



BUILDING FEATURES / CARATTERISTICHE COSTRUTTIVE

VESTA valves and solenoid valves with connections **G1/8, G1/4** and **G1/2** are available in the 3/2, 5/2 and 5/3 versions, with different forms of actuation (i.e. solenoid / pilot etc.).

The choice of high quality materials and the technical solution adopted allows to the 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**), reduce internal friction (see fig. **C**) and provides the valve with a long lasting durable life span.

Valves and Solenoid valves with connections **G1/8; G1/4** and **G1/2** can operate continuously without lubrication (see fig. **E**) and are sealed against working environment.

*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.

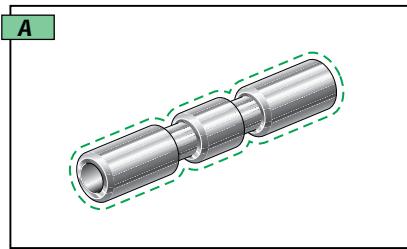
*La spola, costruita in lega leggera e progettata per consentire elevate portate nominali (**D**), viene trattata superficialmente al nickel (Niploy Process) (**A**) onde acquisire una durezza maggiore ed una più elevata resistenza agli agenti aggressivi.*

*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**).*

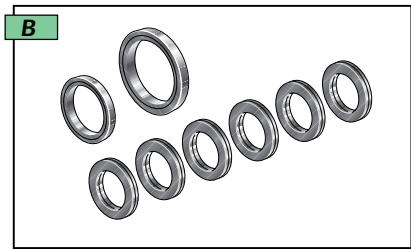
*L'ermeticità di funzionamento verso l'ambiente di lavoro ne fa inoltre un prodotto adatto all'impiego in settori cosiddetti "difficili" (**F**).*

Nelle pagine che seguono tutte le caratteristiche funzionali di ciascuna valvola sono convalidate dal Dipartimento di Meccanica del Politecnico di Torino.

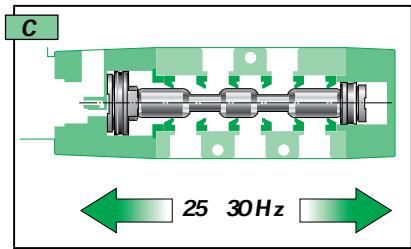


Light alloy spool with Niploy Process treated surface.

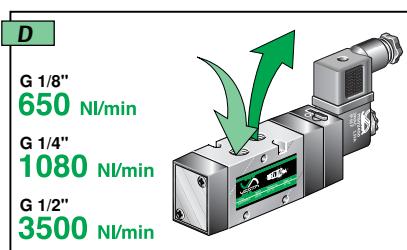
Spola in lega leggera con trattamento superficiale Niploy Process.



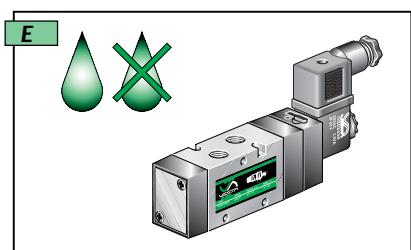
Self lubricating lip rubber seals.
Guarnizioni in elastomero nitrilico con profilo del labbro antiusura.



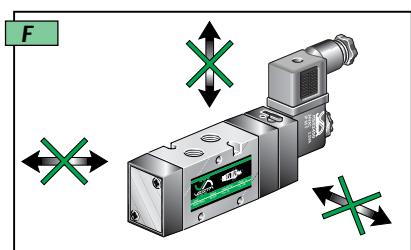
High working frequency.
Alta velocità di scambio per cicli di lavoro elevati.



High nominal air flow.
Alta portata nominale.



Possibility of operating continuously without lubrication.
Possibilità di funzionamento continuo privo di lubrificazione.



Sealed against working environment.
Ermeticità di funzionamento verso l'ambiente di lavoro.

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 creates a force which allows the spool to move and therefore to connect ports **4 - 1** and **2 - 3**.

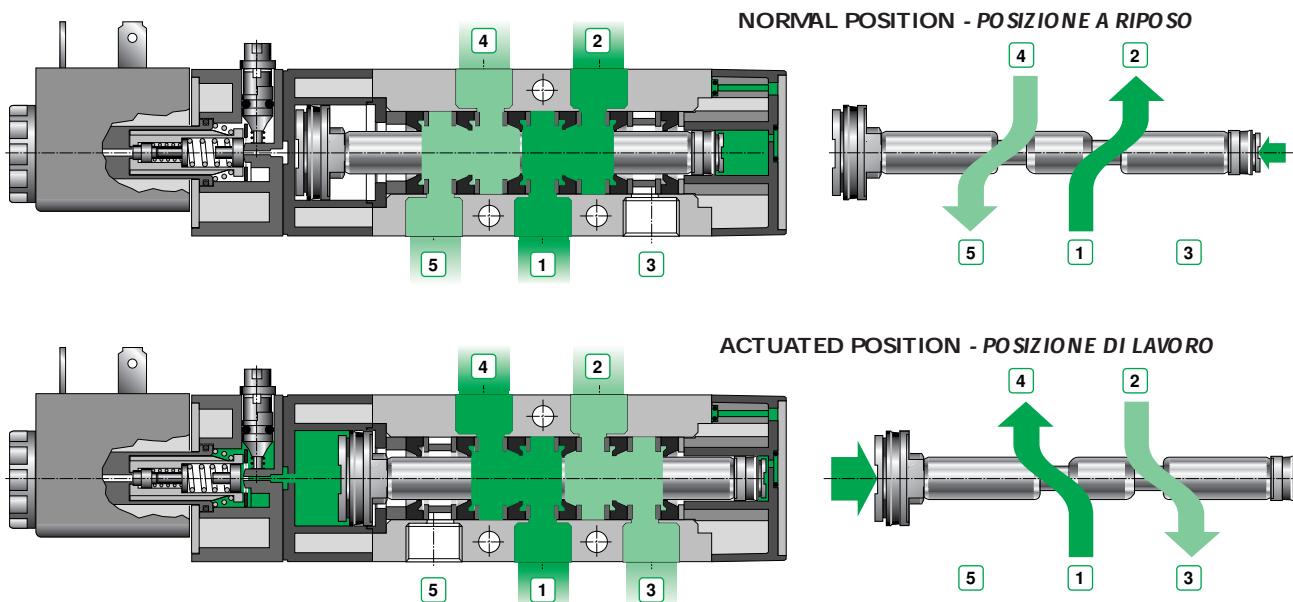
In the mechanical spring version, the valve is kept in the normal position by a mechanical spring.

In the bistable versions, the position of the valve remains in its last switched state.

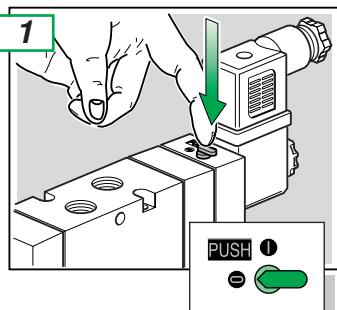
*Il principio di funzionamento del distributore 5/2 (nell'esempio la valvola a comando elettropneumatico e riposizionamento a molla pneumatica **E52W1S018 - 02450**) consiste nel mantenere costantemente in pressione il pistone di riposizionamento (fig. 1), utilizzando la fonte d'aria compressa presente 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). Disseccitando 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.



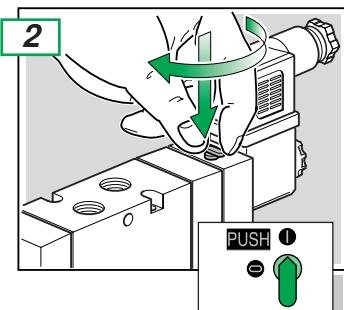
MANUAL OVERRIDING / AZIONAMENTO COMANDO MANUALE



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.

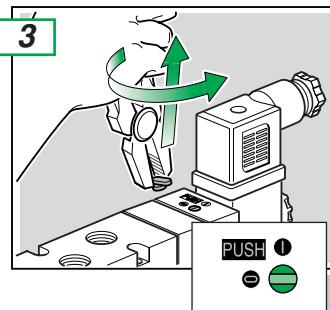
Rilasciare per ripristinare la condizione di riposo.



To active the valve permanently push the MO (manual override) and rotate clockwise 90°.

To return to normal position, push the MO again and turn 90° anticlockwise.

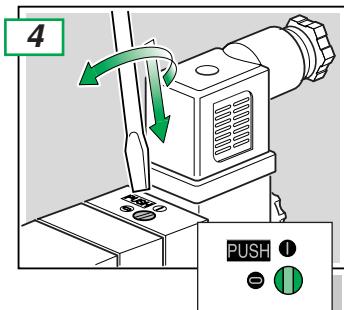
Per azionare la valvola in modo permanente premere la leva del comando manuale e ruotare in senso orario sino alla posizione 1. Ruotare in senso antiorario per ripristinare la condizione di riposo.



Should the MO no longer be required, then turn the MO anticlockwise until it breaks off.

To return to normal position, push the MO again and turn 90° anticlockwise.

Terminato il collaudo ruotare in senso antiorario la leva sino alla rottura.



Should the MO 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 **G1/8, G1/4, G1/2****VALVES AND SOLENOID VALVES "E" SERIES
VALVOLE ED ELETROVALVOLE SERIE "E"****COMMON FEATURES VALVES G1/8 SERIES / CARATTERISTICHE COMUNI VALVOLE SERIE G1/8****Port connections**

G1/8
 G1/8
 Ø 6 mm
 -10 °C ÷ +50 °C
 0 °C ÷ +40 °C
 Not required
 Filtered air
 +20 °C
 6 bar

3/2 VALVES AND SOLENOID VALVES

Fixing.....

n°3 holes Ø 4,25
 manifold system see p. 26.
 650 Nl/min
 2,7 Nl/s bar
 0,203

5/2 VALVES AND SOLENOID VALVES

Fixing.....

n°3 holes Ø 4,25
 manifold system pp. 24 ÷ 26.
 650 Nl/min
 2,7 Nl/s bar
 0,203

5/3 VALVES AND SOLENOID VALVES

Fixing.....

n°3 holes Ø 4,25
 manifold system pp. 24 ÷ 26.
 530 Nl/min
 2,17 Nl/s bar
 0,236

Connessioni di lavoro.....

G1/8
 Connessioni operatori.....
 Ø 6 mm
 -10 °C ÷ +50 °C
 0 °C ÷ +40 °C
 Lubrificazione.....
 Fluido.....
 Temperatura nominale.....
 Pressione nominale.....

VALVOLE ED ELETROVALVOLE 3/2

Fissaggio.....
 n°3 fori laterali Ø 4,25
 su collettore vedi p. 26
 650 Nl/min
 2,7 Nl/s bar
 0,203

VALVOLE ED ELETROVALVOLE 5/2

Fissaggio
 su base vedi pp. 24 ÷ 25
 Portata nominale
 Valore conduttanza "C"
 Rapporto critico delle pressioni "b"

VALVOLE ED ELETROVALVOLE 5/3

Fissaggio
 su base vedi pp. 24 ÷ 25
 Portata nominale
 Valore conduttanza "C"
 Rapporto critico delle pressioni "b"

G1/8

Nominal air flow

Fluid conductance "C"
 Critical pressure ratio "b"

5/2 VALVES AND SOLENOID VALVES

Nominal air flow

Fluid conductance "C"
 Critical pressure ratio "b"

5/3 VALVES AND SOLENOID VALVES

Nominal air flow

Fluid conductance "C"
 Critical pressure ratio "b"

VALVES AND SOLENOID VALVES G1/4 SERIES / VALVOLE ED ELETROVALVOLE SERIE G1/4**Port connections**

G1/4
 G1/4
 Ø 8 mm
 -10 °C ÷ +50 °C
 0 °C ÷ +40 °C
 Not required
 Filtered air
 +20 °C
 6 bar

3/2 VALVES AND SOLENOID VALVES

Fixing.....

n°3 holes Ø 4,25
 manifold system see p. 27.
 1080 Nl/min
 4,34 Nl/s bar
 0,212

5/2 VALVES AND SOLENOID VALVES

Fixing.....

n°3 holes Ø 4,25
 manifold system pp. 24 ÷ 25, 27.
 1080 Nl/min
 4,34 Nl/s bar
 0,212

5/3 VALVES AND SOLENOID VALVES

Fixing.....

n°3 holes Ø 4,25
 manifold system pp. 24 ÷ 25, 27.
 800 Nl/min
 3,22 Nl/s bar
 0,265

Connessioni di lavoro.....

G1/4
 Connessioni operatori.....
 Ø 8 mm
 -10 °C ÷ +50 °C
 0 °C ÷ +40 °C
 Lubrificazione.....
 Fluido.....
 Temperatura nominale.....
 Pressione nominale.....

VALVOLE ED ELETROVALVOLE 3/2

Fissaggio.....
 n°3 fori laterali Ø 4,25
 su collettore vedi p. 27
 1080 Nl/min
 4,34 Nl/s bar
 0,212

VALVOLE ED ELETROVALVOLE 5/2

Fissaggio
 su base vedi pp. 24 ÷ 25
 Portata nominale
 Valore conduttanza "C"
 Rapporto critico delle pressioni "b"

VALVOLE ED ELETROVALVOLE 5/3

Fissaggio
 su base vedi pp. 24 ÷ 25
 Portata nominale
 Valore conduttanza "C"
 Rapporto critico delle pressioni "b"

G1/4

Nominal air flow

Fluid conductance "C"
 Critical pressure ratio "b"

5/2 VALVES AND SOLENOID VALVES

Nominal air flow

Fluid conductance "C"
 Critical pressure ratio "b"

5/3 VALVES AND SOLENOID VALVES

Nominal air flow

Fluid conductance "C"
 Critical pressure ratio "b"

VALVES AND SOLENOID VALVES G1/2 SERIES / VALVOLE ED ELETROVALVOLE SERIE G1/2**Port connections**

G1/2
 G1/2
 Ø 15 mm
 -10 °C ÷ +50 °C
 0 °C ÷ +40 °C
 Not required
 Filtered air
 +20 °C
 6 bar

3/2 VALVES AND SOLENOID VALVES

Fixing.....

n°3 holes Ø 5,5
 3500 Nl/min
 12,88 Nl/s bar
 0,393

5/2 VALVES AND SOLENOID VALVES

Fixing.....

n°3 holes Ø 5,5
 3500 Nl/min
 12,88 Nl/s bar
 0,396

5/3 VALVES AND SOLENOID VALVES

Fixing.....

n°3 holes Ø 5,5
 3000 Nl/min
 10,76 Nl/s bar
 0,42

Connessioni di lavoro.....

G1/2
 Connessioni operatori.....
 Ø 15 mm
 -10 °C ÷ +50 °C
 0 °C ÷ +40 °C
 Lubrificazione.....
 Fluido.....
 Temperatura nominale.....
 Pressione nominale.....

VALVOLE ED ELETROVALVOLE 3/2

Fissaggio.....
 n°3 fori laterali Ø 5,5
 3500 Nl/min
 12,88 Nl/s bar
 0,393

VALVOLE ED ELETROVALVOLE 5/2

Fissaggio
 12,88 Nl/s bar
 0,396

VALVOLE ED ELETROVALVOLE 5/3

Fissaggio
 800 Nl/min
 3,22 Nl/s bar
 0,265

G1/2

Nominal air flow

Fluid conductance "C"
 Critical pressure ratio "b"

5/2 VALVES AND SOLENOID VALVES

Nominal air flow

Fluid conductance "C"
 Critical pressure ratio "b"

5/3 VALVES AND SOLENOID VALVES

Nominal air flow

Fluid conductance "C"
 Critical pressure ratio "b"

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
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
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 ELETROVALVOLE

Size Taglia	Code Codice	Average actioning response (ms) Tempo medio di risposta in eccitazione (ms)		Average disactioning 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		
G 1/8"	E32W1S618	17 ms	19 ms	20 ms	24 ms	29 Hz	18 Hz
	E32W1S918	17 ms	19 ms	20 ms	24 ms	29 Hz	18 Hz
	E32W1S6M8	17 ms	19 ms	21 ms	34 ms	13 Hz	13 Hz
	E32W1S9M8	17 ms	19 ms	21 ms	34 ms	13 Hz	13 Hz
	E32W2S018	10 ms	12 ms	10 ms	12 ms	31 Hz	23 Hz
	E52W1S018	10 ms	17 ms	20 ms	24 ms	29 Hz	17 Hz
	E52W1SM18	17 ms	19 ms	21 ms	34 ms	13 Hz	13 Hz
	E52W2S018	10,5 ms	12,5 ms	10,5 ms	12,5 ms	31 Hz	22 Hz
	E53W2S618	16 ms	19 ms	16 ms	19 ms	9 Hz	9 Hz
	E53W2S918	16 ms	19 ms	16 ms	19 ms	9 Hz	9 Hz
G 1/4"	E32W1S614	18 ms	21 ms	33 ms	44 ms	17 Hz	14 Hz
	E32W1S914	18 ms	21 ms	33 ms	44 ms	17 Hz	14 Hz
	E32W1S6M4	19 ms	21 ms	35 ms	46 ms	11 Hz	11 Hz
	E32W1S9M4	19 ms	21 ms	35 ms	46 ms	11 Hz	11 Hz
	E32W2S014	11 ms	14 ms	11 ms	14 ms	27 Hz	22 Hz
	E52W1S014	18 ms	21 ms	33 ms	44 ms	16 Hz	13 Hz
	E52W1SM14	19 ms	21 ms	35 ms	46 ms	11 Hz	11 Hz
	E52W2S014	11 ms	14 ms	11 ms	14 ms	27 Hz	21 Hz
	E53W2S614	17 ms	20 ms	17 ms	20 ms	8 Hz	8 Hz
	E53W2S914	17 ms	20 ms	17 ms	20 ms	8 Hz	8 Hz
G 1/2"	E32W1S612	43 ms	45 ms	55 ms	55 ms	13 Hz	12 Hz
	E32W1S912	43 ms	45 ms	55 ms	55 ms	13 Hz	12 Hz
	E32W1S6M2	47 ms	49 ms	60 ms	60 ms	8 Hz	8 Hz
	E32W1S9M2	47 ms	49 ms	60 ms	60 ms	8 Hz	8 Hz
	E32W2S012	22 ms	26 ms	22 ms	26 ms	16 Hz	15 Hz
	E52W1S012	47 ms	49 ms	58 ms	58 ms	11 Hz	10 Hz
	E52W1SM12	47 ms	49 ms	60 ms	60 ms	8 Hz	8 Hz
	E52W2S012	24 ms	28 ms	24 ms	28 ms	14 Hz	13 Hz
	E53W2S612	49 ms	49 ms	60 ms	60 ms	6 Hz	6 Hz
	E53W2S912	49 ms	49 ms	60 ms	60 ms	6 Hz	3 ÷ 10 bar

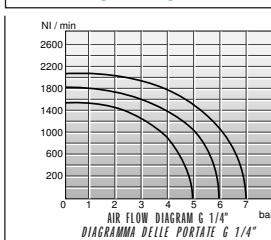
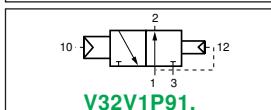
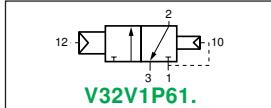
For electrical features solenoid pilot see pp. B-29 and B-31.
Caratteristiche elettriche elettrovalvole per solenoide vedi pp. B-29 e B-31.



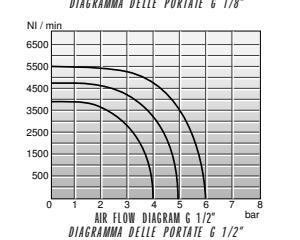
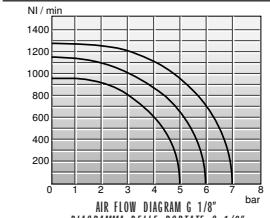
V32V1P . 1.



SIMBOLS / SIMBOLI



DIAGRAMS / DIAGRAMMI



VALVE / VALVOLA 3/2
SINGLE PNEUMATIC PILOT - INTERNAL PRESSURE RETURN
COMANDO PNEUMATICO - RIPOSIZIONAMENTO A MOLLA PNEUMATICA

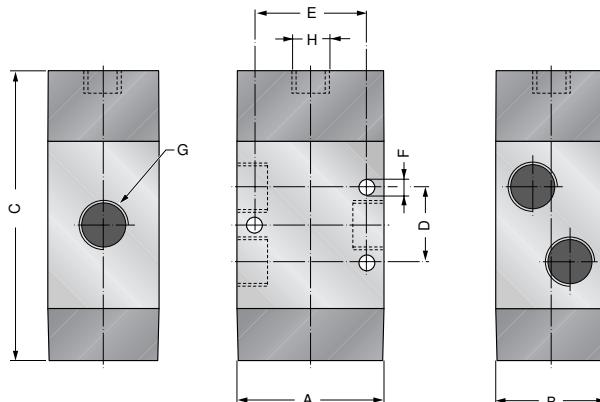
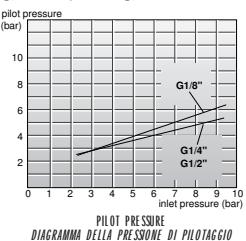


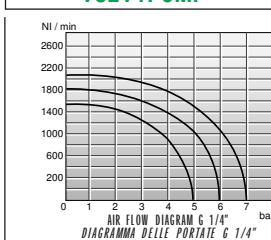
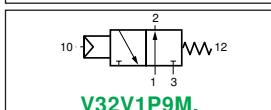
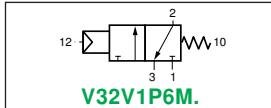
DIAGRAM / DIAGRAMMA



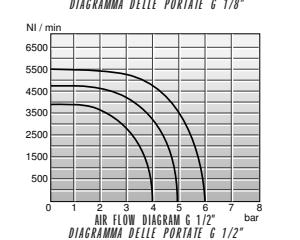
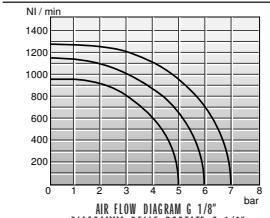
V32V1P . M.



SIMBOLS / SIMBOLI



DIAGRAMS / DIAGRAMMI



VALVE / VALVOLA 3/2
SINGLE PNEUMATIC PILOT - SPRING RETURN
COMANDO PNEUMATICO - RIPOSIZIONAMENTO A MOLLA MECCANICA

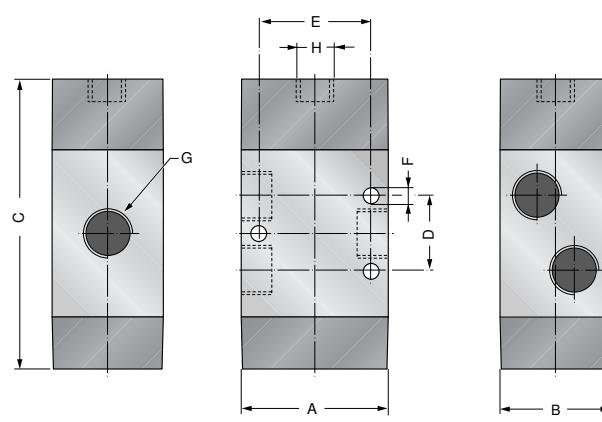
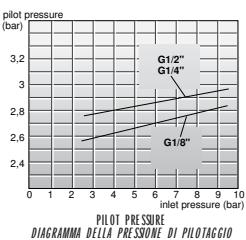


DIAGRAM / DIAGRAMMA



VALVE / VALVOLA 3/2

DOUBLE PNEUMATIC PILOT / DOPPIO COMANDO PNEUMATICO

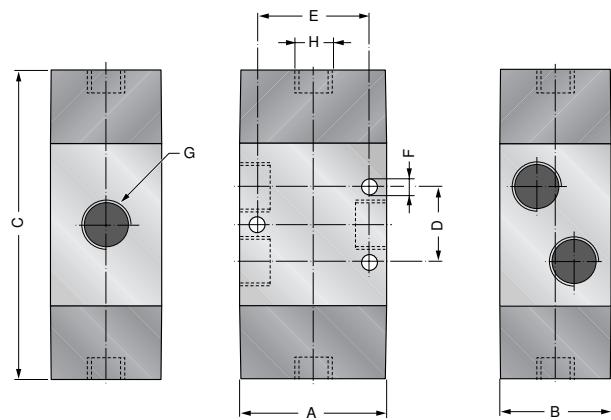
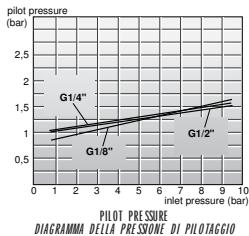


DIAGRAM / DIAGRAMMA

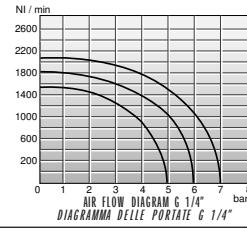
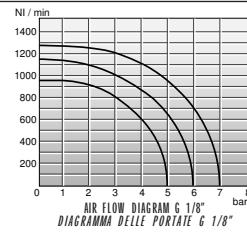


Size Taglia	A	B	C	D	E	$\emptyset F$	G	H
G1/8	30	26	79	18	23	4,25	G1/8	G1/8
G1/4	40	30	87	20	30	4,25	G1/4	G1/8
G1/2	60	40	132	40	50	5,5	G1/2	G1/8

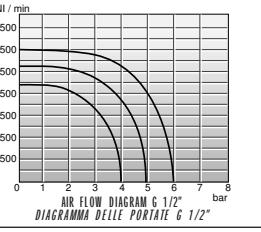
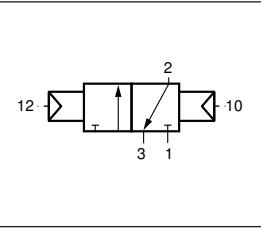
V32V2P01.



DIAGRAMS / DIAGRAMMI



SIMBOL / SIMBOLO



VALVE / VALVOLA 5/2

SINGLE PNEUMATIC PILOT / COMANDO PNEUMATICO

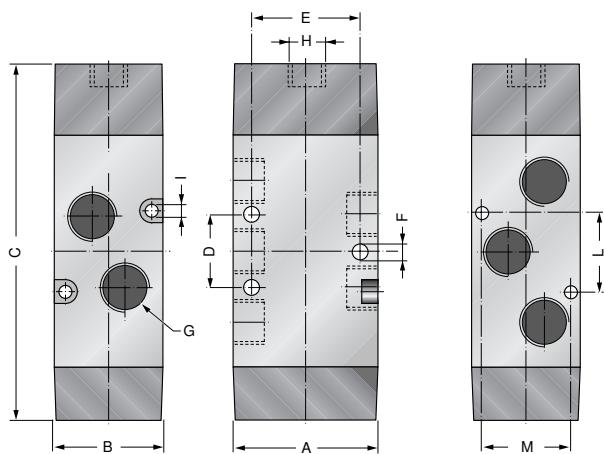
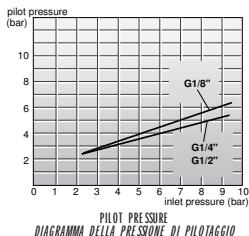


DIAGRAM / DIAGRAMMA

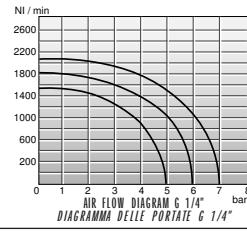
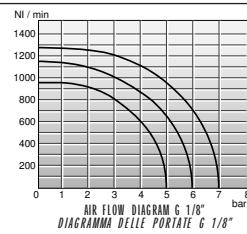


Size Taglia	A	B	C	D	E	$\emptyset F$	G	H	$\emptyset I$	L	M
1/8	30	26	91	18	23	4,25	G1/8	G1/8	3,25	28,6	20
1/4	40	30	100	20	30	4,25	G1/4	G1/8	3,25	21	24,6

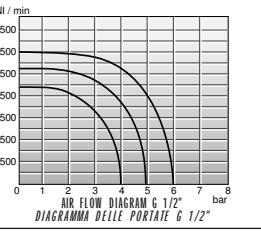
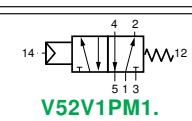
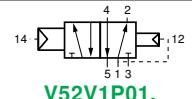
V52V1P . 1.



DIAGRAMS / DIAGRAMMI

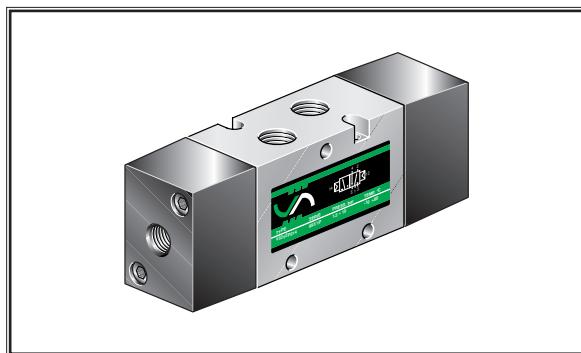


SIMBOLS / SIMBOLI

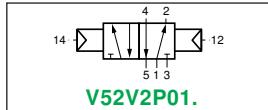




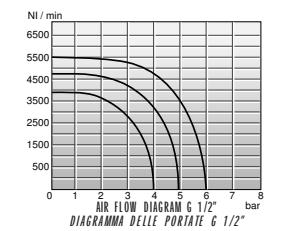
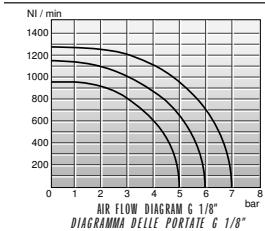
V52V2P . 1.



SIMBOLS / SIMBOLI



DIAGRAMS / DIAGRAMMI



AIR FLOW DIAGRAM G 1/2"

DIAGRAMMA DELLE PORTATE G 1/2"

VALVE / VALVOLA 5/2 DOUBLE PNEUMATIC PILOT / DOPPIO COMANDO PNEUMATICO

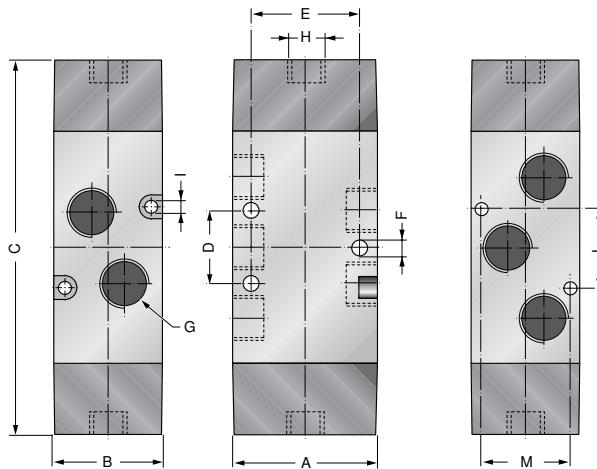
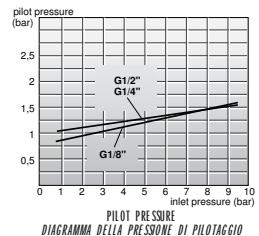


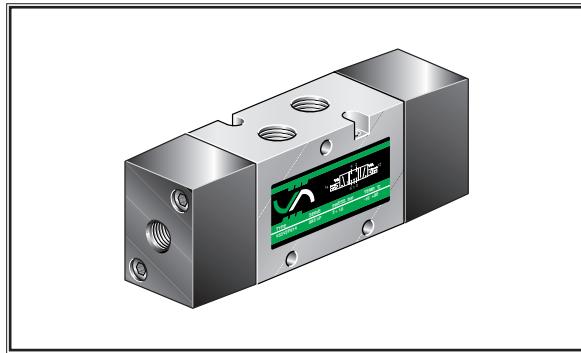
DIAGRAM / DIAGRAMMA



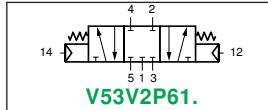
Size

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	—	—	—

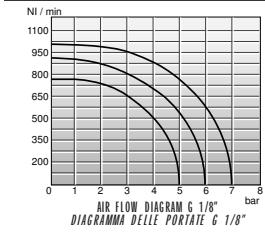
V53V2P . 1.



SIMBOLS / SIMBOLI

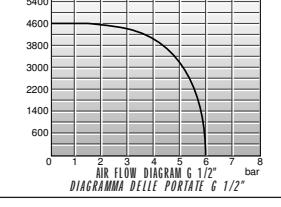


DIAGRAMS / DIAGRAMMI



AIR FLOW DIAGRAM G 1/4"

DIAGRAMMA DELLE PORTATE G 1/4"



VALVE / VALVOLA 5/2 DOUBLE PNEUMATIC PILOT / DOPPIO COMANDO PNEUMATICO

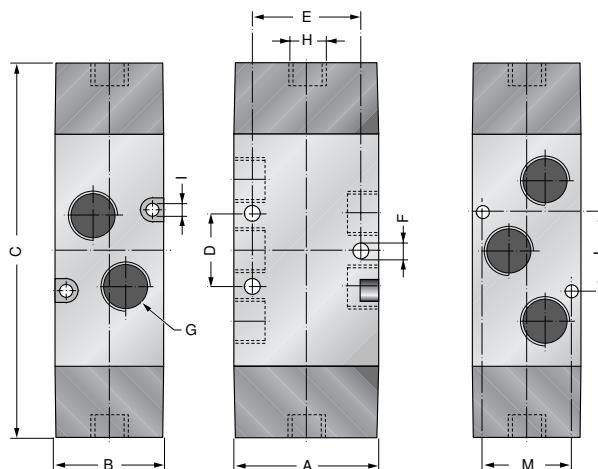
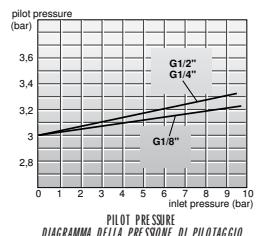


DIAGRAM / DIAGRAMMA



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	—	—	—