMANDO A TIRETTO

VALVE / VALVOLA 5/2

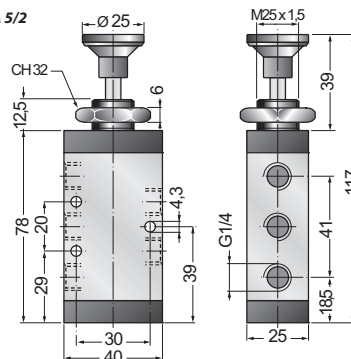
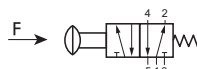
F min = 40N
F max = 60N



VCMT52014



VCMT52M14

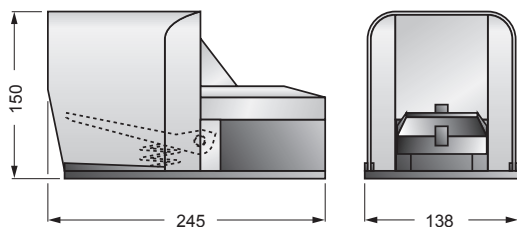


FOOT-PEDAL VALVES / VALVOLE COMANDO A PEDALE

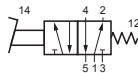
PORT CONNECTION G1/4 - FOOT-PEDAL VALVE
CONNESSIONI G1/4 - COMANDO A PEDALE

VFPP52..4

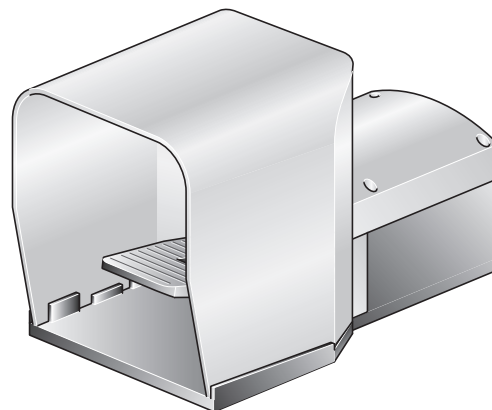
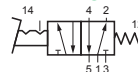
VALVE / VALVOLA 5/2



VFPP52M14



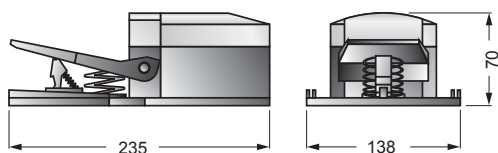
VFPP52FP4



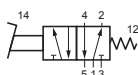
PORT CONNECTION G1/4 - FOOT-PEDAL VALVE
CONNESSIONI G1/4 - COMANDO A PEDALE

VFP52..4

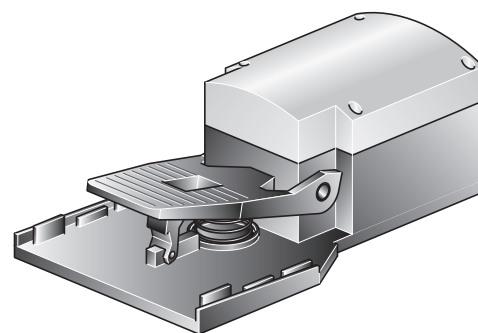
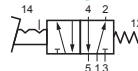
VALVE / VALVOLA 5/2



VFP52M14



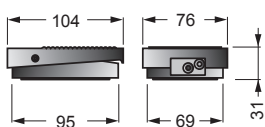
VFP52FP4



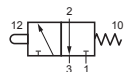
PORT CONNECTION Ø4 - FOOT-PEDAL VALVE
CONNESSIONI Ø4 - COMANDO A PEDALE

VFPM A304

VALVE / VALVOLA 3/2



VFPM A304



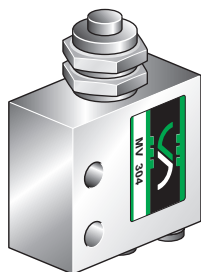


MECHANICAL MICROVALVES PUSH-IN Ø4 mm / VALVOLE A COMANDO MECCANICO TUBO Ø4 mm

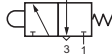
MV ..4

MECHANICAL VALVE
MICROVALVOLA FINECORSIA

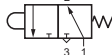
VALVE /VALVOLA 3/2 e 2/2



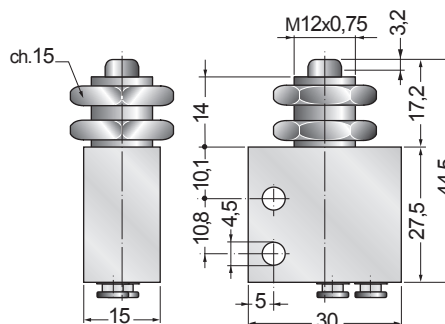
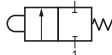
MV 304



MV 314



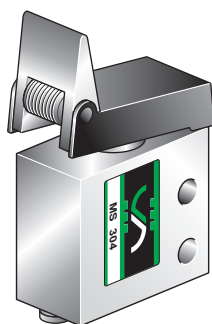
MV 204



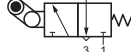
MS ..4

MECHANICAL VALVE
MICROVALVOLA FINECORSIA

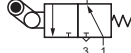
VALVE /VALVOLA 3/2 e 2/2



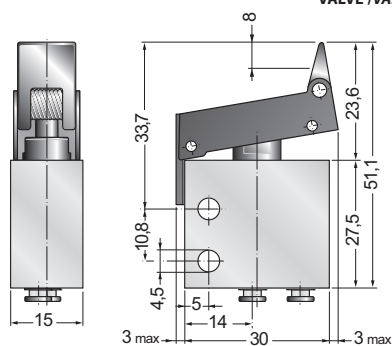
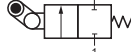
MS 304



MS 314



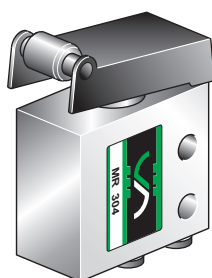
MS 204



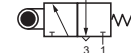
MR ..4

MECHANICAL VALVE
MICROVALVOLA FINECORSIA

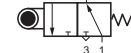
VALVE /VALVOLA 3/2 e 2/2



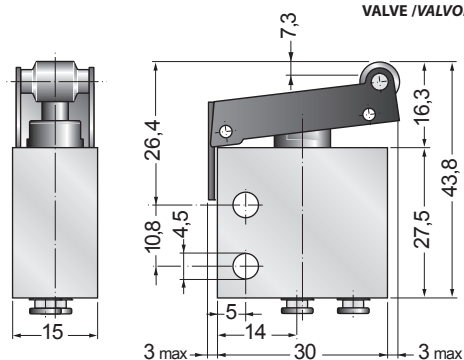
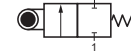
MR 304



MR 314



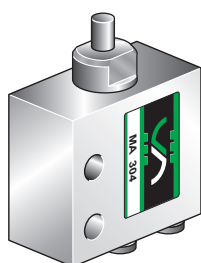
MR 204



MA ..4

MECHANICAL VALVE
MICROVALVOLA FINECORSIA

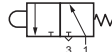
VALVE /VALVOLA 3/2 e 2/2



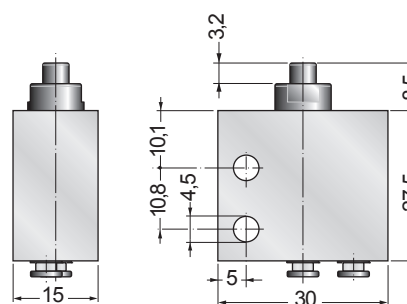
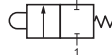
MA 304



MA 314



MA 204

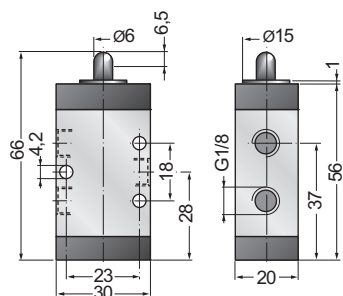


CAM ACTUATED VALVES G1/8 / VALVOLE COMANDO A PUNTALE G1/8

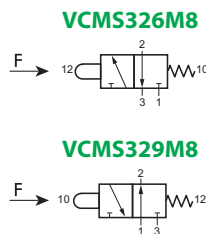
VALVE / VALVOLA 3/2

PORT CONNECTION G1/8 - CAM ACTUATED VALVE
CONNESSIONI G1/8 - COMANDO A PUNTALE

VCMS32.M8



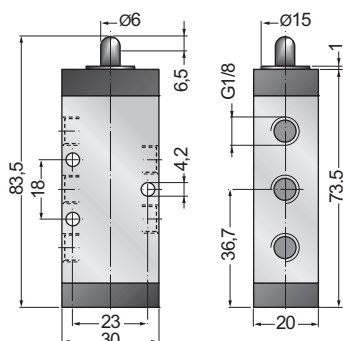
F min = 20N
F max = 40N



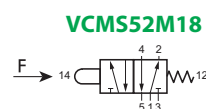
VALVE / VALVOLA 5/2

PORT CONNECTION G1/8 - CAM ACTUATED VALVE
CONNESSIONI G1/8 - COMANDO A PUNTALE

VCMS52M18



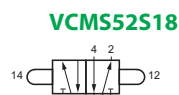
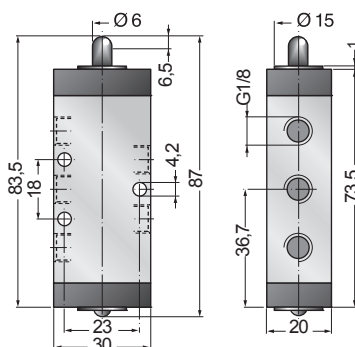
F min = 20N
F max = 40N



VALVE / VALVOLA 5/2

PORT CONNECTION G1/8 - CAM ACTUATED VALVE
CONNESSIONI G1/8 - COMANDO A PUNTALE

VCMS52S18

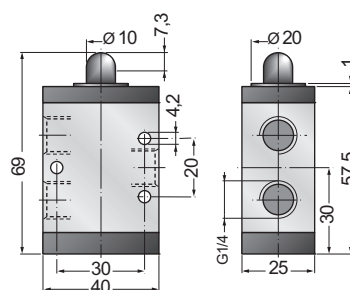


CAM ACTUATED VALVES G1/4 / VALVOLE COMANDO A PUNTALE G1/4

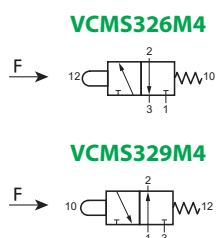
VALVE / VALVOLA 3/2

PORT CONNECTION G1/4 - CAM ACTUATED VALVE
CONNESSIONI G1/4 - COMANDO A PUNTALE

VCMS32.M4



F min = 40N
F max = 60N



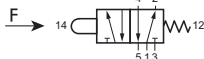


VCMS52M14

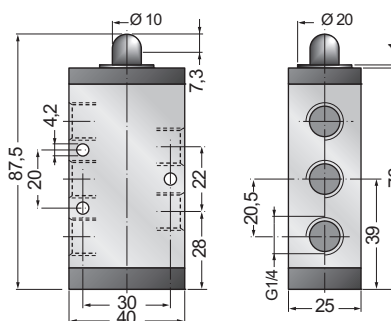
PORT CONNECTION G1/4 - CAM ACTUATED VALVE
CONNESSIONI G1/4 - COMANDO A PUNTALE



VCMS52M14



F min = 40N
F max = 60N



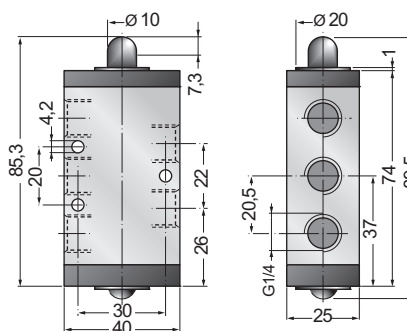
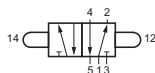
VALVE / VALVOLA 5/2

VCMS52S14

PORT CONNECTION G1/4 - CAM ACTUATED VALVE
CONNESSIONI G1/4 - COMANDO A PUNTALE



VCMS52S14



VALVE / VALVOLA 5/2

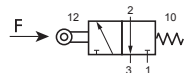
ROLLER-LEVER MECHANICAL VALVES / VALVOLE AD AZIONAMENTO MECCANICO A LEVA-RULLO

VCLR32 . M8

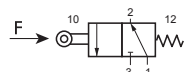
ROLLER-LEVER VALVE
VALVOLA AD AZIONAMENTO LEVA-RULLO



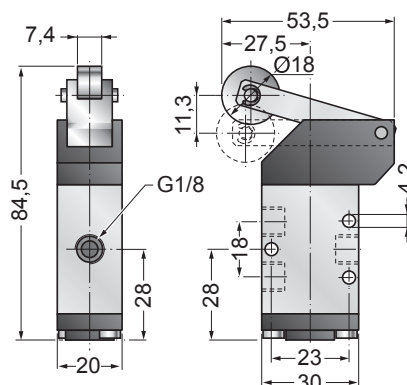
VCLR326M8



VCLR329M8



F min = 10N
F max = 20N



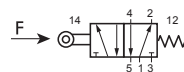
VALVE / VALVOLA 3/2

VCLR52M18

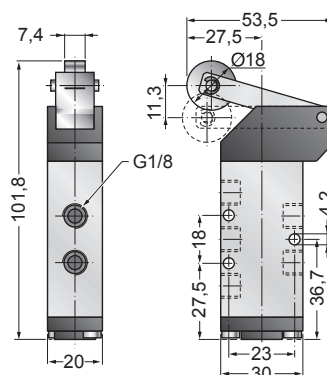
ROLLER-LEVER VALVE
VALVOLA AD AZIONAMENTO LEVA-RULLO



VCLR52M18



F min = 10N
F max = 20N

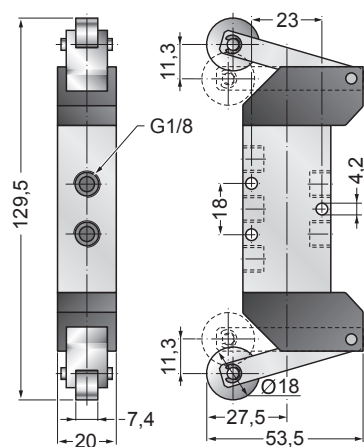


VALVE / VALVOLA 5/2

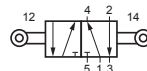
DUAL ROLLER-LEVER VALVE
VALVOLA A DOPPIO AZIONAMENTO LEVA-RULLO

VCLR52018

VALVE / VALVOLA 5/2



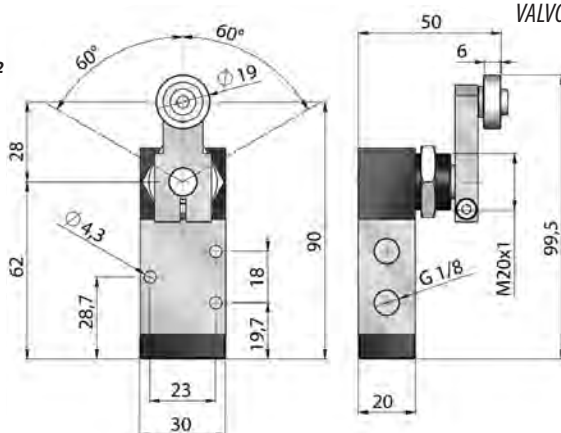
VCLR52018



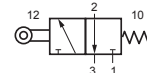
LATERAL ROLLER-LEVER VALVE
VALVOLA AD AZIONAMENTO LEVA-RULLO LATERALE

VCLL32 . M8

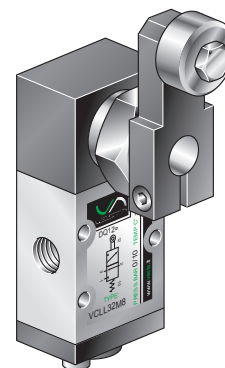
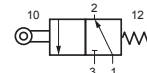
VALVE / VALVOLA 3/2



VCLL326M8



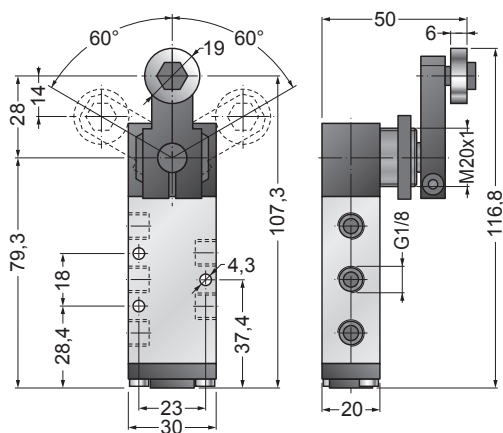
VCLL329M8



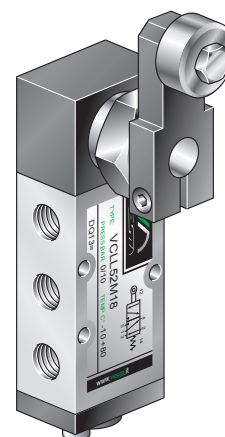
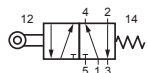
LATERAL ROLLER-LEVER VALVE
VALVOLA AD AZIONAMENTO LEVA-RULLO LATERALE

VCLL52M18

VALVE / VALVOLA 3/2



VCLL52M18

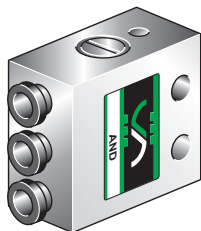




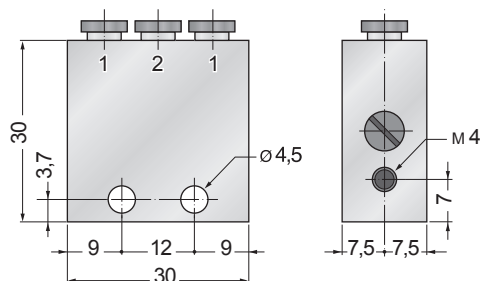
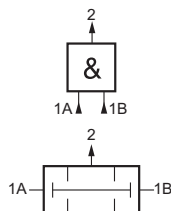
AUTOMATIC MICROVALVES PUSH-IN Ø4 mm / MICROVALVOLE AUTOMATICHE TUBO Ø4 mm

AND 42

LOGIC ELEMENT
UNITA' LOGICA



AND

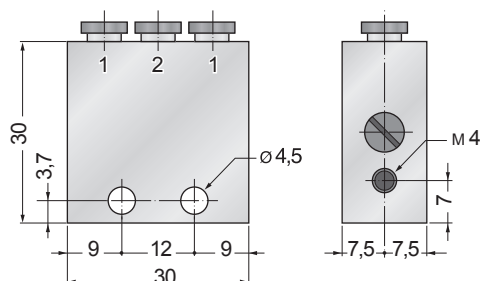
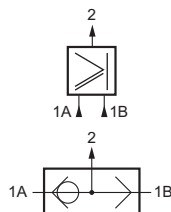


OR 42

LOGIC ELEMENT
UNITA' LOGICA

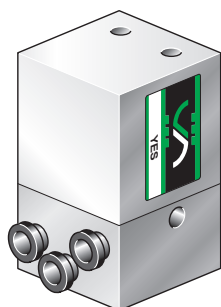


OR

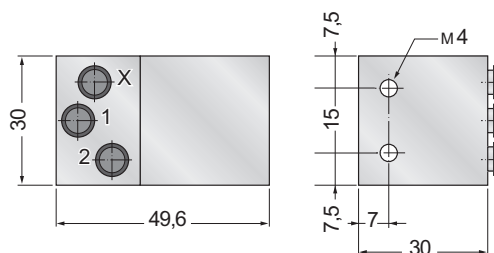
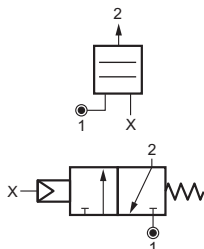


YES

LOGIC ELEMENT
UNITA' LOGICA

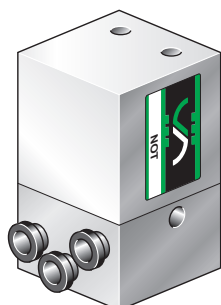


YES

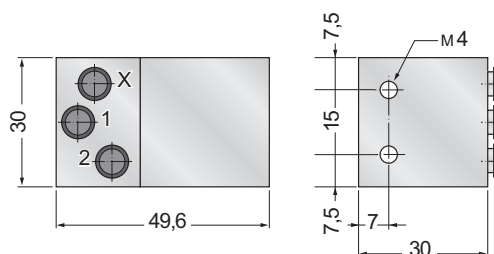
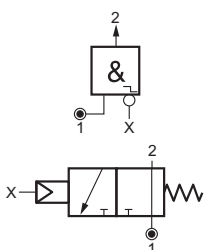


NOT

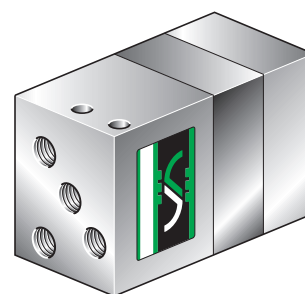
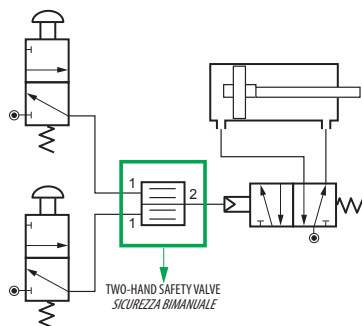
LOGIC ELEMENT
UNITA' LOGICA



NOT



APPLICATION SKETCH / SCHEMA APPLICATIVO



TECHNICAL FEATURES

Maximum flow rate	100 NL/min	Delay between two	
Ports	G1/8"	actuating signals	Dt < 0.5 s
Working pressure	3 ÷ 8 bar; 0.3 ÷ 0.8 MPa	Fluid	50µm µ. filtered air
Temperature range	Max +60°C	Lubrication	Not required
Safety	As per EN 574 type 3A		

CARATTERISTICHE TECNICHE

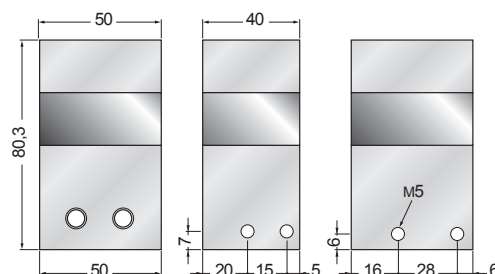
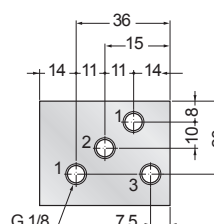
Portata massima	100 NL/min	Intervallo di tempo tra due segnali di comando	$Dt < 0.5 \text{ s}$
Attacchi	G1/8"	Fluido	Aria filtrata 50m μ .
Pressione d'esercizio	3 ÷ 8 bar; 0.3 ÷ 0.8 MPa	Lubrificazione	Non necessaria
Temperatura di esercizio	Max +60°C		
Sicurezza	Conforme alla norma EN 574 tipo 3A		

MATERIALS

Body	Aluminium 11S
Springs	Stainless steel
Seals	NBR
Internal parts	Ottone OT58

MATERIALI

Corpo	Alluminio 11S
Molle	INOX
Guarnizioni	NBR
Parti interne	Ottone OT58



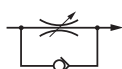
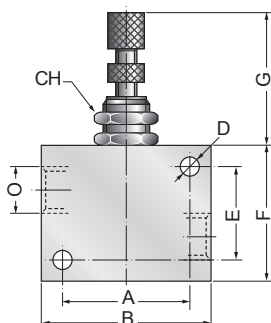
This valve is used to pilot high-flow directional control valves connected to machines which have a high risk of injuries to the hands.

The machine operator must simultaneously operate, in a safe area, two three-way manual valves for correct operation. The safety valve will ignore a single depression of one of the manual valves. To repeat the cycle both pilot signals must be exhausted and the manual valves simultaneously actuated again.

E' utilizzabile per il comando di valvole di potenza connesse a macchine che presentano un elevato rischio di infortunio alle mani. Impone all' operatore di utilizzare entrambe le mani per inviare l'impulso alla valvola di potenza, evitando in questo modo che esse vengano accidentalmente a trovarsi nell' area dei meccanismi in movimento.

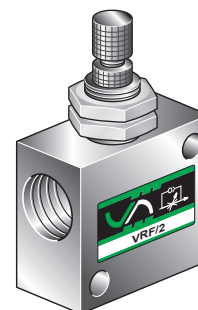
L'impulso di comando viene generato dalla sicurezza bimanuale solo in presenza di due segnali di azionamento contemporanei provenienti da microvalvole a tre vie NC da collegare ai due attacchi indicati con 1. L'intervallo Dt tra questi due segnali, comunque inferiore a 0,5 sec., varia a seconda della pressione di alimentazione e può essere determinato facendo riferimento al grafico "risposta tempo-pressione"

La sicurezza bimanuale è dotata di un dispositivo antiripetitivo che garantisce la generazione di un solo impulso in presenza dei due segnali e procedere a un nuovo azionamento.



Code <i>Codice</i>	A	B	CH	D	E
VRF 8	23	30	15	4,5	13
VRF 4	30	40	15	4,5	22
VRF 3	43	56	24	6,5	27
VRF 2	43	56	24	6,5	27

Code Codeice	F	G	O	Thickness Spessore
VRF 8	20	35	1/8	17
VRF 4	30	35	1/4	22
VRF 3	40	43	3/8	30
VRF 2	40	43	1/2	30



FLOW REGULATORS
REGOLATORE DI FLUSSO

VRF





ATEX VALVES RANGE GAMMA VALVOLE ATEX

SERIE **ATEX**

TECHNICAL FEATURES / CARATTERISTICHE COSTRUTTIVE

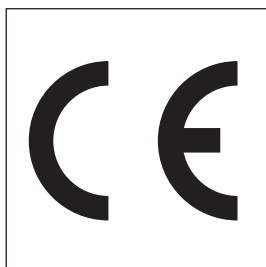


The 94/9/EC directive - ATEX (atmosphere explosive)

Since the 1st July 2003 the 94/9/EC Directive is the only certification for devices used in certain explosive zones. Aim of the directive is to achieve a uniform level of safety and removing barriers to trade. The new requirements of the 94/9/EC have extended the safety level to the mechanical devices, taking in consideration the presence of dust in potentially explosive atmosphere. The marking of the device has become necessary in order to certificate the products into the classifying zones. Sparks, arcs, hot surfaces, adiabatic compression, are some of the sources of ignition considered for Vesta ATEX production.

Group II

These equipments are used in areas where probability an explosive atmosphere (consisting of a mixture of air and gases, vapours or mixture of dust and air) will occur.



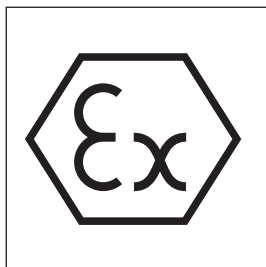
Vesta Automation gives all indications about group and categories of its ATEX products, furthermore advises users to an accurate classification of the zones into the specific case of use in which a potentially explosive atmosphere could be present. For a right and safety classification of the zones it's a good rule to follow the below European standard:

EN 60079-10

Classification of hazardous areas

EN 50281-3

Classification of areas where combustible dusts are or may be present



La direttiva 94/9/CE - ATEX (atmospheres explosive)

A partire dal 1-7-2003 la Direttiva dell'unione Europea 94/9/CE è l'unica certificazione valida per le apparecchiature antideflagranti immesse nel mercato dell'UE. Obiettivo di tale direttiva è garantire la sicurezza e la salute delle persone e dei beni promuovendo la libera circolazione dei prodotti sopra citati su tutto il territorio della comunità europea fornendo un unico riferimento per impianti sotterranei (gruppo I) e di superficie (gruppo II).

Le novità introdotte dalla direttiva hanno ampliato il campo della sicurezza estendendolo agli apparecchi non elettrici e alla presenza di polveri combustibili introducendo delle zone di rischio e imponendo la marcatura CE.

Tra le fonti di accensioni non elettriche contemplate troviamo scintille, archi, superfici calde, compressioni adiabatiche, scariche elettrostatiche.

Gruppo II

Apparecchi destinati ad essere utilizzati in luoghi in cui è probabile che si presentino atmosfere esplosive causate da miscele di aria e gas, vapori o nebbie o da miscele di aria/polveri.

Vesta Automation fornisce le indicazioni relative al gruppo e categoria del prodotto, e consiglia l'utilizzatore ad un'attenta classificazione delle zone nel proprio contesto in termini di luoghi e attività lavorative che contengono o possono dar luogo a pericolo di esplosione. Per una corretta e sicura classificazione delle zone è buona regola riferirsi alle norme tecniche relative ai settori specifici, tra queste citiamo:

EN 60079-10

Classificazione dei luoghi per atmosfere esplosive per la presenza di gas

EN 50281-3

Classificazione dei luoghi dove sono o possono essere presenti polveri combustibili

**ATEX** SERIE**ATEX VALVES RANGE
GAMMA VALVOLE ATEX****NON ELECTRICAL DEVICE MARKING EXAMPLE / ESEMPIO DI MARCATURA DI APPARECCHIO NON ELETTRICO**

CE	Ex	II	2	GD	c	T3	T130°C	-15°≤Ta≤60°C														
CE symbol Simbolo CE	Ex symbol for use in hazardous areas Simbolo antideflagrante	Equipement group Gruppo area di utilizzo	Equipement category Categoria	Explosive atmosphere (G=gas, D=dust) Tipo di atmosfera potenzialmente esplosiva (G=gas, D= polvere)	Ignition protection category constructional safety - c encapsulation m, level mb - m Tipo di protezione specifica protezione attraverso la sicurezza costruttiva - c protezione attraverso incapsulamento, livello mb - m		Max surface temperature for use in dust-hazard areas Classe di temperatura in riferimento alle polveri	Environment temperature range in which the product can be used Temperatura ambiente di esercizio														
							<table><tr><th>Temperature class for gas Classe di temperatura per gas</th><th>Max surface temperature Temperatura max di superficie</th></tr><tr><td>T1</td><td>450°C</td></tr><tr><td>T2</td><td>300°C</td></tr><tr><td>T3</td><td>200°C</td></tr><tr><td>T4</td><td>135°C</td></tr><tr><td>T5</td><td>100°C</td></tr><tr><td>T6</td><td>85°C</td></tr></table>	Temperature class for gas Classe di temperatura per gas	Max surface temperature Temperatura max di superficie	T1	450°C	T2	300°C	T3	200°C	T4	135°C	T5	100°C	T6	85°C	
Temperature class for gas Classe di temperatura per gas	Max surface temperature Temperatura max di superficie																					
T1	450°C																					
T2	300°C																					
T3	200°C																					
T4	135°C																					
T5	100°C																					
T6	85°C																					

GROUP II non mining areas - GRUPPO II impianti non minerari

Zone - Zona	Type of atmosphere <i>Tipo di atmosfera</i>	Presence of explosive atmosphere <i>Presenza di atmosfera esplosiva</i>	Category of devices <i>Categoria</i>
0 20	gas (G) dust - polveri (D)	continuous, long period continuo	1
1 21	gas (G) dust - polveri (D)	occasional occasionale	2
2 22	gas (G) dust - polveri (D)	seldom, short periods breve	3

The class of an entire assembled system is the one of the lowest classified item.

Un assieme appartiene alla classe più bassa tra quelle dei particolari che lo compongono.

Power valve - Valvola	Coil - Solenoide	Resulting category - Categoria risultante
II 2GD T4 T150°C	II 2GD T5	II 2GD T4 T150°C
II 2GD T4 T150°C	II 3GD T150°	II 3GD T4 T150°
II 2G T4	II 2GD T5	II 2G T4
II 2G T4	II 2GD IIC T6	II 2G IIC T4

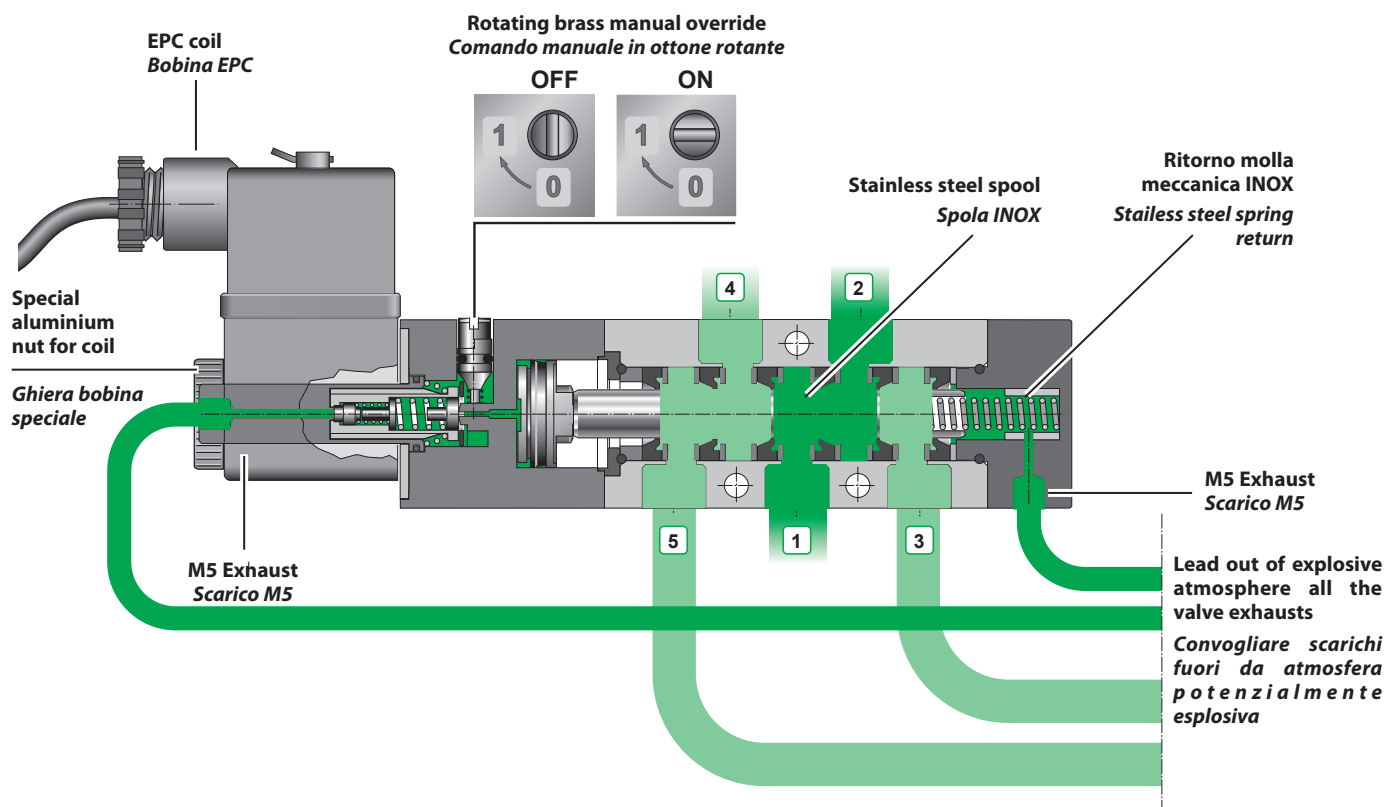


ATEX VALVES RANGE GAMMA VALVOLE ATEX

SERIE **ATEX**

Vesta ATEX valves satisfy all directives 94/9/EC to avoid mechanical risks of ignition in explosive atmosphere (category II2GD and II3GD). Design, materials and technical solutions are made to prevent mechanical sparks, electrostatic charges, heating of surfaces due to friction, etc. All these solutions make Vesta ATEX valves in "constructional safety". They grant the earthing of all their parts, due to alodine surface treatment of body and head operator. All the parts are ATEX compliant and valves have overcome ATEX impact tests and protection degree IP65 tests. Use only EPC or XSCN coils on Vesta ATEX solenoid valves.

Le valvole ATEX VESTA rispettano tutti i requisiti di sicurezza previsti dalla direttiva 94/9/CE per evitare il rischio meccanico di accensione di atmosfere potenzialmente esplosive di categoria II2GD e II3GD. Questo risultato si è ottenuto con la scelta progettuale di materiali e di soluzioni tecniche atti a prevenire scintille, accumuli di cariche elettrostatiche, surriscaldamenti locali per attrito o sfregamento, ecc; pertanto la protezione viene garantita attraverso la sicurezza costruttiva. Le valvole ATEX VESTA consentono la messa a terra di tutte le loro parti, grazie al trattamento alodine sul corpo e sui fondelli che permette la conduzione elettrica e la protezione dagli agenti esterni. Tutta la componentistica utilizzata soddisfa i requisiti ATEX. Le valvole hanno superato i test d'impatto previsti dalla direttiva, nonché il test del grado di protezione IP 65. Le elettrovalvole ATEX VESTA devono essere equipaggiate esclusivamente con solenoidi ATEX serie EPC o XSCN.



TECHNICAL FEATURES - CARATTERISTICHE TECNICHE

- ATEX category II2GD
- IP65 protection degree
- Aluminium body and heads operator with alodine surface treatment.
- NBR seals
- Brass spacers
- Medium T: $0^{\circ} < T_{\text{fluido}} < 25^{\circ}\text{C}$
- Environment T: $-5^{\circ} < T_{\text{amb}} < 50^{\circ}\text{C}$
- Medium: filtered air (quality 5 ISO 8573-1)
- Lubrication not required
- For technical features of atex valves please see the correspondent non atex valves
- For use instructions please see www.vesta.it
- For 94/9/EC atex directive please see pag B-113

- Classificazione atex II2GD
- Protezione IP65
- Fondelli e corpo alluminio con trattamento alodine
- Guarnizioni NBR
- Distanziali ottone
- T fluido: $0^{\circ} < T_{\text{fluido}} < 25^{\circ}\text{C}$
- T ambiente: $-5^{\circ} < T_{\text{amb}} < 50^{\circ}\text{C}$
- Fluido: aria filtrata (qualità 5 secondo ISO 8573-1)
- Lubrificazione non necessaria
- Per caratteristiche pneumatiche vedere codici corrispondenti senza la "X"
- Per manuale di uso e manutenzione consultare il sito www.vesta.it
- Per informazioni su direttiva 94/9/CE atex vedere pag B-113



ATEX SERIE

ATEX VALVES RANGE GAMMA VALVOLE ATEX

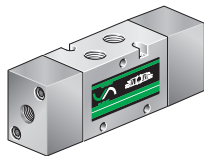


XV ... 14

PNEUMATIC VALVES
VALVOLE PNEUMATICHE

XV ... 12

PNEUMATIC VALVES
VALVOLE PNEUMATICHE



G1/2 - G1/4; 3/2 - 5/2 - 5/3



II 2GD c T4 T 160 °C

CODES G1/4 / CODICI G1/4:

XV32V1P6M4	Pag. B-24
XV32V1P9M4	Pag. B-24
XV32V2P014	Pag. B-25
XV52V1PM14	Pag. B-25
XV52V2P014	Pag. B-26
XV53V2P614	Pag. B-26
XV53V2P914	Pag. B-26

CODES G1/2 / CODICI G1/2:

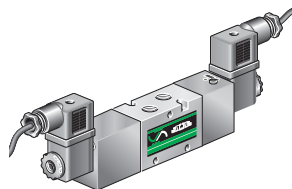
XV32V1P6M2	Pag. B-24
XV32V1P9M2	Pag. B-24
XV32V2P012	Pag. B-25
XV52V1PM12	Pag. B-25
XV52V2P012	Pag. B-26
XV53V2P612	Pag. B-26
XV53V2P912	Pag. B-26

XE ... 14

SOLENOID VALVES
ELETTROVALVOLE

XE ... 12

SOLENOID VALVES
ELETTROVALVOLE



G1/2 - G1/4; 3/2 - 5/2 - 5/3



II 2GD c T4 T 160 °C

CODES G1/4 / CODICI G1/4:

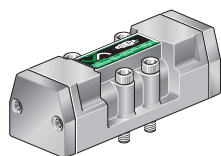
XE32W1S6M4	Pag. B-27
XE32W1S9M4	Pag. B-27
XE32W2S014	Pag. B-28
XE52W1SM14	Pag. B-28
XE52W2S014	Pag. B-29
XE53W2S614	Pag. B-29
XE53W2S914	Pag. B-29

CODES G1/2 / CODICI G1/2:

XE32W1S6M2	Pag. B-27
XE32W1S9M2	Pag. B-27
XE32W2S012	Pag. B-28
XE52W1SM12	Pag. B-28
XE52W2S012	Pag. B-29
XE53W2S612	Pag. B-29
XE53W2S912	Pag. B-29

XSVP ...

PNEUMATIC VALVES
VALVOLE PNEUMATICHE



ISO 1; 5/2



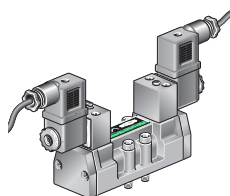
II 2GD c T4 T 155 °C

CODES / CODICI:

XSVP4521M0	Pag. B-74
XSVP452200	Pag. B-74

XSVE ...

SOLENOID VALVES
ELETTROVALVOLE



ISO 1; 5/2



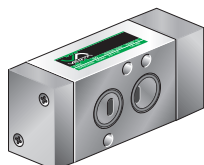
II 2GD c T4 T 155 °C

CODES / CODICI:

XSVE6521M0	Pag. B-76
XSVE652200	Pag. B-77

XNM ... P

NAMUR VALVES SERIES
VALVOLE SERIE NAMUR



NAMUR; 3/2 - 5/2



II 2GD c T4 T 160 °C

CODES / CODICI:

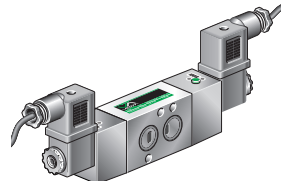
XNM32V1P-SR	Pag. B-95
XNM32V2P-TP	Pag. B-96

CODES / CODICI:

XNM52V1P-SR	Pag. B-97
XNM52V2P-TP	Pag. B-98

XNM ... S

NAMUR VALVES SERIES
VALVOLE SERIE NAMUR



NAMUR; 3/2 - 5/2



II 2GD c T4 T 160 °C

CODES / CODICI:

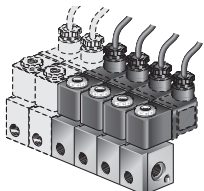
XNM32W1S-SR	Pag. B-96
XNM32W2S-TP	Pag. B-97

CODES / CODICI:

XNM52W1S-SR	Pag. B-99
XNM52W2S-TP	Pag. B-99

XBE ... NC

DIRECT ACTING SOLENOID VALVE 3/2 NC
ELETTROVALVOLA A COMANDO DIRETTO 3/2 NC



3/2 - 2/2



II 2GD c T4 T 160 °C

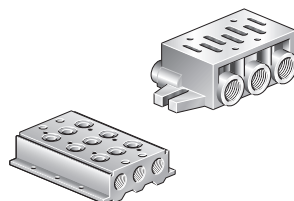
CODES / CODICI:

XBE 1-2	Pag. B-34
XBE 1-5	Pag. B-34

CODES / CODICI:

XBE 1M-2	Pag. B-35
XBE 1M-5	Pag. B-35

ATEX Manifold / Basi ATEX



II 2GD c T4 T 160 °C

CODES / CODICI:

XBS1	Pag. B-79
XBTC1	Pag. B-79
XBMI1	Pag. B-79
XBT11	Pag. B-79

CODES / CODICI:

XME . 14	Pag. B-30
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ATEX VALVES RANGE GAMMA VALVOLE ATEX

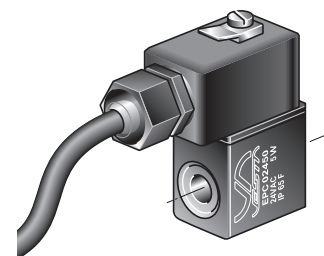
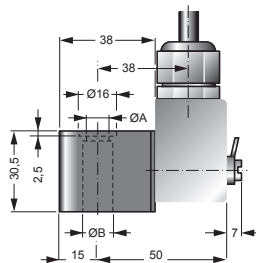
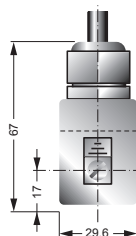
SERIE **ATEX**

EPC

EXPLOSION PROOF COILS
SOLENOIDE ANTIDEFLAGRANTE

CODES / CODICI

Code ordination Codice ordinazione	Voltage Tensione
EPC01200	12 V DC
EPC02400	24 V DC
EPC02450	24 V 50/60Hz AC
EPC04850	48 V 50/60Hz AC
EPC11050	110 V 50/60Hz AC
EPC22050	220 V 50/60Hz AC
EPC23050	230 V 50/60Hz AC



TECHNICAL FEATURES

Standard voltage	24 V DC
Power	24, 48, 110, 220, 230 V AC (50/60 Hz)
Voltage	3 Watt in DC; 3,2 V A in AC
Ambient temperature range	± 10%
Electrical connection	-50°C ÷ +50°C
Solenoids EPC series follow :	By triple cable, 3m length

II 2G Ex mb IIC T5 Gb

II 2D Ex tb IIIC T5 IP66 Db

according to standard ATEX 94/9/CE :

II Electrical apparatus for places with a potentially explosive atmosphere

G/D Explosive gas atmospheres / Explosive atmosphere in the presence of combustible dust.

Ex Indicates that the electrical apparatus corresponds to one of the protection type (EN 60079-0)

mb/tb Type of protection for gas / Type of protection for explosive dust atmospheres.

IIC Electrical equipment of Group II according to gas atmospheres – IIC, a typical gas is hydrogen.

IIIC Electrical equipment of Group III according to dust atmospheres – IIIC, conductive dust.

T5 Maximum working temperature (see technical features).

Gb/Db... Equipment protection level [EPL] for explosive gas atmospheres. / for explosive dust atmospheres.

Coils series EPC are supplied with solenoid connector and cable.

CARATTERISTICHE TECNICHE

Tensioni standard	24 V DC
Potenza assorbita	24, 48, 110, 220, 230 V AC (50/60 Hz)
Tensione nominale	3 Watt in DC; 3,2 V A in AC
Limiti di temperatura ambiente	± 10% a bobina calda
Connessione elettrica	-50°C ÷ +50°C
Il solenoide serie EPC risponde alle specifiche :	Cavo tripolare, lunghezza 3m

II 2G Ex mb IIC T5 Gb

II 2D Ex tb IIIC T5 IP66 Db

in accordo con la normativa ATEX 94/9/CE:

II Apparecchi elettrici per luoghi con atmosfere potenzialmente esplosive.

G/D Atmosfere con gas esplosive / Atmosfere esplosiva in presenza di polveri combustibili.

Ex Indica che l'apparecchiatura elettrica corrisponde ad uno dei tipi di protezione (EN 60079-0)

mb/tb Tipo di protezione per il gas / tipo di protezione per atmosfere esplosive di polveri.

IIC Apparecchiature elettriche del gruppo II atmosfere di gas - IIC, un gas tipico è l'idrogeno.

IIIC Apparecchiature elettriche del gruppo III atmosfere di polveri - IIIC, polveri conduttive.

T5 Max temperatura di lavoro (vedi caratteristiche tecniche).

Gb/Db... livello di protezione delle apparecchiature [EPL] per atmosfere esplosive: gas (Gb)/polveri (Db).

Le bobine serie EPC sono fornite complete di connettore e cavo.

CE Ex nA II3GD T6

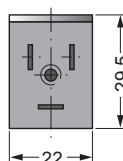
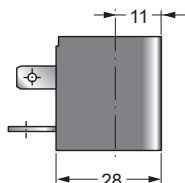
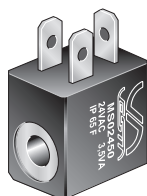
COIL
SOLENOIDE

XMS

CODES / CODICI

Ordination code Codice ordinazione	Voltage Tensione
XMS01200	12 V DC
XMS02400	24 V DC
XMS02450	24 V 50/60Hz AC
XMS11550 (*)	115 V 50/60Hz AC
XMS23050 (*)	230 V 50/60Hz AC

(*) Please see page / Vedi pag. B-37



TECHNICAL FEATURES

Standard voltage	12, 24 V DC
Solenoid characteristics	24, 115, 230 V AC (50/60 Hz)
Tension	3 Watt in DC; 5 V A in AC
Ambient temperature range	± 10%
Degree of	-20°C ÷ +50°C
Expo	Class F
Expo	Incapsulated

CARATTERISTICHE TECNICHE

Tensione standard	12, 24 V DC
Prestazioni bobina	24, 115, 230 V AC (50/60 Hz)
Tensione nominale	3 Watt in DC; 5 V A in AC
Limiti di temperatura ambiente	± 10% a bobina calda
Protezione	-20 °C ÷ +50 °C
Bobina	IP 65 secondo IEC 144 con connettore e guarnizioni montate
Sovrastampatura	Classe F, Filo rame classe 200 °C
.....	Resina epossidica

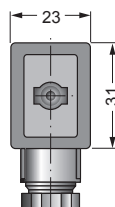
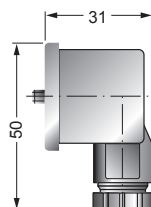
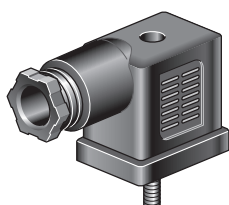
Ex II3GD ATEX 94/9/CE

SOLENOID CONNECTOR
CONNETTORE

XCEP-1

CODES / CODICI

Description Descrizione	Code Codice	Tension Tensione
Universal connector Connettore universale	XCEP-1	All tension Tutte le tensioni



TECHNICAL FEATURES

Wire connection	With screwed terminals
Gland thread	PG 9
Number of poles	2 Poles + earth
Housing colour	Black, transparent in the led version.

Connessione cavi	Con morsetti a vite
Filettatura passacavo	PG 9
N° Poli	2 Poli + terra
Colori connettore	Nero, trasparente nelle versioni con led.





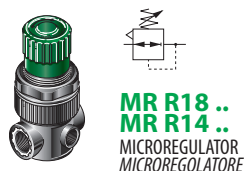
air treatment units
gruppi trattamento aria



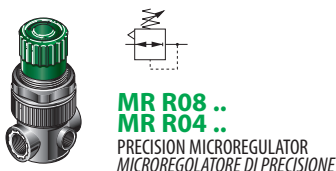


INDEX / INDICE

MICROREGULATORS MR / MICROREGOLATORI MR G1/8 - G1/4

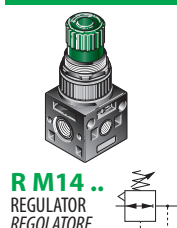


pag. C-06

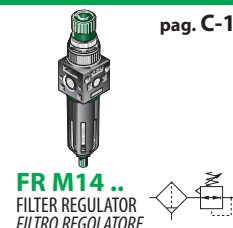
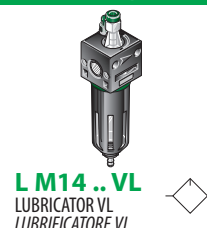


pag. C-07

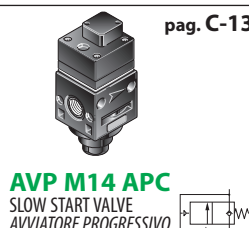
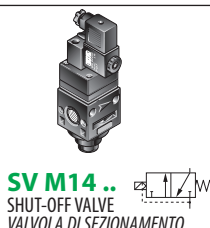
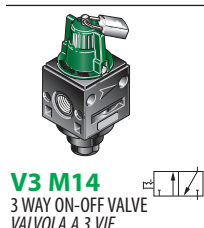
MODULAR LINE M14 / LINEA MODULARE M14 G1/4



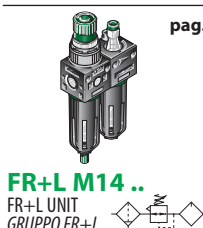
pag. C-11



pag. C-12

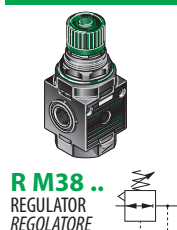


pag. C-13

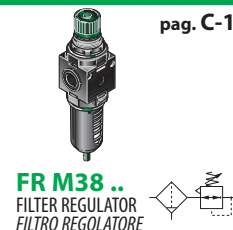


pag. C-14

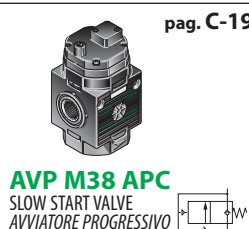
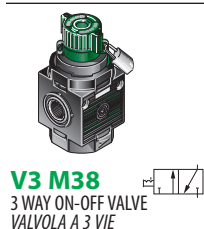
MODULAR LINE M38 / LINEA MODULARE M38 G3/8



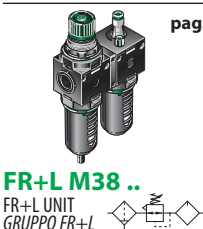
pag. C-17



pag. C-18

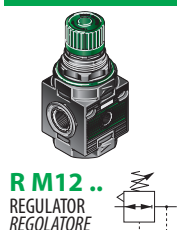


pag. C-19

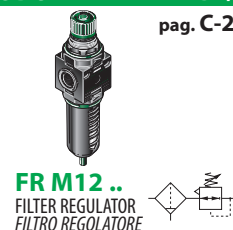


pag. C-20

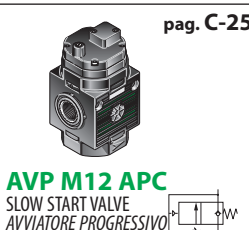
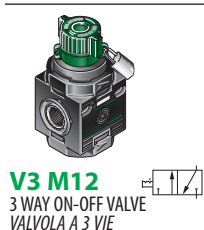
MODULAR LINE M12 / LINEA MODULARE M12 G1/2



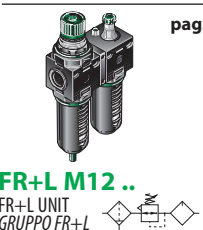
pag. C-23



pag. C-24



pag. C-25

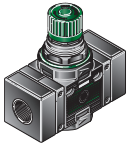
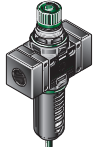
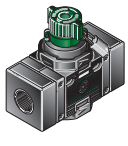
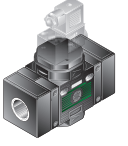
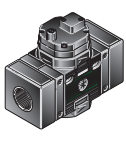
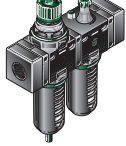


pag. C-26

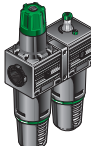


INDEX / INDICE

G3/4 MODULAR LINE M34 / LINEA MODULARE M34

 R M34 .. REGULATOR REGOLATORE	 F M34 .. FILTER FILTRO	 MF M34 .. MICROFILTER MICROFILTRO	 L M34 .. LUBRICATOR LUBRIFICATORE	 L M34 .. VL LUBRICATOR VL LUBRIFICATORE VL	 FR M34 .. FILTER REGULATOR FILTRO REGOLATORE
pag. C-29			pag. C-30		
 V3 M34 3 WAY ON-OFF VALVE VALVOLA A 3 VIE	 SV M34 .. SHUT-OFF VALVE VALVOLA DI SEZIONAMENTO	 AVP M34 APC SLOW START VALVE AVVIATORE PROGRESSIVO	 FR+L M34 .. FR+L UNIT GRUPPO FR+L		
pag. C-31			pag. C-32		

G1 MODULAR LINE M10 / LINEA MODULARE M10

 R M10 .. REGULATOR REGOLATORE	 F M10 .. FILTER FILTRO	 L M10 .. LUBRICATOR LUBRIFICATORE	 FR M10 .. FILTER REGULATOR FILTRO REGOLATORE	 FR+L M10 .. FR+L UNIT GRUPPO FR+L
pag. C-35			pag. C-36	

SPARE PARTS AND ACCESSORIES FOR MODULAR LINE / ACCESSORI E RICAMBI PER LINEE MODULARI

							
SPARE PARTS AND ACCESSORIES / ACCESSORI E RICAMBI							

ACCESSORIES FOR PNEUMATIC SYSTEMS / ACCESSORI PER SISTEMI PNEUMATICI

 DSL . OIL REMOVERS-SILENCIERS DISOLEATORI-SILENZIATORI	 SCL DRIP LEG DRAIN SCARICATORE PER LINEE
pag. C-40	

GUIDE TO REFERENCE FOR CODING / GUIDA DI RIFERIMENTO PER LA CODIFICA

	FR	M14	20	08	R	PE	SS	
Product / Prodotto								
Microregulator - <i>Microregolatore</i>	MR							
Regulator - <i>Regolatore</i>	R							
Filter - <i>Filtro</i>	F							
Microfilter - <i>Microfiltro</i>	MF							
Lubricator - <i>Lubrificatore</i>	L							
Filter regulator - <i>Filtro regolatore</i>	FR							
3 way on-off valve - <i>Valvola a 3 vie</i>	V3							
Shut-off valve - <i>Valvola di sezionamento</i>	SV							
Slow start valve - <i>Avviatore progressivo</i>	AVP							
Line / Serie								
Microregulator - <i>Microregolatore</i>		G1/8	R18					
Microregulator - <i>Microregolatore</i>		G1/4	R14					
Precision microregulator - <i>Microregolatore di precisione</i>		G1/8	R08					
Precision microregulator - <i>Microregolatore di precisione</i>		G1/4	R04					
Modular line - <i>Linea modulare</i>		G1/4	M14					
Modular line - <i>Linea modulare</i>		G3/8	M38					
Modular line - <i>Linea modulare</i>		G1/2	M12					
Modular line - <i>Linea modulare</i>		G3/4	M34					
Modular line - <i>Linea modulare</i>		G1	M10					
Filtering element / Elemento filtrante								
5 Micron			5					
20 Micron (standard)			20					
0,1 Micron (only MF)			0,1					
Pressure regulation range / Campo di regolazione								
0 ÷ 2 Bar (only MR)				02				
0 ÷ 4 Bar (only MR)				04				
0 ÷ 8 Bar (standard)				08				
0 ÷ 12 Bar				12				
Version / Versione								
Relieving (standard)					R			
No relieving					A			
(for water, only MR - <i>per acqua, solo MR</i>)								
Bowls / Tazze								
External protection						PE		
<i>Protezione esterna</i> (standard)								
Drain / Scarico								
Semiautomatic drain - <i>Scarico semiautomatico</i> (standard)							SS	
Automatic drain - <i>Scarico automatico</i>							SA	
Special type / Tipo speciale								
Controlled air escape (only MR) - <i>Fuga d'aria controllata</i> (solo MR)								FA
Vacuum loading (L) - <i>Caricamento in depressione</i> (L)								VL



R.18 .. - R.14 ..

MICROREGULATORS G1/8 AND G1/4 MICROREGOLATORI G1/8 E G1/4

The precision microregulators **MR R04 ..** and **MR R08 ..** are provided with a regulating system with rolling diaphragm, with or without relieving device, in order to assure a good regulating accuracy and a high stability of the pressure adjustment.

Microregulators of high accuracy **MR R04 .. FA** and **MR R08 .. FA** are also available with characteristics similar to the previous range, supplied with relieving (only for air), provided with a controlled air escape which is able to achieve highly accurate pressure adjustment. This range has a white plug at the bottom.

*I microregulatori di precisione **MR R04 ..** ed **MR R08 ..** sono provvisti di sistema di regolazione con membrana a rotolamento, con o senza dispositivo di relieving, per garantire una buona precisione di regolazione ed alta stabilità della pressione regolata.*

*Sono disponibili inoltre microregulatori di alta precisione **MR R04 .. FA** ed **MR R08 .. FA**, con caratteristiche analoghe alla serie precedente, provvisti di relieving (solo per aria), dotati di un dispositivo a fuga d'aria controllata che garantisce una alta precisione della pressione regolata. Questa serie monta il tappo di colore bianco sul fondo.*



MAIN TECHNICAL FEATURES / PRINCIPALI CARATTERISTICHE:

- Sensitive high performance model, high stability with low load losses and big flow rate
- Downstream overpressures quickly eliminated
- Lockable safety knob
- Reference flow rate (P=6,3 Bar - ΔP =1 Bar): 900 NI/min
- Available version FA, provided with a CONTROLLED AIR ESCAPE + IMPROVED RELIEVING which is able to achieve highly accurate pressure adjustment

- Modello ad alte prestazioni con grande stabilità, basse perdite di carico
- Rapida eliminazione delle sovrappressioni a valle.
- Pomello con dispositivo di bloccaggio della regolazione
- Portata 900 lt/min (P1=6,3 bar; delta P=1)
- Disponibile nella versione FA, a Fuga d'Aria Controllata + Relieving Maggiorato che consente di ottenere un'altissima precisione regolata ed elevata velocità di scarico della sovrappressione

TECHNICAL FEATURES

Connections	G1/8 (MR R08 .. ; MR R08 .. FA)
	G1/4 (MR R04 .. ; MR R04 .. FA)
Body	Acetalic resin (POM).

Environment temperature range	+5 ÷ +50 °C (41 ÷ 122 °F)
Gauge connections	G1/8
Maximum inlet pressure	16 Bar (230 Psi)
Fixing	Complete with ring nut for panel assembly, or can be wall mounted on a bracket .

CARATTERISTICHE TECNICHE

Connessioni	G1/8 (MR R08 .. ; MR R08 .. FA)
	G1/4 (MR R04 .. ; MR R04 .. FA)
Corpo	Resina acetilica (POM).

Temperatura ambiente	+5 ÷ +50 °C (41 ÷ 122 °F)
Connessioni manometro	G1/8
Pressione massima di ingresso	16 Bar (230 Psi)
Fissaggio	Completo di ghiera per il montaggio a pannello, o Possibilità di fissaggio parete con staffa.

ORDER CODE SERIES MR / CODICI DI ORDINAZIONE SERIE MR

PRECISION MICROREGULATOR MICROREGOLATORE DI PRECISIONE

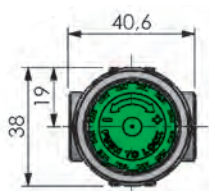
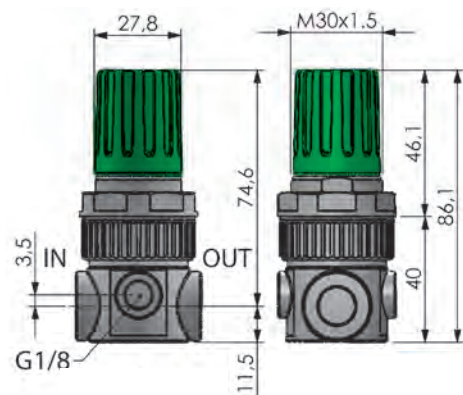
G1/8	MR R08	02	R
	MR R08	04	R
	MR R08	08	R
	MR R08	12	R
	MR R08	02	A
	MR R08	04	A
G1/4	MR R08	08	A
	MR R08	12	A
	MR R04	02	R
	MR R04	04	R
	MR R04	08	R
	MR R04	12	R
	MR R04	02	A
	MR R04	04	A
	MR R04	08	A
	MR R04	12	A

PRECISION MICROREGULATOR MICROREGOLATORE DI PRECISIONE

CONTROLLED AIR ESCAPE

G1/8	MR R08	02	R	FA
	MR R08	04	R	FA
	MR R08	08	R	FA
	MR R08	12	R	FA
G1/4	MR R04	02	R	FA
	MR R04	04	R	FA
	MR R04	08	R	FA
	MR R04	12	R	FA

Accessories and spare parts see pages C38 and C-40.
Accessori e ricambi vedi pagine C38 e C-40.



PRECISION MICROREGULATOR

- Rolling diaphragm.
- Lockable safety knob.
- Can be used with air (relieving and green knob: **R** version) or water (without relieving, with black knob: **A** version).
- Pressure ranges: 0÷2 Bar; 0÷4 Bar; 0÷8 Bar (standard); and 0÷12 Bar.

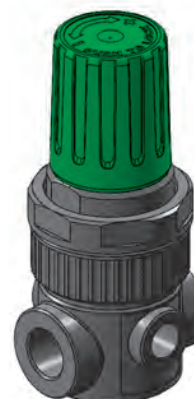
MICROREGOLATORE DI PRECISIONE

- Membrana a rotolamento.
- Pomello con dispositivo di bloccaggio della regolazione.
- Disponibile nelle versioni per aria (con relieving e pomello verde: modello **R**) o per acqua (senza relieving e pomello nero: modello **A**).
- Campi di pressione: 0÷2; 0÷4; 0÷8 (standard) e 0÷12 Bar.

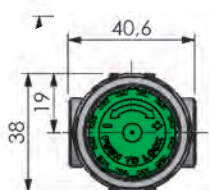
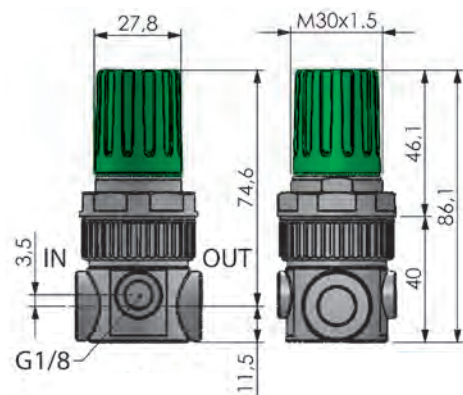
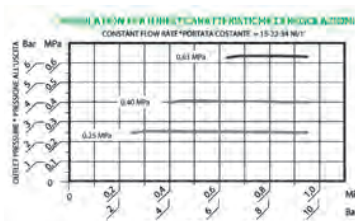
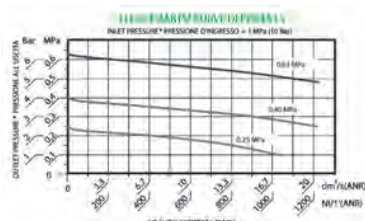
PRECISION MICROREGULATOR
MICROREGOLATORE DI PRECISIONE

MR R08..

MR R04..



G1/8
G1/4
0,100 Kg



PRECISION MICROREGULATOR WITH CONTROLLED AIR ESCAPE

- Rolling diaphragm.
- Lockable safety knob.
- Only relieving version (for air)
- Pressure ranges: 0÷2 Bar; 0÷4 Bar; 0÷8 Bar (standard); and 0÷12,5 Bar.

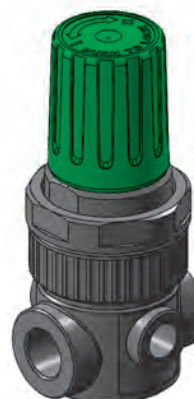
MICROREGOLATORE DI PRECISIONE A FUGA D'ARIA CONTROLLATA

- Membrana a rotolamento.
- Pomello con dispositivo di bloccaggio della regolazione.
- Disponibile solo nella versione con relieving (per aria)
- Campi di pressione: 0÷2 Bar; 0÷4 Bar; 0÷8 Bar (standard); e 0÷12 Bar.

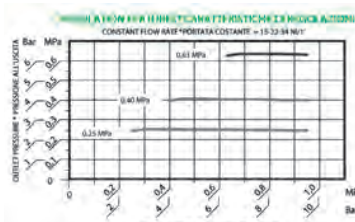
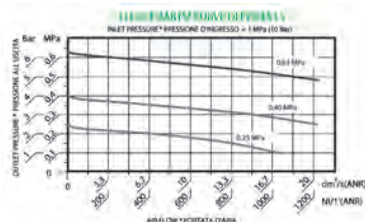
PRECISION MICROREGULATOR
CONTROLLED AIR ESCAPE
MICROREG. DI PRECISIONE
A FUGA D'ARIA CONTROLLATA

MR R08..FA

MR R04..FA



G1/8
G1/4
0,100 Kg





ASSEMBLING SYSTEM MODULAR LINE / SISTEMA DI ASSEMBLAGGIO MODULARE

The assembling system modular line of components offers some advantages such as the possibility to obtain air treatment groups optimized for linked users, simplicity in assembling the components and quickness of servicing or of replacement for spare parts.

The components are made with shock-proof material of the best quality (see technical features), the bodies have threaded connections made from brass fittings and the bowls with outer bowl guard offer a direct check of the condensate level or of the lubricant (transparent bowls for **M14** series as optional).

The practicality of the quick coupling of the bowls with safety bayonet connection system allow the disassembling without tools.

(The **M14** series uses threaded coupling bowls).

When installing, follow the assembling instructions and make sure that the flow goes in the directions printed on the bodies: 3 way on-off valve - filter - microfilter - regulator - shut-off valve - slow start valve - lubricator.

This is also valid for the assembling of few components, in order to avoid, for example, that the mounting of the lubricator before the filter causes the obstruction of the latter, or that the regulator and accessories work with not filtered air and its efficiency is compromised.

For the **M14** series the assembling must be made with screws of such a length according to the number of components that have to be linked, and with or without air inlet (see following pictures).

All the units must be mounted respecting the position of the bowls towards the bottom. When working, it is preferable that the pressure of the regulator is set clockwise, in order to assure the repeatability of the setting.

It is recommended not to exceed the maximum levels indicated both for the filter condensate or microfilter, and for the lubricant of the lubricator, for which oils with ISO VG32 viscosity are recommended.

La modularità di assemblaggio dei componenti offre vantaggi quali la possibilità di comporre gruppi di trattamento dell'aria ottimizzati per il tipo di utenza collegata, semplicità di montaggio dei componenti e rapidità degli interventi di manutenzione o di sostituzione dei ricambi.

*I componenti sono realizzati con materiali antiurto della migliore qualità (vedi caratteristiche tecniche), i corpi sono dotati di connessioni filettate ricavate da inserti in ottone, e le tazze vengono realizzate con una protezione esterna che offre un immediato controllo del livello della condensa o del lubrificante (opzionali, solo per la serie **M14**, le tazze trasparenti).*

*Inoltre la praticità dell'aggancio rapido delle tazze, con meccanismo di inserzione a baionetta con sicurezza, ne permette lo smontaggio in linea senza alcun attrezzo (La serie **M14** utilizza tazze con aggancio filettato).*

Nella fase di installazione è necessario assicurarsi che il flusso segua il senso delle frecce stampate sui corpi, e che l'ordine di montaggio sia corretto: valvola a 3 vie - filtro - microfiltro - regolatore - valvola di sezionamento - avviatore progressivo - lubrificatore.

In questo modo, anche nel caso di assemblaggio di pochi componenti, si evitano numerosi problemi (il montaggio del lubrificatore prima del filtro per esempio, può portare all'immediato intasamento di quest'ultimo, oppure il regolatore e gli accessori che lavorando con aria non filtrata risultano inaffidabili).

*Per la serie **M14** l'assemblaggio deve essere eseguito con le viti di lunghezza adeguata al numero di componenti da vincolare e dalla presenza o meno della presa d'aria (vedi figure seguenti).*

Tutti i gruppi devono essere montati in modo tale da mantenere la posizione delle tazze rivolte verso il basso.

Durante l'utilizzazione è preferibile che la pressione del regolatore sia impostata in senso orario per una garanzia di ripetibilità dell'impostazione, si raccomanda di non superare i livelli massimi indicati sia per la condensa del filtro o microfiltro, sia per il lubrificante del lubrificatore, per il quale si consigliano oli con viscosità ISO VG32.

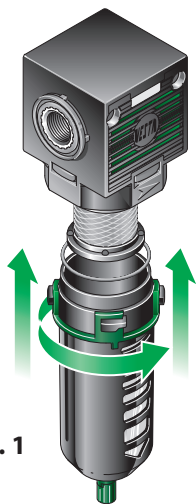


Fig. 1

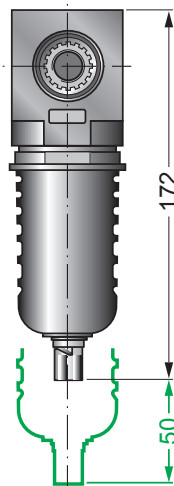


Fig. 2

As regards filters, filter regulators or lubricators, the bowl is engaged to the filter (or to the lubricator) and the green ring nut must be snap-shut counterclockwise (**fig. 1**).

In the technical drawings of each component provided with collecting bowl, the necessary space for the disassembling is indicated, by considering the overall dimensions of the internal parts (filters or pipe for oil suction).

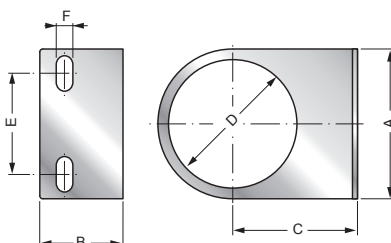
This dimension is useful for the evaluation of an eventual placing in boxes or closed spaces (**fig. 2**).

*Per i gruppi filtro, filtrorregolatori o lubrificatori la tazza si innesta nel corpo del filtro (o lubrificatore) e si ruota la ghiera verde in senso antiorario sino allo scatto di bloccaggio (**fig. 1**).*

*Nei disegni tecnici di ogni componente dotato di vaso di raccolta viene indicato lo spazio necessario per lo smontaggio, considerando l'ingombro degli organi interni (filtro o cannula per il pescaggio dell'olio), questo valore è utile per valutare l'eventuale collocazione in cassette o vani chiusi (**fig. 2**).*

(On examples **M12** modular line - Negli esempi la serie modulare **M12**)

BRACKET FOR WALL FIXING OF REGULATOR AND FILTER REGULATOR / STAFFA PER IL FISSAGGIO A PARETE DI REGOLATORE E FILTRORREGOLATORE



Code - Codice	A	B	C	D	E	F
K BRS	46	20	29	30	30	5,5
K BRL	55	27	40	42	33	5,5

(See Pag. **C-39** - Vedi Pag. **C-39**)

ASSEMBLING SYSTEM MODULAR LINE / SISTEMA DI ASSEMBLAGGIO MODULARE

Serie **M14**, G1/4"

Compact modular line that allows a complete compressed air treatment for plants of small dimensions. It assures considerable flow rates, an excellent efficiency of the filtering, accuracy of the regulation and good lubrication.

Linea modulare di dimensioni compatte, consente un completo trattamento dell'aria compressa per impianti di limitate dimensioni, garantendo notevoli valori di portata ed ottima efficienza nel filtraggio, precisione della regolazione e buona capacità di lubrificazione.

Serie **M38**, G3/8"

Modular line with an excellent relation between dimensions/performances. It is particularly suitable for all medium plants with linked users that need a particular care in air treatment.

Linea modulare con eccezionale rapporto dimensioni / prestazioni, particolarmente indicata per tutti gli impianti di media portata con utenze collegate che necessitano di particolare cura nel trattamento del flusso d'aria.

Serie **M12**, G1/2"

Battery for air treatment with high performances and an excellent strenght, for fixed plants or industrial automation systems with users who need very high flow rates.

Batteria di trattamento dell'aria ad elevate prestazioni e di notevole robustezza, per impianti fissi o apparsi per l'automazione industriale dotati di utenze che necessitano di portate particolarmente elevate.

Serie **M34**, G3/4"

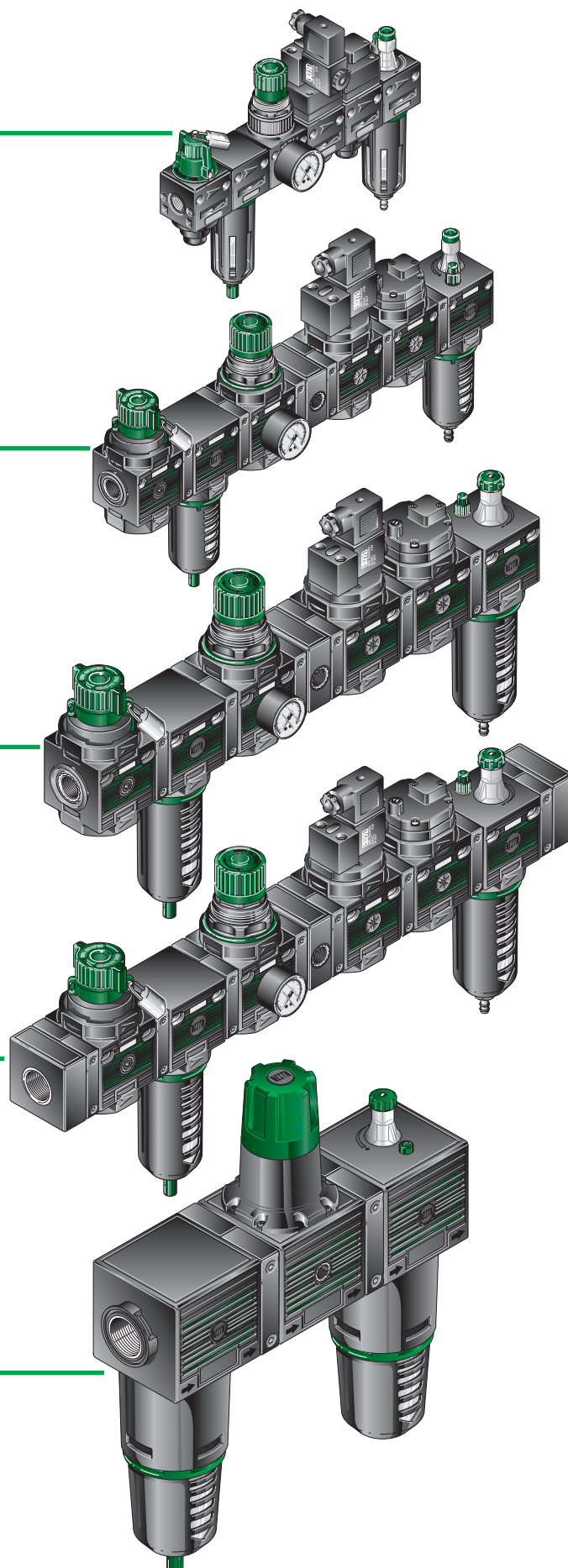
It comes from LM 12 serie. In fact it has the same technical features. It is supplied with G 3/4" connections for the feating of single components (or treatment groups) in the plants provided with the above connections.

*Derivata dalla serie **LM12**, della quale ne conserva le caratteristiche tecniche, è dotata di connessioni da G3/4" per l'inserimento di singoli componenti (o gruppi di trattamento) negli impianti che sono dotati di tali connessioni.*

Serie **M10**, G1"

Battery for air treatment with very high performances and an excellent strenght, for fixed plants or industrial automation systems with users who need very high flow rates.

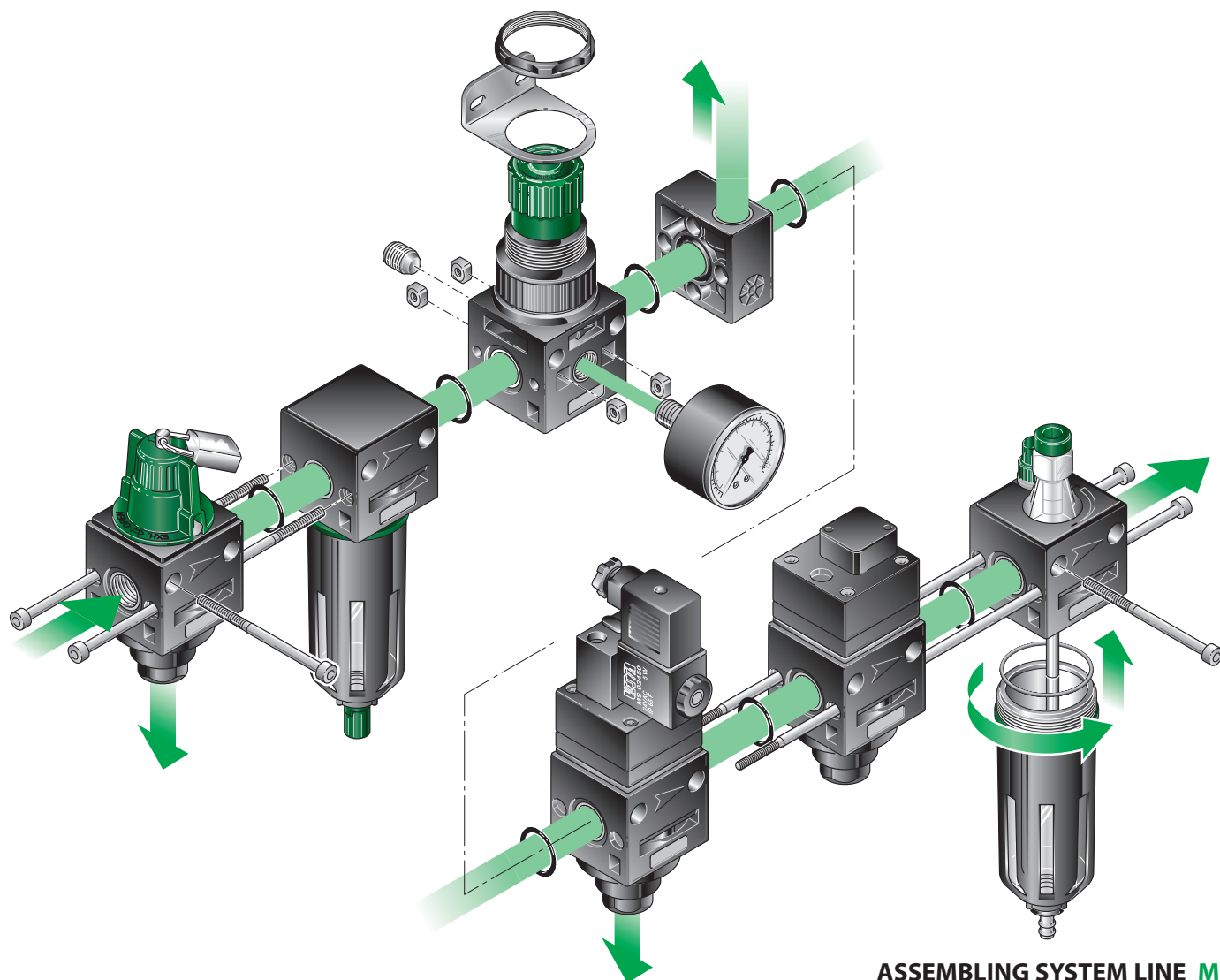
Batteria di trattamento dell'aria ad elevatissime prestazioni e di notevole robustezza, per impianti fissi o apparsi per l'automazione industriale dotati di utenze che necessitano di portate particolarmente elevate.





.. M14 ..

MODULAR LINE G1/4
LINEA MODULARE G1/4



ASSEMBLING SYSTEM LINE M14
SCHEMA DI MONTAGGIO LINEA M14

TECHNICAL FEATURES

Connections	G1/4
Body and bowl guard	Acetalic resin (POM).
Bowl	Transparent toughened polyamide.

Environment temperature range	+5 ÷ +50 °C (41 ÷ 122 °F)
Gauge connections	G1/8
Maximum inlet pressure	16 Bar (230 Psi)
Fixing	Complete with ring nut for panel assembly, or can be wall mounted on a bracket.

CARATTERISTICHE TECNICHE

Conessioni	G1/4
Corpo e protezione della tazza	Resina acetica (POM).
Tazza	Poliammide trasparente tenacizzato antiurto.

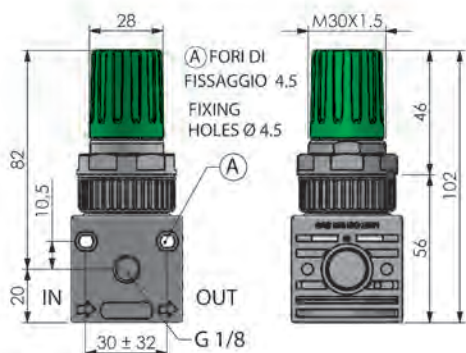
Temperatura ambiente	+5 ÷ +50 °C (41 ÷ 122 °F)
Connessioni manometro	G1/8
Pressione massima di ingresso	16 Bar (230 Psi)
Fissaggio	Completo di ghiera per il montaggio a pannello, o Possibilità di fissaggio parete con staffa.

The **M14** serie, that is also available with transparent bowls, is characterized by compact dimensions. It offers a complete range of components for air treatment. The range covers: filters and microfilters with different levels of dust extraction and condensate with the possibility of mounting the automatic drainage; pressure regulators until 12 bar; lubricators both standard and with depression loading; 3 way on-off valves with lock; shut off valves with a device used to shut off the air supply, while relieving the downstream circuit by a remote electric or pneumatic control; slow start valves for a gradual pressurization of the system.

Complete groups for air treatment are available, such as: filter regulator + lubricator, filter regulator + lubricator + shut off upstream valve, or filter + regulator + lubricator.

La serie **M14**, disponibile anche con tazze trasparenti, è caratterizzata da dimensioni compatte ed offre una gamma completa di componenti per il trattamento dell'aria. La serie comprende: filtri e microfiltri con vari livelli di estrazione delle polveri e condensa con possibilità di montaggio dello scarico automatico; i regolatori di pressione sino a 12 Bar; i lubrificatori sia standard che con caricamento a depressione; le valvole di intercettazione a 3 vie con blocco; le valvole di sezionamento a comando elettropneumatico o pneumatico azionabile a distanza, per escludere l'alimentazione e mettere in scarico il circuito di valle; gli avviatori progressivi per la pressurizzazione graduale dell'impianto.

Sono disponibili gruppi preassemblati completi per il trattamento dell'aria quali: filtroregolatore+lubrificatore, filtroregolatore+lubrificatore+valvola di sezionamento a monte, oppure filtro+regolatore+lubrificatore.



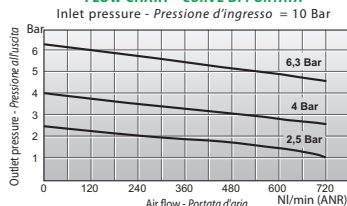
REGULATOR

- Diaphragm operation.
- Can be wall mounted using the relative holes, with ring nut for panel assembly or bracket.
- Lockable safety knob.
- Pressure ranges: 0 ÷ 8 Bar (standard) or 0 ÷ 12 Bar.
- Built-in overpressure relieving function.

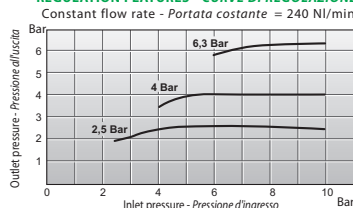
REGOLATORE

- Funzionamento a membrana.
- Fissaggio a parete con fori predisposti, su pannello o su staffa per mezzo della ghiera in dotazione.
- Pomello con dispositivo di bloccaggio della regolazione.
- Campi di pressione: 0 ÷ 8 Bar (standard) o 0 ÷ 12 Bar.
- Scarico della sovrappressione (relieving) incorporato.

FLOW CHART - CURVE DI PORTATA

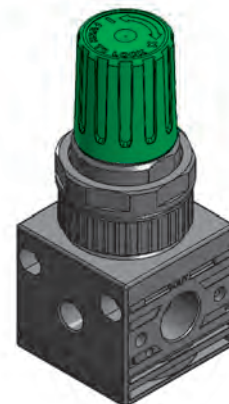


REGULATION FEATURES - CURVE DI REGOLAZIONE

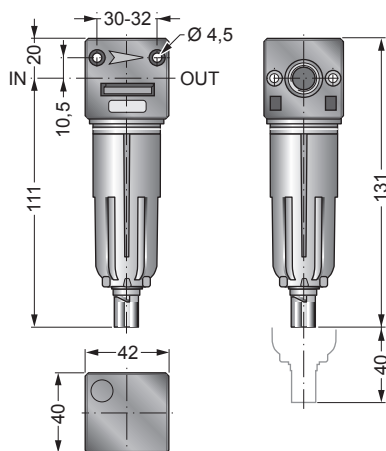
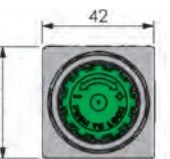
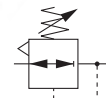


REGULATOR REGOLATORE

R M14 ..



G1/4
0,125 Kg



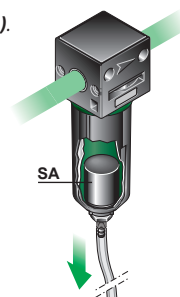
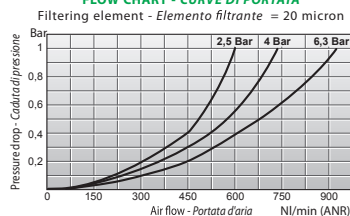
FILTER

- Filtering degree: 5 micron or 20 micron (standard).
- Low pressure drop (max inlet pressure: 16 Bar).
- Bowl guard (standard, 22 cc.).
- Condensate drainage: manual and semiautomatic in the integrated or **float type automatic version (SA)**.

FILTRO

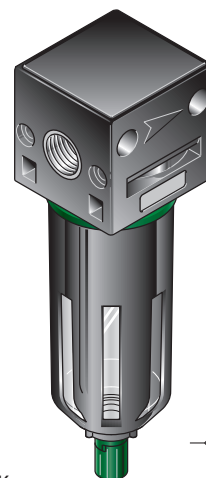
- Grado di filtrazione: 5 micron o 20 micron (standard).
- Bassa caduta di pressione (Press. max ingresso: 16 Bar).
- Tazza protetta (standard, 22 cc.).
- Drenaggio della condensa: manuale e semiautomatico in versione integrata, oppure **automatico a galleggiante (SA)**.

FLOW CHART - CURVE DI PORTATA

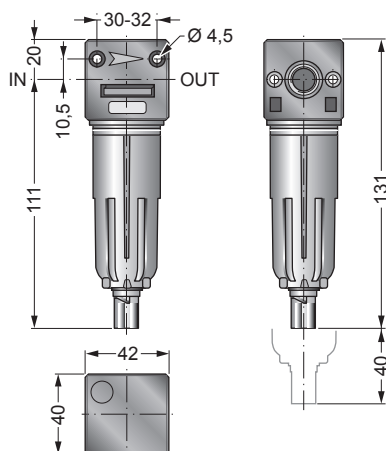
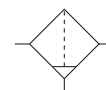


FILTER FILTRO

F M14 ..



G1/4
0,100 Kg



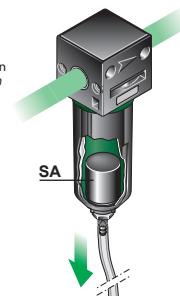
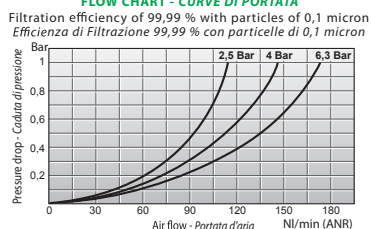
COALESCENT OIL-PROOF MICROFILTER

- Essential in circuit where oil is not permitted.
- 99,99 % filtering efficiency with 0,1 micron particles.
- Long-lasting filtering element.
- It is advisable to install a filter on the inlet.
- Bowl and condensate drainage: see **F M14 ..**

MICROFILTRO ANTIOILIO A COALESCENZA

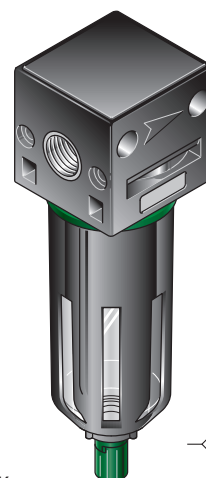
- Per circuiti dove non è ammessa la presenza di olio.
- Efficienza di filtrazione del 99,99 % su particelle di 0,1 µ.
- Lunga durata dell'elemento filtrante.
- E' consigliata l'installazione di un filtro a monte.
- Tazza e drenaggio come modello **F M14 ..**

FLOW CHART - CURVE DI PORTATA

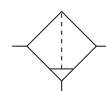


MICROFILTER MICROFILTRO

MF M14 ..



G1/4
0,099 Kg

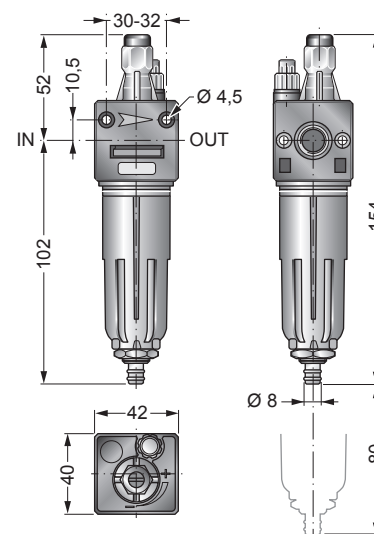


[illegible]

L M14 ..VL

FLOW CHART - CURVE DI PORTATA

Air flow - Portata d'aria (NL/min ANR)	Pressure drop - Caduta di pressione (Bar) at 2.5 Bar	Pressure drop - Caduta di pressione (Bar) at 4 Bar	Pressure drop - Caduta di pressione (Bar) at 6.3 Bar
0	0.00	0.00	0.00
150	0.35	0.25	0.15
300	0.60	0.40	0.25
450	0.75	0.50	0.32
600	0.85	0.60	0.38
750	0.90	0.68	0.42
900	0.95	0.75	0.45



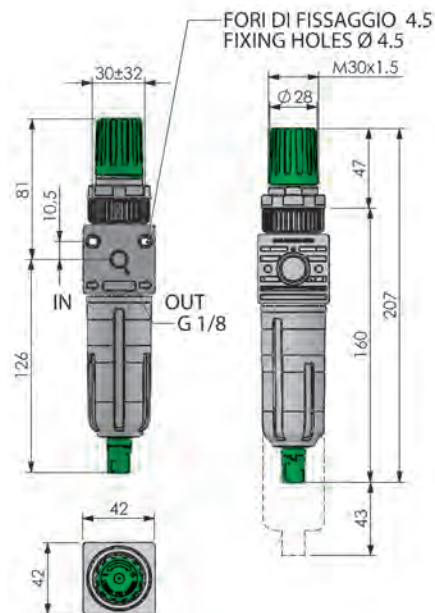
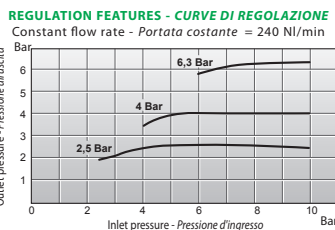
FR M14 ..

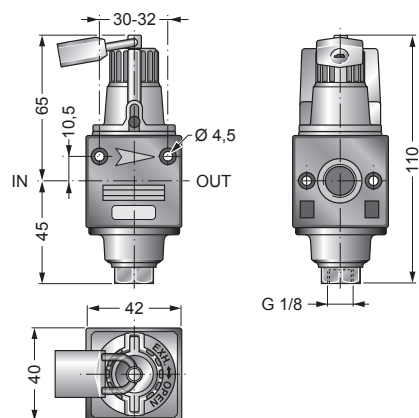
Lancia

Pistola

FLOW CHART - CURVE DI PORTATA
Inlet pressure - Pressione d'ingresso = 10 Bar

Air flow - Portata d'aria (Nm³/min)	Outlet pressure - Pressione all'uscita (Bar) for 6.3 Bar orifice	Outlet pressure - Pressione all'uscita (Bar) for 4 Bar orifice	Outlet pressure - Pressione all'uscita (Bar) for 2.5 Bar orifice
0	6.3	4.0	2.5
120	6.0	3.8	2.4
240	5.7	3.6	2.3
360	5.4	3.4	2.2
480	5.1	3.2	2.1
600	4.8	3.0	2.0
720	4.5	2.8	1.9





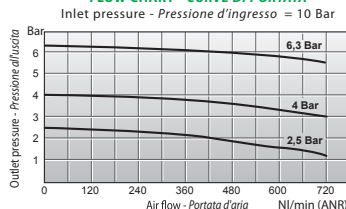
3 WAY ON-OFF VALVE WITH LOCK

- Used to shut off the air supply while relieving the downstream circuit.
- Used during maintenance operations to prevent the system from being accidentally or wrongly pressurized.
- Discharge connection: G1/8 BSP.
- The device is equipped with 1 lock.

VALVOLA A 3 VIE CON BLOCCO

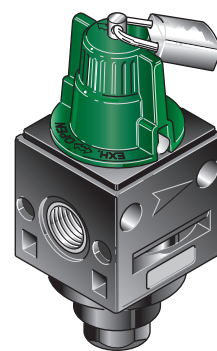
- Viene utilizzata per chiudere l'alimentazione dell'aria e contemporaneamente mettere in scarico il circuito di valle.
- Necessario nelle operazioni di manutenzione evitando la messa in pressione accidentale o non autorizzata dell'impianto.
- Connessione di scarico G1/8 BSP.
- L'apparecchio viene fornito con 1 lucchetto.

FLOW CHART - CURVE DI PORTATA

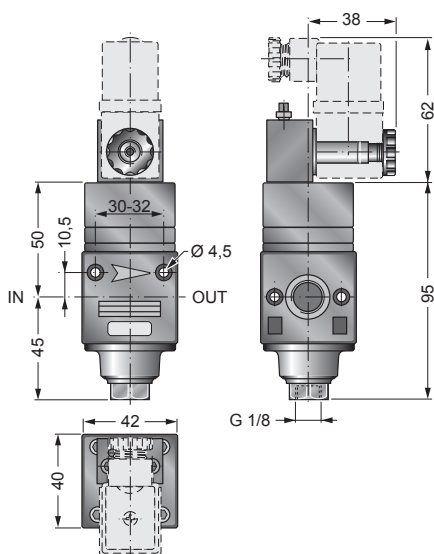
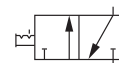


3 WAY ON-OFF VALVE VALVOLA A 3 VIE

V3 M14



G1/4
0,135 Kg



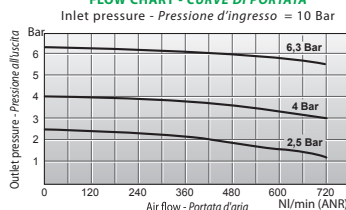
SHUT-OFF VALVE

- Available with CNOMO standards: remote electric control (E1S version) or remote pneumatic control (PP version).
- Discharge connection: G1/8 BSP.
- Minimum pressure admitted: 3 Bar (40 Psi).
- Maximum working pressure: 10 Bar (145 Psi).
- For electric components see **ELBAC...** page B-88 or **ELCDC...** page B-89

VALVOLA DI SEZIONAMENTO

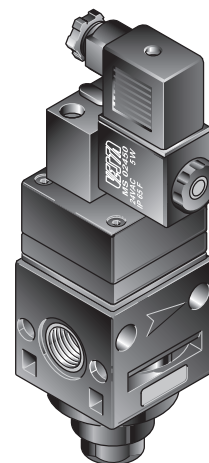
- Disponibile con pilotaggio elettrico a norme CNOMO o ad azionamento pneumatico (da ordinarsi separatamente).
- Connessione di scarico G1/8 BSP.
- Pressione minima ammessa: 3 Bar (40 Psi).
- Pressione massima di ingresso: 10 Bar (145 Psi).
- Per componenti elettrici vedi **ELBAC...** pagina B-88 o **ELCDC...** pagina B-89

FLOW CHART - CURVE DI PORTATA

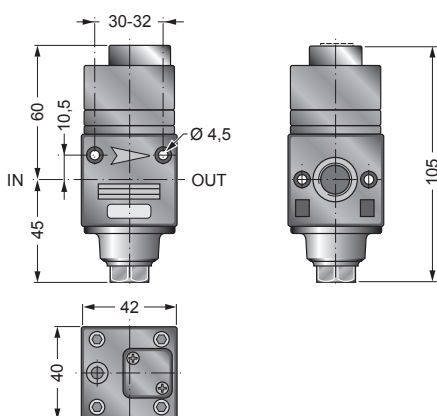
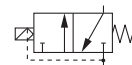


SHUT-OFF VALVE VALVOLA DI SEZIONAMENTO

SV M14...



G1/4
0,145 Kg



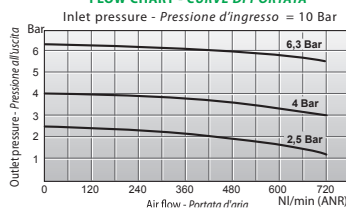
SLOW START VALVE

- Before delivering the maximum available pressure, the air is allowed to slowly flow around the downstream circuit until about 60 % of the pressure is reached upstream.
- Discharge connection: G1/8 BSP.
- Use built-in flow governor to establish the pressurizing time.
- Operating pressure range: 3 ÷ 10 Bar (40 ÷ 145 Psi).

AVVIATORE PROGRESSIVO

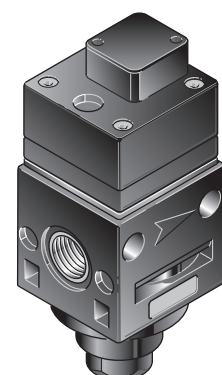
- Prima che la valvola eroghi la massima pressione disponibile, l'aria viene fatta fluire lentamente nel circuito di valle fino al raggiungimento del 60 % circa della pressione a monte.
- Connessione di scarico G1/8 BSP.
- L'apposito regolatore di flusso incorporato fissa il tempo della messa in pressione del circuito pneumatico.
- Pressione di esercizio: 3 ÷ 10 Bar (40 ÷ 145 Psi).

FLOW CHART - CURVE DI PORTATA

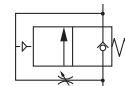


SLOW START VALVE AVVIATORE PROGRESSIVO

AVP M14 APC



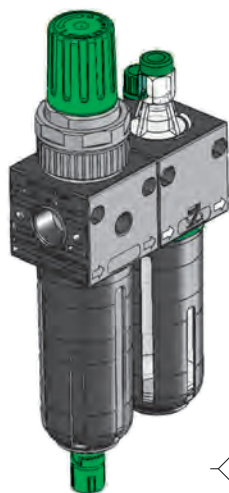
G1/4
0,155 Kg



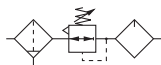


FR+L M14 ..

FR+L UNIT
GRUPPO FR+L



G1/4
0,290 Kg

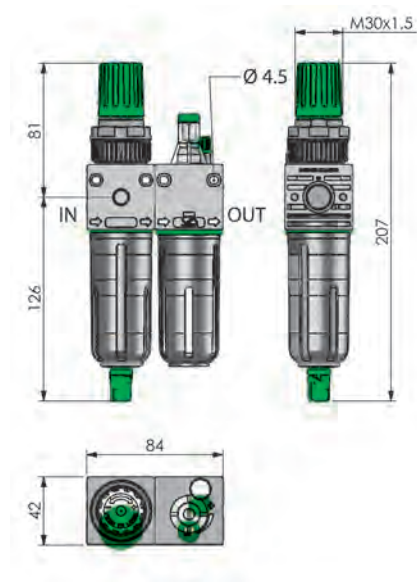


FILTER REGULATOR + LUBRICATOR UNIT

- Integrated unit for air treatment assembling with:
 - **FR M14 ..** Filter regulator (Pag. C-12).
 - **L M14 ..** Lubricator (Pag. C-12).
- Filtering degree: 5 micron or 20 micron (standard).
- Recommended oil viscosity ISO VG32.
- Maximum operating pressure: 16 Bar (230Psi).

GRUPPO FILTROREGOLATORE + LUBRIFICATORE

- Gruppo integrato di trattamento aria composto da:
 - **FR M14 ..** Filtroregolatore (Pag. C-12).
 - **L M14 ..** Lubrificatore (Pag. C-12).
- Grado di filtrazione: 5 micron o 20 micron (standard).
- Viscosità olio consigliata ISO VG32.
- Massima pressione di ingresso: 16 Bar (230Psi).



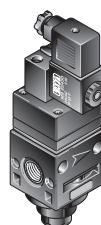
ORDER CODE LINE **M14** / CODICI DI ORDINAZIONE LINEA **M14**

REGULATOR / REGOLATORE



R	M14	08	R	
R	M14	12	R	

SHUT-OFF VALVE / VALVOLA DI SEZIONAMENTO



SV	M14	E1S	
SV	M14	PP	

For coils and electric components see page B-89.

Per solenoidi e componenti elettrici vedi pagina B-89.

FILTER / FILTRO



F	M14	20	PE	SS
F	M14	20	PE	SA
F	M14	5	PE	SS
F	M14	5	PE	SA
COALESCENT OIL-PROOF MICROFILTER FILTRO ANTIOILIO A COALESCENZA				
MF	M14	0,1	PE	SS
MF	M14	0,1	PE	SA

SLOW START VALVE / AVVIATORE PROGRESSIVO



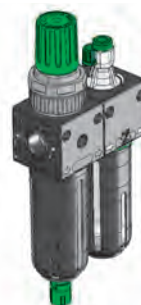
AVP	M14	APC	

LUBRICATOR / LUBRIFICATORE



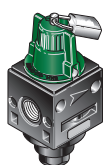
L	M14	PE	
AUTOMATIC FILLING LUBRICATOR LUBR. CON CARICAMENTO A DEPRESSIONE			
L	M14	PE	VL

FR+L UNIT / GRUPPO FR+L



FR+L	M14	20	08	R	PE	SS
FR+L	M14	20	12	R	PE	SS
FR+L	M14	5	08	R	PE	SS
FR+L	M14	5	12	R	PE	SS
FR+L	M14	20	08	R	PE	SA
FR+L	M14	20	12	R	PE	SA
FR+L	M14	5	08	R	PE	SA
FR+L	M14	5	12	R	PE	SA
FR+L	M14	20	08	R	PE	SS VL
FR+L	M14	20	12	R	PE	SS VL
FR+L	M14	5	08	R	PE	SS VL
FR+L	M14	5	12	R	PE	SS VL
FR+L	M14	20	08	R	PE	SA VL
FR+L	M14	20	12	R	PE	SA VL
FR+L	M14	5	08	R	PE	SA VL
FR+L	M14	5	12	R	PE	SA VL

3 WAY ON-OFF VALVE / VALVOLA A 3 VIE



V3	M14		

STANDARD = FR+L M14 20 08 PE SS

FILTER REGULATOR / FILTRO REGOLATORE



FR	M14	20	08	R	PE	SS
FR	M14	20	12	R	PE	SS
FR	M14	5	08	R	PE	SS
FR	M14	5	12	R	PE	SS
FR	M14	20	08	R	PE	SA
FR	M14	20	12	R	PE	SA
FR	M14	5	08	R	PE	SA
FR	M14	5	12	R	PE	SA

Accessories and spare parts see pages C38 and C-40.

Accessori e ricambi vedi pagine C38 e C-40.

All filters, filter regulators and lubricators versions of the **M14** serie, if requested can mount transparent bowls. In the code it is necessary to replace **PE** with **TT**

Tutte le versioni dei filtri, filtroregolatori e lubrificatori della serie **M14** sopra indicati possono montare a richiesta le tazze trasparenti, nella codifica occorre sostituire **PE** con **TT**

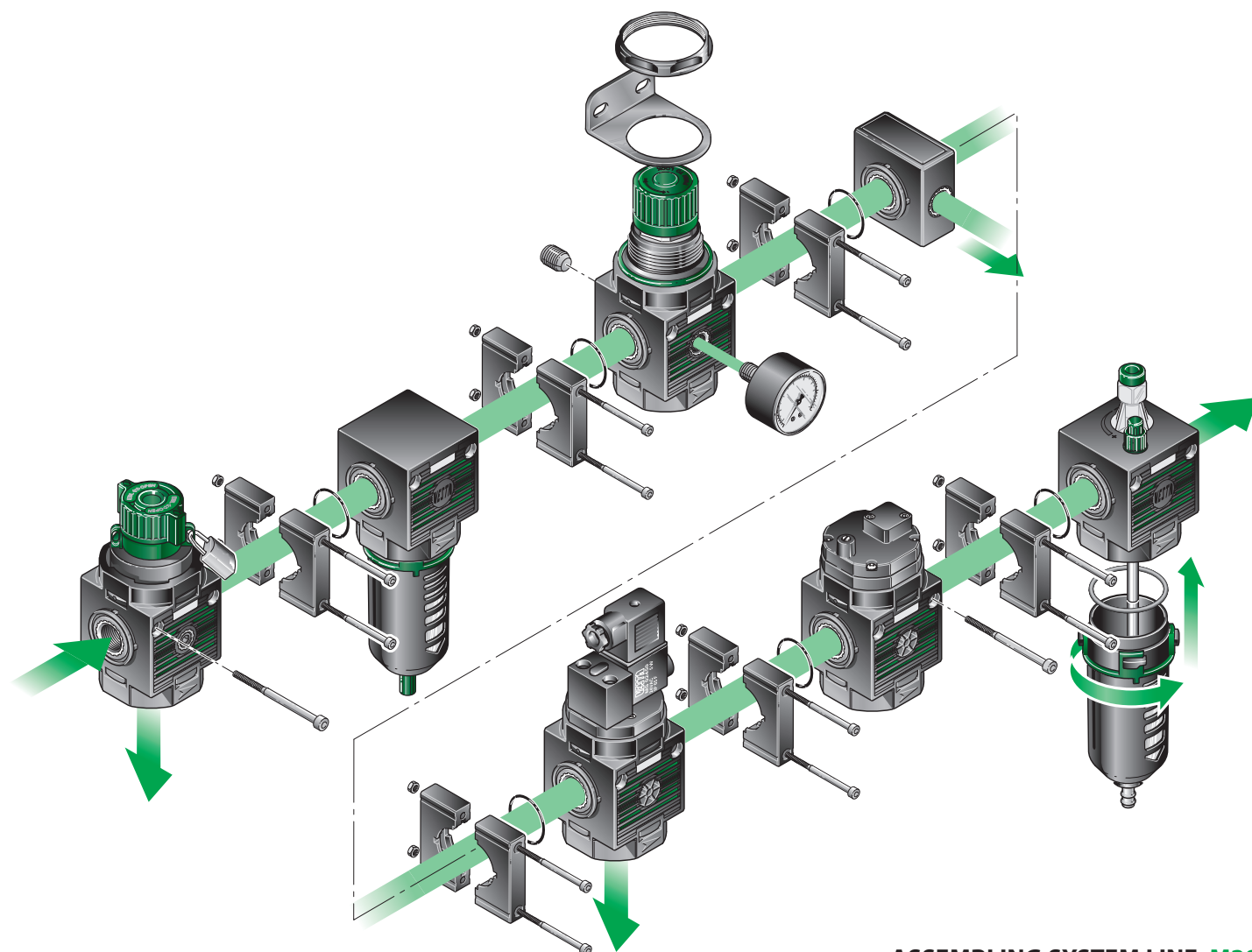
example: from **F M14 20 PE SS** to **F M14 20 TT SS**

esempio: da **F M14 20 PE SS** a **F M14 20 TT SS**



.. M38 ..

MODULAR LINE G3/8 LINEA MODULARE G3/8



ASSEMBLING SYSTEM LINE **M38**
SCHEMA DI MONTAGGIO LINEA **M38**

TECHNICAL FEATURES

Connections	G3/8
Body and bowl guard	Polyamide glass reinforced.
Bowl	Transparent toughened polyamide.

Environment temperature range	+5 ÷ +50 °C (41 ÷ 122 °F)
Gauge connections	G1/8
Maximum inlet pressure	12,5 Bar
Fixing	Complete with ring nut for panel assembly, or can be wall mounted on a bracket.

CARATTERISTICHE TECNICHE

Connessioni	G3/8
Corpo e protezione della tazza	Poliammide rinforzato vetro.
Tazza	Poliammide trasparente tenacizzato antiurto.

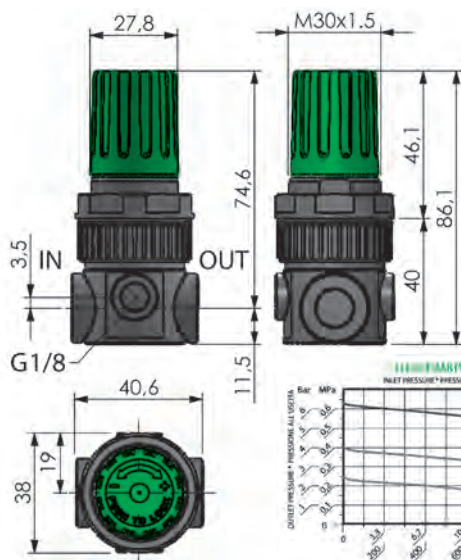
Temperatura ambiente	+5 ÷ +50 °C (41 ÷ 122 °F)
Connessioni manometro	G1/8
Pressione massima di ingresso	12,5 Bar
Fissaggio	Completo di ghiera per il montaggio a pannello, o Possibilità di fissaggio parete con staffa.

The **M38** series is provided with an excellent relation between dimensions/performances. It offers a complete range of components for air treatment. The range covers: filters and microfilters with different levels of dust extraction and condensate with the possibility of mounting the automatic drainage; pressure regulators until 12 bar; lubricators both standard and with depression loading; 3 way on-off valves with lock; shut off valves with a device used to shut off the air supply, while relieving the downstream circuit by a remote electric or pneumatic control; slow start valves for a gradual pressurization of the system.

Complete groups for air treatment are available, such as: filter regulator + lubricator, filter regulator + lubricator + shut off upstream valve, or filter + regulator + lubricator.

La serie **M38** è dotata di un eccezionale rapporto dimensioni / prestazioni ed offre una gamma completa di componenti per il trattamento dell'aria. La serie comprende: filtri e microfiltri con vari livelli di estrazione delle polveri e condensa con possibilità di montaggio dello scarico automatico; i regolatori di pressione sino a 12 Bar; i lubrificatori sia standard che con caricamento a depressione; le valvole di intercettazione a 3 vie con blocco; le valvole di sezionamento a comando elettropneumatico o pneumatico azionabile a distanza, per escludere l'alimentazione e mettere in scarico il circuito di valle; gli avviatori progressivi per la pressurizzazione graduale dell'impianto.

Sono disponibili gruppi preassemblati completi per il trattamento dell'aria quali: filtroregolatore+lubrificatore, filtroregolatore+lubrificatore+valvola di sezionamento a monte, oppure filtro+regolatore+lubrificatore.



PRECISION MICROREGULATOR

- Rolling diaphragm.
- Lockable safety knob.
- Can be used with air (relieving and green knob: **R** version) or water (without relieving, with black knob: **A** version).
- Pressure ranges: 0÷2 Bar; 0÷4 Bar; 0÷8 Bar (standard); and 0÷12 Bar.

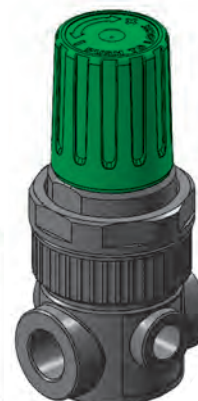
MICROREGOLATORE DI PRECISIONE

- Membrana a rotolamento.
- Pomello con dispositivo di bloccaggio della regolazione.
- Disponibile nelle versioni per aria (con relieving e pomello verde: modello **R**) o per acqua (senza relieving e pomello nero: modello **A**).
- Campi di pressione: 0÷2 ; 0÷4 ; 0÷8 (standard) e 0÷12 Bar.

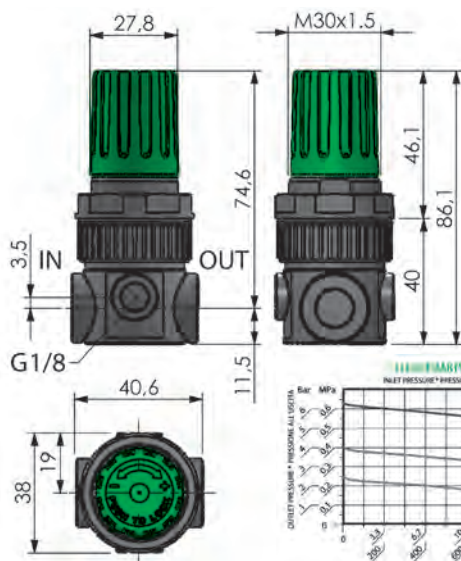
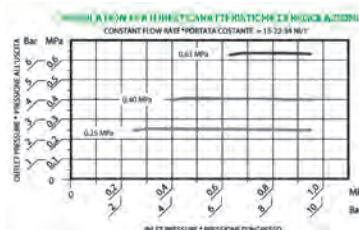
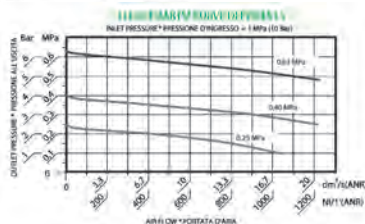
PRECISION MICROREGULATOR
MICROREGOLATORE DI PRECISIONE

MR R08..

MR R04..



G1/8
G1/4
0,100 Kg



PRECISION MICROREGULATOR WITH CONTROLLED AIR ESCAPE

- Rolling diaphragm.
- Lockable safety knob.
- Only relieving version (for air)
- Pressure ranges: 0÷2 Bar; 0÷4 Bar; 0÷8 Bar (standard); and 0÷12,5 Bar.

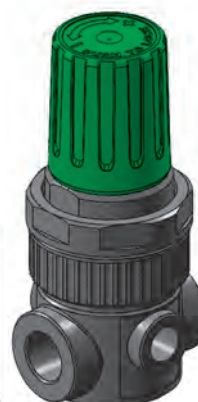
MICROREGOLATORE DI PRECISIONE A FUGA D'ARIA CONTROLLATA

- Membrana a rotolamento.
- Pomello con dispositivo di bloccaggio della regolazione.
- Disponibile solo nella versione con relieving (per aria)
- Campi di pressione: 0÷2 Bar; 0÷4 Bar; 0÷8 Bar (standard); e 0÷12 Bar.

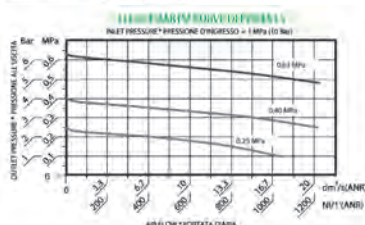
PRECISION MICROREGULATOR
CONTROLLED AIR ESCAPE
MICROREG. DI PRECISIONE
A FUGA D'ARIA CONTROLLATA

MR R08..FA

MR R04..FA



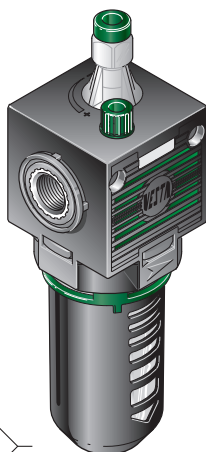
G1/8
G1/4
0,100 Kg





L M38 ..

LUBRICATOR
LUBRIFICATORE



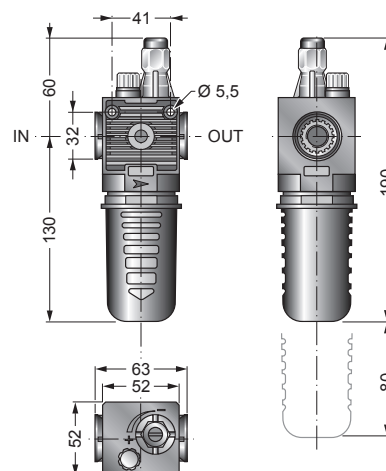
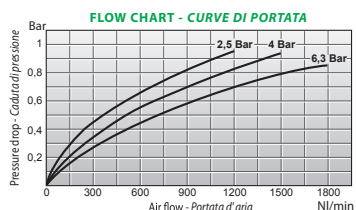
G3/8
0,230 Kg

LUBRICATOR

- Proportional oil mist type, with constantly steady delivery and suction ensured even with low flow rates.
- Can be wall mounted using the relative holes (Ø 5,5 mm).
- Bowl guard 68 cc. with quick connection by means of the safety ring mechanism.
- Recommended oil viscosity ISO VG32.
- Maximum operating pressure: 12,5 Bar (180Psi).

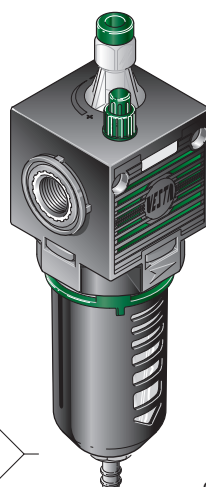
LUBRIFICATORE

- Di tipo proporzionale a nebbia d'olio con erogazione costante nel tempo e pescaggio anche a basse portate.
- Fissaggio a parete con fori predisposti (Ø 5,5 mm).
- Tazza protetta 68 cc. ad aggancio rapido antiespulsione.
- Viscosità olio consigliata ISO VG32.
- Massima pressione di ingresso: 12,5 Bar (180Psi).



L M38 ..VL

LUBRICATOR VL
LUBRIFICATORE VL



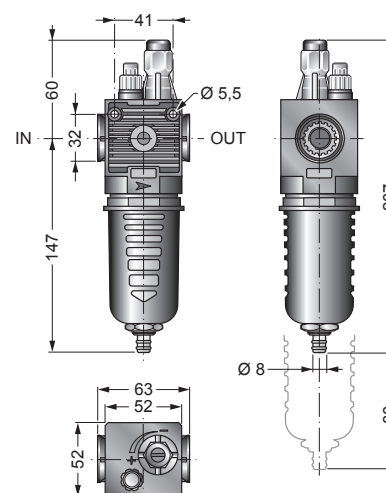
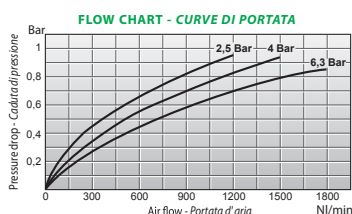
G3/8
0,270 Kg

AUTOMATIC FILLING LUBRICATOR

- Filling of oil is achieved **without interrupting the normal operation of the system** by keeping the button at the base of the lubricator casing pushed. This provokes a vacuum inside the bowl enabling the oil to be intaken.
- Minimum activation pressure: 3 Bar (40 Psi).
- Other functional features as standard model.

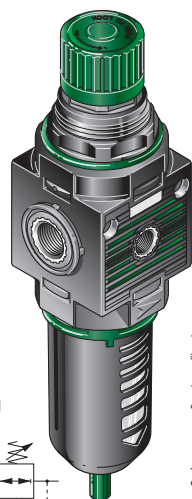
LUBRIFICATORE CARICA A DEPRESSIONE

- Il caricamento dell'olio avviene **senza interrompere il normale funzionamento dell'impianto**, tenendo premuto il pulsante posto sulla base del corpo del lubrificatore, provocando la depressione che ne permette l'aspirazione.
- Pressione minima di attivazione: 3 Bar (40 Psi).
- Altre caratteristiche funzionali come il modello standard.



FR M38 ..

FILTER REGULATOR
FILTRO REGOLATORE



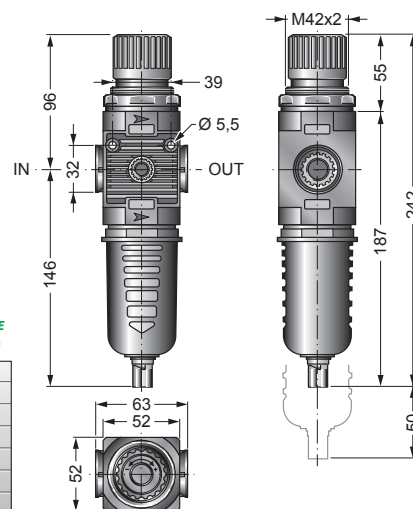
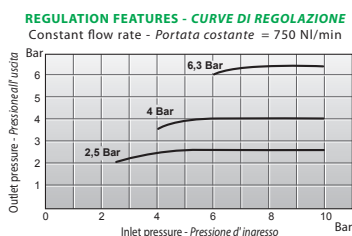
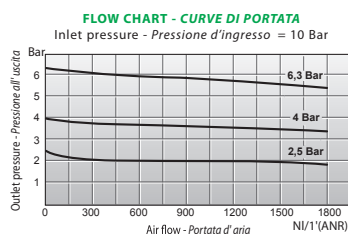
G3/8
0,410 Kg

FILTER REGULATOR

- Rolling diaphragm.
- Lockable safety knob.
- Built-in overpressure relieving function.
- Filtering degree: 5 micron or 20 micron (standard).
- Pressure ranges: 0 ÷ 8 Bar (standard) or 0 ÷ 12 Bar.
- Fixing, bowl and condensate drainage: see **F M38 ..**

FILTRO REGOLATORE

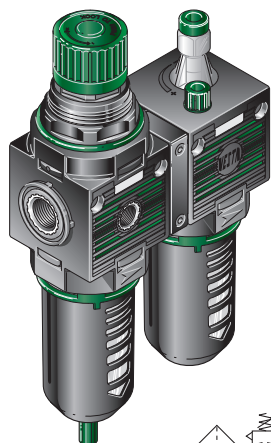
- Membrana a rotolamento.
- Pomello con dispositivo di bloccaggio della regolazione.
- Scarico della sovrappressione (relieving) incorporato.
- Grado di filtrazione: 5 micron o 20 micron (standard).
- Campi di pressione: 0 ÷ 8 Bar (standard) o 0 ÷ 12 Bar.
- Fissaggio, tazza e drenaggio come modello **F M38 ..**



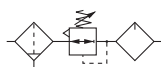


FR+L M38..

FR+L UNIT
GRUPPO FR+L



0,660 Kg

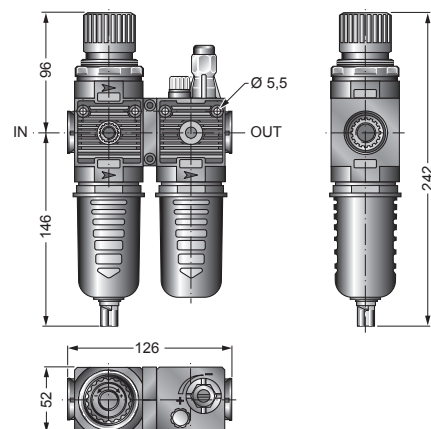


FILTER REGULATOR + LUBRICATOR UNIT

- Integrated unit for air treatment assembling with:
 - **FR M38 ..** Filter regulator (Pag. C-18).
 - **L M38 ..** Lubricator (Pag. C-18).
- Filtering degree: 5 micron or 20 micron (standard).
- Recommended oil viscosity ISO VG32.
- Maximum operating pressure: 12,5 Bar (180Psi).

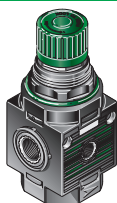
GRUPPO FILTROREGOLATORE + LUBRIFICATORE

- Gruppo integrato di trattamento aria composto da:
 - **FR M38 ..** Filtroregolatore (Pag. C-18).
 - **L M38 ..** Lubrificatore (Pag. C-18).
- Grado di filtrazione: 5 micron o 20 micron (standard).
- Viscosità olio consigliata ISO VG32.
- Massima pressione di ingresso: 12,5 Bar (180Psi).



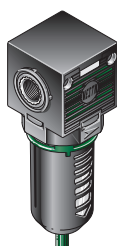
ORDER CODE LINE **M38** / CODICI DI ORDINAZIONE LINEA **M38**

REGULATOR / REGOLATORE



R	M38	08	R	
R	M38	12	R	

FILTER / FILTRO



F	M38	20	PE	SS
F	M38	20	PE	SA
F	M38	5	PE	SS
F	M38	5	PE	SA
COALESCENT OIL-PROOF MICROFILTER FILTRO ANTIOILIO A COALESCENZA				
MF	M38	0,1	PE	SS
MF	M38	0,1	PE	SA

LUBRICATOR / LUBRIFICATORE



L	M38	PE		
AUTOMATIC FILLING LUBRICATOR LUBR. CON CARICAMENTO A DEPRESSIONE				
L	M38	PE	VL	

3 WAY ON-OFF VALVE / VALVOLA A 3 VIE

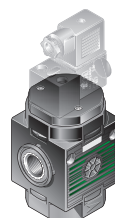


V3	M38			

STANDARD = FR+L M38 20 08 PE SS

Accessories and spare parts see pages C38 and C-40.
Accessori e ricambi vedi pagine C38 e C-40.

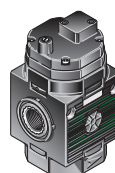
SHUT-OFF VALVE / VALVOLA DI SEZIONAMENTO



SV	M38	E1S	
SV	M38	PP	

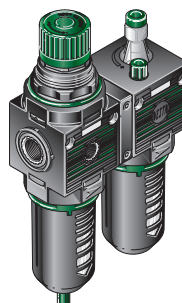
For coils and electric components
see page B-89.
Per solenoidi e componenti elettrici
vedi pagina B-89.

SLOW START VALVE / AVVIATORE PROGRESSIVO



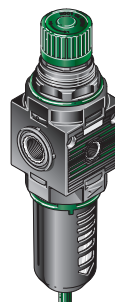
AVP	M38	APC	

FR+L UNIT / GRUPPO FR+L



FR+L	M38	20	08	R	PE	SS
FR+L	M38	20	12	R	PE	SS
FR+L	M38	5	08	R	PE	SS
FR+L	M38	5	12	R	PE	SS
FR+L	M38	20	08	R	PE	SA
FR+L	M38	20	12	R	PE	SA
FR+L	M38	5	08	R	PE	SA
FR+L	M38	5	12	R	PE	SA
FR+L	M38	20	08	R	PE	SS VL
FR+L	M38	20	12	R	PE	SS VL
FR+L	M38	5	08	R	PE	SS VL
FR+L	M38	5	12	R	PE	SS VL
FR+L	M38	20	08	R	PE	SA VL
FR+L	M38	20	12	R	PE	SA VL
FR+L	M38	5	08	R	PE	SA VL
FR+L	M38	5	12	R	PE	SA VL

FILTER REGULATOR / FILTRO REGOLATORE

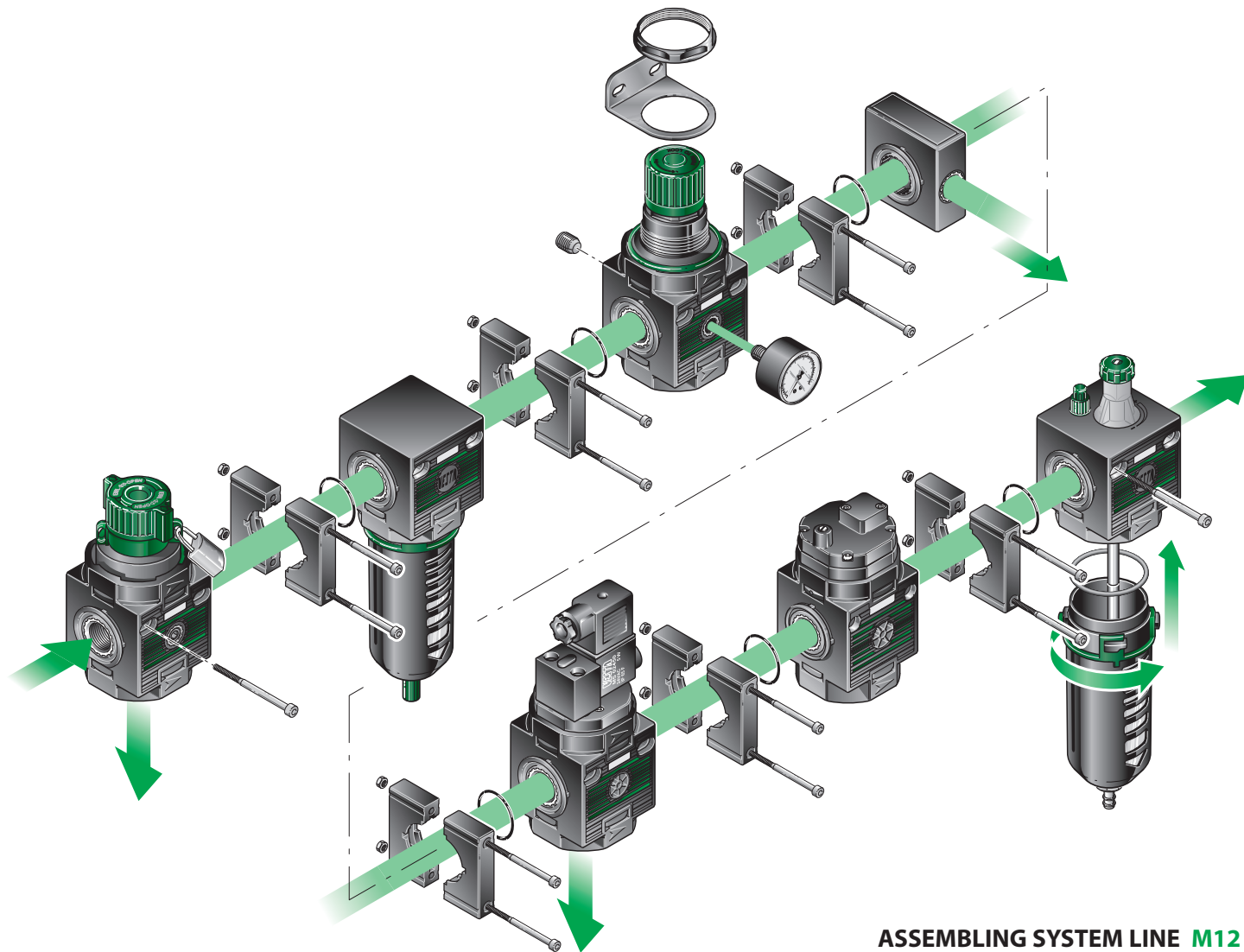


FR	M38	20	08	R	PE	SS
FR	M38	20	12	R	PE	SS
FR	M38	5	08	R	PE	SS
FR	M38	5	12	R	PE	SS
FR	M38	20	08	R	PE	SA
FR	M38	20	12	R	PE	SA
FR	M38	5	08	R	PE	SA
FR	M38	5	12	R	PE	SA



.. M12 ..

MODULAR LINE G1/2 LINEA MODULARE G1/2



ASSEMBLING SYSTEM LINE **M12**
SCHEMA DI MONTAGGIO LINEA **M12**

TECHNICAL FEATURES

Connections	G1/2
Body and bowl guard	Polyamide glass reinforced.
Bowl	Transparent toughened polyamide.

Environment temperature range	+5 ÷ +50 °C (41 ÷ 122 °F)
Gauge connections	G1/8
Maximum inlet pressure	12,5 Bar (180 Psi)
Fixing	Complete with ring nut for panel assembly, or can be wall mounted on a bracket.

CARATTERISTICHE TECNICHE

Conessioni	G1/2
Corpo e protezione della tazza	Poliammide rinforzato vetro.
Tazza	Poliammide trasparente tenacizzato antiurto.

Temperatura ambiente	+5 ÷ +50 °C (41 ÷ 122 °F)
Connessioni manometro	G1/8
Pressione massima di ingresso	12,5 Bar (180 Psi)
Fissaggio	Completo di ghiera per il montaggio a pannello, o Possibilità di fissaggio parete con staffa.

The **M12** series is indicated for high flow rates. It offers a complete range of components for air treatment. The range covers: filters and microfilters with different levels of dust extraction and condensate with the possibility of mounting the automatic drainage; pressure regulators until 12 bar; lubricators both standard and with depression loading; 3 way on-off valves with lock; shut off valves with a device used to shut off the air supply, while relieving the downstream circuit by a remote electric or pneumatic control; slow start valves for a gradual pressurization of the system. Complete groups for air treatment are available, such as: filter regulator + lubricator, filter regulator + lubricator + shut off upstream valve, or filter + regulator + lubricator.

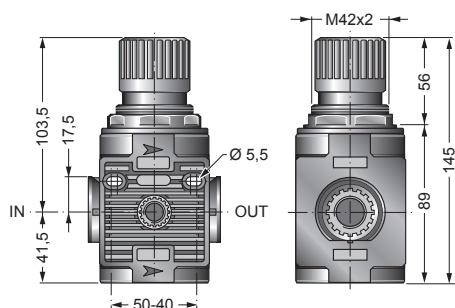
La serie **M12** è indicata per grandi portate ed offre una gamma completa di componenti per il trattamento dell'aria. La serie comprende: filtri e microfiltri con vari livelli di estrazione delle polveri e condensa con possibilità di montaggio dello scarico automatico; i regolatori di pressione sino a 12 Bar; i lubrificatori sia standard che con caricamento a depressione; le valvole di intercettazione a 3 vie con blocco; le valvole di sezionamento a comando elettropneumatico o pneumatico azionabile a distanza, per escludere l'alimentazione e mettere in scarico il circuito di valle; gli avviatori progressivi per la pressurizzazione graduale dell'impianto.

Sono disponibili gruppi preassemblati completi per il trattamento dell'aria quali filtroregolatore+lubrificatore, filtroregolatore+lubrificatore+valvola di sezionamento a monte, oppure filtro+regolatore+lubrificatore.

REGULATOR

REGULATOR
REGOLATORE

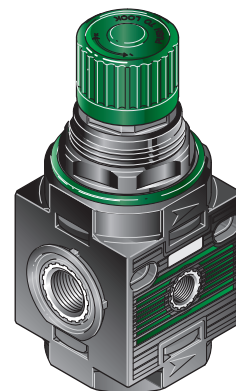
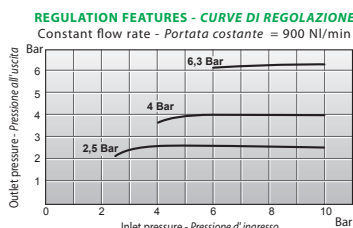
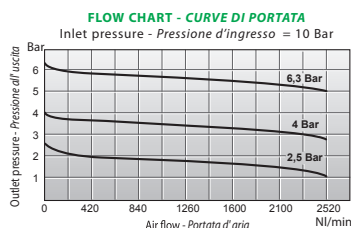
R M12 ..



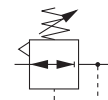
- Rolling diaphragm.
- Can be wall mounted using the relative holes, with ring nut for panel assembly or bracket.
- Lockable safety knob.
- Pressure ranges: 0 ÷ 8 Bar (standard) or 0 ÷ 12 Bar.
- Built-in overpressure relieving function.

REGOLATORE

- Membrana a rotolamento.
- Fissaggio a parete con fori predisposti, su pannello o su staffa per mezzo della ghiera in dotazione.
- Pomello con dispositivo di bloccaggio della regolazione.
- Campi di pressione: 0 ÷ 8 Bar (standard) o 0 ÷ 12 Bar.
- Scarico della sovrappressione (relieving) incorporato.



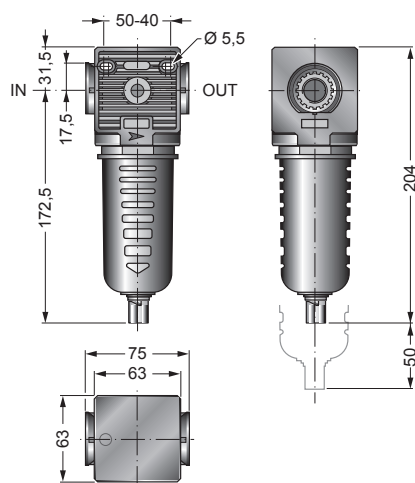
G1/2
0,435 Kg



FILTER

FILTER
FILTRO

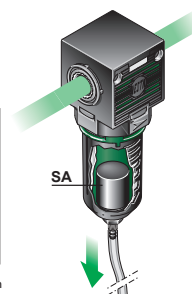
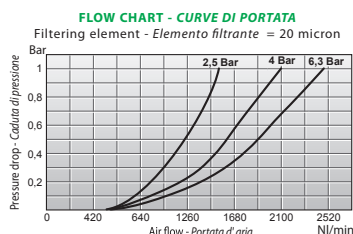
F M12 ..



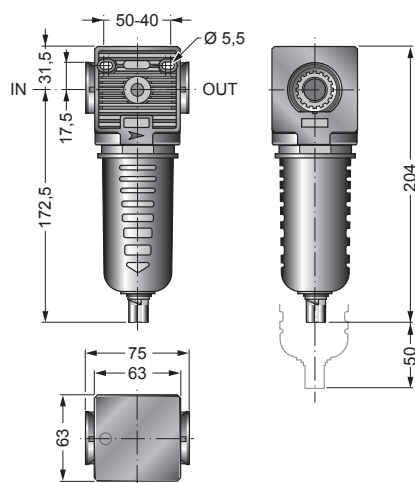
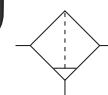
- Filtering degree: 5 micron or 20 micron (standard).
- Low pressure drop (max inlet pressure: 12,5 Bar).
- Bowl guard 100 cc. with quick safety connection
- Condensate drainage: manual and semiautomatic in the integrated version or **float type automatic version (SA)**.

FILTRO

- Grado di filtrazione: 5 micron o 20 micron (standard).
- Bassa caduta di pressione (Press. max ingresso: 12,5 Bar).
- Tazza protetta 100 cc. ad aggancio rapido antiespulsione.
- Drenaggio della condensa: manuale e semiautomatico in versione integrata, oppure **automatico a galleggiante (SA)**.



G1/2
0,355 Kg

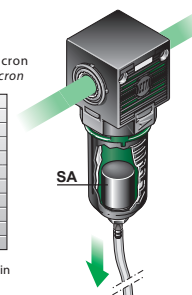
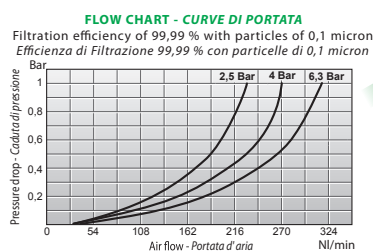


COALESCENT OIL-PROOF MICROFILTER

- Essential in circuit where oil is not permitted.
- 99,99 % filtering efficiency with 0,1 micron particles.
- Long-lasting filtering element.
- It is advisable to install a filter on the inlet.
- Bowl and condensate drainage: see **F M12 ..**

MICROFILTRO ANTIOILIO A COALESCENZA

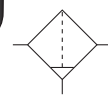
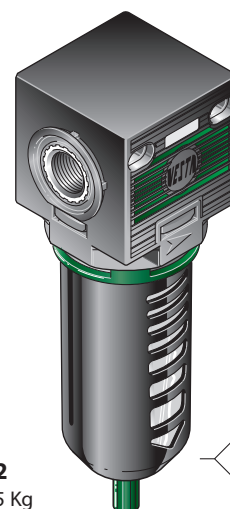
- Per circuiti dove non è ammessa la presenza di olio.
- Efficienza di filtrazione del 99,99 % su particelle di 0,1 µ.
- Lunga durata dell'elemento filtrante.
- E' consigliata l'installazione di un filtro a monte.
- Tazza e drenaggio come modello **F M12 ..**



G1/2
0,355 Kg

MICROFILTER
MICROFILTRO

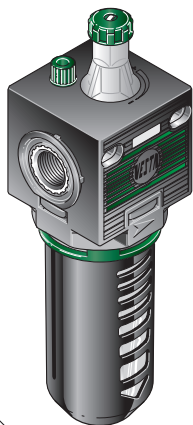
MF M12 ..





L M12 ..

LUBRICATOR
LUBRIFICATORE



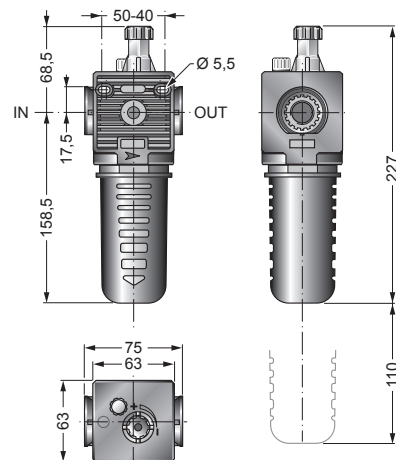
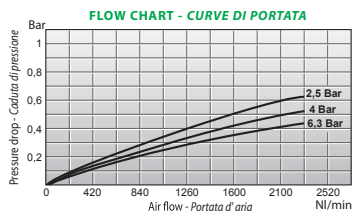
G1/2
0,355 Kg

LUBRICATOR

- Proportional oil mist type, with constantly steady delivery and suction ensured even with low flow rates.
- Can be wall mounted using the relative holes (Ø 5,5 mm).
- Bowl guard 140 cc with quick connection by means of the safety ring mechanism.
- Recommended oil viscosity ISO VG32.
- Maximum operating pressure: 12,5 Bar (180Psi).

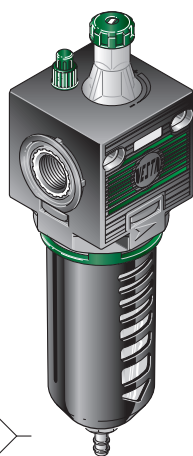
LUBRIFICATORE

- Di tipo proporzionale a nebbia d'olio con erogazione costante nel tempo e pescaggio anche a basse portate.
- Fissaggio a parete con fori predisposti (Ø 5,5 mm).
- Tazza protetta 140 cc ad aggancio rapido antiespulsione.
- Viscosità olio consigliata ISO VG32.
- Massima pressione di ingresso: 12,5 Bar (180Psi).



L M12 ..VL

LUBRICATOR VL
LUBRIFICATORE VL



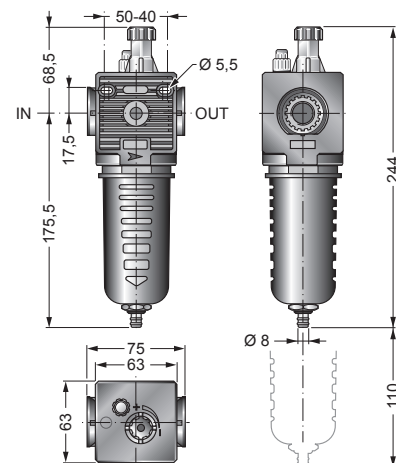
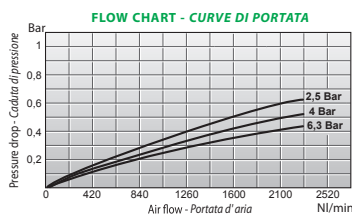
G1/2
0,395 Kg

AUTOMATIC FILLING LUBRICATOR

- Filling of oil is achieved **without interrupting the normal operation of the system** by keeping the button at the base of the lubricator casing pushed. This provokes a vacuum inside the bowl enabling the oil to be intaken.
- Minimum activation pressure: 3 Bar (40 Psi).
- Other functional features as standard model.

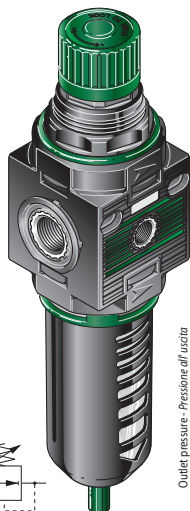
LUBRIFICATORE CARICA A DEPRESSIONE

- Il caricamento dell'olio avviene **senza interrompere il normale funzionamento dell'impianto**, tenendo premuto il pulsante posto sulla base del corpo del lubrificatore, provocando la depressione che ne permette l'aspirazione.
- Pressione minima di attivazione: 3 Bar (40 Psi).
- Altre caratteristiche funzionali come il modello standard.



FR M12 ..

FILTER REGULATOR
FILTRO REGOLATORE



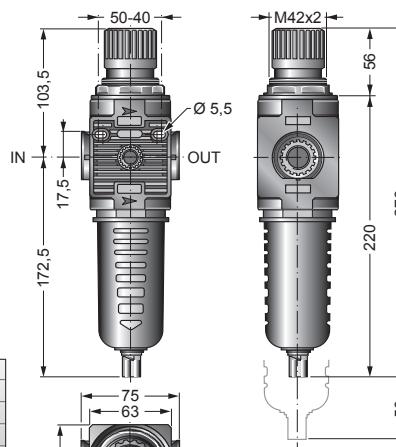
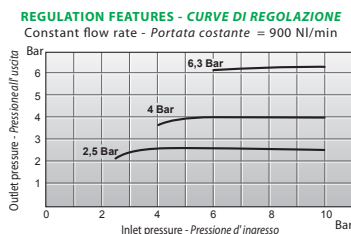
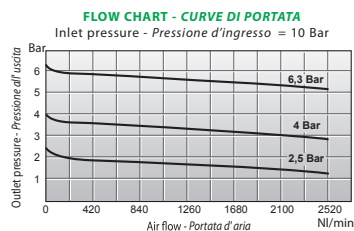
G1/2
0,565 Kg

FILTER REGULATOR

- Rolling diaphragm.
- Lockable safety knob.
- Built-in overpressure relieving function.
- Filtering degree: 5 micron or 20 micron (standard).
- Pressure ranges: 0 ÷ 8 Bar (standard) or 0 ÷ 12 Bar.
- Fixing, bowl and condensate drainage: see **F M12 ..**

FILTRO REGOLATORE

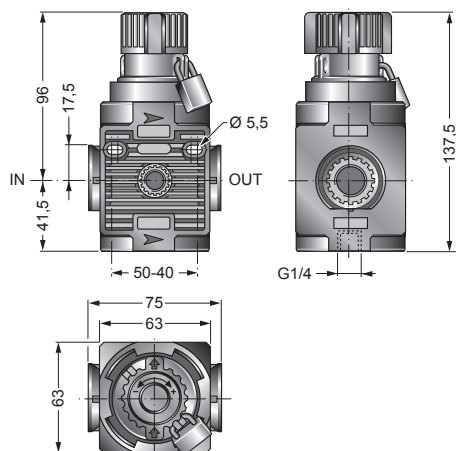
- Membrana a rotolamento.
- Pomello con dispositivo di bloccaggio della regolazione.
- Scarico della sovrappressione (relieving) incorporato.
- Grado di filtrazione: 5 micron o 20 micron (standard).
- Campi di pressione: 0 ÷ 8 Bar (standard) o 0 ÷ 12 Bar.
- Fissaggio, tazza e drenaggio come modello **F M12 ..**



3 WAY ON-OFF VALVE WITH LOCK

3 WAY ON-OFF VALVE
VALVOLA A 3 VIE

V3 M12

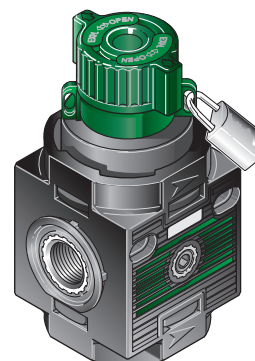
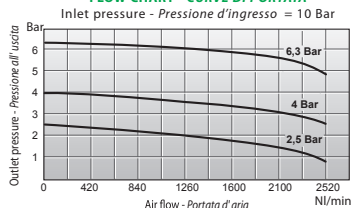


- Used to shut off the air supply while relieving the downstream circuit.
- Used during maintenance operations to prevent the system from being accidentally or wrongly pressurized.
- Discharge connection: G1/4 BSP.
- The device is equipped with 1 lock.

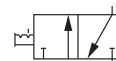
VALVOLA A 3 VIE CON BLOCCO

- Viene utilizzata per chiudere l'alimentazione dell'aria e contemporaneamente mettere in scarico il circuito di valle.
- Necessario nelle operazioni di manutenzione evitando la messa in pressione accidentale o non autorizzata dell'impianto.
- Connessione di scarico G1/4 BSP.
- L'apparecchio viene fornito con 1 lucchetto.

FLOW CHART - CURVE DI PORTATA



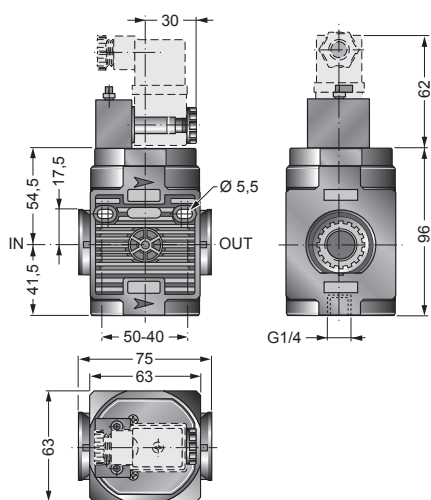
G1/2
0,390 Kg



SHUT-OFF VALVE

SHUT-OFF VALVE
VALVOLA DI SEZIONAMENTO

SV M12...

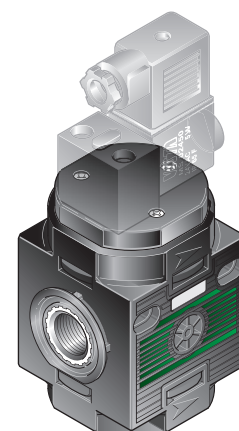
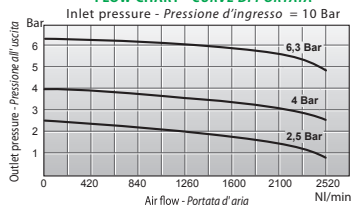


- Available with CNOMO standards: remote electric control (E1S version) or remote pneumatic control (PP version).
- Discharge connection: G1/4 BSP.
- Minimum pressure admitted: 3 Bar (40 Psi).
- Maximum working pressure: 10 Bar (145 Psi).
- For electric components see **ELBAC...** page B-88 or **ELCDC...** page B-89

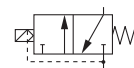
VALVOLA DI SEZIONAMENTO

- Disponibile con pilotaggio elettrico a norme CNOMO (versione E1S) o ad azionamento pneumatico (versione PP): da ordinarsi separatamente.
- Connessione di scarico G1/4 BSP.
- Pressione minima ammessa: 3 Bar (40 Psi).
- Pressione massima di ingresso: 10 Bar (145 Psi).
- Per componenti elettrici vedi **ELBAC...** pagina B-88 o **ELCDC...** pagina B-89

FLOW CHART - CURVE DI PORTATA



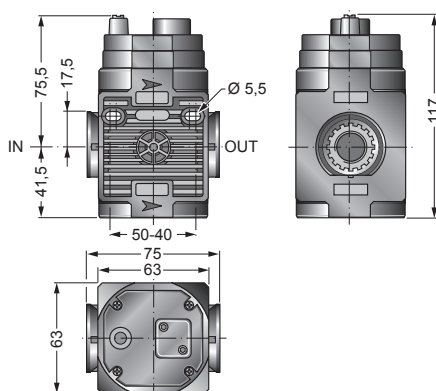
G1/2
0,400 Kg



SLOW START VALVE

SLOW START VALVE
AVVIATORE PROGRESSIVO

AVP M12 APC

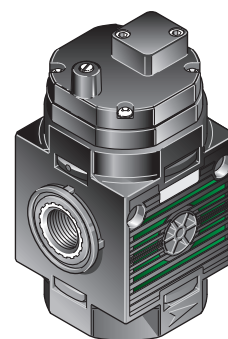
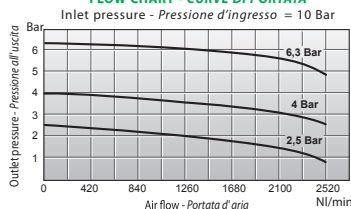


- Before delivering the maximum available pressure, the air is allowed to slowly flow around the downstream circuit until about 60 % of the pressure is reached upstream.
- Discharge connection: G1/4 BSP.
- Use built-in flow governor to establish the pressurizing time.
- Operating pressure range: 3 ÷ 10 Bar (40 ÷ 145 Psi).

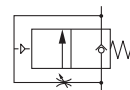
AVVIATORE PROGRESSIVO

- Prima che la valvola eroghi la massima pressione disponibile, l'aria viene fatta fluire lentamente nel circuito di valle fino al raggiungimento del 60 % circa della pressione a monte.
- Connessione di scarico G1/4 BSP.
- L'apposito regolatore di flusso incorporato fissa il tempo della messa in pressione del circuito pneumatico.
- Pressione di esercizio: 3 ÷ 10 Bar (40 ÷ 145 Psi).

FLOW CHART - CURVE DI PORTATA



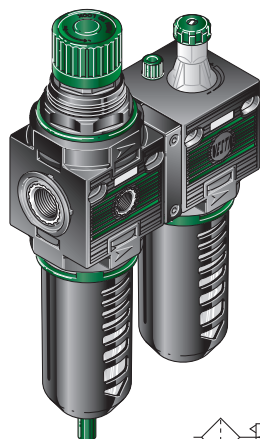
G1/2
0,410 Kg



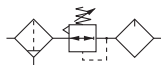


FR+L M12..

FR+L UNIT
GRUPPO FR+L



G1/2
0,940 Kg

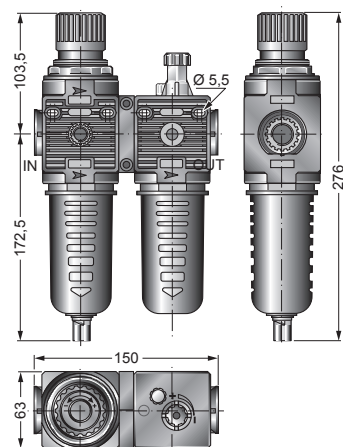


FILTER REGULATOR + LUBRICATOR UNIT

- Integrated unit for air treatment assembling with:
 - **FR M12 ..** Filter regulator (Pag. C-24).
 - **L M12 ..** Lubricator (Pag. C-24).
- Filtering degree: 5 micron or 20 micron (standard).
- Recommended oil viscosity ISO VG32.
- Maximum operating pressure: 12 Bar (180Psi).

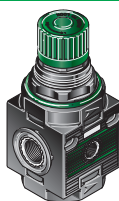
GRUPPO FILTROREGOLATORE + LUBRIFICATORE

- Gruppo integrato di trattamento aria composto da:
 - **FR M12 ..** Filtroregolatore (Pag. C-24).
 - **L M12 ..** Lubrificatore (Pag. C-24).
- Grado di filtrazione: 5 micron o 20 micron (standard).
- Viscosità olio consigliata ISO VG32 .
- Massima pressione di ingresso: 12 Bar (180Psi).



ORDER CODE LINE **M12** / CODICI DI ORDINAZIONE LINEA **M12**

REGULATOR / REGOLATORE



R	M12	08	R	
R	M12	12	R	

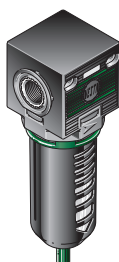
SHUT-OFF VALVE / VALVOLA DI SEZIONAMENTO



SV	M12	E15	
SV	M12	PP	

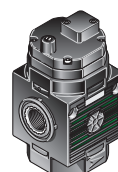
For coils and electric components
see page B-89.
Per solenoidi e componenti elettrici
vedi pagina B-89.

FILTER / FILTRO



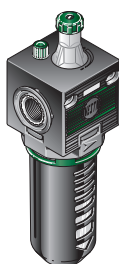
F	M12	20	PE	SS
F	M12	20	PE	SA
F	M12	5	PE	SS
F	M12	5	PE	SA
COALESCENT OIL-PROOF MICROFILTER FILTRO ANTIOILIO A COALESCENZA				
MF	M12	0,1	PE	SS
MF	M12	0,1	PE	SA

SLOW START VALVE / AVVIATORE PROGRESSIVO



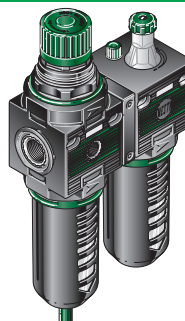
AVP	M12	APC	

LUBRICATOR / LUBRIFICATORE



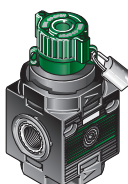
L	M12	PE	
AUTOMATIC FILLING LUBRICATOR LUBR. CON CARICAMENTO A DEPRESSIONE			
L	M12	PE	VL

FR+L UNIT / GRUPPO FR+L



FR+L	M12	20	08	R	PE	SS
FR+L	M12	20	12	R	PE	SS
FR+L	M12	5	08	R	PE	SS
FR+L	M12	5	12	R	PE	SS
FR+L	M12	20	08	R	PE	SA
FR+L	M12	20	12	R	PE	SA
FR+L	M12	5	08	R	PE	SA
FR+L	M12	5	12	R	PE	SA
FR+L	M12	20	08	R	PE	SS VL
FR+L	M12	20	12	R	PE	SS VL
FR+L	M12	5	08	R	PE	SS VL
FR+L	M12	5	12	R	PE	SS VL
FR+L	M12	20	08	R	PE	SA VL
FR+L	M12	20	12	R	PE	SA VL
FR+L	M12	5	08	R	PE	SA VL
FR+L	M12	5	12	R	PE	SA VL

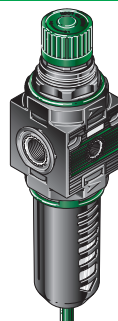
3 WAY ON-OFF VALVE / VALVOLA A 3 VIE



V3	M12		

STANDARD = **FR+L M12 20 08 PE SS**

FILTER REGULATOR / FILTRO REGOLATORE

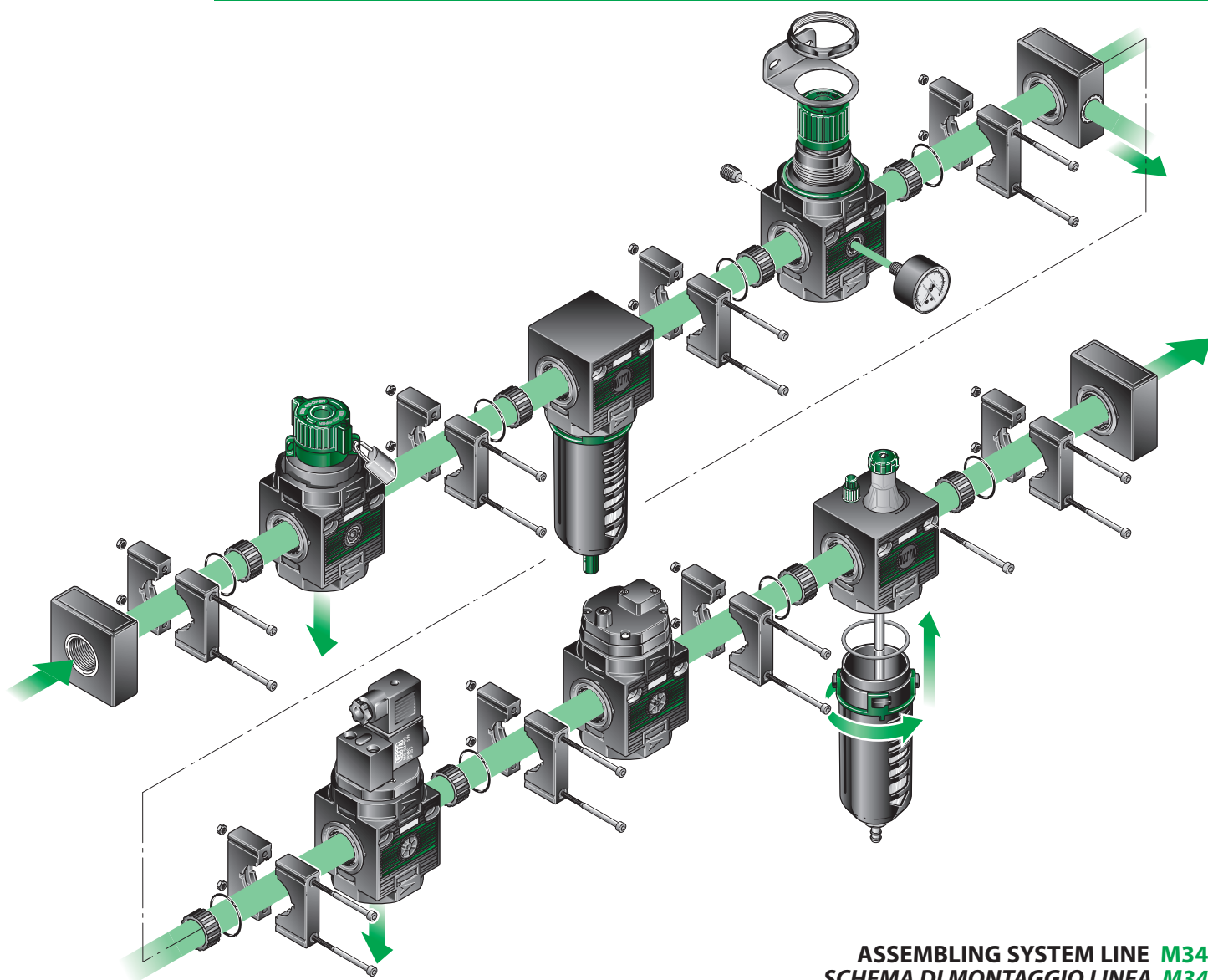


FR	M12	20	08	R	PE	SS
FR	M12	20	12	R	PE	SS
FR	M12	5	08	R	PE	SS
FR	M12	5	12	R	PE	SS
FR	M12	20	08	R	PE	SA
FR	M12	20	12	R	PE	SA
FR	M12	5	08	R	PE	SA
FR	M12	5	12	R	PE	SA

Accessories and spare parts see pages C38 and C-40.
Accessori e ricambi vedi pagine C38 e C-40.

.. M34 ..

MODULAR LINE G3/4 LINEA MODULARE G3/4



ASSEMBLING SYSTEM LINE M34
SCHEMA DI MONTAGGIO LINEA M34

TECHNICAL FEATURES

Connections	G3/4
Body and bowl guard	Polyamide glass reinforced.
Bowl	Transparent toughened polyamide.

Environment temperature range	+5 ÷ +50 °C (41 ÷ 122 °F)
Gauge connections	G1/8
Maximum inlet pressure	12,5 Bar (180 Psi)
Fixing	Complete with ring nut for panel assembly, or can be wall mounted on a bracket.

CARATTERISTICHE TECNICHE

Connessioni	G3/4
Corpo e protezione della tazza	Poliammide rinforzato vetro.
Tazza	Poliammide trasparente tenacizzato antiurto.

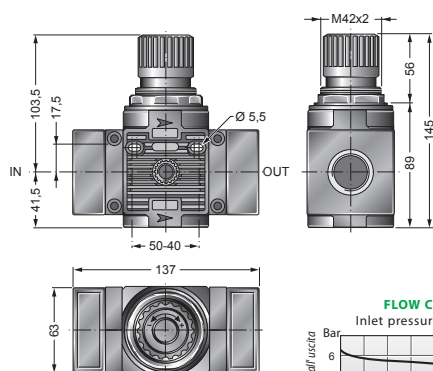
Temperatura ambiente	+5 ÷ +50 °C (41 ÷ 122 °F)
Connessioni manometro	G1/8
Pressione massima di ingresso	12,5 Bar (180 Psi)
Fissaggio	Completo di ghiera per il montaggio a pannello, o Possibilità di fissaggio parete con staffa.

The **M 34** comes from the LM 12 serie but with G 3/4 connections. The range covers: filters and microfilters with different levels of dust extraction and condensate with the possibility of mounting the automatic drainage; pressure regulators until 12 bar; lubricators both standard and with depression loading; 3 way on-off valves with lock; shut off valves with a device used to shut off the air supply, while relieving the downstream circuit by a remote electric or pneumatic control; slow start valves for a gradual pressurization of the system. Complete groups for air treatment are available, such as: filter regulator + lubricator, filter regulator + lubricator + shut off upstream valve, or filter + regulator + lubricator.

La serie **M34** è derivata dalla serie LM12 ma con connessioni da G3/4 ed offre una gamma completa di componenti per il trattamento dell'aria.

La serie comprende: filtri e microfiltri con vari livelli di estrazione delle polveri e condensa con possibilità di montaggio dello scarico automatico; i regolatori di pressione sino a 12 Bar; i lubrificatori sia standard che con caricamento a depressione; le valvole di intercettazione a 3 vie con blocco; le valvole di sezionamento a comando elettropneumatico o pneumatico azionabile a distanza, per escludere l'alimentazione e mettere in scarico il circuito di valle; avviatori progressivi per la pressurizzazione graduale dell'impianto.

Sono disponibili gruppi preassemblati completi per il trattamento dell'aria quali filtroregolatore+lubrificatore, filtroregolatore+lubrificatore+valvola di sezionamento a monte, oppure filtro+regolatore+lubrificatore.

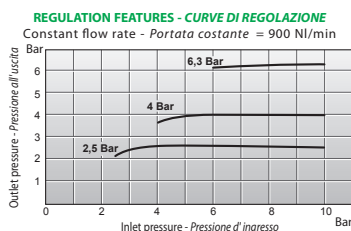
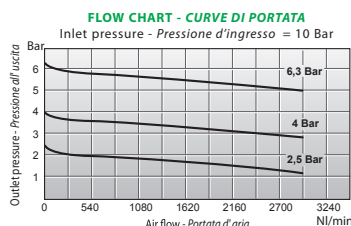


REGULATOR

- Rolling diaphragm.
- Can be wall mounted using the relative holes, with ring nut for panel assembly or bracket.
- Lockable safety knob.
- Pressure ranges: 0 ÷ 8 Bar (standard) or 0 ÷ 12 Bar.
- Built-in overpressure relieving function.

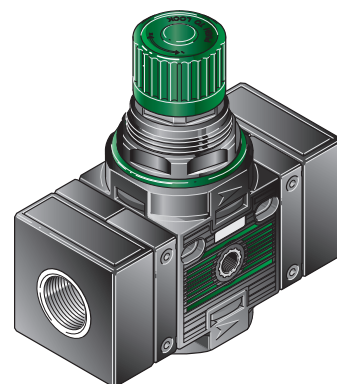
REGOLATORE

- Membrana a rotolamento.
- Fissaggio a parete con fori predisposti, su pannello o su staffa per mezzo della ghiera in dotazione.
- Pomello con dispositivo di bloccaggio della regolazione.
- Campi di pressione: 0 ÷ 8 Bar (standard) o 0 ÷ 12 Bar.
- Scarico della sovrappressione (relieving) incorporato.

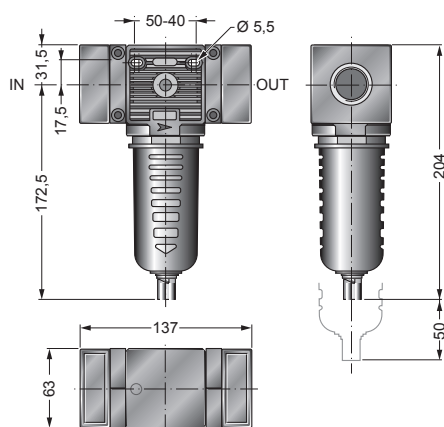
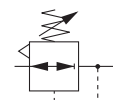


REGULATOR
REGOLATORE

R M34 ..



G3/4
0,755 Kg

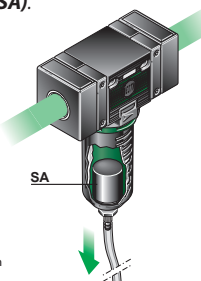
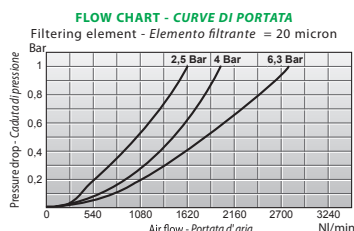


FILTER

- Filtering degree: 5 micron or 20 micron (standard).
- Low pressure drop (max inlet pressure: 12,5 Bar).
- Bowl guard 100 cc. with quick safety connection.
- Condensate drainage: manual and semiautomatic in the integrated version or **float type automatic version (SA)**.

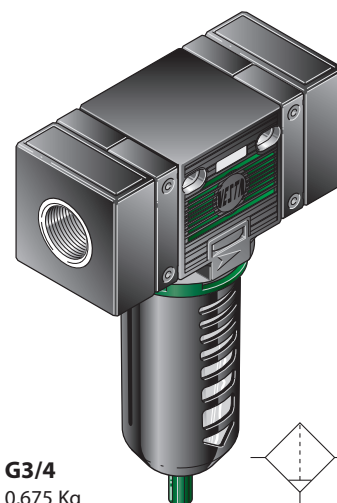
FILTRO

- Grado di filtrazione: 5 micron o 20 micron (standard).
- Bassa caduta di pressione (Press. max ingresso: 12,5 Bar).
- Tazza protetta 100 cc. ad aggancio rapido antiespulsione.
- Drenaggio della condensa: manuale e semiautomatico in versione integrata, oppure **automatico a galleggiante (SA)**.

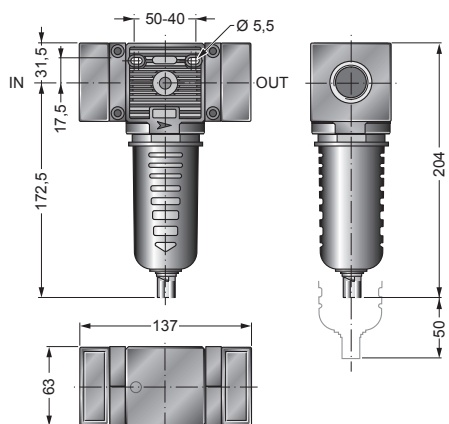


FILTER
FILTRO

F M34 ..



G3/4
0,675 Kg

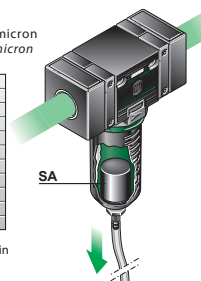
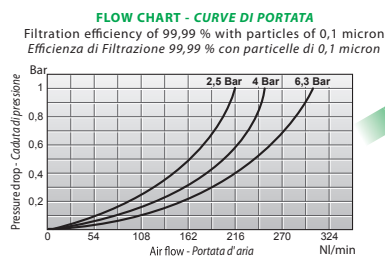


COALESCENT OIL-PROOF MICROFILTER

- Essential in circuit where oil is not permitted.
- 99,99 % filtering efficiency with 0,1 micron particles.
- Long-lasting filtering element.
- It is advisable to install a filter on the inlet.
- Bowl and condensate drainage: see **F M34 ..**

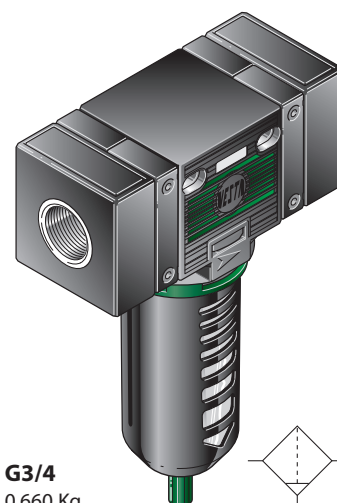
MICROFILTRO ANTIOILIO A COALESCENZA

- Per circuiti dove non è ammessa la presenza di olio.
- Efficienza di filtrazione del 99,99 % su particelle di 0,1 µ.
- Lunga durata dell'elemento filtrante.
- E' consigliata l'installazione di un filtro a monte.
- Tazza e drenaggio come modello **F M34 ..**



MICROFILTER
MICROFILTRO

MF M34 ..



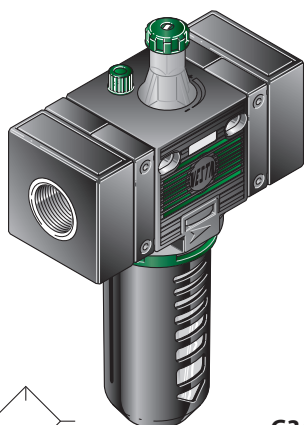
G3/4
0,660 Kg





L M34 ..

LUBRICATOR
LUBRIFICATORE



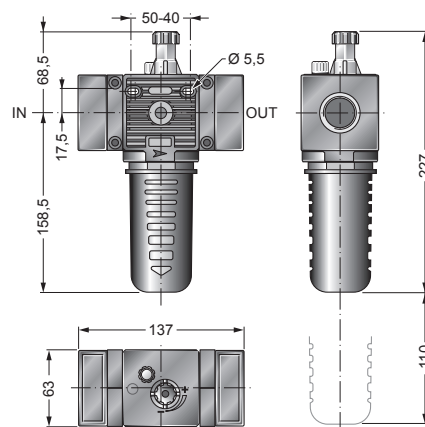
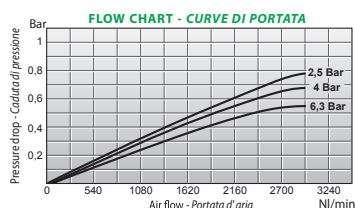
G3/4
0,670 Kg

LUBRICATOR

- Proportional oil mist type, with constantly steady delivery and suction ensured even with low flow rates.
- Can be wall mounted using the relative holes (Ø 5,5 mm).
- Bowl guard 140 cc. with quick connection by means of the safety ring mechanism.
- Recommended oil viscosity ISO VG32.
- Maximum operating pressure: 12,5 Bar (180 Psi).

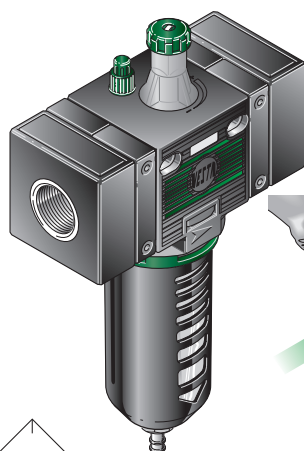
LUBRIFICATORE

- Di tipo proporzionale a nebbia d'olio con erogazione costante nel tempo e pescaggio anche a basse portate.
- Fissaggio a parete con fori predisposti (Ø 5,5 mm).
- Tazza protetta 140 cc. ad aggancio rapido antiespulsione.
- Viscosità olio consigliata ISO VG32.
- Massima pressione di ingresso: 12,5 Bar (180 Psi).



L M34 ..VL

LUBRICATOR VL
LUBRIFICATORE VL



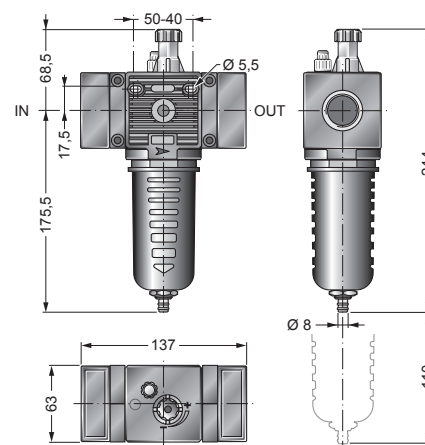
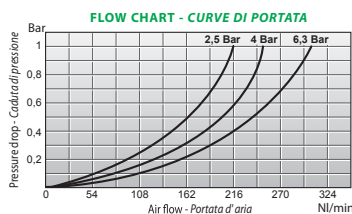
G3/4
0,695 Kg

AUTOMATIC FILLING LUBRICATOR

- Filling of oil is achieved **without interrupting the normal operation of the system** by keeping the button at the base of the lubricator casing pushed. This provokes a vacuum inside the bowl enabling the oil to be intaken.
- Minimum activation pressure: 3 Bar (40 Psi).
- Other functional features as standard model.

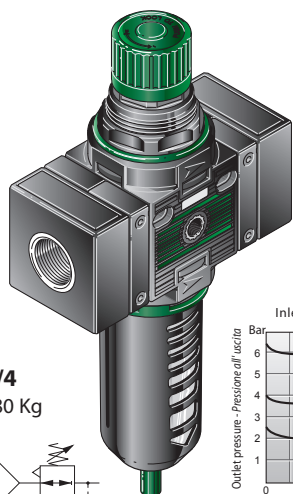
LUBRIFICATORE CARICA A DEPRESSIONE

- Il caricamento dell'olio avviene **senza interrompere il normale funzionamento dell'impianto**, tenendo premuto il pulsante posto sulla base del corpo del lubrificatore, provocando la depressione che ne permette l'aspirazione.
- Pressione minima di attivazione: 3 Bar (40 Psi).
- Altre caratteristiche funzionali come il modello standard.



FR M34 ..

FILTER REGULATOR
FILTRO REGOLATORE



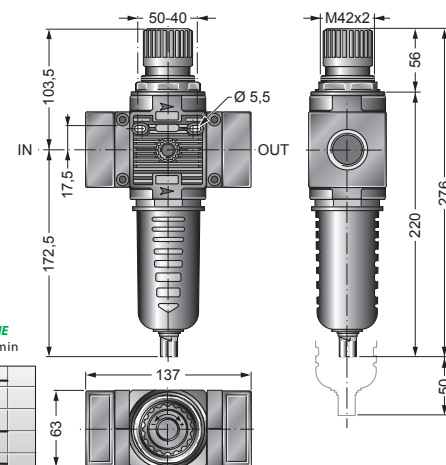
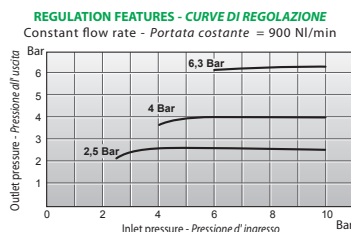
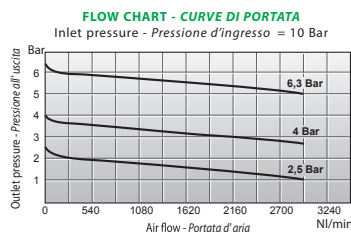
G3/4
0,880 Kg

FILTER REGULATOR

- Rolling diaphragm.
- Lockable safety knob.
- Built-in overpressure relieving function.
- Filtering degree: 5 micron or 20 micron (standard).
- Pressure ranges: 0 ÷ 8 Bar (standard) or 0 ÷ 12 Bar.
- Fixing, bowl and condensate drainage: see **F M34 ..**

FILTRO REGOLATORE

- Membrana a rotolamento.
- Pomello con dispositivo di bloccaggio della regolazione.
- Scarico della sovrappressione (relieving) incorporato.
- Grado di filtrazione: 5 micron o 20 micron (standard).
- Campi di pressione: 0 ÷ 8 Bar (standard) o 0 ÷ 12 Bar.
- Fissaggio, tazza e drenaggio come modello **F M34 ..**



3 WAY ON-OFF VALVE WITH LOCK

3 WAY ON-OFF VALVE
VALVOLA A 3 VIE

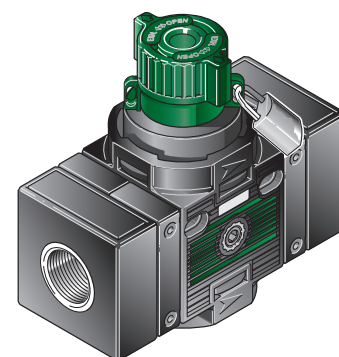
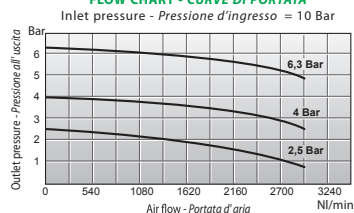
V3 M34

- Used to shut off the air supply while relieving the downstream circuit.
- Used during maintenance operations to prevent the system from being accidentally or wrongly pressurized.
- Discharge connection: G1/4 BSP.
- The device is equipped with 1 lock.

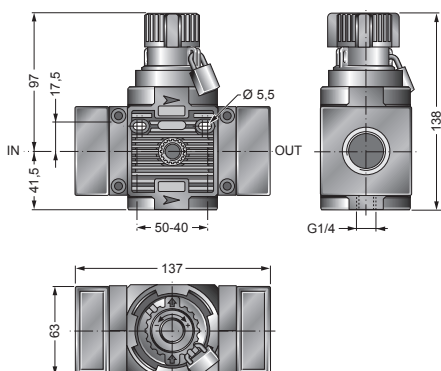
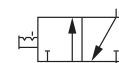
VALVOLA A 3 VIE CON BLOCCO

- Viene utilizzata per chiudere l'alimentazione dell'aria e contemporaneamente mettere in scarico il circuito di valle.
- Necessario nelle operazioni di manutenzione evitando la messa in pressione accidentale o non autorizzata dell'impianto.
- Connessione di scarico G1/4 BSP.
- L'apparecchio viene fornito con 1 lucchetto.

FLOW CHART - CURVE DI PORTATA



G3/4
0,690 Kg



SHUT-OFF VALVE

SHUT-OFF VALVE
VALVOLA DI SEZIONAMENTO

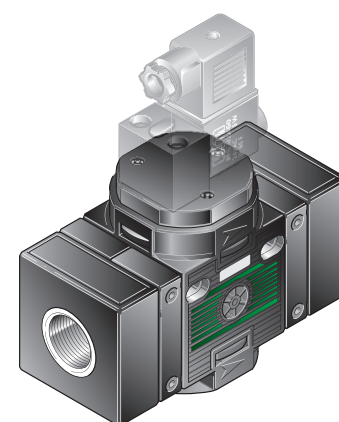
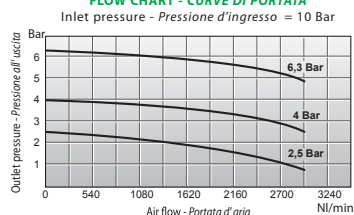
SV M34...

- Available with CNOMO standards: remote electric control (E1S version) or remote pneumatic control (PP version).
- Discharge connection: G1/4 BSP.
- Minimum pressure admitted: 3 Bar (40 Psi).
- Maximum working pressure: 10 Bar (145 Psi).
- For electric components see **ELBAC...** page B-88 or **ELCDC...** page B-89

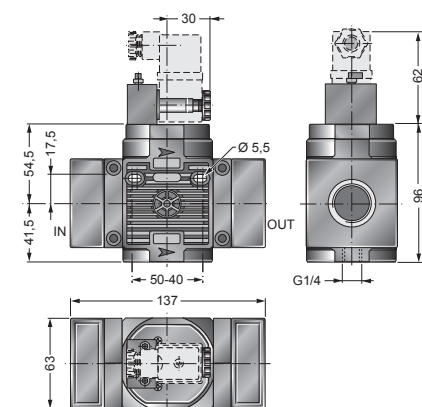
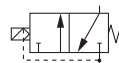
VALVOLA DI SEZIONAMENTO

- Disponibile con pilotaggio elettrico a norme CNOMO o ad azionamento pneumatico (da ordinarsi separatamente).
- Connessione di scarico G1/4 BSP.
- Pressione minima ammessa: 3 Bar (40 Psi).
- Pressione massima di ingresso: 10 Bar (145 Psi).
- Per componenti elettrici vedi **ELBAC...** pagina B-88 o **ELCDC...** pagina B-89

FLOW CHART - CURVE DI PORTATA



G3/4
0,700 Kg



SLOW START VALVE

SLOW START VALVE
AVVIATORE PROGRESSIVO

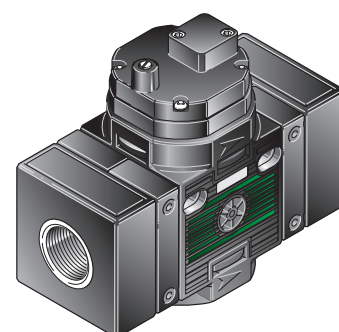
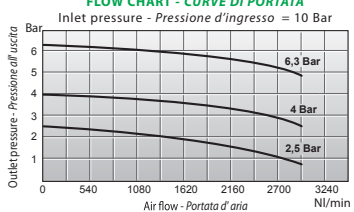
AVP M34 APC

- Before delivering the maximum available pressure, the air is allowed to slowly flow around the downstream circuit until about 60 % of the pressure is reached upstream.
- Discharge connection: G1/4 BSP.
- Use built-in flow governor to establish the pressurizing time.
- Operating pressure range: 3 ÷ 10 Bar (40 ÷ 145 Psi).

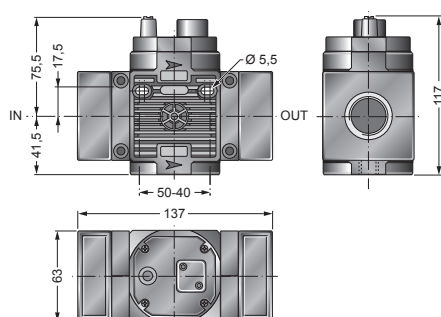
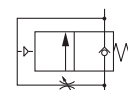
AVVIATORE PROGRESSIVO

- Prima che la valvola eroghi la massima pressione disponibile, l'aria viene fatta fluire lentamente nel circuito di valle fino al raggiungimento del 60 % circa della pressione a monte.
- Connessione di scarico G1/4 BSP.
- L'apposito regolatore di flusso incorporato fissa il tempo della messa in pressione del circuito pneumatico.
- Pressione di esercizio: 3 ÷ 10 Bar (40 ÷ 145 Psi).

FLOW CHART - CURVE DI PORTATA



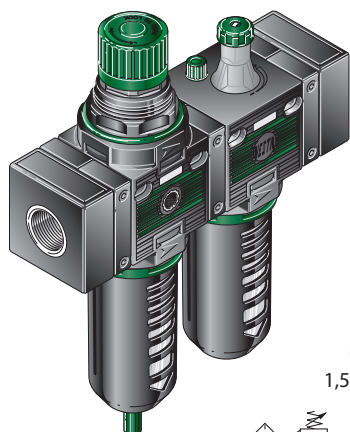
G3/4
0,715 Kg



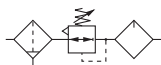


FR+L M34..

FR+L UNIT
GRUPPO FR+L



G3/4
1,530 Kg

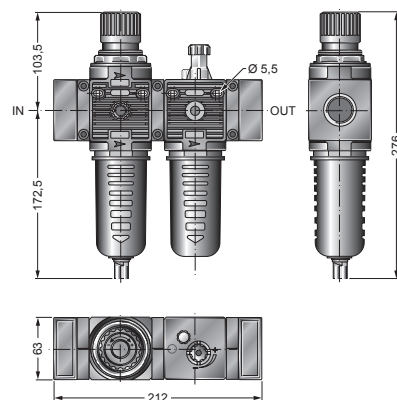


FILTER REGULATOR + LUBRICATOR UNIT

- Integrated unit for air treatment assembling with:
 - **FR M34 ..** Filter regulator (Pag. C-30).
 - **L M34 ..** Lubricator (Pag. C-30).
- Filtering degree: 5 micron or 20 micron (standard).
- Recommended oil viscosity ISO VG32.
- Maximum operating pressure: 12,5 Bar (180 Psi).

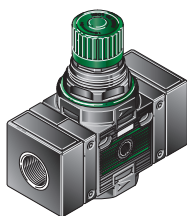
GRUPPO FILTROREGOLATORE + LUBRIFICATORE

- Gruppo integrato di trattamento aria composto da:
 - **FR M34 ..** Filtroregolatore (Pag. C-30).
 - **L M34 ..** Lubrificatore (Pag. C-30).
- Grado di filtrazione: 5 micron o 20 micron (standard).
- Viscosità olio consigliata ISO VG32 .
- Massima pressione di ingresso: 12,5 Bar (180 Psi).



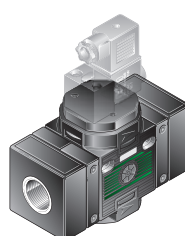
ORDER CODE LINE **M34** / CODICI DI ORDINAZIONE LINEA **M34**

REGULATOR / REGOLATORE



R	M34	08	R		
R	M34	12	R		

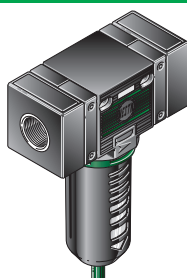
SHUT-OFF VALVE /



SV	M34	E1S			
SV	M34	PP			

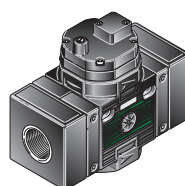
For coils and electric components
see page B-89.
Per solenoidi e componenti elettrici
vedi pagina B-89.

FILTER / FILTRO



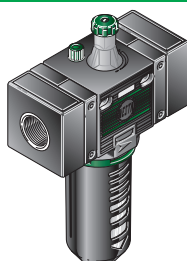
F	M34	20	PE	SS	
F	M34	20	PE	SA	
F	M34	5	PE	SS	
F	M34	5	PE	SA	
COALESCENT OIL-PROOF MICROFILTER FILTRO ANTIOILIO A COALESCENZA					
MF	M34	0,1	PE	SS	
MF	M34	0,1	PE	SA	

SLOW START VALVE / AVVIATORE PROGRESSIVO



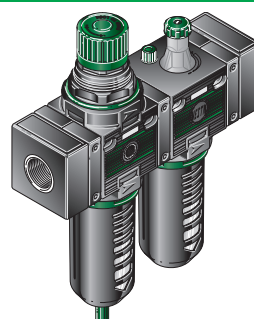
AVP	M34	APC			

LUBRICATOR / LUBRIFICATORE



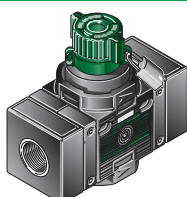
L	M34	PE			
AUTOMATIC FILLING LUBRICATOR LUBR. CON CARICAMENTO A DEPRESSIONE					
L	M34	PE	VL		

FR+L UNIT / GRUPPO FR+L



FR+L	M34	20	08	R	PE	SS	
FR+L	M34	20	12	R	PE	SS	
FR+L	M34	5	08	R	PE	SS	
FR+L	M34	5	12	R	PE	SS	
FR+L	M34	20	08	R	PE	SA	
FR+L	M34	20	12	R	PE	SA	
FR+L	M34	5	08	R	PE	SA	
FR+L	M34	5	12	R	PE	SA	
FR+L	M34	20	08	R	PE	SS	VL
FR+L	M34	20	12	R	PE	SS	VL
FR+L	M34	5	08	R	PE	SS	VL
FR+L	M34	5	12	R	PE	SS	VL
FR+L	M34	20	08	R	PE	SA	VL
FR+L	M34	20	12	R	PE	SA	VL
FR+L	M34	5	08	R	PE	SA	VL
FR+L	M34	5	12	R	PE	SA	VL

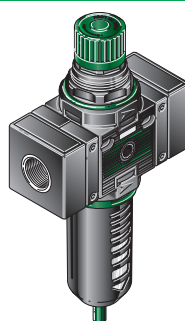
3 WAY ON-OFF VALVE / VALVOLA A 3 VIE



V3	M34				

STANDARD = FR+L M34 20 08 PE SS

FILTER REGULATOR / FILTRO REGOLATORE



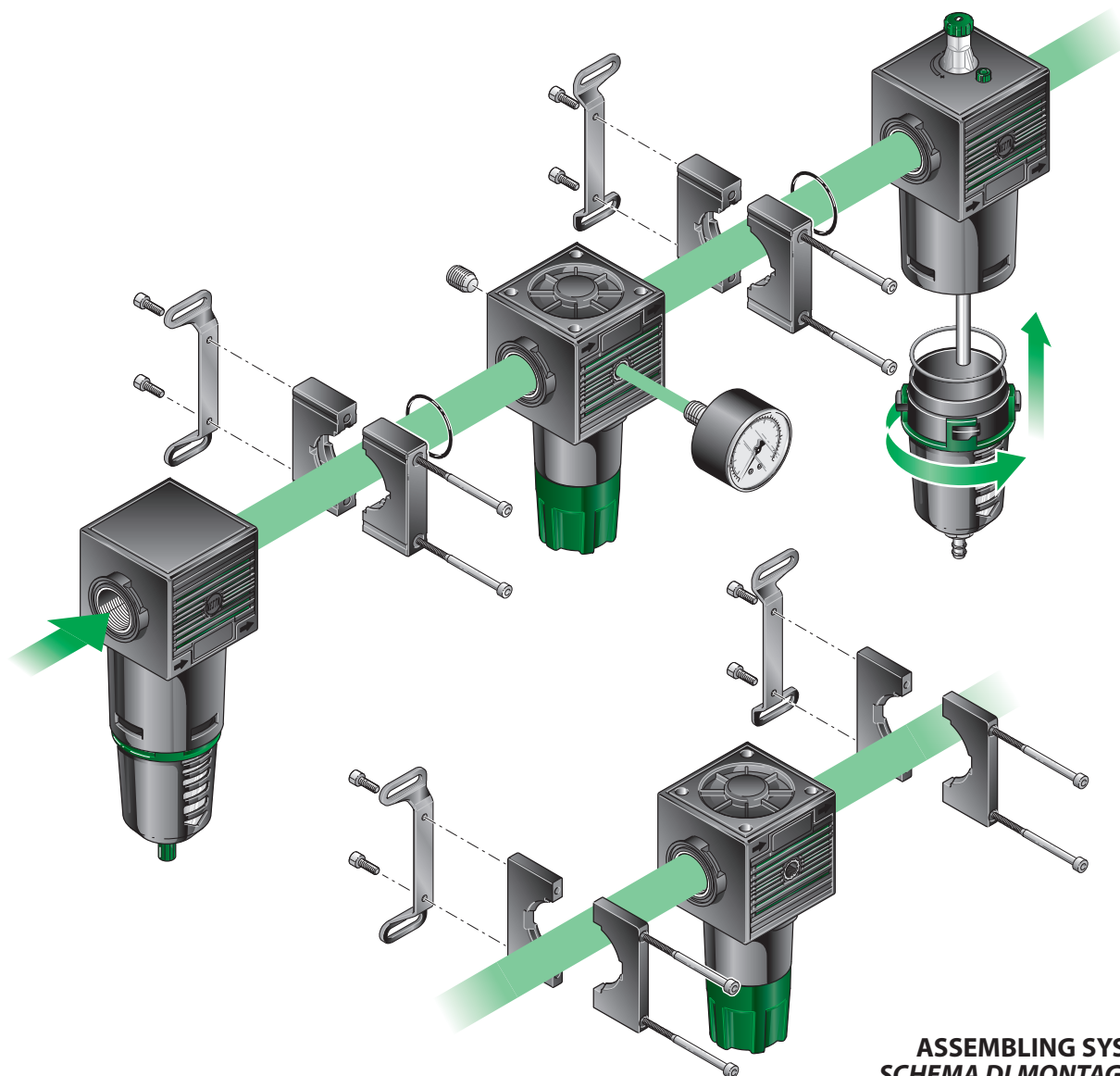
FR	M34	20	08	R	PE	SS	
FR	M34	20	12	R	PE	SS	
FR	M34	5	08	R	PE	SS	
FR	M34	5	12	R	PE	SS	
FR	M34	20	08	R	PE	SA	
FR	M34	20	12	R	PE	SA	
FR	M34	5	08	R	PE	SA	
FR	M34	5	12	R	PE	SA	

Accessories and spare parts see pages C38 and C-40.
Accessori e ricambi vedi pagine C38 e C-40.



.. M10 ..

MODULAR LINE G1 LINEA MODULARE G1



ASSEMBLING SYSTEM LINE M10
SCHEMA DI MONTAGGIO LINEA M10

TECHNICAL FEATURES

Connections	G1
Body and bowl guard	Polyamide glass reinforced.
Bowl	Transparent toughened polyamide.

Environment temperature range	+5 ÷ +50 °C (41 ÷ 122 °F)
Gauge connections	G1/4
Maximum inlet pressure	12,5 Bar (180 Psi)
Fixing	Complete with ring nut for panel assembly, or can be wall mounted on a bracket .

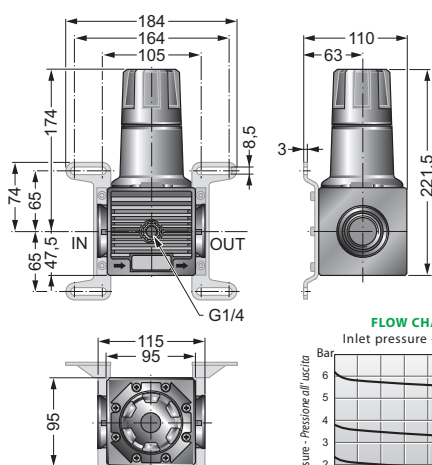
CARATTERISTICHE TECNICHE

Connessioni	G1
Corpo e protezione della tazza	Poliammide rinforzato vetro.
Tazza	Poliammide trasparente tenacizzato antiurto.

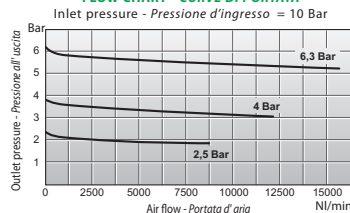
Temperatura ambiente	+5 ÷ +50 °C (41 ÷ 122 °F)
Connessioni manometro	G1/4
Pressione massima di ingresso	12,5 Bar (180 Psi)
Fissaggio	Completo di ghiera per il montaggio a pannello, o Possibilità di fissaggio parete con staffa.

The **M10** series is designed for high flow rates. It offers a complete range of components for air treatment. The range covers: filters with different levels of dust and condensate extraction; pressure regulators up to 12 bar and lubricators both standard. Complete groups for air treatment are available, such as: filter regulator + lubricator or filter + regulator + lubricator.

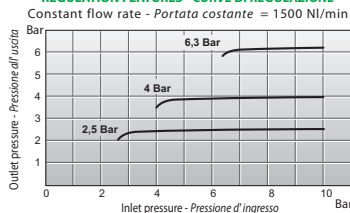
La serie **M10** è indicata per grandi portate ed offre una gamma completa di componenti per il trattamento dell'aria. La serie comprende: filtri con vari livelli di estrazione delle polveri e condensa; i regolatori di pressione sino a 12 Bar ed lubrificatori. Sono disponibili gruppi preassemblati completi per il trattamento dell'aria quali filtro+regolatore+lubrificatore oppure filtro+regolatore+lubrificatore.



FLOW CHART - CURVE DI PORTATA



REGULATION FEATURES - CURVE DI REGOLAZIONE

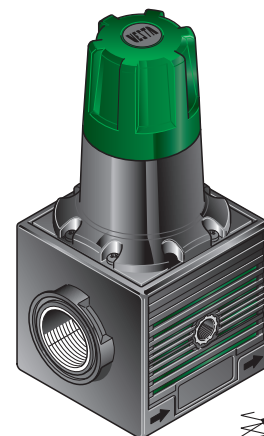


- REGULATOR**
- Rolling diaphragm.
 - Can be wall mounted using the appropriate brackets.
 - Lockable safety knob.
 - Pressure ranges: 0 ÷ 8 Bar (standard) or 0 ÷ 12 Bar.
 - Built-in overpressure relieving function.
 - Temperature range: 5 ÷ 50 °C.

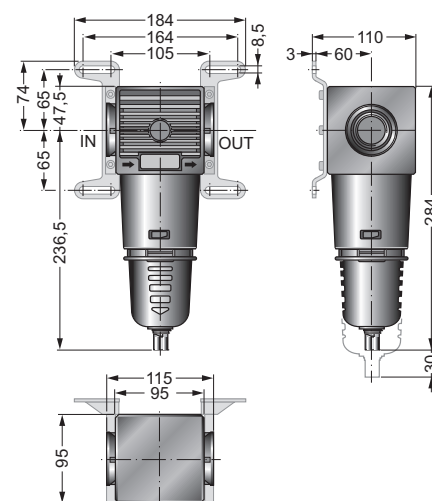
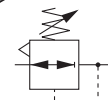
- REGOLATORE**
- Membrana a rotolamento.
 - Fissaggio a parete utilizzando staffe predisposte.
 - Pomello con dispositivo di bloccaggio della regolazione.
 - Campi di pressione: 0 ÷ 8 Bar (standard) o 0 ÷ 12 Bar.
 - Scarico della sovrappressione (relieving) incorporato.
 - Campo di temperatura di utilizzo: 5 ÷ 50 °C.

REGULATOR
REGOLATORE

R M10 ..



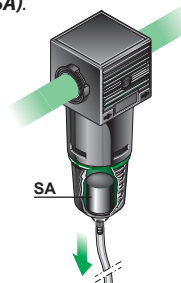
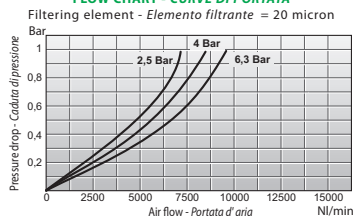
G1
1,721 Kg



- FILTER**
- Filtering degree: 5 micron or 20 micron (standard).
 - Low pressure drop (max inlet pressure: 12 Bar).
 - Bowl guard 200 cc. with quick safety connection.
 - Condensate drainage: manual and semiautomatic in the integrated version or **float type automatic version (SA)**.

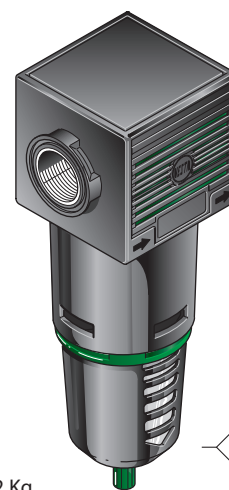
- FILTRO**
- Grado di filtrazione: 5 micron o 20 micron (standard).
 - Bassa caduta di pressione (Press. max ingresso: 12 Bar).
 - Tazza protetta 200 cc. ad aggancio rapido antiespulsione.
 - Drenaggio della condensa: manuale e semiautomatico in versione integrata, oppure **automatico a galleggiante (SA)**.

FLOW CHART - CURVE DI PORTATA

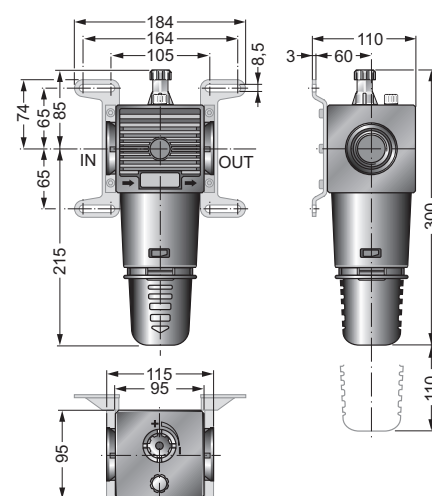
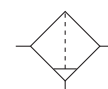


FILTER
FILTRO

F M10 ..



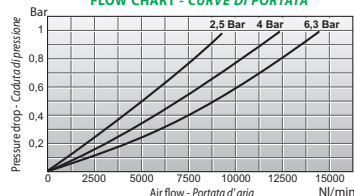
G1
1,212 Kg



- LUBRICATOR**
- Proportional oil mist type, with constantly steady delivery and suction ensured even with low flow rates.
 - Can be wall mounted using the appropriate brackets.
 - Bowl guard 440 cc. with quick connection by means of the safety ring mechanism.
 - Recommended oil viscosity ISO VG32.
 - Maximum operating pressure: 12 Bar.

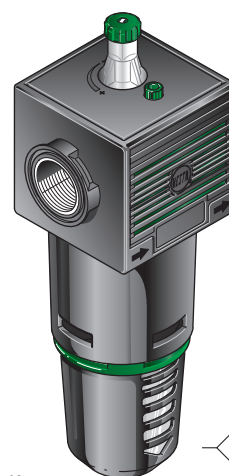
- LUBRIFICATORE**
- Di tipo proporzionale a nebbia d'olio con erogazione costante nel tempo e pescaggio anche a basse portate.
 - Fissaggio a parete utilizzando staffe predisposte.
 - Tazza protetta 440 cc. ad aggancio rapido antiespulsione.
 - Viscosità olio consigliata ISO VG32.
 - Pressione massima di esercizio: 12 Bar.

FLOW CHART - CURVE DI PORTATA

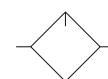


LUBRICATOR
LUBRIFICATORE

L M10 ..



G1
1,194 Kg

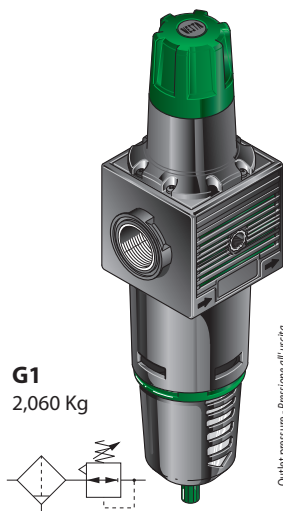




FR M10 ..

FILTER REGULATOR
FILTRO REGOLATORE

G1
2,060 Kg



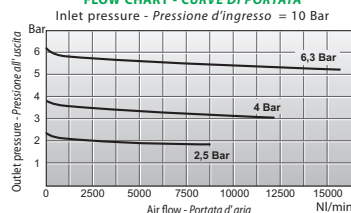
FILTER REGULATOR

- Rolling diaphragm.
- Lockable safety knob.
- Built-in overpressure relieving function.
- Filtering degree: 5 micron or 20 micron (standard).
- Pressure ranges: 0 ÷ 8 Bar (standard) or 0 ÷ 12 Bar.
- Fixing, bowl and condensate drainage: see **F M10 ..**

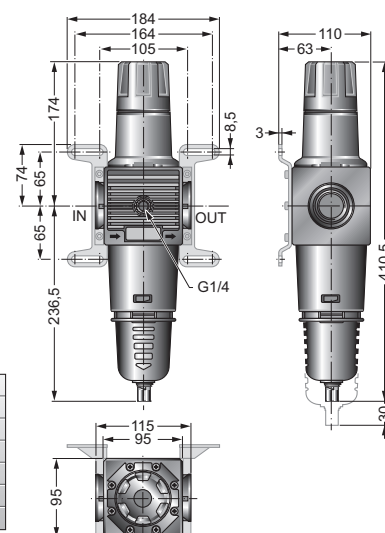
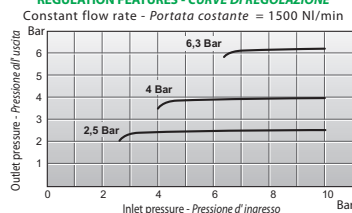
FILTRO REGOLATORE

- Membrana a rotolamento.
- Pomello con dispositivo di bloccaggio della regolazione.
- Scarico della sovrappressione (relieving) incorporato.
- Grado di filtrazione: 5 micron o 20 micron (standard).
- Campi di pressione: 0 ÷ 8 Bar (standard) o 0 ÷ 12 Bar.
- Fissaggio, tazza e drenaggio come modello **F M10 ..**

FLOW CHART - CURVE DI PORTATA

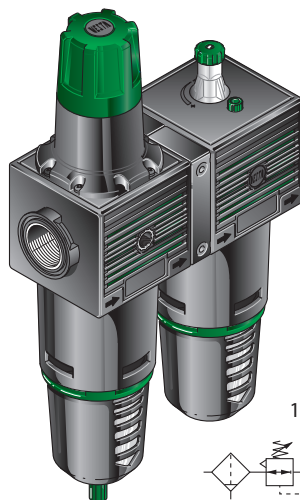


REGULATION FEATURES - CURVE DI REGOLAZIONE



FR+L M10 ..

FR+L UNIT
GRUPPO FR+L



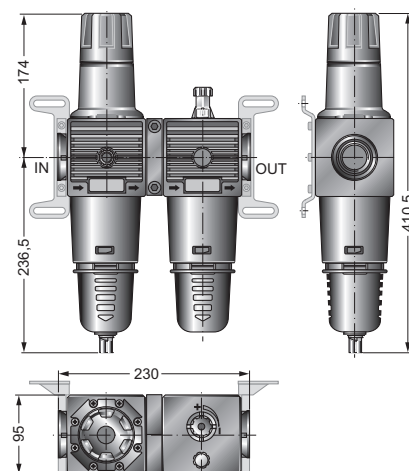
G3/4
1,530 Kg

FILTER REGULATOR + LUBRICATOR UNIT

- Integrated unit for air treatment assembling with:
 - Filter regulator (Pag. C-36).
 - Lubricator (Pag. C-35).
- Filtering degree: 5 micron or 20 micron (standard).
- Recommended oil viscosity ISO VG32.
- Maximum operating pressure: 12 Bar.

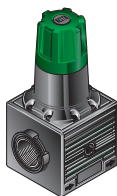
GRUPPO FILTROREGOLATORE + LUBRIFICATORE

- Gruppo integrato di trattamento aria composto da:
 - **FR M10 ..** Filtroregolatore (Pag. C-36).
 - **L M10 ..** Lubrificatore (Pag. C-35).
- Grado di filtrazione: 5 micron o 20 micron (standard).
- Viscosità olio consigliata ISO VG32.
- Pressione massima di esercizio: 12 Bar.



CODICI DI ORDINAZIONE LINEA M10

REGULATOR / REGOLATORE



R	M10	08	R
R	M10	12	R

FILTER / FILTRO



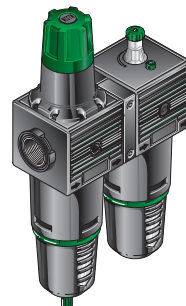
F	M10	20	PE	SS
F	M10	20	PE	SA
F	M10	5	PE	SS
F	M10	5	PE	SA

LUBRICATOR / LUBRIFICATORE



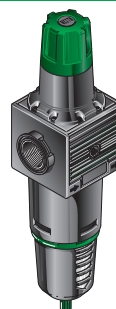
L	M10	PE

FR+L UNIT / GRUPPO FR+L



FR+L	M10	20	08	R	PE	SS
FR+L	M10	20	12	R	PE	SS
FR+L	M10	5	08	R	PE	SS
FR+L	M10	5	12	R	PE	SS
FR+L	M10	20	08	R	PE	SA
FR+L	M10	20	12	R	PE	SA
FR+L	M10	5	08	R	PE	SA
FR+L	M10	5	12	R	PE	SA

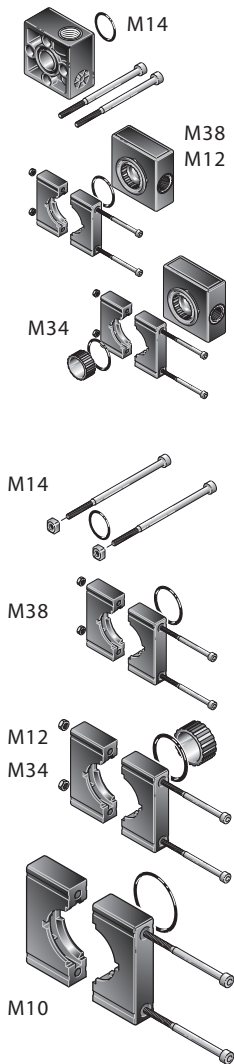
FILTER REGULATOR / FILTRO REGOLATORE



FR	M10	20	08	R	PE	SS
FR	M10	20	12	R	PE	SS
FR	M10	5	08	R	PE	SS
FR	M10	5	12	R	PE	SS
FR	M10	20	08	R	PE	SA
FR	M10	20	12	R	PE	SA
FR	M10	5	08	R	PE	SA
FR	M10	5	12	R	PE	SA

STANDARD = FR+L M10 20 08 PE SS

Accessories and spare parts see pages C38 and C-40.
Accessori e ricambi vedi pagine C38 e C-40.



AIR TAKEOFF PRESA D'ARIA

CODE / CODICE	SERIE	PRODUCT / PRODOTTO
K BUI H (For unit - per unità)	M14	F+R+L; FR+L V3+FR+L; F+L; F+MF
K BUI K (For battery - per batterie)	M14	FR+SV; AVP+L FR+SV+AVP+L
K BUI I 14		Presa d'aria ingresso/Inlet air take-off
K BUI U 14		Presa d'aria uscita/Outlet air take-off
K BUI E	M38	F+R+L; FR+L; F+L
K BUI I 38		Presa d'aria ingresso/Inlet air take-off
K BUI U 38		Presa d'aria uscita/Outlet air take-off
K BUI F	M12	F+R+L; FR+L; F+L
K BUI I 12		Presa d'aria ingresso/Inlet air take-off
K BUI U 12		Presa d'aria uscita/Outlet air take-off
K BUI G	M34	F+R+L; FR+L; F+L

KIT ASSEMBLING UNIT KIT PER ASSEMBLAGGIO GRUPPI

CODE / CODICE	SERIE	PRODUCT / PRODOTTO
K AU A (4 screws + 2 OR)	M14	F+R+L; V3+FR+L
K AU B (2 screws + 1 OR)	M14	FR+L
K AU C (2 screws + 1 OR)	M14	F+L; F+MF
K AU K (For battery - per batterie)	M14	FR+SV; AVP+L FR+SV+AVP+L
K AU G	M38	F+R+L
K AU H	M38	FR+L; F+L
K AU I	M12	F+R+L
K AU L	M12	FR+L; F+L
K AU M	M34	F+R+L
K AU N	M34	FR+L; F+L
K AU O	M10	F+R+L
K AU P	M10	FR+L; F+L

INPUT-OUTPUT KIT KIT TERMINALE INGRESSO - USCITA

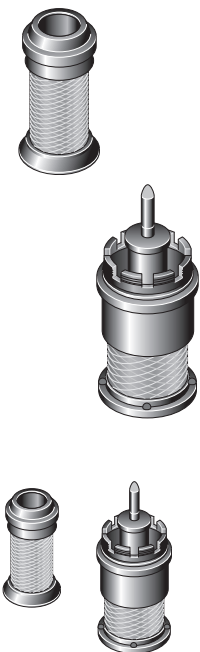
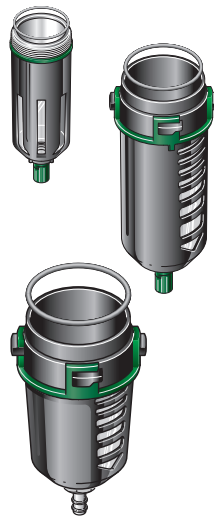
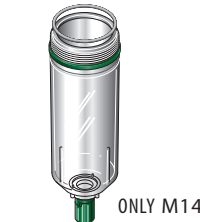
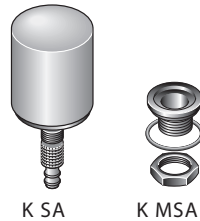
CODE / CODICE	SERIE	CONNECTION / CONNESSIONE
K TI 34	M34 G3/4	Input / Ingresso
K TO 34	M34 G3/4	Output / Uscita

WALL FIXING KIT KIT DI STAFFAGGIO

CODE / CODICE	SERIE	PRODUCT / PRODOTTO
K WF A	M10	R + F + L + FR

BRACKET STAFFA DI FISSAGGIO PARETE

CODE / CODICE	SERIE	PRODUCT / PRODOTTO
K WB A	M10	R + F + L + FR



AUTOMATIC DRAIN SCARICO CONDENZA AUTOMATICO

CODE / CODICE	SERIE	PRODUCT / PRODOTTO
K SA	M14; M38; M12; M34; M10	F; FR; MF.
KIT MOUNTING AUTOMATIC DRAIN / KIT DI MONTAGGIO KBSA		
CODE / CODICE	SERIE	PRODUCT / PRODOTTO
K MSA	M14; M38; M12; M34; M10	F; FR; MF.

TRANSPARENT BOWL TAZZA TRASPARENTE

CODE / CODICE	SERIE / SERIE	PRODUCT / PRODOTTO	DRAIN / SCARICO
K TT A	M14	F; FR	M/S
K TT B	M14	L	-
K TT C	M14	L (VL)	-

M/S = Manual and semiautomatic condensate drainage
Scarico della condensa manuale/semiautomatico

OUTER BOWL GUARD TAZZA CON PROTEZIONE ESTERNA

CODE / CODICE	SERIE / SERIE	PRODUCT / PRODOTTO	DRAIN / SCARICO
K PE A	M14	F; FR	M/S
K PE B	M38	F; FR	M/S
K PE C	M12; M34	F; FR	M/S
K PE D	M14	L	-
K PE E	M38	L	-
K PE F	M12; M34	L	-
K PE G	M14	L (VL)	-
K PE H	M38	L (VL)	-
K PE I	M12; M34	L (VL)	-
K PE L	M10	F; FR	M/S
K PE M	M10	L	-
K PE N	M10	L (VL)	-

M/S = Manual and semiautomatic condensate drainage
Scarico della condensa manuale/semiautomatico

FILTERING ELEMENT GRUPPO DI FILTRAGGIO

CODE / CODICE	SERIE / SERIE	PRODUCT / PRODOTTO	FILTERING DEGREE / GRADO FILTRAZIONE
K EF A	M14	F	20 µ
K EF A1	M14	FR	20 µ
K EF B	M38	F	20 µ
K EF C	M38	FR	20 µ
K EF D	M12; M34	F	20 µ
K EF E	M12; M34	FR	20 µ
K EF G	M14	F	5 µ
K EF G1	M14	FR	5 µ
K EF H	M38	F	5 µ
K EF I	M38	FR	5 µ
K EF L	M12; M34	F	5 µ
K EF M	M12; M34	FR	5 µ
K EF N	M10	F + FR	20 µ
K EF O	M10	F + FR	5 µ

COALESCENT FILTERING ELEMENT GRUPPO DI FILTRAGGIO A COALESCENZA

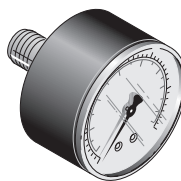
CODE / CODICE	SERIE / SERIE	PRODUCT / PRODOTTO	FILTERING DEGREE / GRADO FILTRAZIONE
K CF A	M14	MF	0,1 µ
K CF B	M38	MF	0,1 µ
K CF C	M12; M34	MF	0,1 µ



BRACKET STAFFA A PARETE		
CODE / CODICE	SERIE	PRODUCT / PRODOTTO
K BRS	R18; R14; R08; R04; M14	MR; R; FR
K BRL	M38; M12 M34	R; FR



REGULATION SPRING MOLLA DI REGOLAZIONE		
CODE / CODICE	SERIE	REGULATION / REGOLAZIONE
K RS14 02	MR (all versions);	0 ÷ 2 Bar
K RS14 04	MR (all versions);	0 ÷ 4 Bar
K RS14 08	MR (all versions); M14	0 ÷ 8 Bar
K RS14 12	MR (all versions); M14	0 ÷ 12 Bar
K RS38 08	M38	0 ÷ 8 Bar
K RS38 12	M38	0 ÷ 12 Bar
K RS12 08	M12; M34	0 ÷ 8 Bar
K RS12 12	M12; M34	0 ÷ 12 Bar



GAUGE G1/8 MANOMETRO G1/8		
CODE / CODICE	SERIE	PRODUCT / PRODOTTO
K MM40 06 Ø40 0÷6 Bar	MR (all versions); M14	MR; R; FR
K MM40 12 Ø40 0÷12 Bar	MR (all versions); M14	MR; R; FR
K MM50 06 Ø50 0÷6 Bar	M38; M12; M34	R; FR
K MM50 12 Ø50 0÷12 Bar	M38; M12; M34	R; FR
K MM63 12 Ø63 0÷12 Bar (conn. G1/4)	M10	R; FR

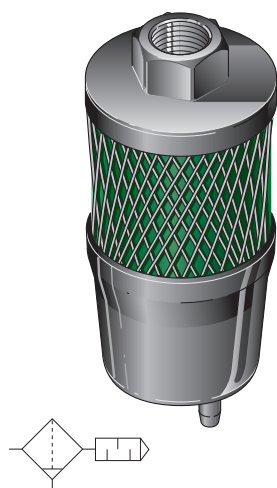


PLUG GRANO		
CODE / CODICE	SERIE	PRODUCT / PRODOTTO
K GC18	R18; R14; R08; R04; M14; M38; M12; M34	MR; R; FR
K GC14	M10	R; FR



DSL .

OIL REMOVERS-SILENCIERS DISOLEATORE-SILENZIATORE

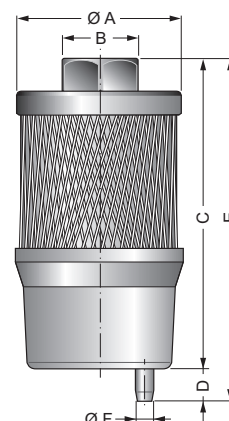


OIL REMOVERS - SILENCIERS

- Outlet oil remover / silencer for pneumatic systems.
- Eliminate oil mist pollution produced by valve and cylinder outlets.
- Reduce acoustic pollution by 25 dBA, restoring noise levels to values accepted by the safety standards in force.
- Filtering element in coalescent glass fiber.
- Oil accumulating cup with drainage plug.
- The collected oil can be conveyed through a Ø6 mm pipe.
- DSL is a disposable and should therefore be replaced when the overpressure becomes excessive.
- Operating range: $2 \div 50^{\circ}\text{C}$ ($36 \div 122^{\circ}\text{F}$).

DISOLEATORE - SILENZIATORE

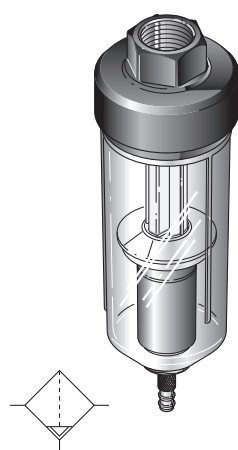
- Disoleatore - silenziatore di scarico per sistemi pneumatici.
- Elimina l'inquinamento da nebbia d'olio prodotto dagli scarichi di valvole e cilindri.
- Riduce l'inquinamento acustico di 25 dBA riportando il livello del rumore a valori accettati dagli standard di sicurezza.
- Elemento filtrante in fibra di vetro coalescente.
- Tazza di raccolta olio con tappo di drenaggio.
- Possibilità di convogliare l'olio raccolto con un tubo Ø 6 mm.
- Il disoleatore è un dispositivo a perdere e va sostituito quando la contropressione diventa eccessiva.
- Campo di temperatura di utilizzo: $2 \div 50^{\circ}\text{C}$ ($36 \div 122^{\circ}\text{F}$).



Type Modello	ØA	B	C	D	E	ØF	Connection Connessione	Portata NL/min scfm	Weight/Peso Kg
DSL 1	61	Ch.28	113	12	125	6	1/2"	1500 53	0,10
DSL 2	61	Ch.40	161	12	173	6	1"	3000 105	0,14
DSL 3	86	Ch.55	205	12	217	6	1 1/2"	9000 315	0,37

SCL

DRIP LEG DRAIN SCARICATORE PER LINEE

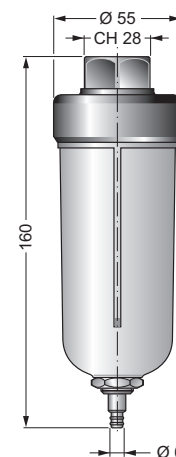


DRIP LEG DRAIN

- Automatically eliminates condensed fluids from pipes.
- In the absence of pressure the outlet remains opening, ensuring that all settled fluid particles are eliminated.
- Equipped with hose nipple to convey the collected condensate away.
- To allow servicing operations, pressure can be relieved by slaking the knurled part at the end of the appliance.
- Maximum operating pressure: 12 Bar (180 Psi; 1,2 MPa).
- Temperature range: $5 \div 50^{\circ}\text{C}$ ($41 \div 122^{\circ}\text{F}$).
- Transparent bowl with deep safety thickness.

SCARICATORE PER LINEE

- Consente l'eliminazione dei liquidi condensati dalle tubazioni senza alcun intervento manuale.
- In assenza di pressione lo scarico rimane aperto garantendo la rimozione di particelle liquide depositate.
- Dotato di portagomma per convogliare la condensa raccolta.
- Per consentire le operazioni di manutenzione è possibile togliere pressione allo scaricatore allentando la parte zigrinata posta nella zona terminale dell'apparecchio.
- Pressione massima di esercizio: 12 Bar (180 Psi; 1,2 MPa).
- Range di temperatura: $5 \div 50^{\circ}\text{C}$ ($41 \div 122^{\circ}\text{F}$).
- Tazza trasparente a grande spessore di sicurezza.



G1/2 BSP
0,225 Kg

SPARE PARTS FOR DRIP LEG DRAIN / RICAMBI PER SCARICATORE

FILTERING ELEMENT FOR DRIP LEG DRAIN FILTRO PER SCARICATORE

CODE / CODICE	SERIE	PRODUCT / PRODOTTO
K F SCL	SCL	SAL



BOWL WITH AUTOMATIC DRAIN TAZZA CON SCARICO AUTOMATICO

CODE / CODICE	SERIE	PRODUCT / PRODOTTO
K TSA SCL	SCL	SAL



STANDARD SALES CONDITIONS

STANDARD SALES CONDITIONS

These standard sales conditions comes directly from the system of rules designed by Assofluid (Italian Associations of Hydraulic and Pneumatic Operators and Manufacturer), to manage trade relationships about the supply of hydraulic and pneumatic equipment.

1 SUBJECT AND SCOPE OF APPLICATION OF THESE STANDARD CONDITIONS

1.1 These standard conditions shall govern all present and future contractual and re-contractual relations between parties concerning the supply of pneumatic components, equipment and systems. They shall be co-ordinated with any special conditions agreed in writing by the parties or inserted in the Supplier's written confirmation of acceptance of order.

1.2 Unless specifically approved in writing by Vesta Automation Srl, deviant general or special conditions included or referred to by the Customer in his communications to Vesta Automation Srl shall however be deemed null and void.

2 FORMATION OF CONTRACT

2.4 The supply contract comes into force upon written confirmation of acceptance of order by Vesta Automation Srl.

2.5 However, if the conditions indicated in the Customer's order differ from those in the confirmation written by Vesta Automation, the latter shall count as a new proposal and the contract shall be deemed completed at the moment in which the Customer starts to execute it or accepts the products supplied without express written reservation.

2.6 Every further Supplier's offer shall be deemed valid only within the period of time it itself states and exclusively for the complete supply the offer rates.

3 TECHNICAL DATA, DRAWINGS AND DOCUMENTS PERTAINING TO THE SUPPLIES

3.1 The data and illustrations resulting from the catalogues, brochures, circulars or other illustrative documents from Vesta Automation Srl shall be an indicative nature. This data shall have no commitment value unless expressly mentioned as such in the confirmation of order.

3.2 Vesta Automation Srl reserves the right to make any modifications to his own products at any moment as he deems appropriate.

3.3 If the Customer proposes modifications so that it becomes compulsory to implement them, there shall be full written agreement between the parties on the variations which such modifications may cause to prices and delivery periods previously established. Moreover, the prices could vary in cause the ordered quantities should be reduced or the Customers should ask for a more prompt delivery.

3.4 The Customer shall expressly undertake not to use, for purposes other than those envisaged in the supply contract, the drawings, technical information and discoveries relating to the supply which shall remain the property of Vesta Automation Srl and which the Customer shall not be able to deliver to third parties nor reproduce without written permission.

3.5 Should there be any particular normative law to respect in the Country of destination of the Supply, the Customer is bound to inform Vesta Automation Srl before the stipulation of the contract.

4.1 Unless otherwise agreed in writing, the plan of the system, the installation of equipment supplied, special testing, manuals and trading courses, assistance with start-up and all services and costs not mentioned in confirmation written by Vesta Automation Srl for acceptance of the order shall not be included in the supply.

4.2 Likewise the costs of packing, taxes, stamp duties, customs expenses, duties and any other extra expenses shall not be included in the prices unless otherwise stated in the confirmation of acceptance of order written by Vesta Automation Srl.

5 DELIVERY

5.1 Unless there is agreement to the contrary, the supplies shall be deemed to be goods supplied ex works, without packing.

5.2 With handover of the equipment to the Customer or carrier, Vesta Automation Srl shall be released from the obligation to deliver and all risks on the equipment itself shall pass to the Customer even in the event where Vesta Automation Srl is responsible for the despatch or assembly for working.

5.3 The delivery deadlines shall be regarded as an indication and shall be reckoned in working days.

5.4 Unless otherwise agreed by the parties, the deadlines shall start to run from the moment of conclusion of the contract, unless the Customer has to meet part of the price on an account basis because then the elapse of the deadlines shall be suspended until he has paid this.

5.5 It shall be understood that the delivery deadlines are automatically extended:

- 1) if the Customer does not supply in reasonable time the data or equipment necessary to the supply or requests changes during execution or, even, delays in meeting the request for approval of the drawings or working diagrams;
- 2) if causes independent of the goodwill and diligence of Vesta Automation Srl, including delays of sub-contractors, impede or render excessively difficult delivery in the terms established.

5.6 In the event the Customer is not in order with payments relating to other supplies, the elapse of the deadlines shall be suspended and Vesta Automation Srl may delay delivery until the Customer has paid the sums due.

5.7 It shall be understood that the delivery deadlines are set to favour Vesta Automation Srl; the Customer may not therefore refuse to take delivery of products before the date set.

5.8 Unless prescribed under Art. 11 below, in the event of failure to take delivery of products by the Customer for reasons for which he is to blame or, in any case, for a reason independent of the goodwill of Vesta Automation Srl, the Customer shall bear the risk and expenses for their safe keeping.

5.9 If the parties have agreed that, in the event of delayed delivery, Vesta Automation Srl is obliged to pay a sum as a penalty, the Customer may not ask for sums in excess of the penalty as compensation for damages suffered because of the delay.

6 TESTING AND ASSEMBLY WORK

6.1 Special testing which may be provided in the written confirmation of acceptance of order shall be carried out at the Customer's expense on the premises indicated by Vesta Automation Srl.

7 PAYMENTS

7.1 Unless otherwise agreed, payments shall be made by the Customer within the terms provided in the written confirmation of acceptance of order at the domicile of Vesta Automation Srl or with the Bank indicated by him: in the event of delay, the Customer shall be bound to pay interest or arrears which shall be calculated automatically and without the need to set up a moratorium at the official rate of discount plus three points, in any case reserving to Vesta Automation Srl the option to request compensation for greater damage suffered and termination of the contract as per Art. 11 below.

7.2 Any disputes which may arise between the parties shall not release the Customer from the obligation of observing the payment terms and conditions.

8 GUARANTEE

8.1 Vesta Automation Srl shall guarantee conformity of the products supplied, which shall mean that they are without defects in their materials and/or processing and that they correspond to the provisions of the specific contract agreed to by both parties.

8.2 The duration of the guarantee shall be twelve months counting from the delivery of the products and, for substituted products or components, from the day of their substitution.

8.3 Within this period Vesta Automation Srl to whom the Customer has reported in writing the existence of evident defects no later than eight days from their delivery and the existence of hidden defects no later than eight days from their discovery shall undertake, at this choice, to repair or substitute free the products or parts thereof which have proved to be defective. The return of not conforming goods shall be always authorized in writing by Vesta Automation Srl and shall have to keep the original packaging.

8.4 The substitutions or repairs shall as a rule be carried out ex-works: the costs and risks for transport of faulty products shall be at the Customer's expense. However, if Vesta Automation Srl, in agreement with the Customers, deems it more appropriate to carry out the necessary work for substitution or repair on the Customer's premises, the latter shall bear the travelling and accommodation expenses of the technical staff made available by Vesta Automation Srl and shall supply all means and auxiliary staff requested for carrying out the operation in the quickest and safest way.

8.5 The guarantee shall cease whenever products have not been correctly assembled or used, or have received insufficient maintenance or have been modified or repaired without the permission of Vesta Automation Srl. Moreover, Vesta Automation Srl shall not be held responsible for the conformity defects of the products caused by the ordinary wear of those parts which are normally subject to continuous and rapid wear.

9 SUPPLIER RESPONSIBILITY

9.1 Vesta Automation Srl shall be solely responsible for the good operation of the pneumatic equipment supplied as regards features and performances expressly indicated by himself. He shall not, however, assume any liability for any faulty operation of machines or systems made by the Customer or third parties with pneumatic components from Vesta Automation Srl even if the individual pneumatic equipment have been assembled or connected according to diagrams or drawings proposed by Vesta Automation Srl, unless such diagrams and drawings have been the subject of separate remuneration, in which case the liability of Vesta Automation Srl shall in any case be limited to what is contained in the above/mentioned drawings or diagrams.

9.2 In any case, outside the cases governed by the Italian law DPR May 24th, 1988, no.224, and except what provided by the art. 1229 of the Italian Civil Code, the Customer shall not be able to request compensation for indirect damage, loss or profits of production, nor shall he be able to claim entitlement to compensation of sums in excess of the value of the equipment supplied.

10 RESERVATION OF OWNERSHIP

10.1 Vesta Automation Srl shall retain ownership of the products supplied until full payment of the price agreed.

11 TERMINATION CLAUSE AND RESOLUTORY CONDITION

11.1 The contract for supply shall be terminated automatically, according to art. 1456 of the Italian Civil Code, through simple written declaration by Vesta Automation Srl that he wishes to avail himself of this express termination clause if the Customer:

- 1) omits or delays payments due;
- 2) delays or fails to take delivery of the products in the times provided under art. 5 above;
- 3) does not fulfil the obligations of confidentiality provided under art. 3.4.

11.2 The contract shall be deemed terminated automatically if the Customer is put into liquidation or is subject to any bankruptcy proceedings.

12 WITHDRAWAL BY AGREEMENT

12.1 If the Customer reduces the guarantees he had given or does not provide the guarantees he had promised, Vesta Automation Srl shall have the option of withdrawn from the contract without the need of prior notification.

13 LAW APPLICABLE

13.1 Every supply contract entered into among the parties, even with foreign countries, shall be regulated by these standard conditions and governed by the Italian law.

14 COMPETENT COURT

14.1 For any dispute pertaining to the execution, interpretation, validity, termination or cessation contracts entered into between the parties, if the action is brought by the Customer, Vesta Automation's Court exclusively shall be competent; if, however, the action is brought by Vesta Automation Srl, as well as the Court of Vesta Automation Srl himself, any other Court established by law shall be competent.

Rovigo, January 1st 2004

VESTA AUTOMATION S.r.l.

CONDIZIONI GENERALI DI VENDITA

CONDIZIONI GENERALI DI VENDITA

Le presenti condizioni generali di vendita derivano espressamente dall'impianto normativo elaborato in sede Assofluid (Associazione Italiana dei Costruttori ed Operatori del Settore Oleidraulico e Pneumatico) allo scopo di regolamentare i rapporti commerciali aventi ad oggetto la fornitura di componenti, attrezzature ed impianti oleidraulici e pneumatici.

1 OGGETTO E AMBITO DI APPLICAZIONE DELLE PRESENTI CONDIZIONI GENERALI

1.1 Le presenti condizioni generali disciplinano tutti gli attuali e futuri rapporti contrattuali tra le parti relativi alla fornitura di componenti, attrezzature e impianti pneumatici. Esse devono essere coordinate con le condizioni generali speciali eventualmente concordate per iscritto dalle parti o inserite nella conferma scritta di Vesta Automation Srl di accettazione dell'ordine.

1.2 A meno che non siano state specificamente approvate per iscritto da Vesta Automation Srl dovranno, invece, ritenersi prive di effetto le condizioni generali o speciali difformi riportate o richiamate dal Cliente nelle sue comunicazioni a Vesta Automation Srl.

2 FORMAZIONE DEL CONTRATTO

2.1 Il contratto di fornitura si perfeziona con la conferma scritta di Vesta Automation Srl di accettazione dell'ordine.

2.2 Tuttavia se le condizioni indicate nell'ordine del Cliente differiscono da quelle della conferma scritta di Vesta Automation Srl, queste ultime valgono come nuova proposta ed il contratto si intende perfezionato nel momento in cui il Cliente inizia a darvi esecuzione o accetta i prodotti senza espressa riserva scritta.

2.3 Eventuali offerte di Vesta Automation Srl si considerano valide limitatamente al periodo di tempo indicato sulle medesime ed esclusivamente per l'integrale fornitura di quanto nelle stesse quotato.

3 DATI TECNICI, DISEGNI E DOCUMENTI INERENTI LA FORNITURA

3.1 I dati e le illustrazioni risultanti dai cataloghi, prospetti, circolari o altri documenti illustrativi di Vesta Automation Srl hanno carattere indicativo. Questi dati non hanno valore impegnativo se non espressamente menzionati come tali nella conferma d'ordine di Vesta Automation Srl.

3.2 Vesta Automation Srl si riserva la facoltà di apportare in qualunque momento ai propri prodotti le modifiche che ritenesse convenienti.

3.3 Qualora il Cliente proponesse delle modifiche ai prodotti, affinché le medesime divengano di obbligatoria esecuzione, dovrà esistere pieno accordo scritto tra le parti sulle variazioni che tali modifiche dovessero determinare sui prezzi e sui periodi di consegna precedentemente stabiliti. I prezzi potranno inoltre subire variazioni qualora le quantità ordinate vengano ridotte o venga richiesta una consegna più sollecita rispetto a quanto già concordato.

3.4 Il Cliente si impegna espressamente a non far uso, per ragioni diverse da quelle previste nel contratto di fornitura, dei disegni, delle informazioni tecniche e dei ritrovati relativi alla fornitura, che restano di proprietà di Vesta Automation Srl e che il Cliente non può consegnare a terzi né riprodurre senza autorizzazione scritta.

3.5 Il Cliente è tenuto ad informare Vesta Automation Srl, in fase precontrattuale, dell'esistenza di eventuali normative particolari da rispettare nel Paese di destinazione finale della merce da fornire.

4 ESCLUSIONI

4.1 Salvo diverso accordo scritto, non sono compresi nella fornitura il progetto del sistema, l'installazione delle apparecchiature fornite, specifici collaudi, manuali e corsi di addestramento, assistenza all'avviamento e tutte le prestazioni e gli oneri non menzionati nella conferma scritta di Vesta Automation Srl di accettazione dell'ordine.

4.2 Analogamente i costi di imballaggio, le imposte, i bolli, le spese doganali, i dazi ed ogni altro onere aggiuntivo non sono compresi nei prezzi se non risulta altrimenti dalla conferma scritta di Vesta Automation Srl di accettazione dell'ordine.

5 CONSEGNE

5.1 Salvo patto contrario le forniture si intendono per merce resa Franco Fabbrica, senza imballaggio.

5.2 Con la rimessione dei materiali al Cliente o al vettore, Vesta Automation Srl si libera dell'obbligo di consegna e tutti i rischi sui materiali stessi passano al Cliente anche nel caso in cui Vesta Automation Srl sia incaricata della spedizione o del montaggio in opera.

5.3 I termini di consegna hanno carattere indicativo e si computano a giorni lavorativi.

5.4 Se non diversamente pattuito dalle parti, essi iniziano a decorrere dal momento della conclusione del contratto, a meno che il Cliente non debba corrispondere parte del prezzo a titolo di acconto, perché allora la decorrenza dei termini è sospesa fintantoché non vi abbia provveduto.

5.5 I termini di consegna si intendono prolungati di diritto:

- 1) qualora il Cliente non fornisca in tempo utile i dati o i materiali necessari alla fornitura o richiama delle varianti in corso di esecuzione o, ancora, ritardi nel rispondere alla richiesta di approvazione dei disegni o degli schemi esecutivi;
- 2) qualora cause indipendenti dalla buona volontà e diligenza di Vesta Automation Srl, ivi compresi ritardi di subfornitori, impediscano o rendano eccessivamente onerosa la consegna nei termini stabiliti.

5.6 Nel caso in cui il Cliente non sia in regola con i pagamenti relativi ad altre forniture la decorrenza dei termini è sospesa e Vesta Automation Srl può ritardare le consegne fintantoché il Cliente non abbia corrisposto le somme dovute.

5.7 I termini di consegna si intendono stabiliti a favore di Vesta Automation Srl; pertanto il Cliente non potrà rifiutare di prendere in consegna i prodotti prima della data stabilita.

5.8 Salvo quanto previsto nel successivo art.11, nel caso di mancata presa in consegna dei prodotti da parte del Cliente per fatto a lui imputabile o, comunque, per causa indipendente dalla volontà di Vesta Automation Srl, il Cliente sopporterà i rischi e le spese per la loro custodia.

5.9 Qualora le parti abbiano pattuito che, in caso di ritardata consegna, Vesta Automation Srl sia tenuta a pagare una somma a titolo di penale, il Cliente non potrà chiedere somme superiori alla penale come risarcimento per i danni patiti a causa del ritardo.

6 COLLAUDI E MONTAGGI

6.1 Collaudi speciali, eventualmente previsti nella conferma scritta di accettazione d'ordine, verranno eseguiti a spese del Cliente nello stabilimento indicato da Vesta Automation Srl.

7 PAGAMENTI

7.1 Salvo diverso accordo, i pagamenti devono essere effettuati dal Cliente entro i termini previsti nella conferma scritta di accettazione d'ordine presso il domicilio di Vesta Automation Srl o presso l'Istituto di credito da lui indicato: in caso di ritardo il Cliente sarà tenuto al pagamento degli interessi moratori che verranno conteggiati di pieno diritto e senza necessità di costituzione in mora nella misura del tasso ufficiale di sconto in vigore nel paese di Vesta Automation Srl aumentato di tre punti, salva in ogni caso la facoltà per Vesta Automation Srl di chiedere il risarcimento del maggior danno subito e la risoluzione del contratto ai sensi del successivo art.11.

7.2 Eventuali contestazioni che dovessero insorgere tra le parti non dispensano il Cliente dall'obbligo di osservare le condizioni e i termini di pagamento.

8 GARANZIA

8.1 Vesta Automation Srl garantisce la conformità di prodotti forniti, intendendosi cioè che i prodotti sono privi di difetti nei materiali e/o lavorazioni e che sono conformi a quanto stabilito da specifico contratto accettato dalle parti.

8.2 La durata della garanzia è di dodici mesi che decorrono dalla consegna dei prodotti e, per i prodotti o componenti sostituiti, dal giorno della loro sostituzione.

8.3 Entro tale periodo Vesta Automation Srl al quale il Cliente, non più tardi di otto giorni dalla consegna per i difetti palesi ed otto giorni dalla scoperta per quelli occulti, abbia denunciato per iscritto l'esistenza dei difetti, si impegna a sua scelta – entro un termine ragionevole avuto riguardo all'entità della contestazione – a riparare o sostituire gratuitamente i prodotti o le parti di essi che fossero risultati difettosi. Il reso di merce non conforme dovrà essere sempre autorizzato da Vesta Automation Srl per iscritto e dovrà rispettare l'imballo originale.

8.4 Le sostituzioni o le riparazioni vengono di regola effettuate Franco Fabbrica: le spese ed i rischi per il trasporto dei prodotti difettosi sono a carico del Cliente. Tuttavia, qualora Vesta Automation Srl d'accordo con il Cliente ritenesse più opportuno svolgere i lavori necessari alla sostituzione o riparazione presso il Cliente, quest'ultimo sosterrà le spese di viaggio e soggiorno del personale tecnico messo a disposizione da Vesta Automation Srl e fornirà tutti i mezzi ed il personale ausiliario richiesti per eseguire l'intervento nel modo più rapido e sicuro.

8.5 La garanzia decade ogniqualvolta i prodotti siano stati montati o utilizzati non correttamente oppure abbiano ricevuto una manutenzione insufficiente o siano stati modificati o riparati senza l'autorizzazione di Vesta Automation Srl. Vesta Automation Srl non risponde inoltre dei difetti di conformità dei prodotti dovuti all'usura normale di quelle parti che, per loro natura, sono soggette ad usura rapida e continua.

9 RESPONSABILITA' DEL FORNITORE

9.1 Vesta Automation Srl è esclusivamente responsabile del buon funzionamento di componenti, attrezzature e impianti pneumatici forniti in rapporto alle caratteristiche e prestazioni da lui espressamente indicate. Egli non si assume, invece, alcuna responsabilità per l'eventuale difettoso funzionamento di macchine o sistemi realizzati dal Cliente o da terzi con componenti pneumatici di Vesta Automation Srl, anche se le singole apparecchiature pneumatiche sono state montate o collegate secondo schemi o disegni suggeriti dal Vesta Automation Srl, a meno che tali schemi o disegni non siano stati oggetto di distinta remunerazione, nel qual caso la responsabilità di Vesta Automation Srl sarà comunque circoscritta a quanto compreso nei suddetti disegni o schemi.

9.2 In ogni caso, al di fuori delle ipotesi disciplinate dal D.P.R. n.224 del 24/05/1988, e salvo quanto previsto dall'art.1229 Cod. Civile, il Cliente non potrà chiedere il risarcimento di danni indiretti, mancati profitti o perdite di produzione, né potrà pretendere a titolo di risarcimento somme superiori al valore della merce fornita.

10 RISERVA DI PROPRIETA'

10.1 Vesta Automation Srl conserva la proprietà dei prodotti forniti fino al totale pagamento del prezzo pattuito.

11 CLAUSOLA RISOLUTIVA ESPRESSA E CONDIZIONE RISOLUTIVA

11.1 Il contratto di fornitura sarà risolto di diritto ai sensi dell'art.1456 C.C. per effetto della semplice dichiarazione scritta di Vesta Automation Srl di volersi avvalere della presente clausola risolutiva espressa, qualora il Cliente:

- 1) ometta o ritardi i pagamenti dovuti;
- 2) ritardi o manchi di prendere in consegna i prodotti nei termini previsti dal precedente art.5;
- 3) non osservi gli obblighi di riservatezza previsti dall'art.3.4.

11.2 Il contratto si intenderà risolto di diritto nel caso in cui il Cliente venga posto in liquidazione o sia stato assoggettato ad una qualsiasi procedura concorsuale.

12 RECESSO CONVENZIONALE

12.1 Nel caso in cui il Cliente diminuisca le garanzie che aveva dato o non fornisca le garanzie che aveva promesso, Vesta Automation Srl avrà facoltà di recedere dal contratto senza necessità di preavviso.

13 LEGGE APPLICABILE

13.1 Tutti i contratti di fornitura con l'estero disciplinati dalle presenti condizioni generali sono regolati dalla legge italiana.

14 FORO COMPETENTE

14.1 Per qualsiasi controversia inerente all'esecuzione, interpretazione, validità, risoluzione, cessazione di contratti di fornitura intervenuti tra le parti ove l'azione sia promossa dal Cliente è esclusivamente competente il Foro di Padova, ove invece l'azione sia promossa da Vesta Automation Srl è competente oltre al Foro di Padova ogni altro Foro stabilito per legge.

Rovigo, 01/01/2004

VESTA AUTOMATION S.r.l.



index

indice

Prodotti/Products	Pag.	Descrizione	Description
4HF ...	B-3 ÷ B-9	SISTEMA DI CONNESSIONE MULTIPOLARE 4HF	MULTIPOLE CONNECTION SYSTEM - 4HF
4HFNL ...	B-11 ÷ B-16	SISTEMA FIELDBUS DI CONNESSIONE MULTIPOLARE "NET-LOGIC"	FIELDBUS SYSTEM "NET-LOGIC" FOR MULTIPOLE CONNECTION SYSTEM
4HFNL EX ...	B-14	ISOLA DI ESPANSIONE MODULARE PER SISTEMA FIELDBUS NET-LOGIC	EXPANSION ISLAND FOR FIELDBUS SYSTEM NET-LOGIC
ACM ...	A-6	CILINDRI PNEUMATICI AMMORTIZZATI ISO 6432	CUSHIONED PNEUMATIC CYLINDERS STANDARD ISO 6432
ACM ... P-VS-VV	A-6	CILINDRI PNEUMATICI AMMORTIZZATI ISO 6432	CUSHIONED PNEUMATIC CYLINDERS STANDARD ISO 6432
ACMT ...	A-12	CILINDRI PNEUMATICI TONDI AMMORTIZZATI	CUSHIONED ROUND MAGNETIC PNEUMATIC CYLINDERS
ACMT ... P-VS-VV	A-12	CILINDRI PNEUMATICI TONDI AMMORTIZZATI	CUSHIONED ROUND MAGNETIC PNEUMATIC CYLINDERS
AND 42	B-110	UNITA' DI LOGICA - AND, TUBO 4mm	LOGIC ELEMENT - AND, PUSH-IN 4mm
AR2 Ø25	A-68	CILINDRI ANTIROTAZIONE A STELI GEMELLATI Ø25	TWIN PISTON RODS PNEUMATIC CYLINDERS Ø25
AR3 Ø25	A-68	CILINDRI ANTIROTAZIONE A STELI GEMELLATI Ø25 - STELO TRAPASSANTE	TWIN PISTON RODS PNEUMATIC CYLINDERS Ø25 - THROUGH ROD CYLINDER
AS 032-050	A-13	CONTROCERNIERA PER ACMT-DVMT	REAR HINGE HORIZONTAL MOUNTING FOR ACMT-DVMT CYLINDERS
AS 12-25	A-10	CONTROCERNIERA ISO 6432	REAR HINGE HORIZONTAL MOUNTING ISO 6432
ASNX 012-025	A-43	CONTROCERNIERA ISO 6432 INOX	INOX REAR HINGE HORIZONTAL MOUNTING ISO 6432
AVP M12 APC	C-25	AVVIATORE PROGRESSIVO	SLOW START VALVE
AVP M14 APC	C-13	AVVIATORE PROGRESSIVO	SLOW START VALVE
AVP M34 APC	C-31	AVVIATORE PROGRESSIVO	SLOW START VALVE
AVP M38 APC	C-19	AVVIATORE PROGRESSIVO	SLOW START VALVE
AW1 ...	A-74	CILINDRI ANTIROTAZIONE A STELI CAVI - STELO CAVO PASSANTE INTERNO	HOLED TELESCOPIC PISTON RODS CYLINDERS
AW2 ...	A-69	CILINDRI ANTIROTAZIONE A STELI GEMELLATI	TWIN PISTON RODS PNEUMATIC CYLINDERS Ø25
AW3 ...	A-69	CILINDRI ANTIROTAZIONE A STELI GEMELLATI - STELO TRAPASSANTE	TWIN PISTON RODS PNEUMATIC CYLINDERS Ø25 - THROUGH ROD CYLINDER
AW4 ...	A-69	CILINDRI ANTIROTAZIONE A STELI GEMELLATI - CON DUE STELI TRAPASSANTI	TWIN PISTON RODS PNEUMATIC CYLINDERS Ø25 - TWO THROUGH ROD CYLINDER
AW5 ...	A-74	CILINDRI ANTIROTAZIONE A STELI CAVI - 2 STELI GEMELLATI CAVI	TWIN AND HOLED TELESCOPIC PISTON RODS CYLINDERS
AW6 ...	A-72	CILINDRI ANTIROTAZIONE A TRIPLO STELO - ANTIROTAZIONE A 3 STELI	TRIPLE PISTON RODS PNEUMATIC ANTIROTATION CYLINDER
AW7 ...	A-74	CILINDRI ANTIROTAZIONE A STELI CAVI - 3 STELI CAVI	TRIPLE HOLED TELESCOPIC PISTON RODS CYLINDERS
AW8 ...	A-72	CILINDRI ANTIROTAZIONE A TRIPLO STELO - 3 STELI CON STELO TRAPASSANTE	TRIPLE PISTON RODS PNEUMATIC ANTIROTATION CYLINDER - THROUGH ROD CYLINDER
BA ...	A-99	SUPPORTO PER FINECORSA MAGNETICO SERIE "FIV"	ACCESSORIES FOR MAGNETIC SWITCHES "FIV" SERIES
BE -:-..... NC	B-34	ELETTROVALVOLA 3/2 G1/8 A COMANDO DIRETTO - NORMALMENTE CHIUSA	DIRECT ACTING SOLENOID VALVES 3/2 G1/8 - NORMALLY CLOSED
BE -:-..... NO	B-34	ELETTROVALVOLA 3/2 G1/8 A COMANDO DIRETTO - NORMALMENTE APERTA	DIRECT ACTING SOLENOID VALVES 3/2 G1/8 - NORMALLY OPEN
BE .M-:-..... NC	B-35	ELETTROVALVOLA 3/2 G1/8 A COMANDO MANUALE - NORMALMENTE CHIUSA	DIRECT ACTING SOLENOID VALVES 3/2 G1/8 WITH MANUAL CONTROL - NORMALLY CLOSED
BE .M-:-..... NO	B-35	ELETTROVALVOLA 3/2 G1/8 A COMANDO MANUALE - NORMALMENTE APERTA	DIRECT ACTING SOLENOID VALVES 3/2 G1/8 WITH MANUAL CONTROL - NORMALLY OPEN
BMI 1	B-79	BASI INTERMEDIE USCITE FONDO E LATERALI ISO 5599 TAGLIA 1	MIDDLE PLATE FOR VALVES ISO 5599 SIZE 1
BMI 18 E	B-66	BASI PER VALVOLE ISO 18	MANIFOLD FOR VALVES ISO-VDMA 24563
BMI 18 EP	B-66	BASI PER VALVOLE ISO 18	MANIFOLD FOR VALVES ISO-VDMA 24563
BMI 2	B-86	BASI INTERMEDIE USCITE FONDO E LATERALI ISO 5599 TAGLIA 2	MIDDLE PLATE FOR VALVES ISO 5599 SIZE 2
BRHF	B-9	ACCESSORI DI FISSAGGIO PER 4HF	FIXING ACCESSORIES FOR 4HF
BS 1	B-79	BASE SINGOLA USCITE LATERALI ISO 5599 TAGLIA 1	SINGLE MANIFOLD BASE FOR VALVES ISO 5599 SIZE 1
BS 2	B-86	BASE SINGOLA USCITE LATERALI ISO 5599 TAGLIA 2	SINGLE MANIFOLD BASE FOR VALVES ISO 5599 SIZE 2
BTC 1	B-79	BASI CHIUSURA USCITE FONDO E LATERALI ISO 5599 TAGLIA 1	END PLATE FOR VALVES ISO 5599 SIZE 1
BTC 18	B-66	BASI PER VALVOLE ISO 18	MANIFOLD FOR VALVES ISO-VDMA 24563
BTC 2	B-86	BASI CHIUSURA USCITE FONDO E LATERALI ISO 5599 TAGLIA 2	END PLATE FOR VALVES ISO 5599 SIZE 2
BTI 1	B-79	BASI INGRESSO USCITE FONDO E LATERALI ISO 5599 TAGLIA 1	INLET END PLATE FOR VALVES ISO 5599 SIZE 1
BTI 18	B-66	BASI PER VALVOLE ISO 18	MANIFOLD FOR VALVES ISO-VDMA 24563
BTI 2	B-86	BASI INGRESSO USCITE FONDO E LATERALI ISO 5599 TAGLIA 1	INLET END PLATE FOR VALVES ISO 5599 SIZE 2
CBF 032-050	A-13	PERNI CERNIERA OSCILLANTE PER CILINDRI ACMT-DVMT (coppia)	PIVOT FOR FLOATING HINGE MOUNTING FOR ACMT-DVMT CYLINDERS (2 pcs.)
CEP-0	B-52	CONNETTORI CEP-0	SOLENOID CONNECTORS CEP-0
CEP-0 L ...	B-52	CONNETTORI CEP-0	SOLENOID CONNECTORS CEP-0
CEP-0 LV ...	B-52	CONNETTORI CEP-0	SOLENOID CONNECTORS CEP-0
CEP-1	B-36	CONNETTORI CEP-1	SOLENOID CONNECTORS CEP-1
CEP-1 L ...	B-36	CONNETTORI CEP-1	SOLENOID CONNECTORS CEP-1
CEP-1 LV ...	B-36	CONNETTORI CEP-1	SOLENOID CONNECTORS CEP-1
CEP-2	B-89	CONNETTORI PER SOLENOIDI SCN	SOLENOID CONNECTORS FOR SCN COILS
CEP-2 L ...	B-89	CONNETTORI PER SOLENOIDI SCN	SOLENOID CONNECTORS FOR SCN COILS
CEP-2 LV ...	B-89	CONNETTORI PER SOLENOIDI SCN	SOLENOID CONNECTORS FOR SCN COILS
CHF24.C	B-7	ELETTROPILOTA PER "4HF"	SOLENOID ACTUATOR FOR "4HF"
COV .14	B-33	ACCESSORI PER COLLETTORI G1/4	ACCESSORIES FOR MANIFOLDS G1/4
COV .18	B-32	ACCESSORI PER COLLETTORI G1/8	ACCESSORIES FOR MANIFOLDS G1/8
CRW	A-85 ÷ A-86	CILINDRI AD ALBERO ROTANTE UNI 6604 - 69	ROTARY ACTUATORS UNI 6604-69
CS	B-52	SOLENOIDI CS	COILS CS SERIES
CW-EX	B-15	CAVO PER SINGOLA O ULTIMA ESPANSIONE NET-LOGIC	CABLE FOR SINGLE OR LAST EXPANSION FOR NET-LOGIC SYSTEM
CW-MIF	B-14	CAVO DI COLLEGAMENTO PER LA PROGRAMMAZIONE DEL SISTEMA NET-LOGIC	PROGRAMMING CABLE FOR NET-LOGIC SYSTEM
CW-PS	B-15	CAVO DI ALIMENTAZIONE M8 PER NET-LOGIC	POWER SUPPLY CABLE M8 FOR NET-LOGIC SYSTEM
CW-YI	B-15	CAVO AD "Y" PER INPUT PER SISTEMA NET-LOGIC	INPUT "Y" CABLE FOR NET-LOGIC SYSTEM
CW-YO	B-15	CAVO AD "Y" DI ESPANSIONE PER SISTEMA NET-LOGIC	EXPANSION "Y" CABLE FOR NET-LOGIC SYSTEM
CZ ... T-S	A-14	CILINDRI A CARTUCCIA	CARTRIDGE CYLINDERS
CD ...	A-84	DISPOSITIVI DI BLOCCAGGIO - A DOPPIO EFFETTO	BRAKING DEVICES
DCS ...	A-84	DISPOSITIVI DI BLOCCAGGIO - A SEMPLICE EFFETTO	BRAKING DEVICES
DM ...	A-26	DADO STELO ISO 15552	ROD NUT ISO 15552
DM 12-25	A-11	DADO TESTATA ISO 6432	CAP NUT ISO 6432
DMNX 012-025	A-43	DADO TESTATA ISO 6432 INOX	INOX END-CAP NUT ISO 6432
DRM ...	A-9	CILINDRI PNEUMATICI CON ALIMENTAZIONE POSTERIORE IN ASSE	AXIAL REAR INLET AIR CYLINDERS
DRM ... SEA-VS-VV	A-9	CILINDRI PNEUMATICI CON ALIMENTAZIONE POSTERIORE IN ASSE	AXIAL REAR INLET AIR CYLINDERS
DS 12-25	A-11	DADO STELO ISO 6432	ROD NUT ISO 6432

Prodotti/Products	Pag.	Descrizione	Description
DSA ...	A-41	CILINDRI ISO 6432 PER AMBIENTI AGGRESSIVI	PNEUMATIC CYLINDER ISO 6432 FOR AGGRESSIVE ENVIRONMENTS
DSA ... P-SEA-SEP	A-41 ÷ A-42	CILINDRI ISO 6432 PER AMBIENTI AGGRESSIVI	PNEUMATIC CYLINDER ISO 6432 FOR AGGRESSIVE ENVIRONMENTS
DSL1	C-40	DISOLEATORE-SILENZIATORE	OIL REMOVERS-SILENCIERS
DSL2	C-40	DISOLEATORE-SILENZIATORE	OIL REMOVERS-SILENCIERS
DSL3	C-40	DISOLEATORE-SILENZIATORE	OIL REMOVERS-SILENCIERS
DSM ...	A-40	CILINDRI INOX 6432 PER AMBIENTI PARTICOLARMENTE AGGRESSIVI	PNEUMATIC CYLINDER ISO 6432 FOR HARSH AGGRESSIVE ENVIRONMENTS
DSM ... P-SEA-SEP-VV	A-40	CILINDRI INOX 6432 PER AMBIENTI PARTICOLARMENTE AGGRESSIVI	PNEUMATIC CYLINDER ISO 6432 FOR HARSH AGGRESSIVE ENVIRONMENTS
DSNX ...	A-43	DADO STELO ISO 6432 INOX	INOX ROD NUT ISO 6432
DSNX ...	A-48	DADO STELO ISO 15552 INOX	INOX ROD NUT ISO 15552
DST 032-050	A-13	DADO STELO PER CILINDRI ACMT-DVMT	ROD NUT FOR ACMT-DVMT CYLINDERS
DVM ...	A-7	CILINDRI PNEUMATICI CON PISTONE MAGNETICO ISO 6432	PNEUMATIC CYLINDERS WITH MAGNETIC PISTON STANDARD ISO 6432
DVM ... P-SEA-SEP-VS-VV	A-7 ÷ A-8	CILINDRI PNEUMATICI CON PISTONE MAGNETICO ISO 6432	PNEUMATIC CYLINDERS WITH MAGNETIC PISTON STANDARD ISO 6432
DVMT ...	A-12	CILINDRI PNEUMATICI TONDI CON PISTONE MAGNETICO	ROUND MAGNETIC PNEUMATIC CYLINDERS
DVMT ... P-VS-VV	A-12	CILINDRI PNEUMATICI TONDI CON PISTONE MAGNETICO	ROUND MAGNETIC PNEUMATIC CYLINDERS
E32W1S61-.....	B-27	ELETTROVALVOLA 3/2 RIPOSIZ. MOLLA PNEUM.-NORM. CHIUSA	SINGLE SOLENOID VALVE 3/2 - INTERNAL PRESSURE RETURN- NORMALLY CLOSED
E32W1S6M-.....	B-27	ELETTROVALVOLA 3/2 RIPOSIZ. MOLLA MECCANICA-NORM. CHIUSA	SINGLE SOLENOID VALVE 3/2 - SPRING RETURN- NORMALLY CLOSED
E32W1S91-.....	B-27	ELETTROVALVOLA 3/2 RIPOSIZ. MOLLA PNEUM.-NORM. APERTA	SINGLE SOLENOID VALVE 3/2 - INTERNAL PRESSURE RETURN- NORMALLY OPEN
E32W1S9M-.....	B-27	ELETTROVALVOLA 3/2 RIPOSIZ. MOLLA MECCANICA-NORM. APERTA	SINGLE SOLENOID VALVE 3/2 - SPRING RETURN- NORMALLY OPEN
E32W2S01-.....	B-28	ELETTROVALVOLA 3/2 DOPPIO COMANDO ELETTROPNEUMATICO	DOUBLE SOLENOID VALVE 3/2
E52W1S01-.....	B-28	ELETTROVALVOLA 5/2 RIPOSIZ. MOLLA PNEUMATICA	SINGLE SOLENOID VALVE 5/2 - INTERNAL PRESSURE RETURN
E52W1SM1-.....	B-28	ELETTROVALVOLA 5/2 RIPOSIZ. MOLLA MECCANICA	SINGLE SOLENOID VALVE 5/2 - SPRING RETURN
E52W2S01-.....	B-29	ELETTROVALVOLA 5/2 DOPPIO COMANDO ELETTROPNEUMATICO	DOUBLE SOLENOID VALVE 5/2
E53W2S61-.....	B-29	ELETTROVALVOLA 5/3 DOPPIO COM.ELETTROPN.-CENTRI CHIUSI	DOUBLE SOLENOID VALVE 5/3 - CENTER POSITION CLOSED
E53W2S91-.....	B-29	ELETTROVALVOLA 5/3 DOPPIO COM.ELETTROPN.-CENTRI APERTI	DOUBLE SOLENOID VALVE 5/3 - CENTER POSITION OPEN
ELBAC-.....	B-88	ELETTROPILOTI CNOMO (DIN 43650-A)	CNOMO PILOT CONTROL SOLENOID VALVE (DIN 43650-A)
ELCDC-.....	B-89	ELETTROPILOTI CNOMO (DIN 43650-B)	CNOMO PILOT CONTROL SOLENOID VALVE (DIN 43650-B)
ELP ...	B-15	TERMINATORE DI LINEA PER PORTA DI ESPANSIONE/INPUT	END LINE PLUG FOR EXPANSION/INPUT PORT
EPC	B-117	SOLENOIDI ANTIDEFLAGRANTI EPC ("ATEX")	EXPLOSION PROOF COILS ("ATEX")
ESNW ...-...	A-100 ÷ A-101	ATTUATORI ELETTRICI SERIE "ESNW"	ELECTRICAL ACTUATORS - "ESNW" SERIES
ESNW ...-... L/G	A-101	ATTUATORI ELETTRICI SERIE "ESNW"	ELECTRICAL ACTUATORS - "ESNW" SERIES
F M10 ...	C-35	FILTRI	FILTERS
F M12 ...	C-23	FILTRI	FILTERS
F M14 ...	C-11	FILTRI	FILTERS
F M34 ...	C-29	FILTRI	FILTERS
F M38 ...	C-17	FILTRI	FILTERS
FFS ... VN	A-11; A-48	FISSAGGI PER FINECORSA MAGNETICI	FIXING FOR MAGNETIC SWITCHES MOUNTING
FIV 306 V	A-62; A-99	FINECORSA MAGNETICO	MAGNETIC SWITCH
FJS ... VN	A-26	FISSAGGI PER FINECORSA MAGNETICI	FIXING FOR MAGNETIC SWITCHES MOUNTING
FJS-125-200	A-38	SUPPORTO FINECORSA PER MONTAGGIO SU TIRANTE Ø 125 - 200	MAGNETIC SWITCH FIXING FOR TIE RODS MOUNTING Ø 125 - 200
FL 012-020	A-99	MONTAGGIO A FLANGIA PER CILINDRI TM	FLANGE MOUNTING FOR TM CYLINDER
FL 12-25	A-10	FLANGIA ISO 6432	FLANGE MOUNTING ISO 6432
FLHF	B-9	ACCESSORI DI FISSAGGIO PER 4HF	FIXING ACCESSORIES FOR 4HF
FLNX 012-025	A-43	FLANGIA ISO 6432 INOX	INOX FLANGE MOUNTING ISO 6432
FR M10 ...	C-36	FILTRO REGOLATORE	FILTER REGULATORS
FR M12 ...	C-24	FILTRO REGOLATORE	FILTER REGULATORS
FR M14 ...	C-12	FILTRO REGOLATORE	FILTER REGULATORS
FR M34 ...	C-30	FILTRO REGOLATORE	FILTER REGULATORS
FR M38 ...	C-18	FILTRO REGOLATORE	FILTER REGULATORS
FR+L M10 ...	C-36	GRUPPO FR+L	FR+L UNITS
FR+L M12 ...	C-26	GRUPPO FR+L	FR+L UNITS
FR+L M14 ...	C-14	GRUPPO FR+L	FR+L UNITS
FR+L M34 ...	C-32	GRUPPO FR+L	FR+L UNITS
FR+L M38 ...	C-20	GRUPPO FR+L	FR+L UNITS
FS ...	A-11	FORCELLA STELO ISO 6432	CLEVIS (ROD) MOUNTING ISO 6432
FS ...	A-26	FORCELLA STELO ISO 15552	CLEVIS (ROD) MOUNTING ISO 15552
FS ...	A-13	FORCELLA STELO PER ACMT-DVMT	CLEVIS (ROD) MOUNTING FOR ACMT-DVMT CYLINDERS
FSNX ...	A-43	FORCELLA STELO ISO 6432 INOX	INOX CLEVIS (ROD) MOUNTING ISO 6432
FSNX ...	A-48	FORCELLA STELO ISO 15552 INOX	INOX CLEVIS (ROD) MOUNTING ISO 15552
FTV 306 V	A-38	FINECORSA MAGNETICO	MAGNETIC SWITCH
GE	B-35	GHIERE BLOCCAGGIO BOBINA	COIL LOCKING NUTS
GE 1	B-35	GHIERE BLOCCAGGIO BOBINA	COIL LOCKING NUTS
GH-DEC 16	A-62	ACCESSORI PER SLITTE E SEMISLITTE	ACCESSORIES FOR HPS AND PS
GLC ...	A-52	UNITA' DI GUIDA PER CILINDRI ISO Ø20 - 100	LINEAR CONTROL UNITS FOR ISO CYLINDER Ø20-100
GLC 020-025 P	A-52	PIASTRA DI FISSAGGIO GLC Ø20-25	FIXING PLATE FOR GLC Ø20-25
GLC 032-100 P	A-53	PIASTRA DI FISSAGGIO GLC Ø32-100	FIXING PLATE FOR GLC Ø32-100
GLCE ...	A-102	UNITA' DI GUIDA PER ATTUATORI ELETTRICI SERIE "ESNW"	LINEAR CONTROL UNITS FOR ELECTRICAL ACTUATORS "ESNW"
GLH ... BB	A-54; A-58	UNITA' DI GUIDA PER CILINDRI ISO Ø20 - 100	LINEAR CONTROL UNITS FOR ISO CYLINDER Ø20-100
GLH ... BS	A-54; A-57	UNITA' DI GUIDA PER CILINDRI ISO Ø20 - 100	LINEAR CONTROL UNITS FOR ISO CYLINDER Ø20-100
GLH 020-025 P	A-54	PIASTRA DI FISSAGGIO GLH Ø20-25	FIXING PLATE FOR GLH Ø20-25
GLH 032-100 P	A-55	PIASTRA DI FISSAGGIO GLH Ø32-100	FIXING PLATE FOR GLH Ø32-100
GLHE ... BS-BB	A-102	UNITA' DI GUIDA PER ATTUATORI ELETTRICI SERIE "ESNW"	LINEAR CONTROL UNITS FOR ELECTRICAL ACTUATORS "ESNW"
GM 032-050	A-13	GHIERA FISSAGGIO ACMT-DVMT	RING NUT FOR FIXING ACMT-DVMT CYLINDERS



index indice

Prodotti/Products	Pag.	Descrizione	Description
HNG ... BB	A-76 ÷ A-78	CILINDRI COMPATTI GUIDATI SERIE "N"	COMPACT GUIDE PNEUMATIC CYLINDERS "N" SERIES
HNG ... BS	A-76 ÷ A-78	CILINDRI COMPATTI GUIDATI SERIE "N"	COMPACT GUIDE PNEUMATIC CYLINDERS "N" SERIES
HPSK ... BB	A-63	SEMISLITTE PNEUMATICHE Ø16 - 32	DUAL ROD CYLINDERS Ø16-Ø32
HPSK ... BS	A-63	SEMISLITTE PNEUMATICHE Ø16 - 32	DUAL ROD CYLINDERS Ø16-Ø32
INTF 1-2	B-80	INTERFACCE COLLEGAMENTO	ADAPTOR PLATES
JT32V1P61..	A-1	VALVOLA 3/2 PNEUM.-RIPOS. MOLLA PNEUM.-NORM. CHIUSA	PNEUMATIC VALVE 3/2 -INTERNAL PRESSURE RETURN-NORMALLY CLOSED
JT32V1P91.	A-1	VALVOLA 3/2 PNEUM.-RIPOS. MOLLA PNEUM.-NORM. APERTA	PNEUMATIC VALVE 3/2 -INTERNAL PRESSURE RETURN-NORMALLY OPEN
JT32V2P01.	A-1	VALVOLA 3/2 DOPPIO COMANDO PNEUMATICO	DOUBLE PNEUMATIC VALVE 3/2
JT32W1S61.	A-1	ELETTROVALVOLA 3/2 RIPOSIZ. MOLLA PNEUM.-NORM. CHIUSA	SINGLE SOLENOID VALVE 3/2 - INTERNAL PRESSURE RETURN- NORMALLY CLOSED
JT32W1S91.	A-1	ELETTROVALVOLA 3/2 RIPOSIZ. MOLLA PNEUM.-NORM. APERTA	SINGLE SOLENOID VALVE 3/2 - INTERNAL PRESSURE RETURN- NORMALLY OPEN
JT32W2S01.	A-1	ELETTROVALVOLA 3/2 DOPPIO COMANDO ELETTROPNEUMATICO	DOUBLE SOLENOID VALVE 3/2
JT52DP21.	A-1	VALVOLA 5/2 COMANDO PNEUMATICO DIFFERENZIALE	PNEUMATIC VALVE 5/2 WITH DOUBLE DIFFERENTIAL PNEUMATIC PILOT
JT52P101.	A-1	VALVOLA 5/2 PNEUM.-RIPOSIZ. MOLLA PNEUM. E MECCANICA	PNEUMATIC VALVE 5/2 - INTERNAL PRESSURE RETURN
JT52P201.	A-1	VALVOLA 5/2 DOPPIO COMANDO PNEUMATICO	DOUBLE PNEUMATIC VALVE 5/2
JT52W101.	A-1	ELETTROVALVOLA 5/2 RIPOSIZ. MOLLA PNEUM. E MECCANICA	SINGLE SOLENOID VALVE 5/2 - INTERNAL PRESSURE RETURN
JT52W10E.	A-1	ELETTROVALVOLA 5/2 ALIMENTAZIONE INDIPENDENTE	SINGLE SOLENOID VALVE 5/2 - EXTERNAL INLET FOR VALVE
JT52W201.	A-1	ELETTROVALVOLA 5/2 DOPPIO COMANDO ELETTROPNEUMATICO	DOUBLE SOLENOID VALVE 5/2
JT52W20E.	A-1	ELETTROVALVOLA 5/2 DOPPIO COM.ELETTROPN. CON ALIM.INDIPENDENTE	DOUBLE SOLENOID VALVE 5/2 - EXTERNAL INLET FOR VALVE
JT53P231.	A-1	VALVOLA 5/3 DOPPIO COM.PNEUM.-CENTRI PRESSIONE	DOUBLE PNEUMATIC VALVE 5/3 - CENTER POSITION PRESSURE
JT53P261.	A-1	VALVOLA 5/3 DOPPIO COM.PNEUMATICO-CENTRI CHIUSI	DOUBLE PNEUMATIC VALVE 5/3 - CLOSED CENTRES
JT53P291.	A-1	VALVOLA 5/3 DOPPIO COM.PNEUMATICO-CENTRI APERTI	DOUBLE PNEUMATIC VALVE 5/3 - OPEN CENTRES
JT53W2S31.	A-1	ELETTROVALVOLA 5/3 DOPPIO COM.ELETTROPN.-CENTRI PRESSIONE	DOUBLE SOLENOID VALVE 5/3 - CENTER POSITION PRESSURE
JT53W2S61.	A-1	ELETTROVALVOLA 5/3 DOPPIO COM.ELETTROPN.-CENTRI CHIUSI	DOUBLE SOLENOID VALVE 5/3 - CENTER POSITION CLOSED
JT53W2S91.	A-1	ELETTROVALVOLA 5/3 DOPPIO COM.ELETTROPN.-CENTRI APERTI	DOUBLE SOLENOID VALVE 5/3 - CENTER POSITION OPEN
JT6W201.	A-1	N°2 ELETTROVALVOLE 3/2 NORMALMENTE CHIUSE	N°2 SOLENOID VALVES 3/2 - NORMALLY CLOSED
JT6W201.	A-1	N°1 ELETTROVALVOLA 3/2 NORM. APERTA + N°1 ELETTROV. NORM. CHIUSA	N°1 SOLENOID VALVE 3/2 NORMALLY OPEN + N°1 SOLENOID VALVE 3/2 NORMALLY CLOSED
JT99W201.	A-1	N°2 ELETTROVALVOLE 3/2 NORMALMENTE APERTE	N°2 SOLENOID VALVES 3/2 - NORMALLY OPEN
K WB A	C-38	STAFFA FISSAGGIO A PARETE	BRACKET
K WF A	C-38	STAFFA FISSAGGIO A PARETE	BRACKET
K AU .	C-38	KIT ASSEMBLAGGIO GRUPPI FRL	KIT ASSEMBLING UNITS
K BRL	C-8; C-39	STAFFA FISSAGGIO A PARETE	BRACKET
K BRS	C-8; C-39	STAFFA FISSAGGIO A PARETE	BRACKET
K BUI .	C-38	KIT PRESA D'ARIA	AIR TAKE OFF
K CF .	C-38	GRUPPO DI FILTRAGGIO A COALESCENZA	COALESCENT FILTERING ELEMENT
K EF .	C-38	GRUPPO DI FILTRAGGIO	FILTERING ELEMENT
K F SCL	C-40	FILTRO PER SCARICATORE	FILTERING ELEMENT FOR DRIP LEG DRAIN
K GC 14	C-39	GRANO PER FRL	PLUG FOR F-R-L UNITS
K GC 18	C-39	GRANO PER FRL	PLUG FOR F-R-L UNITS
K MM40 ...	C-39	MANOMETRO G1/8	GAUGE G1/8
K MM50 ...	C-39	MANOMETRO G1/8	GAUGE G1/8
K MM63 ...	C-39	MANOMETRO G1/8	GAUGE G1/8
K MSA	C-38	SCARICO CONDENZA	AUTOMATIC DRAIN
K PE .	C-38	TAZZA PROTEZIONE ESTERNA	OUTER BOWL GUARD
K RS12 ...	C-39	MOLLA DI REGOLAZIONE	REGULATION SPRING
K RS14 ...	C-39	MOLLA DI REGOLAZIONE	REGULATION SPRING
K RS38 ...	C-39	MOLLA DI REGOLAZIONE	REGULATION SPRING
K SA	C-38	SCARICO CONDENZA	AUTOMATIC DRAIN
K TI34	C-38	KIT TERMINALE INGRESSO-USCITA	INPUT-OUTPUT KIT
K TO34	C-38	KIT TERMINALE INGRESSO-USCITA	INPUT-OUTPUT KIT
K TSA SCL	C-40	TAZZA CON SCARICO AUTOMATICO	BOWL WITH AUTOMATIC DRAIN
K TT .	C-38	TAZZA TRASPARENTE	TRANSPARENT BOWL
K WB A	C-38	STAFFA FISSAGGIO A PARETE	BRACKET
K WF A	C-38	STAFFA FISSAGGIO A PARETE	BRACKET
K32P161.	B-43	VALVOLA 3/2 PNEUM.-RIPOS. MOLLA PNEUM.-NORM. CHIUSA	PNEUMATIC VALVE 3/2 -INTERNAL PRESSURE RETURN-NORMALLY CLOSED
K32P191.	B-43	VALVOLA 3/2 PNEUM.-RIPOS. MOLLA PNEUM.-NORM. APERTA	PNEUMATIC VALVE 3/2 -INTERNAL PRESSURE RETURN-NORMALLY OPEN
K32P201.	B-43	VALVOLA 3/2 DOPPIO COMANDO PNEUMATICO	DOUBLE PNEUMATIC VALVE 3/2
K32W1S61.-.....	B-46	ELETTROVALVOLA 3/2 RIPOSIZ. MOLLA PNEUM.-NORM. CHIUSA	SINGLE SOLENOID VALVE 3/2 - INTERNAL PRESSURE RETURN- NORMALLY CLOSED
K32W1S91.-.....	B-46	ELETTROVALVOLA 3/2 RIPOSIZ. MOLLA PNEUM.-NORM. APERTA	SINGLE SOLENOID VALVE 3/2 - INTERNAL PRESSURE RETURN- NORMALLY OPEN
K32W2S01.-.....	B-46	ELETTROVALVOLA 3/2 DOPPIO COMANDO ELETTROPNEUMATICO	DOUBLE SOLENOID VALVE 3/2
K52DP21.	B-45	VALVOLA 5/2 COMANDO PNEUMATICO DIFFERENZIALE	PNEUMATIC VALVE 5/2 WITH DOUBLE DIFFERENTIAL PNEUMATIC PILOT
K52P101.	B-44	VALVOLA 5/2 PNEUM.-RIPOSIZ. MOLLA PNEUM. E MECCANICA	PNEUMATIC VALVE 5/2 - INTERNAL PRESSURE RETURN
K52P201.	B-44	VALVOLA 5/2 DOPPIO COMANDO PNEUMATICO	DOUBLE PNEUMATIC VALVE 5/2
K52W101.-.....	B-47	ELETTROVALVOLA 5/2 RIPOSIZ. MOLLA PNEUM. E MECCANICA	SINGLE SOLENOID VALVE 5/2 - INTERNAL PRESSURE RETURN
K52W10E.-.....	B-48	ELETTROVALVOLA 5/2 ALIMENTAZIONE INDIPENDENTE	SINGLE SOLENOID VALVE 5/2 - EXTERNAL INLET FOR VALVE
K52W201.-.....	B-47	ELETTROVALVOLA 5/2 DOPPIO COMANDO ELETTROPNEUMATICO	DOUBLE SOLENOID VALVE 5/2
K52W20E.-.....	B-48	ELETTROVALVOLA 5/2 DOPPIO COM.ELETTROPN. CON ALIM.INDIPENDENTE	DOUBLE SOLENOID VALVE 5/2 - EXTERNAL INLET FOR VALVE
K53P231.	B-45	VALVOLA 5/3 DOPPIO COM.PNEUM.-CENTRI PRESSIONE	DOUBLE PNEUMATIC VALVE 5/3 - CENTER POSITION PRESSURE
K53P261.	B-45	VALVOLA 5/3 DOPPIO COM.PNEUMATICO-CENTRI CHIUSI	DOUBLE PNEUMATIC VALVE 5/3 - CLOSED CENTRES
K53P291.	B-45	VALVOLA 5/3 DOPPIO COM.PNEUMATICO-CENTRI APERTI	DOUBLE PNEUMATIC VALVE 5/3 - OPEN CENTRES
K53W2S31.-.....	B-49	ELETTROVALVOLA 5/3 DOPPIO COM.ELETTROPN.-CENTRI PRESSIONE	DOUBLE SOLENOID VALVE 5/3 - CENTER POSITION PRESSURE
K53W2S61.-.....	B-49	ELETTROVALVOLA 5/3 DOPPIO COM.ELETTROPN.-CENTRI CHIUSI	DOUBLE SOLENOID VALVE 5/3 - CENTER POSITION CLOSED
K53W2S91.-.....	B-49	ELETTROVALVOLA 5/3 DOPPIO COM.ELETTROPN.-CENTRI APERTI	DOUBLE SOLENOID VALVE 5/3 - CENTER POSITION OPEN

Prodotti/Products	Pag.	Descrizione	Description
K66W201-.....	B-49	N°2 ELETTROVALVOLE 3/2 NORMALMENTE CHIUSE	N°2 SOLENOID VALVES 3/2 - NORMALLY CLOSED
K69W201-.....	B-50	N°1 ELETTROVALVOLA 3/2 NORM. APERTA + N°1 ELETTROV. NORM. CHIUSA	N°1 SOLENOID VALVE 3/2 NORMALLY OPEN + N°1 SOLENOID VALVE 3/2 NORMALLY CLOSED
K99W201-.....	B-50	N°2 ELETTROVALVOLE 3/2 NORMALMENTE APERTE	N°2 SOLENOID VALVES 3/2 - NORMALLY OPEN
KM 014	B-30	KIT ASSEMBLAGGIO BASI	ASSEMBLING KIT FOR MANIFOLDS
KM 018	B-30	KIT ASSEMBLAGGIO BASI	ASSEMBLING KIT FOR MANIFOLDS
KM 1	B-80	KIT ASSEMBLAGGIO BASI ISO 5599 TAGLIA 1	ASSEMBLING KIT FOR MANIFOLDS ISO 5599 SIZE 1
KM 18	B-66	ACCESSORI PER VALVOLE ISO 18	ASSEMBLING KIT FOR VALVES ISO-VDMA 18
KM 2	B-87	KIT ASSEMBLAGGIO BASI ISO 5599 TAGLIA 2	ASSEMBLING KIT FOR MANIFOLDS ISO 5599 SIZE 2
KM-BE	B-35	KIT ASSEMBLAGGIO PER BE	ASSEMBLING KIT FOR VALVES BE SERIE
KME ..14	B-51	BASI DOPPIO INGRESSO PER ASSEMBLAGGIO VALVOLE-ELETTROV. K1/4	DOUBLE INLET MANIFOLD FOR ASSEMBLING VALVES-SOLENOID VALVES K1/4
KME ..18	B-51	BASI DOPPIO INGRESSO PER ASSEMBLAGGIO VALVOLE-ELETTROV. K1/8	DOUBLE INLET MANIFOLD FOR ASSEMBLING VALVES-SOLENOID VALVES K1/8
KPCH014	B-52	PIASTRE DI CHIUSURA POSTO INUTILIZZATO	PLUG-FLATS
KPCH018	B-52	PIASTRE DI CHIUSURA POSTO INUTILIZZATO	PLUG-FLATS
L M10 ...	C-35	LUBRIFICATORE	LUBRICATORS
L M12 ...	C-24	LUBRIFICATORE	LUBRICATORS
L M14 ...	C-12	LUBRIFICATORE	LUBRICATORS
L M34 ...	C-30	LUBRIFICATORE	LUBRICATORS
L M38 ...	C-18	LUBRIFICATORE	LUBRICATORS
MA 204	B-106	MICROVALVOLE FINECORSA - MA	MECHANICAL VALVE - MA
MA 304	B-106	MICROVALVOLE FINECORSA - MA	MECHANICAL VALVE - MA
MA 314	B-106	MICROVALVOLE FINECORSA - MA	MECHANICAL VALVE - MA
MBE .-.- NO	B-34 ÷ B-36	ELETTROVALVOLE A COMANDO DIRETTO 3/2, IN BATTERIA	DIRECT ACTUATED VALVES 3/2
MBE .-.- NC	B-34 ÷ B-36	ELETTROVALVOLE A COMANDO DIRETTO 3/2, IN BATTERIA	DIRECT ACTUATED VALVES 3/2
ME ..14	B-30	BASI DOPPIO INGRESSO PER ASSEMBLAGGIO VALVOLE-ELETTROV. G1/4	DOUBLE INLET MANIFOLD FOR ASSEMBLING VALVES-SOLENOID VALVES G1/4
ME ..18	B-30	BASI DOPPIO INGRESSO PER ASSEMBLAGGIO VALVOLE-ELETTROV. G1/8	DOUBLE INLET MANIFOLD FOR ASSEMBLING VALVES-SOLENOID VALVES G1/8
MF M12 ...	C-23	MICROFILTRO ANTIOILIO A COALESCENZA	COALESCENT OIL-PROOF MICROFILTERS
MF M14 ...	C-11	MICROFILTRO ANTIOILIO A COALESCENZA	COALESCENT OIL-PROOF MICROFILTERS
MF M34 ...	C-29	MICROFILTRO ANTIOILIO A COALESCENZA	COALESCENT OIL-PROOF MICROFILTERS
MF M38 ...	C-17	MICROFILTRO ANTIOILIO A COALESCENZA	COALESCENT OIL-PROOF MICROFILTERS
MH ...	A-104 ÷ A-106	MANI DI PRESA A COMANDO PNEUMATICO	PNEUMATIC GRIPPERS
MH ... SE/NA-NC; DE/O/1	A-104	MANI DI PRESA A COMANDO PNEUMATICO	PNEUMATIC GRIPPERS
MHM ...	A-104 ÷ A-108	MANI DI PRESA A COMANDO PNEUMATICO - DOPPIO EFFETTO	PNEUMATIC MAGNETIC GRIPPERS
MHM ... SE/NA-NC; DE/O/1	A-104	MANI DI PRESA A COMANDO PNEUMATICO - DOPPIO EFFETTO	PNEUMATIC MAGNETIC GRIPPERS
MP ...-M ..	A-103	MOTORI ELETTRICI PASSO-PASSO PER ATTUATORI SERIE "ESNW"	ELECTRICAL STEPPER MOTORS FOR ACTUATORS "ESNW" SERIES
MPB-4-...	B-54	CONNESSIONE MULTIPOLARE VERSATILE "MPV" - ELETTROVALVOLE A COMANDO DIRETTO 3/2 NC TUBO 4mm	VERSATILE MULTIPOLE CONNECTION "MPV" - DIRECT ACTING VALVES 3/2 NC TUBE 4mm
MPB-8-...	B-56	CONNESSIONE MULTIPOLARE VERSATILE "MPV" - ELETTROVALVOLE A COMANDO DIRETTO 3/2 NC FILETTO G1/8	VERSATILE MULTIPOLE CONNECTION "MPV" - DIRECT ACTING VALVES 3/2 NC G1/8 WORKING PORTS
MPFP	B-58	TERMINALE DI CHIUSURA PER CONNESSIONE MULTIPOLARE SERIE "MPV"	END PLUG FOR MULTIPOLE CONNECTION SYSTEM "MPV" SERIES
MPK-14-...	B-56 ÷ B-57	CONNESSIONE MULTIPOLARE VERSATILE "MPV" - ELETTROVALVOLE SERIE "K" 1/4	VERSATILE MULTIPOLE CONNECTION "MPV" - SOLENOID VALVES 1/4 "K" SERIES
MPK-18-...	B-55	CONNESSIONE MULTIPOLARE VERSATILE "MPV" - ELETTROVALVOLE SERIE "K" 1/8	VERSATILE MULTIPOLE CONNECTION "MPV" - SOLENOID VALVES 1/8 "K" SERIES
MPV T1 ..	B-53 ÷ B-54	CONNESSIONE MULTIPOLARE VERSATILE "MPV" - MODULO DI COLLEGAMENTO ELETTRICO TAGLIA T1	VERSATILE MULTIPOLE CONNECTION "MPV" - ELECTRICAL CONNECTION MODULE TYPE T1
MPV T1 .. SBD25	B-58	CONNESSIONE MULTIPOLARE VERSATILE "MPV" - MODULO DI COLLEGAMENTO FRONTALE TAGLIA T1	VERSATILE MULTIPOLE CONNECTION "MPV" - FRONT CONNECTION MODULE TYPE T1
MPV T2 ..	B-53; B-56	CONNESSIONE MULTIPOLARE VERSATILE "MPV" - MODULO DI COLLEGAMENTO ELETTRICO TAGLIA T2	VERSATILE MULTIPOLE CONNECTION "MPV" - ELECTRICAL CONNECTION MODULE TYPE T2
MPV T2 .. SBD25	B-58	CONNESSIONE MULTIPOLARE VERSATILE "MPV" - MODULO DI COLLEGAMENTO FRONTALE TAGLIA T2	VERSATILE MULTIPOLE CONNECTION "MPV" - FRONT CONNECTION MODULE TYPE T2
MPS	B-58	CHIUSURA PER SOLENOIDE MANCANTE PER CONNESSIONE MULTIPOLARE SERIE "MPV"	PLUG FOR MISSING SOLENOID FOR MULTIPOLE CONNECTION SYSTEM "MPV" SERIES
MPW-SD25 ...	B-58	CAVO A 16 POLI A SINGOLA CONNESSIONE PER SISTEMA "MPV"	16 PINS CABLE FOR SINGLE CONNECTION FOR "MPV" SYSTEM
MPW-YSD25 ...	B-58	CAVO A 32 POLI A DOPPIA CONNESSIONE PER SISTEMA "MPV"	32 PINS CABLE FOR DOUBLE CONNECTION FOR "MPV" SYSTEM
MR 204	B-106	MICROVALVOLE FINECORSA - MR	MECHANICAL VALVE - MR
MR 304	B-106	MICROVALVOLE FINECORSA - MR	MECHANICAL VALVE - MR
MR 314	B-106	MICROVALVOLE FINECORSA - MR	MECHANICAL VALVE - MR
MR R04 ...	C-7	MICROREGOLATORI PREC. G1/8	PRECISION MICROREGULATORS G1/8
MR R08 ...	C-7	MICROREGOLATORI PREC. G1/8	PRECISION MICROREGULATORS G1/8
MR R14 ...	C-6	MICROREGOLATORI G1/8	MICROREGULATORS G1/8
MR R18 ...	C-6	MICROREGOLATORI G1/8	MICROREGULATORS G1/8
MS	B-36	SOLENOIDI MS	COILS MS SERIES
MS 204	B-106	MICROVALVOLE FINECORSA - MS	MECHANICAL VALVE - MS
MS 304	B-106	MICROVALVOLE FINECORSA - MS	MECHANICAL VALVE - MS
MS 314	B-106	MICROVALVOLE FINECORSA - MS	MECHANICAL VALVE - MS
MV 204	B-106	MICROVALVOLE FINECORSA - MV	MECHANICAL VALVE - MV
MV 304	B-106	MICROVALVOLE FINECORSA - MV	MECHANICAL VALVE - MV
MV 314	B-106	MICROVALVOLE FINECORSA - MV	MECHANICAL VALVE - MV
N ...	A-56	ADATTATORI PER ASSEMBLAGGIO CILINDRI ISO SU GUIDE	ADAPTORS FOR ASSEMBLING ISO CYLINDERS ON GLC-GLH
NC ...	A-56	ADATTATORI PER ASSEMBLAGGIO CILINDRI ISO SU GUIDE	ADAPTORS FOR ASSEMBLING ISO CYLINDERS ON GLC-GLH
NCV 63	A-79	CILINDRI PNEUMATICI PIATTI Ø63	FLAT PNEUMATIC CYLINDERS Ø63
NCV 63 P-TN-AR-VS	A-79	CILINDRI PNEUMATICI PIATTI Ø63 VERSIONI SPECIALI	FLAT PNEUMATIC CYLINDERS Ø63 SPECIAL VERSIONS
NM32V1P-PR	B-95	VALVOLA NAMUR 3/2 RIPOSIZIONAMENTO PNEUMATICO	NAMUR PNEUMATIC VALVE 3/2 - INTERNAL PRESSURE RETURN
NM32V1P-SR	B-95	VALVOLA NAMUR 3/2 RIPOSIZIONAMENTO MOLLA MECCANICA	NAMUR PNEUMATIC VALVE 3/2 - MECHANICAL RETURN
NM32V2P-TP	B-96	VALVOLA NAMUR 3/2 DOPPIO COMANDO PNEUMATICO	NAMUR DOUBLE PNEUMATIC VALVE 3/2
NM32W1S-PR-.....	B-96	ELETTROVALVOLA NAMUR 3/2 RIPOSIZIONAMENTO PNEUMATICO	NAMUR SINGLE SOLENOID VALVE 3/2 - INTERNAL PRESSURE RETURN
NM32W1S-SR-.....	B-96	ELETTROVALVOLA NAMUR 3/2 RIPOSIZIONAMENTO MOLLA MECCANICA	NAMUR SINGLE SOLENOID VALVE 3/2 - MECHANICAL RETURN
NM32W2S-TP-.....	B-97	ELETTROVALVOLA NAMUR 3/2 DOPPIO COM. ELETTROPNEUMATICO	NAMUR DOUBLE SOLENOID VALVE 3/2
NM52V1P-PR	B-98	VALVOLA NAMUR 5/2 PNEUM.-RIPOSIZIONAMENTO MOLLA PNEUMATICA	NAMUR PNEUMATIC VALVE 5/2 -INTERNAL PRESSURE RETURN
NM52V1P-SR	B-97	VALVOLA NAMUR 5/2 PNEUM.-RIPOSIZIONAMENTO MOLLA MECCANICA	NAMUR PNEUMATIC VALVE 5/2 -SPRING RETURN



index indice

Prodotti/Products	Pag.	Descrizione	Description
NM52V2P-TP	B-98	VALVOLA NAMUR 5/2 DOPPIO COMANDO PNEUMATICO	NAMUR DOUBLE PNEUMATIC VALVE 5/2
NM52W1S-PR-.....	B-99	ELETTROVALVOLA NAMUR 5/2 RIPOSIZ. MOLLA PNEUMATICA	NAMUR SINGLE SOLENOID VALVE 5/2 - INTERNAL PRESSURE RETURN
NM52W1S-SR-.....	B-99	ELETTROVALVOLA NAMUR 5/2 RIPOSIZ. MOLLA MECCANICA	NAMUR SINGLE SOLENOID VALVE 5/2 - SPRING RETURN
NM52W2S-TP-.....	B-99	ELETTROVALVOLA NAMUR 5/2 DOPPIO COMANDO ELETTROPNEUMATICO	NAMUR DOUBLE SOLENOID VALVE 5/2
NOT	B-110	UNITA' DI LOGICA - NOT, TUBO 4mm	LOGIC ELEMENT - NOT, PUSH-IN 4mm
NSKI ...	A-27 ÷ A-29	CILINDRI PNEUMATICI COMPATTI ISO 21287	COMPACT PNEUMATIC CYLINDERS - ISO 21287
NSKI ... P-SEA-SEP-AR-VS-VV	A-27 ÷ A-29	CILINDRI PNEUMATICI COMPATTI ISO 21287	COMPACT PNEUMATIC CYLINDERS - ISO 21287
NSKI ... TN2-B5-CNP-CNF	A-30	CILINDRI PNEUMATICI COMPATTI ISO 21287	COMPACT PNEUMATIC CYLINDERS - ISO 21287
NSKU ...	A-27 ÷ A-29	CILINDRI PNEUMATICI COMPATTI UNITOP	COMPACT PNEUMATIC CYLINDERS - UNITOP
NSKU ... P-SEA-SEP-AR-VS-VV	A-27 ÷ A-29	CILINDRI PNEUMATICI COMPATTI UNITOP	COMPACT PNEUMATIC CYLINDERS - UNITOP
NSKU ... TN2-B5-CNP-CNF	A-30	CILINDRI PNEUMATICI COMPATTI UNITOP	COMPACT PNEUMATIC CYLINDERS - UNITOP
NWCIR 032-125	A-23	CERNIERA INTERMEDIA REGISTRABILE PER NWT	ADJUSTABLE TRUNNION MOUNTING FOR NWT
NWT ...	A-15 ÷ A-16	CILINDRI PNEUMATICI VDMA - ISO 15552	PNEUMATIC CYLINDERS STANDARD VDMA-ISO 15552
NWT ... P-SEA-SEP-VS-VV	A-17	CILINDRI PNEUMATICI VDMA - ISO 15552	PNEUMATIC CYLINDERS STANDARD VDMA-ISO 15552
NWT ... TN2-B5-CNP-CNF	A-18	CILINDRI PNEUMATICI VDMA - ISO 15552	PNEUMATIC CYLINDERS STANDARD VDMA-ISO 15552
NWT-PCC	A-19	BANDELLA PER COPERTURA CAVA SENSORE	PLASTIC SLOT COVER FOR SWITCHES MOUNTING
OR 42	B-110	UNITA' DI LOGICA - OR, TUBO 4mm	LOGIC ELEMENT - OR, PUSH-IN 4mm
P 012-020	A-99	MONTAGGIO A PIEDINI PER CILINDRI TM	FOOT MOUNTING FOR TM CYLINDER
P 032-050	A-13	PIEDINO PER ACMT-DVMT	FOOT MOUNTING FOR ACMT-DVMT CYLINDERS
P 12-25	A-10	PIEDINO ISO 6432	FOOT MOUNTING ISO 6432
PCBM 1	B-80	PIASTRE DI CHIUSURA POSTO INUTILIZZATO ISO 5599 TAGLIA 1	PLUG-FLATS FOR MANIFOLDS ISO 5599 SIZE 1
PCBM 18	B-67	PIASTRE DI CHIUSURA POSTO INUTILIZZATO PER BASI ISO 18	PLUG-FLATS FOR ISO18 MANIFOLDS
PCBM 2	B-87	PIASTRE DI CHIUSURA POSTO INUTILIZZATO ISO 5599 TAGLIA 2	PLUG-FLATS FOR MANIFOLDS ISO 5599 SIZE 2
PCH 014	B-30	PIASTRE DI CHIUSURA POSTO INUTILIZZATO	PLUG-FLATS
PCH 018	B-30	PIASTRE DI CHIUSURA POSTO INUTILIZZATO	PLUG-FLATS
PF 204	B-102	MICROVALVOLE TUBO Ø4MM - COMANDO A FUNGO	MANUAL MICROVALVES PUSH-IN Ø4 MM - MUSHROOM PUSH BUTTON
PF 304	B-102	MICROVALVOLE TUBO Ø4MM - COMANDO A FUNGO	MANUAL MICROVALVES PUSH-IN Ø4 MM - MUSHROOM PUSH BUTTON
PF 314	B-102	MICROVALVOLE TUBO Ø4MM - COMANDO A FUNGO	MANUAL MICROVALVES PUSH-IN Ø4 MM - MUSHROOM PUSH BUTTON
PFF204	B-102	MICROVALVOLE TUBO Ø4MM - PULSANTE D'EMERGENZA	MANUAL MICROVALVES PUSH-IN Ø4 MM - EMERGENCY PUSH BUTTON
PFF304	B-102	MICROVALVOLE TUBO Ø4MM - PULSANTE D'EMERGENZA	MANUAL MICROVALVES PUSH-IN Ø4 MM - EMERGENCY PUSH BUTTON
PFF314	B-102	MICROVALVOLE TUBO Ø4MM - PULSANTE D'EMERGENZA	MANUAL MICROVALVES PUSH-IN Ø4 MM - EMERGENCY PUSH BUTTON
PGI204	B-102	MICROVALVOLE TUBO Ø4MM - COMANDO A PULSANTE	MANUAL MICROVALVES PUSH-IN Ø4 MM - PUSH BUTTON
PGI304	B-102	MICROVALVOLE TUBO Ø4MM - COMANDO A PULSANTE	MANUAL MICROVALVES PUSH-IN Ø4 MM - PUSH BUTTON
PGI314	B-102	MICROVALVOLE TUBO Ø4MM - COMANDO A PULSANTE	MANUAL MICROVALVES PUSH-IN Ø4 MM - PUSH BUTTON
PGI504	B-102	MICROVALVOLE TUBO Ø4MM - COMANDO A PULSANTE	MANUAL MICROVALVES PUSH-IN Ø4 MM - PUSH BUTTON
PL-MBE	B-58	TAPPO PER POSTO VUOTO	PLUG FOR FREE PLACE
PNX 012-025	A-43	PIEDINO ISO 6432 INOX	INOX FOOT MOUNTING ISO 6432
PPHF	B-7	FONDELLO PNEUMATICO PER "4HF"	PNEUMATIC PILOT FOR "4HF"
PSBM ... AD-BD-CD	A-60 ÷ A-62	SLITTE PNEUMATICHE Ø16 E Ø25	PNEUMATIC SLIDES Ø16 AND Ø25
PSPM ... AD-BD-CD	A-60 ÷ A-62	SLITTE PNEUMATICHE Ø16 E Ø25	PNEUMATIC SLIDES Ø16 AND Ø25
PV32.	A-1	VALVOLE 3/2 AD OTTURATORE PER ARIA E PER VUOTO	3/2 POPPET VALVES FOR AIR OR VACUUM
R M10 ...	C-35	REGOLATORI - VERSIONE BASE	REGULATORS - BASIC VERSION
R M12 ...	C-23	REGOLATORI - VERSIONE BASE	REGULATORS - BASIC VERSION
R M14 ...	C-11	REGOLATORI	REGULATORS
R M34 ...	C-29	REGOLATORI - VERSIONE BASE	REGULATORS - BASIC VERSION
R M38 ...	C-17	REGOLATORI	REGULATORS
RC 014	B-33	ACCESSORI PER COLLETTORI	ACCESSORIES FOR MANIFOLDS
RC 018	B-32	ACCESSORI PER COLLETTORI	ACCESSORIES FOR MANIFOLDS
RF ...	A-56	FLANGIA FILETTATA PER ASSEMBLAGGIO CILINDRI ISO SU GUIDE	THREADED FLANGE MOUNTING FOR GLC-GLH
RF GLH ...	A-56	FLANGIA POSTERIORE DI COLLEGAMENTO STELI GUIDA GLH	REAR FLANGE COUPLING GUIDE STEMS FOR GLH
RFS 14	B-33	ACCESSORI PER COLLETTORI	ACCESSORIES FOR MANIFOLDS
RFS 18	B-32	ACCESSORI PER COLLETTORI	ACCESSORIES FOR MANIFOLDS
RLF ...	A-87 ÷ A-88	CILINDRI PNEUMATICI SENZA STELO, AMMORTIZZATI, MAGNETICI	RODLESS, CUSHIONED, MAGNETIC CYLINDERS
RLF ... 0-V-X-VX	A-88	CILINDRI PNEUMATICI SENZA STELO, AMMORTIZZATI, MAGNETICI	RODLESS, CUSHIONED, MAGNETIC CYLINDERS
RLFG ...	A-93 ÷ A-94	CILINDRI PNEUMATICI SENZA STELO, AMMORTIZZATI, MAGNETICI - CON GUIDA A STRISCIAMENTO	RODLESS, CUSHIONED, MAGNETIC CYLINDERS WITH SLIDING BEARINGS CARRIAGE
RLFG ... 0-V	A-93 ÷ A-94	CILINDRI PNEUMATICI SENZA STELO, AMMORTIZZATI, MAGNETICI - CON GUIDA A STRISCIAMENTO	RODLESS, CUSHIONED, MAGNETIC CYLINDERS WITH SLIDING BEARINGS CARRIAGE
RLFH ...	A-95 ÷ A-96	CILINDRI PNEUMATICI SENZA STELO, AMMORTIZZATI, MAGNETICI - CARRO GUIDATO RICIRCOLO SFERE	RODLESS, CUSHIONED, MAGNETIC CYLINDERS WITH BALL BEARING GUIDES
RLFH ... 1-2-0-V	A-95 ÷ A-96	CILINDRI PNEUMATICI SENZA STELO, AMMORTIZZATI, MAGNETICI - CARRO GUIDATO RICIRCOLO SFERE	RODLESS, CUSHIONED, MAGNETIC CYLINDERS WITH BALL BEARING GUIDES
RLFR ...	A-91 ÷ A-92	CILINDRI PNEUMATICI SENZA STELO CON GUIDA PRISMATICA E CUSCINETTI A RULLO DOPPIA "V"	RODLESS CYLINDERS WITH DUAL "VEE" EDGE SLIDE SYSTEMS
RLFR ... 0 - V	A-91 ÷ A-92	CILINDRI PNEUMATICI SENZA STELO CON GUIDA PRISMATICA E CUSCINETTI A RULLO DOPPIA "V"	RODLESS CYLINDERS WITH DUAL "VEE" EDGE SLIDE SYSTEMS
RLMG- ...	A-89	SUPPORTO INTERMEDIO	MID SUPPORT
RLMI 016-025	A-90	SUPPORTI INTERMEDI PER CILINDRI RL (coppia)	MID SUPPORTS FOR CYLINDERS RL SERIES (2 pcs.)
RLML 050-063	A-90	SUPPORTI INTERMEDI PER CILINDRI RL (coppia)	MID SUPPORTS FOR CYLINDERS RL SERIES (2 pcs.)
RLMU 032-040	A-90	SUPPORTI INTERMEDI PER CILINDRI RL (coppia)	MID SUPPORTS FOR CYLINDERS RL SERIES (2 pcs.)
RLMW- ...	A-89	SUPPORTO INTERMEDIO	MID SUPPORT
RLP 016-025	A-89	MONTAGGIO A PIEDINI PER CILINDRI RL (coppia)	FOOT MOUNTINGS FOR CYLINDERS RL SERIES (2 pcs.)
RLQ 032-063	A-89 ÷ A-90	MONTAGGIO A PIEDINI QUADRI PER CILINDRI RL (coppia)	SQUARE FOOT MOUNTINGS FOR CYLINDERS RL SERIES (2 pcs.)
RSSC	A-1	CILINDRI PNEUMATICI INOX SETTORE ALIMENTARE	STAINLESS STEEL PNEUMATIC CYLINDERS FOOD INDUSTRY
RT 014	B-33	ACCESSORI PER COLLETTORI	ACCESSORIES FOR MANIFOLDS
RT 018	B-32	ACCESSORI PER COLLETTORI	ACCESSORIES FOR MANIFOLDS
RT COV .14	B-33	COLLETTORI PER VALVOLE FILETTATE G1/4	MANIFOLDS WITH COMMON INLET AIR FOR VALVES G1/4
RT COV .18	B-32	COLLETTORI PER VALVOLE FILETTATE G1/8	MANIFOLDS WITH COMMON INLET AIR FOR VALVES G1/8

index

indice

Prodotti/Products	Pag.	Descrizione	Description
RTP14	B-33	ACCESSORI PER COLLETTORI	ACCESSORIES FOR MANIFOLDS
RTP18	B-32	ACCESSORI PER COLLETTORI	ACCESSORIES FOR MANIFOLDS
RWD ...	A-81 ÷ A-82	CILINDRI CON BLOCCAGGIO DELLO STELO - FRENO DOPPIO EFFETTO	PNEUMATIC CYLINDER WITH PISTON ROD BRAKE - DOUBLE ACTING BRAKE
RWS ...	A-81 ÷ A-82	CILINDRI CON BLOCCAGGIO DELLO STELO - FRENO SEMPLICE EFFETTO	PNEUMATIC CYLINDER WITH PISTON ROD BRAKE - SINGLE ACTING BRAKE
SA 014	B-33	ACCESSORI PER COLLETTORI	ACCESSORIES FOR MANIFOLDS
SA 018	B-32	ACCESSORI PER COLLETTORI	ACCESSORIES FOR MANIFOLDS
SA COV .14	B-33	COLLETTORI PER VALVOLE FILETTATE G1/4	MANIFOLDS WITH COMMON INLET AIR FOR VALVES G1/4
SA COV .18	B-32	COLLETTORI PER VALVOLE FILETTATE G1/8	MANIFOLDS WITH COMMON INLET AIR FOR VALVES G1/8
SAF 032-200	A-26	FLANGIA AUTOALLINEANTE	FLOATING JOINT TYPE "F" ISO 15552
SAS 032-200	A-26	SNODO AUTOALLINEANTE ISO 15552	FLOATING JOINT TYPE "S" ISO 15552
SAS 12-25	A-10	SNODO AUTOALLINEANTE ISO 6432	FLOATING JOINT TYPE "S" ISO 6432
SB 014	B-33	ACCESSORI PER COLLETTORI	ACCESSORIES FOR MANIFOLDS
SB 018	B-32	ACCESSORI PER COLLETTORI	ACCESSORIES FOR MANIFOLDS
SB COV .14	B-33	COLLETTORI PER VALVOLE FILETTATE G1/4	MANIFOLDS WITH COMMON INLET AIR FOR VALVES G1/4
SB COV .18	B-32	COLLETTORI PER VALVOLE FILETTATE G1/8	MANIFOLDS WITH COMMON INLET AIR FOR VALVES G1/8
SBI	B-111	SICUREZZA BIMANUALE, TUBO 4mm	TWO-HAND SAFETY VALVE, PUSH-IN 4mm
SCBI 8-M8	B-15	BOX DI RACCOLTA INPUT PER NET-LOGIC	INPUT COLLECTOR BOX FOR NET-LOGIC SYSTEM
SCBO 88-M	B-15	BOX DI DISTRIBUZIONE OUTPUT PER NET-LOGIC	PUTPUT COLLECTOR BOX FOR NET-LOGIC SYSTEM
SCL	C-40	SCARICATORE PER LINEE	DRIP LEG DRAIN
SCN	B-89	SOLENOIDI SCN	COILS FOR CNO MO SOLENOID VALVES
SCVK	A-22	FISSAGGIO VALVOLA "K" 1/8 - 1/4 PER CILINDRI A PROFILO (viti non incluse)	BRACKET FOR ASSEMBLING CYLINDER-VALVE "K" 1/8 - 1/4 (screws not included)
SET1 1/2 SG	B-36	SERIE GUARNIZIONI VALVOLE G1/2	SEALS KIT VALVES G1/2
SET1 1/4 SG	B-30	SERIE GUARNIZIONI VALVOLE G1/4	SEALS KIT VALVES G1/4
SET2 1/2 SG	B-36	SERIE GUARNIZIONI VALVOLE G1/2	SEALS KIT VALVES G1/2
SET2 1/4 SG	B-30	SERIE GUARNIZIONI VALVOLE G1/4	SEALS KIT VALVES G1/4
SHCM 016-100	A-38	CERNIERA MASCHIO PER SH	CLEVIS MALE MOUNTING FOR SH
SHD ...	A-34; A-37	CILINDRI A CORSA BREVE - DOPPIO EFFETTO, NON MAGNETICO	SHORT STROKE CYLINDER - WITHOUT MAGNET, DOUBLE ACTING
SHD ... P-AR-VS-VV	A-36 ÷ A-37	CILINDRI A CORSA BREVE - DOPPIO EFFETTO, NON MAGNETICO	SHORT STROKE CYLINDER - WITHOUT MAGNET, DOUBLE ACTING
SHD Ø125-200	A-37	CILINDRI A CORSA BREVE Ø125 - 200 - DOPPIO EFFETTO, NON MAGNETICO	SHORT STROKE CYLINDER - WITHOUT MAGNET, DOUBLE ACTING
SHDM ...	A-35; A-37	CILINDRI A CORSA BREVE- DOPPIO EFFETTO MAGNETICO	SHORT STROKE MAGNETIC CYLINDER DOUBLE ACTING
SHDM ... P-AR-VS-VV	A-36 ÷ A-37	CILINDRI A CORSA BREVE- DOPPIO EFFETTO MAGNETICO	SHORT STROKE MAGNETIC CYLINDER DOUBLE ACTING
SHDM Ø125-200	A-37	CILINDRI A CORSA BREVE Ø125 - 200 - DOPPIO EFFETTO MAGNETICO	SHORT STROKE MAGNETIC CYLINDER DOUBLE ACTING
SHNP 012-100	A-37	NIPPLO FILETTO ISO PER SH	NIPPLES TO ISO STANDARD FOR SH
SHP 016-100	A-38	PIEDINO PER SH	FOOT MOUNTING FOR SH
SHS ...	A-34	CILINDRI A CORSA BREVE - SEMPLICE EFFETTO MOLLA ANTERIORE	SHORT STROKE CYLINDER - WITHOUT MAGNET, SINGLE ACTING FRONT SPRING
SHS ... P-AR-VS-VV	A-33	CILINDRI A CORSA BREVE - SEMPLICE EFFETTO MOLLA ANTERIORE	SHORT STROKE CYLINDER - WITHOUT MAGNET, SINGLE ACTING FRONT SPRING
SHSM ...	A-35	CILINDRI A CORSA BREVE - SEMPLICE EFFETTO MOLLA ANTERIORE, MAGNETICO	SHORT STROKE MAGNETIC CYLINDER - SINGLE ACTING FRONT SPRING
SHSM ... P-AR-VS-VV	A-33	CILINDRI A CORSA BREVE - SEMPLICE EFFETTO MOLLA ANTERIORE, MAGNETICO	SHORT STROKE MAGNETIC CYLINDER - SINGLE ACTING FRONT SPRING
SKCF 032-100	A-32	CERNIERA FEMMINA PER CILINDRI UNITOP	FEMALE CLEVIS MOUNTING FOR UNITOP CYLINDERS
SKCM 016-025	A-32	CERNIERA MASCHIO PER CILINDRI UNITOP	MALE CLEVIS MOUNTING FOR UNITOP CYLINDERS
SKFL 016-100	A-32	FLANGIA PER CILINDRI UNITOP (singolo)	FLANGE MOUNTING FOR UNITOP CYLINDERS (1 piece)
SKP 016-100	A-32	PIEDINO PER CILINDRI UNITOP	FOOT MOUNTING FOR UNITOP CYLINDERS
SNS 032-125	A-26	SNODO SFERICO ISO 15552	ROD EYE MOUNTING ISO 15552
SNS 12-25	A-10	SNODO SFERICO ISO 6432	ROD EYE MOUNTING ISO 6432
SR 204	B-102	MICROVALVOLE TUBO Ø4MM - COMANDO A SELETTORE	MANUAL MICROVALVES PUSH-IN Ø4 MM - SHORT LEVEL SELECTOR
SR 304	B-102	MICROVALVOLE TUBO Ø4MM - COMANDO A SELETTORE	MANUAL MICROVALVES PUSH-IN Ø4 MM - SHORT LEVEL SELECTOR
SR 314	B-102	MICROVALVOLE TUBO Ø4MM - COMANDO A SELETTORE	MANUAL MICROVALVES PUSH-IN Ø4 MM - SHORT LEVEL SELECTOR
SR 504	B-102	MICROVALVOLE TUBO Ø4MM - COMANDO A SELETTORE	MANUAL MICROVALVES PUSH-IN Ø4 MM - SHORT LEVEL SELECTOR
SSPC-...	B-10	CAVO DI CONNESSIONE SUB-D, E ACCESSORI	CONNECTION CABLE FOR SUB-D
SU-CI 032-200	A-23	SUPPORTO PER CERNIERA INTERMEDIA - TTX (singolo)	TRUNNION BEARING FOR TTX (1 piece)
SV M12 ...	C-25	VALVOLA DI SEZIONAMENTO PER PILOTAGGIO ELETTRICO/PNEUMATICO	SHUT-OFF VALVE FOR ELECTRICAL/PNEUMATIC PILOT
SV M14 ...	C-13	VALVOLA DI SEZIONAMENTO PER PILOTAGGIO ELETTRICO/PNEUMATICO	SHUT-OFF VALVE FOR ELECTRICAL/PNEUMATIC PILOT
SV M34 ...	C-31	VALVOLA DI SEZIONAMENTO PER PILOTAGGIO ELETTRICO/PNEUMATICO	SHUT-OFF VALVE FOR ELECTRICAL/PNEUMATIC PILOT
SV M38 ...	C-19	VALVOLA DI SEZIONAMENTO PER PILOTAGGIO ELETTRICO/PNEUMATICO	SHUT-OFF VALVE FOR ELECTRICAL/PNEUMATIC PILOT
SVE18 52 100-.....	B-64	ELETTRORVALVOLA ISO18 5/2 RIPOSIZ. MOLLA PNEUM. E MECCANICA	ISO18 SINGLE SOLENOID VALVE 5/2 - INTERNAL PRESSURE RETURN
SVE18 52 200-.....	B-64	ELETTRORVALVOLA ISO18 5/2 DOPPIO COMANDO ELETTROPNEUMATICO	ISO18 DOUBLE SOLENOID VALVE 5/2
SVE18 53 230-.....	B-65	ELETTRORVALVOLA ISO18 5/3 DOPPIO COM.ELETTROPN.-CENTRI PRESSIONE	ISO18 DOUBLE SOLENOID VALVE 5/3 - CENTER POSITION PRESSURE
SVE18 53 260-.....	B-65	ELETTRORVALVOLA ISO18 5/3 DOPPIO COM.ELETTROPN.-CENTRI CHIUSI	ISO18 DOUBLE SOLENOID VALVE 5/3 - CENTER POSITION CLOSED
SVE18 53 290-.....	B-65	ELETTRORVALVOLA ISO18 5/3 DOPPIO COM.ELETTROPN.-CENTRI APERTI	ISO18 DOUBLE SOLENOID VALVE 5/3 - CENTER POSITION OPEN
SVE2 52 100-.....	B-84	ELETTRORVALVOLA ISO 5599 5/2 RIPOSIZ. MOLLA PNEUMATICA	ISO 5599 SINGLE SOLENOID VALVE 5/2
SVE2 52 200-.....	B-84	ELETTRORVALVOLA ISO 5599 5/2 DOPPIO COMANDO ELETTROPNEUMATICO	ISO 5599 DOUBLE SOLENOID VALVE 5/2
SVE2 53 260-.....	B-85	ELETTRORVALVOLA ISO 5599 5/3 DOPPIO COM.ELETTROPN.-CENTRI CHIUSI	ISO 5599 DOUBLE SOLENOID VALVE 5/3 - CENTER POSITION CLOSED
SVE2 53 290-.....	B-85	ELETTRORVALVOLA ISO 5599 5/3 DOPPIO COM.ELETTROPN.-CENTRI APERTI	ISO 5599 DOUBLE SOLENOID VALVE 5/3 - CENTER POSITION OPEN
SVE3 52 100-.....	B-88	ELETTRORVALVOLA ISO 5599 5/2 RIPOSIZ. MOLLA PNEUMATICA	ISO 5599 SINGLE SOLENOID VALVE 5/2
SVE3 52 200-.....	B-88	ELETTRORVALVOLA ISO 5599 5/2 DOPPIO COMANDO ELETTROPNEUMATICO	ISO 5599 DOUBLE SOLENOID VALVE 5/2
SVE3 53 260-.....	B-88	ELETTRORVALVOLA ISO 5599 5/3 DOPPIO COM.ELETTROPN.-CENTRI CHIUSI	ISO 5599 DOUBLE SOLENOID VALVE 5/3 - CENTER POSITION CLOSED
SVE3 53 290-.....	B-88	ELETTRORVALVOLA ISO 5599 5/3 DOPPIO COM.ELETTROPN.-CENTRI APERTI	ISO 5599 DOUBLE SOLENOID VALVE 5/3 - CENTER POSITION OPEN
SVE5 52 100-.....	B-76	ELETTRORVALVOLA ISO 5599 5/2 RIPOSIZ. MOLLA PNEUMATICA	ISO 5599 SINGLE SOLENOID VALVE 5/2
SVE5 52 1D0-.....	B-76	ELETTRORVALVOLA ISO 5599 5/2 RIPOSIZ. MOLLA PNEUMATICA - DIFFERENZIALE	ISO 5599 SINGLE SOLENOID VALVE 5/2 - DIFFERENTIAL PILOT
SVE5 52 1M0-.....	B-76	ELETTRORVALVOLA ISO 5599 5/2 RIPOSIZ. MOLLA MECCANICA	ISO 5599 SINGLE SOLENOID VALVE 5/2
SVE5 52 200-.....	B-77	ELETTRORVALVOLA ISO 5599 5/2 DOPPIO COMANDO ELETTROPNEUMATICO	ISO 5599 DOUBLE SOLENOID VALVE 5/2
SVE5 52 2D0-.....	B-77	ELETTRORVALVOLA ISO 5599 5/2 DOPPIO COM. ELETTROPNEUMATICO DIFFERENZIALE	ISO 5599 DOUBLE DIFFERENTIAL SOLENOID VALVE 5/2



index indice

Prodotti/Products	Pag.	Descrizione	Description
SVE5 53 260	B-78	ELETTROVALVOLA ISO 5599 5/3 DOPPIO COM.ELETTROPN.-CENTRI CHIUSI	ISO 5599 DOUBLE SOLENOID VALVE 5/3 - CENTER POSITION CLOSED
SVE5 53 290	B-78	ELETTROVALVOLA ISO 5599 5/3 DOPPIO COM.ELETTROPN.-CENTRI APERTI	ISO 5599 DOUBLE SOLENOID VALVE 5/3 - CENTER POSITION OPEN
SVE6 52 100	B-88	ELETTROVALVOLA ISO 5599 5/2 RIPOSIZ. MOLLA PNEUMATICA	ISO 5599 SINGLE SOLENOID VALVE 5/2
SVE6 52 1D0	B-88	ELETTROVALVOLA ISO 5599 5/2 RIPOSIZ. MOLLA PNEUMATICA - DIFFERENZIALE	ISO 5599 SINGLE DIFFERENTIAL SOLENOID VALVE 5/2
SVE6 52 200	B-88	ELETTROVALVOLA ISO 5599 5/2 DOPPIO COMANDO ELETTROPNEUMATICO	ISO 5599 DOUBLE SOLENOID VALVE 5/2
SVE6 52 2D0	B-88	ELETTROVALVOLA ISO 5599 5/2 DOPPIO COM. ELETTROPNEUMATICO DIFFERENZIALE	ISO 5599 DOUBLE DIFFERENTIAL SOLENOID VALVE 5/2
SVE6 53 260	B-88	ELETTROVALVOLA ISO 5599 5/3 DOPPIO COM.ELETTROPN.-CENTRI CHIUSI	ISO 5599 DOUBLE SOLENOID VALVE 5/3 - CENTER POSITION CLOSED
SVE6 53 290	B-88	ELETTROVALVOLA ISO 5599 5/3 DOPPIO COM.ELETTROPN.-CENTRI APERTI	ISO 5599 DOUBLE SOLENOID VALVE 5/3 - CENTER POSITION OPEN
SVP18 52 100	B-62	VALVOLA ISO18 5/2 PNEUM.-RIPOSIZ. MOLLA PNEUM. E MECCANICA	ISO18 PNEUMATIC VALVE 5/2 - INTERNAL PRESSURE RETURN
SVP18 52 200	B-62	VALVOLA ISO18 5/2 DOPPIO COMANDO PNEUMATICO	ISO18 DOUBLE PNEUMATIC VALVE 5/2
SVP18 52 2D0	B-63	VALVOLA ISO18 5/2 COMANDO PNEUMATICO DIFFERENZIALE	ISO18 PNEUMATIC VALVE 5/2 - DOUBLE DIFFERENTIAL PNEUMATIC PILOT
SVP18 53 230	B-63	VALVOLA ISO18 5/3 DOPPIO COM.PNEUM.-CENTRI PRESSIONE	ISO18 DOUBLE PNEUMATIC VALVE 5/3 - CENTER POSITION PRESSURE
SVP18 53 260	B-63	VALVOLA ISO18 5/3 DOPPIO COM.PNEUMATICO-CENTRI CHIUSI	ISO18 DOUBLE PNEUMATIC VALVE 5/3 - CLOSED CENTRES
SVP18 53 290	B-63	VALVOLA ISO18 5/3 DOPPIO COM.PNEUMATICO-CENTRI APERTI	ISO18 DOUBLE PNEUMATIC VALVE 5/3 - OPEN CENTRES
SVP2 52 100	B-82	VALVOLA ISO 5599 5/2 PNEUM.-RIPOSIZIONAMENTO MOLLA PNEUMATICA	ISO 5599 PNEUMATIC VALVE 5/2 - INTERNAL PRESSURE RETURN
SVP2 52 200	B-82	VALVOLA ISO 5599 5/2 DOPPIO COMANDO PNEUMATICO	ISO 5599 DOUBLE PNEUMATIC VALVE 5/2
SVP2 53 260	B-83	VALVOLA ISO 5599 5/3 DOPPIO COM.PNEUMATICO-CENTRI CHIUSI	ISO 5599 DOUBLE PNEUMATIC VALVE 5/3 - CLOSED CENTRES
SVP2 53 290	B-83	VALVOLA ISO 5599 5/3 DOPPIO COM.PNEUMATICO-CENTRI APERTI	ISO 5599 DOUBLE PNEUMATIC VALVE 5/3 - OPEN CENTRES
SVP4 52 100	B-74	VALVOLA ISO 5599 5/2 PNEUM.-RIPOSIZIONAMENTO MOLLA PNEUMATICA	ISO 5599 PNEUMATIC VALVE 5/2 - INTERNAL PRESSURE RETURN
SVP4 52 1M0	B-74	VALVOLA ISO 5599 5/2 PNEUM.-RIPOSIZIONAMENTO MOLLA MECCANICA	ISO 5599 PNEUMATIC VALVE 5/2 -SPRING RETURN
SVP4 52 200	B-74	VALVOLA ISO 5599 5/2 DOPPIO COMANDO PNEUMATICO	ISO 5599 DOUBLE PNEUMATIC VALVE 5/2
SVP4 52 2D0	B-75	VALVOLA ISO 5599 5/2 COMANDO PNEUMATICO DIFFERENZIALE	ISO 5599 PNEUMATIC VALVE 5/2 - DOUBLE DIFFERENTIAL PNEUMATIC PILOT
SVP4 53 260	B-75	VALVOLA ISO 5599 5/3 DOPPIO COM.PNEUMATICO-CENTRI CHIUSI	ISO 5599 DOUBLE PNEUMATIC VALVE 5/3 - CLOSED CENTRES
SVP4 53 290	B-76	VALVOLA ISO 5599 5/3 DOPPIO COM.PNEUMATICO-CENTRI APERTI	ISO 5599 DOUBLE PNEUMATIC VALVE 5/3 - OPEN CENTRES
TF 014	B-33	ACCESSORI PER COLLETTORI	ACCESSORIES FOR MANIFOLDS
TF 018	B-32	ACCESSORI PER COLLETTORI	ACCESSORIES FOR MANIFOLDS
TM ...	A-98	CILINDRI SENZA STELO A TRASCINAMENTO MAGNETICO	PNEUMATIC LINEAR DRIVE WITH MAGNETIC COUPLING
USC 032-200	A-26	PERNO CERNIERA	CLEVIS PIN ISO 15552
V3 M12	C-25	VALVOLA 3 VIE CON BLOCCO	3 WAY ON-OFF VALVE WITH LOCK
V3 M14	C-13	VALVOLA 3 VIE CON BLOCCO	3 WAY ON-OFF VALVE WITH LOCK
V3 M34	C-31	VALVOLA 3 VIE CON BLOCCO	3 WAY ON-OFF VALVE WITH LOCK
V3 M38	C-19	VALVOLA 3 VIE CON BLOCCO	3 WAY ON-OFF VALVE WITH LOCK
V32V1P61.	B-24	VALVOLA 3/2 PNEUM.-RIPOS. MOLLA PNEUM.-NORM. CHIUSA	PNEUMATIC VALVE 3/2 - INTERNAL PRESSURE RETURN-NORMALLY CLOSED
V32V1P6M.	B-24	VALVOLA 3/2 PNEUM.-RIPOS. MOLLA MECC.-NORM. CHIUSA	PNEUMATIC VALVE 3/2 - SPRING RETURN-NORMALLY CLOSED
V32V1P91.	B-24	VALVOLA 3/2 PNEUM.-RIPOS. MOLLA PNEUM.-NORM. APERTA	PNEUMATIC VALVE 3/2 - INTERNAL PRESSURE RETURN-NORMALLY OPEN
V32V1P9M.	B-24	VALVOLA 3/2 PNEUM.-RIPOS. MOLLA MECC.-NORM. APERTA	PNEUMATIC VALVE 3/2 - SPRING RETURN-NORMALLY OPEN
V32V2P01.	B-25	VALVOLA 3/2 DOPPIO COMANDO PNEUMATICO	DOUBLE PNEUMATIC VALVE 3/2
V52V1P01.	B-25	VALVOLA 5/2 PNEUM.-RIPOSIZIONAMENTO MOLLA PNEUMATICA	PNEUMATIC VALVE 5/2 - INTERNAL PRESSURE RETURN
V52V1PM1.	B-25	VALVOLA 5/2 PNEUM.-RIPOSIZIONAMENTO MOLLA MECCANICA	PNEUMATIC VALVE 5/2 - SPRING RETURN
V52V2P01.	B-26	VALVOLA 5/2 DOPPIO COMANDO PNEUMATICO	DOUBLE PNEUMATIC VALVE 5/2
V52V2P01.	B-26	VALVOLA 5/2 COMANDO PNEUMATICO DIFFERENZIALE	PNEUMATIC VALVE 5/2 WITH DOUBLE DIFFERENTIAL PNEUMATIC PILOT
V53V2P61.	B-26	VALVOLA 5/3 DOPPIO COM.PNEUMATICO-CENTRI CHIUSI	PNEUMATIC VALVE 5/3 WITH DOUBLE PNEUMATIC PILOT - CLOSED CENTRES
V53V2P91.	B-26	VALVOLA 5/3 DOPPIO COM.PNEUMATICO-CENTRI APERTI	PNEUMATIC VALVE 5/3 WITH DOUBLE PNEUMATIC PILOT - OPEN CENTRES
VCLL32M18	B-109	VALVOLA 3/2 AD AZIONAMENTO LEVA-RULLO LATERALE	LATERAL ROLLER-LEVER 3/2 VALVE
VCLL52M18	B-109	VALVOLA 5/2 AD AZIONAMENTO LEVA-RULLO LATERALE	LATERAL ROLLER-LEVER 5/2 VALVE
VCLR32.M8	B-108	VALVOLA 3/2, COMANDO A RULLO G1/8	VALVE 3/2, ROLLER-LEVER VALVE G1/8
VCLR52018	B-109	VALVOLA 5/2, DOPPIO COMANDO A RULLO G1/8	VALVE 5/2, DUAL ROLLER-LEVER VALVE G1/8
VCLR52M18	B-108	VALVOLA 5/2, COMANDO A RULLO G1/8	VALVE 5/2, ROLLER-LEVER VALVE G1/8
VCML3201.	B-103	VALVOLE MANUALI 3/2 - COMANDO A LEVA - G1/4, G1/8	LEVER VALVES 3/2 - G1/4, G1/8
VCML326M.	B-103	VALVOLE MANUALI 3/2 - COMANDO A LEVA - G1/4, G1/8	LEVER VALVES 3/2 - G1/4, G1/8
VCML329M.	B-103	VALVOLE MANUALI 3/2 - COMANDO A LEVA - G1/4, G1/8	LEVER VALVES 3/2 - G1/4, G1/8
VCML5201.	B-103	VALVOLE MANUALI 5/2 - COMANDO A LEVA - G1/4, G1/8	LEVER VALVES 5/2 - G1/4, G1/8
VCML52M1.	B-103	VALVOLE MANUALI 5/2 - COMANDO A LEVA - G1/4, G1/8	LEVER VALVES 5/2 - G1/4, G1/8
VCML5361.	B-103	VALVOLE MANUALI 5/3 - COMANDO A LEVA - G1/4, G1/8	LEVER VALVES 5/3 - G1/4, G1/8
VCML536M.	B-103	VALVOLE MANUALI 5/3 - COMANDO A LEVA - G1/4, G1/8	LEVER VALVES 5/3 - G1/4, G1/8
VCML5391.	B-103	VALVOLE MANUALI 5/3 - COMANDO A LEVA - G1/4, G1/8	LEVER VALVES 5/3 - G1/4, G1/8
VCML539M.	B-103	VALVOLE MANUALI 5/3 - COMANDO A LEVA - G1/4, G1/8	LEVER VALVES 5/3 - G1/4, G1/8
VCMS32.M4	B-107	VALVOLA 3/2, COMANDO A PUNTALE G1/4	VALVE 3/2, CAM ACTUATED VALVE G1/4
VCMS32.M8	B-107	VALVOLA 3/2, COMANDO A PUNTALE G1/8	VALVE 3/2, CAM ACTUATED VALVE G1/8
VCMS52M14	B-108	VALVOLA 5/2, COMANDO A PUNTALE G1/4	VALVE 5/2, CAM ACTUATED VALVE G1/4
VCMS52M18	B-107	VALVOLA 5/2, COMANDO A PUNTALE G1/8	VALVE 5/2, CAM ACTUATED VALVE G1/8
VCMS52S14	B-108	VALVOLA 5/2, COMANDO A PUNTALE G1/4	VALVE 5/2, CAM ACTUATED VALVE G1/4
VCMS52S18	B-107	VALVOLA 5/2, COMANDO A PUNTALE G1/8	VALVE 5/2, CAM ACTUATED VALVE G1/8
VCMT3201.	B-104	VALVOLE MANUALI 3/2 - COMANDO A TIRETTO - G1/4, G1/8	BUTTON VALVES 3/2 - G1/4, G1/8
VCMT326M.	B-104	VALVOLE MANUALI 3/2 - COMANDO A TIRETTO - G1/4, G1/8	BUTTON VALVES 3/2 - G1/4, G1/8
VCMT329M.	B-104	VALVOLE MANUALI 3/2 - COMANDO A TIRETTO - G1/4, G1/8	BUTTON VALVES 3/2 - G1/4, G1/8
VCMT5201.	B-104	VALVOLE MANUALI 5/2 - COMANDO A TIRETTO - G1/4, G1/8	BUTTON VALVES 5/2 - G1/4, G1/8
VCMT52M1.	B-104	VALVOLE MANUALI 5/2 - COMANDO A TIRETTO - G1/4, G1/8	BUTTON VALVES 5/2 - G1/4, G1/8
VFP52..4	B-105	VALVOLE 5/2 - COMANDO A PEDALE - G1/4	FOOT-PEDAL VALVES 5/2 - G1/4
VFPMA304	B-105	VALVOLE 3/2 - COMANDO A PEDALE - G1/4	FOOT-PEDAL VALVES 3/2 - G1/4
VFP52..4	B-105	VALVOLE 5/2 - COMANDO A PEDALE - G1/4	FOOT-PEDAL VALVES 5/2 - G1/4
VNCE 3	A-19	FINECORSA MAGNETICO	MAGNETIC SWITCH

index
indice

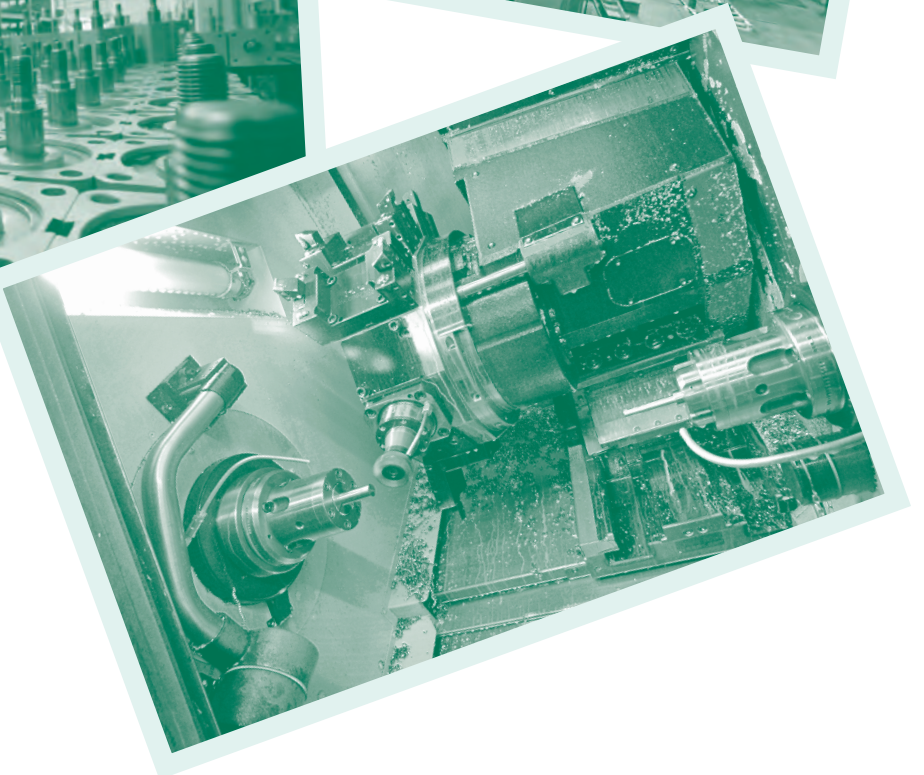
Prodotti/Products	Pag.	Descrizione	Description
VNCR 2	A-19	FINECORSA MAGNETICO	MAGNETIC SWITCH
VNPE 3	A-19	FINECORSA MAGNETICO	MAGNETIC SWITCH
VNPR 2	A-19	FINECORSA MAGNETICO	MAGNETIC SWITCH
VRF2	B-111	REGOLATORI DI FLUSSO	FLOW REGULATORS
VRF3	B-111	REGOLATORI DI FLUSSO	FLOW REGULATORS
VRF4	B-111	REGOLATORI DI FLUSSO	FLOW REGULATORS
VRF8	B-111	REGOLATORI DI FLUSSO	FLOW REGULATORS
VSC-P3 030	A-19	CAVO PROLUNGA SENSORE SERIE "VS"	EXTENSION CABLE FOR MAGNETIC SWITCHES "VS" SERIES
VSPR-SAX	A-110	FINECORSA MAGNETICO	MAGNETIC SWITCH
WPC - ...	B-10	CAVO DI CONNESSIONE SUB-D, E ACCESSORI	CONNECTION CABLE FOR SUB-D
XACM ...	A-110	CILINDRI PNEUMATICI AMMORTIZZATI ISO 6432 - ATEX	CUSHIONED PNEUMATIC CYLINDERS STANDARD ISO 6432 - ATEX SERIES
XACM ... P	A-110	CILINDRI PNEUMATICI AMMORTIZZATI ISO 6432 - ATEX	CUSHIONED PNEUMATIC CYLINDERS STANDARD ISO 6432 - ATEX SERIES
XANL 032-200	A-24	CONTROCERNIERA VERTICALE SERIE "L" - ISO 15552 - 21287	REAR HINGE VERTICAL MOUNTING "L" SERIES - ISO 15552 - 21287
XANN 032-200	A-25	CONTROCERNIERA VERTICALE SERIE "N" - ISO 15552 - 21287	REAR HINGE VERTICAL MOUNTING "N" SERIES - ISO 15552 - 21287
XAS 032-200	A-24	CONTROCERNIERA ORIZZONTALE CETOP	REAR HINGE HORIZONTAL MOUNTING - CETOP
XAS-SN/ 032-125	A-25	CONTROCERNIERA SNODATA STRETTA ISO 15552 - ISO 21287	REAR HINGE MOUNTING WITH NARROW ROD EYE - ISO 15552 - ISO 21287
XASN 032-100	A-48	CONTROCERNIERA ORIZZONTALE INOX	INOX REAR HINGE HORIZONTAL MOUNTING ISO 15552
XASV 032-200	A-24	CONTROCERNIERA ORIZZONTALE ISO 15552 - 21287	REAR HINGE HORIZONTAL MOUNTING ISO 15552 - 21287
XBE -...- NC	B-116	ELETTROVALVOLA ATEX 3/2 G1/8 A COMANDO DIRETTO - NORMALMENTE CHIUSA	ATEX DIRECT ACTING SOLENOID VALVES 3/2 G1/8 - NORMALLY CLOSED
XBE .M.-... NC	B-116	ELETTROVALVOLA ATEX 3/2 G1/8 A COMANDO MANUALE - NORMALMENTE APERTA	ATEX DIRECT ACTING SOLENOID VALVES 3/2 G1/8 WITH MANUAL CONTROL - NORMALLY OPEN
XBMI1	B-116	BASI INTERMEDIE USCITE FONDO E LATERALI PER VALVOLE ISO 5599 TAGLIA 1 ATEX	MIDDLE PLATE FOR ATEX VALVES ISO 5599 SIZE 1
XB51	B-116	BASE SINGOLA USCITE LATERALI PER VALVOLE ISO 5599 TAGLIA 1 ATEX	SINGLE MANIFOLD BASE FOR ATEX VALVES ISO 5599 SIZE 1
XBTC1	B-116	BASI CHIUSURA USCITE FONDO E LATERALI PER VALVOLE ISO 5599 TAGLIA 1 ATEX	END PLATE FOR ATEX VALVES ISO 5599 SIZE 1
XBTI1	B-116	BASI INGRESSO USCITE FONDO E LATERALI PER VALVOLE ISO 5599 TAGLIA 1 ATEX	INLET END PLATE FOR ATEX VALVES ISO 5599 SIZE 1
XCBF 032-100	A-24	CERNIERA OSCILLANTE ANTERIORE ISO 15552 - 21287	FLOATING FRONT HINGE MOUNTING ISO 15552 - 21287
XC 032-200	A-22	CERNIERA FEMMINA POSTERIORE ISO 15552 - 21287	CLEVIS (FEMALE) MOUNTING ISO 15552 - 21287 - REAR
XCF 032-200	A-22	CERNIERA FEMMINA ANTERIORE ISO 15552	CLEVIS (FEMALE) MOUNTING ISO 15552 - FRONT
XCFNX 032-100	A-47	CERNIERA FEMMINA POSTERIORE ISO 15552 INOX	INOX CLEVIS (FEMALE) MOUNTING ISO 15552 - REAR
XCINX 032-100	A-48	CERNIERA INTERMEDIA PER TIRANTI INOX	INOX TIE ROD TRUNNION MOUNTING ISO 15552
XCIR 160-200	A-23	CERNIERA INTERMEDIA REGISTRABILE PER TIRANTI	ADJUSTABLE TIE ROD TRUNNION MOUNTING
XCM 032-200	A-23	CONTROCERNIERA MASCHIO ISO 15552 - 21287	CLEVIS (MALE) MOUNTING ISO 15552 - 21287
XCMTX 032-100	A-47	CONTROCERNIERA MASCHIO ISO 15552 INOX	INOX CLEVIS (MALE) MOUNTING ISO 15552
XCM-SN-AC 032-100	A-25	CERNIERA MASCHIO+SNODO IN ACCIAIO - ISO 15552 - 21287	CLEVIS (MALE) WITH ROD EYE - STEEL - ISO 15552 - 21287
XCM-SN-AL 032-100	A-25	CERNIERA MASCHIO+SNODO IN ALLUMINIO - ISO 15552 - 21287	CLEVIS (MALE) WITH ROD EYE - ALUMINIUM ALLOY - ISO 15552 - 21287
XDSM ...	A-110	CILINDRI INOX 6432 PER AMBIENTI PARTICOLARMENTE AGGRESSIVI - ATEX	PNEUMATIC CYLINDER ISO 6432 FOR HARSH AGGRESSIVE ENVIRONMENTS - ATEX SERIES
XDSM ... P	A-110	CILINDRI INOX 6432 PER AMBIENTI PARTICOLARMENTE AGGRESSIVI - ATEX	PNEUMATIC CYLINDER ISO 6432 FOR HARSH AGGRESSIVE ENVIRONMENTS - ATEX SERIES
XDVM ...	A-110	CILINDRI PNEUMATICI CON PISTONE MAGNETICO ISO 6432 - ATEX	PNEUMATIC CYLINDERS WITH MAGNETIC PISTON STANDARD ISO 6432 - ATEX SERIES
XDVM ... P	A-110	CILINDRI PNEUMATICI CON PISTONE MAGNETICO ISO 6432 - ATEX	PNEUMATIC CYLINDERS WITH MAGNETIC PISTON STANDARD ISO 6432 - ATEX SERIES
XE32W156M-.....	B-116	ELETTROVALVOLA ATEX 3/2 RIPOSIZ. MOLLA MECCANICA-NORM. CHIUSA	ATEX SINGLE SOLENOID VALVE 3/2 - SPRING RETURN- NORMALLY CLOSED
XE32W159M-.....	B-116	ELETTROVALVOLA ATEX 3/2 RIPOSIZ. MOLLA MECCANICA-NORM. APERTA	ATEX SINGLE SOLENOID VALVE 3/2 - SPRING RETURN- NORMALLY OPEN
XE32W2501-.....	B-116	ELETTROVALVOLA ATEX 3/2 DOPPIO COMANDO ELETTROPNEUMATICO	ATEX DOUBLE SOLENOID VALVE 3/2
XE52W15M1-.....	B-116	ELETTROVALVOLA ATEX 5/2 RIPOSIZ. MOLLA MECCANICA	ATEX SINGLE SOLENOID VALVE 5/2
XE52W2501-.....	B-116	ELETTROVALVOLA ATEX 5/2 DOPPIO COMANDO ELETTROPNEUMATICO	ATEX DOUBLE SOLENOID VALVE 5/2
XE53W2561-.....	B-116	ELETTROVALVOLA ATEX 5/3 DOPPIO COM. ELETTROPN.-CENTRI CHIUSI	ATEX DOUBLE SOLENOID VALVE 5/3 - CENTER POSITION CLOSED
XE53W2591-.....	B-116	ELETTROVALVOLA ATEX 5/3 DOPPIO COM. ELETTROPN.-CENTRI APERTI	ATEX DOUBLE SOLENOID VALVE 5/3 - CENTER POSITION OPEN
XFL 032-200	A-22	FLANGIA ISO 15552 - 21287	FLANGE MOUNTING ISO 15552 - 21287
XFLNX 032-100	A-47	FLANGIA ISO 15552 INOX	INOX FLANGE MOUNTING ISO 15552
XJC ...	A-21	CILINDRI PNEUMATICI VDMA - ISO 15552	PNEUMATIC CYLINDERS STANDARD VDMA-ISO 15552
XJC ... P-VS-VV-TN2	A-21	CILINDRI PNEUMATICI VDMA - ISO 15552	PNEUMATIC CYLINDERS STANDARD VDMA-ISO 15552
XJS ...	A-45	CILINDRI PER AMBIENTI AGGRESSIVI, VDMA ISO - 15552	PNEUMATIC CYLINDER ISO 15552 FOR USE IN DUSTY AND AGGRESSIVE ENVIRONMENTS
XJS ... P	A-45	CILINDRI PER AMBIENTI AGGRESSIVI, VDMA ISO - 15552 - STELO PASSANTE	PNEUMATIC CYLINDER ISO 15552 FOR USE IN DUSTY AND AGGRESSIVE ENVIRONMENTS - THROUGH ROD CYLINDER
XJSS ...	A-46	CILINDRI PER AMBIENTI PARTICOLARMENTE AGGRESSIVI, VDMA - ISO 6431	PNEUMATIC CYLINDER ISO 15552 FOR HARSH AGGRESSIVE ENVIRONMENTS
XJSS ... P-VV	A-46	CILINDRI PER AMBIENTI PARTICOLARMENTE AGGRESSIVI, VDMA - ISO 6431	PNEUMATIC CYLINDER ISO 15552 FOR HARSH AGGRESSIVE ENVIRONMENTS
XME .14	B-116	BASI DOPPIO INGRESSO PER ASSEMBLAGGIO VALVOLE-ELETTROV. G1/4 ATEX	DOUBLE INLET MANIFOLD FOR ASSEMBLING VALVES-SOLENOID ATEX VALVES G1/4
XNM32V1P-SR	B-116	VALVOLA ATEX 3/2 RIPOSIZIONAMENTO PNEUMATICO	ATEX PNEUMATIC VALVE 3/2 - INTERNAL PRESSURE RETURN
XNM32V2P-TP	B-116	VALVOLA ATEX 3/2 DOPPIO COMANDO PNEUMATICO	ATEX DOUBLE PNEUMATIC VALVE 3/2
XNM32W15-SR-.....	B-116	ELETTROVALVOLA ATEX 3/2 RIPOSIZIONAMENTO MOLLA MECCANICA	ATEX SINGLE SOLENOID VALVE 3/2 - MECHANICAL RETURN
XNM32W25-TP-.....	B-116	ELETTROVALVOLA ATEX 3/2 DOPPIO COM. ELETTROPNEUMATICO	ATEX DOUBLE SOLENOID VALVE 3/2
XNM52V1P-SR	B-116	VALVOLA ATEX 5/2 PNEUM.-RIPOSIZIONAMENTO MOLLA MECCANICA	ATEX PNEUMATIC VALVE 5/2 - SPRING RETURN
XNM52V2P-TP	B-116	VALVOLA ATEX 5/2 DOPPIO COMANDO PNEUMATICO	ATEX DOUBLE PNEUMATIC VALVE 5/2
XNM52W15-SR-.....	B-116	ELETTROVALVOLA ATEX 5/2 RIPOSIZ. MOLLA MECCANICA	ATEX SINGLE SOLENOID VALVE 5/2 - SPRING RETURN
XNM52W25-TP-.....	B-116	ELETTROVALVOLA ATEX 5/2 DOPPIO COMANDO ELETTROPNEUMATICO	ATEX DOUBLE SOLENOID VALVE 5/2
XNSK ...	A-110	CILINDRI PNEUMATICI COMPATTI UNITOP - ISO 21287 - ATEX	COMPACT PNEUMATIC CYLINDERS - UNITOP - ISO 21287 - ATEX SERIES
XNSK ... P	A-110	CILINDRI PNEUMATICI COMPATTI UNITOP - ISO 21287 - ATEX	COMPACT PNEUMATIC CYLINDERS - UNITOP - ISO 21287 - ATEX SERIES
XNWT ...	A-110	CILINDRI PNEUMATICI VDMA - ISO 15552 - ATEX	PNEUMATIC CYLINDERS STANDARD VDMA-ISO 15552 - ATEX SERIES
XNWT ... P	A-110	CILINDRI PNEUMATICI VDMA - ISO 15552 - ATEX	PNEUMATIC CYLINDERS STANDARD VDMA-ISO 15552 - ATEX SERIES
XP 032-200	A-22	PIEDINO ISO 15552 - 21287	FOOT MOUNTING ISO 15552 - 21287
XPN ...	A-44	CILINDRI PER AMBIENTI AGGRESSIVI - VDMA ISO 15552	PNEUMATIC CYLINDER ISO 15552 FOR AGGRESSIVE ENVIRONMENTS
XPN ... P	A-44	CILINDRI PER AMBIENTI AGGRESSIVI - VDMA ISO 15552 - STELO PASSANTE	PNEUMATIC CYLINDER ISO 15552 FOR AGGRESSIVE ENVIRONMENTS - THROUGH ROD CYLINDER
XPNX 032-100	A-47	PIEDINO ISO 15552 INOX	INOX FOOT MOUNTING ISO 15552
XRFL	A-110	CILINDRI PNEUMATICI SENZA STELO, AMMORTIZZATI, MAGNETICI - ATEX	RODLESS, CUSHIONED, MAGNETIC CYLINDERS - ATEX SERIES
XSV6 52 1M0	B-116	ELETTROVALVOLA ATEX 5/2 RIPOSIZ. MOLLA MECCANICA	ATEX SINGLE SOLENOID VALVE 5/2

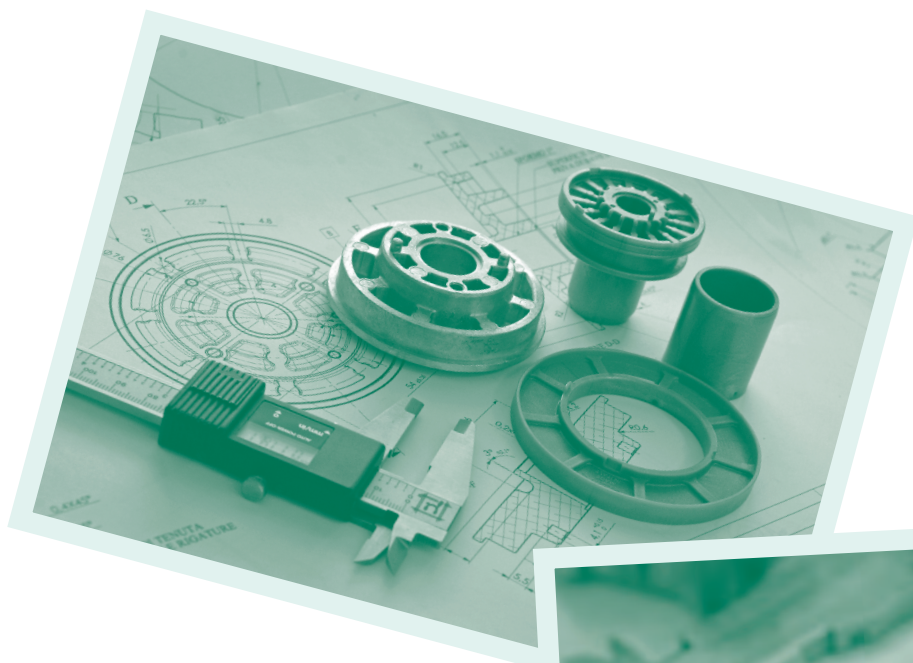


index

indice

Prodotti/Products	Pag.	Descrizione	Description
XSVE6 52 200	B-116	ELETTROVALVOLA ATEX 5/2 DOPPIO COMANDO ELETTROPNEUMATICO	ATEX DOUBLE SOLENOID VALVE 5/2
XSVP4 52 1M0	B-116	VALVOLA ATEX 5/2 PNEUM.-RIPOSIZIONAMENTO MOLLA MECCANICA	ATEX PNEUMATIC VALVE 5/2 - SPRING RETURN
XSVP4 52 200	B-116	VALVOLA ATEX 5/2 DOPPIO COMANDO PNEUMATICO	ATEX DOUBLE PNEUMATIC VALVE 5/2
XV32V1P6M.	B-116	VALVOLA ATEX 3/2 PNEUM.-RIPOS. MOLLA MECC.-NORM. CHIUSA	ATEX PNEUMATIC VALVE 3/2 -SPRING RETURN-NORMALLY CLOSED
XV32V1P9M.	B-116	VALVOLA ATEX 3/2 PNEUM.-RIPOS. MOLLA MECC.-NORM. APERTA	ATEX PNEUMATIC VALVE 3/2 -SPRING RETURN-NORMALLY OPEN
XV32V2P01.	B-116	VALVOLA ATEX 3/2 DOPPIO COMANDO PNEUMATICO	ATEX DOUBLE PNEUMATIC VALVE 3/2
XV52V1PM1.	B-116	VALVOLA ATEX 5/2 PNEUM.-RIPOSIZIONAMENTO MOLLA MECCANICA	ATEX PNEUMATIC VALVE 5/2 - SPRING RETURN
XV52V2P01.	B-116	ELETTROVALVOLA ATEX 3/2 DOPPIO COMANDO ELETTROPNEUMATICO	ATEX DOUBLE SOLENOID VALVE 3/2
XV53V2P61.	B-116	VALVOLA ATEX 5/3 DOPPIO COM.PNEUMATICO-CENTRI CHIUSI	ATEX PNEUMATIC VALVE 5/3 WITH DOUBLE PNEUMATIC PILOT - CLOSED CENTRES
XV53V2P91.	B-116	VALVOLA ATEX 5/3 DOPPIO COM.PNEUMATICO-CENTRI APERTI	ATEX PNEUMATIC VALVE 5/3 WITH DOUBLE PNEUMATIC PILOT - OPEN CENTRES
XXJSS ...	A-110	CILINDRI PER AMBIENTI PARTICOLARMENTE AGGRESSIVI, VDMA - ISO 6431 - ATEX	PNEUMATIC CYLINDER ISO 15552 FOR HARSH AGGRESSIVE ENVIRONMENTS - ATEX SERIES
XXJSS ... P	A-110	CILINDRI PER AMBIENTI PARTICOLARMENTE AGGRESSIVI, VDMA - ISO 6431 - ATEX	PNEUMATIC CYLINDER ISO 15552 FOR HARSH AGGRESSIVE ENVIRONMENTS - ATEX SERIES
YES	B-110	UNITA' DI LOGICA - YES, TUBO 4mm	LOGIC ELEMENT - YES, PUSH-IN 4mm
ZRS11	A-97	FINECORSA MAGNETICO PER CILINDRI SERIE "RL"	MAGNETIC SWITCH FOR CYLINDERS "RL" SERIES







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