

VALVES AND SOLENOID VALVES



WELCOME TO CAMOZZI AUTOMATION

Camozzi Automation offers range of products including components, systems and technologies for the industrial automation sector, the control of fluids – both liquids and gases – and for applications dedicated to the transportation and health industries.



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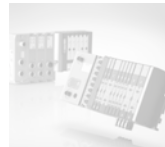
Our catalogues

Pneumatic actuation



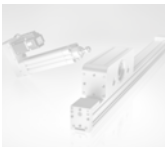
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- 3 Stainless steel cylinders
- 4 Guided cylinders
- 5 Cylinders not according standards
- 6 Rotary cylinders
- 7 Rodless cylinders
- 8 Proximity switches
- 9 Clamping elements and shock absorbers

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- 2 Multi-serial modules

Electric actuation



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- 2 Electromechanical axes
- 3 Drives
- 4 Motors

Proportional technology



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Handling and vacuum



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Air treatment



- 1 Series MX Modular FRL Units
- 2 Series MC Modular FRL Units
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- 7 Accessories for air treatment

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- 2 Solenoid valves, pneumatic valves
- 3 Mechanical and manual valves
- 4 Logic valves
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Pneumatic connection


















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P10...-0...	P (Manifolds)	1.15.03-04	33, 34
P10...-0...	PL (Manifolds)	1.16.03	39
P10...-0...	PN (Manifolds)	1.17.03-04	45, 46
P10...-0...	W (Manifolds)	1.10.04	29
P2...-0...	P (Manifolds)	1.15.04	34
P2...-0...	PL (Manifolds)	1.16.04	40
P2...-0...	PN (Manifolds)	1.17.04	46
P2...-0...	W (Manifolds)	1.10.05	30
PCF-E520	E (Accessories)	2.05.15	107
PCF-EN531	EN (Accessories)	2.07.38	147
PCP-E52...	E (Intermediate plates)	2.05.16-17	108, 109
PCS-E52...	E (Intermediate plates)	2.05.17	109
PD000-2...	PD (Directly operated solenoid valves)	1.18.02	50
PDCV0122-...	PDV (Directly operated solenoid valves)	1.19.02	56
PDV001-...	PDV (Single sub-base)	1.19.04	58
PL...	PL (Directly operated solenoid valves)	1.16.02	38
PMCO 70...	PMCO (Bidirectional flow controllers)	6.07.05	284
PMCU 70...	PMCU (Unidirectional flow controllers)	6.07.04	283
PMVU 70...	PMVU (Unidirectional flow controllers)	6.07.05	284
PN...	PN (Directly operated solenoid valves)	1.17.02	44
PSCO 60...	PSCO (Bidirectional flow controllers)	6.07.05	284
PSCU 60...	PSCU (Unidirectional flow controllers)	6.07.04	283
PSVU 60...	PSVU (Unidirectional flow controllers)	6.07.04	283
RFO 3...	RFO (Bidirectional flow controllers)	6.20.05	298
RFU 4...	RFU (Unidirectional flow controllers)	6.20.05	298
RSW...	RSW (Silenced exhaust controllers)	6.05.08	279
SCO 60...	SCO (Directional flow controllers)	6.05.05	276
SCO 60...+2905...	SCO (Silenced exhaust controllers)	6.05.08	279
SCO 61...	SCO (Directional flow controllers)	6.05.07	278
SCS-668-06	SCS (Circuit selector)	5.01.01	260
SCU 60...	SCU (Unidirectional flow controllers)	6.05.04	275
SCU 61...	SCU (Unidirectional flow controllers)	6.05.06	277
SVU 60...	SVU (Unidirectional flow controllers)	6.05.04	275
SVU 61...	SVU (Unidirectional flow controllers)	6.05.06	277
TP-E52...	E (Manifold plugs)	2.05.16	108
TP-EN5...	EN (Manifold plugs)	2.07.38	147
TC1-V...	TC (shut-off micro-valves)	2.03.02	90
TCNVL/...	3 (Manifold plugs)	2.10.15	164
TCNVL/...	4 (Manifold plugs)	2.15.25	189
TMCO 97...	TMCO (Bidirectional flow controllers)	6.10.04	288
TMCU 97...	TMCU (Unidirectional flow controllers)	6.10.04	288
TMVU 97...	TMVU (Unidirectional flow controllers)	6.10.04	288
U7...	U (Solenoids)	2.35.03	214
VBO...	VBO (Bidirectional blocking valves)	5.10.05	271
VBU...	VBU (Unidirectional blocking valves)	5.10.05	271
VMR 1/8-B10	VMR (Adjustable valve)	5.05.02	266
VMS-1...	VMS (Slide valves)	3.30.09	251
VNR-...	VNR (Unidirectional valves)	5.02.01	261
VSC 5...	VSC (Quick exhaust valves)	5.04.03	264
VSO 4...	VSO (Quick exhaust valves)	5.04.02	263
W...	W (Directly operated solenoid valves)	1.10.02	27

Series K8 directly operated solenoid valves

2/2-way - Normally Closed (NC) and Normally Open (NO)
3/2-way - Normally Closed (NC) and Normally Open (NO)
3/2-way - Universal (UNI)



- » Compact design
- » High performances
- » Manifold mounting
- » Long life
- » Version for use with oxygen available

The universal (UNI) version enables to mix two different gaseous fluids or to select the path of the gaseous fluid in the pneumatic circuit.

Thanks to their particular design these valves can be used in applications where very compact solutions are required as well as high performances.

Series K8 is used to control actuators or very small devices and it is suitable for portable equipments thanks to low power consumption, reduced weight and dimensions.

GENERAL DATA

TECHNICAL FEATURES

Function	2/2 NC - 3/2 NC - 2/2 NO - 3/2 NO - 3/2 UNI
Operation	direct acting poppet type
Pneumatic connections	manifold cartridge
Nominal diameter	0.5 - 0.7 mm
Nominal flow	see kv
Flow efficient kv (l/min)	0.08 - 0.15
Operating pressure	-1 ÷ 3 ... 7 bar
Operating temperature	0°C ÷ 50°C
Media	filtered compressed air, unlubricated, according to ISO 8573-1 class 3.4.3, inert gas
Response time (ISO 12238)	ON <10 msec - OFF <10 msec
Installation	in any position

MATERIALS IN CONTACT WITH THE MEDIUM

Body	brass - stainless steel - PBT technopolymer
Seals	FKM
Internal parts	stainless steel

ELECTRICAL FEATURES

Voltage	24 V DC - 12 V DC - 6 V DC - other voltages on demand
Voltage tolerance	±10%
Power consumption	0.6 W
Duty cycle	ED 100%
Electrical connection	2 Pin 0.5 x 0.5 spacing 4 mm
Protection class	IP00

Special versions available on demand To order the version for use with oxygen, please add OX1 at the end of the standard code.

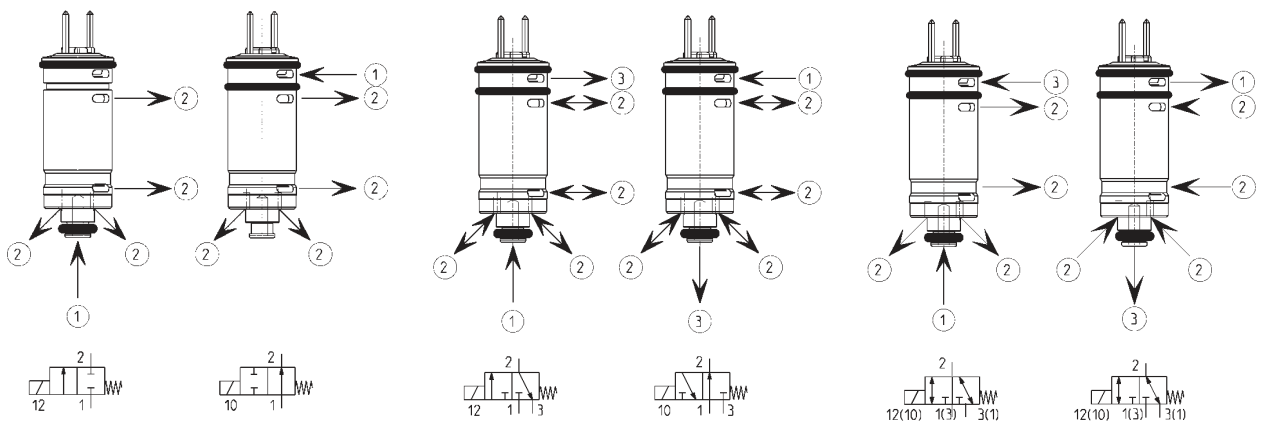
CODING EXAMPLE

K8	0	00	-	3	0	3	-	K	2	3
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K8	SERIES
0	BODY DESIGN: 0 = single valve
00	NUMBER OF POSITIONS: 00 = valve without seat
3	NUMBER OF WAYS - FUNCTIONS: 0 = single base 3 = 3-way NC 4 = 3-way NO 5 = 2-way NC 6 = 2-way NO 7 = 3-way UNI
0	MATERIALS AND SEALS: 0 = poppet, FKM seals
3	NOMINAL DIAMETER: 3 = Ø 0.5 mm (max pressure 7 bar) 5 = Ø 0.7 mm 6 = Ø 0.5 mm (max pressure 4 bar)
K	MATERIALS: K = stainless steel body, brass cage
2	ELECTRICAL CONNECTION: 2 = pin interface size 4 mm
3	VOLTAGE - POWER CONSUMPTION: 1 = 6V DC - 0.6 W 2 = 12V DC - 0.6 W 3 = 24V DC - 0.6 W 5 = 5V DC - 0.6 W
	OPTIONS: = standard OX1 = for use with oxygen (non volatile residual less than 550 mg/m ²)

SERIES K8 SOLENOID VALVES

AVAILABLE FUNCTIONS



2/2 NC

2/2 NO

3/2 NC

3/2 NO

3/2 UNI (mix.)

3/2 UNI (sel.)

1 = supply
2 = inlet

1 = supply
2 = inlet
3 = exhaust

1 = supply
2 = inlet
3 = exhaust

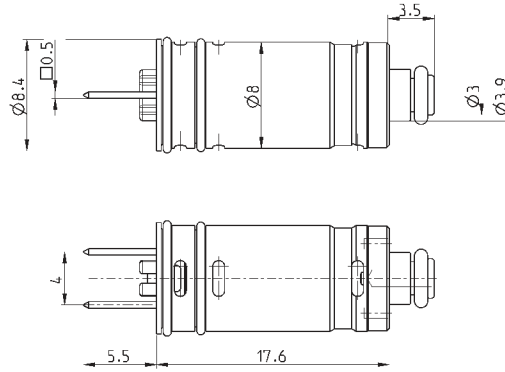
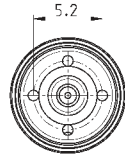
The 3/2 UNI version can be used also for 3/2 NC or 3/2 NO functions.

8 mm solenoid valve, 2/2-way NC, NO - 3/2 NC, NO, UNI



NOTE TO THE TABLE:

* to complete the code add VOLTAGE - POWER CONSUMPTION (see the CODING EXAMPLE)



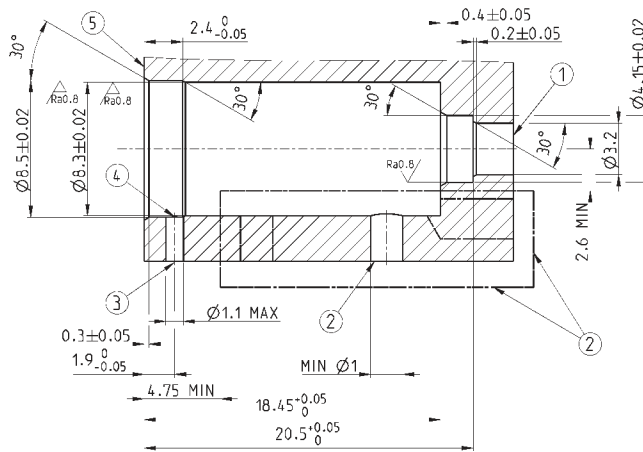
Mod.	Function	Orifice Ø (mm)	kv (l/min) 1 → 2	Qn (NL/min) 1 → 2	kv (l/min) 2 → 3	Qn (NL/min) 2 → 3	Min-max pressure (bar)
K8000-503-K2 ^{2*}	2/2 NC	0.5	0.08	5	-	-	1 ÷ 7
K8000-506-K2 ^{2*}	2/2 NC	0.5	0.08	-	-	-	-1 ÷ 4
K8000-505-K2 ^{2*}	2/2 NC	0.7	0.15	-	-	-	-1 ÷ 3
K8000-603-K2 ^{2*}	2/2 NO	0.6	0.10	6.5	-	-	1 ÷ 7
K8000-303-K2 ^{2*}	3/2 NC	0.5	0.08	5	0.10	6.5	1 ÷ 7
K8000-306-K2 ^{2*}	3/2 NC	0.5	0.08	-	0.10	-	-1 ÷ 4
K8000-305-K2 ^{2*}	3/2 NC	0.7	0.15	-	0.10	-	-1 ÷ 3
K8000-403-K2 ^{2*}	3/2 NO	0.6	0.10	6.5	0.08	5	1 ÷ 7
K8000-405-K2 ^{2*}	3/2 NO	0.6	0.10	6.5	0.15	9.5	1 ÷ 7
K8000-703-K2 ^{2*}	3/2 UNI	0.5	0.08	-	0.10	-	0 ÷ 3
K8000-705-K2 ^{2*}	3/2 UNI	0.7	0.15	-	0.10	-	-1 ÷ 2

8 mm solenoid valve seat, 2/2-way NC, NO - 3/2 NC, NO, UNI

Note: better performances can be achieved if the valve seat holes are in line with the respective valve holes.

LEGEND:

- 1 = Port 1
- 2 = Port 2
- 3 = Port 3
- 4 = Free from burrs
- 5 = Surface to be aligned with the upper surface of the valve reinforcement



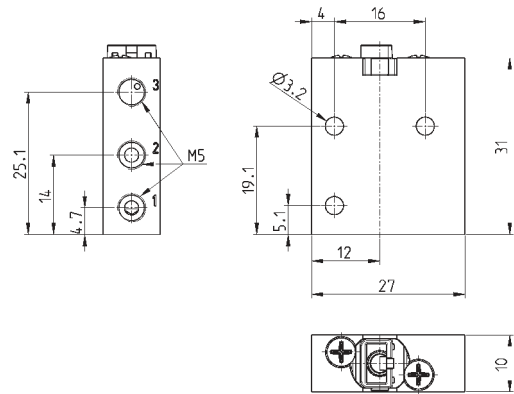
FUNCTION	2/2 NC	2/2 NO	3/2 NC	3/2 NO	3/2 UNI (mix.)	3/2 UNI (sel.)
PORT 1	Inlet	-	Inlet	Exhaust	Inlet	Outlet
PORT 2	Outlet	Outlet	Outlet	Outlet	Outlet	Inlet
PORT 3	-	Inlet	Exhaust	Inlet	Inlet	Outlet

Single body for Series K8 solenoid valve



Material: anodized aluminium
Pneumatic connections: M5 threads

NOTE: to be used only with the electrical connector Mod. 120-J...

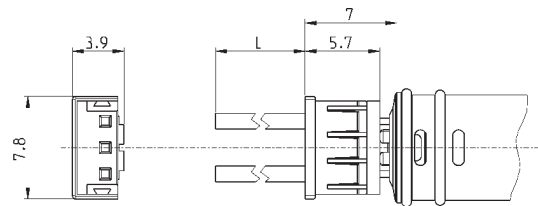


Mod.
K8303/14C

Connector Mod. 120-..



Cable section: 0.25 mm²
Cable external diameter: 1.2 mm
Material for the cable insulation: PVC

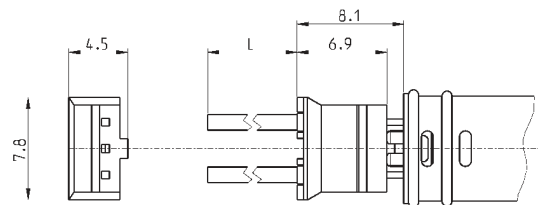


Mod.	description	colour	L = cable length (mm)	cable holding
120-803	crimped cable	white	300	crimping
120-806	crimped cable	white	600	crimping

Connector with flying leads Mod. 120-J...



Flying leads section: 0.25 mm²
Flying lead external diameter: 1.2 mm
Material for the flying leads insulation: PVC



Mod.	description	colour	L = cable length (mm)	cable holding
120-J803	crimped cable connector J	white	300	crimping
120-J806	crimped cable connector J	white	600	crimping

Series K8B pilot operated solenoid valves

2/2-way - Normally Closed (NC) and Normally Open (NO)
3/2-way - Normally Closed (NC) and Normally Open (NO)

SERIES K8B SOLENOID VALVES



- » Compact design
- » High flow
- » Manifold mounting
- » Long life

Thanks to their low power consumption and light weight Series K8B solenoid valves are particularly suitable for use with portable equipment too.

Series K8B pilot operated solenoid valves represent the evolution of Series K8 which has been equipped with a flow amplifier. Their particular design makes these valves ideal for use in applications requiring very compact solutions and high flow.

GENERAL DATA

TECHNICAL FEATURES

Function	2/2 NC - 3/2 NC - 2/2 NO - 3/2 NO
Operation	pilot operated poppet type
Pneumatic connections	manifold cartridge - M7 threads - on subbase with M3 screws
Nominal diameter	3.6 mm
Nominal flow	180 Nl/min (air @ 6 bar ΔP 1 bar)
Flow coefficient kv (l/min)	2.8
Operating pressure	1 ÷ 7 bar
Operating temperature	0°C ÷ 50°C
Media	filtered compressed air, unlubricated, according to ISO 8573-1 class 3.4.3, inert gas
Response time (ISO 12238)	ON <15 msec - OFF <15 msec
Installation	in any position

MATERIALS IN CONTACT WITH THE MEDIUM

Body	brass - stainless steel - PBT technopolymer - aluminium
Seals	FKM
Internal parts	stainless steel

ELECTRICAL FEATURES

Voltage	24 V DC - 12 V DC - 6 V DC - other voltages on demand
Voltage tolerance	±10%
Power consumption	0.6 W
Duty cycle	ED 100%
Electrical connection	2 Pin 0.5 x 0.5 pitch 4mm - JST connector with flying leads L = 300mm
Protection class	IP00

Special versions available on demand

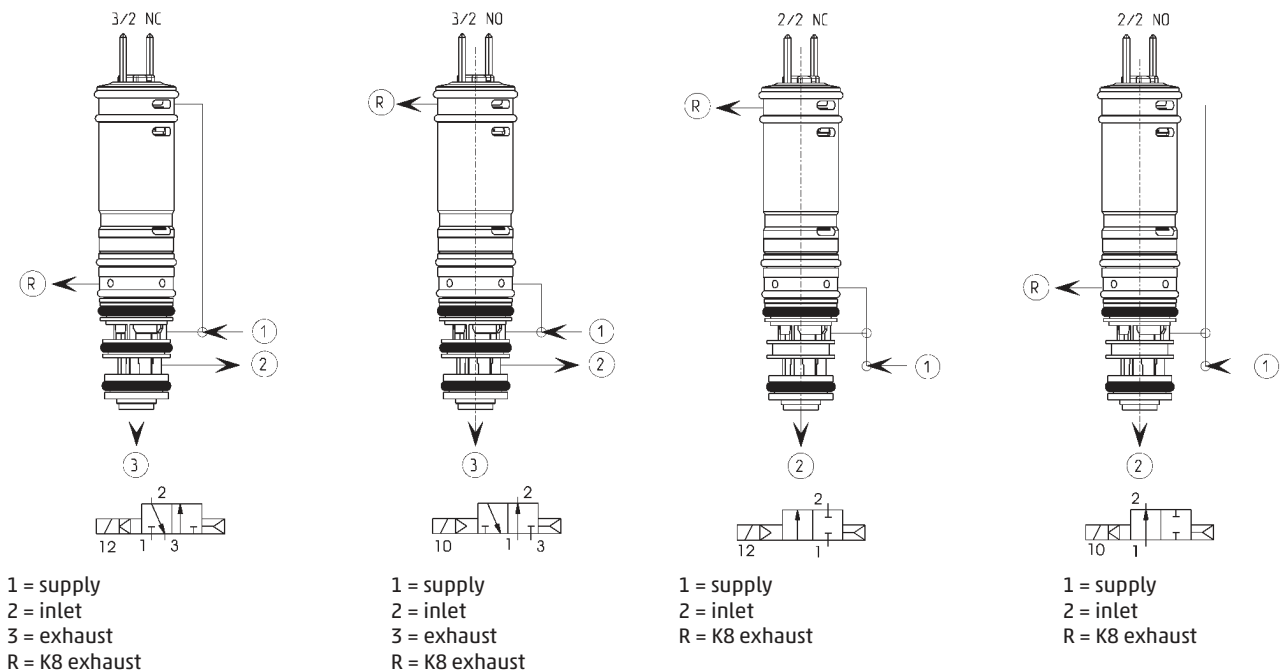
CODING EXAMPLE

K8B	C5	4	00	-	D4	3	2	N	-	N	00	1A	C003
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K8B	SERIES
C5	BODY DESIGN: C0 = body with interface for subbase C3 = threaded body C5 = cartridge
4	NUMBER OF WAYS - FUNCTIONS: 1 = 2/2-way NC 2 = 2/2-way NO 4 = 3/2-way NC 5 = 3/2-way NO
00	PNEUMATIC CONNECTIONS: 00 = cartridge 03 = M7 18 = K8B-type interface, 2-way 19 = K8B-type interface, 3-way
D4	NOMINAL DIAMETER: D4 = Ø 3.6mm
3	SEALS MATERIALS: 3 = FKM
2	BODY MATERIALS: 1 = aluminium 2 = brass
N	MANUAL OVERRIDE: N = not foreseen
N	FIXING ACCESSORIES: N = not foreseen P = screws for plastics M = screws for metal
00	OPTION: 00 = no option
1A	ELECTRICAL CONNECTION: 1A = only pins, pitch 4mm 1B = JST connector, pitch 4mm
C003	VOLTAGE - POWER CONSUMPTION: C001 = 6V DC (0.6 W) C002 = 12V DC (0.6 W) C003 = 24V DC (0.6 W)

SERIES K8B SOLENOID VALVES

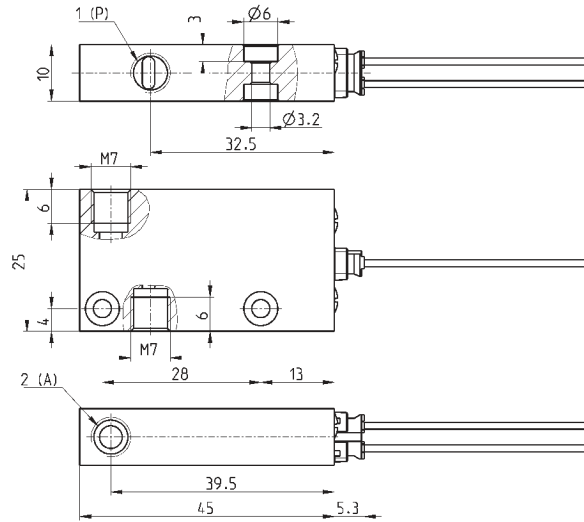
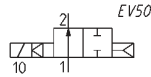
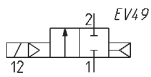
AVAILABLE FUNCTIONS



Body with threaded ports, 2/2-way NC and NO



Supplied with:
1x connector with flying leads
Mod. 120-J803 (300mm)

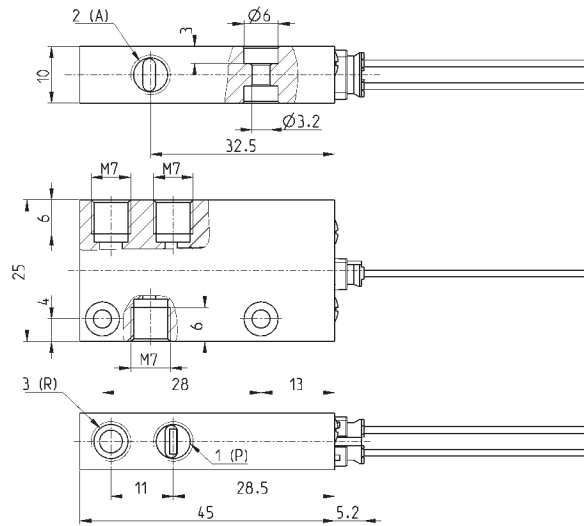
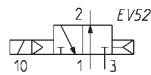
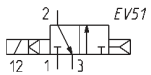


Mod.	Function	Symbol	NOTE
K8BC3103-D431N-N001B*	2/2 NC	EV49	* enter the required voltage (see the coding example)
K8BC3203-D431N-N001B*	2/2 NO	EV50	* enter the required voltage (see the coding example)

Body with threaded ports, 3/2-way NC and NO



Supplied with:
1x connector with flying leads
Mod. 120-J803 (300mm)

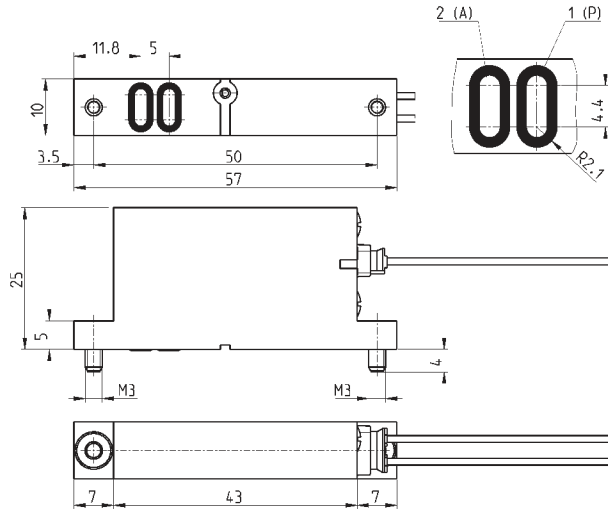
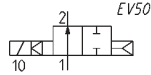
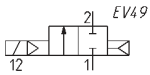


Mod.	Function	Symbol	NOTE
K8BC3403-D431N-N001B*	3/2 NC	EV51	* enter the required voltage (see the coding example)
K8BC3503-D431N-N001B*	3/2 NO	EV52	* enter the required voltage (see the coding example)

Body for subbase, 2/2-way NC and NO



Supplied with:
 1x connector with flying leads
 Mod. 120-J803 (300mm)
 2x interface seals
 2x screws M3x6 UNI 5931
 (for M version)
 or
 2x screws M3x6 UNI 10227
 (for P version)

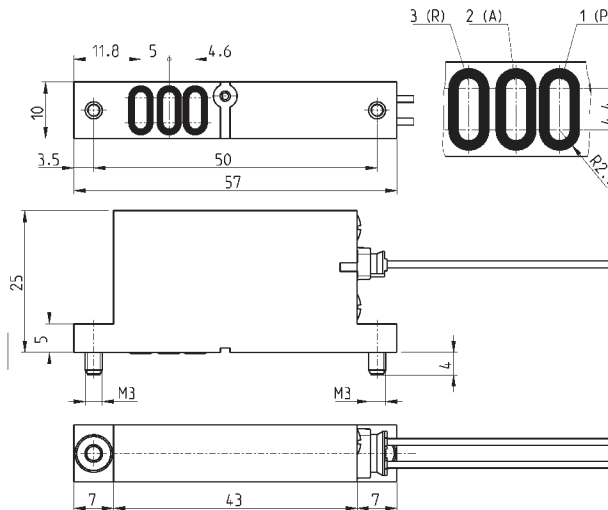
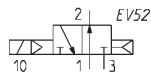
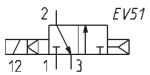


Mod.	Function	Symbol	NOTE
K8BC0118-D431N-*001B**	2/2 NC	EV49	* enter the type of screws - ** enter the required voltage (see the coding example)
K8BC0218-D431N-*001B**	2/2 NO	EV50	* enter the type of screws - ** enter the required voltage (see the coding example)

Body for subbase, 3/2-way NC and NO



Supplied with:
 1x connector with flying leads
 Mod. 120-J803 (300mm)
 3x interface seals
 2x screws M3x6 UNI 5931
 (for M version)
 or
 2x screws M3x6 UNI 10227
 (for P version)

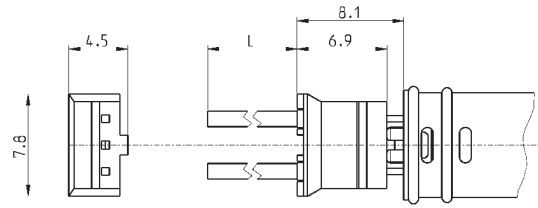


Mod.	Function	Symbol	NOTE
K8BC0419-D431N-*001B**	3/2 NC	EV51	* enter the type of screws - ** enter the required voltage (see the coding example)
K8BC0519-D431N-*001B**	3/2 NO	EV52	* enter the type of screws - ** enter the required voltage (see the coding example)

Connector with flying leads Mod. 120-J...



Flying leads section: 0.25 mm²
 Flying lead external diameter: 1.2 mm
 Material for the flying leads insulation: PVC



Mod.	description	colour	L = cable length (mm)	cable holding
120-J803	crimped cable connector J	white	300	crimping
120-J806	crimped cable connector J	white	600	crimping

Series K8DV directly operated solenoid valves with fluid separation membrane

2/2-way - Normally Closed (NC)



- » Very compact design and reduced weight
- » High flow performances
- » Very low internal volume
- » Suitable to be applied in medical equipment and analytical instruments

To choose the most suitable model for a specific application, check the chemical compatibility of the medium to control with the available materials of body and seals.

The K8DV solenoid valve was born to meet all the demands to shut off aggressive or heat sensitive fluids. Thanks to a fluid separation membrane, the fluid is isolated from all internal metal parts of the solenoid valve and avoids heating, even if minimum, generated by the solenoid positioned above.

GENERAL DATA

TECHNICAL FEATURES

Function	2/2 NC
Operation	directly operated with fluid separation membrane
Pneumatic connections	cartridge for manifold or flanged for subbase
Nominal diameter	0.7 mm
Flow efficient kv (l/min)	0.1
Operating pressure	0 ÷ 2.1 bar
Operating temperature	5 ÷ 50°C
Media	liquids / aggressive or inert gases
Response time (ISO 12238)	ON ≤ 10 ms - OFF ≤ 15 ms
Installation	in any position

MATERIALS IN CONTACT WITH THE MEDIUM

Body	PEEK
Seals	FKM - EPDM

ELECTRICAL FEATURES

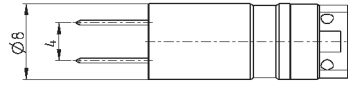
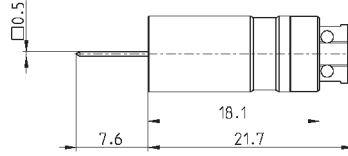
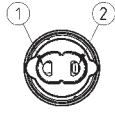
Voltage	24 V DC - 12 V DC - 6 V DC - 5 V DC - 3 V DC - other voltages on demand
Voltage tolerance	±10%
Power consumption	0.6 W
Duty cycle	ED 100%
Electrical connection	2 Pins 0.5 x 0.5 spacing 4 mm
Protection class	IP00

CODING EXAMPLE

K8DV	C	00	-	5	0	5	-	G	2	3
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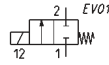
K8DV	SERIES
C	TYPE OF BODY: C = cartridge version 0 = flanged version
00	NUMBER OF POSITIONS: 00 = valve without housing
5	NUMBER OF WAYS - FUNCTIONS: 5 = 2-way NC
0	SEAL MATERIAL: 0 = FKM 4 = EPDM
5	NOMINAL DIAMETER: 5 = Ø 0.7 mm
G	BODY MATERIAL: G = PEEK
2	ELECTRICAL CONNECTION: 2 = interface pin size 4 mm
3	VOLTAGE - POWER CONSUMPTION: 1 = 6V DC - 0.6 W 2 = 12V DC - 0.6 W 3 = 24V DC - 0.6 W 4 = 3V DC - 0.6 W 5 = 5V DC - 0.6 W

Solenoid valve with fluid separation membrane, cartridge version



DRAWING LEGEND:
1 = supply
2 = inlet

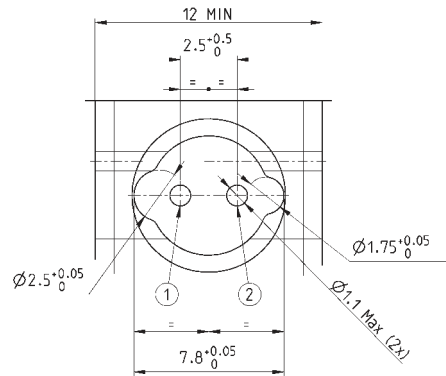
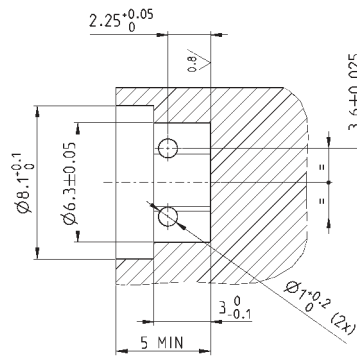
NOTE TO THE TABLE:
* to complete the code add
VOLTAGE - POWER
CONSUMPTION (see the
CODING EXAMPLE)



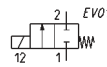
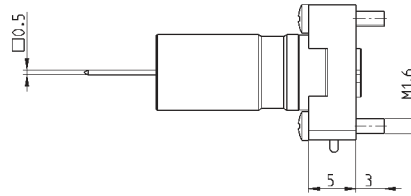
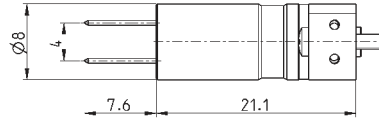
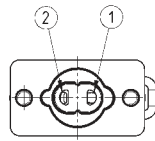
Mod.	Nominal diameter Ø (mm)	kv (l/min)	Min÷max pressure (bar)	Body material	Seal material
K8DVC00-505-G2*	0.7	0.1	0 ÷ 2.1	PEEK	FKM
K8DVC00-545-G2*	0.7	0.1	0 ÷ 2.1	PEEK	EPDM

Solenoid valve seat, cartridge version

DRAWING LEGEND:
1 = supply
2 = inlet



Solenoid valve with fluid separation membrane, flanged version



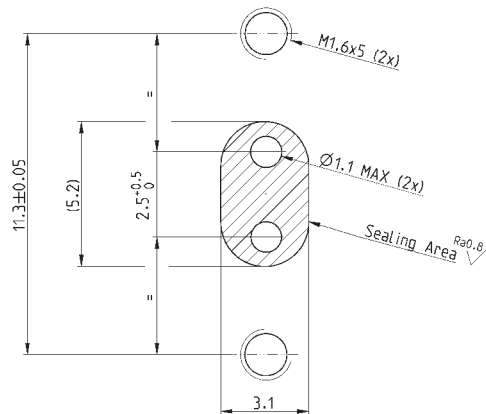
DRAWING LEGEND:
1 = supply
2 = inlet

NOTE TO THE TABLE:
* to complete the code add
VOLTAGE - POWER
CONSUMPTION (see the
CODING EXAMPLE)

Mod.	Nominal diameter Ø (mm)	kv (l/min)	Min+max pressure (bar)	Body material	Seal material
K8DV000-505-G2 ² *	0.7	0.1	0 ÷ 2.1	PEEK	FKM
K8DV000-545-G2 ² *	0.7	0.1	0 ÷ 2.1	PEEK	EPDM

Mounting pad of the flanged solenoid valve

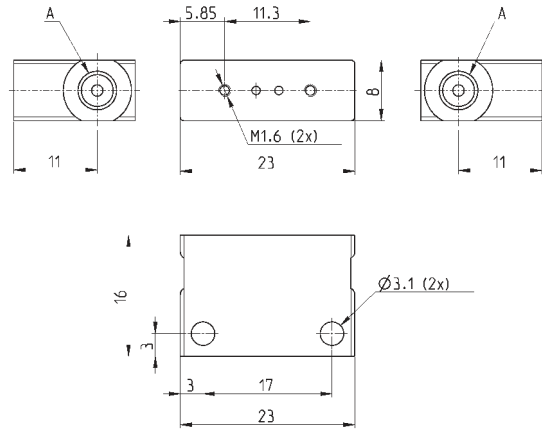
DRAWING LEGEND:
1 = supply
2 = inlet



Single subbase for flanged version



Material: PEEK
Pneumatic connections: M5 or 1/4-28 UNF threads

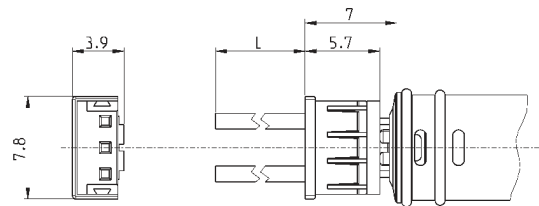


Mod.	A (pneumatic connections)
K8DV0001-1/4	1/4 - 28 UNF
K8DV0001-M5	M5

Connector Mod. 120-..



Cable section: 0.25 mm²
Cable external diameter: 1.2 mm
Material for the cable insulation: PVC

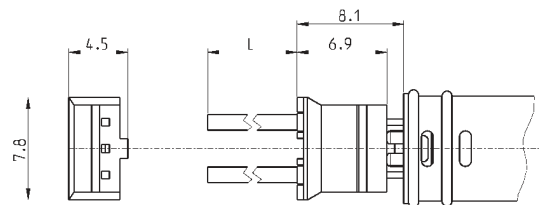


Mod.	description	colour	L = cable length (mm)	cable holding
120-803	crimped cable	white	300	crimping
120-806	crimped cable	white	600	crimping

Connector with flying leads Mod. 120-J...



Flying leads section: 0.25 mm²
Flying lead external diameter: 1.2 mm
Material for the flying leads insulation: PVC



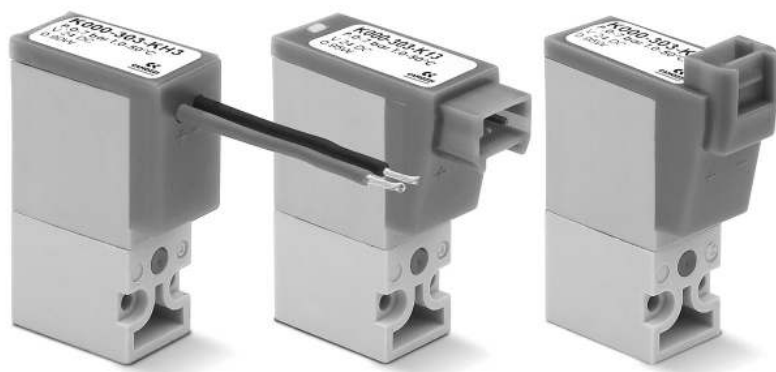
Mod.	description	colour	L = cable length (mm)	cable holding
120-J803	crimped cable connector J	white	300	crimping
120-J806	crimped cable connector J	white	600	crimping

Series K directly operated solenoid valves

New models

2/2-way - Normally Closed (NC)

3/2-way - Normally Closed (NC) and Normally Open (NO)



- » Low power consumption
- » Compact design
- » Version for use with oxygen available

The Series K directly operated solenoid valves can be mounted on single sub-bases or manifolds.

Thanks to the same mounting pad 2/2-way and 3/2-way versions can be installed on the same manifold.

The manual override is available only for the 3/2-way versions.

GENERAL DATA

TECHNICAL FEATURES

Function	2/2 NC - 3/2 NC - 3/2 NO
Operation	direct acting poppet type
Pneumatic connections	on subbase by means of screws
Nominal diameter	0.6 ... 1 mm
Nominal flow	see the kv
Flow coefficient kv (l/min)	0.12 ... 0.30
Operating pressure	0 ÷ 3 ... 7 bar
Operating temperature	0°C ÷ 50°C
Media	filtered compressed air, unlubricated, according to ISO 8573-1 class 3.4.3, inert gas
Response time	ON <10 msec - OFF <10 msec
Manual override	monostable button (for 3/2 version only)
Installation	in any position

MATERIALS IN CONTACT WITH THE MEDIUM

Body	PBT technopolymer
Seals	NBR or FKM
Internal parts	stainless steel

ELECTRICAL FEATURES

Voltage	24 V DC - 12 V DC - 6 V DC - other voltages on demand
Voltage tolerance	±10%
Power consumption	1 W
Duty cycle	ED 100%
Electrical connection	connector - thin cables L = 300 mm
Protection class	IP50

Special versions available on demand

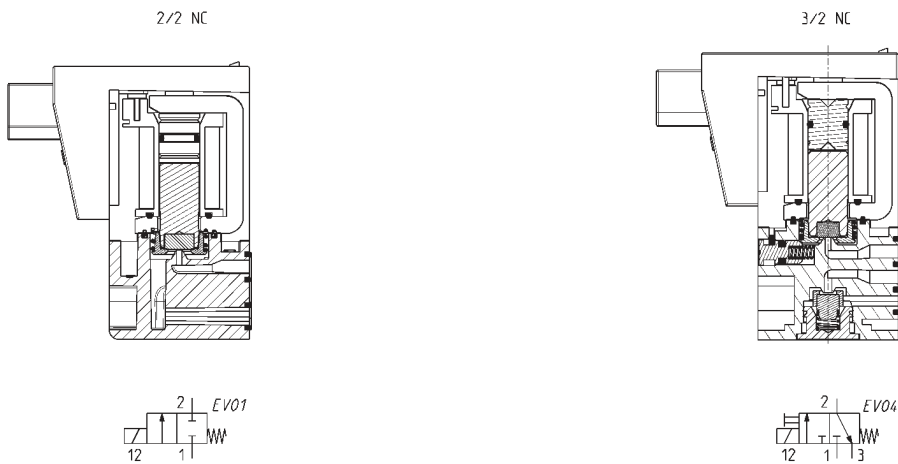
CODING EXAMPLE

K	0	00	-	3	0	3	-	K	2	3	
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K	SERIES										
0	BODY DESIGN: 0 = single sub-base (only M5) or interface 1 = manifold										
00	NUMBER OF POSITIONS: 00 = interface 01 = single base (only M5) 02 + 99 = manifold number of positions										
3	NUMBER OF WAYS - FUNCTIONS: 0 = manifold or single base 1 = 2-way NC 1 = 2-way NC electric part revolved by 180° 3 = 3-way NC 5 = 3-way NC electric part revolved by 180° 4 = 3-way NO 6 = 3-way NO electric part revolved by 180°										
0	PORTS: 0 = interface 2 = M5 side outlets										
3	NOMINAL DIAMETER: 2 = Ø 0.6 mm 3 = Ø 0.65 mm 5 = Ø 1.0 mm										
K	MATERIALS: F = PBT body, FKM poppet K = PBT body, HNBR poppet (available for 3/2 version only)										
2	ELECTRICAL CONNECTION: 1 = 90° connection with protection and led 2 = 90° connection with protection 3 = 90° connection B = in-line connection with protection and led C = in-line connection with protection D = in-line connection F = cable (300mm) with protection and led G = cable (300mm) with protection H = cable only (300mm)										
3	SOLENOID VOLTAGE: 1 = 6V DC - 1W 2 = 12V DC - 1W 3 = 24V DC - 1W										
	FIXING: = with screws for mounting on plastics M = with screws for mounting on metal										
	OPTIONS: = standard OX1 = for use with oxygen (non volatile residual less than 550 mg/m ²) OX2 = for use with oxygen (non volatile residual less than 33 mg/m ²)										

SERIES K SOLENOID VALVES

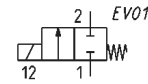
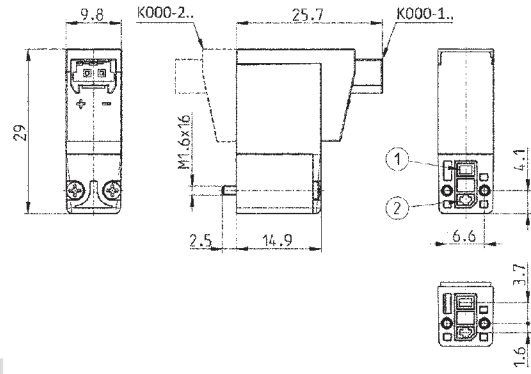
Series K solenoid valve, 2/2- and 3/2-way



2/2-way NC solenoid valve (90° electrical connection)



Supplied with:
1x interface seal
2x screws M1.6x16
(UNI 10227 for mounting on plastics or
UNI 7687 for mounting on metal)



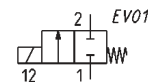
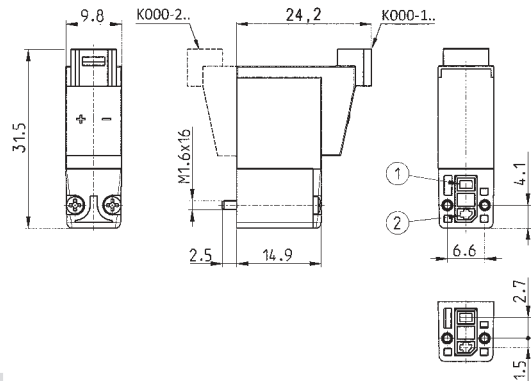
* add VOLTAGE - POWER
CONSUMPTION (see CODING EXAMPLE)

Mod.	Function	Orifice \varnothing (mm)	kv (l/min)	Qn (NL/min)	Min÷max pressure (bar)
K000-102-F1*	2/2 NC	0.6	0.15	10	0 ÷ 7
K000-102-F2*	2/2 NC	0.6	0.15	10	0 ÷ 7
K000-102-F3*	2/2 NC	0.6	0.15	10	0 ÷ 7
K000-105-F1*	2/2 NC	1	0.30	-	0 ÷ 3
K000-105-F2*	2/2 NC	1	0.30	-	0 ÷ 3
K000-105-F3*	2/2 NC	1	0.30	-	0 ÷ 3

2/2-way NC solenoid valve (in-line electrical connection)



Supplied with:
1x interface seal
2x screws M1.6x16
(UNI 10227 for mounting on plastics or
UNI 7687 for mounting on metal)



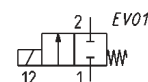
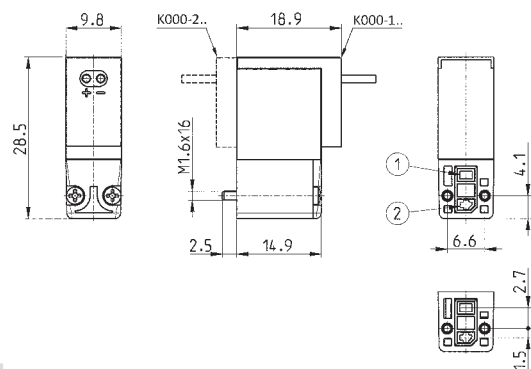
* add VOLTAGE - POWER
CONSUMPTION (see CODING EXAMPLE)

Mod.	Function	Orifice \varnothing (mm)	kv (l/min)	Qn (NL/min)	Min÷max pressure (bar)
K000-102-FB*	2/2 NC	0.6	0.15	10	0 ÷ 7
K000-102-FC*	2/2 NC	0.6	0.15	10	0 ÷ 7
K000-102-FD*	2/2 NC	0.6	0.15	10	0 ÷ 7
K000-105-FB*	2/2 NC	1	0.30	-	0 ÷ 3
K000-105-FC*	2/2 NC	1	0.30	-	0 ÷ 3
K000-105-FD*	2/2 NC	1	0.30	-	0 ÷ 3

2/2-way NC solenoid valve (with cable 300 mm)



Supplied with:
1x interface seal
2x screws M1.6x16
(UNI 10227 for mounting on plastics or
UNI 7687 for mounting on metal)



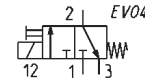
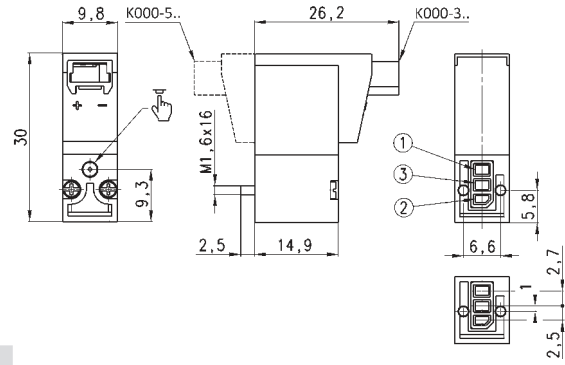
* add VOLTAGE - POWER
CONSUMPTION (see CODING EXAMPLE)

Mod.	Function	Orifice \varnothing (mm)	kv (l/min)	Qn (NL/min)	Min÷max pressure (bar)
K000-102-FF*	2/2 NC	0.6	0.15	10	0 ÷ 7
K000-102-FG*	2/2 NC	0.6	0.15	10	0 ÷ 7
K000-102-FH*	2/2 NC	0.6	0.15	10	0 ÷ 7
K000-105-FF*	2/2 NC	1	0.30	-	0 ÷ 3
K000-105-FG*	2/2 NC	1	0.30	-	0 ÷ 3
K000-105-FH*	2/2 NC	1	0.30	-	0 ÷ 3

3/2-way NC solenoid valve (90° electrical connection)



Supplied with:
1x interface seal
2x screws M1.6x16
(UNI 10227 for mounting on plastics or
UNI 7687 for mounting on metal)



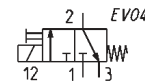
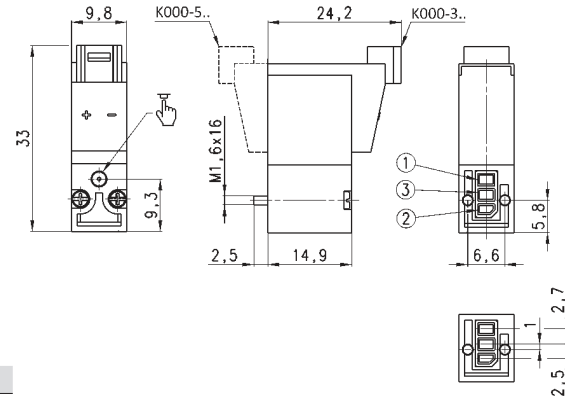
* add VOLTAGE - POWER
CONSUMPTION (see CODING EXAMPLE)

Mod.	Function	Orifice \varnothing (mm)	kv (l/min)	Qn (NL/min)	Min÷max pressure (bar)
K000-303-K1*	3/2 NC	0.6	0.12	8	0 ÷ 7
K000-303-F1*	3/2 NC	0.6	0.12	8	0 ÷ 7
K000-303-K2*	3/2 NC	0.6	0.12	8	0 ÷ 7
K000-303-F2*	3/2 NC	0.6	0.12	8	0 ÷ 7
K000-303-K3*	3/2 NC	0.6	0.12	8	0 ÷ 7
K000-303-F3*	3/2 NC	0.6	0.12	8	0 ÷ 7

3/2-way NC solenoid valve (in-line electrical connection)



Supplied with:
1x interface seal
2x screws M1.6x16
(UNI 10227 for mounting on plastics or
UNI 7687 for mounting on metal)



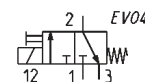
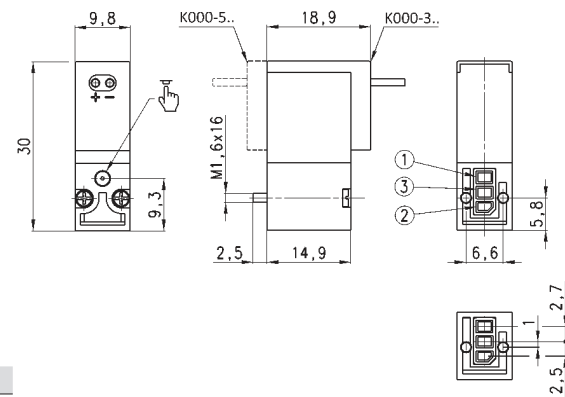
* add VOLTAGE - POWER
CONSUMPTION (see CODING EXAMPLE)

Mod.	Function	Orifice \varnothing (mm)	kv (l/min)	Qn (NL/min)	Min÷max pressure (bar)
K000-303-KB*	3/2 NC	0.6	0.12	8	0 ÷ 7
K000-303-FB*	3/2 NC	0.6	0.12	8	0 ÷ 7
K000-303-KC*	3/2 NC	0.6	0.12	8	0 ÷ 7
K000-303-FC*	3/2 NC	0.6	0.12	8	0 ÷ 7
K000-303-KD*	3/2 NC	0.6	0.12	8	0 ÷ 7
K000-303-FD*	3/2 NC	0.6	0.12	8	0 ÷ 7

3/2-way NC solenoid valve (with cable 300 mm)



Supplied with:
1x interface seal
2x screws M1.6x16
(UNI 10227 for mounting on plastics or
UNI 7687 for mounting on metal)



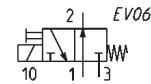
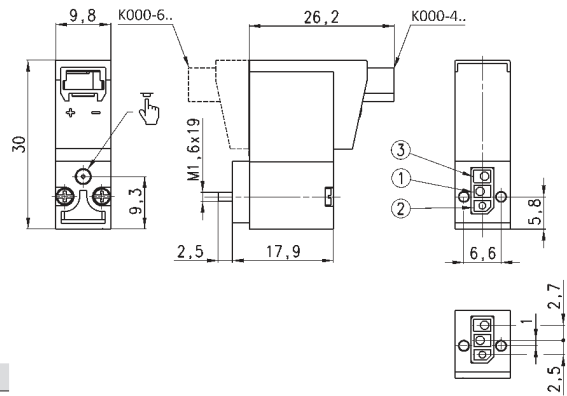
* add VOLTAGE - POWER
CONSUMPTION (see CODING EXAMPLE)

Mod.	Function	Orifice \varnothing (mm)	kv (l/min)	Qn (NL/min)	Min÷max pressure (bar)
K000-303-KF*	3/2 NC	0.6	0.12	8	0 ÷ 7
K000-303-FF*	3/2 NC	0.6	0.12	8	0 ÷ 7
K000-303-KG*	3/2 NC	0.6	0.12	8	0 ÷ 7
K000-303-FG*	3/2 NC	0.6	0.12	8	0 ÷ 7
K000-303-KH*	3/2 NC	0.6	0.12	8	0 ÷ 7
K000-303-FH*	3/2 NC	0.6	0.12	8	0 ÷ 7

3/2-way NO solenoid valve (90° electrical connection)



Supplied with:
 1x interface for NO version
 (connections 1 and 3 are inverted)
 2x interface seals for NO version
 2x screws M1.6x19
 (UNI 10227 for mounting on plastics or
 UNI 7687 for mounting on metal)
 If no interface is needed, use screws M1.6x16 Mod.
 K303/61 for plastics or K303/61M for metal.



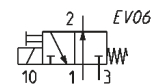
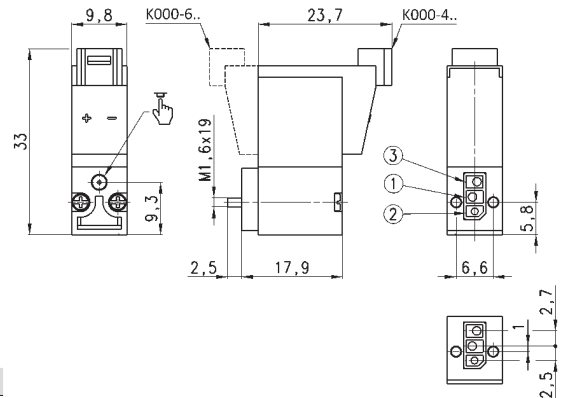
* add VOLTAGE - POWER
 CONSUMPTION (see CODING EXAMPLE)

Mod.	Function	Orifice \varnothing (mm)	kv (l/min)	Qn (NL/min)	Min+max pressure (bar)
K000-403-K1*	3/2 NO	0.8	0.20	-	0 + 5
K000-403-F1*	3/2 NO	0.8	0.20	-	0 + 5
K000-403-K2*	3/2 NO	0.8	0.20	-	0 + 5
K000-403-F2*	3/2 NO	0.8	0.20	-	0 + 5
K000-403-K3*	3/2 NO	0.8	0.20	-	0 + 5
K000-403-F3*	3/2 NO	0.8	0.20	-	0 + 5

3/2-way NO solenoid valve (in-line electrical connection)



Supplied with:
 1x interface for NO version
 (connections 1 and 3 are inverted)
 2x interface seals for NO version
 2x screws M1.6x19
 (UNI 10227 for mounting on plastics or
 UNI 7687 for mounting on metal)
 If no interface is needed, use screws M1.6x16 Mod.
 K303/61 for plastics or K303/61M for metal.



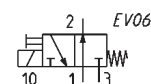
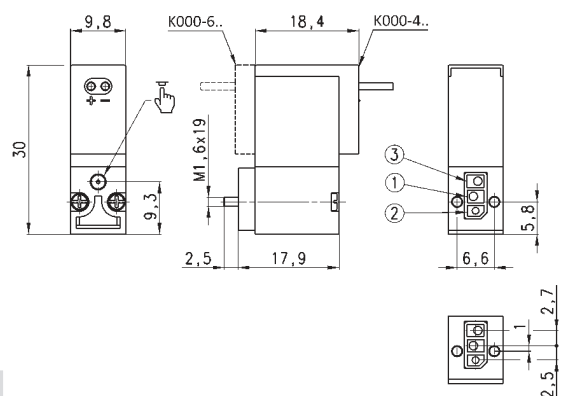
* add VOLTAGE - POWER
 CONSUMPTION (see CODING EXAMPLE)

Mod.	Function	Orifice \varnothing (mm)	kv (l/min)	Qn (NL/min)	Min+max pressure (bar)
K000-403-KB*	3/2 NO	0.8	0.20	-	0 + 5
K000-403-FB*	3/2 NO	0.8	0.20	-	0 + 5
K000-403-KC*	3/2 NO	0.8	0.20	-	0 + 5
K000-403-FC*	3/2 NO	0.8	0.20	-	0 + 5
K000-403-KD*	3/2 NO	0.8	0.20	-	0 + 5
K000-403-FD*	3/2 NO	0.8	0.20	-	0 + 5

3/2-way NO solenoid valve (with cable 300 mm)



Supplied with:
 1x interface for NO version
 (connections 1 and 3 are inverted)
 2x interface seals for NO version
 2x screws M1.6x19
 (UNI 10227 for mounting on plastics or
 UNI 7687 for mounting on metal)
 If no interface is needed, use screws M1.6x16 Mod.
 K303/61 for plastics or K303/61M for metal.



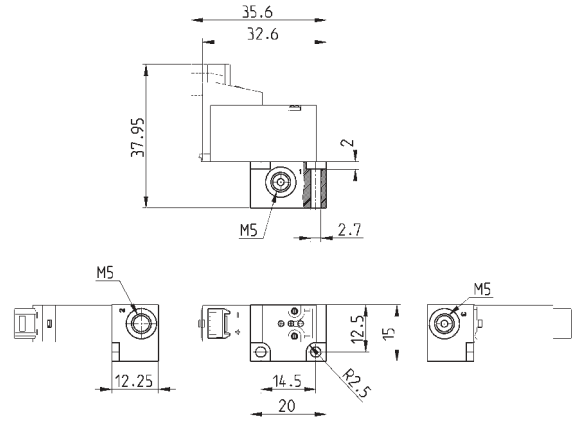
* add VOLTAGE - POWER
 CONSUMPTION (see CODING EXAMPLE)

Mod.	Function	Orifice \varnothing (mm)	kv (l/min)	Qn (NL/min)	Min+max pressure (bar)
K000-403-KF*	3/2 NO	0.8	0.20	-	0 + 5
K000-403-FF*	3/2 NO	0.8	0.20	-	0 + 5
K000-403-KG*	3/2 NO	0.8	0.20	-	0 + 5
K000-403-FG*	3/2 NO	0.8	0.20	-	0 + 5
K000-403-KH*	3/2 NO	0.8	0.20	-	0 + 5
K000-403-FH*	3/2 NO	0.8	0.20	-	0 + 5

Single sub-base



Note: use solenoid valves with mounting screws on metal interfaces (see codification).



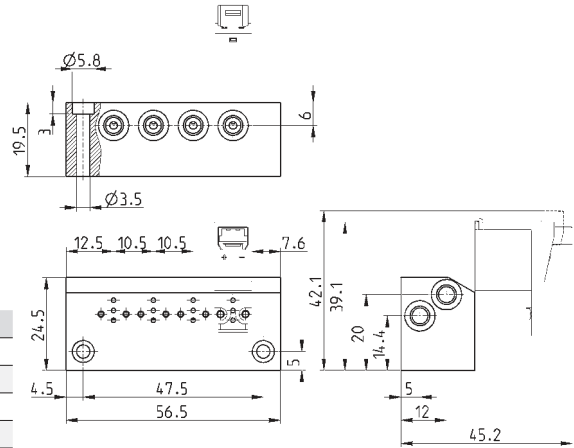
Mod.	
K001-02	

Manifold Mod. K1**-02



** Number of positions
With side outlets and conveyed inlet and exhaust.

Note: use solenoid valves with mounting screws on metal interfaces (see codification).

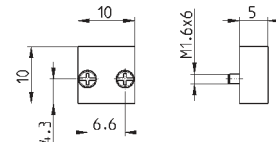


Mod.	A	B	Number of ports
K102-02	35.5	26.5	2
K103-02	46	37	3
K104-02	56.5	47.5	4
K105-02	67	58	5
K106-02	77.5	68.5	6
K107-02	88	79	7
K108-02	98.5	89.5	8
K109-02	109	100	9
K110-02	119.5	110.5	10

Excluder tap

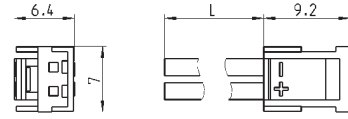


Supplied with:
1x excluder tap
1x interface seal
2x screws M1.6x6 UNI 7687 (mounting on metal)



Mod.	
K000-TP	

Connector Mod. 121-8..

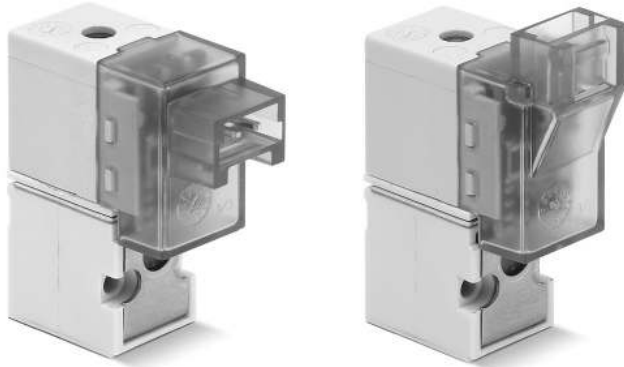


Mod.	description	colour	L = cable length (mm)	cable holding
121-803	crimped cable	black	300	crimping
121-806	crimped cable	black	600	crimping
121-810	crimped cable	black	1000	crimping
121-830	crimped cable	black	3000	crimping

Series KN and KN High Flow directly operated solenoid valves

3/2-way - Normally Closed (NC) and Normally Open (NO)
2/3-way - Universal (UNI)

SERIES KN AND KN HIGH FLOW SOLENOID VALVES



- » Low energy consumption
- » Compact design
- » High Flow
- » ISO 15218 Interface
- » Version for use with oxygen available

Thanks to its low energy consumption and to its compact design, the KN miniaturized solenoid valve can be used in industrial and scientific applications.

The Series KN directly operated solenoid valves are available also in the high flow version (KN High Flow).

GENERAL DATA

TECHNICAL FEATURES

Function	3/2 NC - 3/2 NO - 3/2 UNI
Operation	direct acting poppet type
Pneumatic connections	on subbase with ISO 15218 interface by means of screws
Nominal diameter	0.65 ... 1.1 mm
Nominal flow	10 ... 25 NL/min (air @ 6 bar ΔP 1 bar)
Flow coefficient kv (l/min)	0.15 ... 0.39
Operating pressure	0 ÷ 3 ... 7 bar
Operating temperature	0°C ÷ 50°C
Media	filtered compressed air, unlubricated, according to ISO 8573-1 class 3.4.3, inert gas
Response time	ON <10 msec - OFF <10 msec
Manual override	monostable button
Installation	in any position

MATERIALS IN CONTACT WITH THE MEDIUM

Body	PBT technopolymer
Seals	FKM, NBR
Internal parts	stainless steel

ELECTRICAL FEATURES

Voltage	5 ... 24 V DC - other voltages on demand
Voltage tolerance	1.3/0.25 ... 4/1 W (inrush/holding)
Power consumption	ED 100%
Duty cycle	connector
Electrical connection	IP50
Protection class	

Special versions available on demand

CODING EXAMPLE

KN	0	00	-	3	0	3	-	K	1	3
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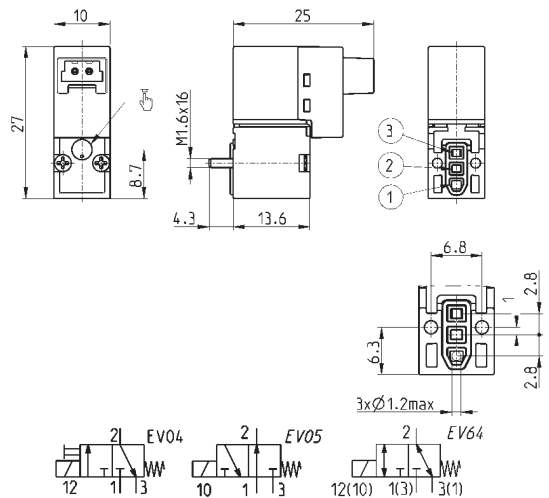
KN	SERIES
0	BODY DESIGN: 0 = single valve
00	NUMBER OF POSITIONS: 00 = interface
3	NUMBER OF WAYS - FUNCTIONS: 3 = 3/2-way NC 4 = 3/2-way NO 7 = 3/2-way UNI
0	PORTS: 0 = single valve
3	NOMINAL DIAMETER / MAX PRESSURE: 3 = Ø 0.65 mm 5 = Ø 1.1 mm - max pressure 7 bar 6 = Ø 1.1 mm - max pressure 3 bar
K	MATERIALS: F = PBT body, FKM poppet seal, FKM other seals K = PBT body, FKM poppet seal, NBR other seals
1	ELECTRICAL CONNECTION: 1 = 90° connection with protection and led B = in-line connection with protection and led
3	VOLTAGE - POWER CONSUMPTION: 2 = 12 V DC - 1.3/0.25 W 3 = 24 V DC - 1.3/0.25 W 5 = 5 V DC - 4/1 W 6 = 6 V DC - 4/1 W 7 = 12 V DC - 4/1 W 8 = 24 V DC - 4.1 W
	FIXING: = with screws for mounting on plastics M = with screws for mounting on metal
	OPTIONS: = standard OX2 = for use with oxygen (non volatile residual less than 33 mg/m ³)

SERIES KN AND KN HIGH FLOW SOLENOID VALVES

3/2-way solenoid valve - 90° electrical connection



Supplied with:
1x interface seal
2x screws M1.6x16 UNI 10227
(fixing for plastics, standard)
or
2x screws M1.6x16 UNI 7687
(fixing for metal, M option)



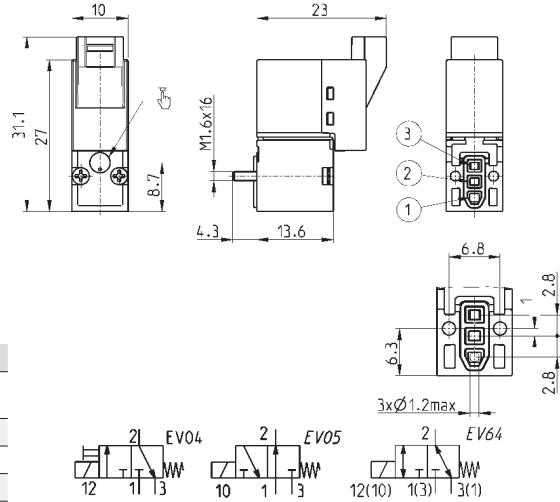
Mod.	Function	Orifice Ø (mm)	kv	(l/ Qn min)	(NI/ min)	Min-max pressure (bar)	Power consumption (W)	Symb.
KN000-303-K1*	3/2 NC	0.65	0.15	10		0 ÷ 7	1.3 / 0.25	EV04
KN000-303-F1*	3/2 NC	0.65	0.15	10		0 ÷ 7	1.3 / 0.25	EV04
KN000-305-F1*	3/2 NC	1.1	0.39	25		3 ÷ 7	4 / 1	EV04
KN000-306-F1*	3/2 NC	1.1	0.39	-		0 ÷ 3	4 / 1	EV04
KN000-403-F1*	3/2 NO	0.65	0.15	10		0 ÷ 7	1.3 / 0.25	EV05
KN000-706-F1*	3/2 UNI	1.1	0.39	-		0 ÷ 1.5	4 / 1	EV64

* add VOLTAGE - POWER CONSUMPTION (see CODING EXAMPLE)

3/2-way solenoid valve - in-line electrical connection



Supplied with:
1x interface seal
2x screws M1.6x16 UNI 10227
(fixing for plastics, standard)
OR
2x screws M1.6x16 UNI 7687
(fixing for metal, M option)



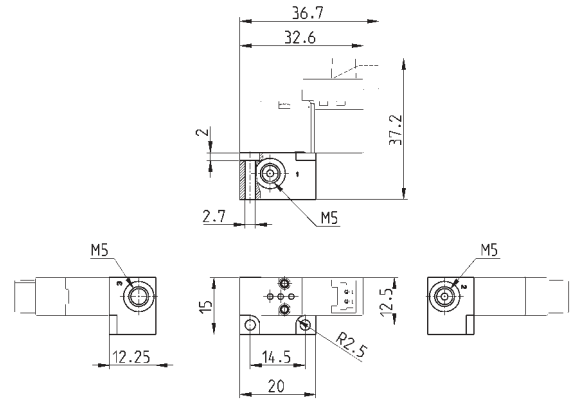
Mod.	Function	Orifice ∅ (mm)	kv (min)	(L/ Qn (min)	(NL/ min)	Min= max pressure (bar)	Power consumption (W)	Symb.
KN000-303-KB*	3/2 NC	0.65	0.15	10		0 ÷ 7	1.3 / 0.25	EV04
KN000-303-FB*	3/2 NC	0.65	0.15	10		0 ÷ 7	1.3 / 0.25	EV04
KN000-305-FB*	3/2 NC	1.1	0.39	25		3 ÷ 7	4 / 1	EV04
KN000-306-FB*	3/2 NC	1.1	0.39	-		0 ÷ 3	4 / 1	EV04
KN000-403-FB*	3/2 NO	0.65	0.15	10		0 ÷ 7	1.3 / 0.25	EV05
KN000-706-FB*	3/2 UNI	1.1	0.39	-		0 ÷ 1.5	4 / 1	EV64

* add VOLTAGE - POWER CONSUMPTION (see CODING EXAMPLE)

Single sub-base

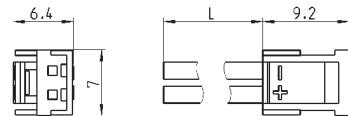


Note: use solenoid valves with mounting screws on metal interfaces (see codification).



Mod.
KN01-02

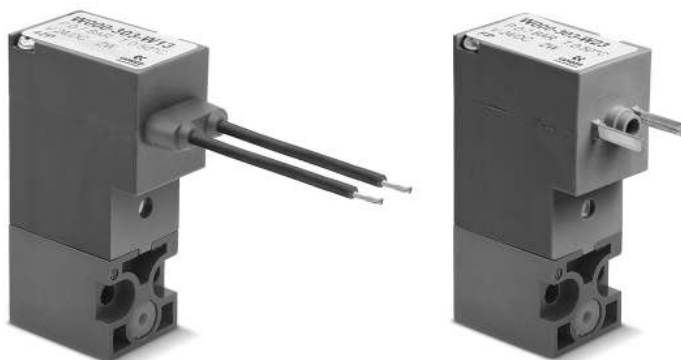
Connector Mod. 121-8..



Mod.	description	colour	L = cable length (mm)	cable holding
121-803	crimped cable	black	300	crimping
121-806	crimped cable	black	600	crimping
121-810	crimped cable	black	1000	crimping
121-830	crimped cable	black	3000	crimping

Series W directly operated solenoid valves

3/2-way - Normally Closed (NC), Normally Open (NO)



- » Can be mounted on a single base (M5 connections) or on manifold (M5 connections or cartridge \varnothing 3 and 4).
- » Electrical connection with cables or in compliance to DIN EN 175 301-803-C standard

Series W directly operated solenoid valves are available as 3/2-way either NC or NO. Both versions can be mounted on single sub-bases or manifolds and they are equipped with a manual override which make the plants setting easier.

GENERAL DATA

TECHNICAL FEATURES

Function	3/2 NC - 3/2 NO
Operation	direct acting poppet type
Pneumatic connections	on subbase with ISO 15218 interface by means of screws
Nominal diameter	0.8 ... 1.5 mm
Nominal flow	14 ... 35 Nl/min (air @ 6 bar Δ P 1 bar)
Flow coefficient kv (l/min)	0.23 ... 0.54
Operating pressure	0 ÷ 5 ... 10 bar
Operating temperature	0°C ÷ 50°C
Media	filtered air, class 5.4.4 according to ISO 8573-1 (max oil viscosity 32 cSt), inert gas
Response time (ISO 12238)	ON <10 msec - OFF <15 msec
Manual override	monostable button
Installation	in any position

MATERIALS IN CONTACT WITH THE MEDIUM

Body	PBT technopolymer
Seals	PU, NBR, (FKM on demand)
Internal parts	stainless steel

ELECTRICAL FEATURES

Voltage	12 V DC - 24 V DC - 48 V DC
Voltage tolerance	±10%
Power consumption	2 W - 1 W (24 V DC only)
Duty cycle	ED 100%
Electrical connection	with connector DIN EN 175 301-803-C (8 mm) - cables L = 300 mm
Protection class	IP65 with connector

Special versions available on demand

CODING EXAMPLE

W	0	00	-	3	0	3	-	W	2	3	
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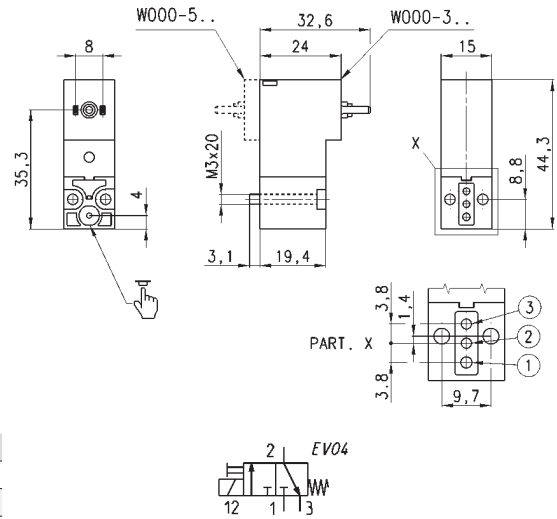
W	SERIES								
0	<p>BODY DESIGN: 0 = single sub-base (only M5) or interface 1 = single manifold 2 = double manifold</p>								
00	<p>NUMBER OF POSITIONS: 00 = interface 01 = single base (M5 only) 02 ÷ 99 = manifold number of positions</p>								
3	<p>NUMBER OF WAYS - FUNCTIONS: 0 = manifold or single sub-base 3 = 3-way NC 4 = 3-way NO 5 = 3-way NC electric part revolved by 180° 6 = 3-way NO electric part revolved by 180°</p>								
0	<p>VALVE PORTS: 0 = interface</p> <p>MANIFOLD PORTS (for Series W, P and PN): 2 = M5 side 3 = tube ø 3 side 4 = tube ø 4 side 6 = M5 rear ports 7 = ø 3 tube rear ports 8 = ø 4 tube rear ports</p>								
3	<p>NOMINAL DIAMETER - MAX PRESSURE</p> <table border="0"> <tr> <td>1 = ø 0,8 (1W)</td> <td>10 bar (NC) 24V only</td> </tr> <tr> <td>3 = ø 1,5 (2W)</td> <td>7 bar (NC) 5 bar (NO)</td> </tr> <tr> <td>5 = ø 1,1 NC (2W)</td> <td>10 bar (NC)</td> </tr> <tr> <td>ø 0,9 NO (2W)</td> <td>10 bar (NO)</td> </tr> </table>	1 = ø 0,8 (1W)	10 bar (NC) 24V only	3 = ø 1,5 (2W)	7 bar (NC) 5 bar (NO)	5 = ø 1,1 NC (2W)	10 bar (NC)	ø 0,9 NO (2W)	10 bar (NO)
1 = ø 0,8 (1W)	10 bar (NC) 24V only								
3 = ø 1,5 (2W)	7 bar (NC) 5 bar (NO)								
5 = ø 1,1 NC (2W)	10 bar (NC)								
ø 0,9 NO (2W)	10 bar (NO)								
W	<p>MATERIALS: W = technopolymer PBT body, FKM poppet seal, other seals in NBR (FKM on demand)</p>								
2	<p>ELECTRICAL CONNECTION: 1 = cables (L = 300 mm) 2 = DIN EN 175 301-803-C (8 mm)</p>								
3	<p>SOLENOID VOLTAGE: 2 = 12V DC 3 = 24V DC 4 = 48V DC</p>								
	<p>FIXING: = with screws for metal (standard) P = with screws for plastics</p>								

SERIES W SOLENOID VALVES

3/2-way NC solenoid valve, DIN EN 175 301-803-C (8 mm)



Supplied with:
 1x interface seal
 2x screws M3x20 UNI 8112
 (fixing for metal, standard)
 or
 2x screws M3x23 UNI 10227
 (fixing for plastics, P option)

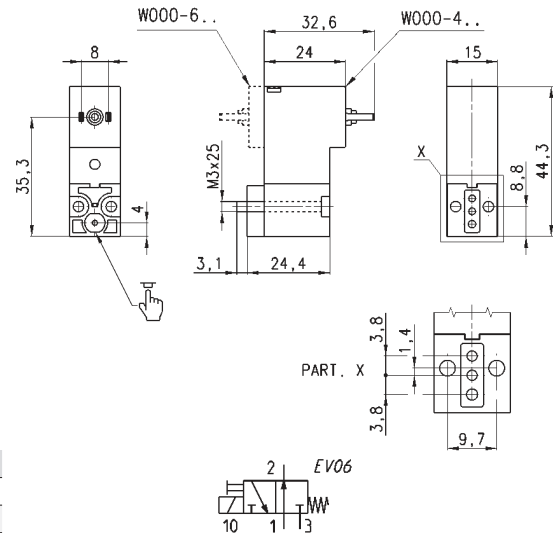


Mod.	Orifice \varnothing (mm)	kv (l/min)	Qn (Nl/min)	Pressure min-max (bar)
W000-305-W23	1.1	0.39	25	0 ÷ 10
W000-303-W23	1.5	0.54	35	0 ÷ 7
W000-305-W24	1.1	0.39	25	0 ÷ 10
W000-303-W24	1.5	0.54	35	0 ÷ 7

3/2-way NO solenoid valve, DIN EN 175 301-803-C (8 mm)



Supplied with:
 1x interface for NO version
 (connections 1 and 3 are inverted)
 2x interface seals
 2x screws M3x25 UNI 8112 (for standard version)

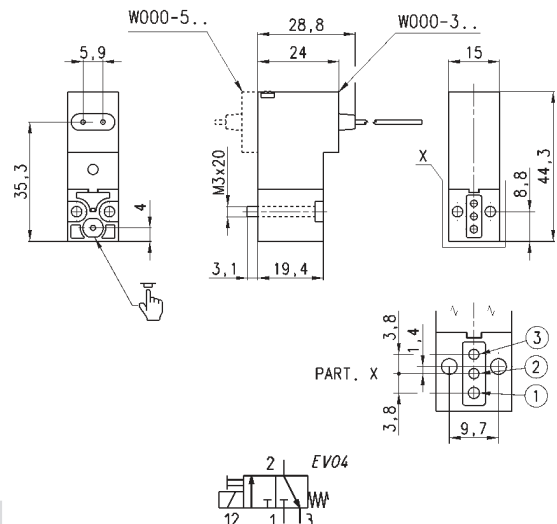


Mod.	Orifice \varnothing (mm)	kv (l/min)	Qn (Nl/min)	Pressure min-max (bar)
W000-405-W23	0.9	0.23	15	0 ÷ 10
W000-403-W23	1.5	0.39	-	0 ÷ 5
W000-405-W24	0.9	0.23	15	0 ÷ 10
W000-403-W24	1.5	0.39	-	0 ÷ 5

3/2-way NC solenoid valve with cables of 300mm



Supplied with:
 1x interface seal
 2x screws M3x20 UNI 8112
 (fixing for metal, standard)
 or
 2x screws M3x23 UNI 10227
 (fixing for plastics, P option)

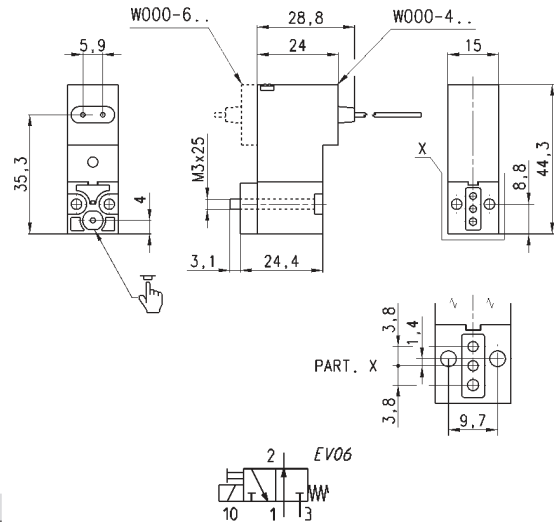


Mod.	Orifice \varnothing (mm)	kv (l/min)	Qn (Nl/min)	Pressure min-max (bar)
W000-305-W13	1.1	0.39	25	0 ÷ 10
W000-303-W13	1.5	0.54	35	0 ÷ 7

3/2-way NO solenoid valve with cables of 300mm

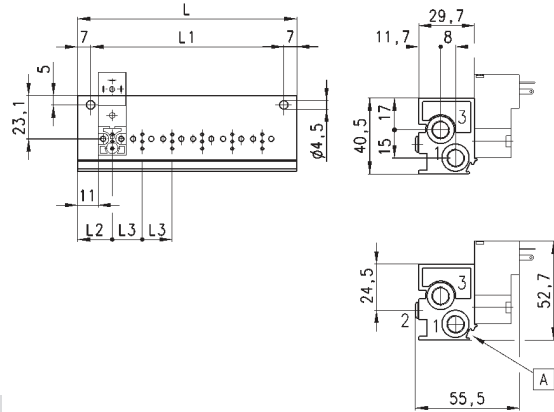


Supplied with:
1x interface for NO version
(connections 1 and 3 are inverted)
2x interface seals
2x screws M3x25 UNI 8112 (for standard version)



Mod.	Orifice θ (mm)	kv (l/min)	Qn (Nl/min)	Pressure min-max (bar)
W000-405-W13	0.9	0.23	15	0 ÷ 10
W000-403-W13	1.5	0.39	25	0 ÷ 5

Single manifold with rear outlets



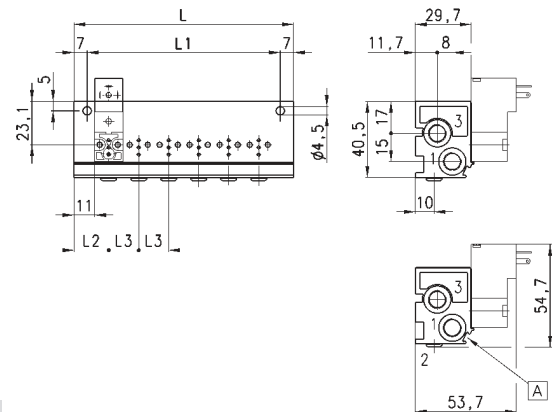
DIMENSIONS							
Mod.	N° Valves	L	L1	L2	L3	1 (P)	3 (R)
P102-0*	2	53	39	18,5	16	G1/8	G1/8
P103-0*	3	69	55	18,5	16	G1/8	G1/8
P104-0*	4	85	71	18,5	16	G1/8	G1/8
P105-0*	5	101	87	18,5	16	G1/8	G1/8
P106-0*	6	117	103	18,5	16	G1/8	G1/8

* = see the type of PORTS in the CODING EXAMPLE TABLE.

A = groove for electric connection identification

Single manifold with front outlets

This manifold is arranged to be fixed through DIN 46277/3 guide together with the accessory PCF-E520.

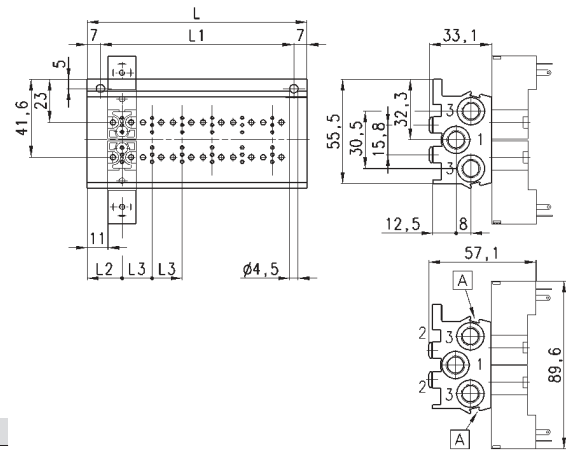


DIMENSIONS							
Mod.	Nr valves	L	L1	L2	L3	1 (P)	3 (R)
P102-0*	2	53	39	18,5	16	G1/8	G1/8
P103-0*	3	69	55	18,5	16	G1/8	G1/8
P104-0*	4	85	71	18,5	16	G1/8	G1/8
P105-0*	5	101	87	18,5	16	G1/8	G1/8
P106-0*	6	117	103	18,5	16	G1/8	G1/8

* = see the type of PORTS in the CODING EXAMPLE TABLE.

A = groove for electric connection identification

Double sided manifold with rear outlets



DIMENSIONS							
Mod.	Nr valves	L	L1	L2	L3	1 (P)	3 (R)
P204-0*	4	53	39	18,5	16	G1/8	G1/8
P206-0*	6	69	55	18,5	16	G1/8	G1/8
P208-0*	8	85	71	18,5	16	G1/8	G1/8
P210-0*	10	101	87	18,5	16	G1/8	G1/8
P212-0*	12	117	103	18,5	16	G1/8	G1/8

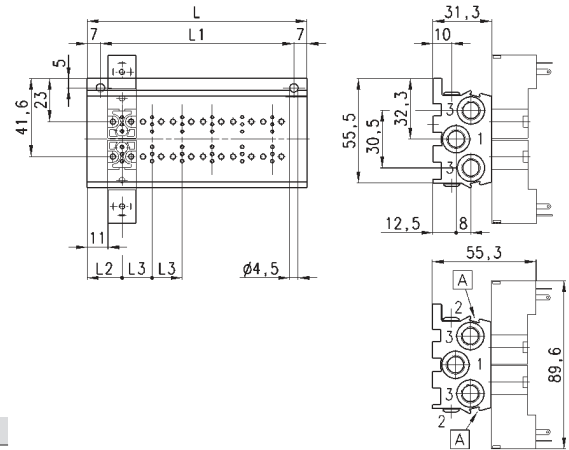
* = see the type of PORTS in the CODING EXAMPLE TABLE.

A = groove for electric connection identification

Double sided manifold with front outlets



This manifold is arranged to be fixed through DIN 46277/3 guide together with the accessory PCF-E520.



DIMENSIONS							
Mod.	Nr valves	L	L1	L2	L3	1 (P)	3 (R)
P204-0*	4	53	39	18,5	16	G1/8	G1/8
P206-0*	6	69	55	18,5	16	G1/8	G1/8
P208-0*	8	85	71	18,5	16	G1/8	G1/8
P210-0*	10	101	87	18,5	16	G1/8	G1/8
P212-0*	12	117	103	18,5	16	G1/8	G1/8

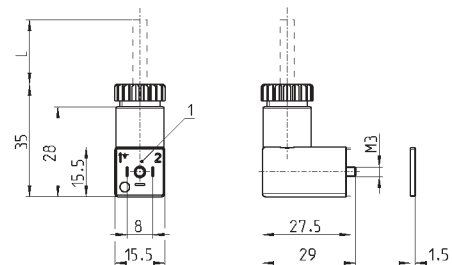
* = see the type of PORTS in the CODING EXAMPLE TABLE.

A = groove for electric connection identification

Connector Mod. 126-... DIN EN 175 301-803-C (8 mm)



To be used in all DC valves with voltages from 6 to 110 V.



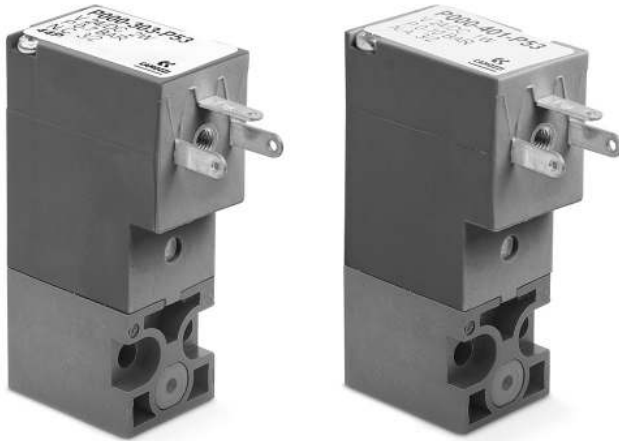
Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
126-550-1	moulded cable, without electronics	black	-	1000 mm	-	0.3 Nm
126-800	connector, without electronics	black	-	-	PG7	0.3 Nm
126-701	connector, varistor + Led	transparent	24 V AC/DC	-	PG7	0.3 Nm

1 = 90° adjustable connector

Series P directly operated solenoid valves

3/2-way - Normally Closed (NC) and Normally Open (NO)

SERIES P SOLENOID VALVES



» Can be mounted on a single base (M5 connections) or on manifold (M5 connections or cartridge \varnothing 3 and 4).

Please note that all Series P solenoid valves are supplied with direct current (DC). To operate in alternating current (AC), it is necessary to use the connector with bridge rectifier Mod. 125-900.

Series P directly operated mini-solenoid valves are available as 3/2-way, either NC or NO. Both versions can be mounted on single bases or on manifolds and they are equipped with a manual override which makes the plants setting easier.

GENERAL DATA

TECHNICAL FEATURES

Function	3/2 NC - 3/2 NO
Operation	direct acting poppet type
Pneumatic connections	on subbase with ISO 15218 interface by means of screws
Nominal diameter	0.8 ... 1.5 mm
Nominal flow	14 ... 35 Nl/min (air @ 6 bar Δ P 1 bar)
Flow coefficient kv (l/min)	0.21 ... 0.54
Operating pressure	0 ÷ 3 ... 10 bar
Operating temperature	0°C ÷ 50°C
Media	filtered air, class 5.4.4 according to ISO 8573-1 (max oil viscosity 32 cSt), inert gas
Response time (ISO 12238)	ON <10 msec - OFF <15 msec
Manual override	monostable button
Installation	in any position

MATERIALS IN CONTACT WITH THE MEDIUM

Body	PBT technopolymer
Seals	FKM, NBR (FKM on demand)
Internal parts	stainless steel

ELECTRICAL FEATURES

Voltage	12 ... 110 V DC - 24 ... 110 V AC 50/60 Hz
Voltage tolerance	±10%
Power consumption	2 W - 1 W (24 V DC only)
Duty cycle	ED 100%
Electrical connection	with industrial standard connector (9.4 mm)
Protection class	IP65 with connector

Special versions available on demand

CODING EXAMPLE

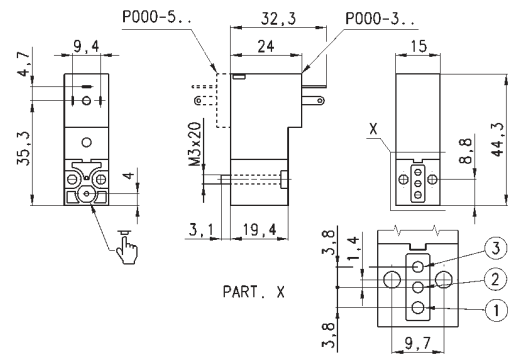
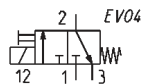
P	0	00	-	3	0	3	-	P	5	3	
P	SERIES										
0	BODY DESIGN: 0 = single sub-base (M5 only) or interface 1 = single manifold 2 = double sided manifold										
00	NUMBER OF POSITIONS: 00 = interface 01 = single base (M5 only) 02 ÷ 99 = manifold number of positions										
3	NUMBER OF WAYS - FUNCTIONS: 0 = manifold or single base 3 = 3-way NC 4 = 3-way NO 5 = 3-way NC electric part revolved by 180° 6 = 3-way NO electric part revolved by 180°										
0	VALVE PORTS: 0 = interface (for single valve only)										
	MANIFOLD PORTS (for Series W, P and PN): 2 = M5 side port 3 = Ø 3 tube side port 4 = Ø 4 tube side port 6 = M5 rear ports 7 = Ø 3 tube rear ports 8 = Ø 4 tube rear ports										
3	NOMINAL DIAMETER - MAX PRESSURE 1 = Ø 0,8 (1W) 10 bar (NC) 24V only 3 = Ø 1,5 (2W) 7 bar (NC) 5 bar (NO) 5 = Ø 1,1 NC (2W) 10 bar (NC) Ø 0,9 NO (2W) 10 bar (NO) 6 = Ø 1,5 NC (2W) 3 bar (NC) *										
P	MATERIALS: P = technopolymer PBT body, FKM poppet seal, other seals in NBR (FKM on demand)										
5	ELECTRICAL CONNECTION: 5 = industrial standard connection (9.4 mm)										
3	SOLENOID VOLTAGE: B = 24V 50/60 Hz 2 = 12V DC 6 = 110V DC C = 48V 50/60 Hz 3 = 24V DC D = 110V 50/60 Hz 4 = 48V DC										
	FIXING: = with screws for metal (standard) P = with screws for plastics										

* Voltage tolerance from +10% to -25%

3/2-way NC solenoid valve



Supplied with:
 1x interface seal
 2x screws M3x20 UNI 8112
 (fixing for metal, standard)
 OR
 2x screws M3x23 UNI 10227
 (fixing for plastics, P option)

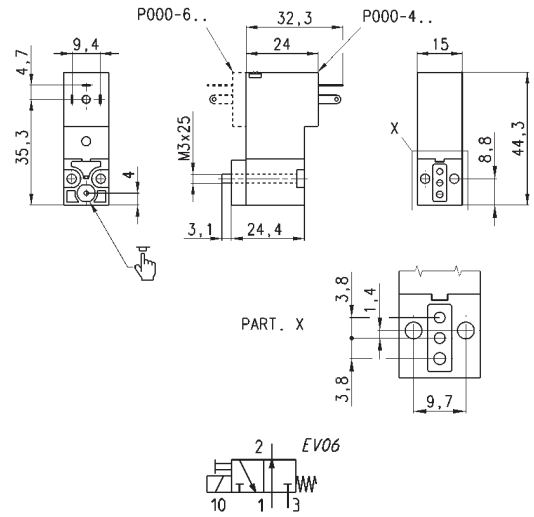


Mod.	Orifice Ø (mm)	kv (l/min)	Qn (NL/min)	Pressure min-max (bar)
P000-301-P53	0,8	0.21	14	0 ÷ 10
P000-303-P53	1,5	0.54	35	0 ÷ 7
P000-305-P53	1,1	0.39	25	0 ÷ 10
P000-306-P53	1,5	0.54	-	0 ÷ 3

3/2-way NO solenoid valve

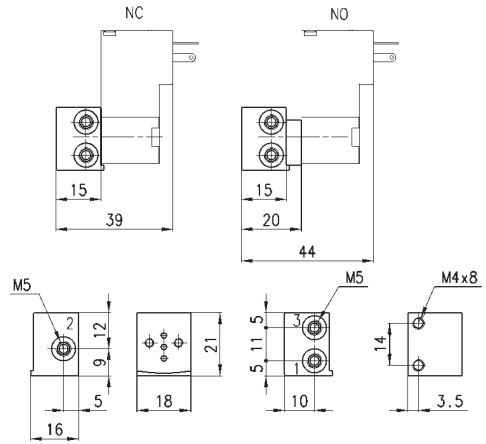


Supplied with:
1x interface for NO version
(connections 1 and 3 are inverted)
2x interface seals
2x screws M3x25 UNI 8112 (for standard version)



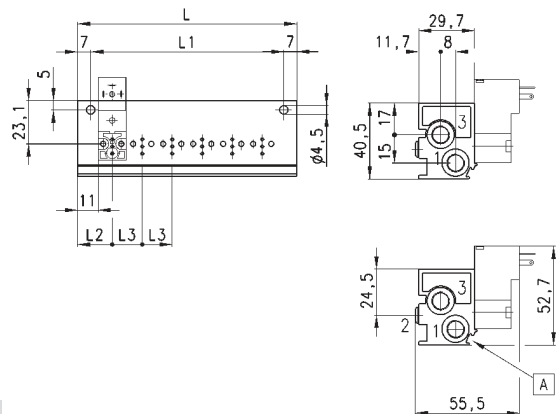
Mod.	Orifice Ø (mm)	kv (l/min)	Qn (NL/min)	Pressure min-max (bar)
P000-405-P53	0.9	0.23	15	0 ÷ 10
P000-403-P53	1.5	0.54	-	0 ÷ 5

Single sub-base



Mod.
P001-02

Single manifold with rear outlets



DIMENSIONS							
Mod.	N° Valves	L	L1	L2	L3	1 (P)	3 (R)
P102-0*	2	53	39	18,5	16	G1/8	G1/8
P103-0*	3	69	55	18,5	16	G1/8	G1/8
P104-0*	4	85	71	18,5	16	G1/8	G1/8
P105-0*	5	101	87	18,5	16	G1/8	G1/8
P106-0*	6	117	103	18,5	16	G1/8	G1/8

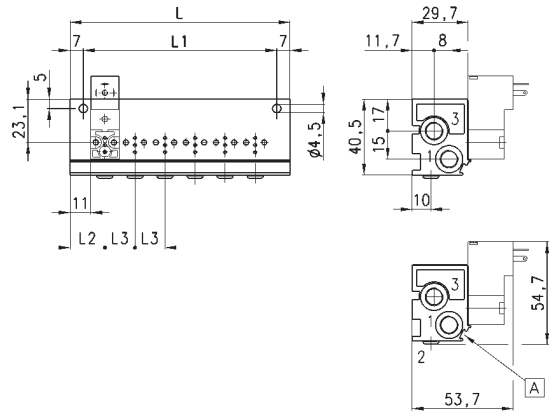
* = see the type of PORTS in the CODING EXAMPLE TABLE.

A = groove for electric connection identification

Single manifold with front outlets



This manifold is arranged to be fixed through DIN 46277/3 guide together with the accessory PCF-E520.

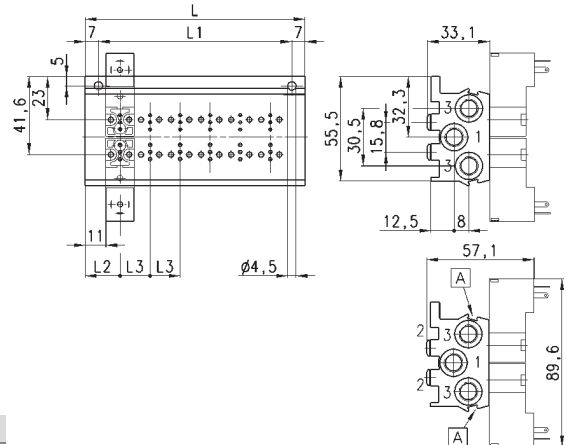


DIMENSIONS							
Mod.	Nr valves	L	L1	L2	L3	1 (P)	3 (R)
P102-0*	2	53	39	18,5	16	G1/8	G1/8
P103-0*	3	69	55	18,5	16	G1/8	G1/8
P104-0*	4	85	71	18,5	16	G1/8	G1/8
P105-0*	5	101	87	18,5	16	G1/8	G1/8
P106-0*	6	117	103	18,5	16	G1/8	G1/8

* = see the type of PORTS in the CODING EXAMPLE TABLE.

A = groove for electric connection identification

Double sided manifold with rear outlets



DIMENSIONS							
Mod.	Nr valves	L	L1	L2	L3	1 (P)	3 (R)
P204-0*	4	53	39	18,5	16	G1/8	G1/8
P206-0*	6	69	55	18,5	16	G1/8	G1/8
P208-0*	8	85	71	18,5	16	G1/8	G1/8
P210-0*	10	101	87	18,5	16	G1/8	G1/8
P212-0*	12	117	103	18,5	16	G1/8	G1/8

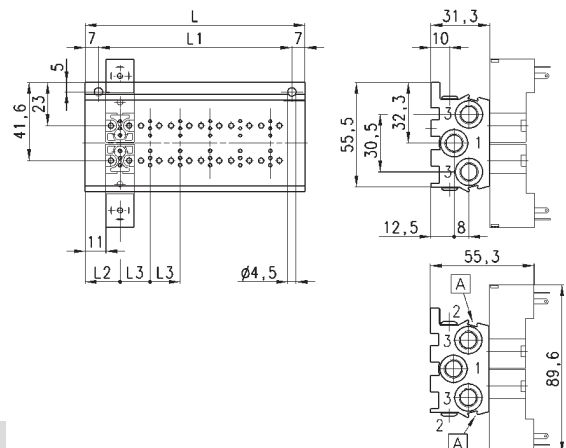
* = see the type of PORTS in the CODING EXAMPLE TABLE.

A = groove for electric connection identification

Double sided manifold with front outlets



This manifold is arranged to be fixed through DIN 46277/3 guide together with the accessory PCF-E520.



DIMENSIONS							
Mod.	Nr valves	L	L1	L2	L3	1 (P)	3 (R)
P204-0*	4	53	39	18,5	16	G1/8	G1/8
P206-0*	6	69	55	18,5	16	G1/8	G1/8
P208-0*	8	85	71	18,5	16	G1/8	G1/8
P210-0*	10	101	87	18,5	16	G1/8	G1/8
P212-0*	12	117	103	18,5	16	G1/8	G1/8

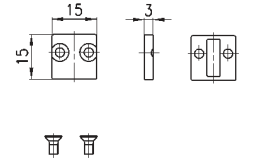
* = see the type of PORTS in the CODING EXAMPLE TABLE.

A = groove for electric connection identification

Excluder tap

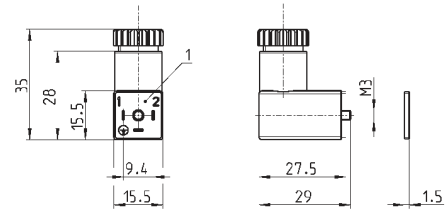


Supplied with:
1x excluder tap
1x interface seal
2x screws



Mod.	
P000-TP	

Industrial standard (9.4 mm) connector Mod. 125-...



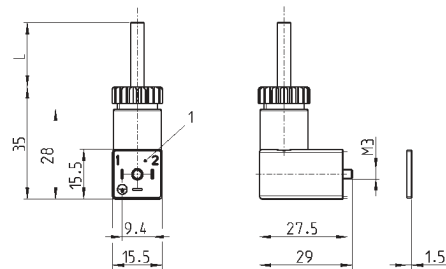
Mod.	description	colour	working voltage	cable holding	tightening torque
125-601	connector, diode + Led	transparent	10/50 V DC	PG7	0.3 Nm
125-701	connector, varistor + Led	transparent	24 V AC/DC	PG7	0.3 Nm
125-800	connector, without electronics	black	-	PG7	0.3 Nm

1 = 90° adjustable connector

Industrial standard (9.4 mm) connector Mod. 125-... with cable



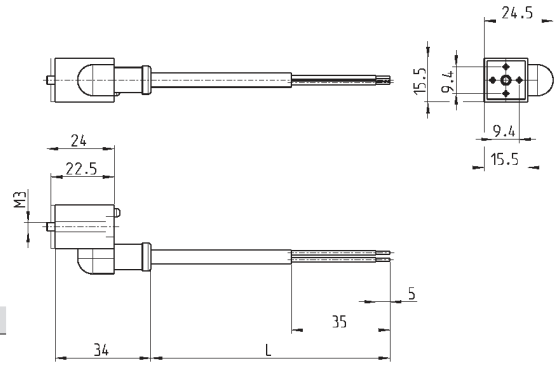
The internal rectifier circuit of the connector Mod. 125-900 allows to use solenoid valves with different AC voltage, even if the voltage indicated on the solenoid valve is DC.



Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
125-501-2	moulded cable with diode + Led	black	10/50 V DC	2000 mm	-	0.3 Nm
125-550-1	moulded cable, without electronics	black	-	1000 mm	-	0.3 Nm
125-601-2	pre-wired cable, diode + Led	transparent	10/50 V DC	2000 mm	PG7	0.3 Nm
125-571-3	moulded cable, varistor + Led	black	24 V AC/DC	3000 mm	-	0.3 Nm
125-900	pre-wired cable with voltage rectifier	black	6 V - 110 V AC/DC	2000 mm	PG7	0.3 Nm

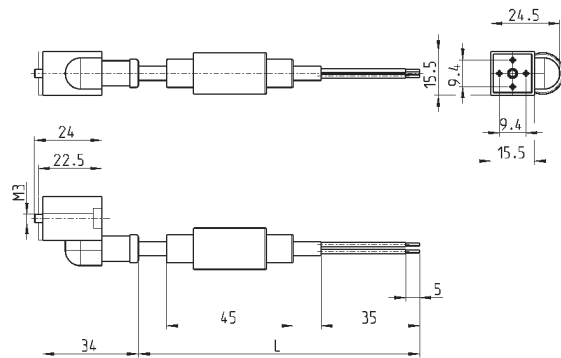
1 = 90° adjustable connector

Industrial standard (9.4 mm) in-line connectors with cable



Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
125-503-2	in-line moulded cable, with diode + Led	black	24 V DC	2000 mm	-	0.3 Nm
125-503-5	in-line moulded cable, with diode + Led	black	24 V DC	5000 mm	-	0.3 Nm
125-553-2	in-line moulded cable, without electronics	black	-	2000 mm	-	0.3 Nm
125-553-5	in-line moulded cable, without electronics	black	-	5000 mm	-	0.3 Nm

Industrial standard (9.4 mm) in-line connectors with bridge rectifier



Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
125-903-2	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	2000 mm	-	0.3 Nm
125-903-5	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	5000 mm	-	0.3 Nm

Series PL directly operated solenoid valves

3/2-way - Normally Closed (NC)



» Can be mounted on a single base (M5 connections) or on manifold (M5 connections or cartridge \varnothing 3 and 4)

Series PL directly operated mini-solenoid valves are available in the NC version and can be mounted on single bases or on manifolds.

Please note that all Series PL solenoid valves are supplied with direct current (DC). To operate in alternating current (AC), it is necessary to use the connector with bridge rectifier Mod. 125-900.

GENERAL DATA

TECHNICAL FEATURES

Function	3/2 NC
Operation	direct acting poppet type
Pneumatic connections	on subbase with ISO 15218 interface by means of screws
Nominal diameter	1.5 mm
Nominal flow	35 NL/min (air @ 6 bar Δ P 1 bar)
Flow coefficient kv (l/min)	0.54
Operating pressure	0 ÷ 3.5 or 4 ÷ 8 bar
Operating temperature	0°C ÷ 50°C
Media	filtered air, class 5.4.4 according to ISO 8573-1 (max oil viscosity 32 cSt), inert gas
Response time	ON <10 msec - OFF <15 msec
Manual override	not foreseen
Installation	in any position

MATERIALS IN CONTACT WITH THE MEDIUM

Body	PBT technopolymer
Seals	FKM, NBR
Internal parts	stainless steel, NBR

ELECTRICAL FEATURES

Voltage	24 V DC - 12 V DC - other voltages on demand
Voltage tolerance	±10%
Power consumption	2.7 W
Duty cycle	ED 100%
Electrical connection	with industrial standard connector (9.4 mm)
Protection class	IP65 with connector

Special versions available on demand

CODING EXAMPLE

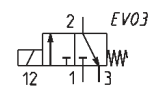
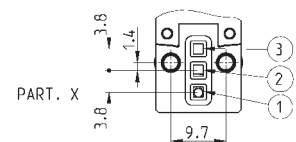
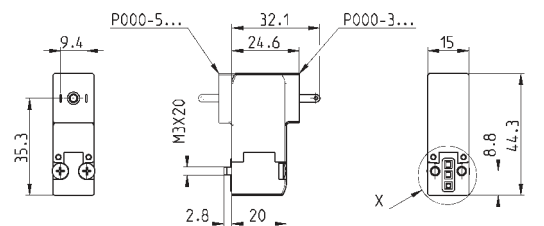
PL	0	00	-	3	0	3	-	PL	2	3	
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PL	SERIES
0	BODY DESIGN: 0 = single sub-base (M5 only) or interface 1 = single manifold 2 = double sided manifold
00	NUMBER OF POSITIONS: 00 = interface 01 = single base (M5 only) 02 ÷ 99 = manifold number of positions
3	NUMBER OF WAYS - FUNCTIONS: 0 = manifold or single base 3 = 3-way NC 5 = 3-way NC electric part revolved by 180°
0	VALVE PORTS: 0 = interface (for single valve only) MANIFOLD PORTS: 2 = M5 side port 3 = Ø 3 tube side port 4 = Ø 4 tube side port 6 = M5 rear ports 7 = Ø 3 tube rear ports 8 = Ø 4 tube rear ports
3	NOMINAL DIAMETER: 3 = Ø 1.5 mm (Pressure 4 ÷ 8 bar) 6 = Ø 1.5 mm (Pressure 0 ÷ 3.5 bar)
PL	MATERIALS: PL = technopolymer PBT body, FKM poppet seal, other seals in NBR
2	ELECTRICAL CONNECTION: 2 = industrial standard connection (9.4 mm)
3	VOLTAGE - POWER CONSUMPTION: 2 = 12 V DC 2.7W 3 = 24 V DC 2.7W
	FIXING: = with screws for metal (standard) P = with screws for plastics

3/2-way NC solenoid valve

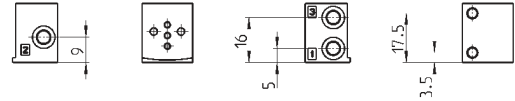
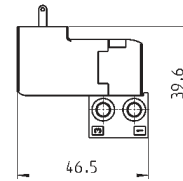


Supplied with:
1x interface seal
2x screws M3x20 UNI 8112
(fixing for metal, standard)
or
2x screws M3x23 UNI 10227
(fixing for plastics, P option)



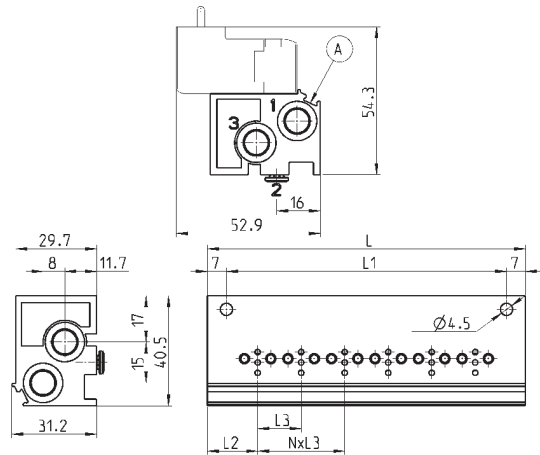
Mod.	Orifice Ø (mm)	kv (l/min)	Qn (NL/min)	Pressure min-max (bar)
PL000-303-PL23	1.5	0.54	35	4 ÷ 8
PL000-503-PL23	1.5	0.54	35	4 ÷ 8
PL000-306-PL23	1.5	0.54	-	0 ÷ 3.5
PL000-506-PL23	1.5	0.54	-	0 ÷ 3.5

Single sub-base



Mod.	P001-02
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Single manifold with rear outlets



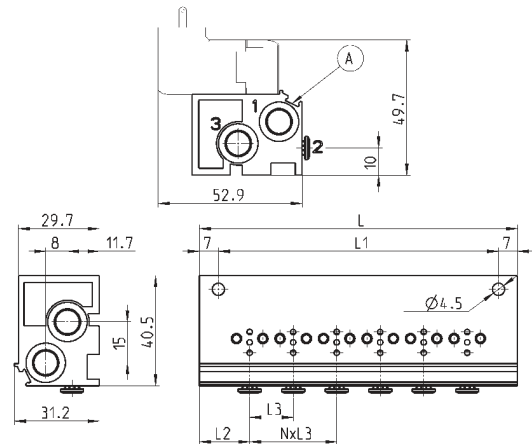
Mod.	Nr valves	L	L1	L2	L3	1 (P)	3 (R)
P102-0*	2	53	39	18,5	16	G1/8	G1/8
P103-0*	3	69	55	18,5	16	G1/8	G1/8
P104-0*	4	85	71	18,5	16	G1/8	G1/8
P105-0*	5	101	87	18,5	16	G1/8	G1/8
P106-0*	6	117	103	18,5	16	G1/8	G1/8

* = see the type of PORTS in the CODING EXAMPLE TABLE.

A = groove for electric connection identification

Single manifold with front outlets

This manifold is arranged to be fixed through DIN 46277/3 guide together with the accessory PCF-E520.

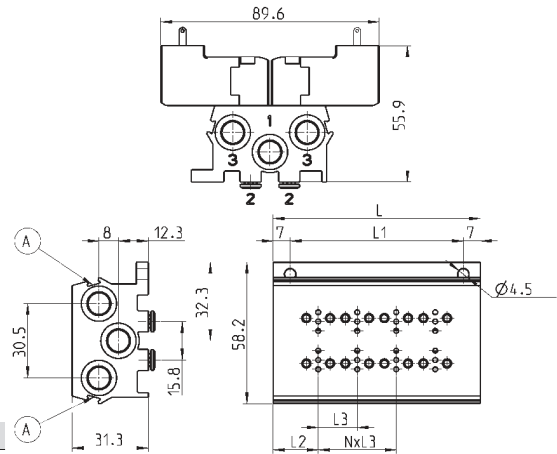


Mod.	Nr valves	L	L1	L2	L3	1 (P)	3 (R)
P102-0*	2	53	39	18,5	16	G1/8	G1/8
P103-0*	3	69	55	18,5	16	G1/8	G1/8
P104-0*	4	85	71	18,5	16	G1/8	G1/8
P105-0*	5	101	87	18,5	16	G1/8	G1/8
P106-0*	6	117	103	18,5	16	G1/8	G1/8

* = see the type of PORTS in the CODING EXAMPLE TABLE.

A = groove for electric connection identification

Double sided manifold with rear outlets



Mod.	Nr valves	L	L1	L2	L3	1 (P)	3 (R)
P204-0*	4	53	39	18,5	16	G1/8	G1/8
P206-0*	6	69	55	18,5	16	G1/8	G1/8
P208-0*	8	85	71	18,5	16	G1/8	G1/8
P210-0*	10	101	87	18,5	16	G1/8	G1/8
P212-0*	12	117	103	18,5	16	G1/8	G1/8

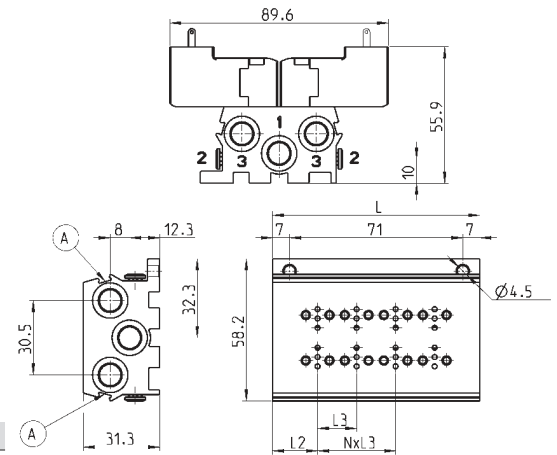
* = see the type of PORTS in the CODING EXAMPLE TABLE.

A = groove for electric connection identification

Double sided manifold with front outlets



This manifold is arranged to be fixed through DIN 46277/3 guide together with the accessory PCF-E520.



Mod.	Nr valves	L	L1	L2	L3	1 (P)	3 (R)
P204-0*	4	53	39	18,5	16	G1/8	G1/8
P206-0*	6	69	55	18,5	16	G1/8	G1/8
P208-0*	8	85	71	18,5	16	G1/8	G1/8
P210-0*	10	101	87	18,5	16	G1/8	G1/8
P212-0*	12	117	103	18,5	16	G1/8	G1/8

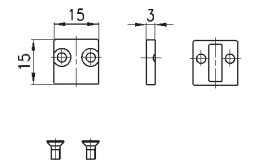
* = see the type of PORTS in the CODING EXAMPLE TABLE.

A = groove for electric connection identification

Excluder tap

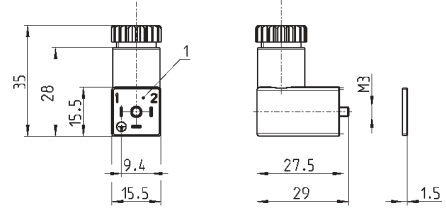


Supplied with:
1x excluder tap
1x interface seal
2x screws



Mod.
P000-TP

Industrial standard (9.4 mm) connector Mod. 125-...



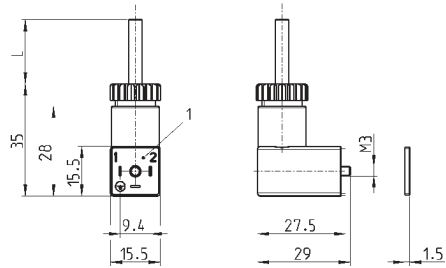
Mod.	description	colour	working voltage	cable holding	tightening torque
125-601	connector, diode + Led	transparent	10/50 V DC	PG7	0.3 Nm
125-701	connector, varistor + Led	transparent	24 V AC/DC	PG7	0.3 Nm
125-800	connector, without electronics	black	-	PG7	0.3 Nm

1 = 90° adjustable connector

Industrial standard (9.4 mm) connector Mod. 125-... with cable



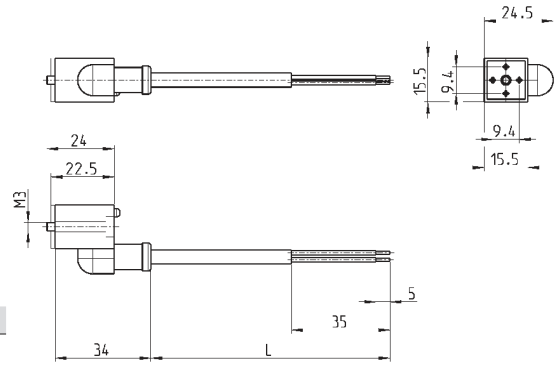
The internal rectifier circuit of the connector Mod. 125-900 allows to use solenoid valves with different AC voltage, even if the voltage indicated on the solenoid valve is DC.



Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
125-501-2	moulded cable with diode + Led	black	10/50 V DC	2000 mm	-	0.3 Nm
125-550-1	moulded cable, without electronics	black	-	1000 mm	-	0.3 Nm
125-601-2	pre-wired cable, diode + Led	transparent	10/50 V DC	2000 mm	PG7	0.3 Nm
125-571-3	moulded cable, varistor + Led	black	24 V AC/DC	3000 mm	-	0.3 Nm
125-900	pre-wired cable with voltage rectifier	black	6 V - 110 V AC/DC	2000 mm	PG7	0.3 Nm

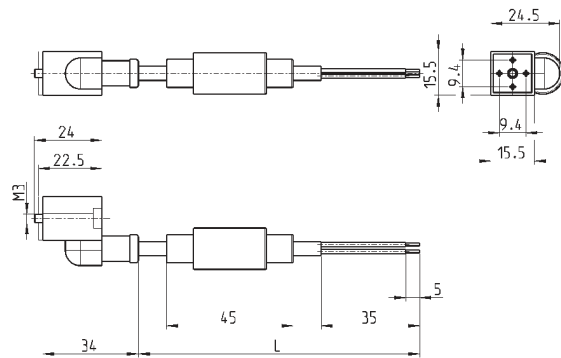
1 = 90° adjustable connector

Industrial standard (9.4 mm) in-line connectors with cable



Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
125-503-2	in-line moulded cable, with diode + Led	black	24 V DC	2000 mm	-	0.3 Nm
125-503-5	in-line moulded cable, with diode + Led	black	24 V DC	5000 mm	-	0.3 Nm
125-553-2	in-line moulded cable, without electronics	black	-	2000 mm	-	0.3 Nm
125-553-5	in-line moulded cable, without electronics	black	-	5000 mm	-	0.3 Nm

Industrial standard (9.4 mm) in-line connectors with bridge rectifier



Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
125-903-2	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	2000 mm	-	0.3 Nm
125-903-5	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	5000 mm	-	0.3 Nm

Series PN directly operated solenoid valves

3/2-way - Normally Closed (NC)



- » Can be mounted on a single base (M5 connections) or on manifold (M5 connections or cartridge \varnothing 3 and 4)
- » Compact design suitable for use in reduced mounting space

Please note that all Series PN solenoid valves are supplied with direct current (DC). To operate in alternating current (AC), it is necessary to use the connector with bridge rectifier Mod. 125-900.

Series PN directly operated solenoid valves are available as 3/2-way NC. They are equipped with a manual override which makes the plants setting easier and they can be mounted on single bases or on manifolds.

GENERAL DATA

TECHNICAL FEATURES

Function	3/2 NC
Operation	direct acting poppet type
Pneumatic connections	on subbase with ISO 12238 interface by means of screws
Nominal diameter	0.8 mm
Nominal flow	12 NL/min (air @ 6 bar Δ P 1 bar)
Flow coefficient kv (l/min)	0.19
Operating pressure	0 ÷ 10 bar
Operating temperature	0°C ÷ 50°C
Media	filtered air, class 5.4.4 according to ISO 8573-1 (max oil viscosity 32 cSt), inert gas
Response time (ISO 12238)	ON <10 msec - OFF <15 msec
Installation	in any position

MATERIALS IN CONTACT WITH THE MEDIUM

Body	PBT technopolymer
Seals	PU, NBR, (FKM on demand)
Internal parts	stainless steel

ELECTRICAL FEATURES

Voltage	24 ... 205 V DC
Voltage tolerance	±10%
Power consumption	2 W - 1 W (24 V DC only)
Duty cycle	ED 100%
Electrical connection	with industrial standard connector (9.4 mm)
Protection class	IP65 with connector

Special versions available on demand

CODING EXAMPLE

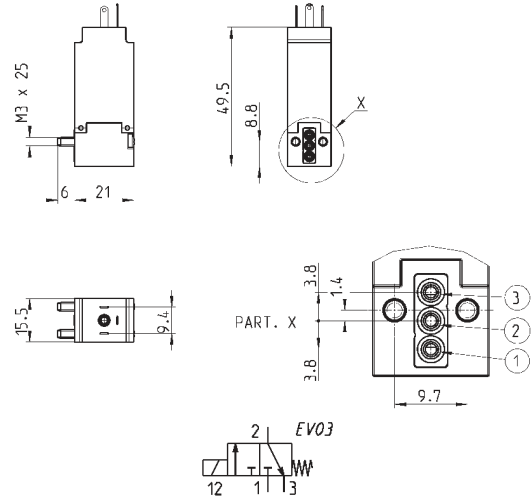
PN	0	00	-	3	0	1	-	P	5	3	
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PN	SERIES
0	BODY DESIGN: 0 = single sub-base 1 = single manifold 2 = double sided manifold
00	NUMBER OF POSITIONS: 00 = interface 01 = single base (M5 only) 02 = 99 = manifold number of positions
3	NUMBER OF WAYS - FUNCTIONS: 0 = manifold or single base 3 = 3-way NC
0	VALVE PORTS: 0 = interface (for single valve only) MANIFOLD PORTS (for Series W, P and PN): 2 = M5 side port 3 = \emptyset 3 tube side port 4 = \emptyset 4 tube side port 6 = M5 rear ports 7 = \emptyset 3 tube rear ports 8 = \emptyset 4 tube rear ports
1	NOMINAL DIAMETER - MAX PRESSURE 1 = \emptyset 0,8 (1W) 10 bar (NC) 24V only
P	MATERIALS: P = PBT body, PU poppet seal
5	ELECTRICAL CONNECTION: 5 = industrial standard connection (9.4 mm)
3	SOLENOID VOLTAGE: 3 = 24V DC 4 = 48V DC 6 = 110V DC 7 = 205V DC
	FIXING: = standard for the mounting on plastic interfaces M = with screws for the mounting on metal interface (on demand)

3/2-way NC solenoid valve

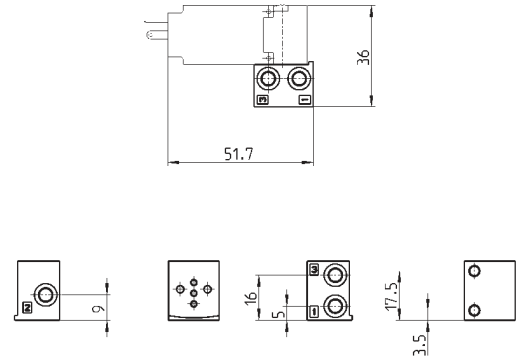


Supplied with:
1x interface seal
2x screws



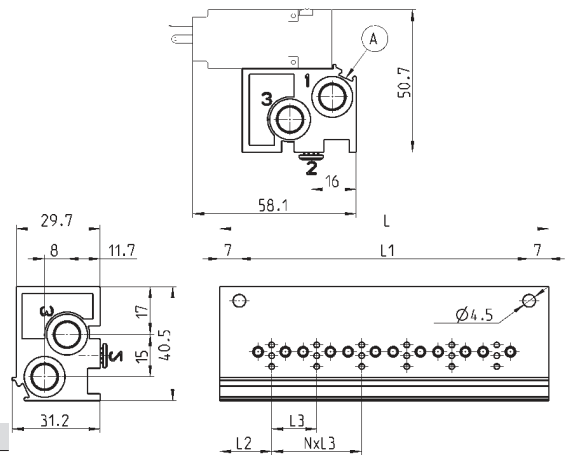
Mod.	Orifice \varnothing (mm)	kv (l/min)	Qn (NL/min)	Pressure min-max (bar)
PN000-301-P53	0.8	0.18	12	0 ÷ 10

Single sub-base



Mod.
P001-02

Single manifold with rear outlets



Mod.	Nr valves	L	L1	L2	L3	1 (P)	3 (R)
P102-0*	2	53	39	18,5	16	G1/8	G1/8
P103-0*	3	69	55	18,5	16	G1/8	G1/8
P104-0*	4	85	71	18,5	16	G1/8	G1/8
P105-0*	5	101	87	18,5	16	G1/8	G1/8
P106-0*	6	117	103	18,5	16	G1/8	G1/8

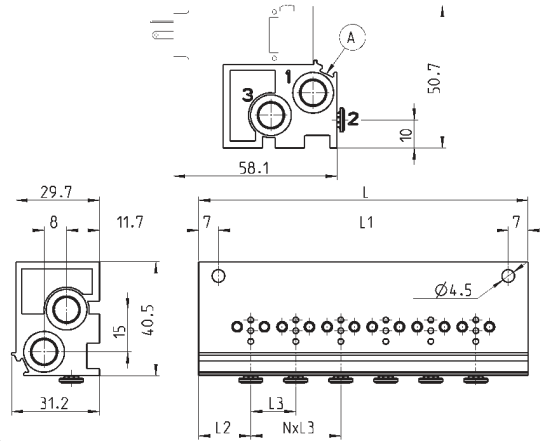
* = see the type of PORTS in the CODING EXAMPLE TABLE.

A = groove for electric connection identification

Single manifold with front outlets



This manifold is arranged to be fixed through DIN 46277/3 guide together with the accessory PCF-E520.

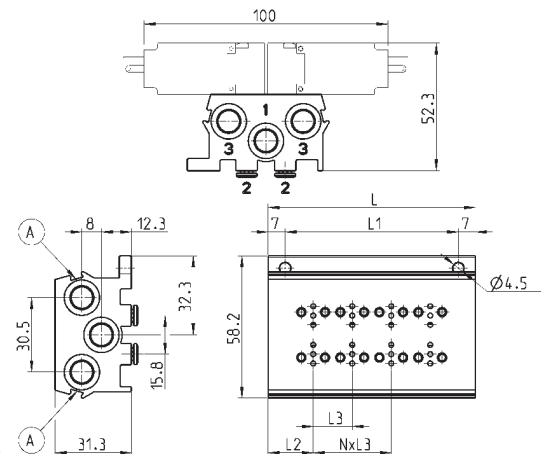


Mod.	Nr valves	L	L1	L2	L3	1 (P)	3 (R)
P102-0*	2	53	39	18,5	16	G1/8	G1/8
P103-0*	3	69	55	18,5	16	G1/8	G1/8
P104-0*	4	85	71	18,5	16	G1/8	G1/8
P105-0*	5	101	87	18,5	16	G1/8	G1/8
P106-0*	6	117	103	18,5	16	G1/8	G1/8

* = see the type of PORTS in the CODING EXAMPLE TABLE.

A = groove for electric connection identification

Double sided manifold with rear outlets



Mod.	Nr valves	L	L1	L2	L3	1 (P)	3 (R)
P204-0*	4	53	39	18,5	16	G1/8	G1/8
P206-0*	6	69	55	18,5	16	G1/8	G1/8
P208-0*	8	85	71	18,5	16	G1/8	G1/8
P210-0*	10	101	87	18,5	16	G1/8	G1/8
P212-0*	12	117	103	18,5	16	G1/8	G1/8

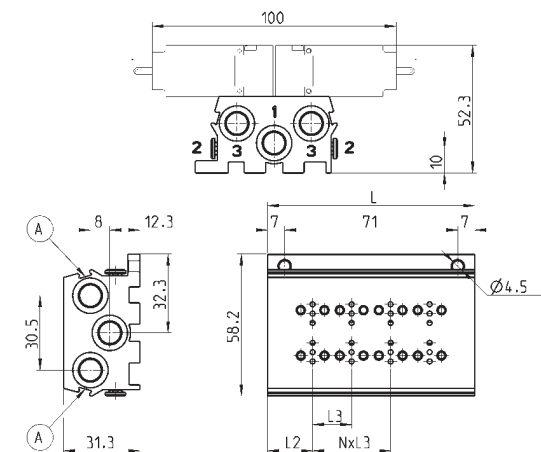
* = see the type of PORTS in the CODING EXAMPLE TABLE.

A = groove for electric connection identification

Double sided manifold with front outlets



This manifold is arranged to be fixed through DIN 46277/3 guide together with the accessory PCF-E520.



Mod.	Nr valves	L	L1	L2	L3	1 (P)	3 (R)
P204-0*	4	53	39	18,5	16	G1/8	G1/8
P206-0*	6	69	55	18,5	16	G1/8	G1/8
P208-0*	8	85	71	18,5	16	G1/8	G1/8
P210-0*	10	101	87	18,5	16	G1/8	G1/8
P212-0*	12	117	103	18,5	16	G1/8	G1/8

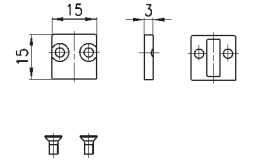
* = see the type of PORTS in the CODING EXAMPLE TABLE.

A = groove for electric connection identification

Excluder tap

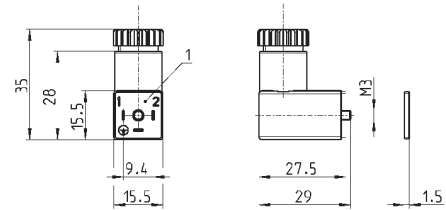


Supplied with:
1x excluder tap
1x interface seal
2x screws



Mod.	P000-TP
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Industrial standard (9.4 mm) connector Mod. 125-...



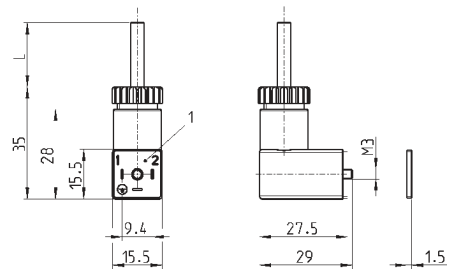
Mod.	description	colour	working voltage	cable holding	tightening torque
125-601	connector, diode + Led	transparent	10/50 V DC	PG7	0.3 Nm
125-701	connector, varistor + Led	transparent	24 V AC/DC	PG7	0.3 Nm
125-800	connector, without electronics	black	-	PG7	0.3 Nm

1 = 90° adjustable connector

Industrial standard (9.4 mm) connector Mod. 125-... with cable



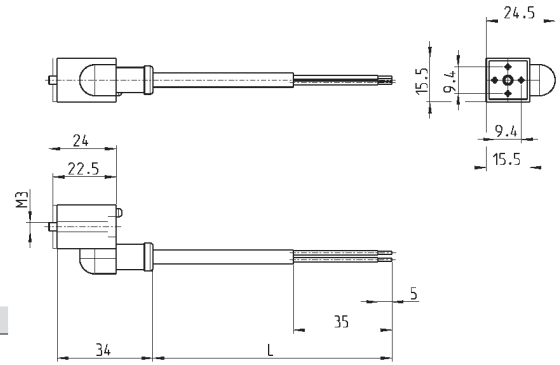
The internal rectifier circuit of the connector Mod. 125-900 allows to use solenoid valves with different AC voltage, even if the voltage indicated on the solenoid valve is DC.



Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
125-501-2	moulded cable with diode + Led	black	10/50 V DC	2000 mm	-	0.3 Nm
125-550-1	moulded cable, without electronics	black	-	1000 mm	-	0.3 Nm
125-601-2	pre-wired cable, diode + Led	transparent	10/50 V DC	2000 mm	PG7	0.3 Nm
125-571-3	moulded cable, varistor + Led	black	24 V AC/DC	3000 mm	-	0.3 Nm
125-900	pre-wired cable with voltage rectifier	black	6 V - 110 V AC/DC	2000 mm	PG7	0.3 Nm

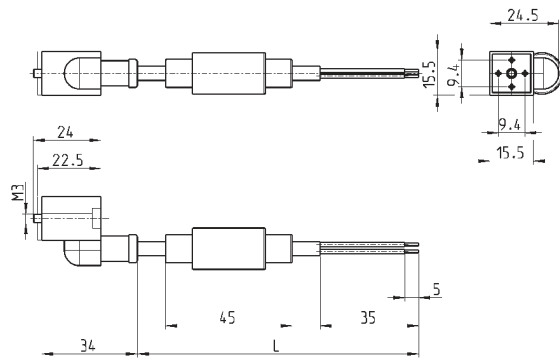
1 = 90° adjustable connector

Industrial standard (9.4 mm) in-line connectors with cable



Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
125-503-2	in-line moulded cable, with diode + Led	black	24 V DC	2000 mm	-	0.3 Nm
125-503-5	in-line moulded cable, with diode + Led	black	24 V DC	5000 mm	-	0.3 Nm
125-553-2	in-line moulded cable, without electronics	black	-	2000 mm	-	0.3 Nm
125-553-5	in-line moulded cable, without electronics	black	-	5000 mm	-	0.3 Nm

Industrial standard (9.4 mm) in-line connectors with bridge rectifier

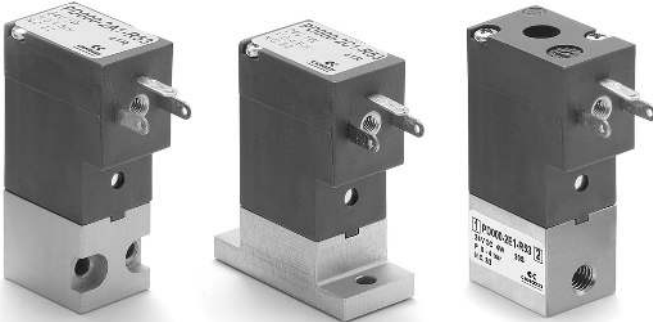


Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
125-903-2	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	2000 mm	-	0.3 Nm
125-903-5	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	5000 mm	-	0.3 Nm

Series PD directly operated solenoid valves

2/2-way - Normally Closed (NC)

SERIES PD SOLENOID VALVES



Please note that all Series PD solenoid valves are supplied with direct current (DC). To operate in alternating current (AC), it is necessary to use the connector with bridge rectifier Mod. 125-900.

This directly operated solenoid valve is available as 2/2-way, NC, in several sizes and in three different versions.

GENERAL DATA

TECHNICAL FEATURES

Function	2/2 NC
Operation	direct acting poppet type
Pneumatic connections	on subbase by means of M3 screws - M5 threads
Nominal diameter	0.8 ... 2.5 mm
Nominal flow	25 ... 125 NL/min (air @ 6 bar ΔP 1 bar)
Flow coefficient kv (l/min)	0.39 ... 1.93
Operating pressure	-0.9 ÷ 4 ... 12 bar
Operating temperature	0°C ÷ 50°C
Media	filtered air, class 5.4.4 according to ISO 8573-1 (max oil viscosity 32 cSt), inert gas
Response time	<15 ms
Installation	in any position

MATERIALS IN CONTACT WITH THE MEDIUM

Body	brass, anodized aluminium
Seals	NBR, (FKM on demand)
Internal parts	stainless steel

ELECTRICAL FEATURES

Voltage	24 V DC - 12 V DC - other voltages on demand
Voltage tolerance	1 and 2 W ±10% - 4 W ±5%
Power consumption	1 ... 4 W
Duty cycle	ED 100% (1 and 2 W) - ED 50% (4W) see the ED definition diagram
Electrical connection	with industrial standard connector (9.4 mm)
Protection class	IP65 with connector

Special versions available on demand

CODING EXAMPLE

PD	0	00	-	2	A	1	-	R	5	3	
PD	SERIES										
0	BODY DESIGN: 0 = single body										
00	NUMBER OF POSITIONS: 00 = interface										
2	NUMBER OF WAYS - FUNCTIONS: 2 = 2-way NC										
A	BODY MATERIALS AND VALVE PORTS: A = aluminium body, rear pneumatic interface C = aluminium body, low pneumatic interface E = brass body, M5 ports (for \varnothing up to 1.6mm)										
1	NOMINAL DIAMETER: 1 = \varnothing 0.8 2 = \varnothing 1.2 3 = \varnothing 1.6 4 = \varnothing 2 5 = \varnothing 2.5										
R	POPPET SEAL MATERIALS: R = NBR F = FKM (on request)										
5	ELECTRICAL CONNECTION: 5 = industrial standard connection (9.4 mm)										
3	SOLENOID VOLTAGE: 1 = 12V DC 1W 2 = 12V DC 2W 3 = 24V DC 1W 5 = 24V DC 2W 8 = 24V DC 4W										
	FIXING: = with screws for metal (standard) P = with screws for plastics										

ED definition diagram

Operating factor lower than 50%

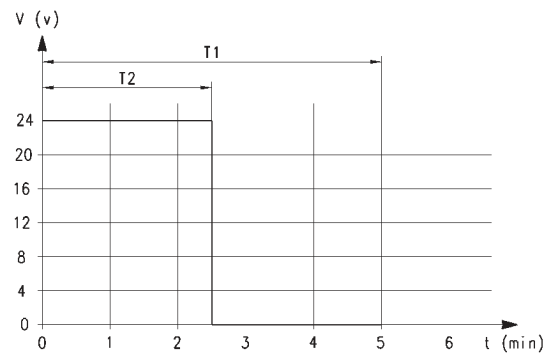
T1 = cycle time (5 minutes max)

T2 = energizing time

t = time (minutes)

V = working voltage (volt)

ED = $T2/T1 \times 100$

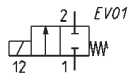
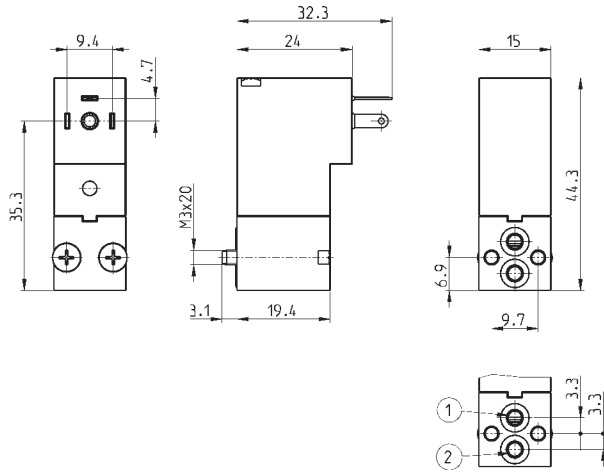


2/2-way NC solenoid valve, rear pneumatic interface



Supplied with:
2x OR seals
2x screws M3x20 UNI 8112
(fixing for metal, standard)
or
2x screws M3x23 UNI 10227
(fixing for plastics, P option)

For use with vacuum invert channel 1 and channel 2.



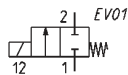
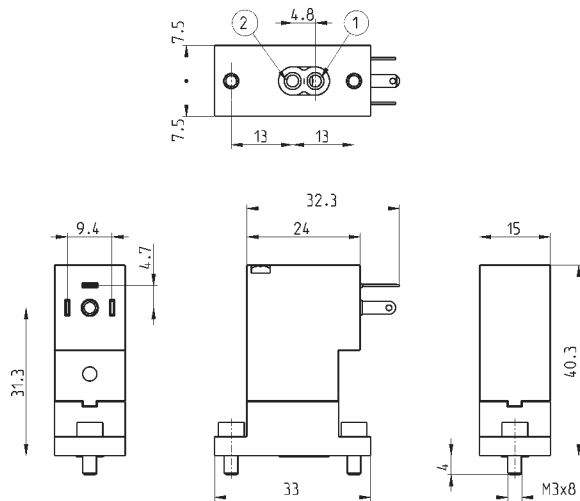
Mod.	Orifice \varnothing (mm)	kv (l/min)	Qn (NI/min)	Pressure min-max (bar)	Power consumption (W)	ED (%)
PD000-2A1-R51	0.8	0.39	25	0 ÷ 12	1	100
PD000-2A1-R53	0.8	0.39	25	0 ÷ 12	1	100
PD000-2A2-R52	1.2	0.54	35	0 ÷ 12	2	100
PD000-2A2-R55	1.2	0.54	35	0 ÷ 12	2	100
PD000-2A3-R52	1.6	0.70	45	0 ÷ 7	2	100
PD000-2A3-R55	1.6	0.70	45	0 ÷ 7	2	100
PD000-2A4-R58	2	1.31	85	0 ÷ 6	4	50
PD000-2A5-R58	2.5	1.93	-	0 ÷ 4	4	50

2/2-way NC solenoid valve, low pneumatic interface



Supplied with:
1x seal
2x screws M3x8 UNI 5931

For use with vacuum invert channel 1 and channel 2.

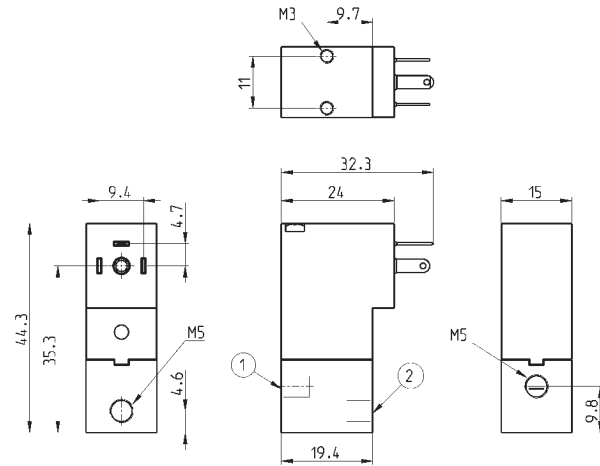
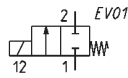


Mod.	Orifice \varnothing (mm)	kv (l/min)	Qn (NI/min)	Pressure min-max (bar)	Power consumption (W)	ED (%)
PD000-2C1-R51	0.8	0.39	25	0 ÷ 12	1	100
PD000-2C1-R53	0.8	0.39	25	0 ÷ 12	1	100
PD000-2C2-R52	1.2	0.54	35	0 ÷ 12	2	100
PD000-2C2-R55	1.2	0.54	35	0 ÷ 12	2	100
PD000-2C3-R52	1.6	0.70	45	0 ÷ 7	2	100
PD000-2C3-R55	1.6	0.70	45	0 ÷ 7	2	100
PD000-2C4-R58	2	1.31	85	0 ÷ 6	4	50
PD000-2C5-R58	2.5	1.93	-	0 ÷ 4	4	50

2/2-way NC solenoid valve, M5 ports

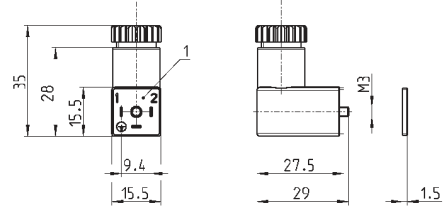


For use with vacuum invert channel 1 and channel 2.



Mod.	Orifice \varnothing (mm)	kv (l/min)	Qn (NI/min)	Pressure min-max (bar)	Power consumption (W)	ED (%)
PD000-2E1-R51	0.8	0.39	25	0 ÷ 12	1	100
PD000-2E1-R53	0.8	0.39	25	0 ÷ 12	1	100
PD000-2E2-R52	1.2	0.54	35	0 ÷ 12	2	100
PD000-2E2-R55	1.2	0.54	35	0 ÷ 12	2	100
PD000-2E3-R52	1.6	0.70	45	0 ÷ 7	2	100
PD000-2E3-R55	1.6	0.70	45	0 ÷ 7	2	100

Industrial standard (9.4 mm) connector Mod. 125-...



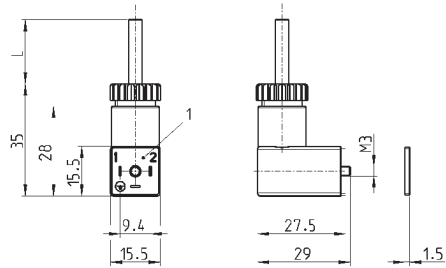
Mod.	description	colour	working voltage	cable holding	tightening torque
125-601	connector, diode + Led	transparent	10/50 V DC	PG7	0.3 Nm
125-701	connector, varistor + Led	transparent	24 V AC/DC	PG7	0.3 Nm
125-800	connector, without electronics	black	-	PG7	0.3 Nm

1 = 90° adjustable connector

Industrial standard (9.4 mm) connector Mod. 125-... with cable



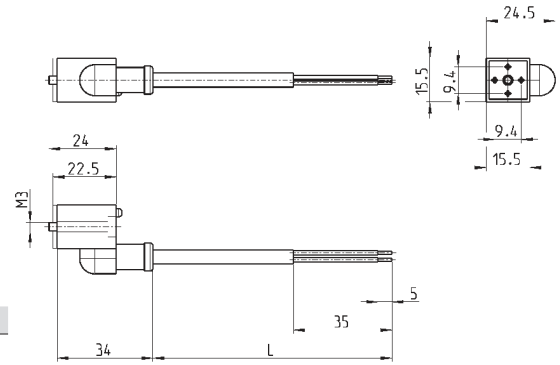
The internal rectifier circuit of the connector Mod. 125-900 allows to use solenoid valves with different AC voltage, even if the voltage indicated on the solenoid valve is DC.



Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
125-501-2	moulded cable with diode + Led	black	10/50 V DC	2000 mm	-	0.3 Nm
125-550-1	moulded cable, without electronics	black	-	1000 mm	-	0.3 Nm
125-601-2	pre-wired cable, diode + Led	transparent	10/50 V DC	2000 mm	PG7	0.3 Nm
125-571-3	moulded cable, varistor + Led	black	24 V AC/DC	3000 mm	-	0.3 Nm
125-900	pre-wired cable with voltage rectifier	black	6 V - 110 V AC/DC	2000 mm	PG7	0.3 Nm

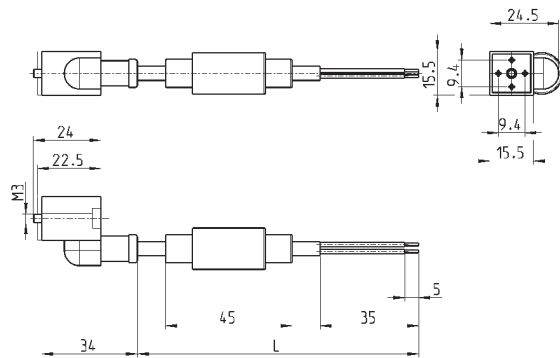
1 = 90° adjustable connector

Industrial standard (9.4 mm) in-line connectors with cable



Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
125-503-2	in-line moulded cable, with diode + Led	black	24 V DC	2000 mm	-	0.3 Nm
125-503-5	in-line moulded cable, with diode + Led	black	24 V DC	5000 mm	-	0.3 Nm
125-553-2	in-line moulded cable, without electronics	black	-	2000 mm	-	0.3 Nm
125-553-5	in-line moulded cable, without electronics	black	-	5000 mm	-	0.3 Nm

Industrial standard (9.4 mm) in-line connectors with bridge rectifier

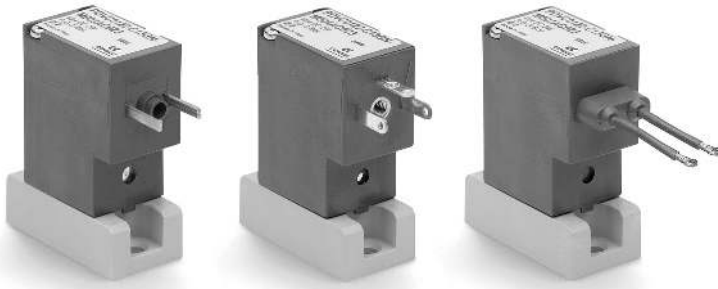


Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
125-903-2	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	2000 mm	-	0.3 Nm
125-903-5	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	5000 mm	-	0.3 Nm

Series PDV directly operated solenoid valves with fluid separation membrane

2/2-way - Normally Closed (NC)

SERIES PDV SOLENOID VALVES



- » Suitable to be used with neutral or aggressive fluids
- » Suitable for specific applications on medical and analytical equipment or instruments
- » Compact design

To choose the most suitable model for a specific application, check the chemical compatibility of the medium to control with the available materials of body and seals.

Series PDV directly operated solenoid valve is available with several nominal diameters and in three different versions according to the electrical connection. Moreover, the fluid separation membrane protects the medium from extreme changes of temperature due to heating of the solenoid.

GENERAL DATA

TECHNICAL FEATURES

Function	2/2 NC
Operation	directly operated with fluid separation membrane
Pneumatic connections	on subbase by means of M3 screws
Nominal diameter	0.8 ... 2 mm
Nominal flow	see kv
Flow coefficient kv (l/min)	0.25 ... 0.8
Operating pressure	0 ... 7 bar
Operating temperature	10°C ÷ 50°C
Media	gas and liquids: air, water, reagents, solvents, etc...
Response time (ISO 12238)	≤ 15 ms
Installation	in any position

MATERIALS IN CONTACT WITH THE MEDIUM

Body	PEEK
Seals	FKM - EPDM

ELECTRICAL FEATURES

Voltage	24 V DC - 12 V DC - other voltages on request
Voltage tolerance	±10%
Power consumption	2 W
Duty cycle	ED 100%
Electrical connection	industrial standard (9.4 mm), DIN EN 175 301-803-C (8 mm), cable L = 300 mm
Protection class	IP65 with connector

Special versions available on request

CODING EXAMPLE

PDV	C0	1	22	-	B7	3	G	N	-	M	00	4A	C023
PDV	SERIES												
C0	BODY DESIGN: C0 = body with interface for subbase												
1	NUMBER OF WAYS - FUNCTIONS: 1 = 2/2-way NC												
22	PNEUMATIC CONNECTIONS: 22 = PDV-type interface, 2-way												
B7	NOMINAL DIAMETER: A7 = \varnothing 0.8 mm B3 = \varnothing 1.2 mm B7 = \varnothing 1.6 mm C1 = \varnothing 2.0 mm												
3	SEAL MATERIAL: 3 = FKM 4 = EPDM												
G	BODY MATERIAL: G = PEEK												
N	MANUAL OVERRIDE: N = not foreseen												
M	FIXING ACCESSORIES: M = screws for metal												
00	OPTIONS: 00 = none												
4A	ELECTRICAL CONNECTION: 3A = DIN EN 175 301-803-C (8 mm) 4A = industrial standard (9.4 mm) 7A = cables (L = 300 mm) 3C = DIN EN 175 301-803-C (8 mm) with coil rotated 180° 4C = industrial standard (9.4 mm) with coil rotated 180° 7C = cables (L = 300 mm) with coil rotated 180°												
C023	VOLTAGE - POWER CONSUMPTION: C017 = 6V DC 2W C020 = 12V DC 2W C023 = 24V DC 2W												

SERIES PDV SOLENOID VALVES

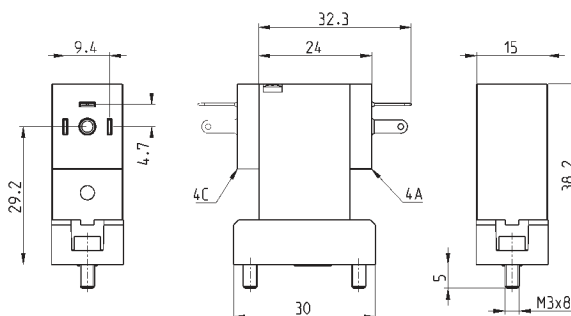
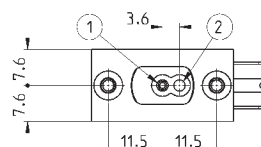
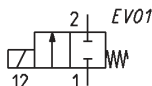
2/2 NC solenoid valve, industrial standard (9.4 mm)



Supplied with:
1x seal
2x M3x8 UNI 5931 screws

NOTE IN THE TABLE BELOW:
* to complete the code, add ELECTRICAL CONNECTION (4A or 4C options) and VOLTAGE (see CODING EXAMPLE)

NOTE IN THE DRAWING:
1 = INLET PORT
2 = OUTLET PORT



Mod.	Orifice \varnothing (mm)	kv (l/min)	Min/max pressure (bar)	Max back pressure (bar)	Body material	Seal material
PDVC0122-A73GN-M00*	0.8	0.25	0 ÷ 7.0	1.2	PEEK	FKM
PDVC0122-A74GN-M00*	0.8	0.25	0 ÷ 7.0	1.2	PEEK	EPDM
PDVC0122-B33GN-M00*	1.2	0.55	0 ÷ 4.5	1.2	PEEK	FKM
PDVC0122-B34GN-M00*	1.2	0.55	0 ÷ 4.5	1.2	PEEK	EPDM
PDVC0122-B73GN-M00*	1.6	0.65	0 ÷ 4.0	1.2	PEEK	FKM
PDVC0122-B74GN-M00*	1.6	0.65	0 ÷ 4.0	1.2	PEEK	EPDM
PDVC0122-C13GN-M00*	2.0	0.80	0 ÷ 3.0	1.2	PEEK	FKM
PDVC0122-C14GN-M00*	2.0	0.80	0 ÷ 3.0	1.2	PEEK	EPDM

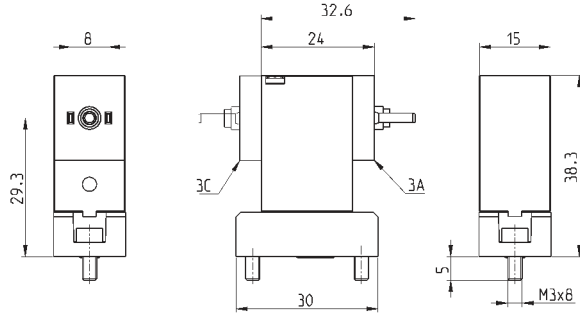
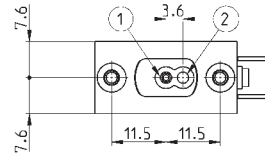
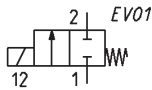
2/2 NC solenoid valve, DIN EN 175 301-803-C (8 mm)



Supplied with:
1x seal
2x M3x8 UNI 5931 screws

NOTE IN THE TABLE BELOW:
* to complete the code, add
ELECTRICAL CONNECTION
(3A or 3C options)
and VOLTAGE
(see CODING EXAMPLE)

NOTE IN THE DRAWING:
1 = INLET PORT
2 = OUTLET PORT



Mod.	Orifice Ø (mm)	kv (l/min)	Min/max pressure (bar)	Max back pressure (bar)	Body material	Seal material
PDVC0122-A73GN-M00*	0.8	0.25	0 ÷ 7.0	1.2	PEEK	FKM
PDVC0122-A74GN-M00*	0.8	0.25	0 ÷ 7.0	1.2	PEEK	EPDM
PDVC0122-B33GN-M00*	1.2	0.55	0 ÷ 4.5	1.2	PEEK	FKM
PDVC0122-B34GN-M00*	1.2	0.55	0 ÷ 4.5	1.2	PEEK	EPDM
PDVC0122-B73GN-M00*	1.6	0.65	0 ÷ 4.0	1.2	PEEK	FKM
PDVC0122-B74GN-M00*	1.6	0.65	0 ÷ 4.0	1.2	PEEK	EPDM
PDVC0122-C13GN-M00*	2.0	0.80	0 ÷ 3.0	1.2	PEEK	FKM
PDVC0122-C14GN-M00*	2.0	0.80	0 ÷ 3.0	1.2	PEEK	EPDM

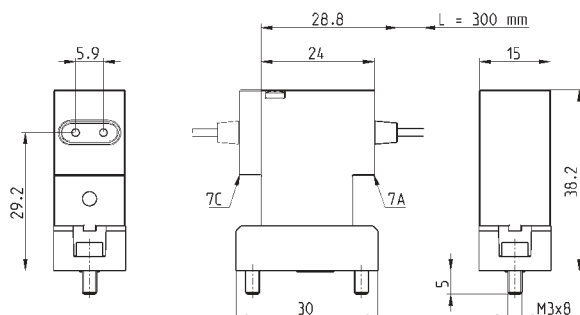
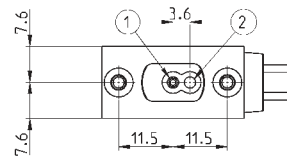
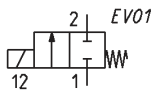
2/2 NC solenoid valve, electrical connection with 300mm cable



Supplied with:
1x seal
2x M3x8 UNI 5931 screws

NOTE IN THE TABLE BELOW:
* to complete the code, add
ELECTRICAL CONNECTION
(7A or 7C options)
and VOLTAGE
(see CODING EXAMPLE)

NOTE IN THE DRAWING:
1 = INLET PORT
2 = OUTLET PORT

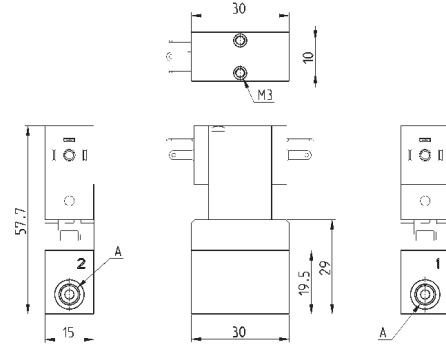


Mod.	Orifice Ø (mm)	kv (l/min)	Min/max pressure (bar)	Max back pressure (bar)	Body material	Seal material
PDVC0122-A73GN-M00*	0.8	0.25	0 ÷ 7.0	1.2	PEEK	FKM
PDVC0122-A74GN-M00*	0.8	0.25	0 ÷ 7.0	1.2	PEEK	EPDM
PDVC0122-B33GN-M00*	1.2	0.55	0 ÷ 4.5	1.2	PEEK	FKM
PDVC0122-B34GN-M00*	1.2	0.55	0 ÷ 4.5	1.2	PEEK	EPDM
PDVC0122-B73GN-M00*	1.6	0.65	0 ÷ 4.0	1.2	PEEK	FKM
PDVC0122-B74GN-M00*	1.6	0.65	0 ÷ 4.0	1.2	PEEK	EPDM
PDVC0122-C13GN-M00*	2.0	0.80	0 ÷ 3.0	1.2	PEEK	FKM
PDVC0122-C14GN-M00*	2.0	0.80	0 ÷ 3.0	1.2	PEEK	EPDM

Single subbase for Series PDV solenoid valve

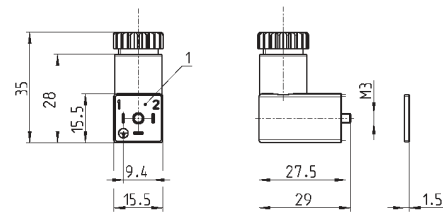


Material: PEEK
Pneumatic connections: M5 or 1/4-28 UNF



Mod.	A (pneumatic connections)
PDV001-1/4	1/4 - 28 UNF
PDV001-M5	M5

Industrial standard (9.4 mm) connector Mod. 125-...



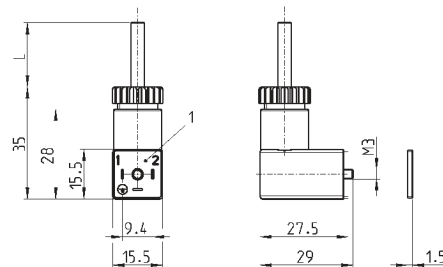
Mod.	description	colour	working voltage	cable holding	tightening torque
125-601	connector, diode + Led	transparent	10/50 V DC	PG7	0.3 Nm
125-701	connector, varistor + Led	transparent	24 V AC/DC	PG7	0.3 Nm
125-800	connector, without electronics	black	-	PG7	0.3 Nm

1 = 90° adjustable connector

Industrial standard (9.4 mm) connector Mod. 125-... with cable



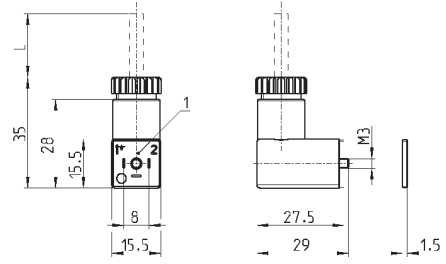
The internal rectifier circuit of the connector Mod. 125-900 allows to use solenoid valves with different AC voltage, even if the voltage indicated on the solenoid valve is DC.



Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
125-501-2	moulded cable with diode + Led	black	10/50 V DC	2000 mm	-	0.3 Nm
125-550-1	moulded cable, without electronics	black	-	1000 mm	-	0.3 Nm
125-601-2	pre-wired cable, diode + Led	transparent	10/50 V DC	2000 mm	PG7	0.3 Nm
125-571-3	moulded cable, varistor + Led	black	24 V AC/DC	3000 mm	-	0.3 Nm
125-900	pre-wired cable with voltage rectifier	black	6 V - 110 V AC/DC	2000 mm	PG7	0.3 Nm

1 = 90° adjustable connector

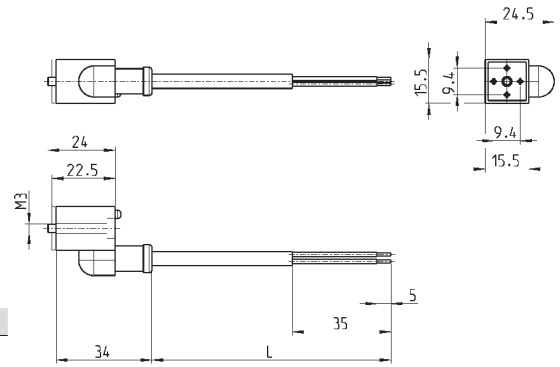
Connector Mod. 126-... DIN EN 175 301-803-C (8 mm)



1 = 90° adjustable connector

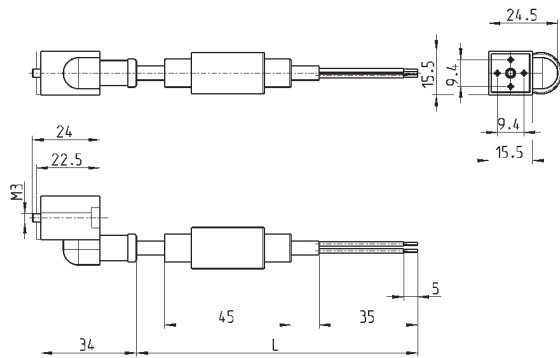
Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
126-550-1	moulded cable, without electronics	black	-	1000 mm	-	0.3 Nm
126-800	connector, without electronics	black	-	-	PG7	0.3 Nm
126-701	connector, varistor + Led	transparent	24 V AC/DC	-	PG7	0.3 Nm

Industrial standard (9.4 mm) in-line connectors with cable



Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
125-503-2	in-line moulded cable, with diode + Led	black	24 V DC	2000 mm	-	0.3 Nm
125-503-5	in-line moulded cable, with diode + Led	black	24 V DC	5000 mm	-	0.3 Nm
125-553-2	in-line moulded cable, without electronics	black	-	2000 mm	-	0.3 Nm
125-553-5	in-line moulded cable, without electronics	black	-	5000 mm	-	0.3 Nm

Industrial standard (9.4 mm) in-line connectors with bridge rectifier



Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
125-903-2	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	2000 mm	-	0.3 Nm
125-903-5	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	5000 mm	-	0.3 Nm

Series A directly operated solenoid valves

2/2-way - Normally Closed (NC) and Normally Open (NO)

3/2-way - Normally Closed (NC) and Normally Open (NO)



- » Ports: M5, G1/8, R1/8, cartridge $\varnothing 4$
- » Bistable version also available (with magnetic memory)

Series A solenoid valves are of the directly operated type and can be used with dry or lubricated air. They are available in the 2/2 and 3/2-way versions with normally closed (NC) or normally open (NO) operation.

As shown in the following tables, they are supplied in different versions according to the type of body, threaded ports and orifice. They can thus satisfy various operating and installation requirements.

The solenoid can be easily and quickly replaced without interfering with the pressurised part of the valve. On the same mechanical part different types of solenoids can be interchanged. The choice of solenoids determines the performance of the solenoid valve in terms of consumption and pressure.

GENERAL DATA

TECHNICAL FEATURES

Function	2/2 NC - 3/2 NC - 2/2 NO - 3/2 NO
Operation	direct acting poppet type
Pneumatic connections	M5, G1/8, R1/8 threads - $\varnothing 4$ fitting - CNOMO interface
Nominal diameter	1.5 ... 2.5 mm
Nominal flow	40 ... 130 Nl/min (air @ 6 bar ΔP 1 bar)
Flow coefficient kv (l/min)	0.62 ... 2.0
Operating pressure	-0.9 ... 15 bar
Operating temperature	0°C \pm 60°C (with dry air -20°C)
Media	filtered air, class 5.4.4 according to ISO 8573-1 (max oil viscosity 32 cSt), inert gas
Response time	ON <15 msec - OFF <25 msec
Manual override	see tables
Installation	in any position

MATERIALS IN CONTACT WITH THE MEDIUM

Body	nickel-plated brass - PBT technopolymer
Seals	HNBR, FKM
Internal parts	stainless steel

ELECTRICAL FEATURES

Voltage	12 ... 110 V DC - 24 ... 380 V AC 50/60 Hz
Voltage tolerance	$\pm 10\%$ (DC) / $-15\% \div +10\%$ (AC)
Power consumption	3 ... 5 W (DC) / 3.5 ... 7 VA (AC)
Duty cycle	ED 100%
Electrical connection	F (155°C)
Protection class	DIN 43650 connector, (A, B Shape) IP65 with connector

Special versions available on demand

CODING EXAMPLE

A	3	3	1	-	0	C	2	-	U7	7
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A	SERIES																																	
3	<p>BODY DESIGN: 1 = base (24x24 mm) interface rotatable through 360° 2 = base (24x24 mm) fixed interface 3 = threaded body 4 = rapid exhaust body 5 = base with ISO standard interface, fixed body in technopolymer 6 = (16x16 mm) interface rotatable through 360° A = single manifold B = 2-part manifold C = 3-part manifold D = 4-part manifold E = 5-part manifold F = 6-part manifold G = 7-part manifold H = 8-part manifold K = 9-part manifold L = 10-part manifold M = 11-part manifold N = 12-part manifold P = 13-part manifold R = 14-part manifold S = 15-part manifold</p>																																	
3	<p>NUMBER OF PORTS: 2 = 2 way 3 = 3 way</p>																																	
1	<p>FUNCTION: 1 = NC 2 = NO 3 = NO in line</p>																																	
0	<p>PORTS:</p> <table border="0"> <tr> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>0 M5</td> <td>M5</td> <td>M5</td> </tr> <tr> <td>1 G1/8</td> <td>G1/8</td> <td>M5</td> </tr> <tr> <td>3 M5</td> <td>R1/8</td> <td>M5</td> </tr> <tr> <td>4 M5</td> <td>R1/8</td> <td>M5 with manual override</td> </tr> <tr> <td>A swivel O-ring interface</td> <td></td> <td>M5</td> </tr> <tr> <td>B fixed O-ring interface</td> <td></td> <td>M5</td> </tr> <tr> <td>C G1/8</td> <td>cartridge Ø 4</td> <td>M5</td> </tr> </table>										1	2	3	0 M5	M5	M5	1 G1/8	G1/8	M5	3 M5	R1/8	M5	4 M5	R1/8	M5 with manual override	A swivel O-ring interface		M5	B fixed O-ring interface		M5	C G1/8	cartridge Ø 4	M5
1	2	3																																
0 M5	M5	M5																																
1 G1/8	G1/8	M5																																
3 M5	R1/8	M5																																
4 M5	R1/8	M5 with manual override																																
A swivel O-ring interface		M5																																
B fixed O-ring interface		M5																																
C G1/8	cartridge Ø 4	M5																																
C	<p>NOMINAL DIAMETER: C = Ø 1,5 D = Ø 2 E = Ø 2,5</p>																																	
2	<p>BODY MATERIAL: 2 = nickel-plated brass 3 = technopolymer</p>																																	
U7	<p>ENCAPSULATING MATERIAL / SOLENOID DIMENSIONS: A8 = PPS / 30 x 30 G7 = PA / 22 x 22 G8 = PA / 30 x 30 (24 V DC only) G9 = PA / 22 x 58 H8 = PA 6 V0 / 30 x 30 U7 = PET / 22 x 22</p>																																	
7	SOLENOID VOLTAGE (see the dedicated section 2.35)																																	

TABLE FOR THE COUPLING BETWEEN SOLENOIDS AND VALVES

Valve function 2/2: for vacuum application connect the vacuum in "2"

Valve function 3/2: for vacuum application connect the vacuum in "1"

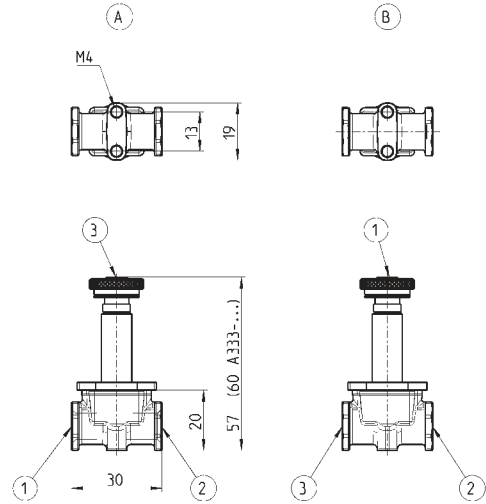
Note: for solenoid Mod. G90 (2/2 NO) contact our technical department

Mod.	Solenoids 3W working pressure (bar)	Solenoids 4-5 W working pressure (bar)	Solenoids 3,5 VA working pressure (bar)
	allowed pressure with solenoids DC - 3 W	allowed pressure with solenoids DC - 4-5 W	allowed pressure with solenoids AC - 3,5 VA
Valve function 2/2 NC			
A321-0C2	- 0,9 ÷ 8	- 0,9 ÷ 15	- 0,9 ÷ 15
A321-1C2	- 0,9 ÷ 8	- 0,9 ÷ 15	- 0,9 ÷ 15
A321-1D2	- 0,9 ÷ 4	- 0,9 ÷ 9	- 0,9 ÷ 9
A321-1E2	- 0,9 ÷ 1	- 0,9 ÷ 6	- 0,9 ÷ 6
Valve function 2/2 NO			
A322-0C2	2 ÷ 10	- 0,9 ÷ 10	- 0,9 ÷ 10
A322-1C2	2 ÷ 10	- 0,9 ÷ 10	- 0,9 ÷ 10
Valve function 3/2 NC			
A331-0C2	2 ÷ 10	- 0,9 ÷ 10	- 0,9 ÷ 10
A331-1C2	2 ÷ 10	- 0,9 ÷ 10	- 0,9 ÷ 10
A331-3C2	2 ÷ 10	- 0,9 ÷ 10	- 0,9 ÷ 10
A331-4C2	2 ÷ 10	- 0,9 ÷ 10	- 0,9 ÷ 10
A431-1C2	2 ÷ 10	2 ÷ 10	2 ÷ 10
A531-BC2	2 ÷ 10	- 0,9 ÷ 10	- 0,9 ÷ 10
A631-AC2	2 ÷ 10	- 0,9 ÷ 10	- 0,9 ÷ 10
AA31-0C2	2 ÷ 10	- 0,9 ÷ 10	- 0,9 ÷ 10
AA31-0C3	2 ÷ 8	- 0,9 ÷ 8	- 0,9 ÷ 8
AA31-CC2	2 ÷ 10	- 0,9 ÷ 10	- 0,9 ÷ 10
AA31-CC3	2 ÷ 8	- 0,9 ÷ 8	- 0,9 ÷ 8
Valve function 3/2 NO			
A332-0C2	- 0,9 ÷ 7	- 0,9 ÷ 7	- 0,9 ÷ 7
A332-1C2	- 0,9 ÷ 7	- 0,9 ÷ 7	- 0,9 ÷ 7
A333-0C2	- 0,9 ÷ 6	-	- 0,9 ÷ 9
A333-1C2	- 0,9 ÷ 6	-	- 0,9 ÷ 9
AA33-0C2	- 0,9 ÷ 6	-	- 0,9 ÷ 9
AA33-0C3	- 0,9 ÷ 6	-	- 0,9 ÷ 8
AA33-CC3	- 0,9 ÷ 6	-	- 0,9 ÷ 8

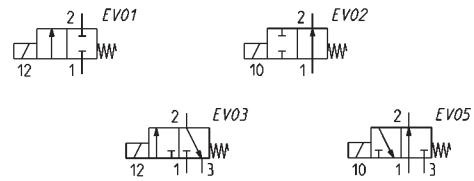
2/2 and 3/2-way solenoid valves Mod. A32 and Mod. A33



Available in the 2/2-way version, NC or NO, as well as in the 3/2-way version, NC, NO or NO in line. In the 3/2 NC version connection 1 is on the body (fi. A), whereas in the 3/2 NO version is on the M5 thread of the tube (fig. B).



Mod.	Conn. 1	Conn. 2	Conn. 3	Function	Orifice Ø mm	Qn (NL/min)	Symbol
A321-0C2-*	M5	M5	-	2/2 NC	1,5	50	EV01
A321-1C2-*	G1/8	G1/8	-	2/2 NC	1,5	55	EV01
A321-1D2-*	G1/8	G1/8	-	2/2 NC	2	100	EV01
A321-1E2-*	G1/8	G1/8	-	2/2 NC	2,5	130	EV01
A322-0C2-*	M5	M5	-	2/2 NO	1,8	70	EV02
A322-1C2-*	G1/8	M5	-	2/2 NO	1,8	80	EV02
A331-0C2-*	M5	M5	M5	3/2 NC	1,5	50	EV03
A331-1C2-*	G1/8	G1/8	M5	3/2 NC	1,5	60	EV03
A332-0C2-*	M5	M5	M5	3/2 NO	1,5	55	EV05
A332-1C2-*	M5	G1/8	G1/8	3/2 NO	1,5	50	EV05
A333-0C2-*	M5	M5	M5	3/2NO in line	1,5	60	EV05
A333-1C2-*	G1/8	G1/8	M5	3/2NO in line	1,5	60	EV05



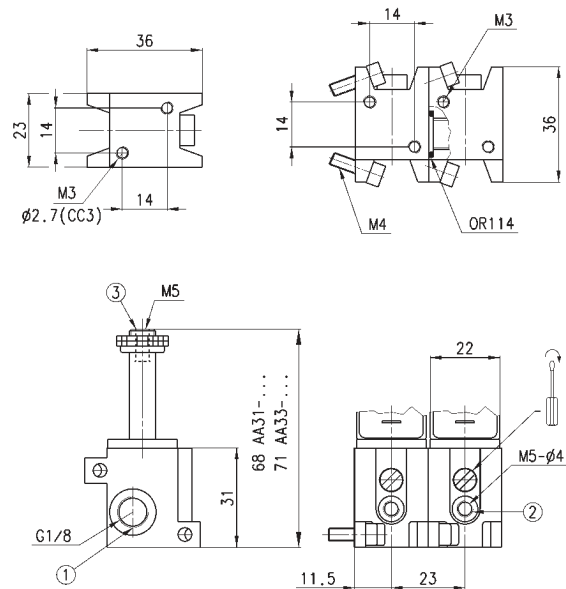
Note. For the use of NO valves in line, use the coil model U771 or U7K1 or G771 or G7K1.

* choose the most suitable solenoid.

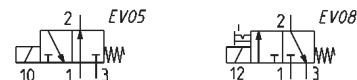
3/2-way solenoid valve Mod. AA31... - AA33...



The 3/2-way solenoid valves for manifold assembly are available in the NC and NO in line version, with G1/8 ports at the manifold inlet. The inlets can be with M5 threading or with a Ø 4 cartridge. The solenoid valve is supplied complete with O-ring and screws.



Mod.	Inlet / outlet	Function	Orifice Ø mm	Manual override bistable	Qn (NL/min)	Symbol
AA31-0C2-*	G1/8 M5	3/2 NC	1,5	Yes	55	EV08
AA31-CC2-*	G1/8 04	3/2 NC	1,5	Yes	55	EV08
AA31-0C3-*	G1/8 M5	3/2 NC	1,5	Yes	55	EV08
AA33-0C2-*	G1/8 M5	3/2 NO in line	1,5	No	55	EV05
AA33-CC2-*	G1/8 04	3/2 NO in line	1,5	No	55	EV05
AA33-0C3-*	G1/8 M5	3/2 NO in line	1,5	No	65	EV05
AA31-CC3-*	G1/8 04	3/2 NC	1,5	Yes	55	EV08
AA33-CC3-*	G1/8 04	3/2 NO in line	1,5	No	65	EV05



Note. For the use of NO valves in line, use the coil model U771 or U7K1 or G771 or G7K1.

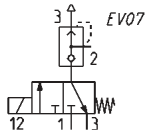
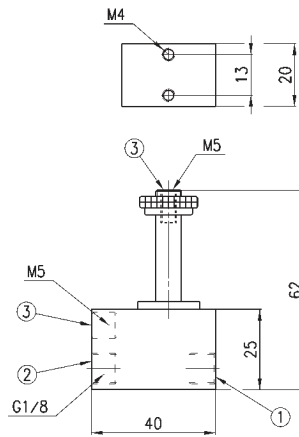
* choose the most suitable solenoid.

3/2-way solenoid valve Mod. A43



The 3/2-way NC solenoid valve, with G1/8 ports, incorporates a rapid exhaust valve. It is particularly suitable for operating small single-acting cylinders.

* choose the most suitable solenoid.



Mod.	Ports	Function	Orifice Ø mm	Qn (NI/min)
A431-1C2-*	G1/8 / M5	3/2 NC	1.5	50

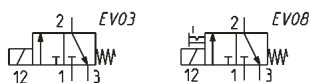
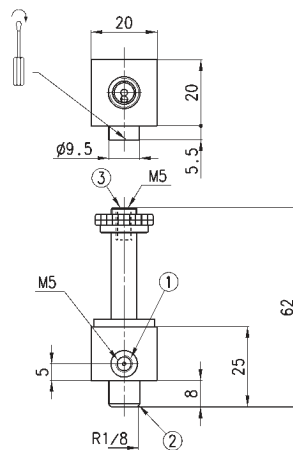
3/2-way solenoid valve Mod. A33



They are particularly suitable for the actuation of small single-acting cylinders and the operation of pneumatic valves with very low operating pressures.

The body has an outlet with a R1/8 male thread which can be screwed directly onto the component to be operated. The inlet port is M5 threaded.

* choose the most suitable solenoid.



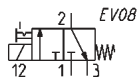
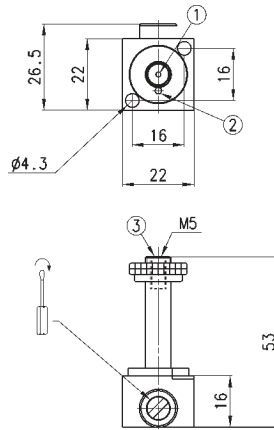
Mod.	Inlet / outlet	Function	Orifice Ø (mm)	Man. override bistable	Qn (NI/min)	Symbol
A331-3C2-*	M5 / R1/8	3/2 NC	1,5	no	55	EV03
A331-4C2-*	M5 / R1/8	3/2 NC	1,5	yes	55	EV08

3/2-way solenoid valve Mod. A63



* choose the most suitable solenoid.

Equipped with a manual override for a steady operation, it is suitable to be mounted directly onto machine parts by two screws. The sealing is ensured by two concentric O-rings allowing the body a 360° adjustment.



Mod.	Interface	Function	Orifice ϕ (mm)	Qn (l/min)
A631-AC2-*	OR	3/2 NC	1,5	40

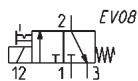
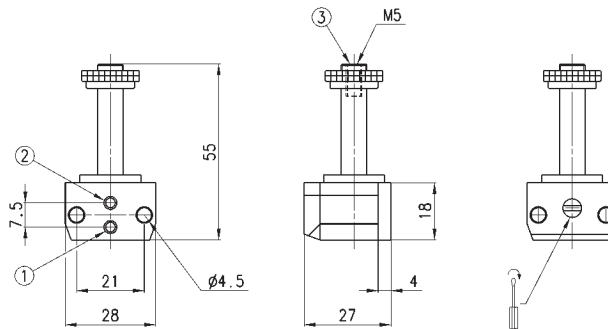
3/2-way solenoid valve Mod. A53



The body only is in technopolymer.

* choose the most suitable solenoid.

Equipped with a manual override for a steady operation, it is suitable to be mounted on Series 9 valves with an ISO interface. The interface which complies CNOMO norms is interchangeable with all ISO versions.



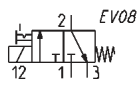
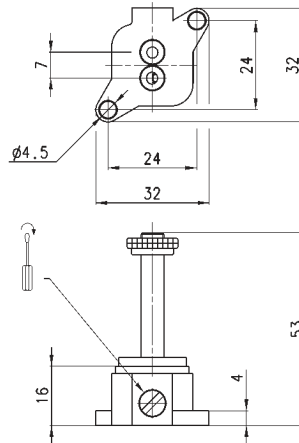
Mod.	Interface	Function	Orifice ϕ (mm)	Qn (l/min)
A531-BC2-*	OR	3/2 NC	1,5	40

3/2-way solenoid valve Mod. A231 with fixed interface



Equipped with a manual override with the possibility of a bistable actuation.

* choose the most suitable solenoid.



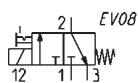
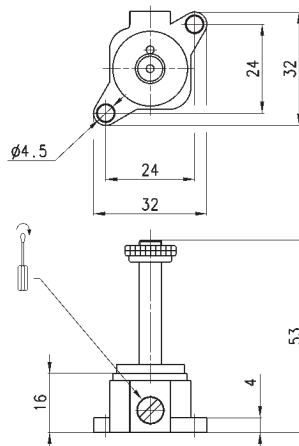
Mod.	Interface	Function	Orifice Ø (mm)	Qn (NI/min)
A231-BC2-*	OR	3/2 NC	1,5	70

3/2-way solenoid valve Mod. A131 with swivel interface



Equipped with a manual override with the possibility of a bistable actuation.

* choose the most suitable solenoid.



Mod.	Interface	Function	Orifice Ø (mm)	Qn (NI/min)
A131-AC2-*	OR	3/2 NC	1,5	70

Series 6 directly operated solenoid valves

2/2-way - Normally Closed (NC)

3/2-way - Normally Closed (NC), Normally Open (NO)

SERIES 6 SOLENOID VALVES



- » Ports: G1/8, G3/8, cartridge Ø4
- » Available also in version for the low temperatures up to -50°C

The bodies of these valves can be used either individually or in manifolds. The latter are provided with G1/8 threaded ports or an inbuilt diameter 4 cartridge (G3/8 for 2-way only).

Series 6 solenoid valves are available as 2/2 and 3/2-way, either NC or NO. These directly operated solenoid valves can be used either with or without lubrication.

GENERAL DATA

TECHNICAL FEATURES

Function	2/2 NC - 3/2 NC - 3/2 NO
Operation	direct acting poppet type
Pneumatic connections	G1/8, G3/8 threads - Ø4 fitting - CNOMO interface
Nominal diameter	2 ... 4 mm
Nominal flow	80 ... 350 NL/min (air @ 6 bar ΔP 1 bar)
Flow coefficient kv (l/min)	1.2 ... 5.4
Operating pressure	0 ÷ 4 ... 15 bar
Operating temperature	0°C ÷ 60°C (seals in FKM) / -50°C ÷ +50°C (seals in NBR)
Media	filtered air, class 5.4.4 (5.1.4 for versions -50°C) according to ISO 8573-1 (max oil viscosity 32 cSt), inert gas
Response time	ON <15 msec - OFF <15 msec
Manual override	see tables
Installation	in any position

MATERIALS IN CONTACT WITH THE MEDIUM

Body	nickel-plated brass - anodized aluminium
Seals	FKM (NBR for versions -50°C)
Internal parts	stainless steel

ELECTRICAL FEATURES

Voltage	12 ... 110 V DC - 24 ... 230 V AC 50/60 Hz
Voltage tolerance	±10% (DC) - +10% ÷ -15% (AC)
Power consumption	10 W (DC) - 19 VA (inrush AC), 12 VA (holding AC)
Duty cycle	ED 100%
Electrical connection	H (180°C)
Protection class	with connector DIN EN 175 301-803-A IP65 with connector

Special versions available on demand

CODING EXAMPLE

6	3	8	M	-	105	-	A	6	B
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6	SERIES:
3	NUMBER OF PORTS AND FUNCTIONS: 0 = interface 2 = 2-way NC 3 = 3-way NC 4 = 3-way NO
8	CONNECTION: 0 = interface 3 = G3/8 8 = G1/8 C = cartridge Ø 4
M	M = manifold
105	TYPE OF BODY: 150 = threaded body G1/8 - orifice Ø 2 mm 15E = threaded body G3/8 - orifice Ø 2.5 mm 15F = threaded body G3/8 - orifice Ø 3 mm 15G = threaded body G3/8 - orifice Ø 4 mm 450 = base with rotatable interface 457 = base with fixed interface 101 = single manifold 102 = manifold - 2 pieces 103 = manifold - 3 pieces 104 = manifold - 4 pieces 105 = manifold - 5 pieces 106 = manifold - 6 pieces 107 = manifold - 7 pieces 108 = manifold - 8 pieces 109 = manifold - 9 pieces 110 = manifold - 10 pieces 111 = manifold - 11 pieces 112 = manifold - 12 pieces 113 = manifold - 13 pieces 114 = manifold - 14 pieces 115 = manifold - 15 pieces
A	COIL MATERIAL: A = PPS
6	SOLENOID DIMENSIONS: 6 = 32x32
B	SOLENOID VOLTAGE: B = 24V 50/60Hz C = 48V 50/60 Hz D = 110V 50/60 Hz E = 230V 50/60 Hz 2 = 12V DC 3 = 24V DC 4 = 48V DC 6 = 110V DC
	VERSIONS: = standard LT = for low temperatures

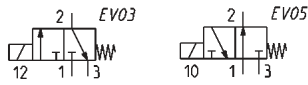
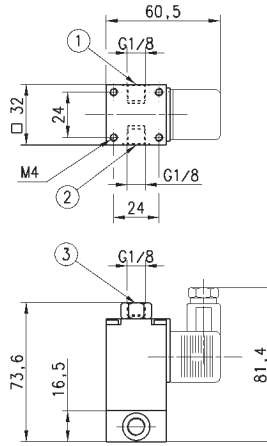
3/2-way NC and NO solenoid valve, G1/8 - Mod. 638 and Mod. 648



These valves are particularly suitable for operating single-acting cylinders or for use as signal valves.

In the mod. 648-150-A6* (NO) connections 1 and 3 are inverted, while the max operating pressure is 6 bar in case a solenoid A6B, A6C, A6D, A6E is chosen.

* = choose the solenoid voltage according to the CODING EXAMPLE



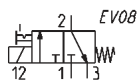
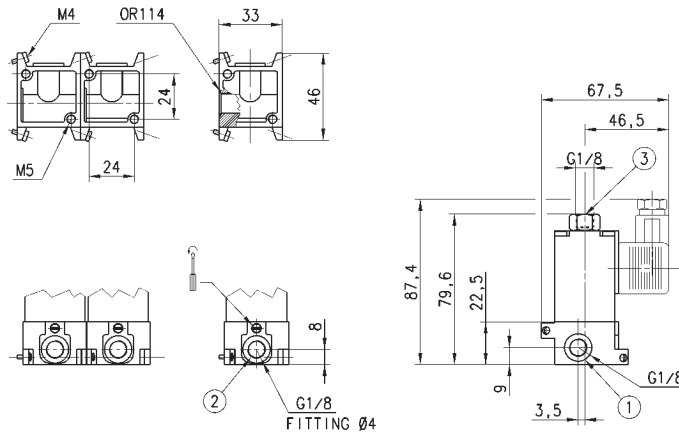
Mod.	Ports	Function	Orifice Ø (mm)	kv (l/min)	Qn (NL/min)	Pressure min-max (bar)	Symbol
638-150-A6*	G1/8	NC	2	2.0	130	0 ÷ 10 [DC]	EV03
648-150-A6*	G1/8	NO	2	1.2	80	0 ÷ 8 [DC] - 0 ÷ 6 [AC]	EV05

3/2-way NC solenoid valve - Mod. 638M and Mod. 63CM



These solenoid valves are equipped with a manual override and are available with G1/8 inlet ports and with G1/8 outlets or with a diameter 4 cartridge. The body is supplied complete with screws and O-ring.

* = choose the solenoid voltage according to the CODING EXAMPLE

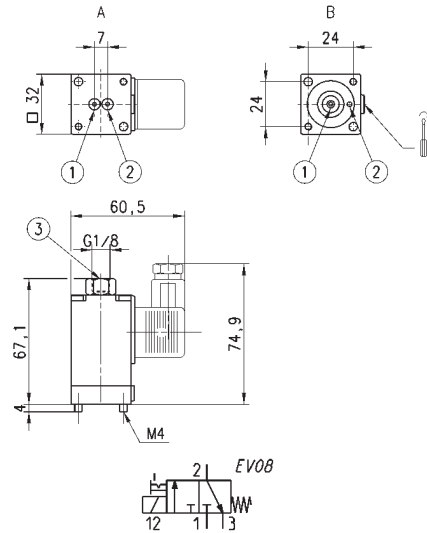


Mod.	Inlet	Outlet	Orifice Ø (mm)	kv (l/min)	Qn (NL/min)	Pressure min-max (bar)
638M-101-A6*	G1/8	G1/8	2	1.8	120	0 ÷ 10
63CM-101-A6*	G1/8	cartridge Ø 4	2	1.6	108	0 ÷ 10

3/2-way NC solenoid valve - Mod. 600



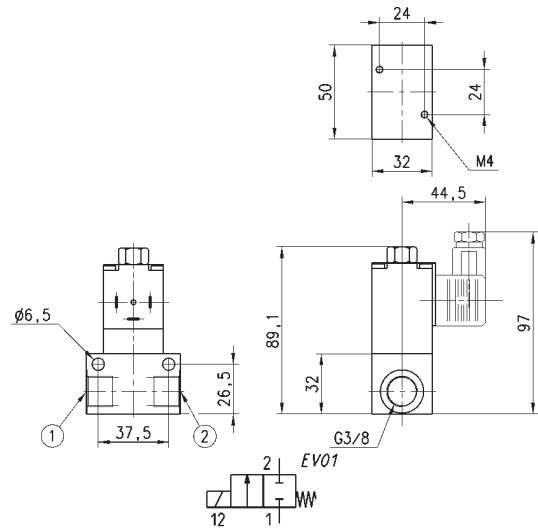
These solenoid valves are equipped with an override and are available with two types of interface:
 A = fixed interface
 B = swivel interface



Mod.	Interface	Orifice Ø (mm)	kv (l/min)	Qn (NL/min)	Pressure min-max (bar)
600-450-A6*	Swivel	2	1.6	106	0 ÷ 10
600-457-A6*	Fixed	2	1.6	106	0 ÷ 10

* = choose the solenoid voltage according to the CODING EXAMPLE

2/2-way solenoid valves NC, G3/8 - Mod. 623



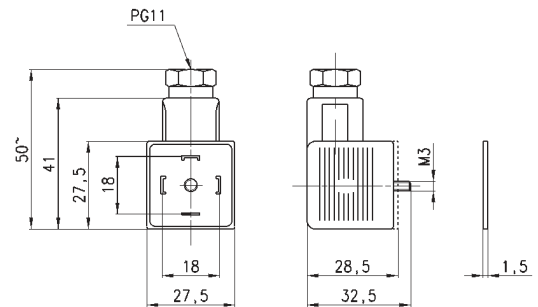
Mod.	Orifice Ø (mm)	kv (l/min)	Qn (NL/min)	Min-max pressure (bar)
623-15E-A6*	2.5	3.4	220	0 ÷ 12 [AC 50Hz] - 0 ÷ 15 [DC]
623-15F-A6*	3	4.5	290	0 ÷ 10 [AC 50Hz] - 0 ÷ 14 [DC]
623-15G-A6*	4	5.4	350	0 ÷ 4 [AC 50Hz] - 0 ÷ 7 [DC]

* = choose the solenoid voltage according to the CODING EXAMPLE

Connector Mod. 124-... DIN EN 175 301-803-A



Protection class IP65



Mod.	description	colour	working voltage	cable holding	tightening torque
124-800	connector, without electronics	black	-	PG9/PG11	0.5 Nm
124-702	connector, varistor + Led	black	110 V AC/DC	PG9/PG11	0.5 Nm
124-701	connector, varistor + Led	black	24 V AC/DC	PG9/PG11	0.5 Nm
124-703	connector, varistor + Led	black	230 V AC/DC	PG9/PG11	0.5 Nm

Series CFB solenoid valves

2/2-way - Normally Closed (NC) and Normally Open (NO)
3/2-way - Normally Closed (NC) and Normally Open (NO)



- » Solenoid valves for air and water
- » Great reliability over time, even in heavy working conditions

Series CFB solenoid valves for general purpose are available in the NC and NO version, 2/2 and 3/2-way.
Special versions are available on demand for the protection against the water hammer or with specific treatments for the interception of aggressive fluids.

The valve function is determined by a poppet or by a diaphragm with operation direct or indirect.
Different versions are available according to the nominal diameter and to the threaded ports, as shown in the following tables.
They can thus satisfy various requirements in terms of flow rates and working pressures.

GENERAL DATA

TECHNICAL FEATURES

Function	2/2 NC - 3/2 NC - 2/2 NO
Operation	direct acting poppet type - servo-assisted with diaphragm
Pneumatic connections	G1/8 ... G2 threads
Nominal diameter	1.4 ... 50 mm
Nominal flow	See Kv
Flow coefficient Kv (m ³ /h)	0.14 ... 45
Operating pressure	0 ÷ 0.8 ... 22 bar
Operating temperature	-10°C ÷ +90°C ... 140°C
Media	air, water, liquid and gaseous fluids with max viscosity 37 cSt (5° E)
Response time	ON <15 msec - OFF <25 msec
Installation	in any position

MATERIALS IN CONTACT WITH THE MEDIUM

Body	brass (alimentary or anti-limestone nickel-platings on demand)
Seals	NBR (CFB-A) - FKM (CFB-B, CFB-D) - EPDM (on demand)
Internal parts	stainless steel - stainless steel and brass (CFB-D1)

ELECTRICAL FEATURES

Voltage	12 V DC, 24 V DC - 24 V 50 Hz, 110 V 50/60 Hz, 220/230 V 50/60 Hz
Voltage tolerance	±5% (DC) - ±10% (AC)
Power consumption	10 ... 30 W (DC) - 9 ... 29 VA (AC)
Duty cycle	ED 100%
Electrical connection	H (180°C)
Protection class	DIN 43650 connector, (A shape) IP65 with connector

Special versions available on demand

It is recommended to use connections with internal diameters bigger than valve orifices, otherwise there may be a performance change.

CODING EXAMPLE

CFB	-	A	1	3	L	-	R	1	-	B7	E
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CFB	SERIES
A	OPERATION: A = indirect B = direct with linked diaphragm D = direct
1	NUMBER OF WAYS - POSITIONS: 1 = 2/2-way NO 2 = 2/2-way NC 3 = 3/2-way NC
3	CONNECTIONS: 1 = G1/8 2 = G1/4 3 = G3/8 4 = G1/2 5 = G3/4 6 = G1 7 = G1 1/4 8 = G1 1/2 9 = G2
L	NOMINAL DIAMETER: A = 1,4 mm B = 2 mm C = 2,5 mm D = 2,8 mm F = 4 mm G = 6 mm J = 8 mm L = 11,5 mm M = 13 mm N = 13,5 mm P = 18 mm R = 26 mm T = 32 mm X = 45 mm Z = 50 mm
R	DIAPHRAGM MATERIAL: R = NBR W = FKM E = EPDM (on demand)
1	BODY MATERIAL: 1 = brass 2 = alimentary anti-limestone nickel-plated brass for high temperatures (on demand) 3 = alimentary nickel-plated brass (on demand)
B7	SOLENOID DIMENSION: B7 = 22 mm B8 = 30 mm B9 = 36 mm
E	SOLENOID VOLTAGE: B = 24V AC 50 Hz D = 110V AC 50/60 Hz E = 230V AC 50/60 Hz 2 = 12V DC 3 = 24V DC
NOTE: for some directly operated 2/2 NO solenoid valves, the solenoid to be used is the B8* <i>K</i> type (see also the TABLE FOR THE COUPLING BETWEEN SOLENOIDS AND VALVES on page 2/1.30.03).	

TABLE FOR THE COUPLING BETWEEN SOLENOIDS AND VALVES

For solenoids and their connectors see the dedicated section.

Mod. B8/B9 = mod.124-800

Mod. B7 = mod. 122-800

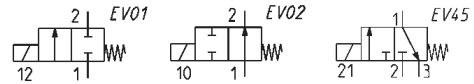
Mod.	24V AC 50 Hz	110V AC 50/60 Hz	220/230V AC 50/60 Hz	12V DC	24V DC
Directly operated solenoid valve, 2/2 and 3/2 NC, 2/2 NO					
CFB-D21C-W1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D21F-W1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D22C-W1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D22F-W1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D22G-W1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D23I-W1-	B9B (29VA)	B9D (29VA)	B9E (29VA) **	not available	B93 (30W)
CFB-D24I-W1-	B9B (29VA)	B9D (29VA)	B9E (29VA) **	not available	B93 (30W)
CFB-D24M-W1-	B9B (29VA)	B9D (29VA)	B9E (29VA) **	not available	not available
CFB-D31A-W1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D31D-W1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D32A-W1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D32D-W1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D11A-W1-	B8BK (15VA)	B8DK (15VA) **	B8EK (15VA) **	B82K (19W)	B83K (19W)
CFB-D12D-W1-	B8BK (15VA)	B8DK (15VA) **	B8EK (15VA) **	B82K (19W)	B83K (19W)
CFB-D13I-W1-	B9B (29VA)	B9D (29VA) **	B9E (29VA) **	not available	not available
Directly operated solenoid valve with constrained diaphragm, 2/2 NC					
CFB-B23I-W1-	B9B (29VA)	B9D (29VA)	B9E (29VA)	not available	B93 (30W)
CFB-B24N-W1-	B9B (29VA)	B9D (29VA)	B9E (29VA)	not available	B93 (30W)
CFB-B25P-W1-	B9B (29VA)	B9D (29VA)	B9E (29VA)	not available	B93 (30W)
CFB-B26R-W1-	B9B (29VA)	B9D (29VA)	B9E (29VA)	not available	B93 (30W)
Indirectly operated solenoid valve, 2/2 NC					
CFB-A23I-R1-	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B72 (10W)	B73 (10W)
CFB-A24N-R1-	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B72 (10W)	B73 (10W)
CFB-A25P-R1-	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B72 (10W)	B73 (10W)
CFB-A26R-R1-	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B72 (10W)	B73 (10W)
CFB-A27T-R1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-A28X-R1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-A29Z-R1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
Indirectly operated solenoid valve, 2/2 NO					
CFB-A13I-R1-	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B72 (10W)	B73 (10W)
CFB-A14N-R1-	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B72 (10W)	B73 (10W)
CFB-A15P-R1-	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B72 (10W)	B73 (10W)
CFB-A16R-R1-	B7B (9VA) *	B7D (9VA)	B7E (9VA)	B72 (10W)	B73 (10W)
CFB-A17T-R1-	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-A18X-R1-	B9B (29VA)	B9D (29VA)	B9E (29VA)	not available	B93 (30W)
CFB-A19Z-R1-	B9B (29VA)	B9D (29VA)	B9E (29VA)	not available	B93 (30W)
	* B7B solenoid with nominal bifrequency of 50/60 Hz		** only to be used with nominal frequency of 50 Hz		

Directly operated 2/2 NC - NO and 3/2 NC solenoid valve

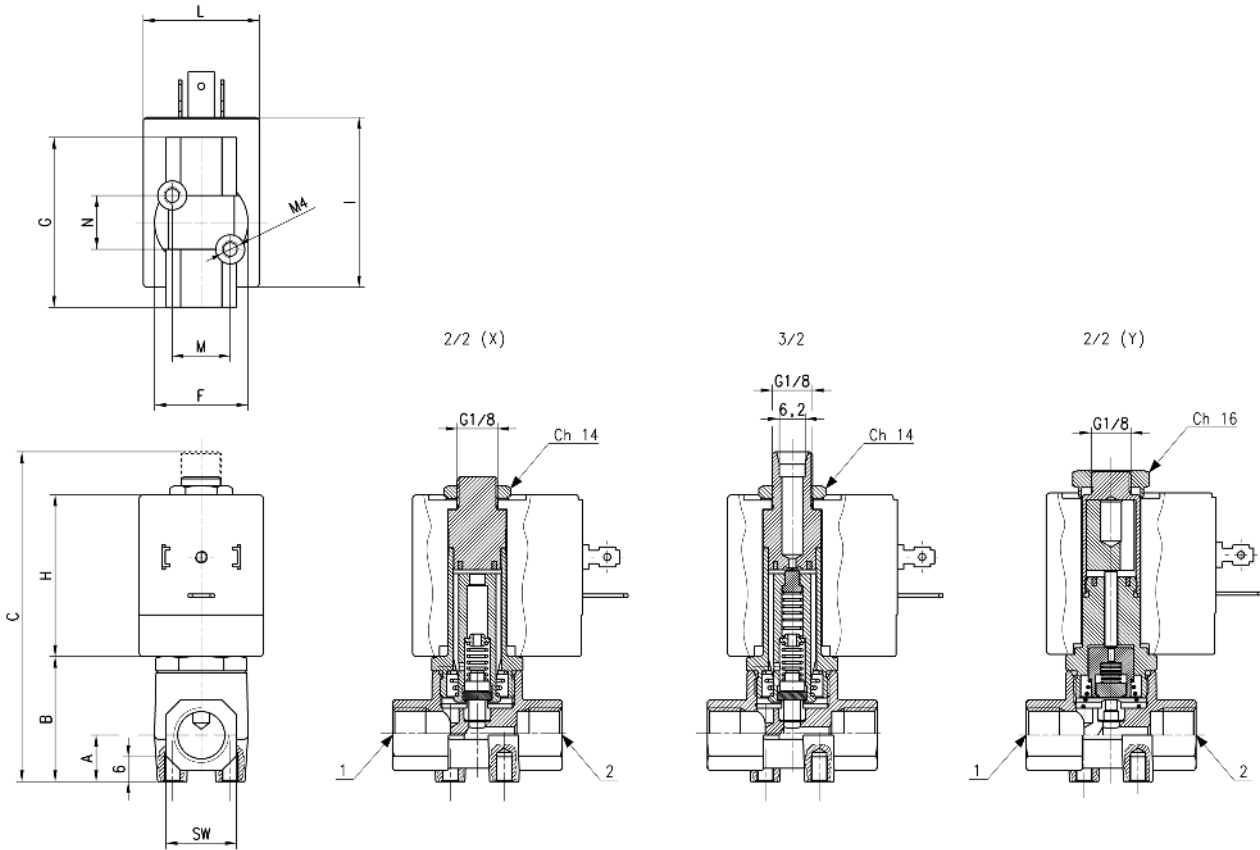


The direct control of these solenoid valves enables them to work with operating pressures which are equal to zero. Ports: G1/8 and G1/2.

DRAWING LEGEND:
 X = NC valve
 Y = NO valve



* = choose the suitable solenoid according to the TABLE FOR THE COUPLING BETWEEN SOLENOID AND VALVES
 ** = the performances shown in the table refer to the use with inlet from "2" and outlet from "1".
 *** = 0 ÷ 4 with B9... solenoid



Mod.	Function	Ports	Ø Orifice (mm)	Kv (m³/h)	Pressure min-max (bar)	A	B	C	F	G	SW	H	I	L	N	M	Symbol
CFB-D21C-W1*	2/2 NC	G1/8	2.5	0.14	0 ÷ 15 [AC / DC]	11	30	73.8	23	41	17	39	41	30	13	14	EV01
CFB-D21F-W1*	2/2 NC	G1/8	4	0.25	0 ÷ 6 [AC / DC]	11	30	73.8	23	41	17	39	41	30	13	14	EV01
CFB-D22C-W1*	2/2 NC	G1/4	2.5	0.14	0 ÷ 15 [AC / DC]	11	30	73.8	23	41	17	39	41	30	13	14	EV01
CFB-D22F-W1*	2/2 NC	G1/4	4	0.25	0 ÷ 6 [AC / DC]	12	31.5	75	26	41	17	39	41	30	13	14	EV01
CFB-D22G-W1*	2/2 NC	G1/4	6	0.6	0 ÷ 2.5 [AC / DC] ***	12	31.5	75	26	41	17	39	41	30	13	14	EV01
CFB-D23J-R1*	2/2 NC	G3/8	8	1	0 ÷ 2 [AC] - 0 ÷ 0.8 [DC]	15	45	89	37	55	27	39	47	36	22	22	EV01
CFB-D24J-R1*	2/2 NC	G1/2	8	1	0 ÷ 2 [AC] - 0 ÷ 0.8 [DC]	15	45	89	37	55	27	39	47	36	22	22	EV01
CFB-D24M-R1*	2/2 NC	G1/2	13	2.4	0 ÷ 1 [AC] - /	15	45	89	37	55	27	39	47	36	22	22	EV01
CFB-D31A-W1*	3/2 NC **	G1/8	1.4	0.06	0 ÷ 14 [AC / DC]	11	30	79.6	23	41	17	39	41	30	13	14	EV45
CFB-D31D-W1*	3/2 NC **	G1/8	2.8	0.14	0 ÷ 5 [AC / DC]	11	30	79.6	23	41	17	39	41	30	13	14	EV45
CFB-D32A-W1*	3/2 NC **	G1/4	1.4	0.06	0 ÷ 14 [AC / DC]	11	30	79.6	23	41	17	39	41	30	13	14	EV45
CFB-D32D-W1*	3/2 NC **	G1/4	2.8	0.14	0 ÷ 5 [AC / DC]	11	30	79.6	23	41	17	39	41	30	13	14	EV45
CFB-D11A-W1*	2/2 NO	G1/8	1.4	0.07	0 ÷ 22 [AC 50Hz / DC]	11	30	75	23	41	17	39	41	30	13	14	EV02
CFB-D12D-W1*	2/2 NO	G1/4	2.8	0.20	0 ÷ 7.5 [AC 50Hz / DC]	11	30	75	23	41	17	39	41	30	13	14	EV02
CFB-D13J-W1*	2/2 NO	G3/8	8	1	0 ÷ 1.5 [AC 50Hz]	15	45	89	37	55	27	39	47	36	22	22	EV02

Directly oper. 2/2 NC solenoid valve with linked diaphragm



The diaphragm which is linked to the mobile plunger is a good arrangement between high fluid flow rates and working pressures (zero pressures as well).
Ports: from G3/8 to G1.
The standard diaphragm is supplied in FKM.

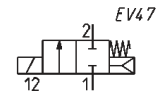
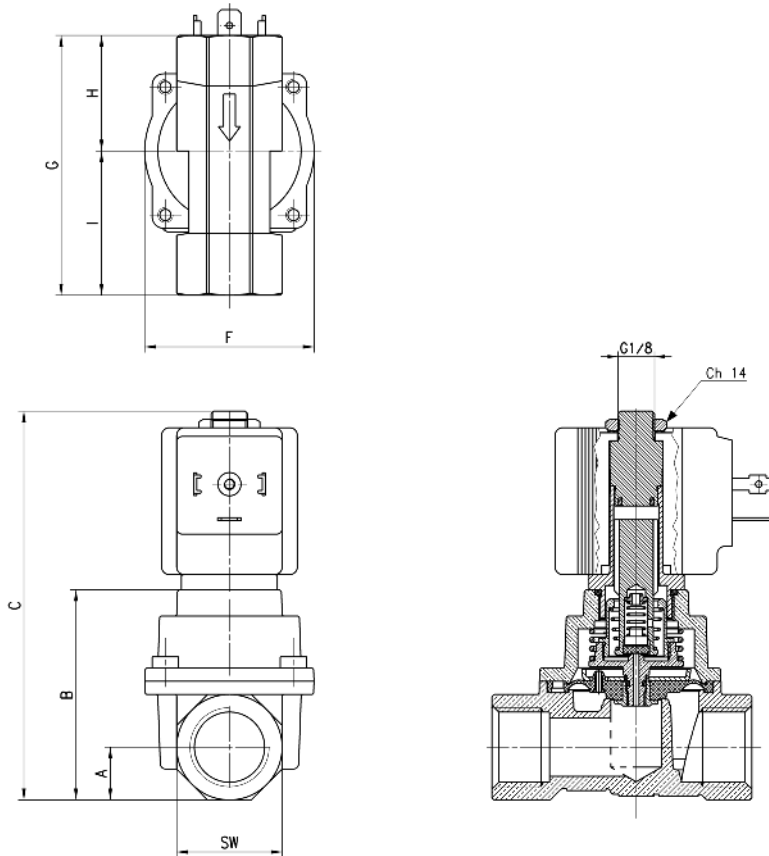


TABLE NOTE:
* = choose the suitable solenoid according to the TABLE FOR THE COUPLING BETWEEN SOLENOID AND VALVES

SERIES CFB SOLENOID VALVES



Mod.	Function	Ports	Ø Orifice (mm)	Kv (m ³ /h)	Pressure min÷max (bar)	A	B	C	F	G	H	I	SW
CFB-B23L-W1-*	2/2 NC	G3/8	11.5	2.1	0 ÷ 15 [AC] - 0 ÷ 8 [DC]	14	55.8	103.2	45	64	28.2	35.8	28
CFB-B24N-W1-*	2/2 NC	G1/2	13.5	2.5	0 ÷ 15 [AC] - 0 ÷ 8 [DC]	14	55.8	103.2	45	69	30.7	38.3	28
CFB-B25P-W1-*	2/2 NC	G3/4	18	5	0 ÷ 15 [AC] - 0 ÷ 5 [DC]	21	72	119.4	71	93	43.5	49.5	42
CFB-B26R-W1-*	2/2 NC	G1	26	8	0 ÷ 15 [AC] - 0 ÷ 5 [DC]	21	72	119.4	71	93	43.5	49.5	42

Indirectly operated 2/2 NC solenoid valve



The pilot of these indirectly operated solenoid valves controls the diaphragm position through a differential pressure. These valves are therefore particularly suitable for controlling high fluid flow rates and require very low working pressures.

Ports: from G3/8 to G2.

The standard diaphragm is supplied in NBR.

On demand it can be supplied in FKM or EPDM.

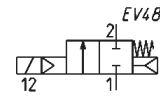
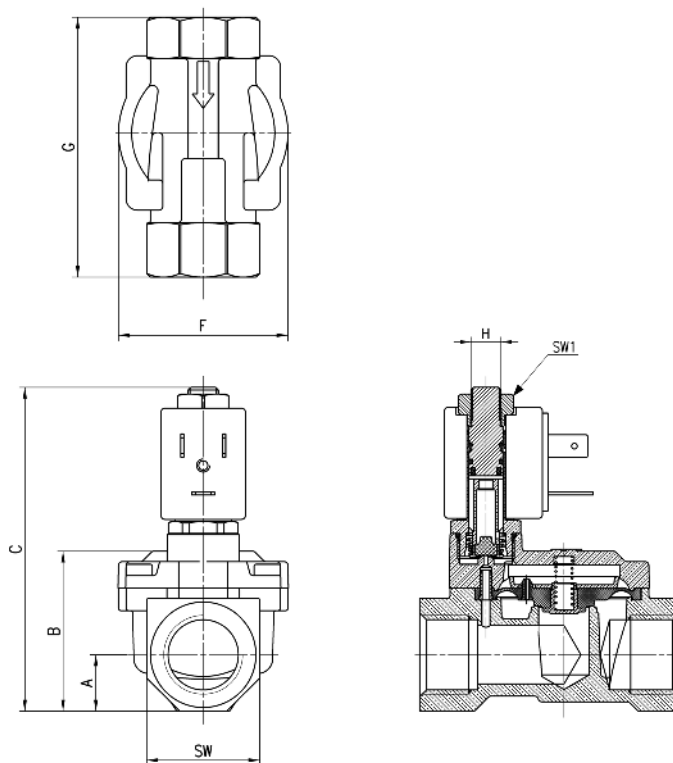


TABLE NOTE:

* = choose the suitable solenoid according to the TABLE FOR THE COUPLING BETWEEN SOLENOID AND VALVES



Mod.	Function	Ports	Ø Orifice (mm)	Kv (m ³ /h)	Pressure min÷max (bar)	A	B	C	F	G	H	SW	SW1
CFB-A23L-R1-*	2/2 NC	G3/8	11.5	2.6	0.1 ÷ 15 [AC / DC]	12	32.5	78.5	41.9	57	M8x0.75	24	13
CFB-A24N-R1-*	2/2 NC	G1/2	13.5	3.5	0.1 ÷ 15 [AC / DC]	15	39.7	85.7	45	69	M8x0.75	30	13
CFB-A25P-R1-*	2/2 NC	G3/4	18	5.8	0.2 ÷ 15 [AC / DC]	18	46.5	91.5	54.4	74	M8x0.75	34	13
CFB-A26R-R1-*	2/2 NC	G1	26	9.5	0.2 ÷ 12 [AC / DC]	22.5	59.8	104.5	71	93	M8x0.75	45	13
CFB-A27T-R1-*	2/2 NC	G1 1/4	32	12.5	0.4 ÷ 12 [AC 50 Hz / DC] - 0.4 ÷ 6 [AC 60 Hz]	27.5	73.5	130	86.6	111	G1/8	55	14
CFB-A28X-R1-*	2/2 NC	G1 1/2	45	31	0.4 ÷ 12 [AC 50 Hz / DC] - 0.4 ÷ 3.5 [AC 60 Hz]	31	85	138.3	110	138	G1/8	62	14
CFB-A29Z-R1-*	2/2 NC	G2	50	45	0.4 ÷ 12 [AC 50 Hz / DC] - 0.4 ÷ 3.5 [AC 60 Hz]	37.5	98.8	152	110	145	G1/8	75	14

Indirectly operated 2/2 NO solenoid valve



The pilot of these indirectly operated solenoid valves controls the diaphragm position through a differential pressure. These valves are therefore particularly suitable for controlling high fluid flow rates and require very low working pressures. Ports: from G3/8 to G2. The standard diaphragm is supplied in NBR. On demand it can be supplied in FKM or EPDM.

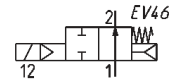
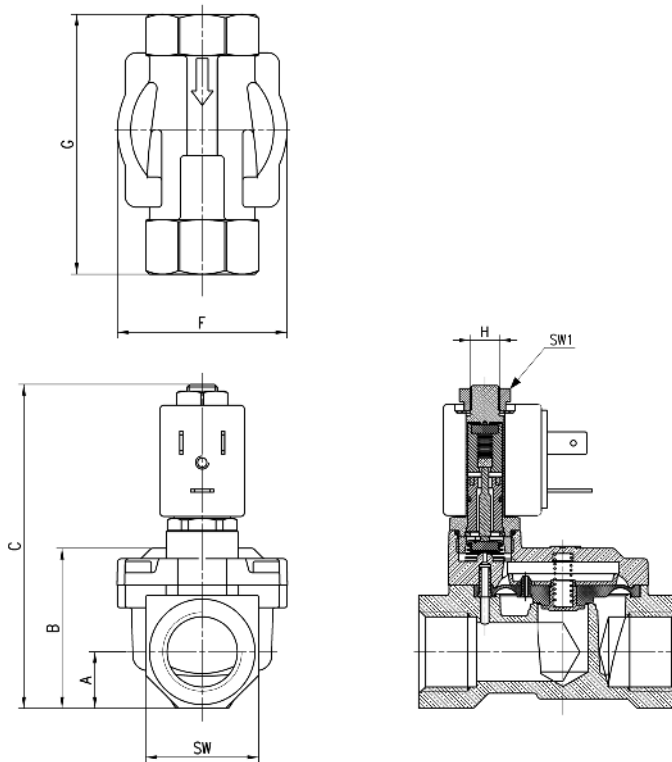


TABLE NOTE:
* = choose the suitable solenoid according to the TABLE FOR THE COUPLING BETWEEN SOLENOID AND VALVES

SERIES CFB SOLENOID VALVES



Mod.	Function	Ports	Ø Orifice (mm)	Kv (m³/h)	Pressure min÷max (bar)	A	B	C	F	G	H	SW	SW1
CFB-A13L-R1-*	2/2 NO	G3/8	11.5	2.6	0.1 ÷ 15 [AC / DC]	12	32.5	78.5	41.9	57	M8x0.75	24	13.5
CFB-A14N-R1-*	2/2 NO	G1/2	13.5	3.5	0.1 ÷ 15 [AC / DC]	15	39.7	85.7	45	69	M8x0.75	30	13.5
CFB-A15P-R1-*	2/2 NO	G3/4	18	5.8	0.2 ÷ 15 [AC / DC]	18	46.5	92.7	54.4	74	M8x0.75	36	13.5
CFB-A16R-R1-*	2/2 NO	G1	26	9.5	0.2 ÷ 12 [AC / DC]	22.5	59.8	104.5	71	93	M8x0.75	45	13.5
CFB-A17T-R1-*	2/2 NO	G1 1/4	32	12.5	0.4 ÷ 12 [AC / DC]	27.5	73.5	130	86.6	111	G1/8	55	14
CFB-A18X-R1-*	2/2 NO	G1 1/2	45	31	0.4 ÷ 10 [AC / DC]	31	85	138.3	110	138	G1/8	62	14
CFB-A19Z-R1-*	2/2 NO	G2	50	45	0.4 ÷ 10 [AC / DC]	37.5	98.8	152	110	145	G1/8	75	14

Series CFB stainless steel solenoid valves

2/2-way - Normally Closed (NC)

3/2-way - Normally Closed (NC)



Series CFB Stainless Steel directly operated solenoid valves for general purpose, 2/2-way and 3/2-way NC, are the ideal solution for a wide range of applications whereby the environment and fluids used can be particularly aggressive and contaminating. Special versions are available on demand.

- » Stainless steel version for particularly aggressive environment and fluids
- » High reliability over time, even in hard working conditions
- » Compact dimensions
- » Suitable to control inert and medical gases, alimentary fluids and beverages

The valve function is determined by a poppet and the operation is direct. Different versions are available according to the nominal diameter and to the threaded ports, as shown in the following tables. They can thus satisfy various requirements in terms of flow rates and working pressures.

GENERAL DATA

TECHNICAL FEATURES

Function	2/2 and 3/2 NC
Operation	direct acting poppet type
Pneumatic connections	G1/8 ... G1/2 threads
Nominal diameter	1.5 ... 4 mm
Nominal flow	See Kv
Flow coefficient Kv (m ³ /h)	0.08 ... 0.28
Operating pressure	0 ÷ 4 ... 25 bar
Operating temperature	-10°C ÷ +140°C
Media	air, water, liquid and gaseous fluids with max viscosity 37 cSt (5° E)
Response time	ON <15 msec - OFF <25 msec
Installation	in any position

MATERIALS IN CONTACT WITH THE MEDIUM

Body	stainless steel 316L
Seals	FKM (EPDM on demand)
Internal parts	stainless steel

ELECTRICAL FEATURES

Voltage	12 V DC, 24 V DC - 24V AC 50 Hz, 110 V AC 50/60 Hz, 220/230 V AC 50/60 Hz
Voltage tolerance	±5% (DC) - ±10% (AC)
Power consumption	19 W (DC) - 15 VA (AC)
Duty cycle	ED 100%
Electrical connection	H (180°C)
Protection class	DIN 43650 connector, (A Shaped) IP65 with connector

Special versions available on demand

It is recommended to use connections with internal diameters bigger than valve orifices, otherwise there may be a performance change.

CODING EXAMPLE

CFB	-	D	2	1	A	-	W	X	-	B8	E
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CFB	SERIES
D	OPERATION: D = direct
2	NUMBER OF WAYS - POSITIONS: 2 = 2/2-way NC 3 = 3/2-way NC
1	CONNECTIONS: 1 = G1/8 2 = G1/4 3 = G3/8 4 = G1/2
A	NOMINAL DIAMETER: A = 1.5 mm B = 2 mm C = 2.5 mm E = 3 mm F = 4 mm
W	SEALS MATERIAL: W = FKM E = EPDM (on demand)
X	BODY MATERIAL: X = stainless steel
B8	SOLENOID DIMENSION: B8 = 30 mm
E	SOLENOID VOLTAGE: B = 24V AC 50 Hz D = 110V AC 50/60 Hz E = 230V AC 50/60 Hz 2 = 12V DC 3 = 24V DC

SERIES CFB STAINLESS STEEL SOLENOID VALVES

TABLE FOR THE COUPLING BETWEEN SOLENOIDS AND VALVES

See solenoids and connectors for solenoids in the dedicated section
Mod. B8 = mod.124-800
* = complete the code according to coding example

Mod.	24V AC 50 Hz	110V AC 50/60 Hz	220/230V AC 50/60 Hz	12V DC	24V DC
CFB-D21A-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D21B-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D21C-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D22B-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D22C-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D22E-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D23E-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D23F-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D24E-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D24F-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D32A-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D32B-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D32C-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)
CFB-D32E-*	B8B (15VA)	B8D (15VA)	B8E (15VA)	B82 (19W)	B83 (19W)

Directly operated solenoid valve, 2/2 and 3/2 NC



The direct control of these solenoid valves allows to operate with working pressures that are equal to zero.

Ports: from G1/8 to G1/2.

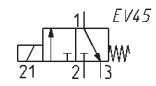
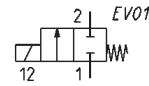
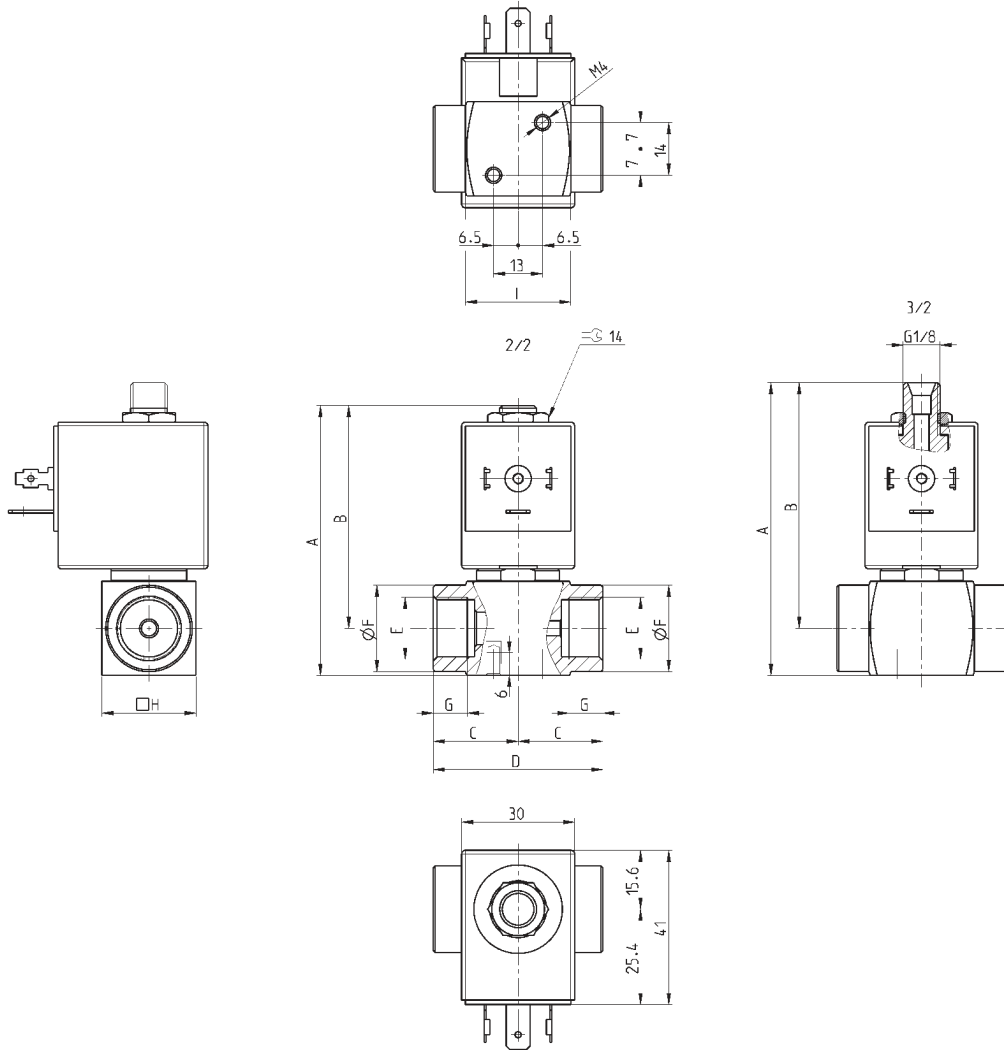


TABLE NOTE:
* = choose the suitable solenoid according to the TABLE FOR THE COUPLING BETWEEN SOLENOID AND VALVES



Mod.	Function	Orifice Ø (mm)	Kv (m³/h)	Pressure min-max (bar)	A	B	C	D	E	F	G	H	I	Pneumatic symbol
CFB-D21A-...X*	2/2 NC	1.5	0.08	0 ÷ 25	71.7	59.2	21	42	G1/8	15	8	25	29	EV01
CFB-D21B-...X*	2/2 NC	2	0.10	0 ÷ 22	71.7	59.2	21	42	G1/8	15	8	25	29	EV01
CFB-D21C-...X*	2/2 NC	2.5	0.14	0 ÷ 15	71.7	59.2	21	42	G1/8	15	8	25	29	EV01
CFB-D22B-...X*	2/2 NC	2	0.10	0 ÷ 22	71.7	59.2	21	42	G1/4	18	8	25	28	EV01
CFB-D22C-...X*	2/2 NC	2.5	0.14	0 ÷ 15	71.7	59.2	21	42	G1/4	18	8	25	28	EV01
CFB-D22E-...X*	2/2 NC	3	0.18	0 ÷ 10	71.7	59.2	21	42	G1/4	18	8	25	28	EV01
CFB-D23E-...X*	2/2 NC	3	0.18	0 ÷ 10	71.7	59.2	22.5	45	G3/8	23	9.5	25	28	EV01
CFB-D23F-...X*	2/2 NC	4	0.28	0 ÷ 6	71.7	59.2	22.5	45	G3/8	23	9.5	25	28	EV01
CFB-D24E-...X*	2/2 NC	3	0.18	0 ÷ 10	76.7	61.7	24.5	49	G1/2	27.5	11	30	31	EV01
CFB-D24F-...X*	2/2 NC	4	0.28	0 ÷ 6	76.7	61.7	24.5	49	G1/2	27.5	11	30	31	EV01
CFB-D32A-...X*	3/2 NC	1.5	0.08	0 ÷ 13	77.8	65.3	21	42	G1/4	18	8	25	28	EV45
CFB-D32B-...X*	3/2 NC	2	0.1	0 ÷ 9	77.8	65.3	21	42	G1/4	18	8	25	28	EV45
CFB-D32C-...X*	3/2 NC	2.5	0.14	0 ÷ 5.5	77.8	65.3	21	42	G1/4	18	8	25	28	EV45
CFB-D32E-...X*	3/2 NC	3	0.18	0 ÷ 4	77.8	65.3	21	42	G1/4	18	8	25	28	EV45

Series 8 pneumatic operated cartridge valves

2/2-way - Normally Closed (NC)

SERIES 8 CARTRIDGE VALVES



- » Use with oxygen
- » Suitable also for general purpose
- » Compact design
- » High flow
- » Manifold assembly

Series 8 pneumatic operated valves are particularly suitable for applications requiring high flow combined with compact design. The valve is pneumatic operated by electro-pilots which are dimensioned according to the size. The cartridge design, which is ideal for manifold assembly, allows to reduce both dimensions and the number of pneumatic connections.

The standard function of the valve is 2/2-way NC. It can however fulfill the 3/2-way NC function if inserted in a proper seat (see the following pages).

GENERAL DATA

TECHNICAL FEATURES

Function	2/2 NC
Operation	pneumatic operated poppet type
Pneumatic connections	manifold cartridge
Nominal diameter	5 ... 9 mm
Nominal flow	420 ... 1480 Nl/min (air at 6 bar ΔP 1 bar)
Flow coefficient kv (l/min)	6.5 ... 23
Operating pressure	3 ÷ 6 bar (0 ÷ 6 bar with external pilot supply)
Operating temperature	0 ÷ +50°C
Media	filtered air, class 5.4.4 according to ISO 8573-1 (max oil viscosity 32 cSt), inert gas
Response time (ISO 12238)	ON <10 msec - OFF <10 msec
Installation	in any position

MATERIALS IN CONTACT WITH THE MEDIUM

Body	brass
Internal parts	aluminium
Seals	FKM

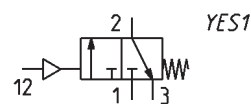
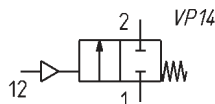
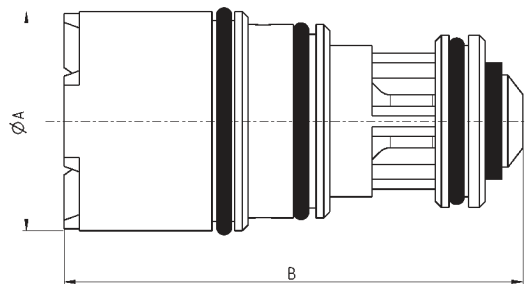
CODING EXAMPLE

8	10	C5	1	00	-	F1	3	2	-	OX2
8	SERIES									
10	SIZE: 10 = Size 1 20 = Size 2 30 = Size 3									
C5	BODY DESIGN: C5 = cartridge									
1	NUMBER OF WAYS - FUNCTIONS: 1 = 2/2-way NC or 3/2-way NC NOTE: The function depends on the seat used (for further details see the following pages)									
00	PNEUMATIC CONNECTIONS: 00 = cartridge									
F1	NOMINAL DIAMETER: F1 = Ø 5.0 mm (size 1 only) G7 = Ø 6.6 mm (size 2 only) K1 = Ø 9.0 mm (size 3 only)									
3	SEAL MATERIAL: 3 = FKM									
2	BODY MATERIAL: 2 = brass									
OX2	OX2 = for use with oxygen (non volatile residual less than 33 mg/m ³) NOTE: the OX2 suffix must be added also in case of use with air/gas.									

Pneumatic cartridge valve 2/2-way NC



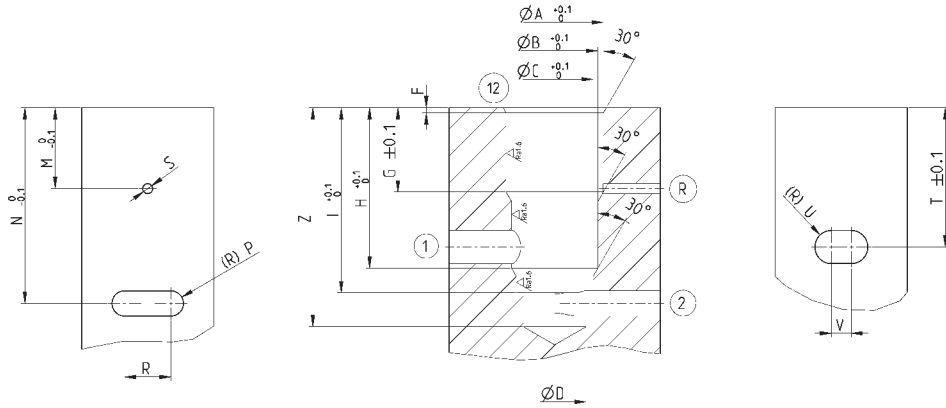
For 2/2-way (pneumatic symbol VP14) or 3/2-way (pneumatic symbol YES1) function, see the seat dimensioning in the next pages.



Mod.	ØA	B	Nominal diameter Ø (mm)	kv (l/min)	Qn (NL/min)	Min/max pressure (bar)	Min/max pilot pressure (bar)
810C5100-F132-OX2	10	26.7	5.0	6.5	420	0 ÷ 6	3 ÷ 6
820C5100-G732-OX2	14.5	30.3	6.6	12.5	800	0 ÷ 6	3 ÷ 6
830C5100-K132-OX2	22	34.8	9.0	23	1480	0 ÷ 6	3 ÷ 6

Seat for Series 8 pneumatic valve with 2/2-way NC function

NOTE IN THE DRAWING:
1 = inlet
2 = outlet
12 = pilot supply
R = poppet chamber exhaust

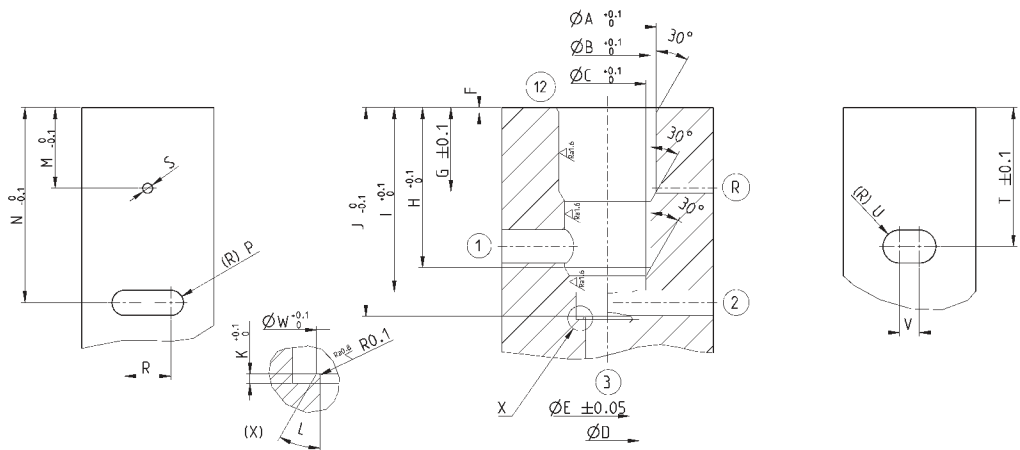


SERIES 8

Size	A	B	C	D	F	G	H	I	M	N	P	R	S	T	U	V	Z
1	10.4	9.7	9	8.2	0.8	14.5	20.7	25	13.2	26.2	1.5	5	1.5	19.1	3	5	30
2	14.65	12.95	11.55	9.5	0.8	12.8	24.2	27.9	12.2	29.3	1.9	7	1.5	20.5	2.5	4	33
3	22.1	20.6	19.6	16.2	0.5	15	28.7	33.4	12.5	37.1	4	4.4	2.5	24.8	3.75	5	41

Seat for Series 8 pneumatic valve with 3/2-way NC function

NOTE IN THE DRAWING:
1 = inlet
2 = outlet
3 = exhaust
12 = pilot supply
R = poppet chamber exhaust



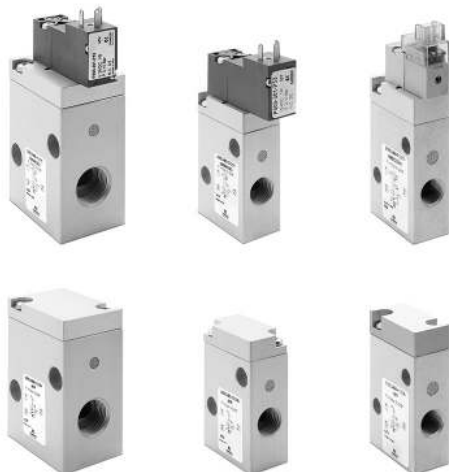
SERIES 8

Size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	R	S	T	U	V	W
1	10.4	9.7	9	8.2	5	0.8	14.5	20.7	25	28	0.3	45	13.2	26.2	1.5	5	1.5	19.1	3	5	5.4
2	14.65	12.95	11.55	9.5	6.6	0.8	12.8	24.2	27.9	31.55	0.5	45	12.2	29.3	1.9	7	1.5	20.5	2.5	4	7
3	22.1	20.6	19.6	16.2	9	0.5	15	28.7	33.4	38.05	1	60	12.5	37.1	4	4.4	2.5	24.8	3.75	5	10

Series 8 pneumatically and electropneumatically operated valves

2/2-way - Normally Closed (NC), Normally Open (NO)

3/2-way - Normally Closed (NC), Normally Open (NO)



- » High flow
- » Available in 3 different sizes for general purpose
- » Version for use with oxygen available

The Series 8 enlarges the range of versions available with the cartridge valve directly integrated in an anodized aluminium body comprising also the pilot solenoid valve. The new bodies enable to have pneumatically operated versions with external piloting or electropneumatically operated versions with both external and internal piloting.

GENERAL DATA

TECHNICAL SPECIFICATIONS

Function	2/2 NC - 2/2 NO - 3/2 NC - 3/2 NO
Operation	pneumatic or electropneumatic
Pneumatic connections	G1/8 - G1/4 - G3/8
Nominal diameter	5 ... 9 mm
Flow coefficient kv (l/min)	6.5 ... 23
Nominal flow	420 ... 1480 NI/min (air at 6 bar ΔP 1 bar)
Operating pressure	3 ÷ 6 bar (0 ÷ 6 bar with external pilot supply)
External pilot pressure	3 ÷ 6 bar
Operating temperature	0 ÷ +50°C
Fluid	filtered air class 5.4.4 according to ISO 8573-1 (oil viscosity max. 32 cSt), inert gases
Response times	ON <10 msec - OFF <10 msec
Installation	any position

MATERIALS IN CONTACT WITH FLUID

Body	Aluminium
Seals	FKM
Internal parts	Aluminium - Brass

ELECTRICAL SPECIFICATIONS

Voltage	24 V DC - other voltages upon request
Voltage tolerance	Size 1 = ±10% - Size 2 and 3 = -10% +15%
Power consumption	Size 1 = 1.3 W (inrush) 0.25 W (holding) - Size 2 and 3 = 2 W
Duty cycle	ED 100%
Electrical connection	connectors - wires (length = 300 mm)
Protection class	Size 1 = IP50 - Size 2 and 3 = IP65 (with connector)

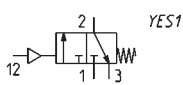
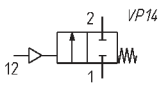
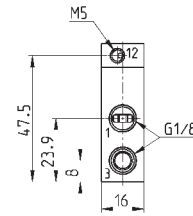
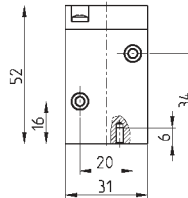
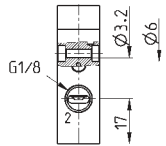
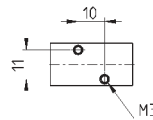
CODING EXAMPLE

8	10	C3	4	04	-	F1	3	1	Y	-	N	00	2C	C014
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8	SERIES
10	SIZE: 10 = Size 1 20 = Size 2 30 = Size 3
C3	TYPE OF BODY: C3 = threaded body
4	NUMBER OF WAYS - FUNCTIONS: 1 = 2/2-way NC 2 = 2/2-way NO 4 = 3/2-way NC 5 = 3/2-way NO
04	PNEUMATIC CONNECTIONS: 04 = G1/8 (Size 1) 05 = G1/4 (Size 2) 06 = G3/8 (Size 3)
F1	NOMINAL DIAMETER: F1 = 5.0 mm (Size 1) G7 = 6.6 mm (Size 2) K1 = 9.0 mm (Size 3)
3	SEAL MATERIAL: 3 = FKM
1	BODY MATERIAL: 1 = aluminium
Y	MANUAL OVERRIDE: N = not provided Y = provided monostable
N	MOUNTING ACCESSORIES: N = not provided
00	OPTIONS: 00 = no option PP = pneumatic piloting PE = electropilot with external piloting
2C	ELECTRICAL CONNECTION: 2C = connection type KN 90° + protection + led (Size 1) 2F = connection type KN 90° in line + protection + led (Size 1) 3A = connection DIN EN 175 301-803-C (8 mm) 4A = industry standard connection (9.4 mm) 7A = wires - length 300 mm (Size 2 - 3)
C014	VOLTAGE - POWER CONSUMPTION: C012 = 12V DC 1.3/0.25W (Size 1) C014 = 24V DC 1.3/0.25W (Size 1) C020 = 12V DC 2W (Size 2 - 3) C023 = 24V DC 2W (Size 2 - 3) C025 = 48V DC 2W (Size 2 - 3)
	VERSION: = standard OX1 = for use with oxygen (non volatile residual less than 550 mg/m ²) OX2 = for use with oxygen (non volatile residual less than 33 mg/m ²)

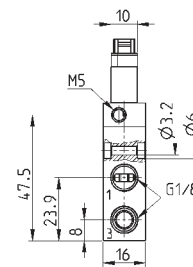
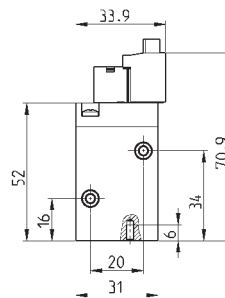
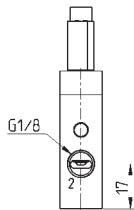
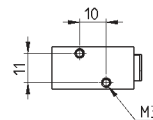
SERIES 8 PNEUMATICALLY AND ELECTROPNEUMATICALLY OPERATED VALVES

Pneumatic valve size 1 - 2/2- and 3/2-way, NC and NO

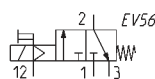
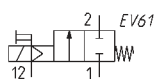
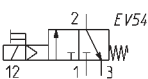
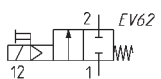


Mod.	Function	Pneumatic connection	Orifice Ø (mm)	kv (l/min)	Qn (NL/min)	Min÷max pressure (bar)	Min÷max pilot pressure (bar)	Pilot supply	Symbol
810C3104-F131N-NPP	2/2 NC (for the NO function it is required to maintain a continuous pneumatic pilot supply)	G1/8	5.0	6.5	420	0 ÷ 6	3 ÷ 6	External	VP14
810C3404-F131N-NPP	3/2 NC (for the NO function it is required to maintain a continuous pneumatic pilot supply)	G1/8	5.0	6.5	420	0 ÷ 6	3 ÷ 6	External	YES1

Solenoid valve size 1, 2/2- and 3/2-way, NC

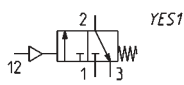
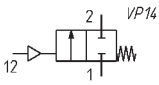
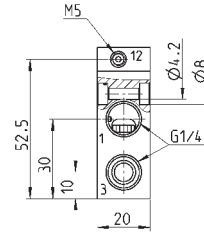
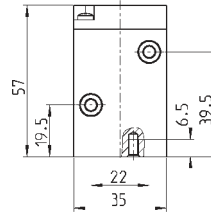
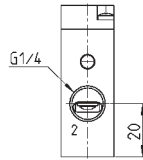
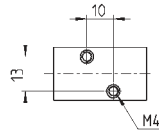


* please complete the code with ELECTRIC CONNECTION (option 2C or 2F) and VOLTAGE (see the CODING EXAMPLE).



Mod.	Function	Pneumatic connection	Orifice Ø (mm)	kv (l/min)	Qn (NL/min)	Min÷max pressure (bar)	Min÷max pilot pressure (bar)	Pilot supply	Symbol
810C3104-F131Y-N00*	2/2 NC	G1/8	5.0	6.5	420	3 ÷ 6	-	Internal	EV62
810C3404-F131Y-N00*	3/2 NC	G1/8	5.0	6.5	420	3 ÷ 6	-	Internal	EV54
810C3104-F131Y-NPE*	2/2 NC	G1/8	5.0	6.5	420	0 ÷ 6	3 ÷ 6	External	EV61
810C3404-F131Y-NPE*	3/2 NC	G1/8	5.0	6.5	420	0 ÷ 6	3 ÷ 6	External	EV56

Pneumatic valve size 2 - 2/2- and 3/2-way, NC and NO

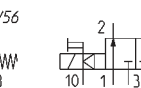
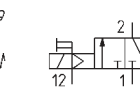
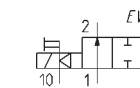
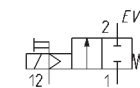
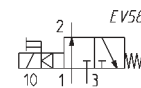
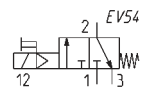
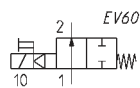
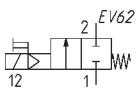
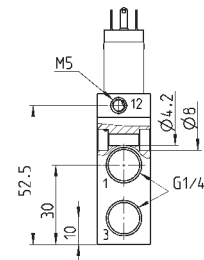
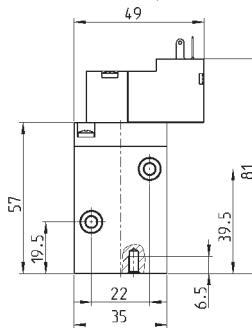
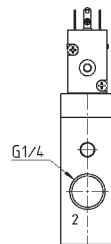
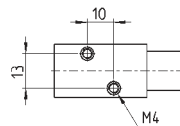


Mod.	Function	Pneumatic connection	Orifice Ø (mm)	kv (l/min)	Qn (NL/min)	Min÷max pressure (bar)	Min÷max pilot pressure (bar)	Pilot supply	Symbol
820C3105-G731N-NPP	2/2 NC (for the NO function it is required to maintain a continuous pneumatic pilot supply)	G1/4	6.6	12.5	800	0 ÷ 6	3 ÷ 6	External	VP14
820C3405-G731N-NPP	3/2 NC (for the NO function it is required to maintain a continuous pneumatic pilot supply)	G1/4	6.6	12.5	800	0 ÷ 6	3 ÷ 6	External	YES1

Solenoid valve size 2, 2/2- and 3/2-way, NC and NO

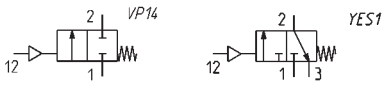
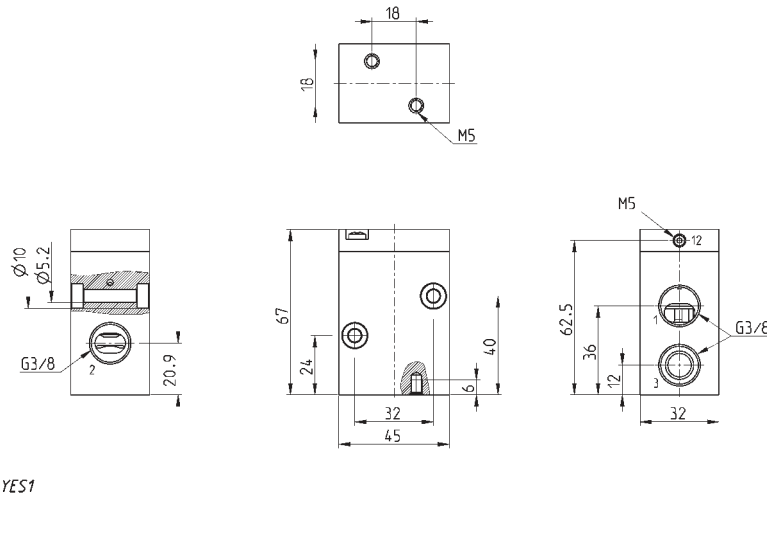


* please complete the code with ELECTRIC CONNECTION (option 3A, 4A o 7A) and VOLTAGE (see the CODING EXAMPLE).



Mod.	Function	Pneumatic connection	Orifice Ø (mm)	kv (l/min)	Qn (NL/min)	Min÷max pressure (bar)	Min÷max pilot pressure (bar)	Pilot supply	Symbol
820C3105-G731Y-N00*	2/2 NC	G1/4	6.6	12.5	800	3 ÷ 6	-	Internal	EV62
820C3205-G731Y-N00*	2/2 NO	G1/4	6.6	12.5	800	3 ÷ 6	-	Internal	EV60
820C3405-G731Y-N00*	3/2 NC	G1/4	6.6	12.5	800	3 ÷ 6	-	Internal	EV54
820C3505-G731Y-N00*	3/2 NO	G1/4	6.6	12.5	800	3 ÷ 6	-	Internal	EV58
820C3105-G731Y-NPE*	2/2 NC	G1/4	6.6	12.5	800	0 ÷ 6	3 ÷ 6	External	EV61
820C3205-G731Y-NPE*	2/2 NO	G1/4	6.6	12.5	800	0 ÷ 6	3 ÷ 6	External	EV59
820C3405-G731Y-NPE*	3/2 NC	G1/4	6.6	12.5	800	0 ÷ 6	3 ÷ 6	External	EV56
820C3505-G731Y-NPE*	3/2 NO	G1/4	6.6	12.5	800	0 ÷ 6	3 ÷ 6	External	EV57

Pneumatic valve size 3 - 2/2- and 3/2-way, NC and NO

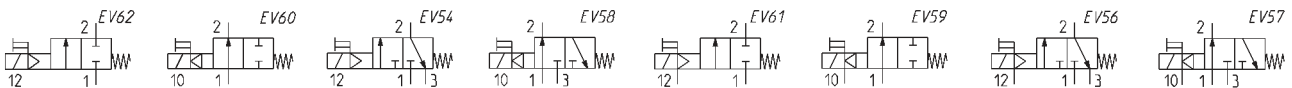
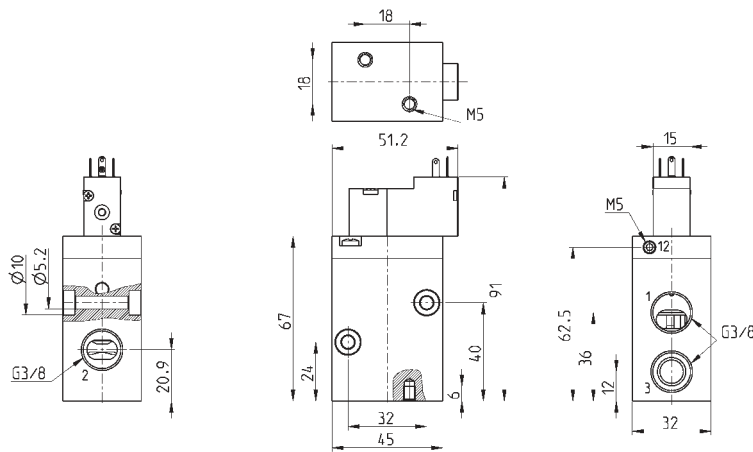


Mod.	Function	Pneumatic connection	Orifice Ø (mm)	kv (l/min)	Qn (NL/min)	Min÷max pressure (bar)	Min÷max pilot pressure (bar)	Pilot supply	Symbol
830C3106-K131N-NPP	2/2 NC (for the NO function it is required to maintain a continuous pneumatic pilot supply)	G3/8	9.0	23	1480	0 ÷ 6	3 ÷ 6	External	VP14
830C3406-K131N-NPP	3/2 NC (for the NO function it is required to maintain a continuous pneumatic pilot supply)	G3/8	9.0	23	1480	0 ÷ 6	3 ÷ 6	External	YES1

Solenoid valve size 3, 2/2- and 3/2-way, NC and NO



* please complete the code with ELECTRIC CONNECTION (option 3A, 4A or 7A) and VOLTAGE (see the CODING EXAMPLE).



Mod.	Function	Pneumatic connection	Orifice Ø (mm)	kv (l/min)	Qn (NL/min)	Min÷max pressure (bar)	Min÷max pilot pressure (bar)	Pilot supply	Symbol
830C3106-K131Y-N00*	2/2 NC	G3/8	9.0	23	1480	3 ÷ 6	-	Internal	EV62
830C3206-K131Y-N00*	2/2 NO	G3/8	9.0	23	1480	3 ÷ 6	-	Internal	EV60
830C3406-K131Y-N00*	3/2 NC	G3/8	9.0	23	1480	3 ÷ 6	-	Internal	EV54
830C3506-K131Y-N00*	3/2 NO	G3/8	9.0	23	1480	3 ÷ 6	-	Internal	EV58
830C3106-K131Y-NPE*	2/2 NC	G3/8	9.0	23	1480	0 ÷ 6	3 ÷ 6	External	EV61
830C3206-K131Y-NPE*	2/2 NO	G3/8	9.0	23	1480	0 ÷ 6	3 ÷ 6	External	EV59
830C3406-K131Y-NPE*	3/2 NC	G3/8	9.0	23	1480	0 ÷ 6	3 ÷ 6	External	EV56
830C3506-K131Y-NPE*	3/2 NO	G3/8	9.0	23	1480	0 ÷ 6	3 ÷ 6	External	EV57

New

Series TC shut-off micro-valves

2/2-way - Normally Closed (NC)

SERIES TC SHUT-OFF MICRO-VALVES



- » Compact design
- » High performance
- » Ease of installation
- » Compatibility between materials used and several gaseous fluids
- » Suitable for applications with oxygen

The principle of the Series TC1-V shut-off micro-valves is based on the actuation of a poppet by means of an operating pressure applied above it.

The poppet, once actuated, moves away from the tightening seal, permitting the flow of the intercepted fluid.

By removing the actuation pressure, the poppet repositions itself on the tightening seal by means of a spring positioned below that closes the flow of the fluid.

For its realization the most suitable materials for contact with fluids were selected. The body in PPS and the FKM tightening seals guarantee full compatibility with a wide range of gaseous fluids.

GENERAL DATA

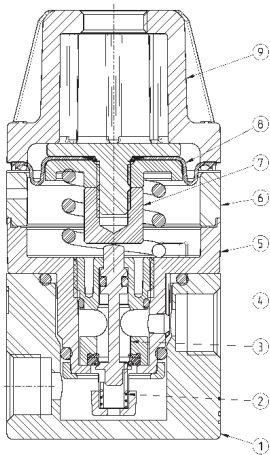
Construction	compact with pre-formed diaphragm
Materials	see the TABLE OF MATERIALS
Ports	cartridge construction in manifold - G1/8 or 1/8NPTF (only for aluminium body version)
Mounting	in-line or cartridge (any position)
Operating temperature	-5°C ÷ 50°C
Inlet pressure	0 ÷ 10 bar
Pilot pressure	0.6 ÷ 10 bar
Nominal flow	240 Nl/min (6 bar ΔP 1 bar)
Medium	air, inert/medical gases and oxygen

CODING EXAMPLE

TC	1	-	V	36	-	C	-	V	-	OX2
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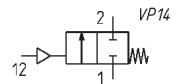
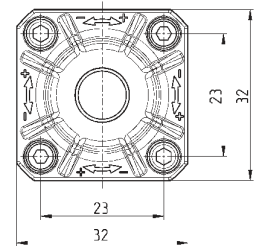
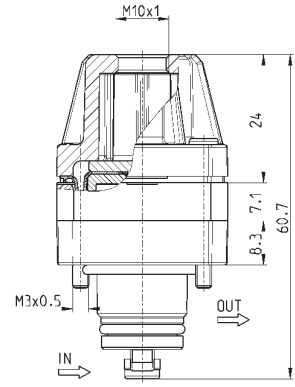
TC	SERIES
1	SIZE
V	VALVE
36	CONSTRUCTION: 36 = pneumatic command
C	PORTS: C = Cartridge 1/8 = G1/8 1/8TF = 1/8NPTF
V	SEALS MATERIAL: V = FKM
OX2	VERSIONS: OX1 = for oxygen (non-volatile residue lower than 550 mg/m ²) OX2 = for oxygen (non-volatile residue lower than 33 mg/m ²)

Series TC shut-off micro-valves - materials



PARTS	MATERIALS
1. Base body	Anodized aluminium
2. Lower spring	Stainless steel
3. Insert	PPS
4. Poppet	Stainless steel
5. Body	PPS
6 Intermediate body	Anodized aluminium
7. Valve guide	Polyamide
8. Diaphragm	FKM
9. Bell	Polyamide
Seals	FKM

Series TC cartridge shut-off micro-valves



Mod.

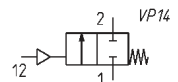
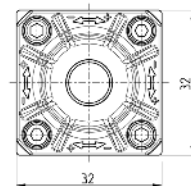
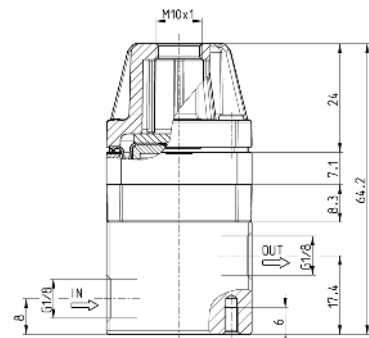
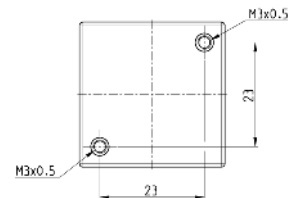
TC1-V36-C-V-OX1

TC1-V36-C-V-OX2

Series TC shut-off micro-valves with aluminium body



* to choose the type of thread (G1/8 or 1/8 NPTF)
see the Coding example

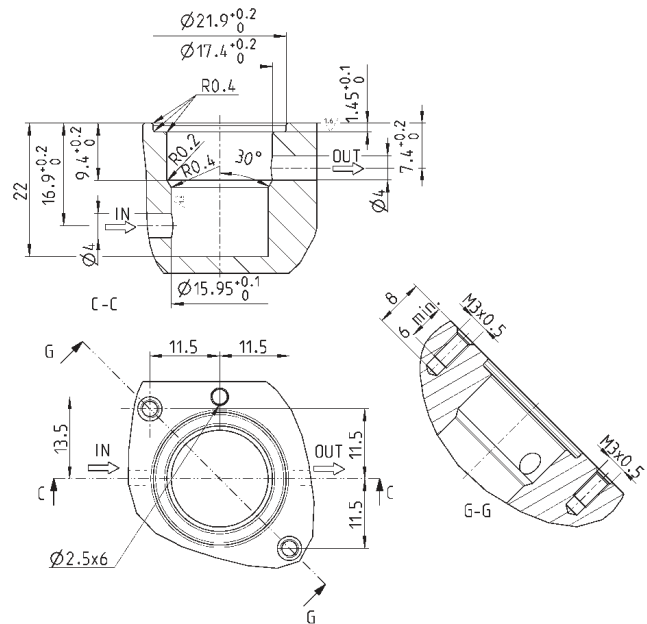


Mod.

TC1-V36-^{AL}-V-OX1

TC1-V36-^{AL}-V-OX2

Seat dimensions for Series TC cartridge valve

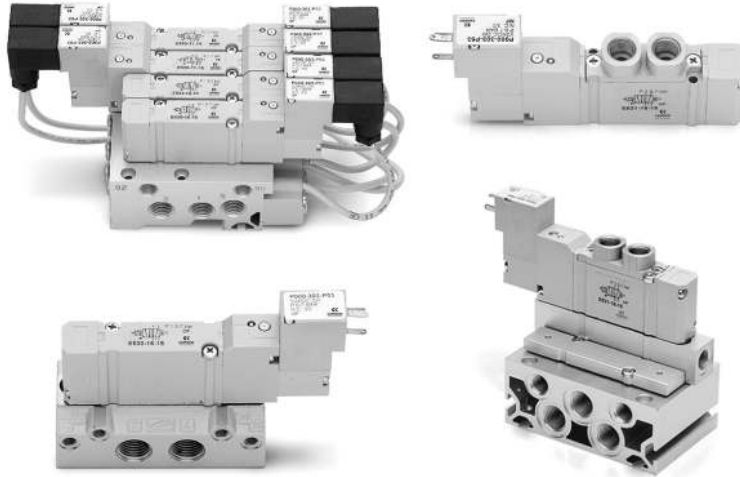


SERIES TC SHUT-OFF MICRO-VALVES

Series E valves and solenoid valves

5/2-way monostable/bistable - 5/3 CC, CO, CP
With outlets on the body - For individual or manifold assembly
Size 10,5 mm

SERIES E VALVES AND SOLENOID VALVES



Series E valves have been designed to allow high flows with small overall dimensions. These valves are manufactured in three different sizes and are suitable for individual use or for mounting on manifolds. The manifolds allow a common inlet as well as the two exhausts and the pilot exhaust in common.

GENERAL DATA

Construction	spool-type
Valve functions	5/2, 5/3 CC CO CP
Materials	zamak body, aluminium spool and sub-bases; technopolymer end-covers, joints NBR
Ports	valve = M5; manifold = M5 - tube Ø4; sub-base = G1/8
Temperature	0°C min + 50°C max
Fluid	filtered air (5 µm or lower), without lubricant; if lubricated air is used, it is recommended to use ISOVG32 oil. Once applied the lubrication should never be interrupted.
Solenoid voltage	see coding
Voltage tolerance	± 10%
Power consumption	1W
Class of insulation	class F
Protection class	IP50

CODING EXAMPLE

E	5	2	1	-	11	-	10	-	K	1	3
E	SERIES										
5	FUNCTION: 5 = 5/2 6 = 5/3 Centres Closed 7 = 5/3 Centres Open 8 = 5/3 Centres in Pressure										
2	SIZE: 2 = 10,5 mm										
1	BODY TYPE: 1 = body with threaded plate										
11	ACTUATION: 11 = electro-pneumatic, bistable 16 = electro-pneumatic, monostable 33 = pneumatic bistable - tube 3 36 = pneumatic monostable - tube 4 C33 = pneumatic bistable - tube 4 C36 = pneumatic monostable - tube 4										
10	INTERFACE: 10										
K	TYPE OF SOLENOID: K										
1	SOLENOID DIMENSION: 1 = 10x10										
3	SOLENOID VOLTAGE: 1 = 6V DC 2 = 12V DC 3 = 24V DC										

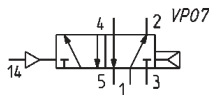
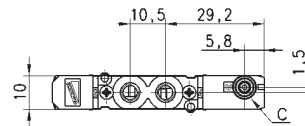
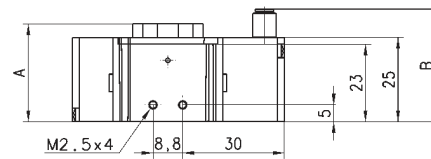
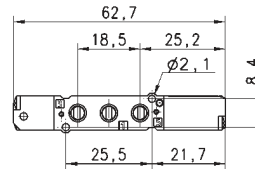
SERIES E VALVES AND SOLENOID VALVES

Pneumatically actuated valve, monostable - size 10,5

5/2-way



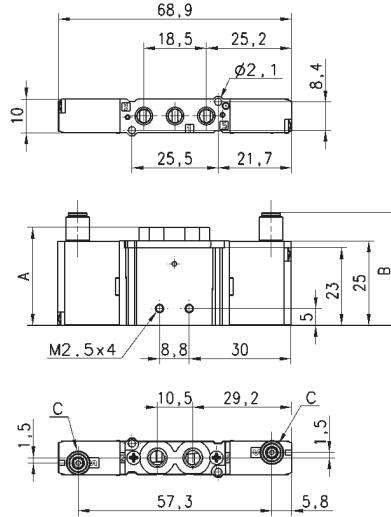
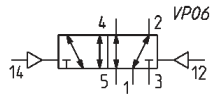
Note: the pilot pressure should never be lower than the operating pressure.



Mod.	A	B	C	Ports 1-3-5	Ports 2-4	Min pilot pressure (bar)	Working pressure (bar)	Flow rate (NI/min)
E521-36	29	33,4	Ø 3	M5	M5	2,5	2,5 ÷ 7	200
E521-C36	29	39,1	Ø 4	M5	M5	2,5	2,5 ÷ 7	200

Pneumatically actuated valve, bistable - size 10,5

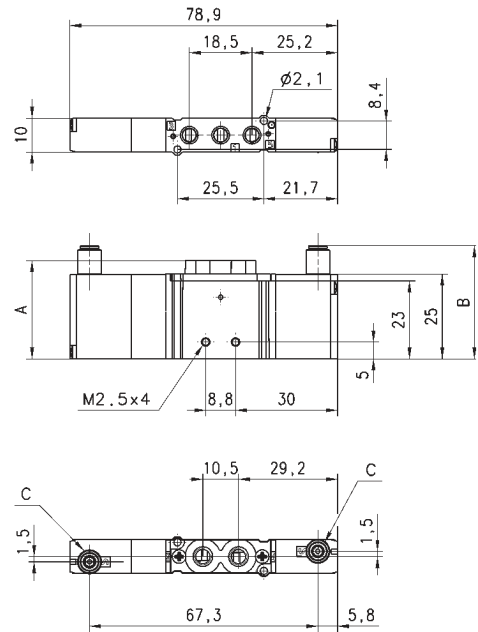
5/2-way



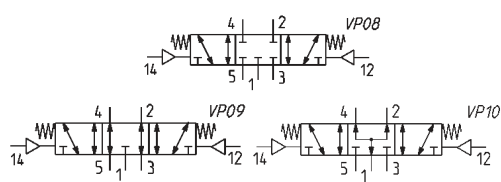
Mod.	A	B	C	Ports 1-3-5	Ports 2-4	Min pilot pressure (bar)	Working pressure (bar)	Flow rate (NL/min)
E521-33	29	33,4	∅ 3	M5	M5	1	-0,9 ÷ 7	200
E521-C33	29	39,1	∅ 4	M5	M5	1	-0,9 ÷ 7	200

Pneumatically actuated valve - size 10,5

5/3-way
CC = Centres closed
CO = Centres open
CP = Pressure centres

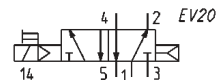
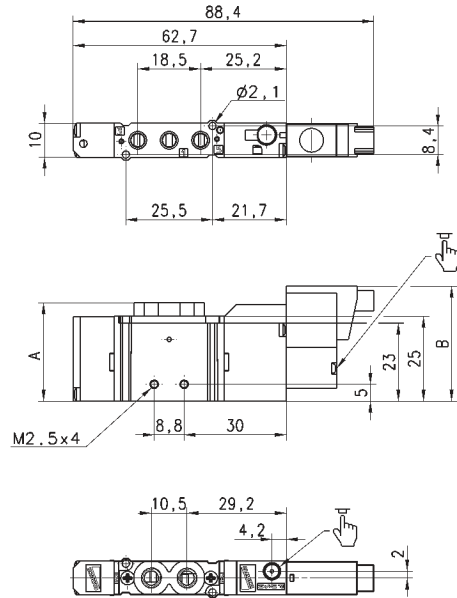


Mod.	A	B	C	Ports 1-3-5	Ports 2-4	Min pilot pressure (bar)	Working pressure (bar)	Flow rate NL/min	Symbol
E621-33	29	33.4	∅ 3	M5	M5	2	-0.9 ÷ 7	200	VP08
E621-C33	29	39.1	∅ 4	M5	M5	2	-0.9 ÷ 7	200	VP08
E721-33	29	33.4	∅ 3	M5	M5	2	-0.9 ÷ 7	200	VP09
E721-C33	29	39.1	∅ 4	M5	M5	2	-0.9 ÷ 7	200	VP09
E821-33	29	33.4	∅ 3	M5	M5	2	-0.9 ÷ 7	200	VP10
E821-C33	29	39.1	∅ 4	M5	M5	2	-0.9 ÷ 7	200	VP10



Electropneumatically actuated valve, monostable - size 10,5

5/2-way



For solenoid valves with solenoid type K, use connector 121-8...

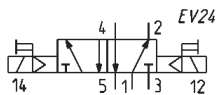
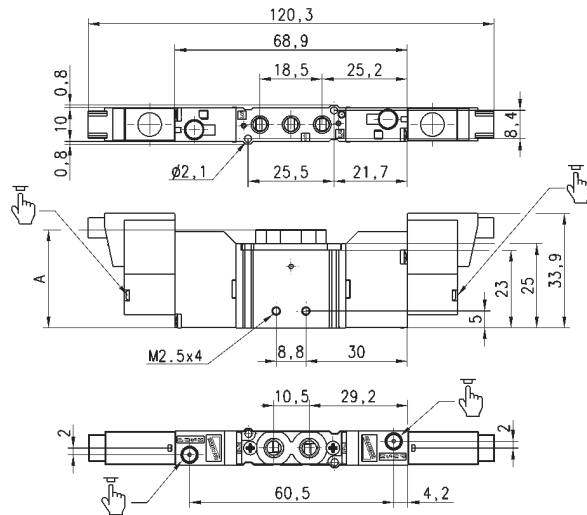
DIMENSIONS					
Mod.	A	Ports 1-3-5	Ports 2-4	working P. (bar)	Flow rate (NL/min)
E521-16-10-K1..	29	M5	M5	2,5 ÷ 7	200

Electropneumatically actuated valve, bistable - size 10,5

5/2-way



Use connector Mod. Mod. 121-8..



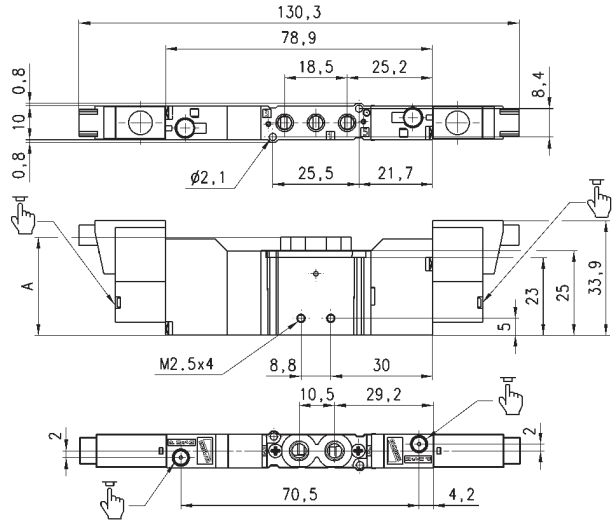
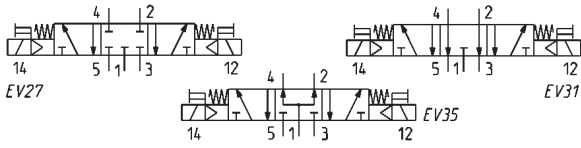
Mod.	A	Ports 1-3-5	Ports 2-4	working P. (bar)	Flow rate (NL/min)
E521-11-10-K1..	29	M5	M5	1 ÷ 7	200

Electropneumatically actuated valve - size 10,5



5/3-way
CC = Centres Closed
CO = Centres Open
CP = Centres in Pressure

Use connector Mod. 121-8...



Mod.	A	Ports 1-3-5	Ports 2-4	working P. (bar)	Flow rate (Nl/min)	Symbol
E621-11-10-K1..	29	M5	M5	2 ÷ 7	200	EV27
E721-11-10-K1..	29	M5	M5	2 ÷ 7	200	EV31
E821-11-10-K1..	29	M5	M5	2 ÷ 7	200	EV35

CODING EXAMPLE

E	5	2	0	-	11	-	10	-	K	1	3
E	SERIES:										
5	FUNCTION: 5 = 5/2 6 = 5/3 Centres Closed 7 = 5/3 Centres Open 8 = 5/3 Centres in Pressure										
2	SIZE: 2 = 10,5 mm										
0	BODY TYPE: 0 = body for sub-base										
11	ACTUATION: 11 = electropneumatic bistable 16 = electropneumatic monostable 33 = pneumatic bistable - tube Ø 3 36 = pneumatic monostable - tube Ø 3 C33 = pneumatic bistable - tube Ø 4 C36 = pneumatic monostable - tube Ø 4										
10	INTERFACE: 10										
K	TYPE OF SOLENOID: K										
1	SOLENOID DIMENSIONS: 1 = 10x10										
3	SOLENOID VOLTAGE: 1 = 6V DC 2 = 12V DC 3 = 24V DC										

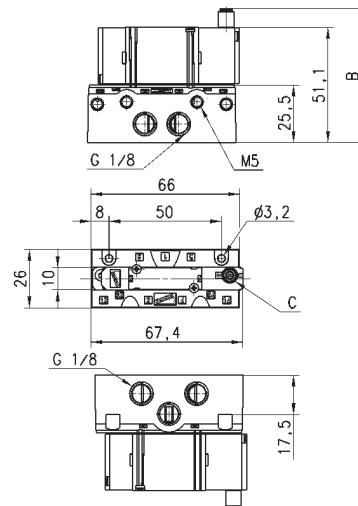
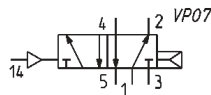
SERIES E VALVES AND SOLENOID VALVES

Pneumatically actuated valve, monostable - size 10,5



5/2-way

The single base is ordered separately from the valve. The pilot pressure should never be lower than the operating pressure.



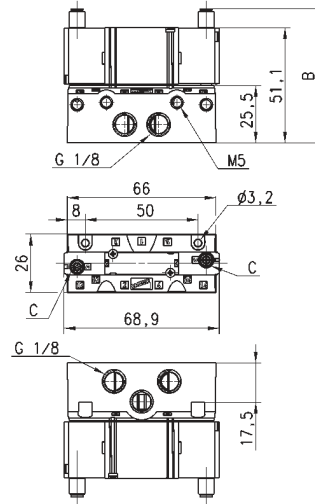
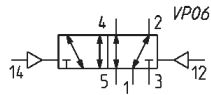
DIMENSIONS						
Mod.	B	C	min. pil P. (bar)	working P. bar	Flow rate (NL/min)	
E520-36	59,5	Ø3	2,5	2,5 ÷ 7	280	
E520-C36	65,2	Ø4	2,5	2,5 ÷ 7	280	

Pneumatically actuated valve, bistable - size 10,5

5/2-way



The single base is ordered separately from the valve.



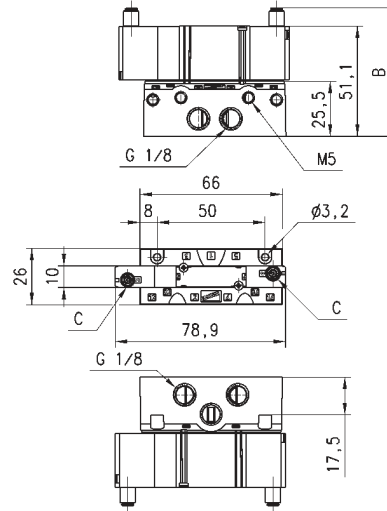
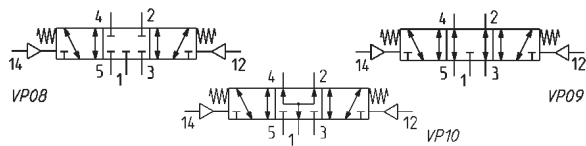
DIMENSIONS					
Mod.	B	C	min. pil P. (bar)	working P. (bar)	Flow rate (NL/min)
E520-33	59,5	Ø3	1	-0,9 ÷ 7	280
E520-C33	65,2	Ø4	1	-0,9 ÷ 7	280

Pneumatically actuated valve - size 10,5

5/3-way
CC = Centres Closed
CO = Centres Open
CP = Centres in Pressure



The single base is ordered separately from the valve.



DIMENSIONS						
Mod.	B	C	min. pil P. (bar)	working P. (bar)	Flow rate (NL/min)	Symbol
E620-33	59,5	Ø3	2	-0,9 ÷ 7	280	VP08
E620-C33	65,5	Ø4	2	-0,9 ÷ 7	280	VP08
E720-33	59,5	Ø3	2	-0,9 ÷ 7	280	VP09
E720-C33	65,5	Ø4	2	-0,9 ÷ 7	280	VP09
E820-33	59,5	Ø3	2	-0,9 ÷ 7	280	VP10
E820-C33	65,5	Ø4	2	-0,9 ÷ 7	280	VP10

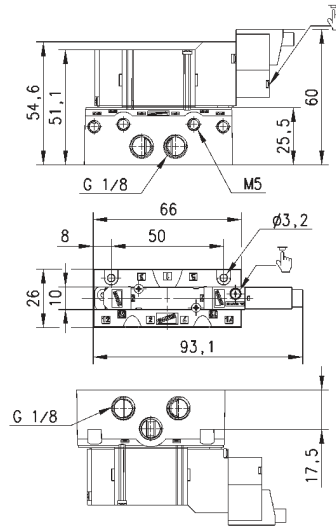
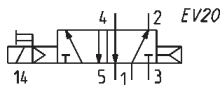
Electropneumatically actuated valve, monostable - size 10,5

5/2-way



In case of separate pilot supply, the pilot pressure should never be lower than the operating pressure.

The single base is ordered separately from the valve.



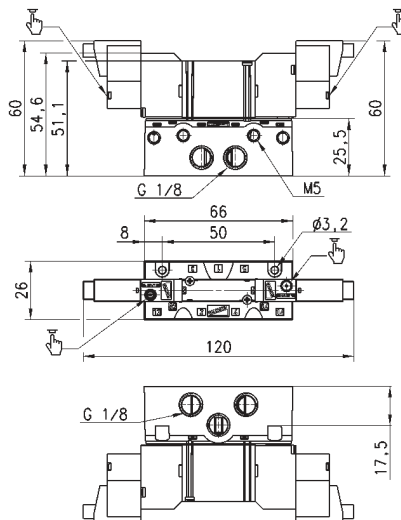
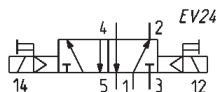
DIMENSIONS		
Mod.	working P. (bar)	Flow rate (l/min)
E520-16-10-K1..	2 ÷ 7	280

Electropneumatically actuated valve, bistable - size 10,5

5/2-way



The single base is ordered separately from the valve.

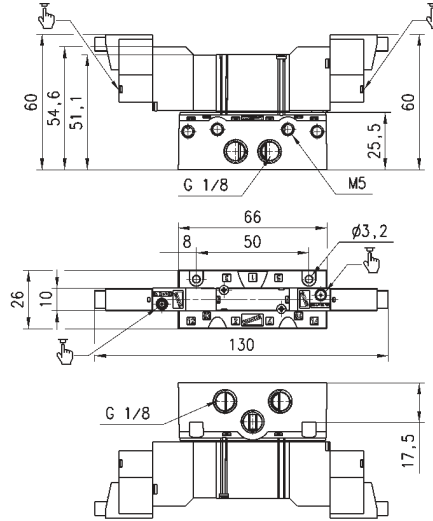


DIMENSIONS		
Mod.	working P. bar	Flow rate l/min
E520-11-10-K1..	2 ÷ 7	280

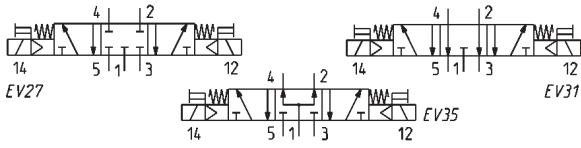
Electropneumatically actuated valve - size 10,5



5/3-way
 CC = Centres Closed
 CO = Centres Open
 CP = Centres in Pressure



The single base is ordered separately from the valve



Mod.	working P. bar	Flow rate NI/min	Symbol
E620-11-10-K1..	2 ÷ 7	280	EV27
E720-11-10-K1..	2 ÷ 7	280	EV31
E820-11-10-K1..	2 ÷ 7	280	EV35

Torque for securing screws on manifolds and single sub-base

Mod.	Size (mm)	Torque (Nm)
E52...	10,5	0,3 ÷ 0,35

CODING EXAMPLE

E5	2	1	-	1	0	02
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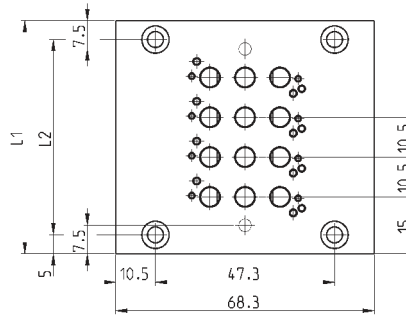
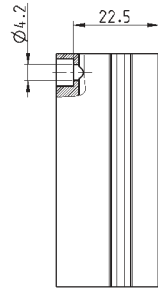
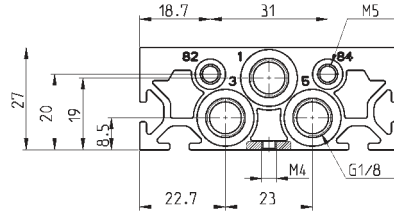
E5	SERIES
2	SIZE: 2 = size 10,5
1	BODY TYPE: 0 = body for sub-base assembly 1 = body with threads or tube port
1	TYPE OF SUB-BASE: 0 = single sub-base with side outlets 1 = manifold for threaded valve 2 = manifold for body mounted valve
0	PORTS: 0 = for valves with outlets on the body 1 = threaded C = tube 4
02	N° OF POSITIONS: 01 = single 03, 04, 06, 08, 10, 12 = multiple

NOTE: When constructing manifolds with 10 or more stations, it is recommended, in order to reduce the risk of pressure drop within the assembly, that pressure is supplied to port 1 at each end of the block. The exhaust ports 3 and 5 at each end should also be utilized (size 10,5 and 16 mm). The same provision should be made for 5 station manifolds of the 19 mm valves. Manifolds complete with ports for external pilot supply are available on request.

Manifolds for valves with outlets on the body Size 10,5



The manifolds have been manufactured with common inlet and exhausts 3 and 5. There are also common exhausts for pilots 82 and 84.



Note: the manifolds are supplied complete with the seals and the valves, fixing screws.

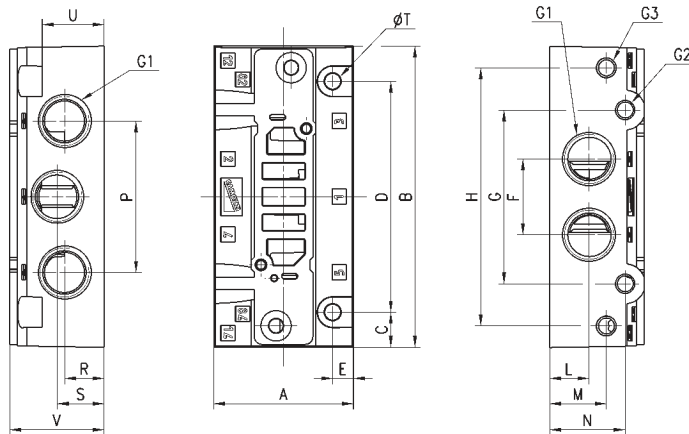
DIMENSIONS

Mod.	Size	Nr positions	02	03	04	05	06	07	08	09	10	11	12
E521-10..	10.5	L1	40.5	51	61.5	72	82.5	93	103.5	114	124.5	135	145.5
E521-10..	10.5	L2	30.5	41	51.5	62	72.5	83	93.5	104	114.5	125	135.5

Single sub-base for base mounted valves - size 10,5



Note: The valve and its single sub-base are available on request.



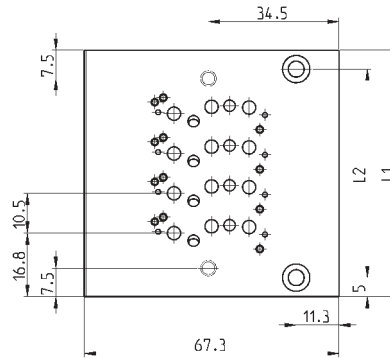
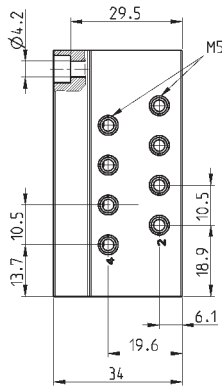
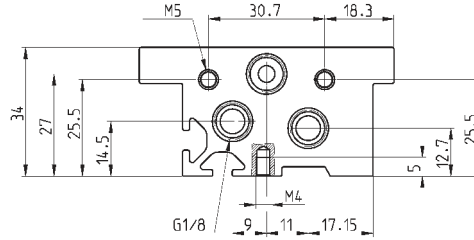
DIMENSIONS																					
Mod.	Size	G1	G2	G3	A	B	C	D	E	F	G	H	L	M	N	P	R	S	T	U	V
E520-0101	10,5	G1/8	M5	M5	26	66	8	50	4	15	37,3	57,3	8,2	17	18	24,5	8,2	17,2	32	17,5	25,5

SERIES E VALVES AND SOLENOID VALVES

Manifolds for base mounted valves size 10,5



The manifolds have been manufactured with common inlet 1 and exhaust 3 and 5. There are also common exhausts for pilots 82 and 84.

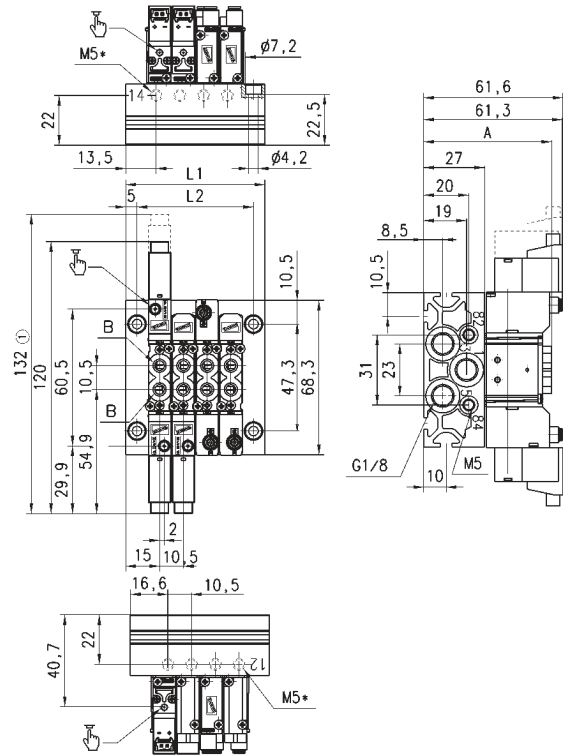


DIMENSIONS

Mod.	Size	Nr positions	02	03	04	05	06	07	08	09	10	11	12
E520-21..	10.5	L1	44	54.5	65	75.5	86	96.5	107	117.5	128	138.5	149
E520-21..	10.5	L2	34	44.5	55	65.5	76	86.5	97	107.5	118	128.5	139
E520-2C..	10.5	L1	44	54.5	65	75.5	86	96.5	107	117.5	128	138.5	149
E520-2C..	10.5	L2	34	44.5	55	65.5	76	86.5	97	107.5	118	128.5	139

Manifolds with valves with outlets on the body - size 10.5

5/2 and 5/3, ports M5

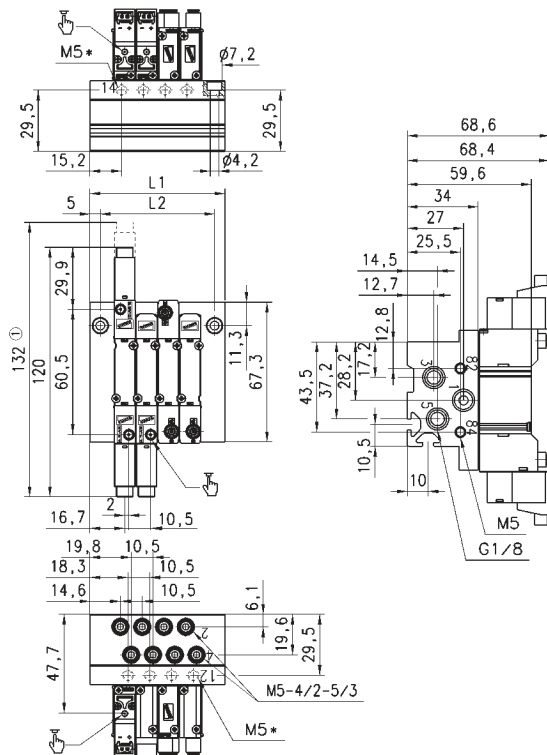


DIMENSIONS					
Mod.	A	B	L1 - L2 N° 1 Position	L1 - L2 N° 2 Positions	Fixed quote for position
E521	56,6	M5	40,5 - 30,5	51 - 41	10,5
E52C	65,1	4/2	40,5 - 30,5	51 - 41	10,5

Size referred to 5/3 valve M5*
Separate pilot supply on request.

Manifolds with valves for subbase - size 10.5

5/2 and 5/3



DIMENSIONS												
N° Positions	2	3	4	5	6	7	8	9	10	11	12	
L1	44	54,5	65	75,5	86	96,5	107	117,5	128	138,5	149	
L2	34	44,5	55	65,5	76	86,5	97	107,5	118	128,5	139	

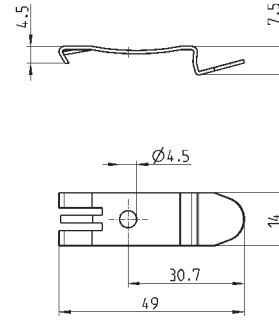
(1) Size referred to 5/3 valve M5* Separate pilot supply on request.

Mounting brackets for DIN rail



DIN EN 50022 (7,5mm x 35mm - width 1)
Suitable for all manifolds.

Supplied with:
2x plates
2x screws M4x6 UNI 5931

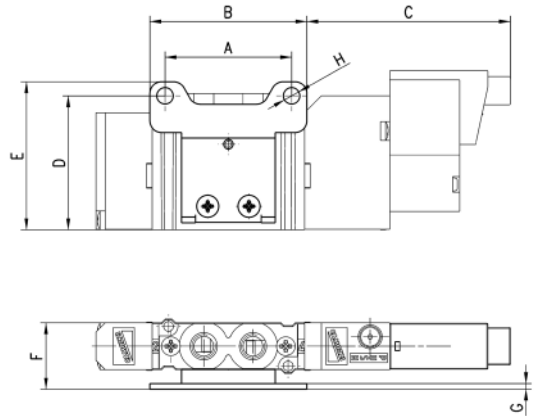


Mod.
PCF-E520

Horizontal mounting foot bracket for valves with outlets on the body



The following is supplied:
1x foot bracket
2x screws.

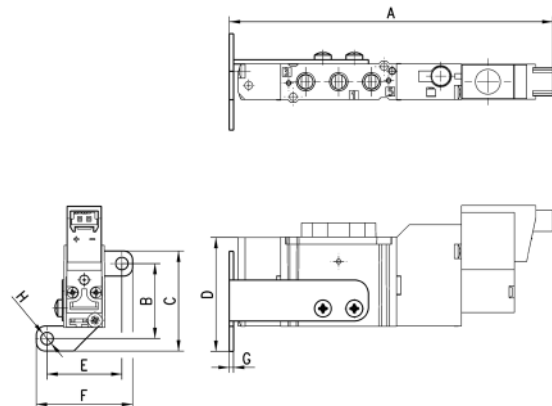


DIMENSIONS									
Mod.	Size	A	B	C	D	E	F	G	H
B1-E521	10,5	27	33,5	43,4	28,5	31,5	14,2	1,2	3,5

Vertical mounting foot bracket for valves with outlets on the body



The following is supplied:
1x foot bracket
2x screws
Monostable valves only.

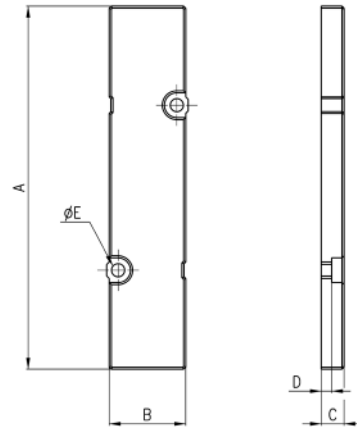


DIMENSIONS									
Mod.	Size	A	B	C	D	E	F	G	H
B2-E521	10,5	90,8	21	28	31,9	21	27	1,2	3,5

Blanking plate for manifolds - valves with outlets on the body



The following is supplied:
 1x blanking plate
 2x screws
 1x seal.

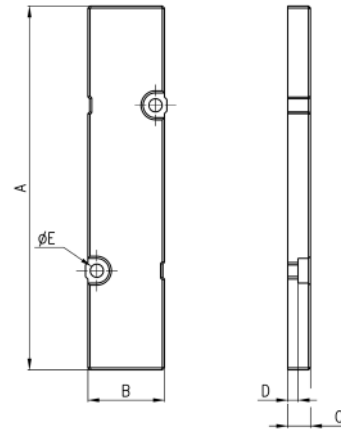


DIMENSIONS						
Mod.	Size	A	B	C	D	ϕE
TP-E521	10,5	66	10	6	3,5	2,1

Blanking plate for manifolds - base mounted valves



The following is supplied:
 1x blanking plate
 2x screws
 1x seal.

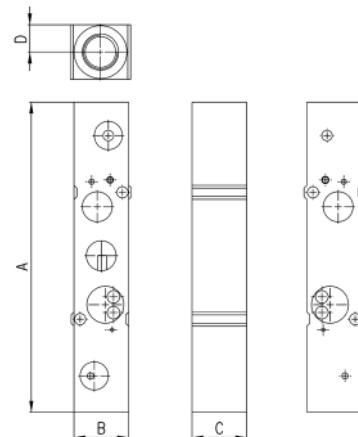


DIMENSIONS						
Mod.	Size	A	B	C	D	ϕE
TP-E520	10,5	66	10	6	3,5	2,1

Intermediate plate for valves to provide a separate supply in 1



Base mounted valves.
 The following is supplied:
 1x plate
 2x screws
 1x interface seal
 2x O-Ring.

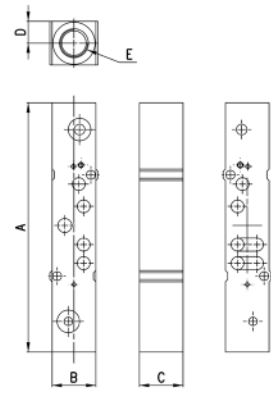


DIMENSIONS						
Mod.	Size	A	B	C	D	E
PCP-E521	10,5	72,5	10	10	5	M5

Intermediate plate for valves to provide a separate supply in 1



Base mounted valves.
The following is supplied:
1x plate
2x screws
1x interface seal
2x OR.

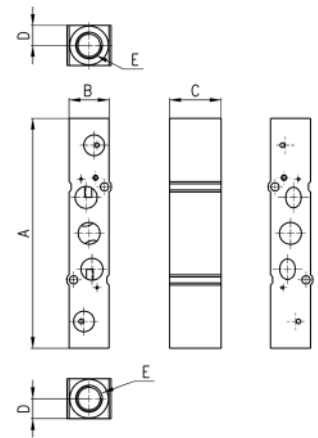


DIMENSIONS						
Mod.	Size	A	B	C	D	E
PCP-E520	10,5	72,5	10	10	5	M5

Intermediate plate for valves to provide separate supply in 3 and 5



Kits for valves with outlets on the body
Mod. E2*1-***.
The following is supplied:
1x plate
2x screws
1x interface seal
2x OR.

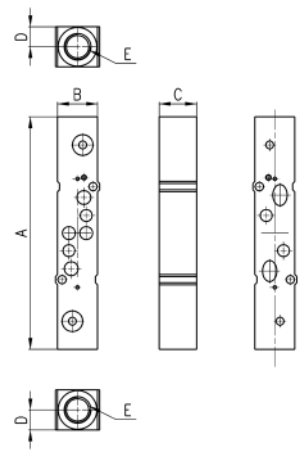


DIMENSIONS						
Mod.	Size	A	B	C	D	E
PCS-E521	10,5	76	10	10	5	M5

Intermediate plate for valves to provide separate supply in 3 and 5



Kits for valves mounted on sub-base
Mod. E2*0-***.
The following is supplied:
1x plate
2x screws
1x interface seal
2x OR.



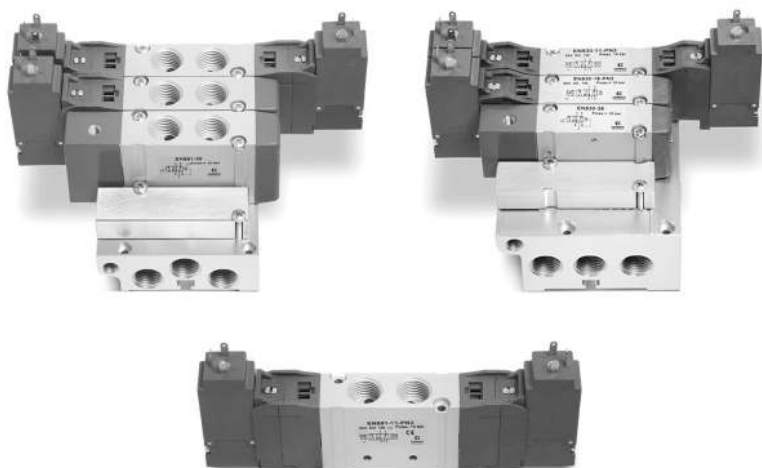
DIMENSIONS						
Mod.	Size	A	B	C	D	E
PCS-E520	10,5	76	10	10	5	M5

Series EN valves and solenoid valves

5/2-way - 5/3-way CC, CO, CP

With outlets on the body - For individual or manifold assembly

Size 16 - 19 mm



- » Mounting on any flat surface
- » Reduced dimensions
- » Aluminium body and end-covers in technopolymer
- » Space saving

Camozzi has developed a new series of valves to be used in applications requiring a reduced space of installation and in situations where the valves need to be located as near as possible to the operating elements. The single valves can be mounted on any flat surface, allowing compact machine design, which is also enhanced by the reduced dimensions of the valve itself.

Thanks to their robust aluminium bodies, the valves Series EN offer the highest reliability.

This new generation of solenoid valves is the evolution of the previous Series E, size 16 - 19 mm valve with ports threaded into the body. As this valve is completely interchangeable with Series E, part of the code is maintained though the valve has a completely new shape and new components.

GENERAL DATA

Construction	spool-type
Valve functions	5/2 - 5/3 CC - 5/3 CO - 5/3 CP
Materials	body, spool, bases = AL end-covers = technopolymer joints = NBR PU
Ports	G1/8 - G1/4
Temperature	0°C min. + 50° C max
Fluid	filtered air without lubricant. If lubricated air is used, it is recommended to use ISOVG32 oil and to never interrupt lubrication.
Voltage	see coding
Voltage tolerance	± 10%
Power consumption	2W, 1W
Class of insulation	class F
Protection class	IP65 with connector DIN 40050

CODING EXAMPLE

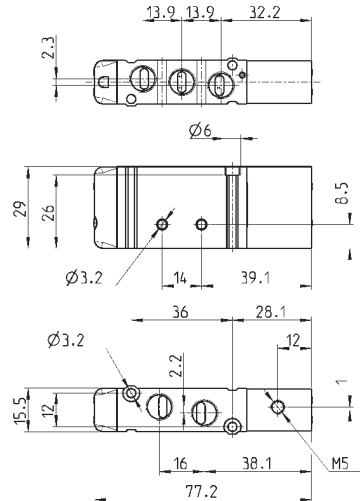
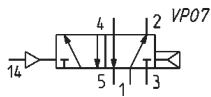
EN	5	3	1	-	11	-	PN3
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EN	SERIES
5	<p>FUNCTION: 5 = 5/2 6 = 5/3 Centre Closed 7 = 5/3 Centre Open 8 = 5/3 Pressure Centre</p>
3	<p>SIZE: 3 = size 16 5 = size 19</p>
1	<p>BODY TYPE: 1 = body with threaded plate</p>
11	<p>ACTUATION: 11 = electro-pneumatic, bistable 16 = electro-pneumatic, monostable 33 = pneumatic bistable 36 = pneumatic monostable E11 = electro-pneumatic, bistable with external servo-pilot supply E16 = electro-pneumatic, monostable with external servo-pilot supply</p>
PN3	<p>TYPE OF SOLENOID: PN3 = 24V DC - 1W PN4 = 48V DC - 1W PN6 = 110V DC - 2W PN7 = 230V - 2W P53 = 24V DC - 1W P54 = 48V DC - 2W P56 = 110V DC - 2W W53 = 24V DC - 2W W54 = 48V DC - 2W</p> <p>In case of applications with alternate current, use a bridge rectifier connector (see pag. 2/2.07.39)</p>

Pneumatically actuated valve, monostable - size 16

5/2-way

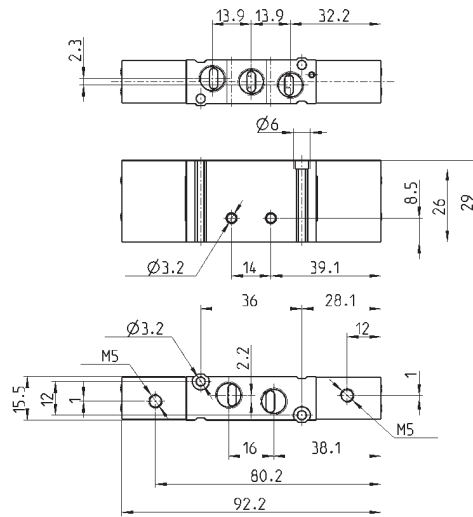
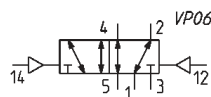
Note: the pilot pressure should never be lower than the operating pressure.



Mod.	Ports	Pilot supply	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NI/min)
EN531-36	G1/8	M5	2,5 ÷ 10	-0,9 ÷ 10	550

Pneumatically actuated valve, bistable - size 16

5/2-way

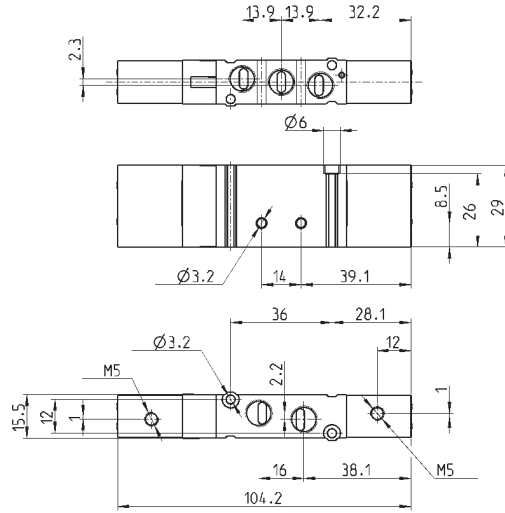
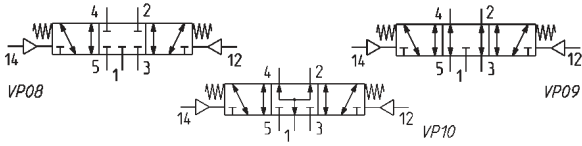


Mod.	Ports	Pilot supply	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NI/min)
EN531-33	G1/8	M5	2 ÷ 10	-0,9 ÷ 10	550

Pneumatically actuated valve - size 16



5/3-way
CC = Centres closed
CO = Centres open
CP = Pressure Centres

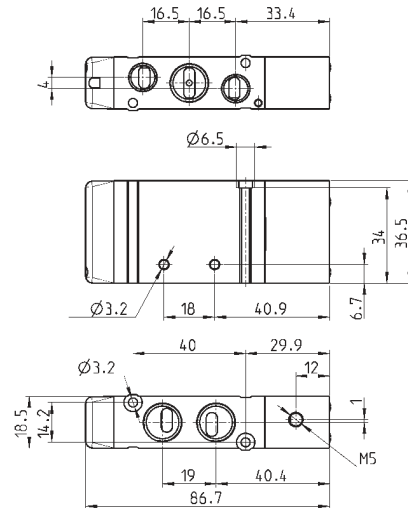
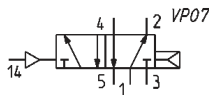


Mod.	Ports	Pilot supply	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NI/min)	Symbol
EN631-33	G1/8	M5	3 ÷ 10	-0.9 ÷ 10	550	VP08
EN731-33	G1/8	M5	3 ÷ 10	-0.9 ÷ 10	550	VP09
EN831-33	G1/8	M5	3 ÷ 10	-0.9 ÷ 10	550	VP10

Pneumatically actuated valve, monostable - size 19



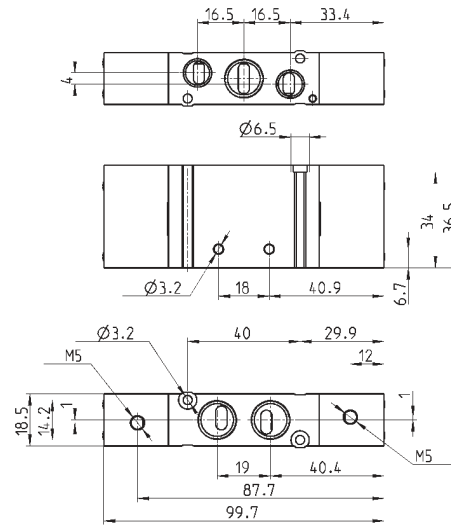
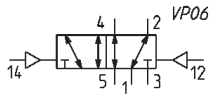
5/2-way
Note: the pilot pressure should never be lower than the operating pressure.



Mod.	Ports 1-2-4	Ports 3-5	Pilot supply	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NI/min)
EN551-36	G1/4	G1/8	M5	2.5 ÷ 10	-0.9 ÷ 10	920

Pneumatically actuated valve, bistable - size 19

5/2-way

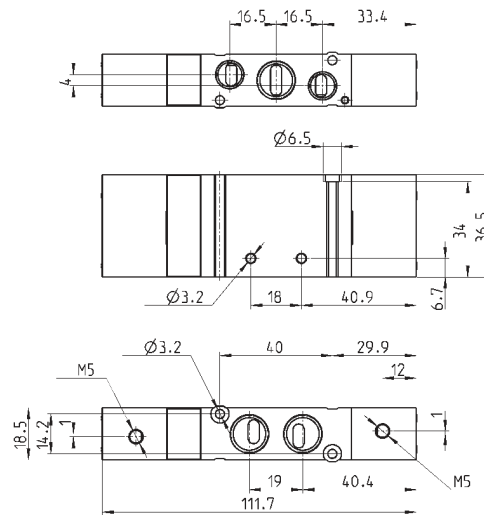
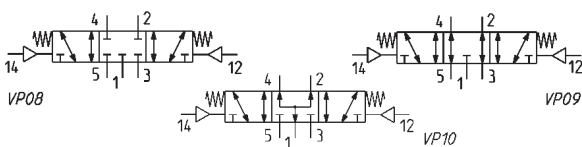


Mod.	Ports 1-2-4	Ports 3-5	Pilot supply	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NL/min)
EN551-33	G1/4	G1/8	M5	2 ÷ 10	-0,9 ÷ 10	920

Pneumatically actuated valve - size 19

5/3-way

CC = Centres closed
 CO = Centres open
 CP = Pressure Centres



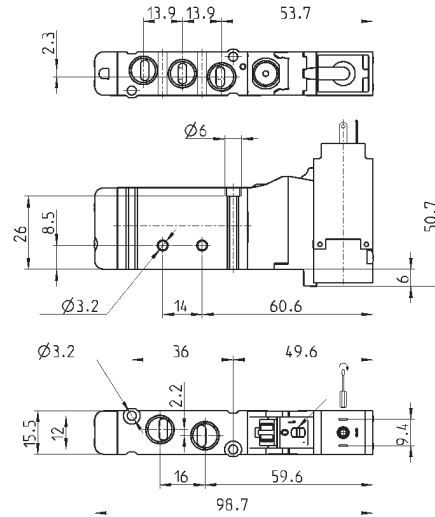
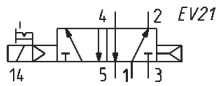
Mod.	Ports 1-2-4	Ports 3-5	Pilot supply	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NL/min)	Symbol
EN651-33	G1/4	G1/8	M5	3 ÷ 10	-0,9 ÷ 10	920	VP08
EN751-33	G1/4	G1/8	M5	3 ÷ 10	-0,9 ÷ 10	920	VP09
EN851-33	G1/4	G1/8	M5	3 ÷ 10	-0,9 ÷ 10	920	VP10

Electro-pneumatically actuated valve, monostable - size 16

5/2-way



Connectors at the end of this section



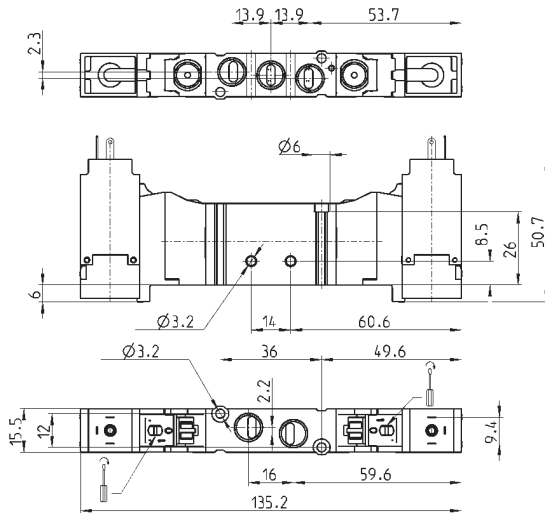
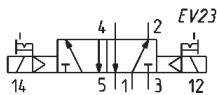
Mod.	Ports	Operating pressure (bar)	Flow (NI/min)
EN531-16-PN..	G1/8	2,5 ÷ 10	550

Electro-pneumatically actuated valve, bistable - size 16

5/2-way



Connectors at the end of this section



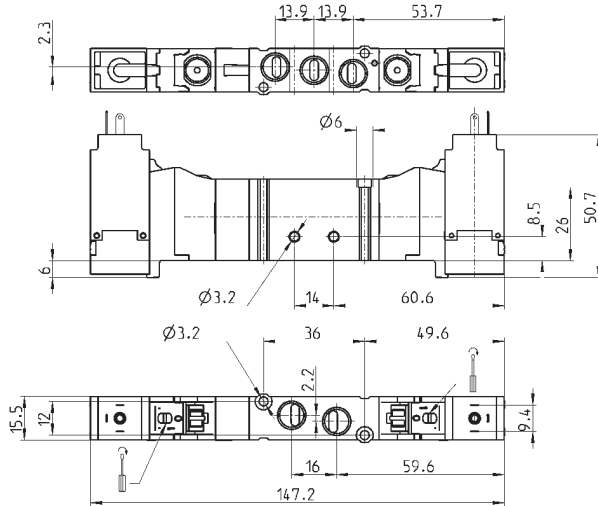
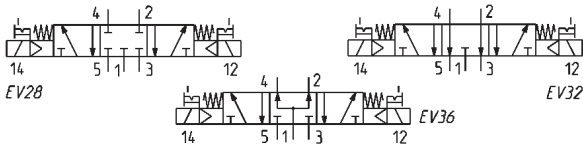
Mod.	Ports	Operating pressure (bar)	Flow (NI/min)
EN531-11-PN..	G1/8	2 ÷ 10	550

Electro-pneumatically actuated valve - size 16

5/3-way
 CC = Centres Closed
 CO = Centres Open
 CP = Pressure Centres



Connectors at the end of this section



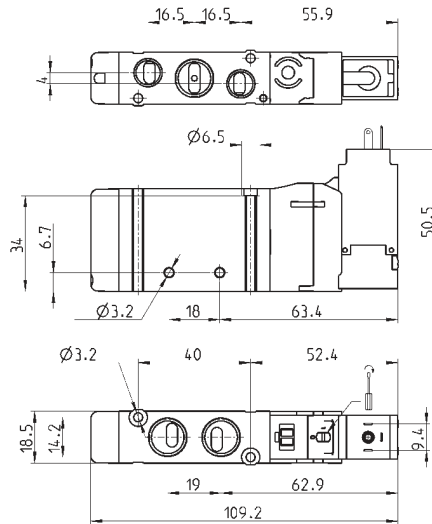
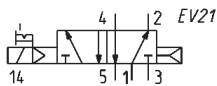
Mod.	Ports	Operating pressure (bar)	Flow (NI/min)	Symbol
EN631-11-PN..	G1/8	3 ÷ 10	550	EV28
EN731-11-PN..	G1/8	3 ÷ 10	550	EV32
EN831-11-PN..	G1/8	3 ÷ 10	550	EV36

Electro-pneumatically actuated valve, monostable - size 19

5/2-way



Connectors at the end of this section



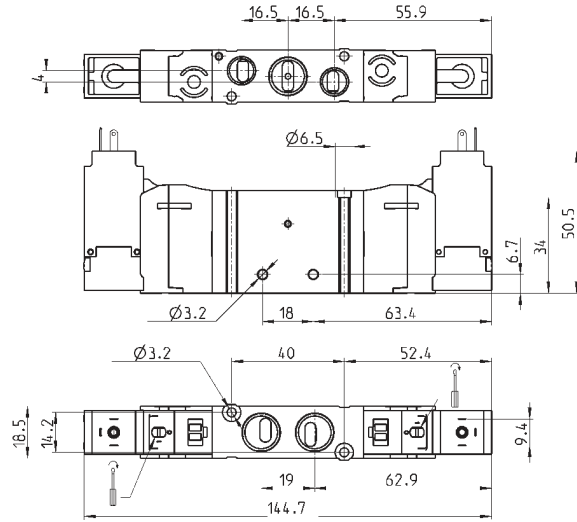
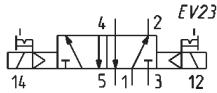
Mod.	Ports 1-2-4	Ports 3-5	Operating pressure (bar)	Flow (NI/min)
EN551-16-PN..	G1/4	G1/8	2,5 ÷ 10	920

Electro-pneumatically actuated valve, bistable - size 19

5/2-way



Connectors at the end of this section



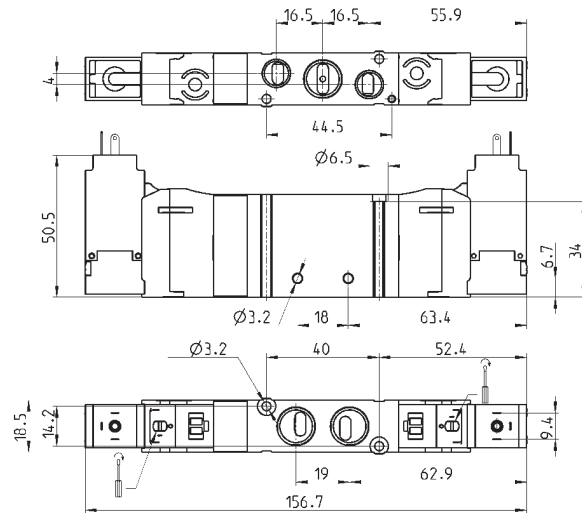
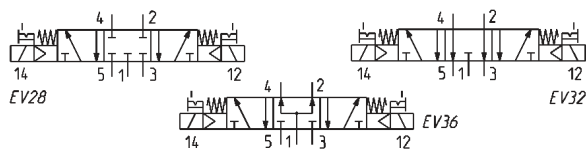
Mod.	Ports 1-2-4	Ports 3-5	Operating pressure (bar)	Flow (NI/min)
EN551-11-PN..	G1/4	G1/8	2 ÷ 10	920

Electro-pneumatically actuated valve - size 19

5/3-way
CC = Centres Closed
CO = Centres Open
CP = Pressure Centres



Connectors at the end of this section



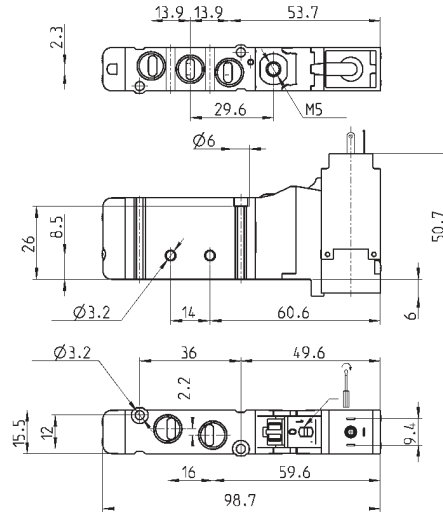
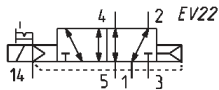
Mod.	Ports 1-2-4	Ports 3-5	Operating pressure (bar)	Flow (NI/min)	Symbol
EN651-11-PN..	G1/4	G1/8	3 ÷ 10	920	EV28
EN751-11-PN..	G1/4	G1/8	3 ÷ 10	920	EV32
EN851-11-PN..	G1/4	G1/8	3 ÷ 10	920	EV36

Electro-pneum. valve, monostable - ext. servo-pilot supply - size 16

5/2-way



Connectors at the end of this section



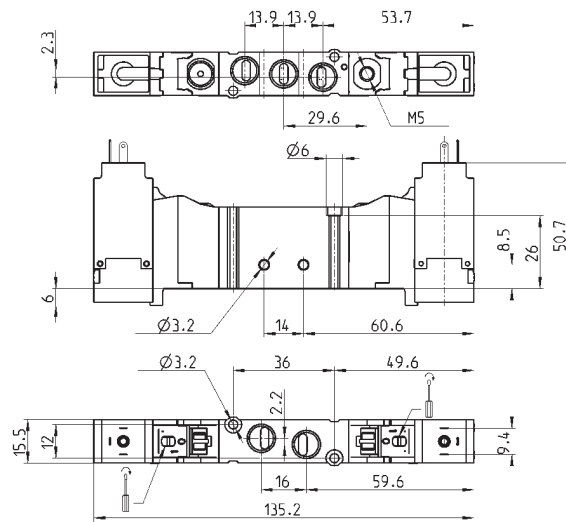
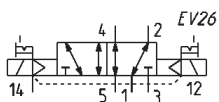
Mod.	Ports	Pilot supply	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NI/min)
EN531-E16-PN..	G1/8	M5	2,5 ÷ 10	-0,9 ÷ 10	550

Electro-pneum. valve, bistable - ext. servo-pilot supply - size 16

5/2-way



Connectors at the end of this section



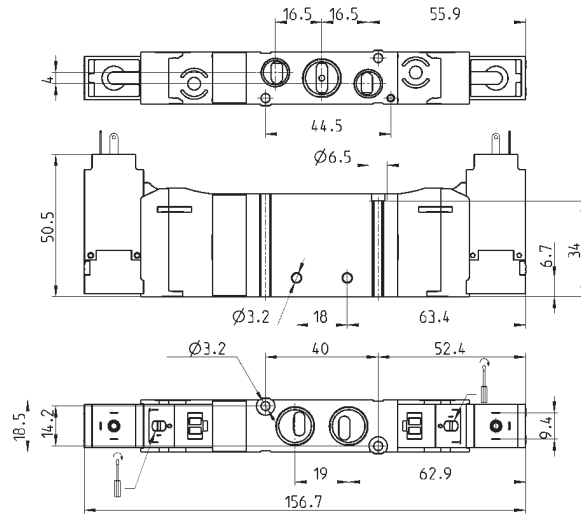
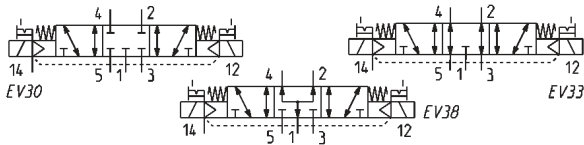
Mod.	Ports	Pilot supply	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NI/min)
EN531-E11-PN..	G1/8	M5	2 ÷ 10	-0,9 ÷ 10	550

Electro-pneum. valve - ext. servo-pilot supply - size 16

5/3-way
CC = Centres Closed
CO = Centres Open
CP = Pressure Centres



Connectors at the end of this section



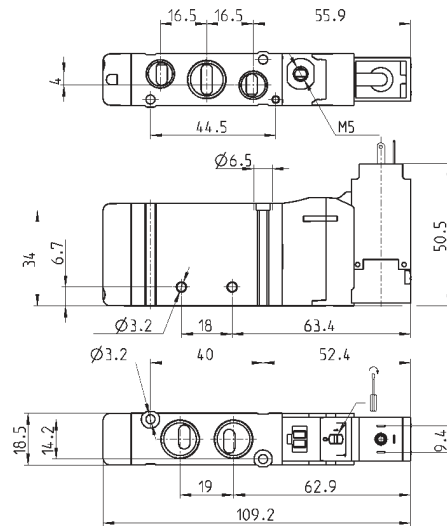
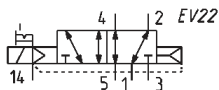
Mod.	Ports	Pilot supply	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NL/min)	Symbol
EN631-E11-PN..	G1/8	M5	3 ÷ 10	-0,9 ÷ 10	550	EV30
EN731-E11-PN..	G1/8	M5	3 ÷ 10	-0,9 ÷ 10	550	EV33
EN831-E11-PN..	G1/8	M5	3 ÷ 10	-0,9 ÷ 10	550	EV38

Electro-pneum. valve, monostable - ext. servo-pilot supply - size 19

5/2-way



Connectors at the end of this section



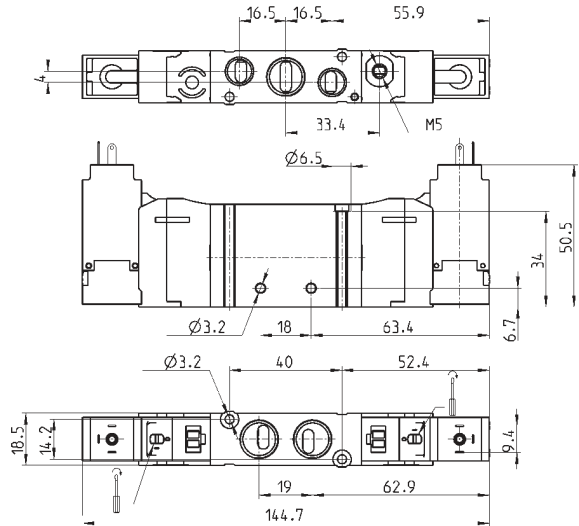
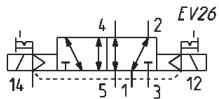
Mod.	Ports 1-2-4	Ports 3-5	Pilot supply	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NL/min)
EN551-E16-PN..	G1/4	G1/8	M5	2,5 ÷ 10	-0,9 ÷ 10	920

Electro-pneum. valve, bistable - ext. servo-pilot supply - size 19

5/2-way



Connectors at the end of this section



Mod.	Ports 1-2-4	Ports 3-5	Pilot supply	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NL/min)
EN551-E11-PN..	G1/4	G1/8	M5	2 ÷ 10	-0,9 ÷ 10	920

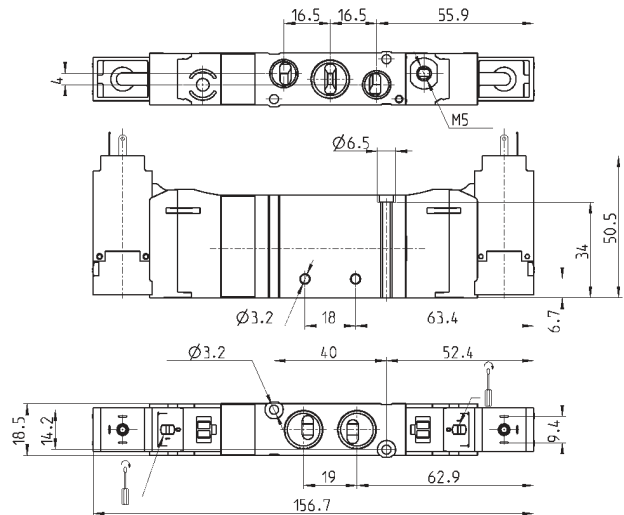
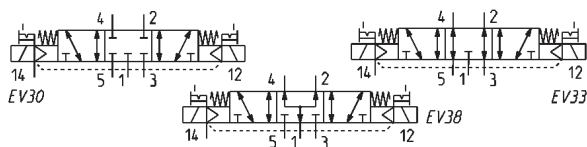
Electro-pneum. valve - ext. servo-pilot supply - size 19

5/3-way

CC = Centres Closed
CO = Centres Open
CP = Pressure Centres



Connectors at the end of this section



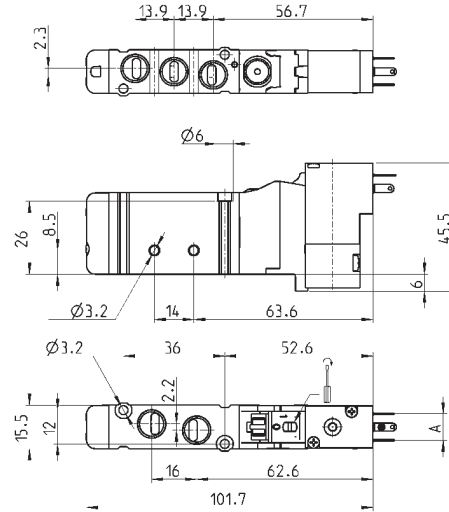
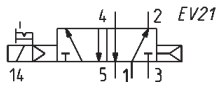
Mod.	Ports 1-2-4	Ports 3-5	Pilot supply	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NL/min)	Symbol
EN651-E11-PN..	G1/4	G1/8	M5	3 ÷ 10	-0,9 ÷ 10	920	EV30
EN751-E11-PN..	G1/4	G1/8	M5	3 ÷ 10	-0,9 ÷ 10	920	EV33
EN851-E11-PN..	G1/4	G1/8	M5	3 ÷ 10	-0,9 ÷ 10	920	EV38

Electro-pneum. valve, monostable, solenoid P, W - size 16

5/2-way



Connectors at the end of this section



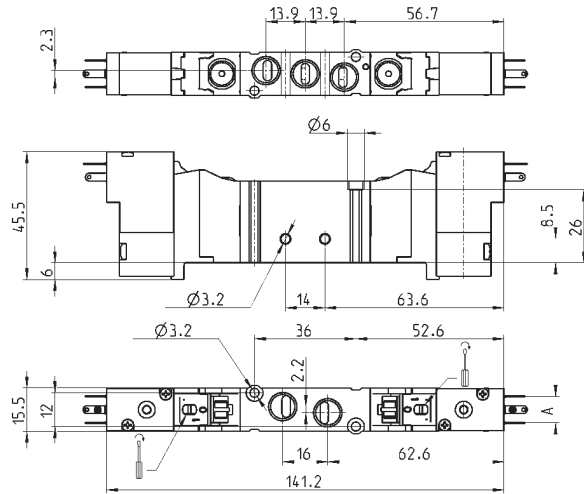
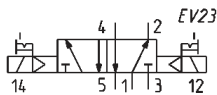
Mod.	Ports	A	Operating pressure (bar)	Flow (NL/min)
EN531-16-P13	G1/8	9,4	2,5 ÷ 10	550
EN531-16-P54	G1/8	9,4	2,5 ÷ 10	550
EN531-16-P56	G1/8	9,4	2,5 ÷ 10	550
EN531-16-W53	G1/8	8	2,5 ÷ 10	550
EN531-16-W54	G1/8	8	2,5 ÷ 10	550

Electro-pneum. valve, bistable, solenoid P, W - size 16

5/2-way



Connectors at the end of this section



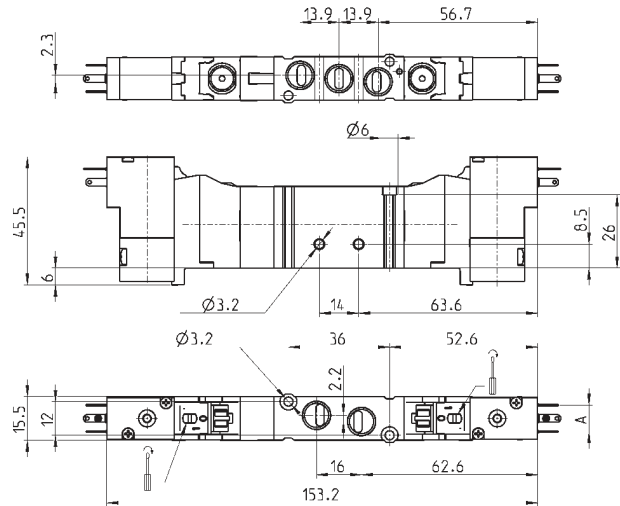
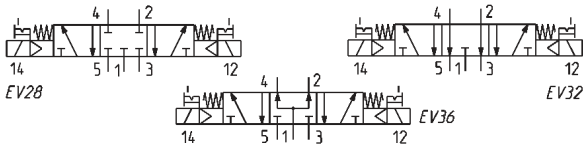
Mod.	Ports	A	Operating pressure (bar)	Flow (NL/min)
EN531-11-P13	G1/8	9,4	2 ÷ 10	550
EN531-11-P54	G1/8	9,4	2 ÷ 10	550
EN531-11-P56	G1/8	9,4	2 ÷ 10	550
EN531-11-W53	G1/8	8	2 ÷ 10	550
EN531-11-W54	G1/8	8	2 ÷ 10	550

Electro-pneumatic valve, solenoid P, W - size 16



5/3-way
 CC = Centres Closed
 CO = Centres Open
 CP = Pressure Centres

Connectors at the end of this section



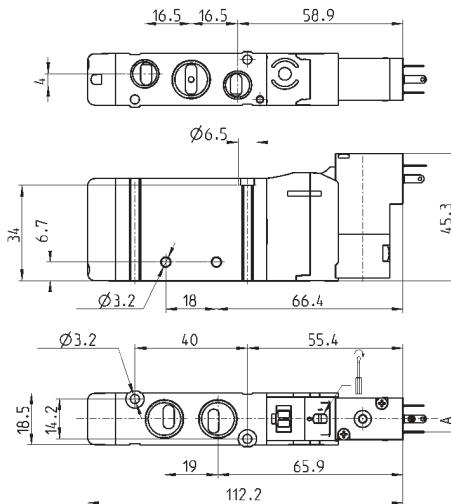
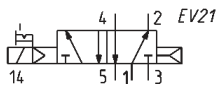
Mod.	Ports	A	Operating pressure (bar)	Flow (NL/min)	Symbol
EN631-11-P..	G1/8	9,4	3 ÷ 10	550	EV28
EN731-11-P..	G1/8	9,4	3 ÷ 10	550	EV32
EN831-11-P..	G1/8	9,4	3 ÷ 10	550	EV36
EN631-11-W..	G1/8	8	3 ÷ 10	550	EV28
EN731-11-W..	G1/8	8	3 ÷ 10	550	EV32
EN831-11-W..	G1/8	8	3 ÷ 10	550	EV36

Electro-pneum. valve, monostable, solenoid P, W - size 19

5/2-way



Connectors at the end of this section



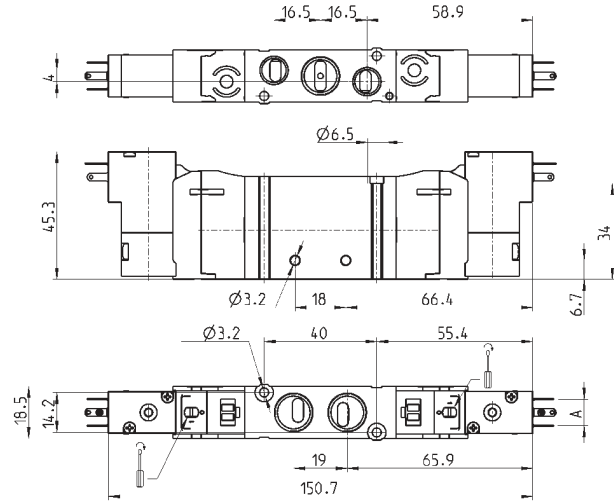
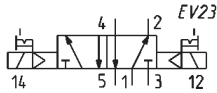
Mod.	Ports 1-2-4	Ports 3-5	A	Operating pressure (bar)	Flow (NL/min)
EN551-16-P13	G1/4	G1/8	9,4	2,5 ÷ 10	920
EN551-16-P54	G1/4	G1/8	9,4	2,5 ÷ 10	920
EN551-16-P56	G1/4	G1/8	9,4	2,5 ÷ 10	920
EN551-16-W53	G1/4	G1/8	8	2,5 ÷ 10	920
EN551-16-W54	G1/4	G1/8	8	2,5 ÷ 10	920

Electro-pneum. valve, bistable, solenoid P, W - size 19

5/2-way



Connectors at the end of this section



Mod.	Ports 1-2-4	Ports 3-5	A	Operating pressure (bar)	Flow (NL/min)
EN551-11-P13	G1/4	G1/8	9,4	2 ÷ 10	920
EN551-11-P54	G1/4	G1/8	9,4	2 ÷ 10	920
EN551-11-P56	G1/4	G1/8	9,4	2 ÷ 10	920
EN551-11-W53	G1/4	G1/8	8	2 ÷ 10	920
EN551-11-W54	G1/4	G1/8	8	2 ÷ 10	920

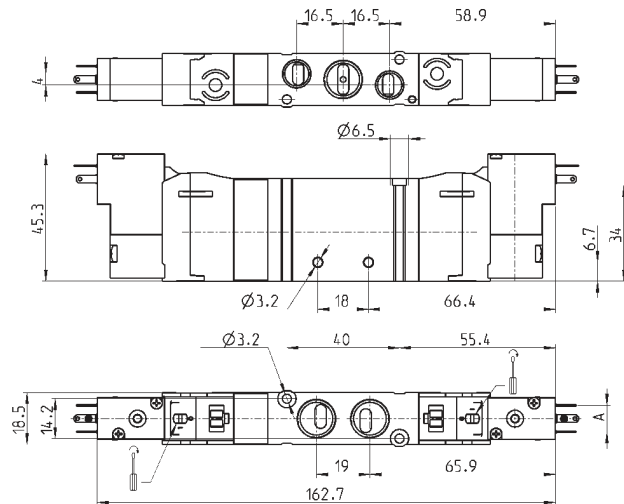
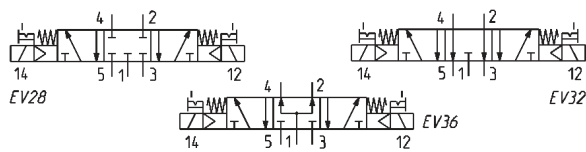
Electro-pneumatic valve, solenoid P, W - size 19

5/3-way

CC = Centres Closed
CO = Centres Open
CP = Pressure Centres



Connectors at the end of this section



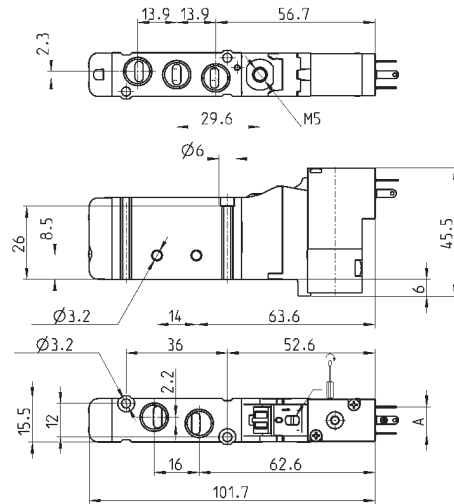
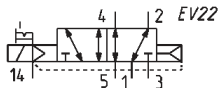
Mod.	Ports 1-2-4	Ports 3-5	A	Operating pressure (bar)	Flow (NL/min)	Symbol
EN651-11-P.	G1/4	G1/8	9,4	3 ÷ 10	920	EV28
EN751-11-P.	G1/4	G1/8	9,4	3 ÷ 10	920	EV32
EN851-11-P.	G1/4	G1/8	9,4	3 ÷ 10	920	EV36
EN651-11-W.	G1/4	G1/8	8	3 ÷ 10	920	EV28
EN751-11-W.	G1/4	G1/8	8	3 ÷ 10	920	EV32
EN851-11-W.	G1/4	G1/8	8	3 ÷ 10	920	EV36

Electro-pneum. valve, monost. ext. servo-pilot sup., sol. P/W - size 16

5/2-way



Connectors at the end of this section



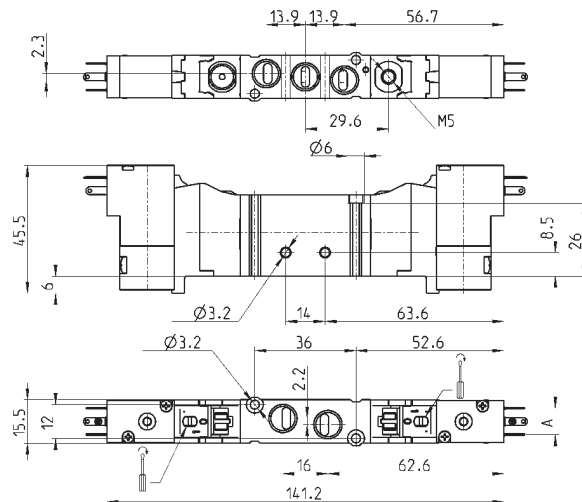
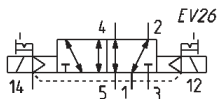
Mod.	Ports	A	Pilot supply	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NI/min)
EN531-E16-P.	G1/8	9,4	M5	2,5 ÷ 10	-0,9 ÷ 10	550
EN531-E16-W.	G1/8	8	M5	2,5 ÷ 10	-0,9 ÷ 10	550

Electro-pneum. valve, bistable ext. servo-pilot sup., sol. P/W - size 16

5/2-way



Connectors at the end of this section

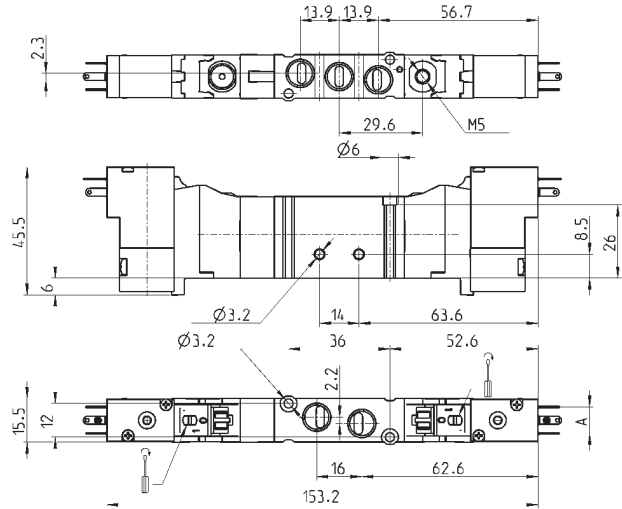


Mod.	Ports	A	Pilot supply	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NI/min)
EN531-E11-P.	G1/8	9,4	M5	2 ÷ 10	-0,9 ÷ 10	550
EN531-E11-W.	G1/8	8	M5	2 ÷ 10	-0,9 ÷ 10	550

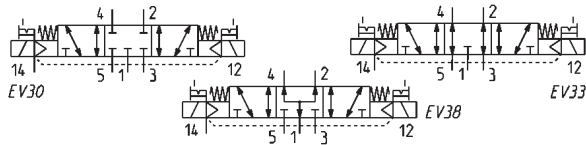
Electro-pneum. valve, ext. servo-pilot supply, solenoid P, W - size 16



5/3-way
CC = Centres Closed
CO = Centres Open
CP = Pressure Centres



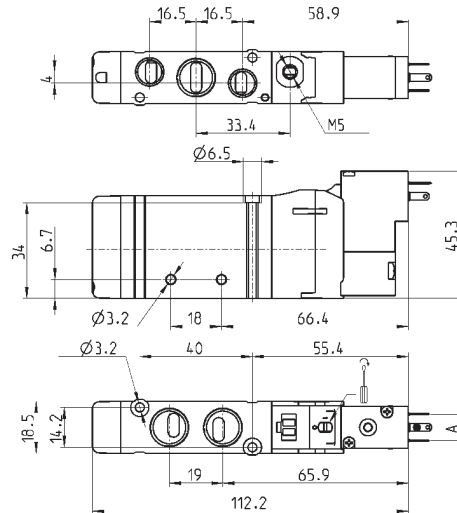
Connectors at the end of this section



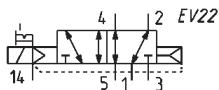
Mod.	Ports	A	Pilot supply	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NL/min)	Symbol
EN631-E11-P..	G1/8	9,4	M5	3 ÷ 10	-0,9 ÷ 10	550	EV30
EN731-E11-P..	G1/8	9,4	M5	3 ÷ 10	-0,9 ÷ 10	550	EV33
EN831-E11-P..	G1/8	9,4	M5	3 ÷ 10	-0,9 ÷ 10	550	EV38
EN631-E11-W..	G1/8	8	M5	3 ÷ 10	-0,9 ÷ 10	550	EV30
EN731-E11-W..	G1/8	8	M5	3 ÷ 10	-0,9 ÷ 10	550	EV33
EN831-E11-W..	G1/8	8	M5	3 ÷ 10	-0,9 ÷ 10	550	EV38

Electro-pneum. valve, monost. ext. servo-pilot sup., sol. P/W - size 19

5/2-way



Connectors at the end of this section



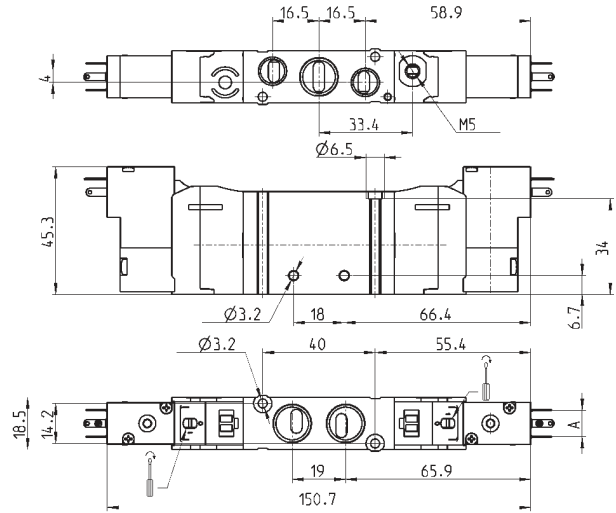
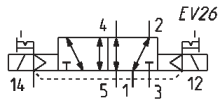
Mod.	Ports 1-2-4	Ports 3-5	A	Pilot supply	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NL/min)
EN551-E16-P..	G1/4	G1/8	9,4	M5	2,5 ÷ 10	-0,9 ÷ 10	920
EN551-E16-W..	G1/4	G1/8	8	M5	2,5 ÷ 10	-0,9 ÷ 10	920

Electro-pneum. valve, bistable ext. servo-pilot sup., sol. P/W - size 19

5/2-way



Connectors at the end of this section



Mod.	Ports 1-2-4	Ports 3-5	A	Pilot supply	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NL/min)
EN551-E11-P.	G1/4	G1/8	9,4	M5	2 ÷ 10	-0,9 ÷ 10	920
EN551-E11-W.	G1/4	G1/8	8	M5	2 ÷ 10	-0,9 ÷ 10	920

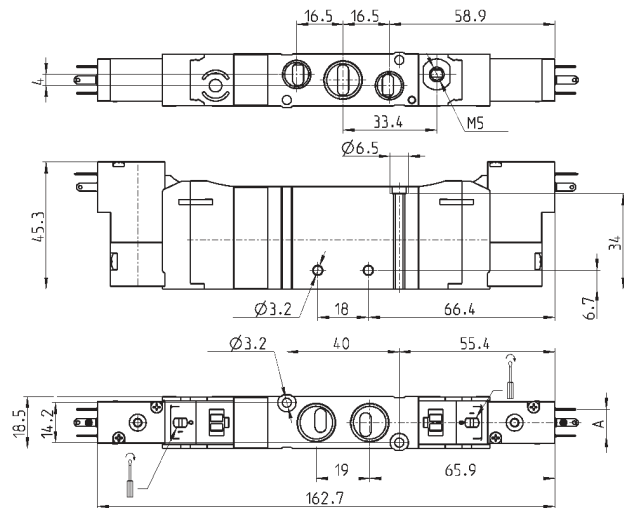
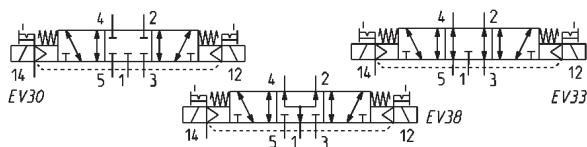
Electro-pneum. valve, ext. servo-pilot supply, solenoid P, W - size 19

5/3-way

CC = Centres Closed
CO = Centres Open
CP = Pressure Centres

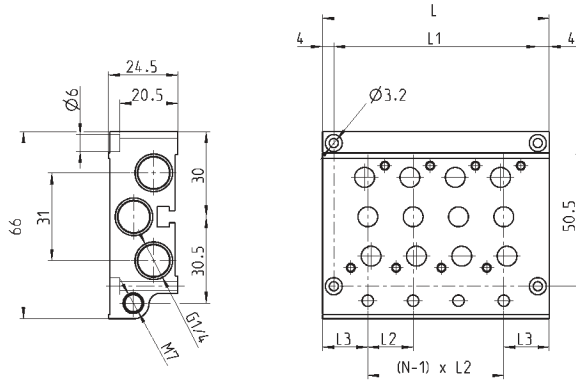


Connectors at the end of this section



Mod.	Ports 1-2-4	Ports 3-5	A	Pilot supply	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NL/min)	Symbol
EN651-E11-P.	G1/4	G1/8	9,4	M5	3 ÷ 10	-0,9 ÷ 10	920	EV30
EN751-E11-P.	G1/4	G1/8	9,4	M5	3 ÷ 10	-0,9 ÷ 10	920	EV33
EN851-E11-P.	G1/4	G1/8	9,4	M5	3 ÷ 10	-0,9 ÷ 10	920	EV38
EN651-E11-W.	G1/4	G1/8	8	M5	3 ÷ 10	-0,9 ÷ 10	920	EV30
EN751-E11-W.	G1/4	G1/8	8	M5	3 ÷ 10	-0,9 ÷ 10	920	EV33
EN851-E11-W.	G1/4	G1/8	8	M5	3 ÷ 10	-0,9 ÷ 10	920	EV38

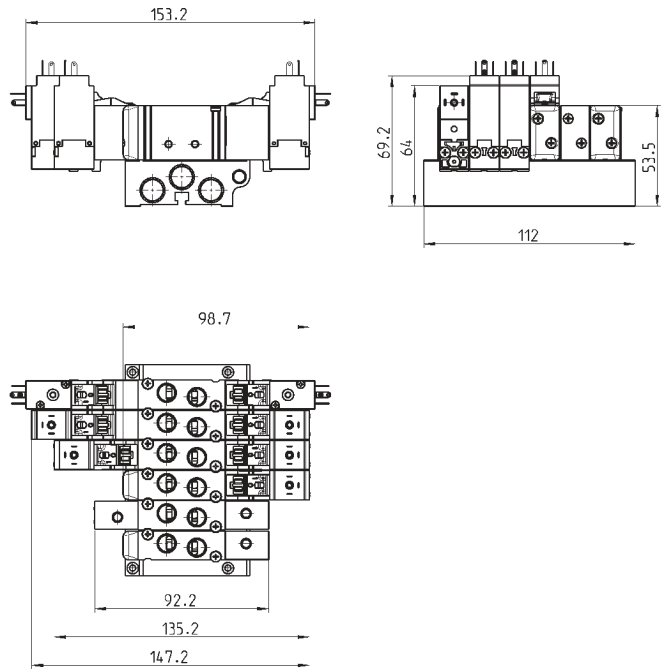
Manifold for valves size 16 and 19 (outlets on the body valve)



Mod.	Nr of valve positions	L	L1	L2	L3
EN531-1002	2	48	40	16	16
EN531-1003	3	64	56	16	16
EN531-1004	4	80	72	16	16
EN531-1005	5	96	88	16	16
EN531-1006	6	112	104	16	16
EN531-1008	8	144	136	16	16
EN531-1010	10	176	168	16	16
EN531-1012	12	208	200	16	16
EN551-1002	2	53	45	19	17
EN551-1003	3	72	64	19	17
EN551-1004	4	91	83	19	17
EN551-1005	5	110	102	19	17
EN551-1006	6	129	121	19	17
EN551-1008	8	167	159	19	17
EN551-1010	10	205	197	19	17
EN551-1012	12	243	235	19	17

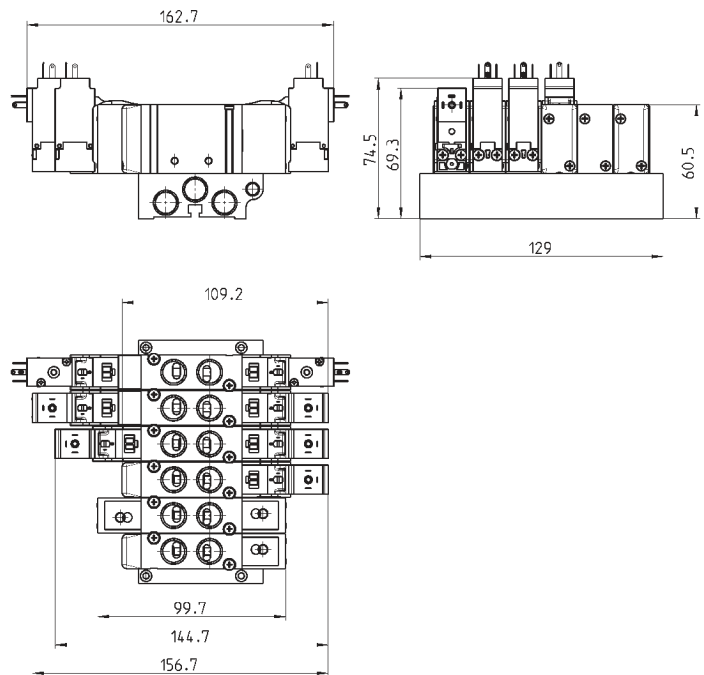
Manifolds complete with valves with outlets on the body - size 16

ports G1/8



Manifolds complete with valves with outlets on the body - size 19

ports G1/4



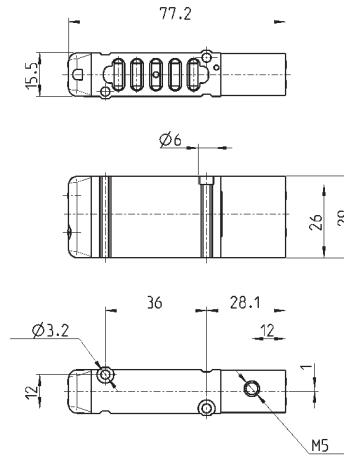
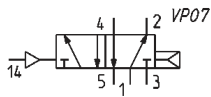
CODING EXAMPLE

EN	5	3	0	-	11	-	PN3
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EN	SERIES
5	<p>FUNCTION: 5 = 5/2 6 = 5/3 Centre Closed 7 = 5/3 Centre Open 8 = 5/3 Pressure Centre</p>
3	<p>SIZE: 3 = size 16 5 = size 19</p>
0	<p>BODY TYPE: 0 = body for sub-base</p>
11	<p>ACTUATION: 11 = electro-pneumatic, bistable 16 = electro-pneumatic, monostable 33 = pneumatic bistable 36 = pneumatic monostable E11 = electro-pneumatic, bistable with external servo-pilot supply E16 = electro-pneumatic, monostable with external servo-pilot supply</p>
PN3	<p>TYPE OF SOLENOID: PN3 = 24V DC - 1W PN4 = 48V DC - 2W PN6 = 110V DC - 2W PN7 = 230V - 2W P13 = 24V DC - 1W P54 = 48V DC - 2W P56 = 110V DC - 2W W53 = 24V DC - 2W W54 = 48V DC - 2W</p> <p>In case of applications with alternate current, use a bridge rectifier connector (see connectors at the end of this section)</p>

Monostable pneumatic valve with outlets on sub-base - size 16

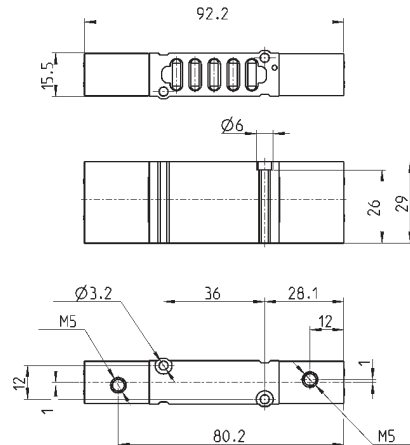
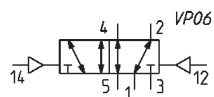
5/2-way



Mod.	Pilot supply	min. pilot Pressure (bar)	Working pressure (bar)	Flow rate (NI/min)
EN530-36	M5	2,5	2,5 ÷ 10	610

Bistable pneumatic valve with outlets on sub-base - size 16

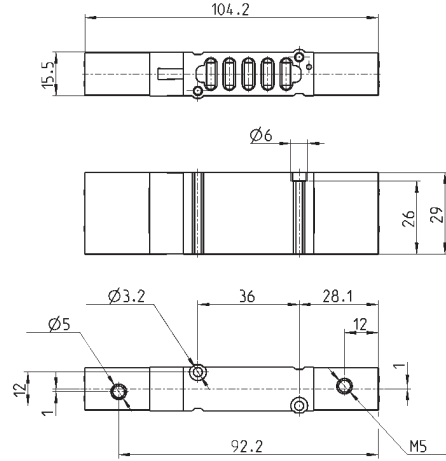
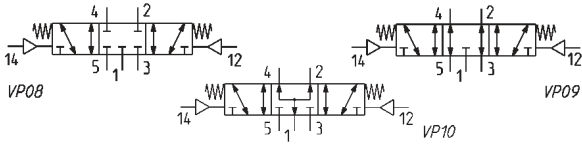
5/2-way



Mod.	Pilot supply	min. pilot pressure (bar)	Working pressure (bar)	Flow rate (NI/min)
EN530-33	M5	2	-0,9 ÷ 10	610

Pneumatically actuated valve with outlets on sub-base - size 16

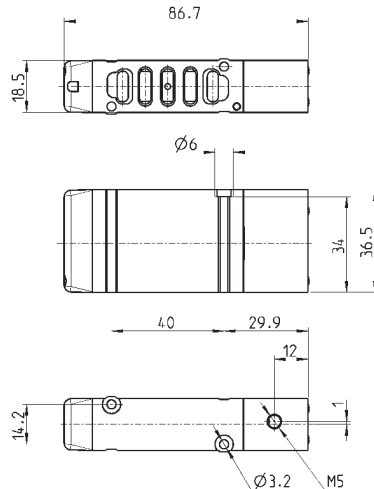
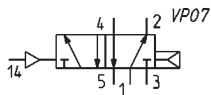
5/3-way
CC = Centres Closed
CO = Centres Open
CP = Centres in Pressure



Mod.	Pilot supply	min. pilot pressure (bar)	Working pressure (bar)	Flow rate (NI/min)	Symbol
EN630-33	M5	3	-0,9 ÷ 10	610	VP08
EN730-33	M5	3	-0,9 ÷ 10	610	VP09
EN830-33	M5	3	-0,9 ÷ 10	610	VP10

Pneumatic valve, monostable with outlets on sub-base - size 19

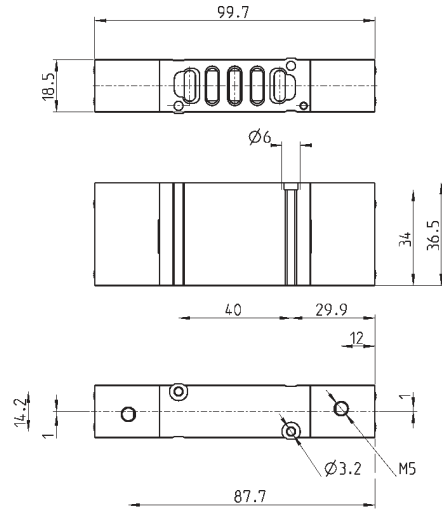
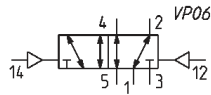
5/2-way



Mod.	Pilot supply	min. pilot pressure (bar)	working P. (bar)	Flow rate (NI/min)
EN550-36	M5	2,5	2 ÷ 10	1000

Pneumatic valve, bistable with outlets on sub-base - size 19

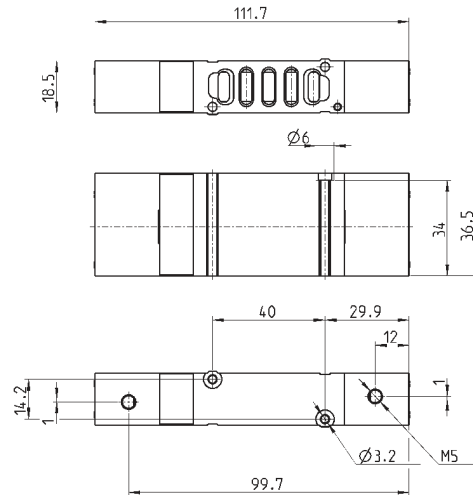
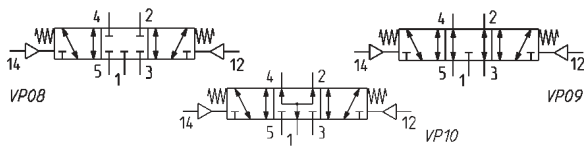
5/2-way



Mod.	Pilot supply	min. pilot pressure (bar)	Working pressure (bar)	Flow rate NI/min
EN550-33	M5	2	-0,9 ÷ 10	1000

Pneumatically actuated valve with outlets on sub-base - size 19

5/3-way
 CC = Centres Closed
 CO = Centres Open
 CP = Centres in Pressure



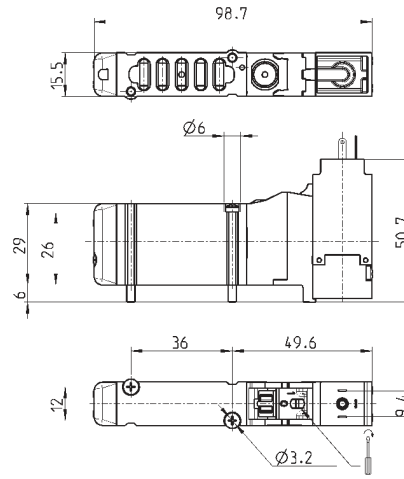
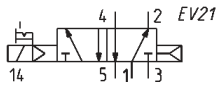
Mod.	Pilot supply	min. pilot pressure (bar)	working P. bar	Flow rate NI/min	Symbol
EN650-33	M5	3	-0,9 ÷ 10	1000	VP08
EN750-33	M5	3	-0,9 ÷ 10	1000	VP09
EN850-33	M5	3	-0,9 ÷ 10	1000	VP10

Electropneumatic valve, monostable with outlets on sub-base - s. 16

5/2-way



Connectors at the end of this section



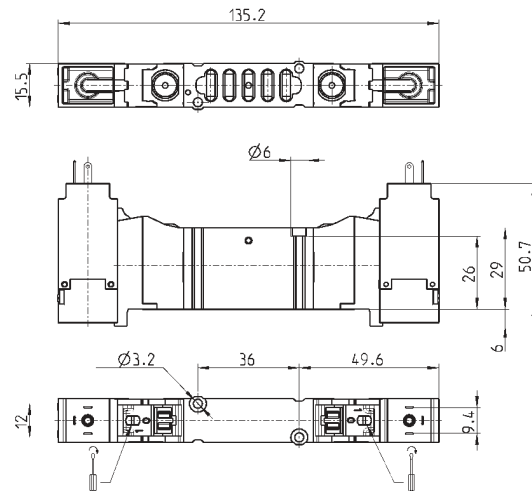
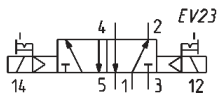
Mod.	Working pressure (bar)	Flow rate (NI/min)
EN530-16-PN..	2,5 ÷ 10	610

Electropneumatic valve, bistable with outlets on sub-base - size 16

5/2-way



Connectors at the end of this section

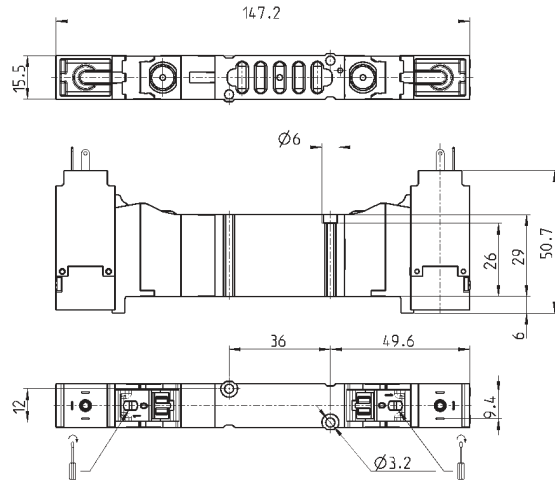


Mod.	Working pressure (bar)	Flow rate (NI/min)
EN530-11-PN..	2 ÷ 10	610

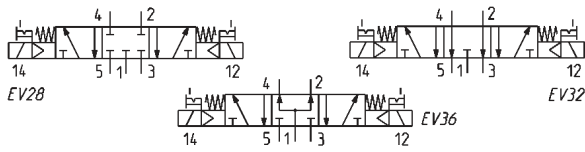
Electropneumatically valve with outlets on sub-base - size 16



5/3-way
 CC = Centres Closed
 CO = Centres Open
 CP = Centres in Pressure



Connectors at the end of this section



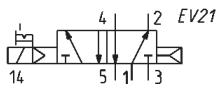
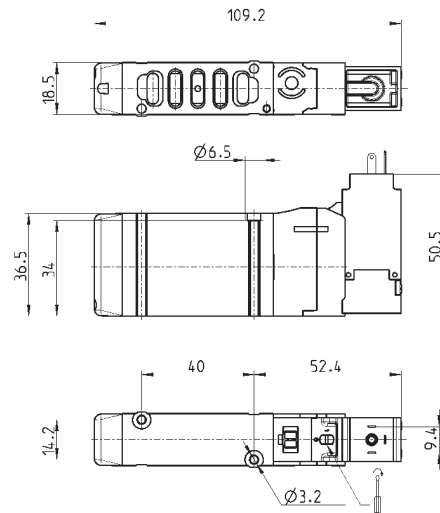
Mod.	Working pressure (bar)	Flow rate (NL/min)	Symbol
EN630-11-PN..	3 ÷ 10	610	EV28
EN730-11-PN..	3 ÷ 10	610	EV32
EN830-11-PN..	3 ÷ 10	610	EV36

Electropneumatic valve, monostable with outlets on sub-base - s. 19

5/2-way



Connectors at the end of this section



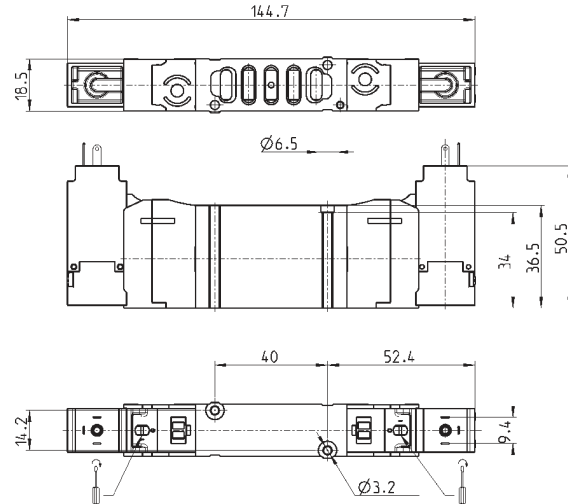
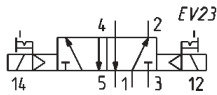
Mod.	Working pressure (bar)	Flow rate (NL/min)
EN550-16-PN..	2,5 ÷ 10	1000

Electropneumatic valve, bistable with outlets on sub-base - size 19

5/2-way



Connectors at the end of this section



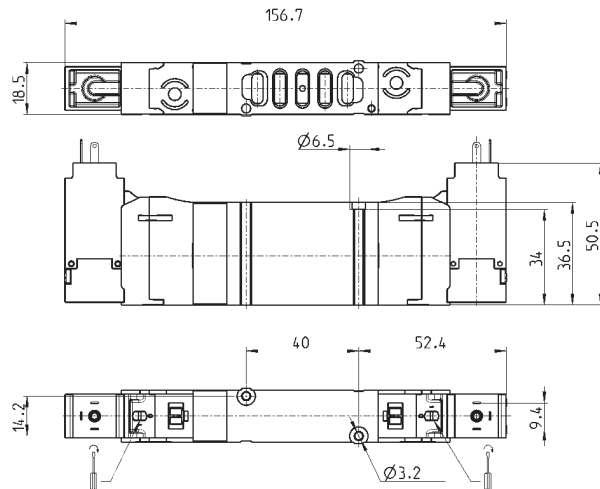
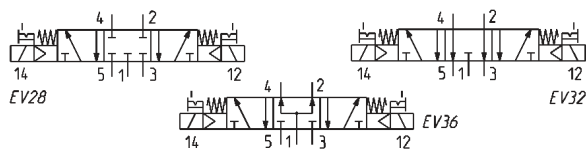
Mod.	Working pressure (bar)	Flow rate (NL/min)
EN550-11-PN..	2 ÷ 10	1000

Electropneumatic valve with outlets on sub-base - size 19

5/3-way
CC = Centres Closed
CO = Centres Open
CP = Centres in Pressure



Connectors at the end of this section



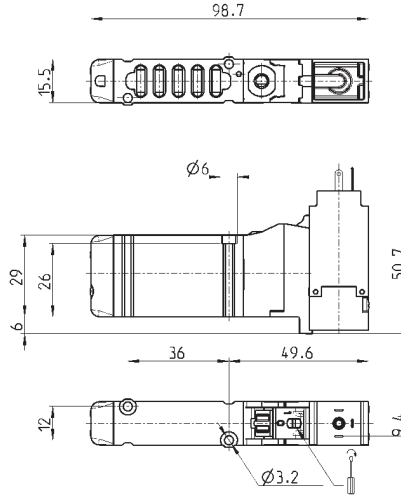
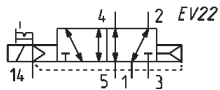
Mod.	Working pressure (bar)	Flow rate (NL/min)	Symbol
EN650-11-PN..	3 ÷ 10	1000	EV28
EN750-11-PN..	3 ÷ 10	1000	EV32
EN850-11-PN..	3 ÷ 10	1000	EV36

Electro-pn. monost. valve, ext. pilot supply, outlets on sub-base - s. 16

5/2-way



Connectors at the end of this section



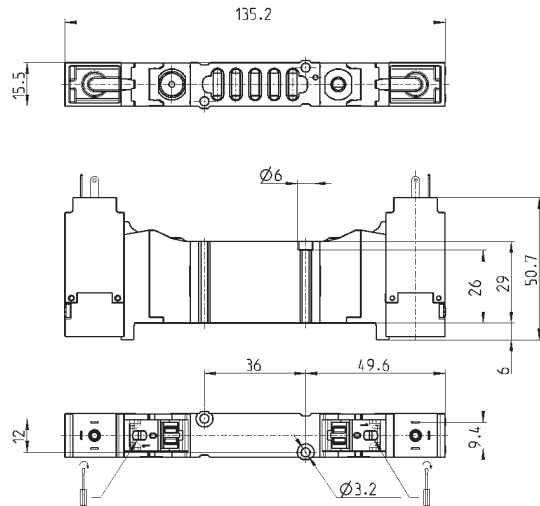
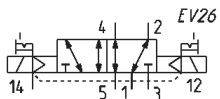
Mod.	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NI/min)
EN530-E16-PN..	2,5 ÷ 10	- 0,9 ÷ 10	610

Electro-pn. bistable valve, ext. pilot supply, outlets on sub-base - s. 16

5/2-way



Connectors at the end of this section

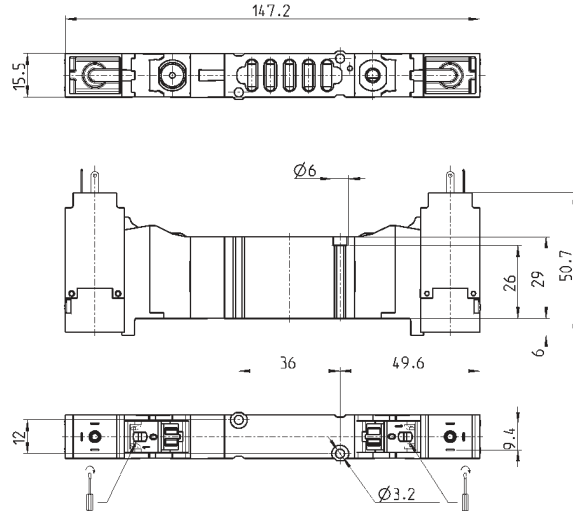


Mod.	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NI/min)
EN530-E11-PN..	2 ÷ 10	- 0,9 ÷ 10	610

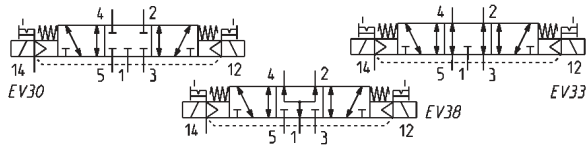
Electro-pneumatic valve, ext. pilot supply, outlets on sub-base - s. 16



5/3-way
CC = Centres Closed
CO = Centres Open
CP = Centres in Pressure



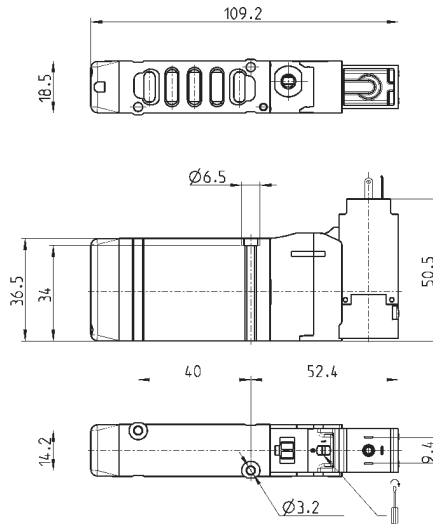
Connectors at the end of this section



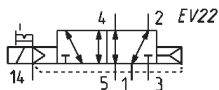
Mod.	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NI/min)	Symbol
EN630-E11-PN..	3 ÷ 10	-0,9 ÷ 10	610	EV30
EN730-E11-PN..	3 ÷ 10	-0,9 ÷ 10	610	EV33
EN830-E11-PN..	3 ÷ 10	-0,9 ÷ 10	610	EV38

Electro-pn. monost. valve, ext. pilot supply, outlets on sub-base - s. 19

5/2-way



Connectors at the end of this section



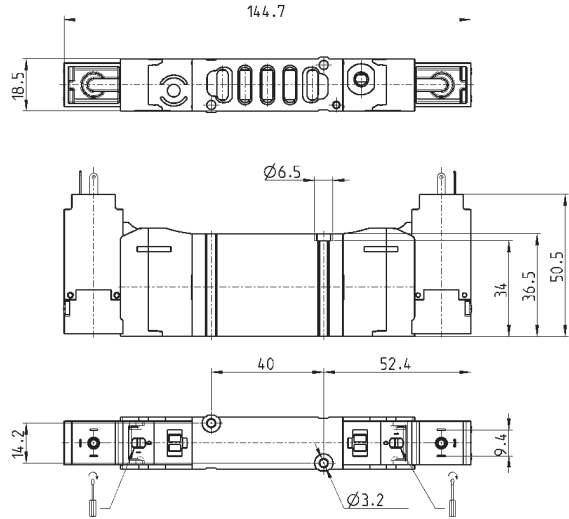
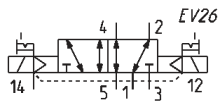
Mod.	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NI/min)
EN550-E16-PN..	2,5 ÷ 10	-0,9 ÷ 10	1000

Electro-pn. bistable valve, ext. pilot supply, outlets on sub-base - s. 19

5/2-way



Connectors at the end of this section



Mod.	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NI/min)
EN550-E11-PN..	2 ÷ 10	-0,9 ÷ 10	1000

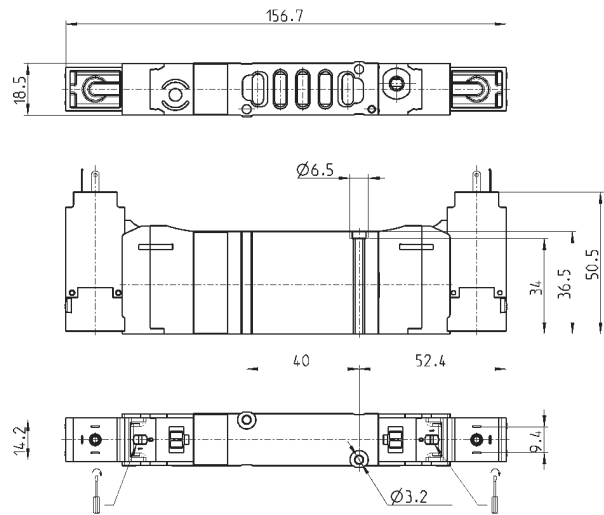
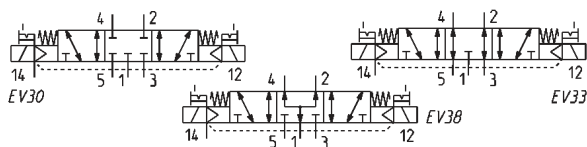
Electro-pneumatic valve, ext. pilot supply, outlets on sub-base - s. 19

5/3-way

- CC = Centres Closed
- CO = Centres Open
- CP = Centres in Pressure



Connectors at the end of this section



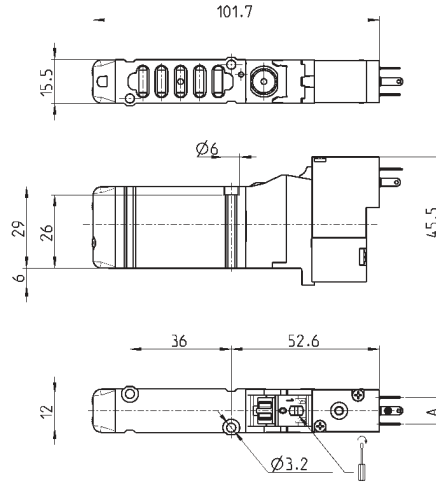
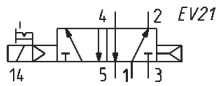
Mod.	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NI/min)	Symbol
EN650-E11-PN..	3 ÷ 10	-0,9 ÷ 10	1000	EV30
EN750-E11-PN..	3 ÷ 10	-0,9 ÷ 10	1000	EV33
EN850-E11-PN..	3 ÷ 10	-0,9 ÷ 10	1000	EV38

Electro-pn. monostable valve, sol. P / W, outlets on sub-base - s. 16

5/2-way



Connectors at the end of this section



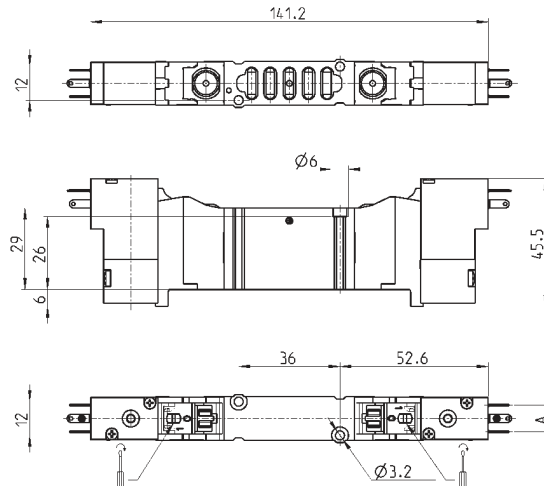
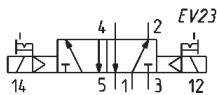
Mod.	A	Operating pressure (bar)	Flow (NI/min)
EN530-16-P13	9,4	2,5 ÷ 10	610
EN530-16-P54	9,4	2,5 ÷ 10	610
EN530-16-P56	9,4	2,5 ÷ 10	610
EN530-16-W53	8	2,5 ÷ 10	610
EN530-16-W54	8	2,5 ÷ 10	610

Electro-pn. bistable valve, sol. P / W, outlets on sub-base - size 16

5/2-way



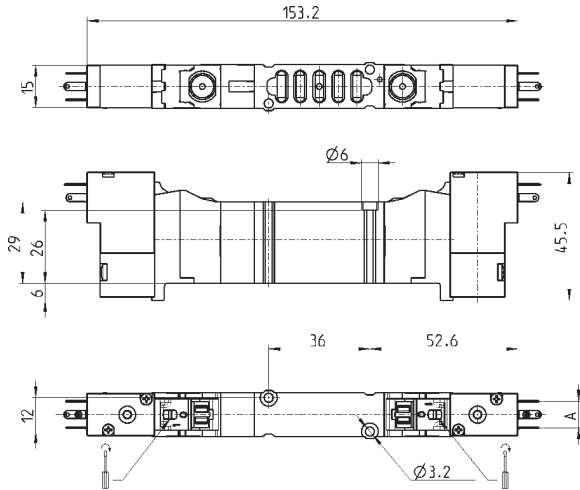
Connectors at the end of this section



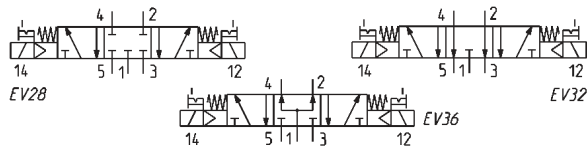
Mod.	A	Operating pressure (bar)	Flow (NI/min)
EN530-11-P13	9,4	2 ÷ 10	610
EN530-11-P54	9,4	2 ÷ 10	610
EN530-11-P56	9,4	2 ÷ 10	610
EN530-11-W53	8	2 ÷ 10	610
EN530-11-W54	8	2 ÷ 10	610

Electro-pneumatic valve, sol. P / W, outlets on sub-base - size 16

5/3-way
 CC = Centres Closed
 CO = Centres Open
 CP = Centres in Pressure



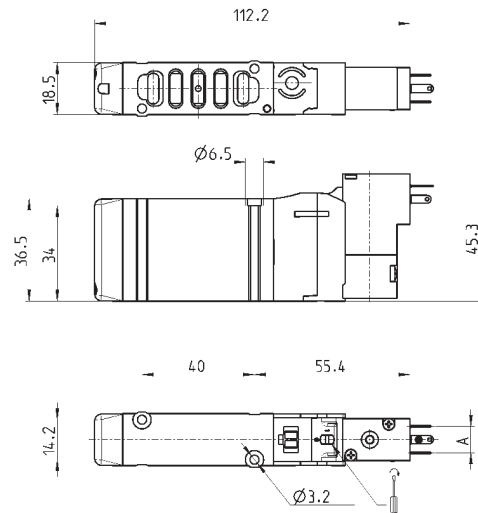
Connectors at the end of this section



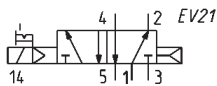
Mod.	A	Operating pressure (bar)	Flow (NL/min)	Symbol
EN630-11-P..	9,4	3 ÷ 10	610	EV28
EN730-11-P..	9,4	3 ÷ 10	610	EV32
EN830-11-P..	9,4	3 ÷ 10	610	EV36
EN630-11-W..	8	3 ÷ 10	610	EV28
EN730-11-W..	8	3 ÷ 10	610	EV32
EN830-11-W..	8	3 ÷ 10	610	EV36

Electro-pn. monostable valve, sol. P / W, outlets on sub-base - s. 19

5/2-way



Connectors at the end of this section



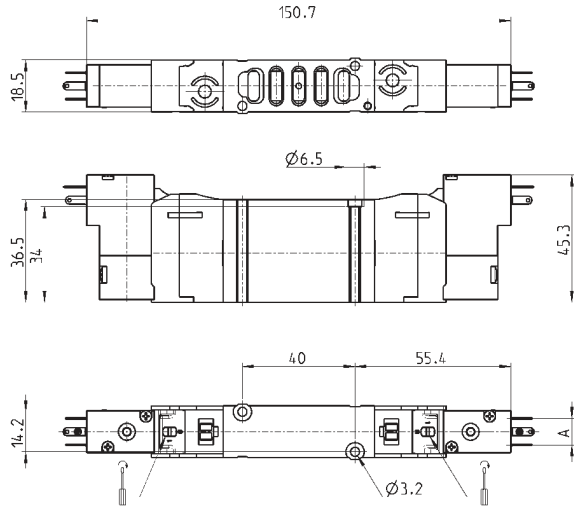
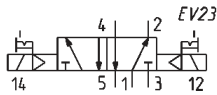
Mod.	Operating pressure (bar)	Flow (NL/min)
EN550-16-P13	2,5 ÷ 10	1000
EN550-16-P54	2,5 ÷ 10	1000
EN550-16-P56	2,5 ÷ 10	1000
EN550-16-W53	2,5 ÷ 10	1000
EN550-16-W54	2,5 ÷ 10	1000

Electro-pn. bistable valve, sol. P / W, outlets on sub-base - size 19

5/2-way



Connectors at the end of this section



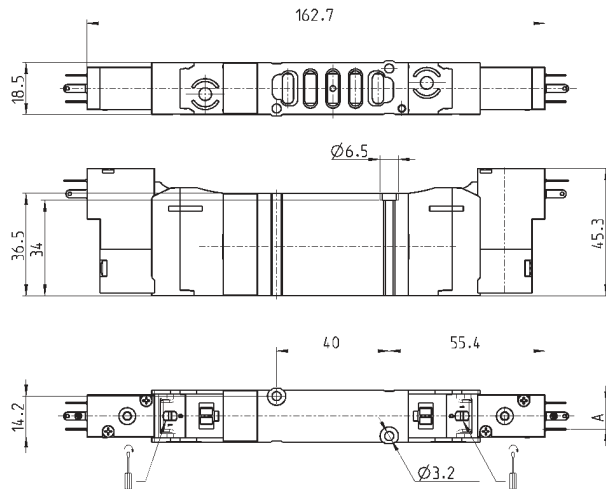
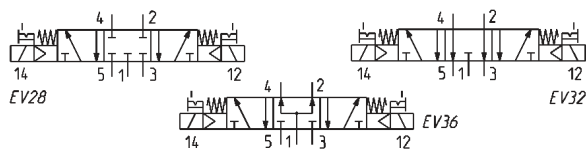
Mod.	A	Operating pressure (bar)	Flow (NI/min)
EN550-11-P13	9,4	2 ÷ 10	1000
EN550-11-P54	9,4	2 ÷ 10	1000
EN550-11-P56	9,4	2 ÷ 10	1000
EN550-11-W53	8	2 ÷ 10	1000
EN550-11-W54	8	2 ÷ 10	1000

Electro-pneumatic valve, sol. P / W, outlets on sub-base - size 19

5/3-way
CC = Centres Closed
CO = Centres Open
CP = Centres in Pressure



Connectors at the end of this section



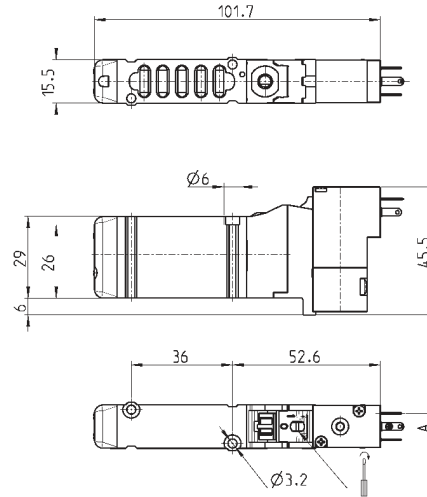
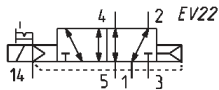
Mod.	A	Operating pressure (bar)	Flow (NI/min)	Symbol
EN650-11-P..	9,4	3 ÷ 10	1000	EV28
EN750-11-P..	9,4	3 ÷ 10	1000	EV32
EN850-11-P..	9,4	3 ÷ 10	1000	EV36
EN650-11-W..	8	3 ÷ 10	1000	EV28
EN750-11-W..	8	3 ÷ 10	1000	EV32
EN850-11-W..	8	3 ÷ 10	1000	EV36

Electro-pn. mono. valve, pilot sup. sol. P / W, outlets on base - s. 16

5/2-way



Connectors at the end of this section



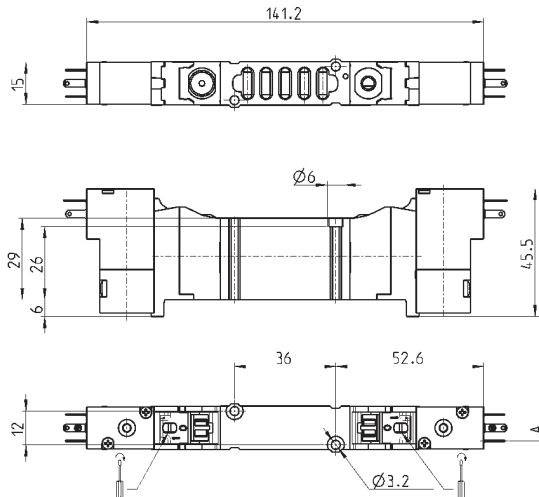
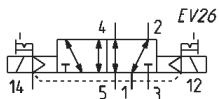
Mod.	A	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NL/min)
EN530-E16-P..	9,4	2,5 ÷ 10	-0,9 ÷ 10	610
EN530-E16-W..	8	2,5 ÷ 10	-0,9 ÷ 10	610

Electro-pn. bistab. valve, pilot sup. sol. P / W, outlets on base - s. 16

5/2-way



Connectors at the end of this section



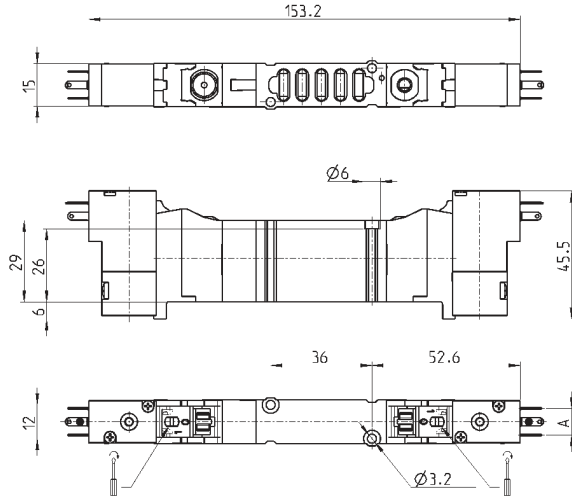
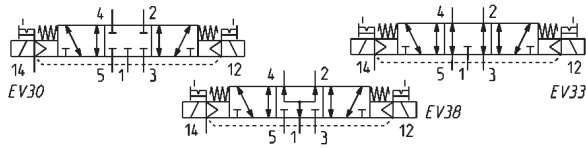
Mod.	A	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NL/min)
EN530-E11-P..	9,4	2 ÷ 10	-0,9 ÷ 10	610
EN530-E11-W..	8	2 ÷ 10	-0,9 ÷ 10	610

Electro-pneum. valve, pilot sup. sol. P / W, outlets on base - s. 16



5/3-way
CC = Centres Closed
CO = Centres Open
CP = Centres in Pressure

Connectors at the end of this section



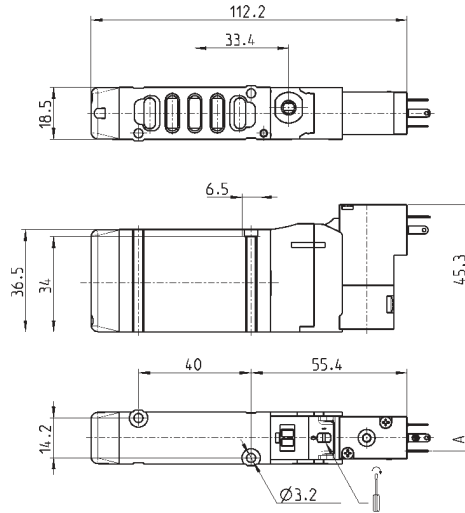
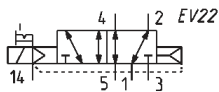
Mod.	A	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NL/min)	Symbol
EN630-E11-P..	9,4	3 ÷ 10	-0,9 ÷ 10	610	EV30
EN730-E11-P..	9,4	3 ÷ 10	-0,9 ÷ 10	610	EV33
EN830-E11-P..	9,4	3 ÷ 10	-0,9 ÷ 10	610	EV38
EN630-E11-W..	8	3 ÷ 10	-0,9 ÷ 10	610	EV30
EN730-E11-W..	8	3 ÷ 10	-0,9 ÷ 10	610	EV33
EN830-E11-W..	8	3 ÷ 10	-0,9 ÷ 10	610	EV38

Electro-pn. mono. valve, pilot sup. sol. P / W, outlets on base - s. 19

5/2-way



Connectors at the end of this section



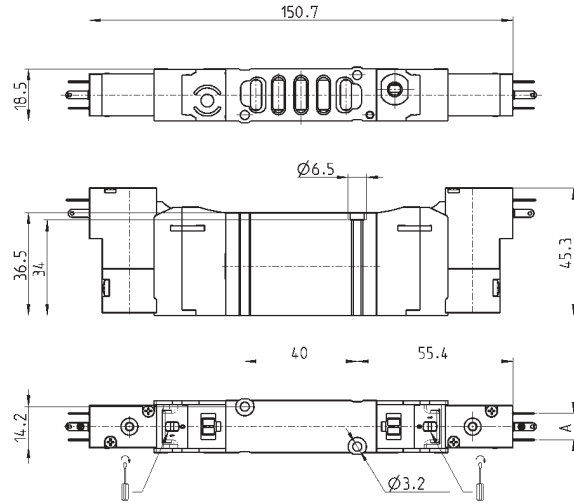
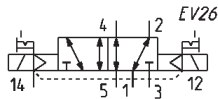
Mod.	A	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NL/min)
EN550-E16-P..	9,4	2,5 ÷ 10	-0,9 ÷ 10	1000
EN550-E16-W..	8	2,5 ÷ 10	-0,9 ÷ 10	1000

Electro-pn. bistab. valve, pilot sup. sol. P / W, outlets on base - s. 19

5/2-way



Connectors at the end of this section



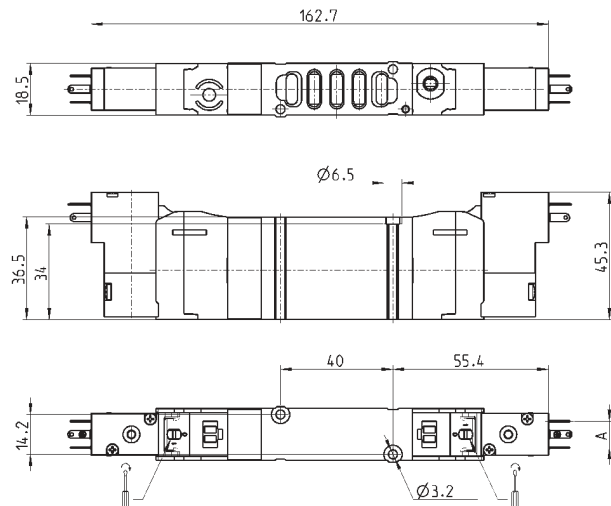
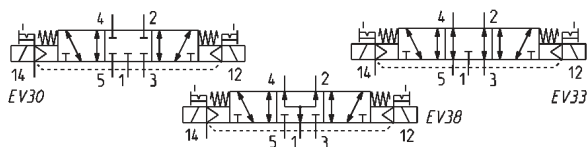
Mod.	A	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NL/min)
EN550-E11-P.	9,4	2 ÷ 10	-0,9 ÷ 10	1000
EN550-E11-W.	8	2 ÷ 10	-0,9 ÷ 10	1000

Electro-pneum. valve, pilot sup. sol. P / W, outlets on base - s. 19

5/3-way
 CC = Centres Closed
 CO = Centres Open
 CP = Centres in Pressure

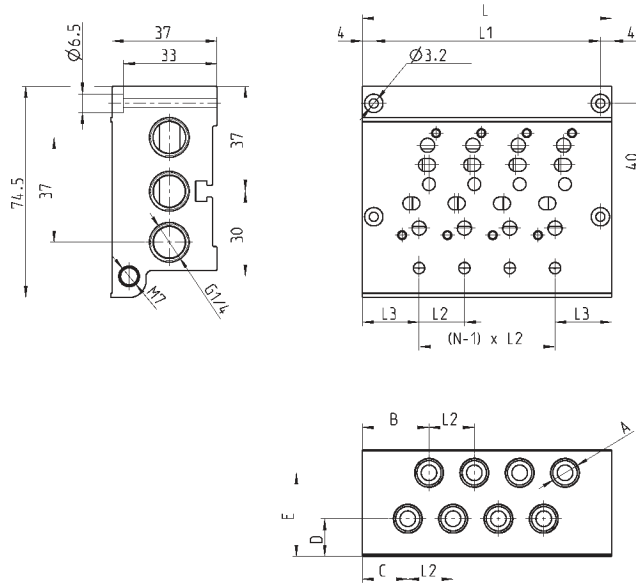


Connectors at the end of this section



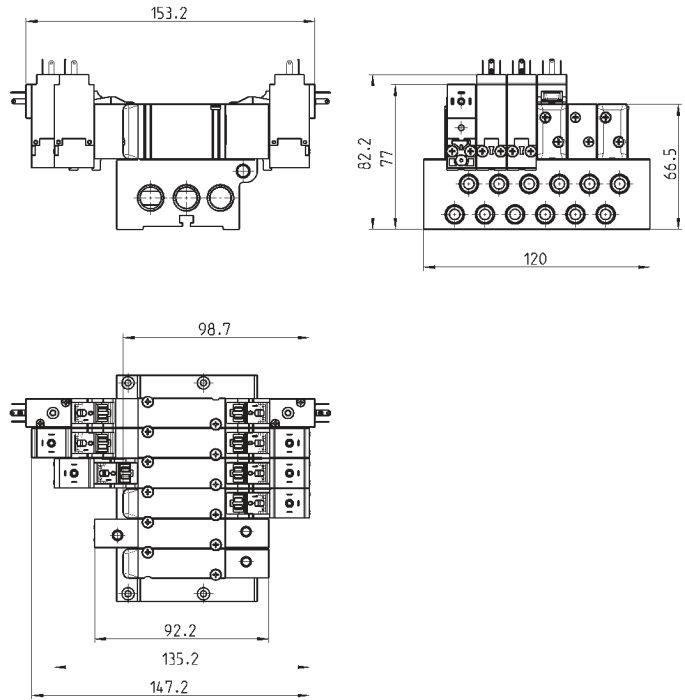
Mod.	A	Pilot supply pressure (bar)	Operating pressure (bar)	Flow (NL/min)	Symbol
EN650-E11-P.	9,4	3 ÷ 10	-0,9 ÷ 10	1000	EV30
EN750-E11-P.	9,4	3 ÷ 10	-0,9 ÷ 10	1000	EV33
EN850-E11-P.	9,4	3 ÷ 10	-0,9 ÷ 10	1000	EV38
EN650-E11-W.	8	3 ÷ 10	-0,9 ÷ 10	1000	EV30
EN750-E11-W.	8	3 ÷ 10	-0,9 ÷ 10	1000	EV33
EN850-E11-W.	8	3 ÷ 10	-0,9 ÷ 10	1000	EV38

Manifold for valves size 16 and 19 (outlets on manifolds)

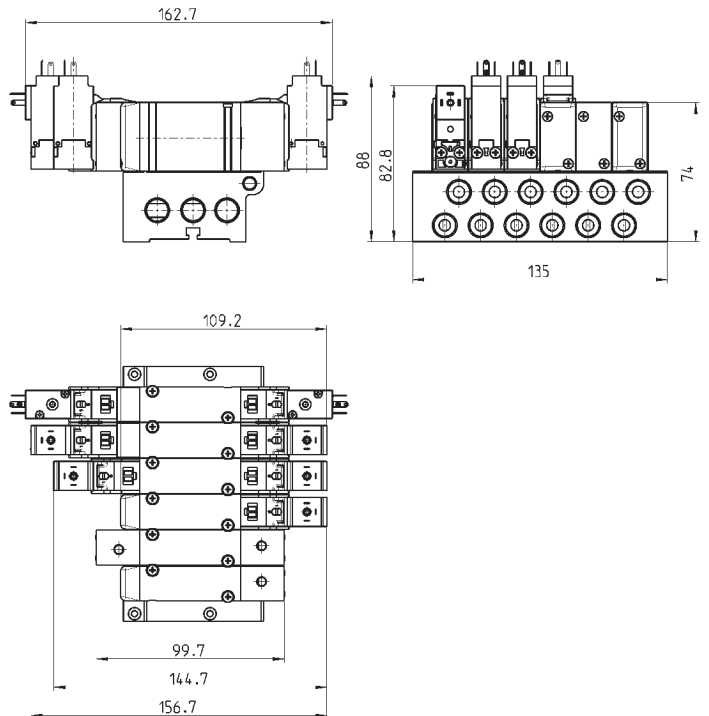


Mod.	Nr of valve positions	A	B	C	D	E	L	L1	L2	L3
EN530-2102	2	G1/8	23,5	16	12,8	29	56	48	16	20
EN530-2103	3	G1/8	23,5	16	12,8	29	72	64	16	20
EN530-2104	4	G1/8	23,5	16	12,8	29	88	80	16	20
EN530-2105	5	G1/8	23,5	16	12,8	29	104	96	16	20
EN530-2106	6	G1/8	23,5	16	12,8	29	120	112	16	20
EN530-2108	8	G1/8	23,5	16	12,8	29	152	144	16	20
EN530-2110	10	G1/8	23,5	16	12,8	29	184	176	16	20
EN530-2112	12	G1/8	23,5	16	12,8	29	216	208	16	20
EN550-2102	2	G1/4	23	15,5	10,5	28,2	59	51	19	20
EN550-2103	3	G1/4	23	15,5	10,5	28,2	78	70	19	20
EN550-2104	4	G1/4	23	15,5	10,5	28,2	97	89	19	20
EN550-2105	5	G1/4	23	15,5	10,5	28,2	116	108	19	20
EN550-2106	6	G1/4	23	15,5	10,5	28,2	135	127	19	20
EN550-2108	8	G1/4	23	15,5	10,5	28,2	173	165	19	20
EN550-2110	10	G1/4	23	15,5	10,5	28,2	211	203	19	20
EN550-2112	12	G1/4	23	15,5	10,5	28,2	249	241	19	20

Manifolds complete with base mounted valves - size 16



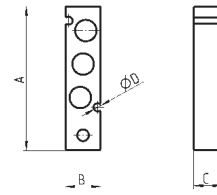
Manifolds complete with base mounted valves - size 19



Blanking plate for manifolds - valves with outlets on the body



The following is supplied:
1x blanking plate
2x screws
1x seal

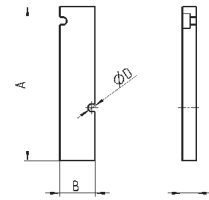


Mod.	Size	A	B	C	ØD
TP-EN531	16	60	14,5	12	3,2
TP-EN551	19	62	17,3	12	3,2

Blanking plate for manifolds - base mounted valves



The following is supplied:
1x blanking plate
2x screws
1x seal



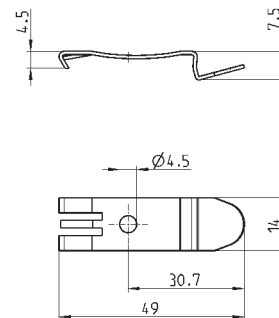
Mod.	Size	A	B	C	ØD
TP-EN530	16	64	14,7	6	3,2
TP-EN550	19	64	17	6	3,2

Mounting brackets for DIN rail



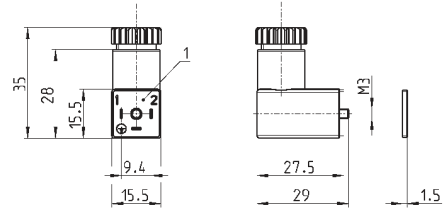
DIN EN 50022 (7,5mm x 35mm - width 1)
Suitable for all manifolds.

Supplied with:
2x plates
2x screws M4x6 UNI 5931
2x nuts



Mod.
PCF-EN531

Connector Mod. 125-... DIN 43650 pitch 9.4 mm



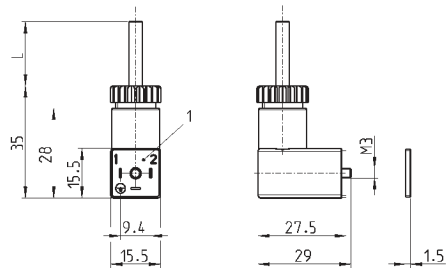
Mod.	description	colour	working voltage	cable holding	tightening torque
125-601	connector, diode + Led	transparent	10/50 V DC	PG7	0.3 Nm
125-701	connector, varistor + Led	transparent	24 V AC/DC	PG7	0.3 Nm
125-800	connector, without electronics	black	-	PG7	0.3 Nm

1 = 90° adjustable connector

Connector Mod. 125-... DIN 43650 pitch 9.4 mm with cable



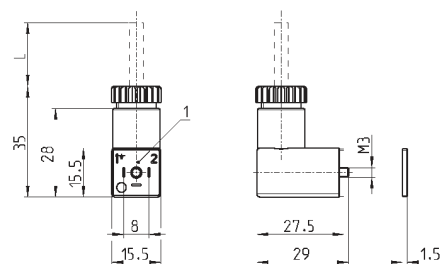
The internal rectifier circuit of the connector Mod. 125-900 allows to use solenoid valves with different AC voltage, even if the voltage indicated on the solenoid valve is DC.



Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
125-501-2	moulded cable with diode + Led	black	10/50 V DC	2000 mm	-	0.3 Nm
125-550-1	moulded cable, without electronics	black	-	1000 mm	-	0.3 Nm
125-601-2	pre-wired cable, diode + Led	transparent	10/50 V DC	2000 mm	PG7	0.3 Nm
125-571-3	moulded cable, varistor + Led	black	24 V AC/DC	3000 mm	-	0.3 Nm
125-900	pre-wired cable with voltage rectifier	black	6 V - 110 V AC/DC	2000 mm	PG7	0.3 Nm

1 = 90° adjustable connector

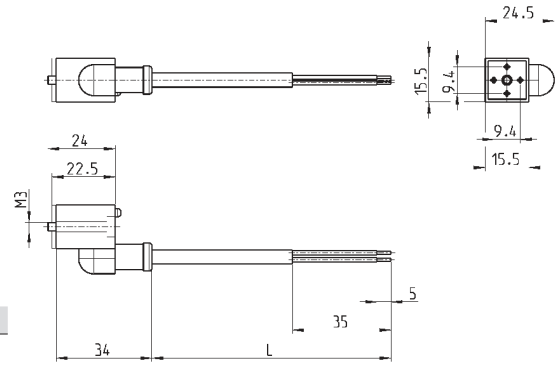
Connector Mod. 126-... DIN 43650 pitch 8 mm



Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
126-550-1	moulded cable, without electronics	black	-	1000 mm	-	0.3 Nm
126-800	connector, without electronics	black	-	-	PG7	0.3 Nm
126-701	connector, varistor + Led	transparent	24 V AC/DC	-	PG7	0.3 Nm

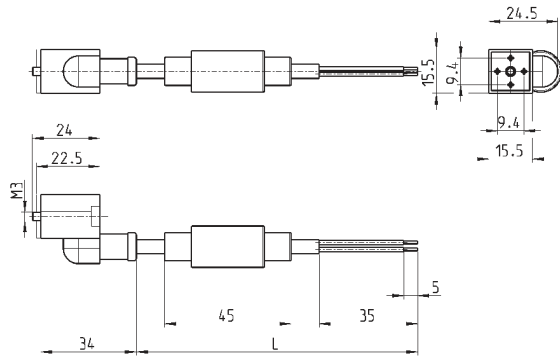
1 = 90° adjustable connector

In-line connectors with cable



Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
125-503-2	in-line moulded cable, with diode + Led	black	24 V DC	2000 mm	-	0.3 Nm
125-503-5	in-line moulded cable, with diode + Led	black	24 V DC	5000 mm	-	0.3 Nm
125-553-2	in-line moulded cable, without electronics	black	-	2000 mm	-	0.3 Nm
125-553-5	in-line moulded cable, without electronics	black	-	5000 mm	-	0.3 Nm

In-line connectors with bridge rectifier



Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
125-903-2	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	2000 mm	-	0.3 Nm
125-903-5	in-line moulded cable with voltage rectifier	black	6 V - 230 V AC/DC	5000 mm	-	0.3 Nm

Series 3 valves and solenoid valves

2x3/2, 3/2, 5/2 and 5/3-way CC CO CP
Ports: G1/8 and G1/4



Series 3 solenoid valves with G1/8 and G1/4 ports have been designed in the 3/2, 2 x 3/2, 5/2, 5/3 versions and with the following two devices of actuation:

- Electropneumatically actuated with mechanical spring return
- Electropneumatically actuated with external and internal air pressure supply

Series 3 valves are equipped with a manual override which allows a stable operation and they can use Series U or G solenoids (22x22).

Pneumatically actuated valves 3/2 NC become NO when the supply is on connection 3.

GENERAL DATA

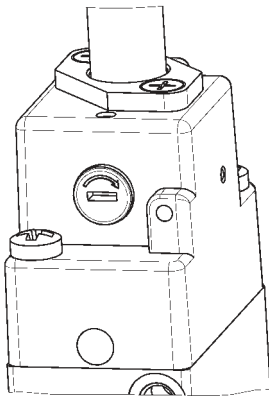
Construction	spool - type
Valve group	2x3/2 - 3/2 - 5/2 - 5/3-way CC CO CP
Materials	AL body, stainless steel spool, NBR seals
Ports	G1/8 - G1/4
Installation	in any position
Operating temperature	0 ÷ 60°C (with dry air at -20°C)
Operating pressure	see tables
Fluid	filtered air, without lubrication. If lubricated air is used, it is recommended to use ISOVG32 oil. Once applied the lubrication should never be interrupted.

CODING EXAMPLE

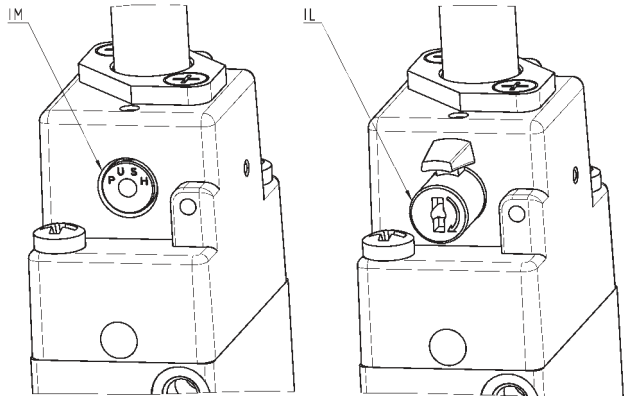
3	3	8	D	-	015	-	02	IL	-	U7	7
3	SERIES										
3	NUMBER OF WAYS - POSITIONS: 3 = 3/2 NC 4 = 3/2 NO 5 = 5/2 6 = 5/3 CC 7 = 5/3 CO 8 = 5/3 CP 9 = 1x3/2 NC + 1x3/2 NO										
8	PORTS: 8 = G1/8 4 = G1/4										
D	VERSION: = standard D = double valve 2x3/2 L = for manifold assembly (only for solenoid valves 3/2 with G1/8 ports)										
015	ACTUATION: 011 = double solenoid 015 = single solenoid, spring return 016 = single solenoid, pneumatic spring return E11 = double solenoid external servo-command E15 = single solenoid, external servo-command 033 = pneumatic pneumatic 035 = pneumatic spring										
02	SOLENOID INTERFACE: 02 = mech. sol. 22 x 22										
IL	TYPE OF MANUAL OVERRIDE: = bistable, standard IL = bistable, lever type (available on demand) IM = monostable (available on demand)										
U7	ENCAPSULATING MATERIAL / SOLENOID DIMENSIONS: A8 = PPS / 30 x 30 G7 = PA / 22 x 22 G8 = PA / 30 x 30 (24 V DC only) G9 = PA / 22 x 58 H8 = PA 6 V0 / 30 x 30 U7 = PET / 22 x 22										
7	SOLENOID VOLTAGE (see the dedicated section 2.35)										

SERIES 3 VALVES AND SOLENOID VALVES

TYPES OF MANUAL OVERRIDE



Example of solenoid valve with a bistable standard manual override.

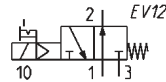
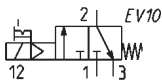
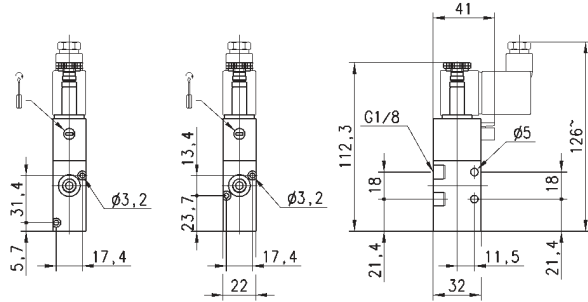


Example of solenoid monostable valve (IM) and bistable valve with a lever type manual override (IL).

3/2-way solenoid valve, G1/8, monostable - Mod. 338..., Mod 348...



These solenoid valves, which have electropneumatic actuation and spring return, are available in the NC (closed) or NO (open) version.

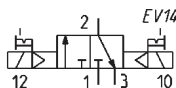
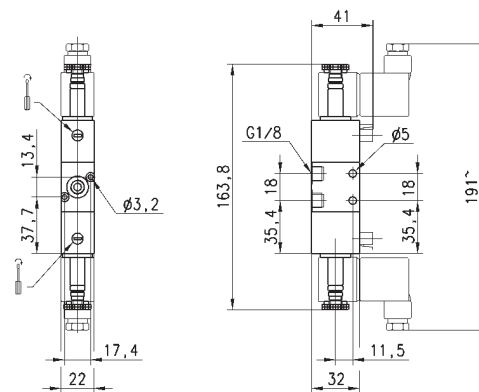


Mod.	Mounting	Function	Flow rate (NI/min)	Operating pressure (bar)	Symbol
338-015-02	in-line	3/2 NC	700	2,5 ÷ 10	EV10
338L-015-02	on manifold	3/2 NC	700	2,5 ÷ 10	EV10
348-015-02	in-line	3/2 NO	700	2,5 ÷ 10	EV12
348L-015-02	on manifold	3/2 NO	700	2,5 ÷ 10	EV12

3/2-way solenoid valve, G1/8, bistable - Mod. 338...



These solenoid valves, which have electropneumatic actuation and return, assume the NC (closed) or NO (open) position depending on the last pulse received.

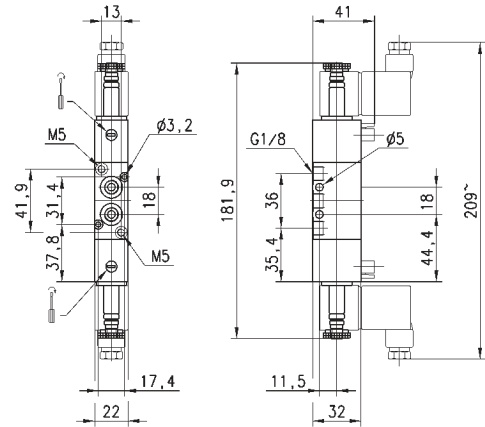
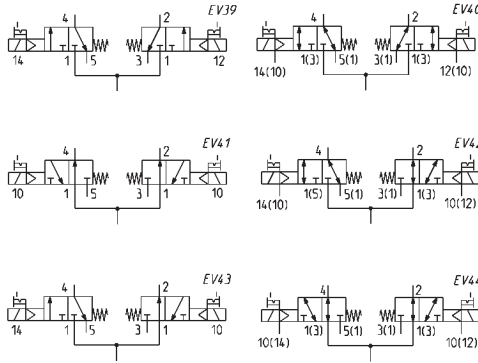


Mod.	Mounting	Function	Flow rate (NI/min)	Operating pressure (bar)
338-011-02	in-line	3/2	700	1,5 ÷ 10
338L-011-02	on manifold	3/2	700	1,5 ÷ 10

2 x 3/2-way solenoid valve, G1/8 - Mod. 338D..., 348D... e 398D...



These solenoid valves are available in versions with 2 x 3/2 valves in the same valve.

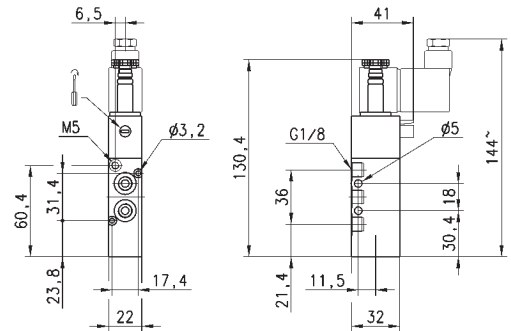
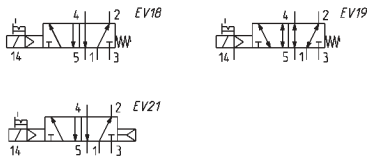


Mod.	Function	Flow rate (NL/min)	Operating pressure (bar)	Pilot pressure (bar)	Symbol
338D-015-02	2 x 3/2 NC	700	2,5 ÷ 10	-	EV39
348D-015-02	2 x 3/2 NO	700	2,5 ÷ 10	-	EV41
338D-E15-02	2 x 3/2 NC	700	-0,9 ÷ 10	2,5 ÷ 10	EV40
348D-E15-02	2 x 3/2 NO	700	-0,9 ÷ 10	2,5 ÷ 10	EV44
398D-015-02	1 x 3/2 NC + 1 x 3/2 NO	700	2,5 ÷ 10	-	EV43
398D-E15-02	1 x 3/2 NC + 1 x 3/2 NO	700	-0,9 ÷ 10	2,5 ÷ 10	EV42

5/2-way solenoid valve, G1/8, monostable - Mod. 358...



These solenoid valves with electropneumatic actuation and mechanical or pneumatic spring return are suitable for controlling double-acting cylinders.

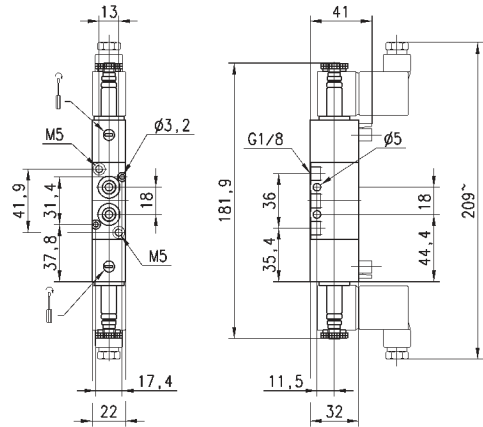


Mod.	Function	Flow rate (NL/min)	Operating pressure (bar)	Pilot pressure (bar)	Symbol
358-015-02	5/2	700	2,5 ÷ 10	-	EV18
358-E15-02	5/2	700	-0,9 ÷ 10	2,5 ÷ 10	EV19
358-016-02	5/2	700	2,5 ÷ 10	-	EV21

5/2-way solenoid valve, G1/8, bistable - Mod. 358...



These solenoid valves with electropneumatic actuation and return are suitable for controlling double-acting cylinders.

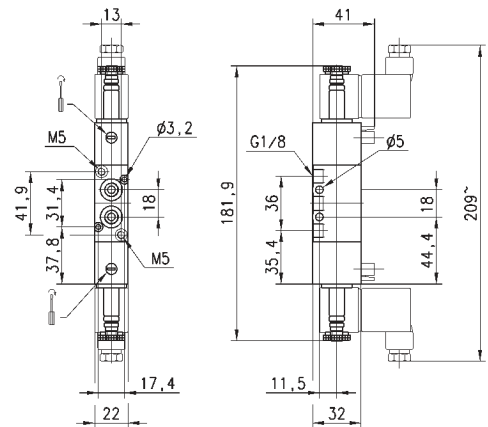
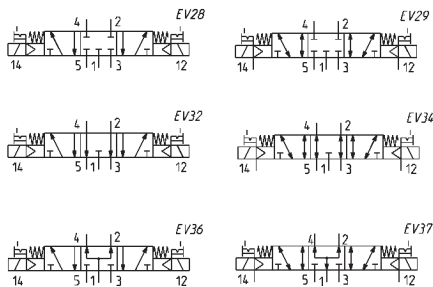


Mod.	Function	Flow rate (NL/min)	Operating pressure (bar)	Pilot pressure (bar)	Symbol
358-011-02	5/2	700	1,5 ÷ 10	-	EV23
358-E11-02	5/2	700	-0,9 ÷ 10	1,5 ÷ 10	EV25

5/3-way solenoid valve, G1/8, - Mod. 368... Mod. 378... Mod. 388...



CC = Centres Closed CO = Centres Open CP = Pressure Centres

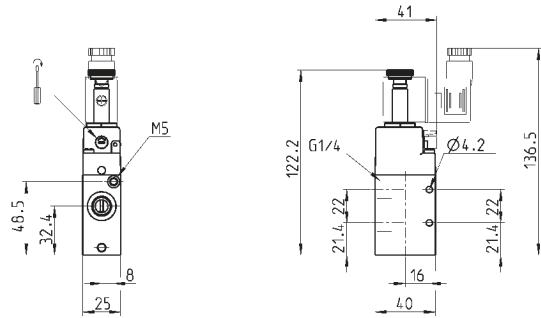
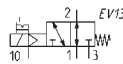
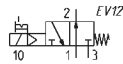
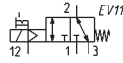
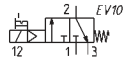


Mod.	Function	Flow rate (NL/min)	Operating pressure (bar)	Pilot pressure (bar)	Symbol
368-011-02	5/3 CC	700	2 ÷ 10	-	EV28
368-E11-02	5/3 CC	700	-0,9 ÷ 10	2 ÷ 10	EV29
378-011-02	5/3 CO	700	2-10	-	EV32
378-E11-02	5/3 CO	700	-0,9 ÷ 10	2 ÷ 10	EV34
388-011-02	5/3 CP	700	2 ÷ 10	-	EV36
388-E11-02	5/3 CP	700	-0,9 ÷ 10	2 ÷ 10	EV37

3/2-way solenoid valve, G1/4, monostable - Mod. 334... Mod 344...



These solenoid valves, which have electropneumatic actuation and spring return, are available in the NC (closed) or NO (open) version.

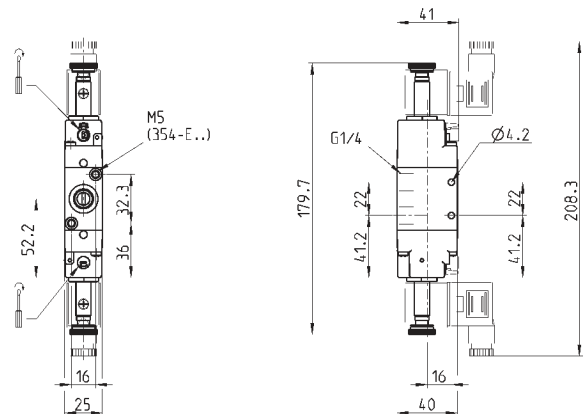
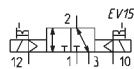
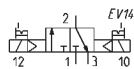


Mod.	Mounting	Function	Flow rate (NL/min)	Operating pressure (bar)	Pilot pressure (bar)	Symbol
334-015-02	in-line	3/2 NC	1300	2.5 ÷ 10	-	EV10
334-E15-02	in-line	3/2 NC	1300	-0.9 ÷ 10	2.5 ÷ 10	EV11
344-015-02	in-line	3/2 NO	1300	2.5 ÷ 10	-	EV12
344-E15-02	in-line	3/2 NO	1300	-0.9 ÷ 10	2.5 ÷ 10	EV13

3/2-way solenoid valve, G1/4, bistable - Mod. 334...



These solenoid valves, which have electropneumatic actuation and return assume the NC (closed) or NO (open) position depending on their last pulse received.

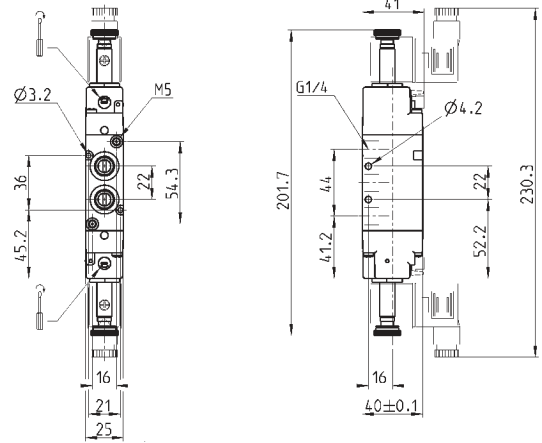
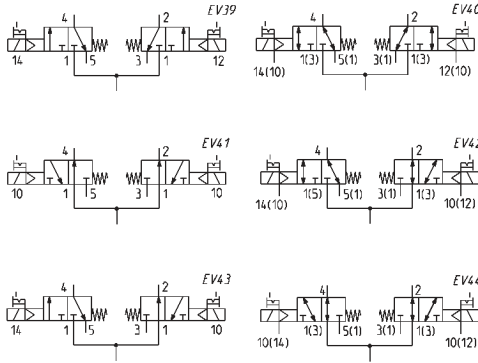


Mod.	Mounting	Function	Flow rate (NL/min)	Operating pressure (bar)	Pilot pressure (bar)	Symbol
334-011-02	in-line	3/2	1300	1.5 ÷ 10	-	EV14
334-E11-02	in-line	3/2	1300	1.5 ÷ 10	2.5 ÷ 10	EV15

2 x 3/2-way solenoid valve, G1/4 Mod. 334D... 344D... and 394D...



These solenoid valves are available in versions with 2 x 3/2 valves in the same valve.

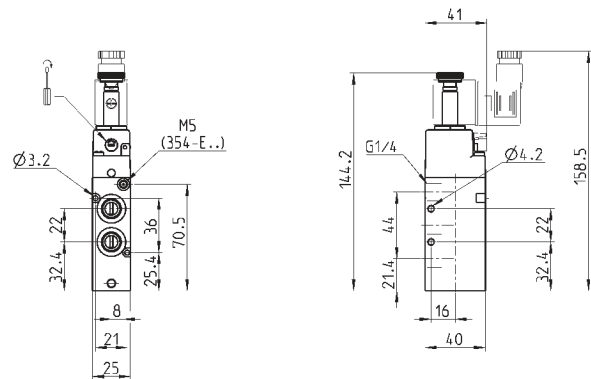
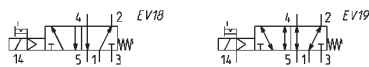


Mod.	Function	Flow rate (NI/min)	Operating pressure (bar)	Pilot pressure (bar)	Symbol
334D-015-02	2 x 3/2 NC	1200	2,5 ÷ 10	-	EV39
344D-015-02	2 x 3/2 NO	1050	2,5 ÷ 10	-	EV41
334D-E15-02	2 x 3/2 NC	1200	-0,9 ÷ 10	2,5 ÷ 10	EV40
344D-E15-02	2 x 3/2 NO	1050	-0,9 ÷ 10	2,5 ÷ 10	EV44
394D-015-02	1 x 3/2 NC + 1 x 3/2 NO	1050	2 ÷ 10	-	EV43
394D-E15-02	1 x 3/2 NC + 1 x 3/2 NO	1050	-0,9 ÷ 10	2,5 ÷ 10	EV42

5/2-way solenoid valve, G1/4, monostable - Mod. 354...



These solenoid valves, which have electropneumatic actuation and spring return, are suitable for operating double-acting cylinders.

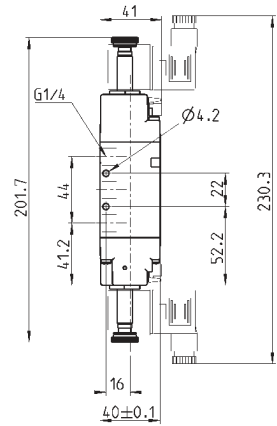
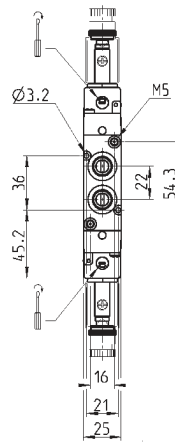
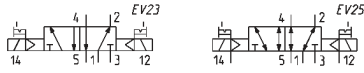


Mod.	Function	Flow rate (NI/min)	Operating pressure (bar)	Pilot pressure (bar)	Symbol
354-015-02	5/2	1300	2,5 ÷ 10	-	EV18
354-E15-02	5/2	1300	-0,9 ÷ 10	2,5 ÷ 10	EV19

5/2-way solenoid valve, G1/4, bistable - Mod. 354...



These solenoid valves, which have electropneumatic actuation and spring return, are suitable for operating double-acting cylinders.

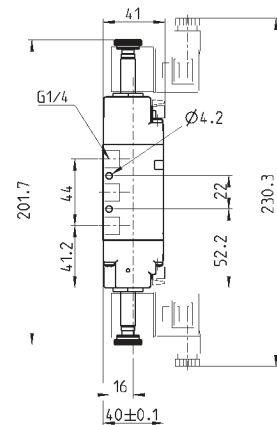
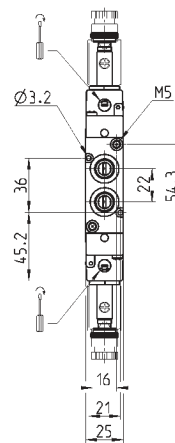
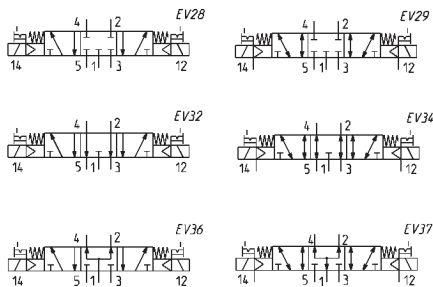


Mod.	Function	Flow rate (NL/min)	Operating pressure (bar)	Pilot pressure (bar)	Symbol
354-011-02	5/2	1300	1,5 ÷ 10	-	EV23
354-E11-02	5/2	1300	-0,9 ÷ 10	2,5 ÷ 10	EV25

5/3-way solenoid valve, G1/4, - Mod. 364... Mod. 374... Mod. 384...

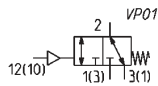
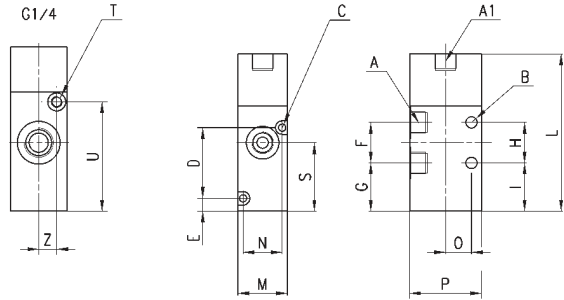


CC = Centres Closed CO = Centres Open CP = Pressure Centres



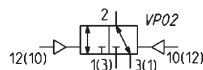
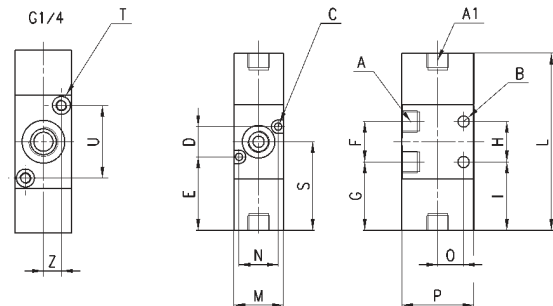
Mod.	Function	Flow rate (NL/min)	Operating pressure (bar)	Pilot pressure (bar)	Symbol
364-011-02	5/3 CC	1200	2,5 ÷ 10	-	EV28
364-E11-02	5/3 CC	1200	-0,9 ÷ 10	2,5 ÷ 10	EV29
374-011-02	5/3 CO	1200	2,5 ÷ 10	-	EV32
374-E11-02	5/3 CO	1200	-0,9 ÷ 10	2,5 ÷ 10	EV34
384-011-02	5/3 CP	1200	2,5 ÷ 10	-	EV36
384-E11-02	5/3 CP	1200	-0,9 ÷ 10	2,5 ÷ 10	EV37

3/2-way valve, G1/8 or G1/4, monostable



DIMENSIONS																								
Mod.	Mounting	Function	Flow rate (NL/min)	Min. pilot press. (bar)	Working press. (bar)	A	A1	B	C	D	E	F	G	H	I	L	M	N	O	P	S	T	U	Z
338-035	in-line	3/2 NC	700	2.5	-0.9 ÷ 10	G1/8	G1/8	5	3.2	-	5.7	18	21.4	18	21.4	69.8	22	-	11.5	32	30.4	-	-	-
338L-035	on manifold	3/2 NC	700	2.5	-0.9 ÷ 10	G1/8	G1/8	-	3.2	31.4	5.7	18	21.4	-	21.4	69.8	22	17.4	11.5	32	30.4	-	-	-
334-035	in-line	3/2 NC	1300	3	-0.9 ÷ 10	G1/4	-	4.1	-	-	-	22	21.4	22	21.4	73	25	-	16	40	32.4	M5	48.5	8

3/2-way valve, G1/8 or G1/4, bistable

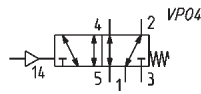
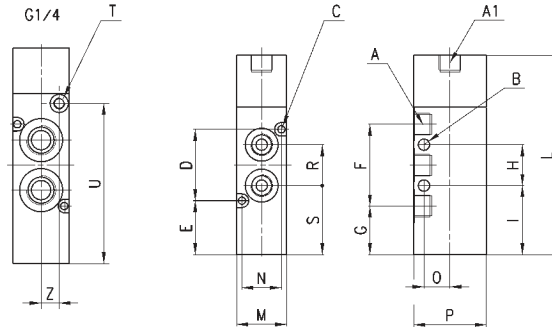


DIMENSIONS																								
Mod.	Mounting	Function	Flow rate (NL/min)	Min. pilot press. (bar)	Working press. (bar)	A	A1	B	C	D	E	F	G	H	I	L	M	N	O	P	S	T	U	Z
338-033	in-line	3/2	700	1.5	-0.9 ÷ 10	G1/8	G1/8	5	-	-	-	18	30.4	18	30.4	78.8	22	-	11.5	32	41.7	-	-	-
338L-033	on manifold	3/2	700	1.5	-0.9 ÷ 10	G1/8	G1/8	5	3.2	13.4	32.7	18	30.4	-	30.4	78.8	22	17.4	-	32	41.7	-	-	-
334-033	in-line	3/2	1300	2.5	-0.9 ÷ 10	G1/4	-	4.1	-	-	-	22	29.7	22	29.7	81.3	25	-	16	40	40.7	M5	32.3	8

5/2-way valve, G1/8 or G1/4, monostable



In-line or manifold mounting



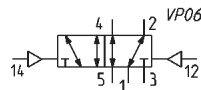
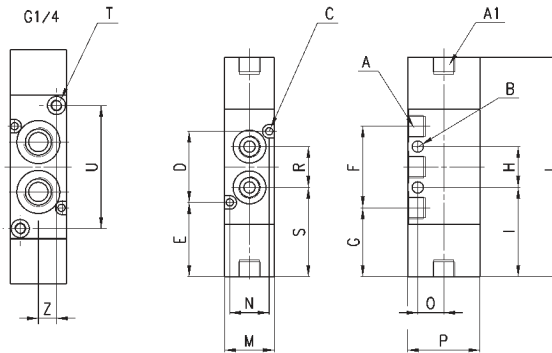
DIMENSIONS

Mod.	Function	Flow rate (NL/min)	min pilot press. (bar)	Working press. (bar)	A	A1	B	C	D	E	F	G	H	I	L	M	N	O	P	S	T	U	Z
358-035	5/2	700	2,5	-0,9 ÷ 10	G1/8	G1/8	5	3,2	31,4	23,8	36	21,4	18	30,4	87,8	22	17,4	11,5	32	30,4	-	-	-
354-035	5/2	1300	3	-0,9 ÷ 10	G1/4	-	4,1	3,2	36	25,4	44	21,4	22	30,4	95	25	21	16	40	32,4	M5	70,5	8

5/2-way valve, G1/8 or G1/4, bistable



In-line or manifold mounting



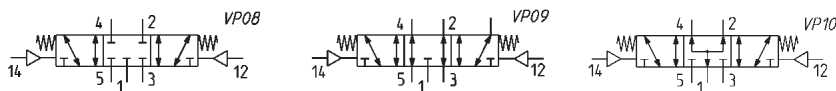
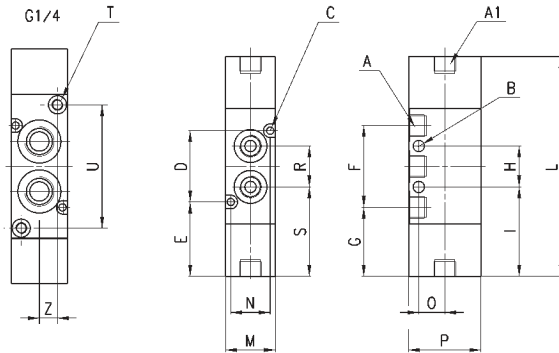
DIMENSIONS

Mod.	Function	Flow rate (NL/min)	min. pilot pressure (bar)	Working pressure (bar)	A	A1	B	C	D	E	F	G	H	I	L	M	N	O	P	S	T	U	Z
358-033	5/2	700	1,5	-0,9 ÷ 10	G1/8	G1/8	5	3,2	31,4	32,8	36	30,4	18	39,4	96,8	22	17,4	11,5	32	39,4	-	-	-
354-033	5/2	1300	2,5	-0,9 ÷ 10	G1/4	-	4,1	3,2	36	33,7	44	29,7	22	40,7	103,3	25	21	16	40	40,7	M5	54,3	8

5/3-way valve, G1/8 or G1/4



In-line or manifold mounting

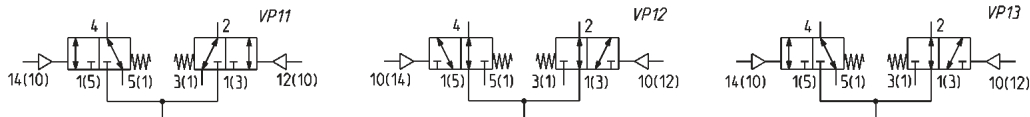
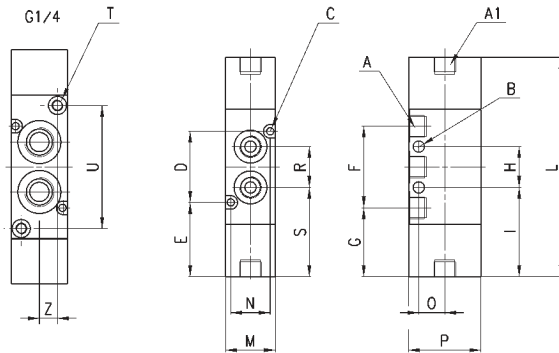


DIMENSIONS																								
Mod.	Function	Flow rate (NL/min)	Min. pilot pr. (bar)	Working pr. (bar)	A	A1	B	C	D	E	F	G	H	I	L	M	N	O	P	S	T	U	Z	Symb.
368-033	5/3 CC	700	2,5	-0,9 ÷ 10	G1/8	G1/8	5	3,2	31,4	32,8	36	30,4	18	39,4	96,8	22	17,4	11,5	32	39,4	-	-	-	VP08
364-033	5/3 CC	1200	2,5	-0,9 ÷ 10	G1/4	-	4,1	3,2	36	33,7	44	29,7	22	40,7	103,3	25	21	16	40	40,7	M5	54,3	8	VP08
378-033	5/3 CO	700	2,5	-0,9 ÷ 10	G1/8	G1/8	5	3,2	31,4	32,8	36	30,4	18	39,4	96,8	22	17,4	11,5	32	39,4	-	-	-	VP09
374-033	5/3 CO	1050	2,5	-0,9 ÷ 10	G1/4	-	4,1	3,2	36	33,7	44	29,7	22	40,7	103,3	25	21	16	40	40,7	M5	54,3	8	VP09
388-033	5/3 CP	700	2,5	-0,9 ÷ 10	G1/8	G1/8	5	3,2	31,4	32,8	36	30,4	18	39,4	96,8	22	17,4	11,5	32	39,4	-	-	-	VP10
384-033	5/3 CP	1050	2,5	-0,9 ÷ 10	G1/4	-	4,1	3,2	36	33,7	44	29,7	22	40,7	103,3	25	21	16	40	40,7	M5	54,3	8	VP10

2 x 3/2-way valve, G1/8 or G1/4



In-line or manifold mounting

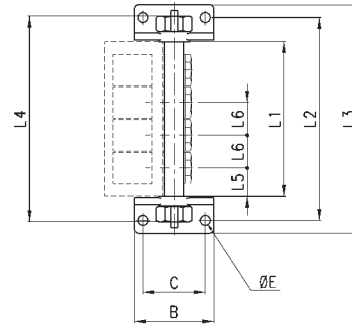
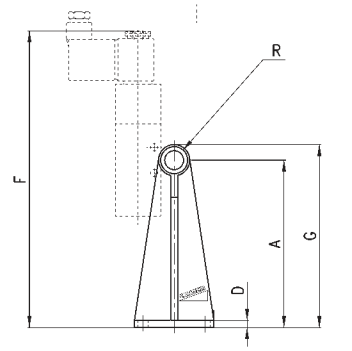


DIMENSIONS																								
Mod.	Function	Flow rate (NL/min)	min. pilot pr. (bar)	Working pr. (bar)	A	A1	B	C	D	E	F	G	H	I	L	M	N	O	P	S	T	U	Z	Symb.
338D-035	2x3/2 NC	700	2,5	-0,9 ÷ 10	G1/8	G1/8	5	3,2	31,4	32,8	36	30,4	18	39,4	96,8	22	17,4	11,5	32	39,4	-	-	-	VP11
334D-035	2x3/2 NC	1050	2,5	-0,9 ÷ 10	G1/4	-	4,1	3,2	36	33,7	44	29,7	22	40,7	103,3	25	21	16	40	40,7	M5	54,3	8	VP11
348D-035	2x3/2 NO	700	2,5	-0,9 ÷ 10	G1/8	G1/8	5	3,2	31,4	32,8	36	30,4	18	39,4	96,8	22	17,4	11,5	32	39,4	-	-	-	VP12
344D-035	2x3/2 NO	1050	2,5	-0,9 ÷ 10	G1/4	-	4,1	3,2	36	33,7	44	29,7	22	40,7	103,3	25	21	16	40	40,7	M5	54,3	8	VP12
398D-035	2x3/2 NC/NO	700	2,5	-0,9 ÷ 10	G1/8	G1/8	5	3,2	31,4	32,8	36	30,4	18	39,4	96,8	22	17,4	11,5	32	39,4	-	-	-	VP13
394D-035	2x3/2 NC/NO	1050	2,5	-0,9 ÷ 10	G1/4	-	4,1	3,2	36	33,7	44	29,7	22	40,7	103,3	25	21	16	40	40,7	M5	54,3	8	VP13

Manifold bars with separate exhausts (low version)



The following is supplied:
 2x feet
 1x manifold
 1x inlet fitting
 1x plug
 4x washers



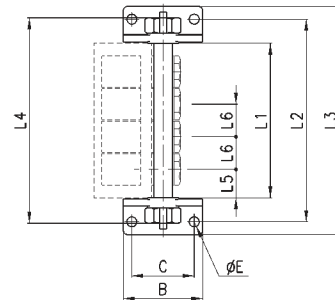
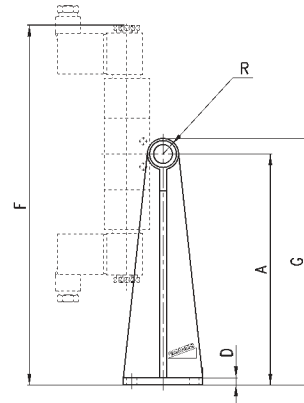
DIMENSIONS																
Mod.	Nr of valves	A	B	C	D	ØE	F	G	R	L1	L2	L3	L4	L5	L6	Suitable for Series
CNV-318-2	2	73	56	44	5	7	178	83	G1/4	63	97	115	99	20	23	3 - G1/8
CNV-318-3	3	73	56	44	5	7	178	83	G1/4	86	120	138	119	20	23	3 - G1/8
CNV-318-4	4	73	56	44	5	7	178	83	G1/4	109	143	161	142	20	23	3 - G1/8
CNV-318-5	5	73	56	44	5	7	178	83	G1/4	132	166	184	165	20	23	3 - G1/8
CNV-318-6	6	73	56	44	5	7	178	83	G1/4	155	189	207	188	20	23	3 - G1/8

The fixing screws of the valves
 Mod. 1631 01-1/8 must be ordered
 separately.

Manifold bars with separate exhausts (high version)



The following is supplied:
 2x feet
 1x manifold
 1x inlet fitting
 1x plug
 4x washers



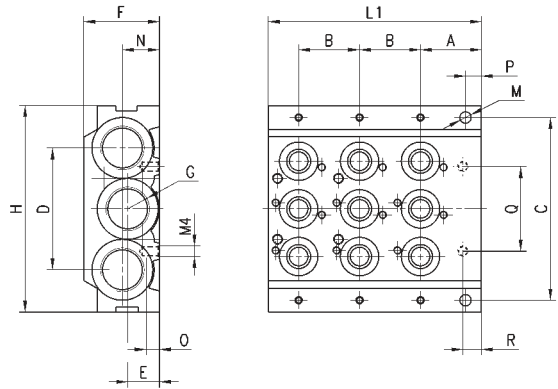
DIMENSIONS																
Mod.	Nr of valves	A	B	C	D	ØE	F	G	R	L1	L2	L3	L4	L5	L6	Suitable for Series
CNV-328-2	2	118	56	44	5	7	223	128	G1/4	63	97	115	99	20	23	3 - G1/8
CNV-328-3	3	118	56	44	5	7	223	128	G1/4	86	120	138	119	20	23	3 - G1/8
CNV-328-4	4	118	56	44	5	7	223	128	G1/4	109	143	161	142	20	23	3 - G1/8
CNV-328-5	5	118	56	44	5	7	223	128	G1/4	132	166	184	165	20	23	3 - G1/8
CNV-328-6	6	118	56	44	5	7	223	128	G1/4	155	189	207	188	20	23	3 - G1/8

The fixing screws of the valves
 Mod. 1631 01-1/8 must be ordered
 separately.

Initial / final Module with three positions - Mod. CNVL-...



The following is supplied:
 3x interface O-Rings manifold/manifold;
 2x fixing nuts;
 2x junction plugs;
 9x interface seals valve/manifold (CNVL-3H3)
 or 3x interface seals valve/manif. (CNVL-4H3);
 6x fixing screws for valves



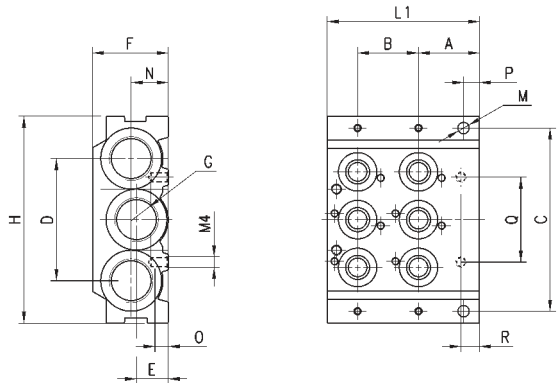
DIMENSIONS															
Mod.	A	B	C	D	E	F	H	L1	M	N	O	Q	R	G	
CNVL-3H3	23	23	69,5	46	12	29	78	80,5	4,3	14	5	6	32	7	3/8
CNVL-4H3	26	26	88	60	14	29	98	91	4,3	-	5	5	38	7	1/2

CNVL-3H3: for Series 3, G1/8
 CNVL-4H3: for Series 3, G1/4

Initial / final Module with 2 positions - Mod. CNVL-...



Initial module with 2 positions
 The following is supplied:
 3x interface O-Rings manifold/manifold;
 2x fixing nuts;
 2x junction plugs;
 6x interface seals valve/manifold (CNVL-3H2)
 or 2x interface seals valve/manif. (CNVL-4H2);
 4x fixing screws for valves



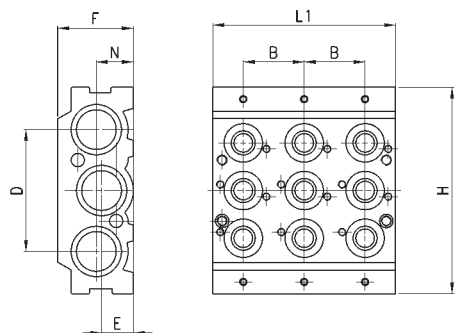
DIMENSIONS															
Mod.	A	B	C	D	E	F	H	L1	M	N	O	Q	R	G	
CNVL-3H2	23	23	69,5	46	12	29	78	57,5	4,3	14	5	6	32	7	3/8
CNVL-4H2	26	26	88	60	14	29	98	65	4,3	-	5	5	38	7	1/2

CNVL-3H2: for Series 3, G1/8
 CNVL-4H2: for Series 3, G1/4

Intermediate module with 3 positions - Mod. CNVL-...



The following is supplied:
 3x interface O-Rings manifold/manifold;
 2x fixing nuts;
 2x junction plugs;
 9x interface seals valve/manifold (CNVL-3I3)
 or 3x interface seals valve/manif. (CNVL-4I3);
 6x fixing screws for valves



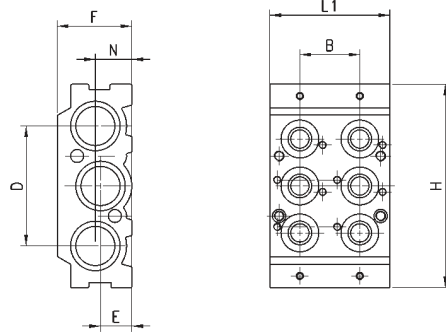
DIMENSIONS							
Mod.	B	D	E	F	H	L1	N
CNVL-3I3	23	46	12	29	78	69	14
CNVL-4I3	26	60	14	29	98	78	-

CNVL-3I3: for Series 3, G1/8
 CNVL-4I3: for Series 3, G1/4

Intermediate module with 2 positions - Mod. CNVL-...



The following is supplied:
 3x interface O-Rings manifold/manifold;
 2x fixing nuts;
 2x junction plugs;
 6x interface seals valve/manifold (CNVL-3I2)
 or 2x interface seals valve/manif. (CNVL-4I2);
 4x fixing screws for valves



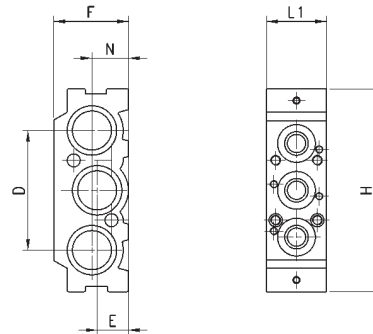
DIMENSIONS							
Mod.	B	D	E	F	H	L1	N
CNVL-3I2	23	46	12	29	78	46	14
CNVL-4I2	26	60	14	29	98	52	-

CNVL-3I2: for Series 3, G1/8
 CNVL-4I2: for Series 3, G1/4

Intermediate module with 1 position - Mod. CNVL-...



The following is supplied:
 3x interface O-Rings manifold/manifold;
 2x fixing nuts;
 2x junction plugs;
 3x interface seals valve/manifold (CNVL-3I1)
 or 1x interface seal valve/manif. (CNVL-4I1);
 2x fixing screws for valves



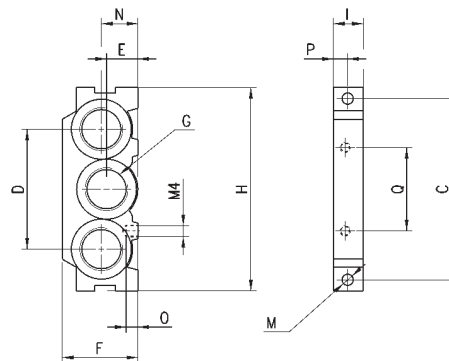
DIMENSIONS						
Mod.	D	E	F	H	L1	N
CNVL-3I1	46	12	29	78	23	14
CNVL-4I1	60	14	29	98	26	-

CNVL-3I1: for Series 3, G1/8
 CNVL-4I1: for Series 3, G1/4

Terminal module Mod. CNVL-*H



The following is supplied:
 2x fixing nuts



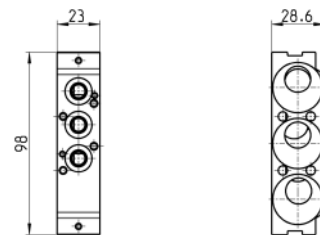
DIMENSIONS												
Mod.	C	D	E	F	H	I	M	N	O	P	Q	G
CNVL-3H	69,5	46	12	29	78	11,5	4,3	14	5	6	32	3/8
CNVL-4H	88	60	14	29	98	13	4,3	-	5	8	29	1/2

CNVL-3H: for Series 3, G1/8
 CNVL-4H: for Series 3, G1/4

Interface module manifold between Series 3 G1/8 and G1/4



The following is supplied:
 3x interface seal
 2x screws
 2x pins
 4x plugs
 6x O-Rings



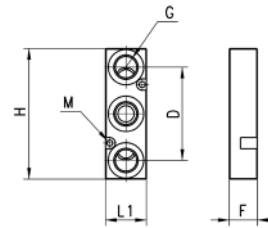
Mod.
CNVL-4H-3H

It is possible to seat 1 valve, series 3 with G1/8 port.

Intermediate plate for additional inlet and exhaust pressure



The following is supplied:
 3x O-Rings
 2x fixing screws



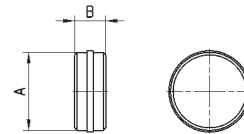
DIMENSIONS							
Mod.	G	H	M	F	L1	D	F
CNVL-3P	G1/4	70	3.2	29	22	50	15
CNVL-4P	G1/4	73	3.2	29	25	50	20

CNVL-3P: for Series 3, G1/8
 CNVL-4P: for Series 3, G1/4

Separation diaphragm



For separation of channel: 1 - 3 - 5.
 The following is supplied:
 1x diaphragm

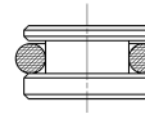


DIMENSIONS			
Mod.	A	B	
CNVL-3H-TP	15.6	6	for Series 3, G1/8
CNVL-4H-TP	23.8	8	for Series 3, G1/4

Blanking plug Mod. TCNVL for manifolds



The following is supplied:
 1x blanking plug
 1x O-Ring



Mod.	
TCNVL/3	for Series 3, G1/8
TCNVL/5	for Series 3, G1/4

Blanking plate Mod. CNVL for manifolds

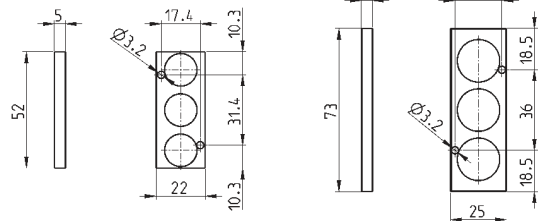
It is used to blank vacant positions of a manifold.



The following is supplied:
 2x fixing screws
 3x O-Rings

CNVL/1

CNVL/4



Mod.	
CNVL/1	for Series 3, G1/8
CNVL/4	for Series 3, G1/4

Series 4 valves and solenoid valves

3/2, 5/2 and 5/3-way CC, CO
Ports: G1/8, G1/4, G3/8, G1/2



SERIES 4 VALVES AND SOLENOID VALVES

Series 4 solenoid valves have been designed in the 3/2, 5/2, 5/3 versions and with the following two devices of actuation:

- electropneumatically actuated with mechanical spring return
- electropneumatically actuated and return with external and internal air pressure supply

Series 4 valves are equipped with a manual override which allows a stable operation and they are particularly suitable for mounting in arduous conditions.

All these valves can be operated by solenoids Series U, G A8 and H8. Moreover, valves with ports G1/2 only can be supplied with solenoids Series A6 (32x32).

Pneumatically actuated valves 3/2 NC become NO when the supply is on connection 3.

- » The different ports allow flows from 650 to 4000 Nl/min
- » New models available: with G3/8 ports and 1800 Nl/min flow

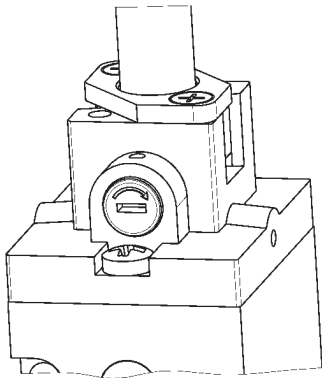
GENERAL DATA

Construction	balanced spool type
Valve functions	3/2 - 5/2 - 5/3-way CC, CO
Materials	AL body and subbases stainless steel spool technopolymer end cover NBR PU seals
Ports	G1/8 - G1/4 - G3/8 - G1/2
Installation	in any position
Operating temperature	0 ÷ 60°C (with dry air at -20°C)
Operating pressure	see table
Medium	filtered air, without lubrication. If lubricated air is used, it is recommended to use ISOVG32 oil. Once applied the lubrication should never be interrupted.

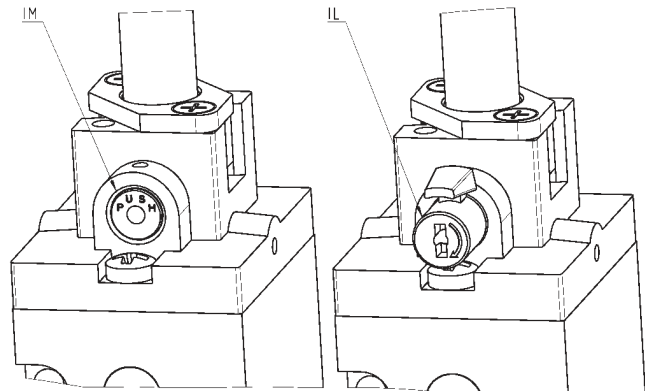
CODING EXAMPLE

4	5	4	-	015	-	22	IL	-	U7	7
4	SERIES									
5	NUMBER OF WAYS - POSITIONS: 3 = 3/2 NC 4 = 3/2 NO 5 = 5/2 6 = 5/3 CC 7 = 5/3 CO									
4	PORTS: 2C = G1/2 2N = G1/2 (high flow) 3 = G3/8 4 = G1/4 8 = G1/8									
015	ACTUATION: 011 = double solenoid (horizontal solenoids) V11 = double solenoid (vertical solenoids) for G1/4 port only E11 = double solenoid external servo-command E15 = single solenoid external servo-command 015 = single solenoid, spring return (horizontal solenoids) V15 = single solenoid, spring return (vertical solenoid) for G1/4 port only 016 = single solenoid, pneumatic spring return (horizontal solenoid) V16 = single solenoid, pneumatic spring return (vertical solenoid) for G1/4 port only 33 = pneumatic pneumatic 34 = pneumatic differential 35 = pneumatic spring									
22	SOLENOID INTERFACE: 22 = mech. sol. 22 x 22 50 = mech. sol. 32 x 32 (G1/2 only)									
IL	TYPE OF MANUAL OVERRIDE: = bistable, standard IL = bistable, lever type (available on demand) IM = monostable (available on demand)									
U7	ENCAPSULATING MATERIAL / SOLENOID DIMENSIONS: A6 = PPS / 32 x 32 (G1/2 only) A8 = PPS / 30 x 30 G7 = PA / 22 x 22 G8 = PA / 30 x 30 (24 V DC only) G9 = PA / 22 x 58 H8 = PA 6 V0 / 30 x 30 U7 = PET / 22 x 22									
7	SOLENOID VOLTAGE (see the dedicated section 2.35)									

TYPES OF MANUAL OVERRIDE



Example of solenoid valve with a bistable standard manual override.

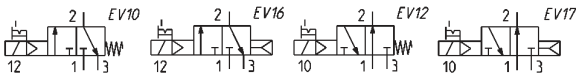
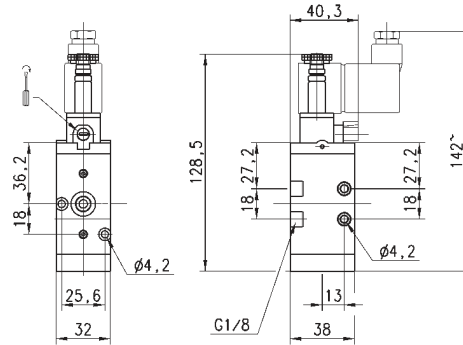


Example of solenoid monostable valve (IM) and bistable valve with a lever type manual override (IL).

3/2-way solenoid valve G1/8, monostable - Mod. 438... and 448...



These solenoid valves, which have electropneumatic actuation and spring return, are available in the NC (closed) or NO (open) version.

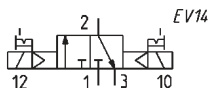
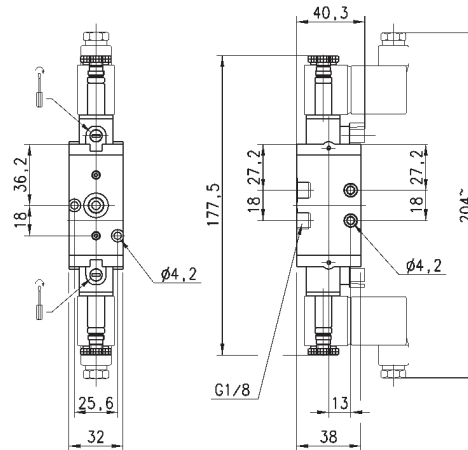


Mod.	Function	Flow rate Qn (NL/min)	Operating pressure (bar)	Symbol
438-015-22	3/2 NC	650	2.5 ÷ 10	EV10
438-016-22	3/2 NC	650	2.5 ÷ 10	EV16
448-015-22	3/2 NO	650	2.5 ÷ 10	EV12
448-016-22	3/2 NO	650	2.5 ÷ 10	EV17

3/2-way solenoid valve G1/8, bistable - Mod. 438-011...



These solenoid valves, which have electropneumatic actuation and return, assume the NC (closed) or NO (open) operating status depending on the last pulse received.

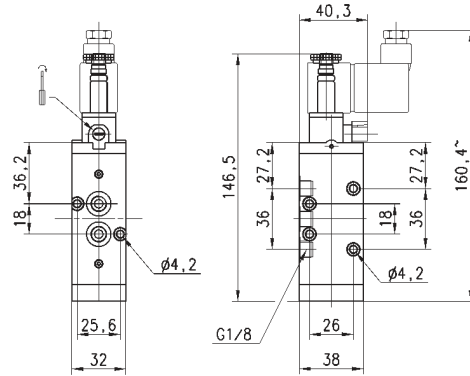
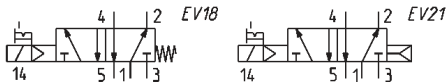


Mod.	Function	Flow rate Qn (NL/min)	Operating pressure (bar)
438-011-22	3/2	650	2 ÷ 10

5/2-way solenoid valves, G1/8, monostable - Mod 458...



These solenoid valves, which have electropneumatic actuation and spring return, are suitable for operating double-acting cylinders.

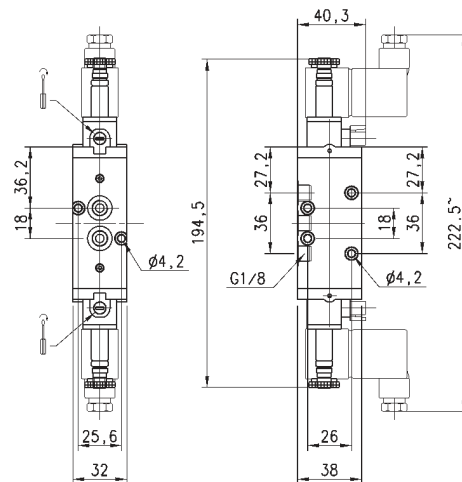
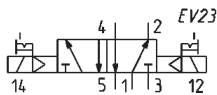


Mod.	Function	Flow rate Qn (NI/min)	Operating pressure (bar)	Symbol
458-015-22	5/2	650	2.5 ÷ 10	EV18
458-016-22	5/2	650	2.5 ÷ 10	EV21

5/2-way solenoid valves, G1/8, bistable - Mod 458-011...



These solenoid valves, with electropneumatic actuation and return, are suitable for operating double-acting cylinders.

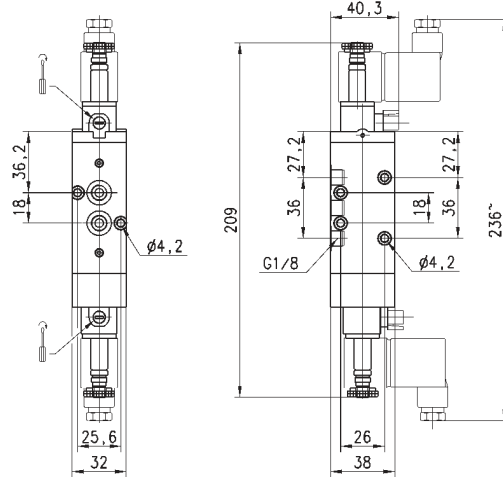
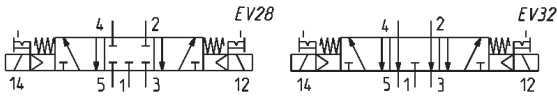


Mod.	Function	Flow rate Qn (NI/min)	Operating pressure (bar)
458-011-22	5/2	650	2 ÷ 10

5/3-way solenoid valve, G1/8 - Mod. 468-011... and 478-011...



CC = Centres Closed
CO = Centres Open

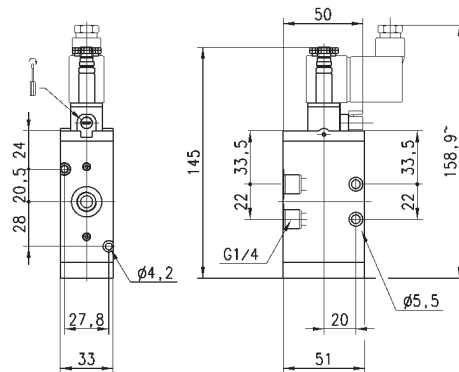
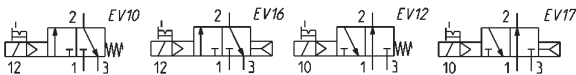


Mod.	Function	Flow rate Qn (NI/min)	Operating pressure (bar)	Symbol
468-011-22	5/3 CC	600	2.5 ÷ 10	EV28
478-011-22	5/3 CO	600	2.5 ÷ 10	EV32

3/2-way solenoid valve, G1/4, monostable Mod. 434 and Mod. 444



These solenoid valves, which have electropneumatic actuation and spring return, are available in the NC (closed) or NO (open) version.

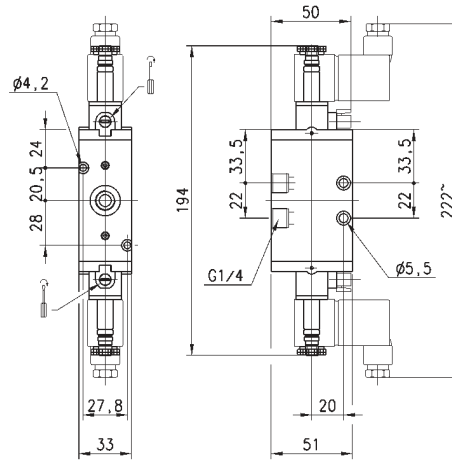
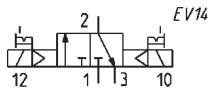


Mod.	Function	Flow rate Qn (NI/min)	Operating pressure (bar)	Symbol
434-015-22	3/2 NC	1250	2.5 ÷ 10	EV10
434-016-22	3/2 NC	1250	2.5 ÷ 10	EV16
444-015-22	3/2 NO	1250	2.5 ÷ 10	EV12
444-016-22	3/2 NO	1250	2.5 ÷ 10	EV17

3/2-way solenoid valve, G1/4, bistable - Mod. 434-011...



These solenoid valves, which have electropneumatic actuation and return, assume the NC (closed) or NO (open) position depending on the last pulse received.

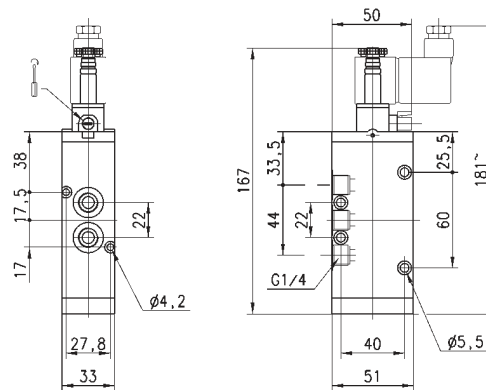
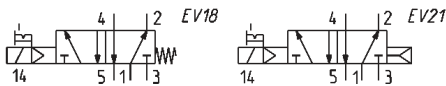


Mod.	Function	Flow rate Qn (NI/min)	Operating pressure (bar)
434-011-22	3/2	1250	2 ÷ 10

5/2-way solenoid valve, G1/4, monostable - Mod. 454...



These solenoid valves, which have electropneumatic actuation and spring return, are suitable for operating double-acting cylinders.

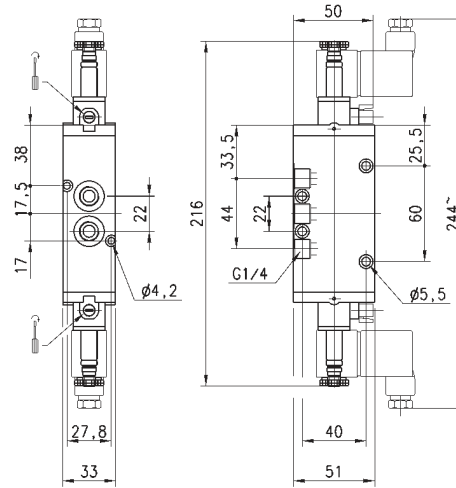
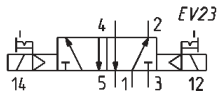


Mod.	Function	Flow rate Qn (NI/min)	Operating pressure (bar)	Symbol
454-015-22	5/2	1250	2.5 ÷ 10	EV18
454-016-22	5/2	1250	2.5 ÷ 10	EV21

5/2-way solenoid valve, G1/4, bistable - Mod. 454-011...



These solenoid valves, which have electropneumatic actuation and return, are suitable for operating double-acting cylinders.

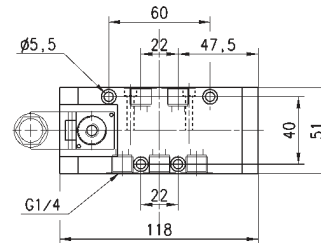
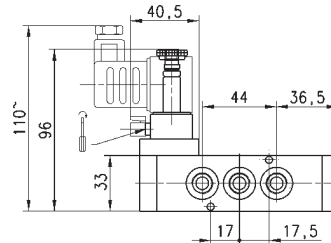
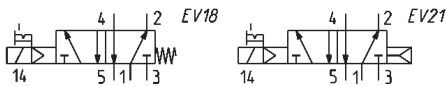


Mod.	Function	Flow rate Qn (NI/min)	Operating pressure (bar)
454-011-22	5/2	1250	2 ÷ 10

5/2-way solenoid valve, G1/4, monostable - Mod. 454-V...



These solenoid valves, which have electropneumatic actuation and spring or pneumatic spring return are suitable for operating double-acting cylinders.

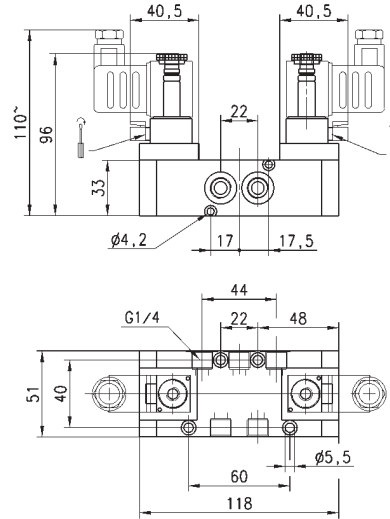
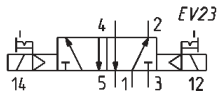


Mod.	Function	Flow rate Qn (NI/min)	Operating pressure (bar)	Symbol
454-V15-22	5/2	1250	2.5 ÷ 10	EV18
454-V16-22	5/2	1250	2.5 ÷ 10	EV21

5/2-way solenoid valve, G1/4, bistable - Mod. 454-V11...



These solenoid valves, which have electropneumatic actuation and return, are suitable for operating double-acting cylinders.

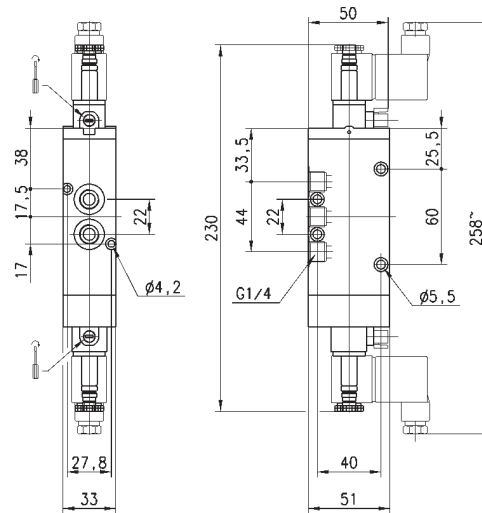
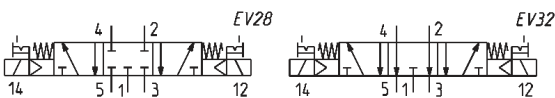


Mod.	Function	Flow rate Qn (NI/min)	Operating pressure (bar)
454-V11-22	5/2	1250	2 ÷ 10

5/3-way solenoid valve, G1/4 - Mod. 464-011... e 474-011...



CC = Centres Closed
CO = Centres Open



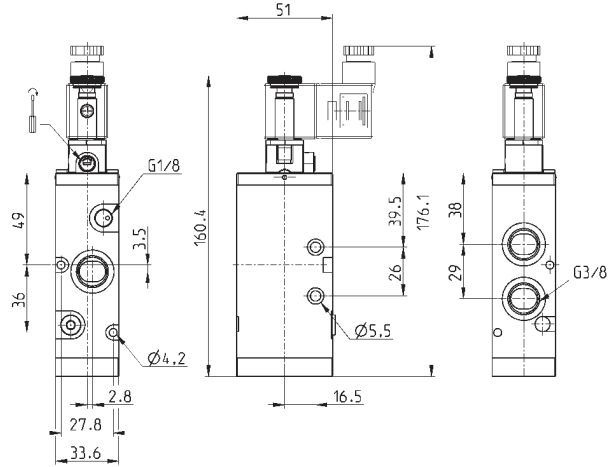
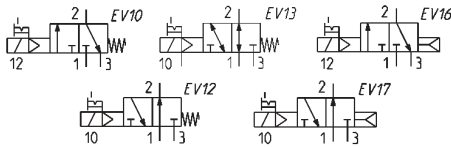
Mod.	Function	Flow rate Qn (NI/min)	Operating pressure (bar)	Symbol
464-011-22	5/3 CC	1250	2.5 ÷ 10	EV28
474-011-22	5/3 CO	1250	2.5 ÷ 10	EV32

3/2-way solenoid valve, G3/8, monostable Mod. 433... and Mod. 443...

New



These solenoid valves, which have electropneumatic actuation and spring return, are available in the NC (closed) or NO (open) version. The E15 version can work both NC and NO.



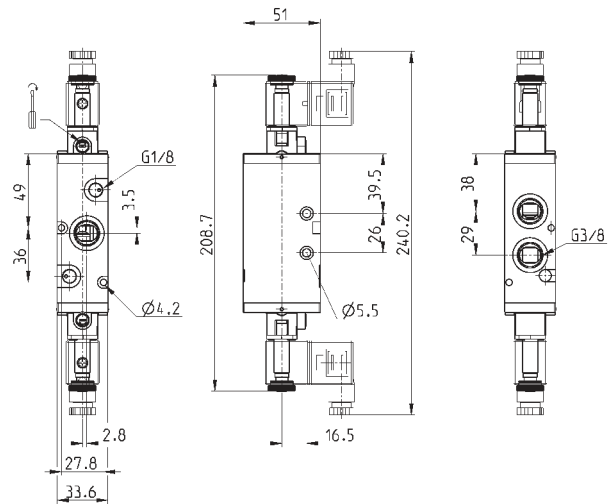
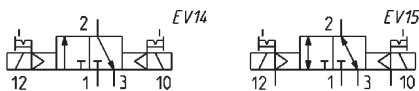
Mod.	Function	Flow Qn (NL/min)	Working pressure (bar)	Min. pilot pressure (bar)	Symbol
433-015-22	3/2 NC	1800	2.5 ÷ 10	-	EV10
433-E15-22	3/2	1800	-0.9 ÷ 10	2.5	EV13
433-016-22	3/2 NC	1800	2.5 ÷ 10	-	EV16
443-015-22	3/2 NO	1800	2.5 ÷ 10	-	EV12
443-016-22	3/2 NO	1800	2.5 ÷ 10	-	EV17

3/2-way solenoid valve, G3/8, bistable - Mod. 433-011...

New



These solenoid valves, which have electropneumatic actuation and return, assume the NC (closed) or NO (open) position depending on the last pulse received. The E15 version can work both NC and NO.



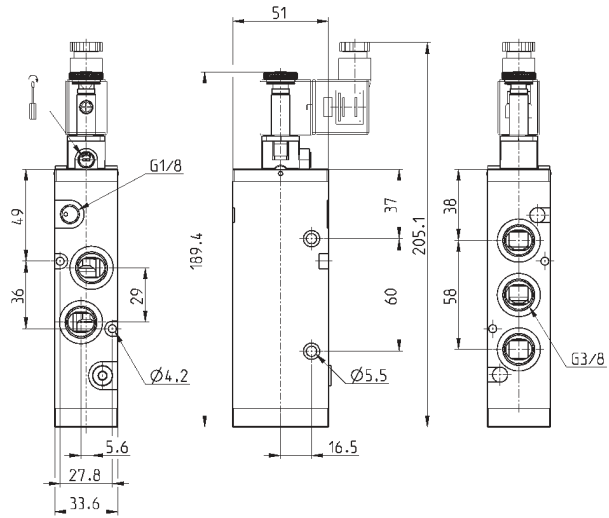
Mod.	Function	Flow Qn (NL/min)	Working pressure (bar)	Min. pilot pressure (bar)	Symbol
433-011-22	3/2	1800	2 ÷ 10	-	EV14
433-E11-22	3/2	1800	-0.9 ÷ 10	2	EV15

New

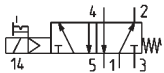
5/2-way solenoid valve, G3/8, monostable - Mod. 453...



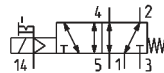
These solenoid valves, which have electropneumatic actuation and spring return, are suitable for operating double-acting cylinders.



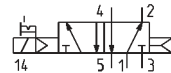
EV18



EV19



EV21



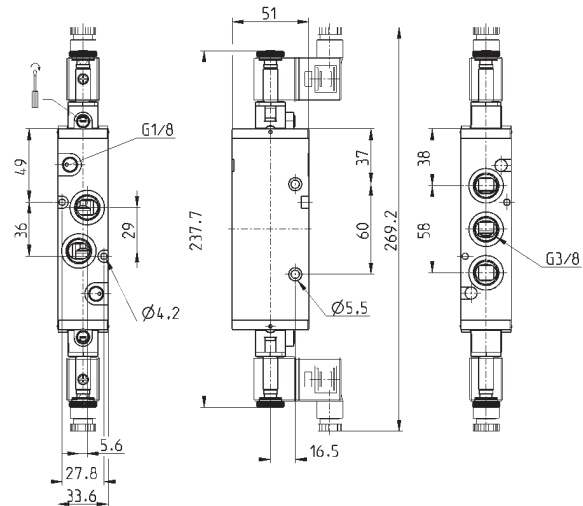
Mod.	Function	Flow Qn (NL/min)	Working pressure (bar)	Min. pilot pressure (bar)	Symbol
453-015-22	5/2	1800	2.5 ÷ 10	-	EV18
453-E15-22	5/2	1800	-0.9 ÷ 10	2.5	EV19
453-016-22	5/2	1800	2.5 ÷ 10	-	EV21

New

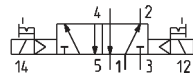
5/2-way solenoid valve, G3/8, bistable - Mod. 453-011...



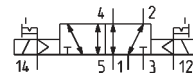
These solenoid valves, which have electropneumatic actuation and return, are suitable for operating double-acting cylinders.



EV23



EV25



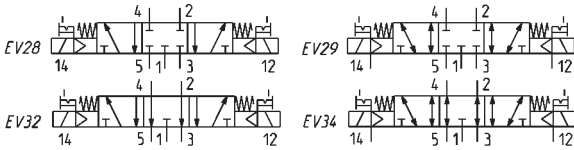
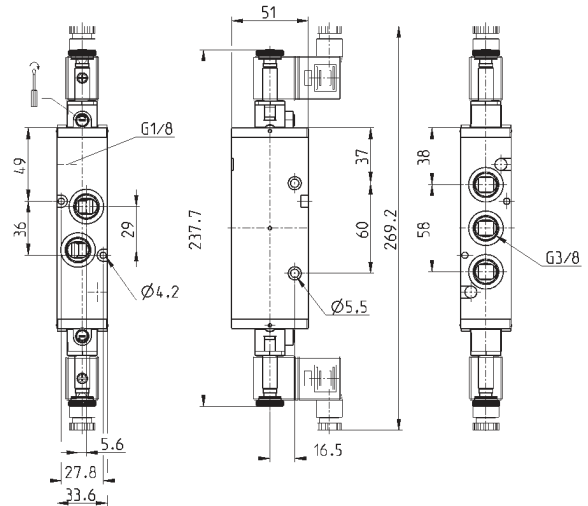
Mod.	Function	Flow Qn (NL/min)	Working pressure (bar)	Min. pilot pressure (bar)	Symbol
453-011-22	5/2	1800	2 ÷ 10	-	EV23
453-E11-22	5/2	1800	-0.9 ÷ 10	2	EV25

5/3-way solenoid valve, G3/8 - Mod. 463-011... and 473-011...

New



CC = Centres Closed
CO = Centres Open

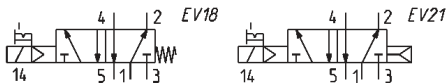
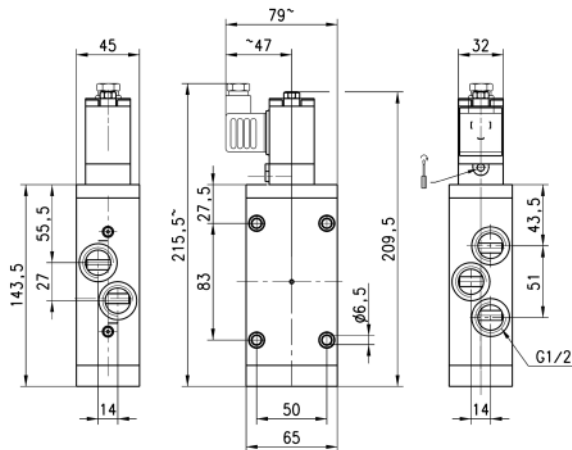


Mod.	Function	Flow Qn (NI/min)	Working pressure (bar)	Min. pilot pressure (bar)	Symbol
463-011-22	5/3 CC	1600	2.5 ÷ 10	-	EV28
463-E11-22	5/3 CC	1600	-0.9 ÷ 10	2.5	EV29
473-011-22	5/3 CO	1600	2.5 ÷ 10	-	EV32
473-E11-22	5/3 CO	1600	-0.9 ÷ 10	2.5	EV34

5/2-way solenoid valve, G1/2, monostable - Mod. 452C...



These solenoid valves, which have electropneumatic actuation and spring or pneumatic spring return are suitable for operating double-acting cylinders.

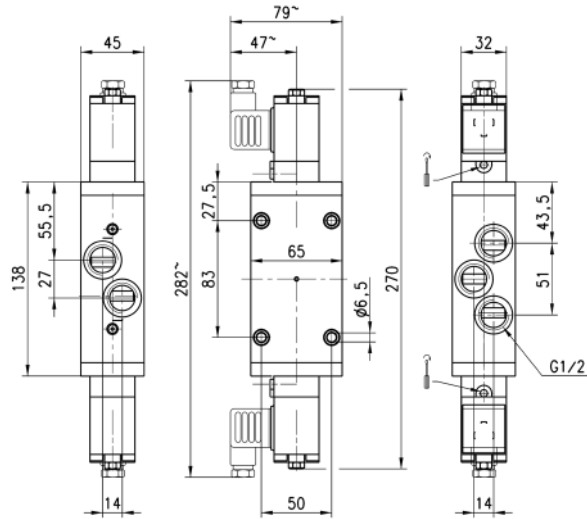
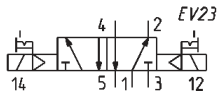


Mod.	Function	Flow rate Qn (NI/min)	Operating pressure (bar)	Symbol	
452C-015-50-A6*	5/2	2500	2.5 ÷ 10	EV18	* choose the desired voltage
452C-016-50-A6*	5/2	2500	2.5 ÷ 10	EV21	* choose the desired voltage

5/2-way solenoid valve, G1/2, bistable - Mod. 452C-011...



These solenoid valves, which have electropneumatic actuation and return, are suitable for operating double-acting cylinders.



Mod.	Function	Flow rate Qn (NL/min)	Operating pressure (bar)
452C-011-50-A6*	5/2	2500	2 ÷ 10

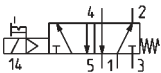
* choose the desired voltage

5/2-way solenoid valve, G1/2, monostable - Mod. 452N-...

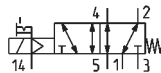


These solenoid valves, which have electropneumatic actuation and spring or pneumatic spring return are suitable for operating double-acting cylinders.

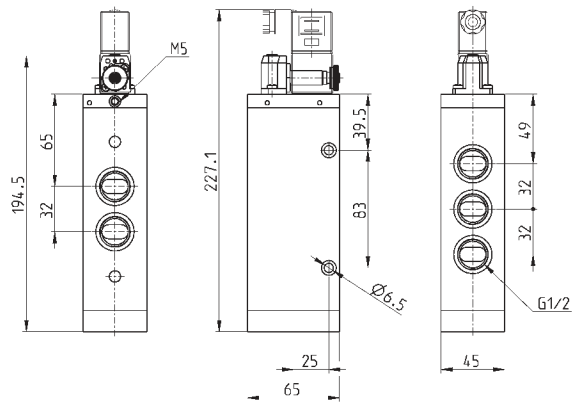
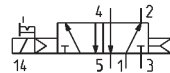
EV18



EV19



EV21



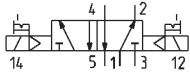
Mod.	Function	Flow rate Qn (NL/min)	min. pilot Pressure (bar)	Working pressure (bar)	Symbol
452N-015-22	5/2	4000	-	2.5 ÷ 10	EV18
452N-016-22	5/2	4000	-	2.5 ÷ 10	EV21
452N-E15-22	5/2	4000	2.5	-0.9 ÷ 10	EV19

5/2-way solenoid valve, G1/2, bistable - Mod. 452N-...

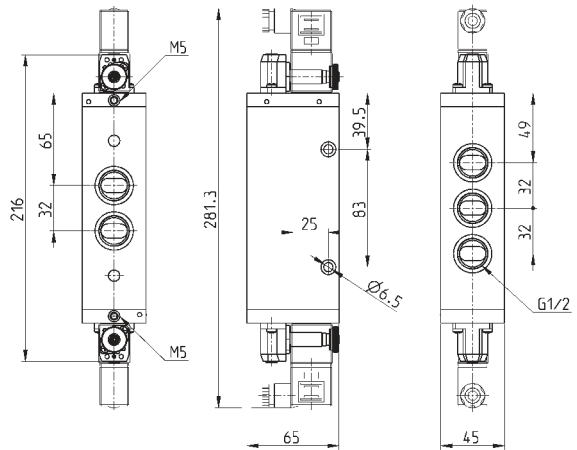
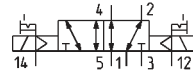


These solenoid valves, which have electropneumatic actuation and return, are suitable for operating double-acting cylinders.

EV23



EV25



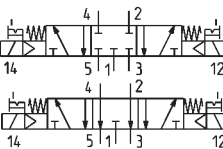
Mod.	Function	Flow rate Qn (NL/min)	min. pilot Pressure (bar)	Working pressure (bar)	Symbol
452N-011-22	5/2	4000	-	2 ÷ 10	EV23
452N-E11-22	5/2	4000	2	-0.9 ÷ 10	EV25

5/3-way solenoid valve, G1/2, bistable - Mod. 462N-..., 472N-...

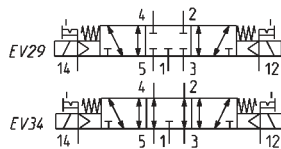


These solenoid valves, which have electropneumatic actuation and return, are suitable for operating double-acting cylinders.

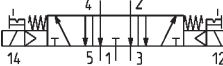
EV28



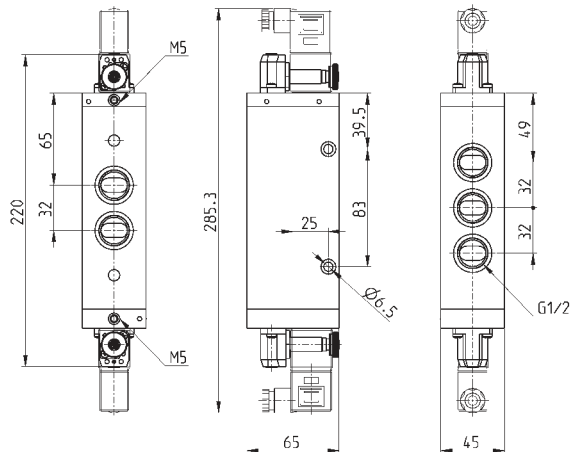
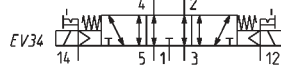
EV29



EV32

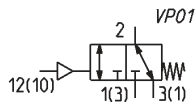
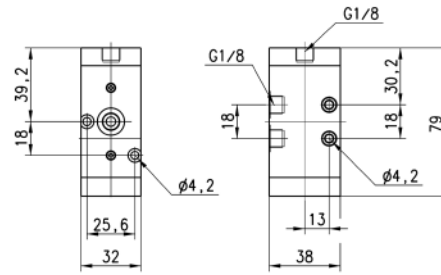


EV34



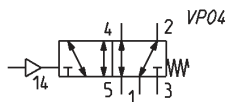
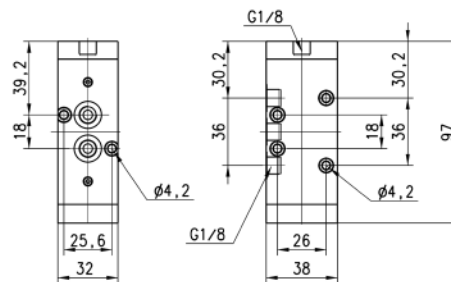
Mod.	Function	Flow rate Qn (NL/min)	min. pilot Pressure (bar)	Working pressure (bar)	Symbol
462N-011-22	5/3 CC	3300	-	2.5 ÷ 10	EV28
462N-E11-22	5/3 CC	3300	2.5	-0.9 ÷ 10	EV29
472N-011-22	5/3 CO	3300	-	2.5 ÷ 10	EV32
472N-E11-22	5/3 CO	3300	2.5	-0.9 ÷ 10	EV34

3/2-way valve, G1/8 port, monostable Mod. 438-35



Mod.	Mounting	Function	Flow rate Qn (NL/min)	Min. pilot pressure (bar)	Working pressure (bar)
438-35	in-line/on manifold	3/2 NC	700	2.5	-0.9 ÷ 10

5/2-way valve, G1/8 port, monostable Mod. 458-35

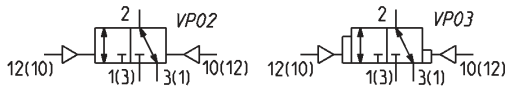
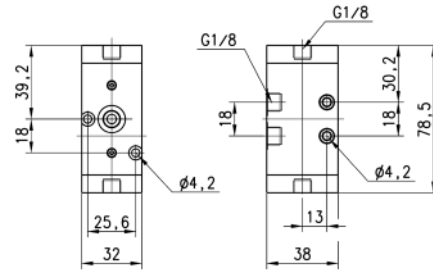


Mod.	Mounting	Function	Flow rate Qn (NL/min)	Min. pilot pressure (bar)	Working pressure (bar)
458-35	in-line/manifold	5/2	700	2.5	-0.9 ÷ 10

3/2-way valve, G1/8 port, bistable Mod. 438

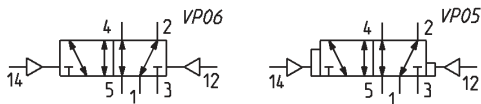
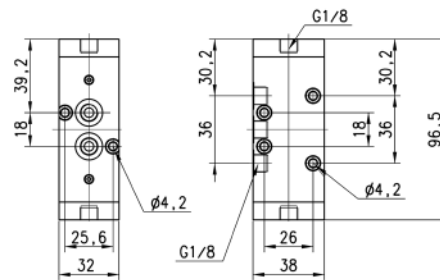


These valves can work NC or NO according to the last pilot signal.



Mod.	Mounting	Function	Flow rate Qn (NL/min)	min. pilot Pressure (bar)	Working pressure (bar)	Symbol
438-33	in-line/on manifold	3/2	700	2	-0.9 ÷ 10	VP02
438-34	in-line/on manifold	3/2	700	2	-0.9 ÷ 10	VP03

5/2-way valve, G1/8 port, bistable Mod. 458

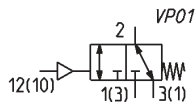
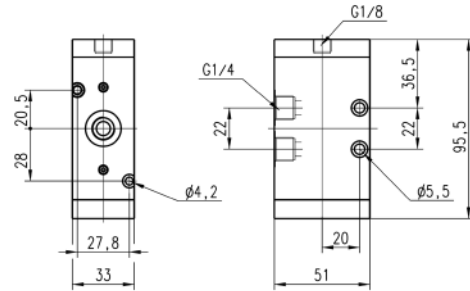


Mod.	Mounting	Function	Flow rate Qn (NL/min)	min. pilot Pressure (bar)	Working pressure (bar)	Symbol
458-33	in-line/on manifold	5/2	700	2	-0.9 ÷ 10	VP06
458-34	in-line/on manifold	5/2	700	2	-0.9 ÷ 10	VP05

3/2-way valve, G1/4 port, monostable Mod. 434-35

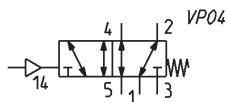
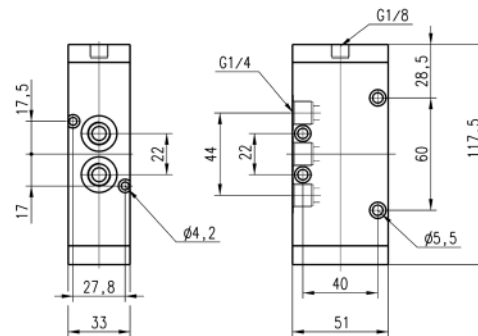


This valve can work NC or NO depending on where the power supply is connected.



Mod.	Mounting	Function	Flow rate Qn (NL/min)	min. pilot Pressure (bar)	Working pressure (bar)
434-35	in-line/on manifold	3/2 NC	1250	2.5	-0.9 ÷ 10

5/2-way valve, G1/4 port, monostable Mod. 454-35

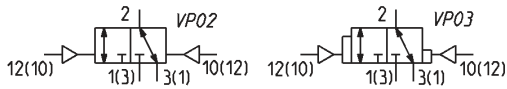
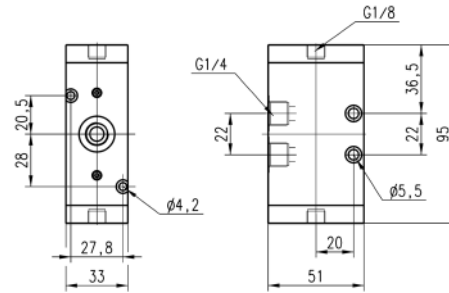


Mod.	Mounting	Function	Flow rate Qn (NL/min)	Min. pilot pressure (bar)	Working pressure (bar)
454-35	in-line/on manifold	5/2	1250	2.5	-0.9 ÷ 10

3/2-way valve, G1/4 port, bistable Mod. 434

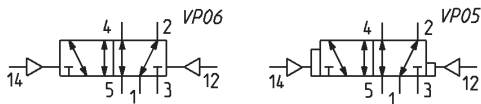
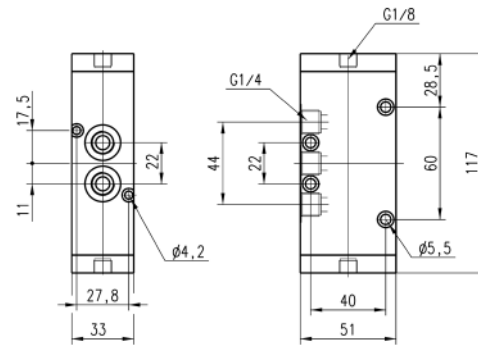


These valves can work NC or NO according to the last pilot signal.



Mod.	Mounting	Function	Flow rate Qn (NL/min)	min. pilot Pressure (bar)	Working pressure (bar)	Symbol
434-33	in-line/on manifold	3/2 NC	1250	2	-0.9 ÷ 10	VP02
434-34	in-line/on manifold	3/2 NC	1250	2	-0.9 ÷ 10	VP03

5/2-way valve, G1/4 port, bistable Mod. 454

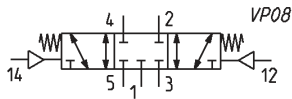
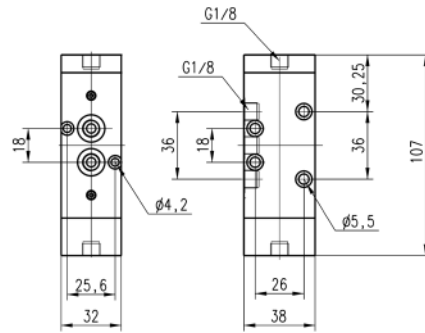


Mod.	Mounting	Function	Flow rate Qn (NL/min)	min. pilot Pressure (bar)	Working pressure (bar)	Symbol
454-33	in-line/on manifold	5/2	1250	2	-0.9 ÷ 10	VP06
454-34	in-line/on manifold	5/2	1250	2	-0.9 ÷ 10	VP05

5/3-way C.C. valve, G1/8, monostable, with central stable position



CC = Centres Closed

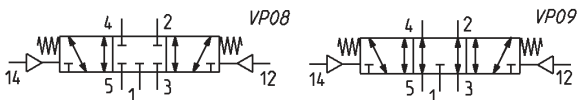
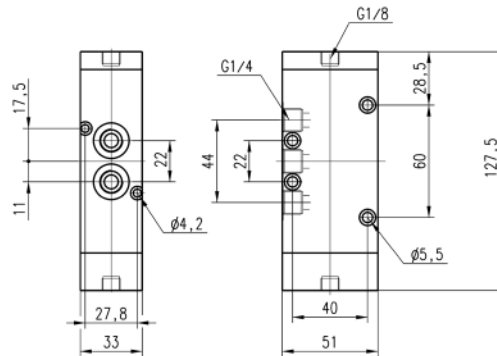


Mod.	Mounting	Function	Flow rate Qn (NL/min)	min. pilot Pressure (bar)	Working pressure (bar)
468-33	in-line/on manifold	5/3 CC	700	2.5	-0.9 ÷ 10

5/3-way CC CO valve, G1/4, monostable, central stable position



CC = Centres Closed
CO = Centres Open



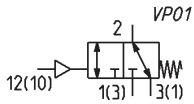
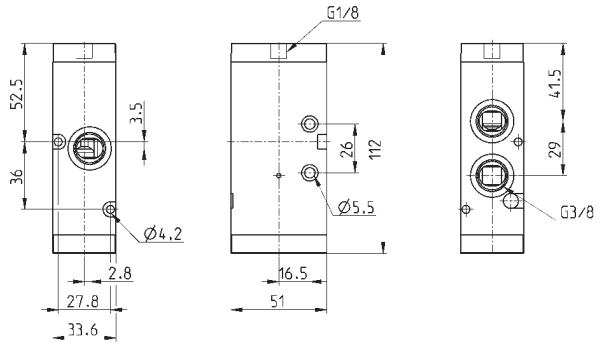
Mod.	Mounting	Function	Flow rate Qn (NL/min)	min. pilot Pressure (bar)	Working pressure (bar)	Symbol
464-33	in-line/on manifold	5/3 CC	1250	2.5	-0.9 ÷ 10	VP08
474-33	in-line/on manifold	5/3 CO	1200	2.5	-0.9 ÷ 10	VP09

3/2-way valve, G3/8 port, monostable Mod. 433-35

New



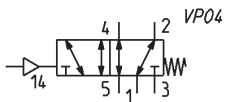
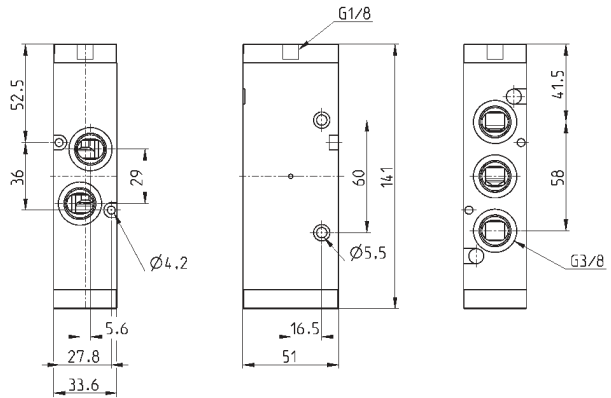
This valve can work NC or NO depending on where the power supply is connected.



Mod.	Mounting	Function	Flow rate Qn (NL/min)	min. pilot Pressure (bar)	Working pressure (bar)
433-35	in-line/on manifold	3/2 NC	1800	2.5	-0.9 ÷ 10

5/2-way valve, G3/8 port, monostable Mod. 453-35

New



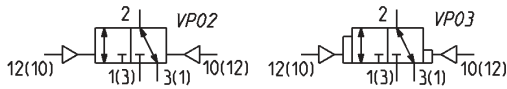
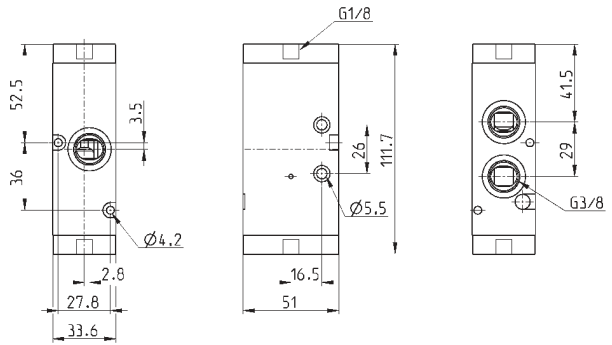
Mod.	Mounting	Function	Flow rate Qn (NL/min)	Min. pilot pressure (bar)	Working pressure (bar)
453-35	in-line/on manifold	5/2	1800	2.5	-0.9 ÷ 10

3/2-way valve, G3/8 port, bistable Mod. 433

New



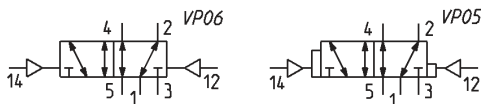
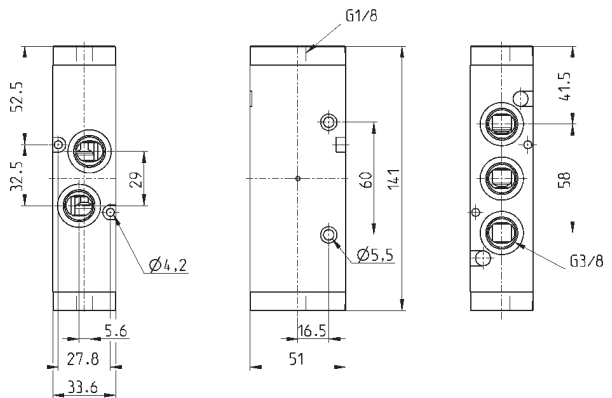
These valves can work NC or NO according to the last pilot signal.



Mod.	Mounting	Function	Flow rate Qn (NL/min)	min. pilot Pressure (bar)	Working pressure (bar)	Symbol
433-33	in-line/on manifold	3/2 NC	1800	2	-0.9 ÷ 10	VP02
433-34	in-line/on manifold	3/2 NC	1800	2	-0.9 ÷ 10	VP03

5/2-way valve, G3/8 port, bistable Mod. 453

New

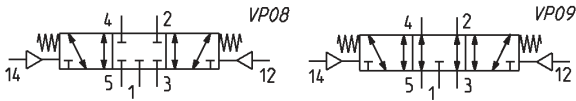
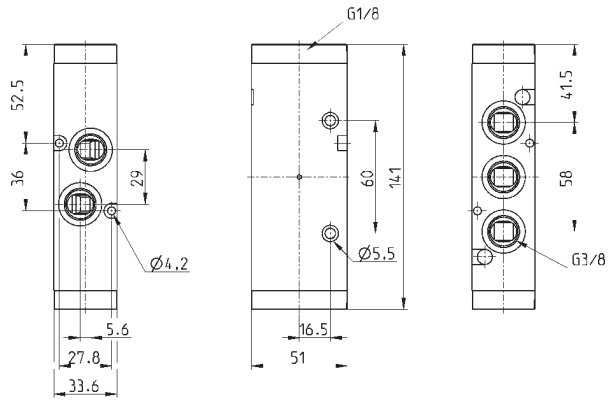


Mod.	Mounting	Function	Flow rate Qn (NL/min)	min. pilot Pressure (bar)	Working pressure (bar)	Symbol
453-33	in-line/on manifold	5/2	1800	2	-0.9 ÷ 10	VP06
453-34	in-line/on manifold	5/2	1800	2	-0.9 ÷ 10	VP05

5/3-way CC CO valve, G3/8, monostable, central stable position

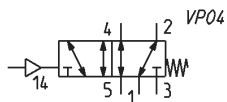
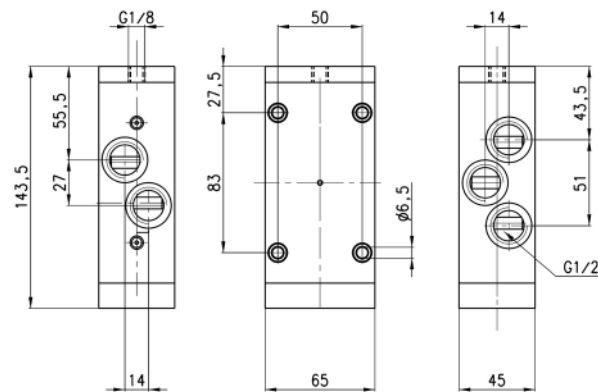


CC = Centres Closed
CO = Centres Open



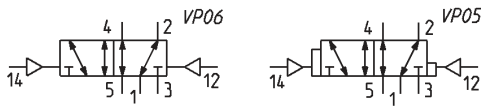
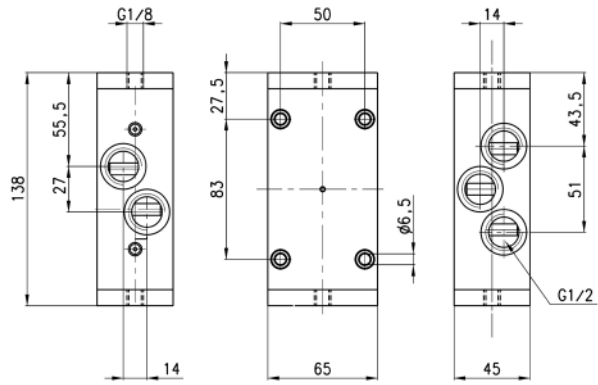
Mod.	Mounting	Function	Flow rate Qn (NL/min)	min. pilot Pressure (bar)	Working pressure (bar)	Symbol
463-33	in-line/on manifold	5/3 CC	1600	2.5	-0.9 ÷ 10	VP08
473-33	in-line/on manifold	5/3 CO	1600	2.5	-0.9 ÷ 10	VP09

5/2-way valve, G1/2 port, monostable Mod. 452C-35



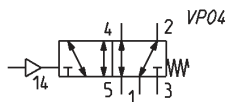
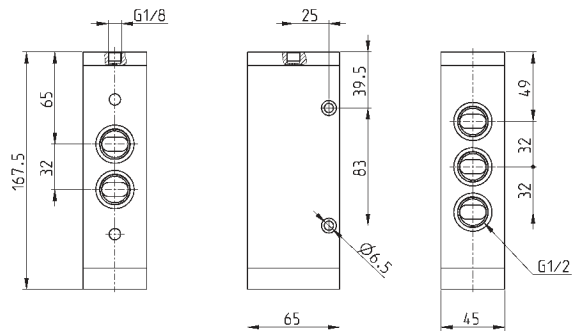
Mod.	Mounting	Function	Flow rate Qn (NL/min)	Min. pilot pressure (bar)	Working pressure (bar)
452C-35	in-line	5/2	2500	2.5	-0.9 ÷ 10

5/2-way valve, G1/2 port, bistable Mod. 452C



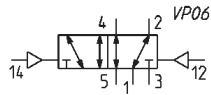
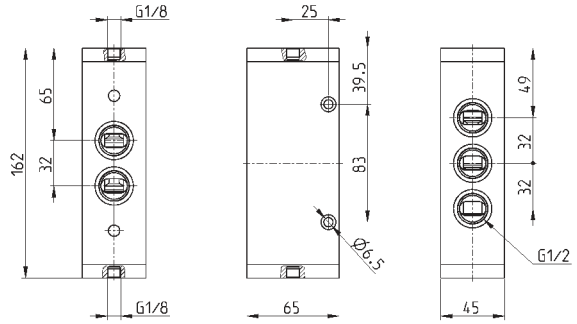
Mod.	Mounting	Function	Flow rate Qn (Nl/min)	min. pilot Pressure (bar)	Working pressure (bar)	Symbol
452C-33	in-line	5/2	2500	2	-0.9 ÷ 10	VP06
452C-34	in-line	5/2	2500	2	-0.9 ÷ 10	VP05

5/2-way valve, G1/2 port, monostable Mod. 452N-35



Mod.	Mounting	Function	Flow rate Qn (Nl/min)	Min. pilot pressure (bar)	Working pressure (bar)
452N-35	in-line	5/2	4000	2.5	-0.9 ÷ 10

5/2-way valve, G1/2 port, bistable Mod. 452N-33



Mod.	Mounting	Function	Flow rate Qn (NL/min)	min. pilot Pressure (bar)	Working pressure (bar)	Symbol
452N-33	in-line	5/2	4000	2	-0.9 ÷ 10	VP06

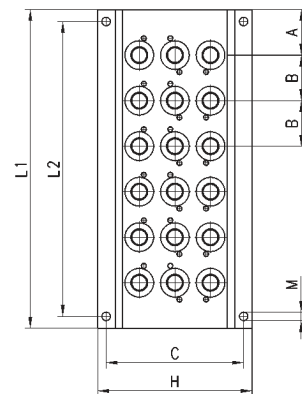
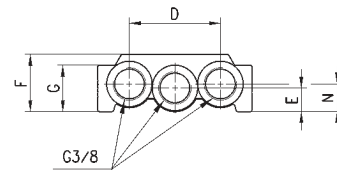
Manifold base with common exhausts



For valves Series 4, G1/8 (3/2, 5/2 or 5/3-way)

The following is supplied with:

- 1x manifold
- 1x pair of fixing screws for valve position
- 1x interface seal for valve positions
- 2x guides for valve position

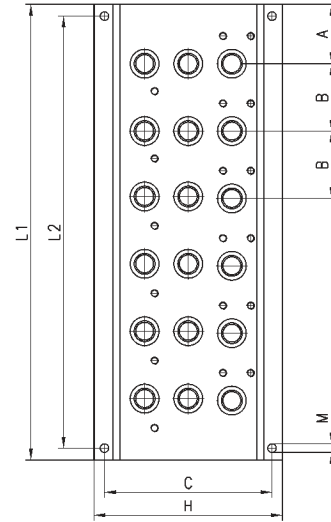
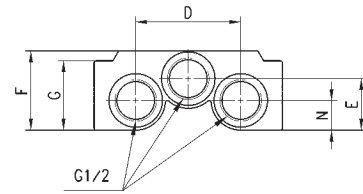


DIMENSIONS												
Mod.	A	B	C	D	E	F	G	H	L1	L2	M	N
CNVL-42	28	33	69.5	46	12	29	23.5	78	89	77	4.3	14
CNVL-43	28	33	69.5	46	12	29	23.5	78	122	110	4.3	14
CNVL-44	28	33	69.5	46	12	29	23.5	78	155	143	4.3	14
CNVL-45	28	33	69.5	46	12	29	23.5	78	188	176	4.3	14
CNVL-46	28	33	69.5	46	12	29	23.5	78	221	209	4.3	14

Manifold base with common exhausts



For valves Series 4, G1/4 (3/2, 5/2 or 5/3-way)
 The following is supplied :
 1x manifold
 1x pair of fixing screws for valve position
 1x interface seal for valve positions
 2x guides for valve position



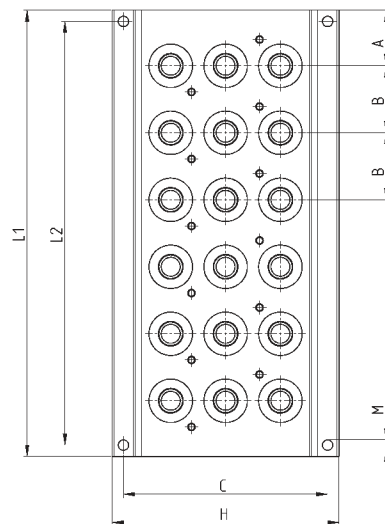
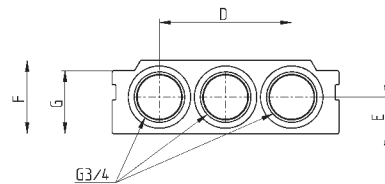
DIMENSIONS												
Mod.	A	B	C	D	E	F	G	H	L1	L2	M	N
CNVL-52	30	34	84.5	53	26	40	35	95	94	82	4.3	15
CNVL-53	30	34	84.5	53	26	40	35	95	128	116	4.3	15
CNVL-54	30	34	84.5	53	26	40	35	95	162	150	4.3	15
CNVL-55	30	34	84.5	53	26	40	35	95	196	184	4.3	15
CNVL-56	30	34	84.5	53	26	40	35	95	230	218	4.3	15

Manifold base with common exhausts

New



For valves Series 4, G3/8 (3/2, 5/2 or 5/3-way)
 The following is supplied with:
 1x manifold
 1x pair of fixing screws for valve position
 1x interface seal for valve positions
 2x guides for valve position



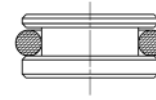
Mod.	A	B	C	D	E	F	G	H	L1	L2	M
CNVL-62	29.5	35	108	70	19.5	39	33.5	120	94.5	82.5	5.5
CNVL-63	29.5	35	108	70	19.5	39	33.5	120	130	118	5.5
CNVL-64	29.5	35	108	70	19.5	39	33.5	120	166	154	5.5
CNVL-65	29.5	35	108	70	19.5	39	33.5	120	201	189	5.5
CNVL-66	29.5	35	108	70	19.5	39	33.5	120	237	225	5.5

Blanking plug Mod. TCNVL for manifolds



The following is supplied:
1x blanking plug
1x O-Ring

TCNVL/3: for Series 4, G1/8
TCNVL/5: for Series 4, G1/4
TCNVL/6: for Series 4, G3/8



Mod.

TCNVL/3

TCNVL/5

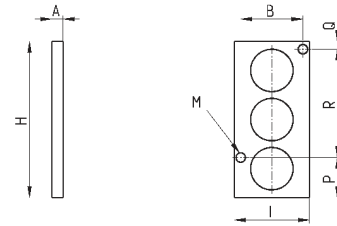
TCNVL/6

Blanking plate Mod. CNVL for manifolds



The following is supplied:
2x fixing screws
3x O-Rings

CNVL/2: for Series 4, G1/8
CNVL/3: for Series 4, G1/4
CNVL/4: for Series 4, G3/8



DIMENSIONS

Mod.	A	B	H	I	M	P	Q	R
CNVL/2	5	25.6	52	32	4.2	17	17	18
CNVL/3	5	27.8	70	33.5	4.2	18	3.5	48.5
CNVL/4	5	27.8	85	33.5	4.2	24.5	24.5	36

It is used to blank vacant positions of a manifold.

Series 9 valves and solenoid valves

5/2 and 5/3-way CC CO

Sizes 1 - 2 - 3

According to the standard ISO 5599/1



Series 9 electropneumatically or pneumatically operated valves have been designed with sizes 1, 2 and 3, as recommended by the ISO Standards. The ease of pneumatic and electrical wiring makes these valves extremely flexible.

GENERAL DATA

Operating pressure	max. press. 10 bar (for minimum pressures see descriptions)
Nominal pressure	6 bar
Nominal flow	ISO 1 = 900 NL/min ISO 2 = 1610 NL/min ISO 3 = 4350 NL/min
Operating temperature	0 ÷ 60°C (with dry air at -20°C)
Fluid	filtered air, without lubrication. If lubricated air is used, it is recommended to use ISOVG32 oil and to never interrupt the lubrication.
Electropneumatic interface	according CNOMO Standards

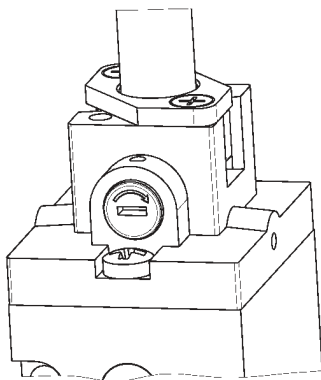
CODING EXAMPLE

9	5	1	-	000	-	P16	-	23	-	U7	7
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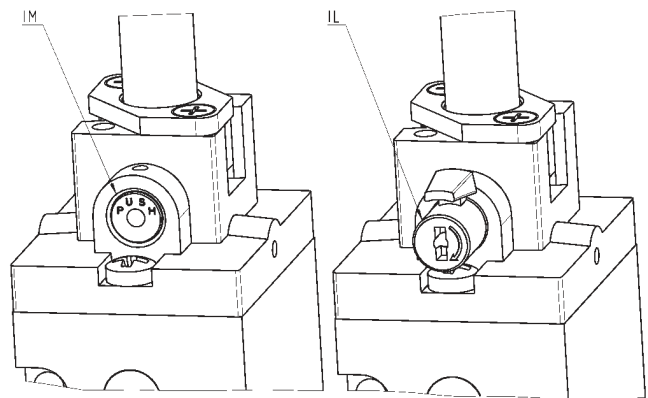
9	SERIES
5	NUMBER OF WAYS - POSITIONS: 5 = 5/2 6 = 5/3 CC 7 = 5/3 CO
1	SIZE: 1 = size 1 2 = size 2 3 = size 3
000	BODY DESIGN: 000 = valve body
P16	ACTUATION: 33 = pneumatic, pneumatic return 34 = pneumatic, differential pneumatic return 35 = pneumatic, mechanical spring return P11 = double solenoid (horizontal solenoids) P15 = single solenoid, spring return (horizontal solenoids) P16 = solenoid, pneumatic spring return (horizontal solenoids)
23	SOLENOID INTERFACE AND MANUAL COMMAND: 23 = A531-BC2 standard bistable manual override 23IL = A531-BC2 lever type bistable manual override 23IM = A531-BC2 monostable manual override
U7	SOLENOID MATERIAL / SOLENOID DIMENSIONS: A8 = PPS / 30 x 30 G7 = PA / 22 x 22 G8 = PA / 30 x 30 (24 V DC only) G9 = PA / 22 x 58 H8 = PA 6 V0 / 30 x 30 U7 = PET / 22 x 22
7	SOLENOID VOLTAGE (see the dedicated section 2.35)

SERIES 9 VALVES AND SOLENOID VALVES

TYPES OF MANUAL OVERRIDE



Example of solenoid valve with a bistable standard manual override.



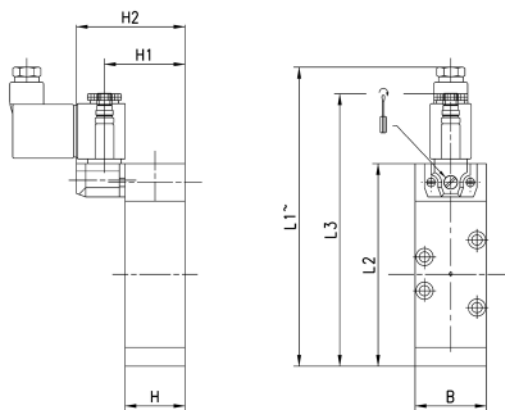
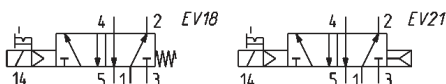
Example of solenoid monostable valve (IM) and bistable valve with a lever type manual override (IL).

5/2-way solenoid valves, monostable - ISO 1, ISO 2, ISO 3



Available with electropneumatic actuation and spring return, they are suitable for mounting on a sub-base.

The following is supplied:
1x interface seal
4x fixing screws



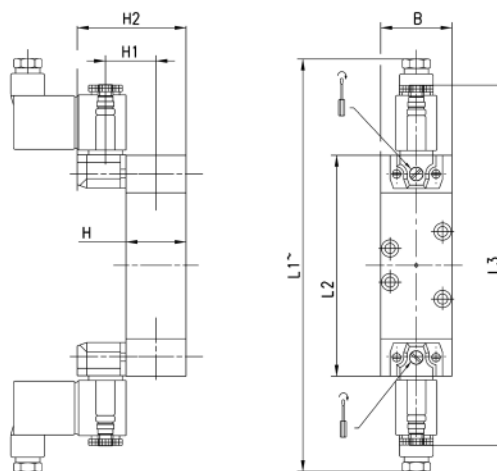
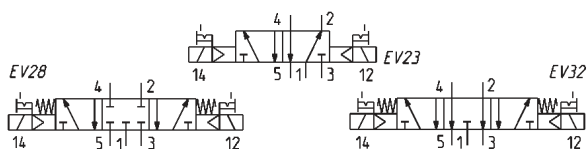
DIMENSIONS										
Mod.	Size ISO	B	L1	L2	L3	H	H1	H2	Min. operating pressure	Symbol
951-000-P15-23	1	38	153	108	146	32	43	58	2.5	EV18
952-000-P15-23	2	51	173	128	166	33	44	59	2.5	EV18
953-000-P15-23	3	65	218	173	211	45	56	71	2.5	EV18
951-000-P16-23	1	38	153	108	146	32	43	58	2.5	EV21
952-000-P16-23	2	51	173	128	166	33	44	59	2.5	EV21
953-000-P16-23	3	65	218	173	211	45	56	71	2.5	EV21

5/2-way, 5/3-way solenoid valves, bistable - ISO 1, ISO 2, ISO 3



Available with electropneumatic actuation and spring return, they are suitable for mounting on a sub-base.

The following is supplied:
1x interface seal
4x fixing screws



DIMENSIONS										
Mod.	Size ISO	B	L1	L2	L3	H	H1	H2	Min. operating pressure	Symbol
951-000-P11-23	1	38	208	118	194	32	43	58	2	EV23
952-000-P11-23	2	51	228	138	214	33	44	59	2	EV23
953-000-P11-23	3	65	273	183	259	45	56	71	2	EV23
961-000-P11-23	1	38	208	118	194	32	43	58	2.5	EV28
962-000-P11-23	2	51	228	138	214	33	44	59	2.5	EV28
963-000-P11-23	3	65	273	183	259	45	56	71	2.5	EV28
971-000-P11-23	1	38	208	118	194	32	43	58	2.5	EV32
972-000-P11-23	2	51	228	138	214	33	44	59	2.5	EV32
973-000-P11-23	3	65	273	183	259	45	56	71	2.5	EV32

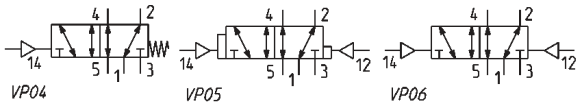
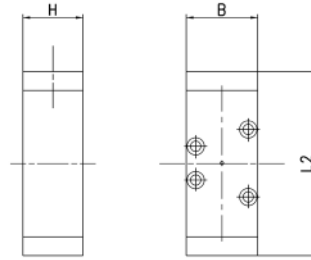
5/2-way valves, monostable, bistable - ISO 1, ISO 2, ISO 3



The Series 9 valves with ISO interface, size 1, 2 and 3, are available with the following types of actuation:

- pneumatic, with spring return
- pneumatic actuation and differential return
- pneumatic actuation and return

The following is supplied:
1x interface seal
4x fixing screws



DIMENSIONS							
Mod.	Size ISO	B	L2	H	Min. pilot pressure (bar)	Working pressure (bar)	Symbol
951-000-35	1	38	98	32	2.5	-0.9 ÷ 10	VP04
952-000-35	2	51	118	33	2.5	-0.9 ÷ 10	VP04
953-000-35	3	65	163	45	2.5	-0.9 ÷ 10	VP04
951-000-34	1	38	98	32	2	-0.9 ÷ 10	VP05
952-000-34	2	51	118	33	2	-0.9 ÷ 10	VP05
953-000-34	3	65	163	45	2	-0.9 ÷ 10	VP05
951-000-33	1	38	98	32	2	-0.9 ÷ 10	VP06
952-000-33	2	51	118	33	2	-0.9 ÷ 10	VP06
953-000-33	3	65	163	45	2	-0.9 ÷ 10	VP06

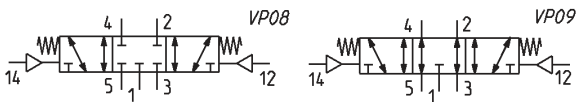
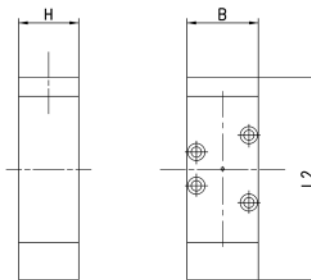
5/3-way valve, monostable, with stable central position - ISO 1, 2, 3



The Series 9 valves with ISO interface, size 1, 2 and 3, are available with pneumatic actuation and central resetting by a spring. There are two types of function:

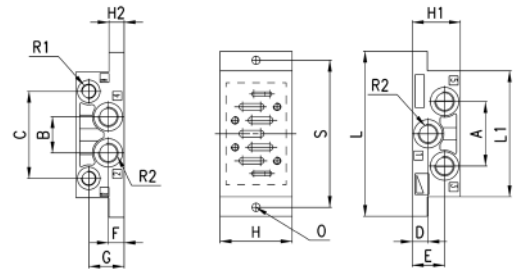
- with closed centres
- with open centres

The following is supplied:
1x interface seal
4x fixing screws



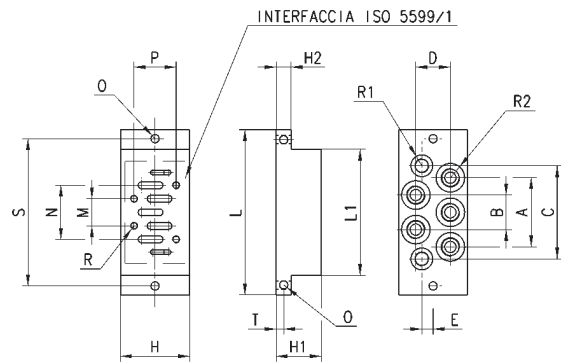
DIMENSIONS							
Mod.	Size ISO	B	L2	H	Min. pilot pressure (bar)	Working pressure (bar)	Symbol
961-000-33	1	38	108	32	2.5	-0.9 ÷ 10	VP08
962-000-33	2	51	128	33	2.5	-0.9 ÷ 10	VP08
963-000-33	3	65	173	45	2.5	-0.9 ÷ 10	VP08
971-000-33	1	38	108	32	2.5	-0.9 ÷ 10	VP09
972-000-33	2	51	128	33	2.5	-0.9 ÷ 10	VP09
973-000-33	3	65	173	45	2.5	-0.9 ÷ 10	VP09

Single sub-base side outlets (VDMA 24345)



DIMENSIONS																	
Mod.	Size	A	B	C	D	E	F	G	H	H1	H2	L	L1	O	R1	R2	S
901-F1A	1	43	24	58	10.5	21.5	10.5	23.5	48	32	10	110	84	5.5	G1/8	G1/4	98
902-F2A	2	56	30	74	14	26	14	30	57	40	13	124	95	6.5	G1/8	G3/8	112
903-F3A	3	68	32	90	17	17	17	22	71	32	18	149	119	6.5	G1/8	G1/2	136

Single sub-base with rear outlets (VDMA 24345)

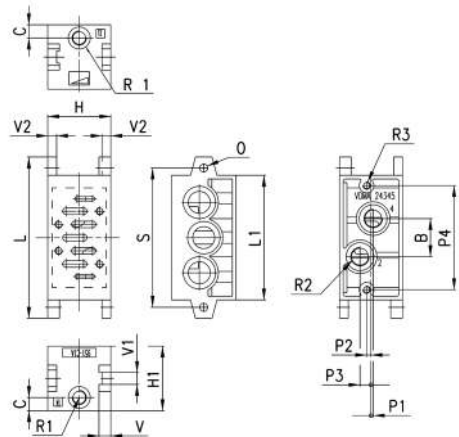


DIMENSIONS																				
Mod.	Size	A	B	C	D	E	H	H1	H2	L	L1	M	N	O	P	R	R1	R2	S	T
901-G1A	1	46	23	61	23	7.5	46	30	10	110	84	18	36	5.5	28	M5	G1/8	G1/4	98	5
902-G2A	2	56	28	72	28	8	56	35	13	124	95	24	48	6.5	38	M6	G1/8	G3/8	112	6.5
903-G3A	3	68	34	90	34	10	71	32	18	149	119	32	64	6.5	48	M8	G1/8	G1/2	136	9

Manifold sub-base with com. exhausts and inlet (VDMA 24345)



The following is supplied:
 2x fixing screws
 3x O-ring



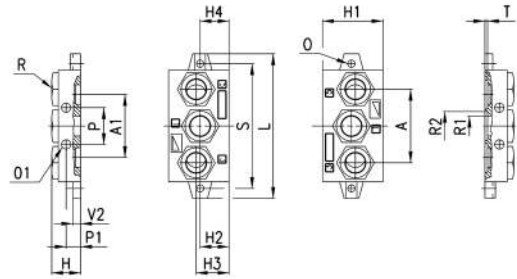
DIMENSIONS																			
Mod.	Size	B	C	H	H1	L	L1	O	P1	P2	P3	P4	R1	R2	R3	S	V	V1	V2
901-C1A	1	26	8.5	43	44	110	85	5.5	1.5	3	7.5	71	G1/8	G1/4	M5	95	8	8	6
902-C2A	2	30	9	56	45	135	100	6.5	5	3	6	86	G1/8	G3/8	M6	115	11	11	8
903-C3A	3	38	10	71	54	190	140	9	6	3	8	130	G1/8	G1/2	M8	168	13	13	8

Note: complete with fixing screws and O-ring.

End block for manifold sub-base (VDMA 24345)



The following is supplied:
2x end blocks (1 pair)
2x fixing screws
3x OR

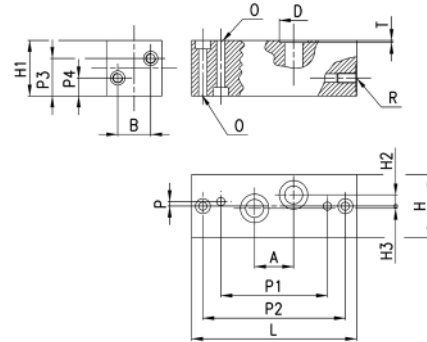


DIMENSIONS		Mod.	Size	A	A1	H	H1	H2	H3	H4	L	O	O1	P	P1	R	ØR1	ØR2	S	T	V2
901-H1	1	56	48	22	46	22	25	22	110	5,5	7	28	11	G3/8	15	22,1	95	2	6		
902-H2	2	68	63	26	47	23	25	24	135	6,5	9	35	13	G1/2	18,5	28,7	115	2	8		
903-H3	3	104	94	30	56	22	25	25	190	9	12	52	15	G1	28	38	168	2,7	8		

Interface with front outlets (VDMA 24345)



The following is supplied:
2x fixing screws
2x OR

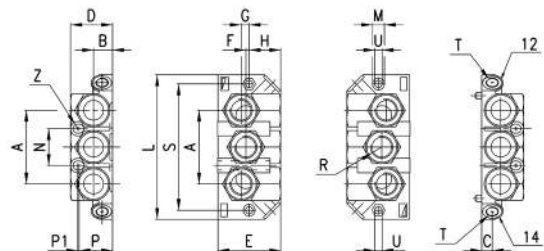


DIMENSIONS		Mod.	Size	A	B	D	H	H1	H2	H3	L	O	P	P1	P2	P3	P4	R	T
901-N1	1	26	22	19	42	37	7.5	1.5	110	5.5	3	71	95	25	12	G1/4	1.4		
902-N2	2	30	29	23	55	40	6	5	135	6.5	3	86	115	26	14	G3/8	1.4		
903-N3	3	38	36	27	70	45	8	6	190	9	3	130	168	29	17	G1/2	1.4		

End blocks for manifold bases with front outlets



The following is supplied:
2x end blocks (1 pair)
2x fixing screws
3x OR

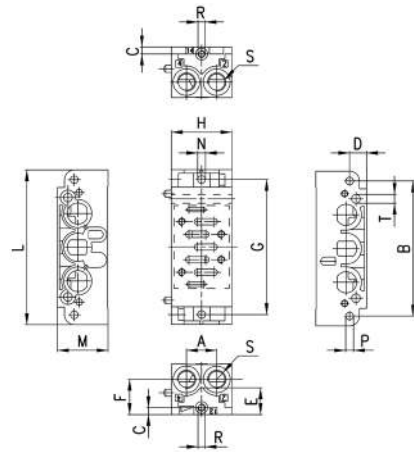


DIMENSIONS		Mod.	Size	A	B	C	D	E	F	G	H	L	M	N	P	P1	R	S	T	U	Z
901-HN1	1	56	14.5	8	32	48	2.5	6	24	110	9	28	25.5	1	3/8"	96	G1/8	5.5	3.5		

Manifold bases with comm. inlet and exhaust ports and front outlet

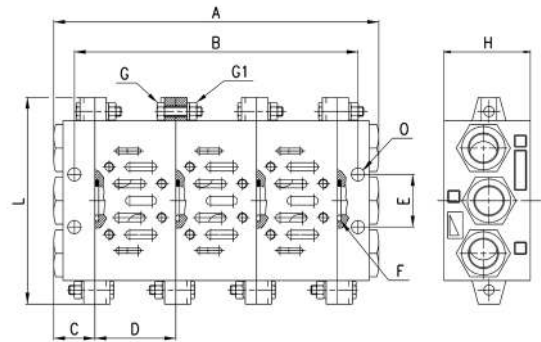


The following is supplied:
 2x fixing screws
 3x OR



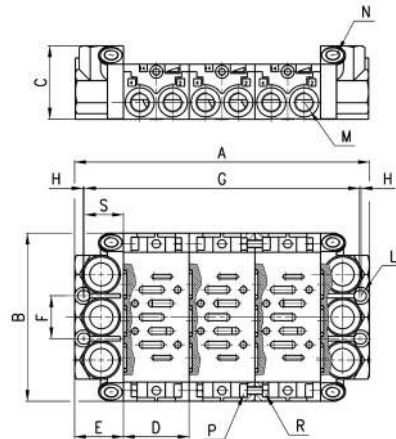
DIMENSIONS																
Mod.	Size	A	B	C	D	E	F	G	H	L	M	N	P	R	S	T
901-N1A	1	21.5	96	5	12	19	25	96	43	110	36	5.5	5.5	M5	G1/4	6.2

Assembly of manifold sub-base (VDMA 24345)



DIMENSIONS													
Size	A	B	C	D	E	FOR	UNI 5739 G	UNI 57588 G1	H	L	O		
1	n°D+2C	n°D+C	22	43	28	3068	M5X20	M5	46	110	7		
2	n°D+2C	n°D+C	26	56	35	3093	M6X25	M6	47	135	9		
3	n°D+2C	n°D+C	30	71	52	4125	M8X25	M8	56	190	12		

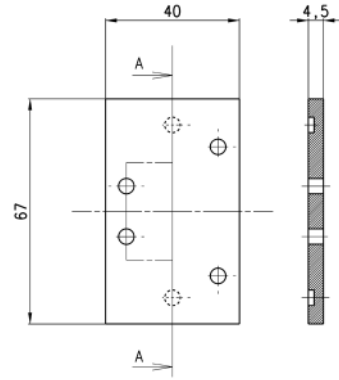
Assembly for front outlet manifold sub-bases



DIMENSIONS														
Size	A	B	C	D	E	F	G	H	L	M	N	UNI 5931 P.	UNI 5588 R	S
1	N° D+2E	110	48	43	32	28	n°D+25	1	3,5	G1/4	G1/8	M5X14	M5	25,5

Cover plate for unused positions

The following is supplied:
1x seal
4x screws

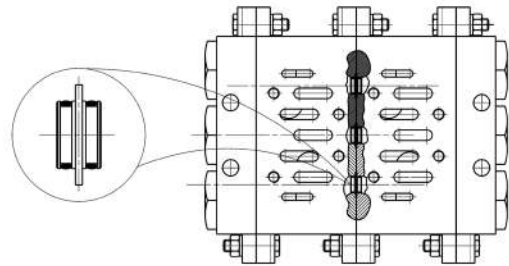


Mod.
901-TP

Mounting example



Separation tap lines 1 - 3 - 5 to be used with manifold type 901-C1A and 902-C2A

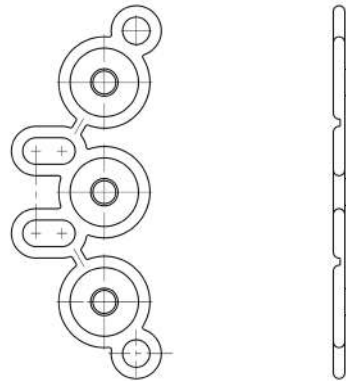


Mod.
901-C1A/TP
902-C2A/TP

Separation joint



Separation joint to be used with manifold type 901N



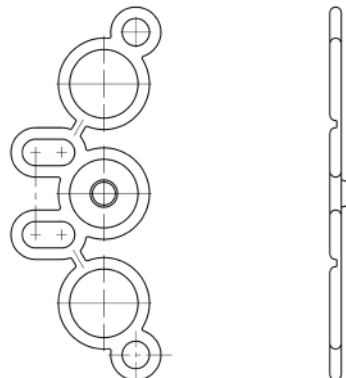
1 - 3 - 5 closed

Mod.
901-N1A/T

Separation joint



Separation joint to be used with manifold type 901N.
P plugged.

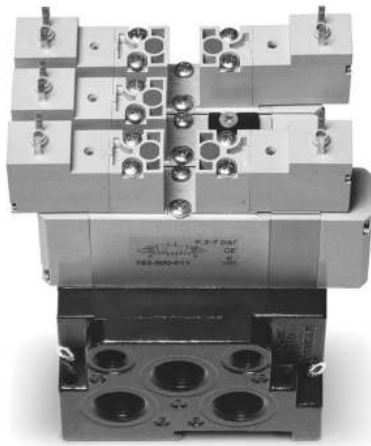


1 closed

Mod.
901-N1A/TP

Series 7 valves and solenoid valves

VDMA 24563 (ISO 15407-1)
5/2 - 5/3-way CC CO CP



Size 26 mm (VDMA 24563-01)
Size 18 mm (VDMA 24563-02)

GENERAL DATA

Construction	balanced spool type
Valve functions	5/2 - 5/3-way CC CO CP
Materials	AL body, spool base, polyamide endcovers, NBR seals
Mounting	by means of screws on the base
Ports	on sub-base
Operating temperature	0° C min. +50° C max
Fluid	filtered air (5 micron or less), without lubrication. If lubricated air is used, it is recommended to use ISOVG32 oil. Once applied the lubrication should never be interrupted.
Size	26 mm 18 mm
Installation	in any position
Operating pressure	P. max 7 bar
Nominal pressure	6 bar
Nominal flow	Qn Size 26 mm = 900 NL/min Qn Size 18 mm = 450 NL/min
Voltage	see coding
Voltage tolerance	± 10%
Power consumption	2W
Class of insulation	class F
Protection	IP54 (IP65 with connector DIN 40050)

CODING EXAMPLE

7	5	1	-	N	1	A	-	P16	-	15	-	W	2	3
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7	SERIES:
5	NUMBER OF WAYS - POSITIONS: 5 = 5/2 6 = 5/3 CC 7 = 5/3 CO 8 = 5/3 CP
1	SIZES: 1 = size 26 mm 2 = size 18 mm
N	SUBBASE: N = sub-base with front outlets
1	PORTS: 1 = G1/4 (Size 26 mm) 2 = G1/8 (Size 18 mm)
A	NUMBER OF SUBBASES: A = 1 * B = 2 * C = 3 * D = 4 * E = 5 * F = 6 * G = 7 * H = 8 * K = 9 * L = 10 * M = 11 * N = 12 ** P = 13 * R = 14 * S = 15 *
P16	ACTUATION: 33 = pneumatic, bistable 36 = pneumatic, monostable P11 = electro-pneumatic, bistable P16 = electro-pneumatic, monostable
15	SOLENOID INTERFACE: 15 = 15x15
W	SOLENOID TYPES: W = Series W (24V - 48V DC only) P = Series P **
2	CONNECTION: 1 = wire 300 mm (Series W, 24V DC only) ** 2 = 2 pins (Series W, 24V - 48V DC) 5 = 2 pins+earth (Series P) **
3	SOLENOID VOLTAGE: 3 = 24V DC 4 = 48V DC ** 6 = 110V DC (with Series P solenoids only) ** B = 24V 50/60 Hz (with Series P solenoids only) ** C = 48V 50/60 Hz (with Series P solenoids only) ** D = 110V 50/60 Hz (with Series P solenoids only) **
	NOTES: * complete with the two end blocks ** on request

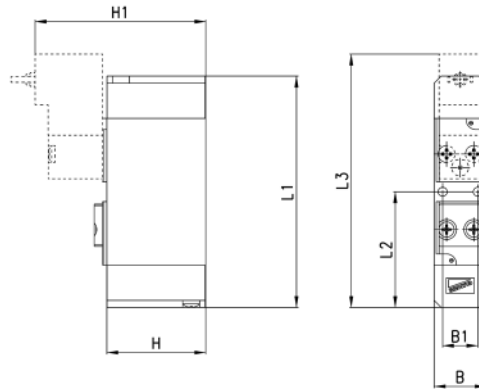
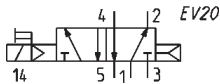
5/2-way solenoid valve, ISO 26 mm - 18 mm monostable



The Series 7 solenoid valves with interface ISO 26 mm and 18 mm which have electropneumatic actuation and spring return are suitable for mounting on a sub-base. For electrical actuation, 2 types of solenoid, Series W and Series P (available with a wide range of voltages, on request).

Connector Mod. 126-800.

The following is supplied:
1x interface seal
2x fixing screws



DIMENSIONS									
Mod.	Size ISO	B	B1	L1	L2	L3	H	H1	Min. operating pressure
751-000-P16-15-W20	26 mm	26,5	19	99,7	49,85	98,8	39	64,3	3 bar
752-000-P16-15-W20	18 mm	18,5	12,5	82,2	41,1	90	35,2	60,5	3 bar

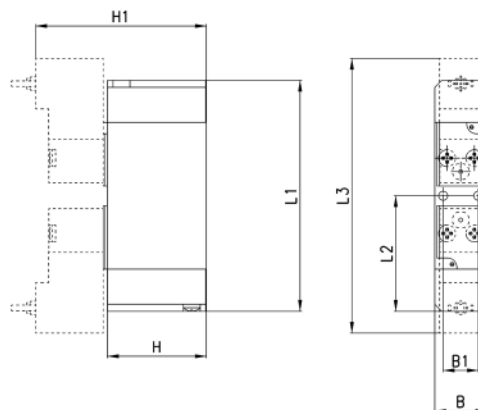
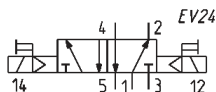
5/2-way solenoid valves, ISO 26 mm - 18 mm, bistable



The Series 7 solenoid valves with ISO 26 mm and 18 mm interface which have electropneumatic actuation and return are suitable for mounting on a sub-base. For electrical actuation, 2 types of solenoid Series W and Series P (available with a wide range of voltages, on request).

Connector Mod. 126-800.

The following is supplied:
1x interface seal
2x fixing screws



DIMENSIONS									
Mod.	Size ISO	B	B1	L1	L2	L3	H	H1	Min. operating pressure
751-000-P11-15-W20	26 mm	26,5	19	99,7	49,85	98,8	39	64,3	2 bar
752-000-P11-15-W20	18 mm	18,5	12,5	82,2	41,1	97,8	35,2	60,5	2 bar

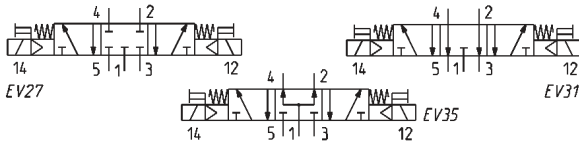
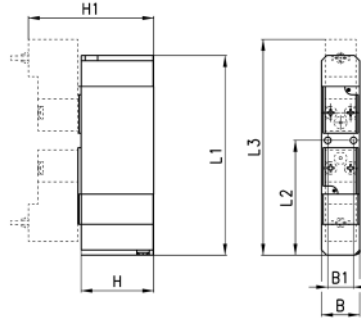
5/3-way solenoid valves, ISO 26 mm - 18 mm



The Series 7 solenoid valves with ISO 26 mm - 18 mm interface which have electropneumatic actuation and spring return are suitable for mounting on a sub-base. For electrical actuation, two types of solenoid Series W and Series P (are available with a large range of voltages, on request).

Connector Mod. 126-800.

The following is supplied:
1x interface seal
2x fixing screws



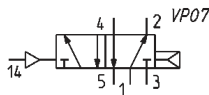
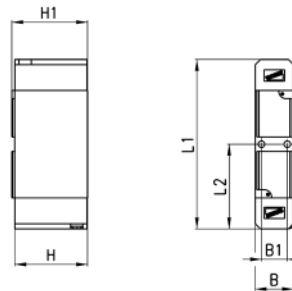
DIMENSIONS										
Mod.	Size ISO	B	B1	L1	L2	L3	H	H1	Min. operating pressure	Symbol
761-000-P11-15-W20	26 mm	26,5	19	111,7	61,85	110,8	39	64,3	3 bar	EV27
762-000-P11-15-W20	18 mm	18,5	12,5	96,7	55,6	104,5	35,2	60,5	3 bar	EV27
771-000-P11-15-W20	26 mm	26,5	19	111,7	61,85	110,8	39	64,3	3 bar	EV31
772-000-P11-15-W20	18 mm	18,5	12,5	96,7	55,6	104,5	35,2	60,5	3 bar	EV31
781-000-P11-15-W20	26 mm	26,5	19	111,7	61,85	110,8	39	64,3	3 bar	EV35
782-000-P11-15-W20	18 mm	18,5	12,5	96,7	55,6	104,5	35,2	60,5	3 bar	EV35

5/2-way solenoid valves ISO 26 mm - 18 mm, monostable



The Series 7 solenoid valves with ISO 26 mm and 18 mm interface which have pneumatic actuation and pneumatic spring return are suitable for mounting on a sub-base. For the correct use of the valve, the pilot pressure must be the same or higher than the operating pressure.

The following is supplied:
1x interface seal
2x fixing screws



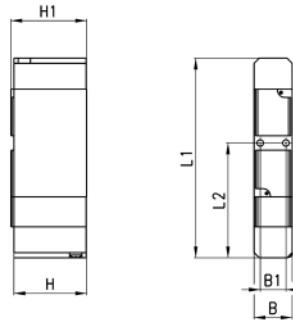
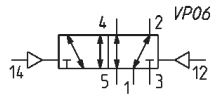
DIMENSIONS									
Mod.	Size ISO	B	B1	L1	L2	H	H1	Min. operating pressure	
751-000-36	26 mm	26,5	19	99,7	49,85	39	40,5	3 bar	
752-000-36	18 mm	18,5	12,5	82,2	41,1	35,2	36,7	3 bar	

5/2-way solenoid valves ISO 26 mm - 18 mm, bistable



The Series 7 solenoid valves with ISO 26 mm and 18 mm interface which have pneumatic actuation and return are suitable for mounting on a sub-base.

The following is supplied:
1x interface seal
2x fixing screws



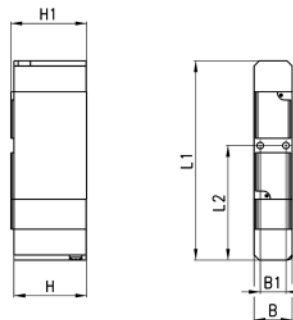
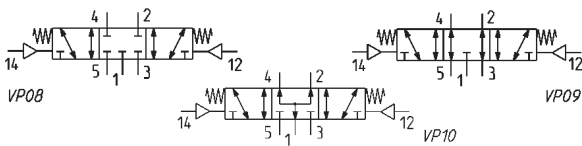
DIMENSIONS								
Mod.	Size ISO	B	B1	L1	L2	H	H1	Min. operating pressure
751-000-33	26 mm	26,5	19	99,7	49,85	39	40,5	2 bar
752-000-33	18 mm	18,5	12,5	82,2	41,1	35,2	36,7	2 bar

5/3-way solenoid valves, ISO 26 mm - 18 mm



The Series 7 solenoid valves with ISO 26 mm and 18 mm interface which have pneumatic actuation and mechanical spring return are suitable for mounting on a sub-base.

The following is supplied:
1x interface seal
2x fixing screws



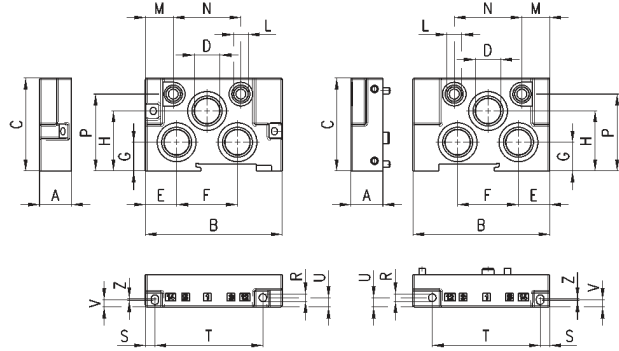
DIMENSIONS									
Mod.	Size ISO	B	B1	L1	L2	H	H1	Min. operating pressure	Symbol
761-000-33	26 mm	26,5	19	117,7	61,85	39	40,5	3 bar	VP08
762-000-33	18 mm	18,5	12,5	96,7	55,6	35,2	36,7	3 bar	VP08
771-000-33	26 mm	26,5	19	117,7	61,85	39	40,5	3 bar	VP09
772-000-33	18 mm	18,5	12,5	96,7	55,6	35,2	36,7	3 bar	VP09
781-000-33	26 mm	26,5	19	117,7	61,85	39	40,5	3 bar	VP10
782-000-33	18 mm	18,5	12,5	96,7	55,6	35,2	36,7	3 bar	VP10

End blocks for subbase



End blocks for subbase with conveyed inlets and exhausts and front outlets.

The following is supplied:
1x seal
2x fixing screws



DIMENSIONS

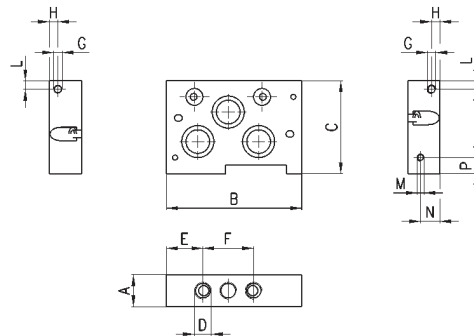
Mod.	Size ISO	A	B	C	D	E	F	G	H	L	M	N	P	R	S	T	U	V	Z
701C-HN1	26 mm	27	107	65	G1/2	23	60	24,5	43	G1/8	21,5	58	55,5	4,5	7,5	61,5	6	6,2	4
702C-HN2	18 mm	19	81	55	G3/8	18,5	36	17	35,5	G1/8	16,5	40	45,5	4,5	4,65	63,85	5,5	4,35	1,3

Intermediate supply module



Intermediate supply module for manifold bases with conveyed inlets and exhausts and front outlets.

The following is supplied:
1x seal
2x fixing screws



DIMENSIONS

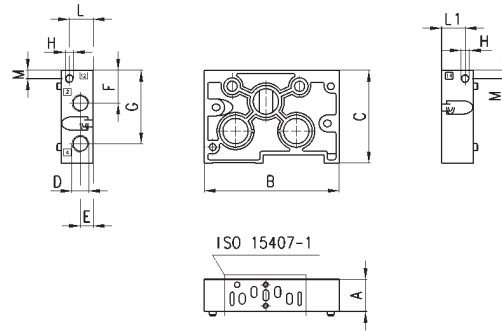
Mod.	Size ISO	A	B	C	D	E	F	G	H	L	M	N	P
701C-N1N	26 mm	27	100	65	G1/4	29	42	M5	6,5	10	M4	10	10
702C-N2N	18 mm	19	81	55	G1/8	22,5	28	M5	5	5	M4	11,5	9,5

Subbase for manifolds



Manifold subbase with conveyed inlets and exhausts and front outlets.

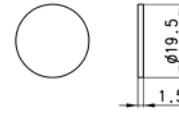
The following is supplied:
1x seal
2x fixing screws



DIMENSIONS												
Mod.	Size ISO	A	B	C	D	E	F	G	H	L	L1	M
701C-N1A for separated pilots	26 mm	27	107	65	G1/4	11	23	53	M5	20,7	20,7	6,5
702C-N2A for separated pilots	18 mm	19	81	55	G1/8	7,5	19,5	44,5	M5	13	6	7
701C-N1C	26 mm	27	107	65	G1/4	11	23	53	M5	20,7	20,7	6,5
702C-N2C	18 mm	19	81	55	G1/8	7,5	19,5	44,5	M5	13	6	7

Diaphragm cover for subbase

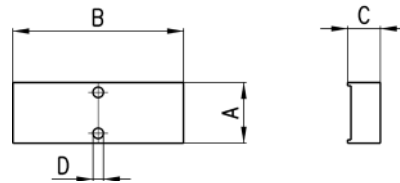
Diaphragm for subbase with conveyed inlet and exhausts and side outlets.



Mod.
701C-N1A-TP
702C-N2A-TP

Excluder tap for subbase

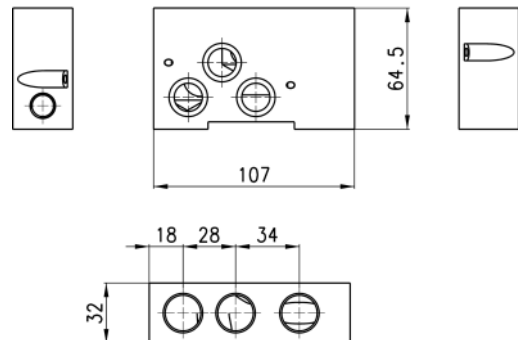
The following is supplied:
1x seal
2x screws



DIMENSIONS					
Mod.	Size ISO	A	B	C	D
701-TP	26 mm	26,5	61,7	10	4,2
702-TP	18 mm	18,5	52,2	10	3,2

Interface between ISO 01 and ISO 02

The following is supplied:
1x tap S2610 3/8
5x OR
2x screws



Mod.
701C-702C-A

Series NA valves and solenoid valves

3/2 - 5/2 - 5/3-way CC CO CP
with holes configured according NAMUR standards



The pneumatic interface connection complies with NAMUR standards.
These solenoid valves can be equipped with solenoids that are in compliance with UL or ATEX standards.

GENERAL DATA

Construction	spool type (servo-pilot operated)
Valve functions	3/2-way NC, NO - 5/2-way - 5/3-way CC, CO, CP
Materials	AL body - stainless steel spool - NBR seals
Mounting	through 2 Ø5 holes in the valve body
Ports	2 - 4 = NAMUR 1 - 3 - 5 = G1/4
Installation	directly on a Namur Interface
Operating temperature	0 ÷ 60°C (using dry air -20°C)
Operating pressure	1,5 - 10 bar double solenoid 2,5 - 10 bar single solenoid
Nominal pressure	6 bar
Nominal flow	Qn = 1000 Nl/min
Nominal diameter	8 mm
Fluid	filtered air without lubrication. If lubricated air is used, it is recommended to use ISOVG32 oil, and to never interrupt the lubrication.

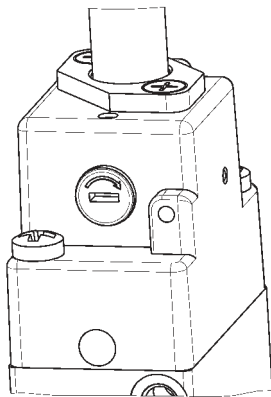
CODING EXAMPLE

NA	5	4N	-	15	-	02	IL	-	U7	7
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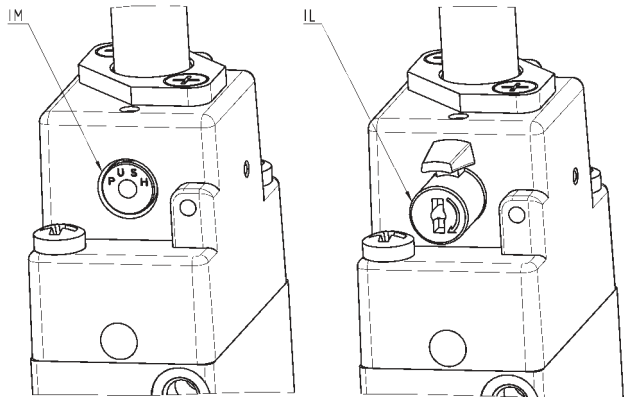
NA	SERIES NAMUR
5	NUMBER OF WAYS - POSITIONS: 3 = 3/2 NC 4 = 3/2 NO 5 = 5/2 6 = 5/3 CC 7 = 5/3 CO 8 = 5/3 CP
4N	PORTS: 4N = G1/4 supply ports according NAMUR standards
15	ACTUATION: 11 = double solenoid 15 = single solenoid, spring return 33 = pneumatic pneumatic 35 = pneumatic, spring
02	SOLENOID INTERFACE: 02 = mech. sol. 22 x 22
IL	TYPE OF MANUAL OVERRIDE: = bistable, standard IL = bistable, lever type (available on demand) IM = monostable (available on demand)
U7	SOLENOID MATERIAL / SOLENOID DIMENSIONS: A8 = PPS / 30 x 30 G7 = PA / 22 x 22 G8 = PA / 30 x 30 (24 V DC only) G9 = PA / 22 x 58 H8 = Self-extinguishing PA, Explosion-proof / 30 x 30 U7 = PET / 22 x 22
7	SOLENOID VOLTAGE (see the dedicated section 2.35)

SERIES NA VALVES AND SOLENOID VALVES

TYPES OF MANUAL OVERRIDE

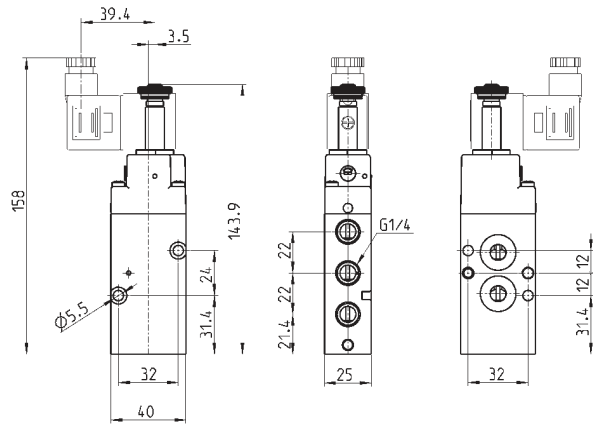
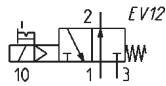
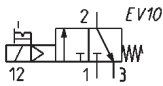


Example of solenoid valve with a bistable standard manual override.



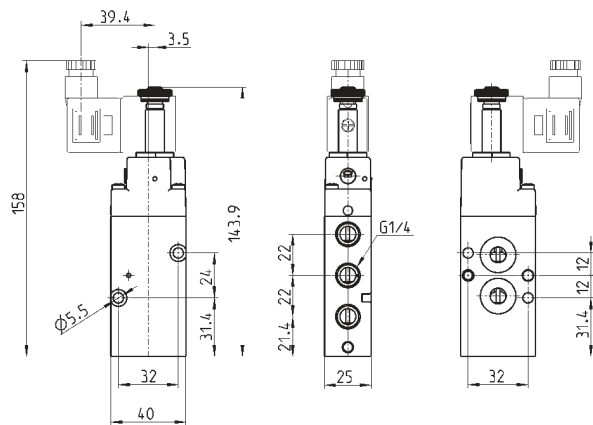
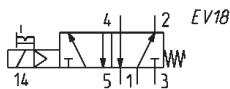
Example of solenoid monostable valve (IM) and bistable valve with a lever type manual override (IL).

3/2-way solenoid valve NC and NO



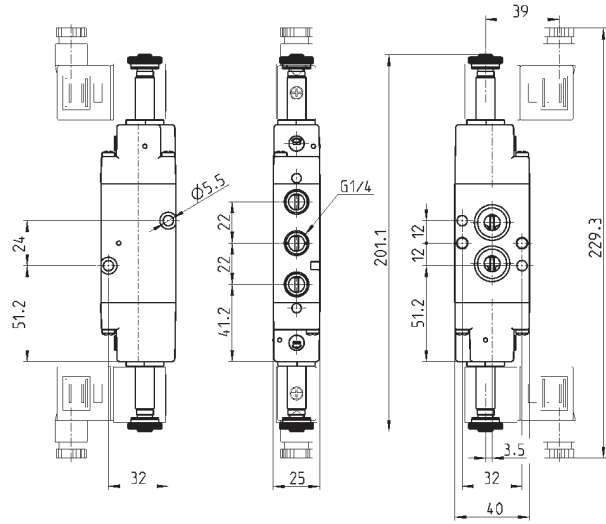
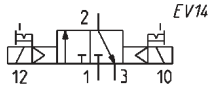
Mod.	Symbol
NA34N-15-02	EV10
NA44N-15-02	EV12

5/2-way solenoid valve, monostable



Mod.
NA54N-15-02

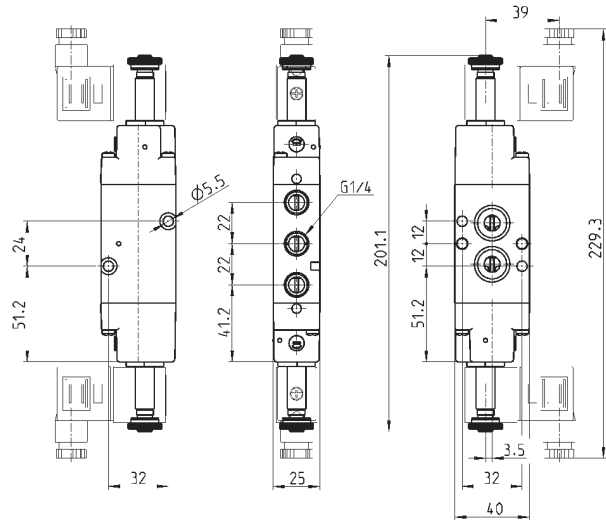
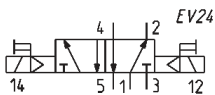
3/2-way solenoid valve, bistable



Mod.

NA34N-11-02

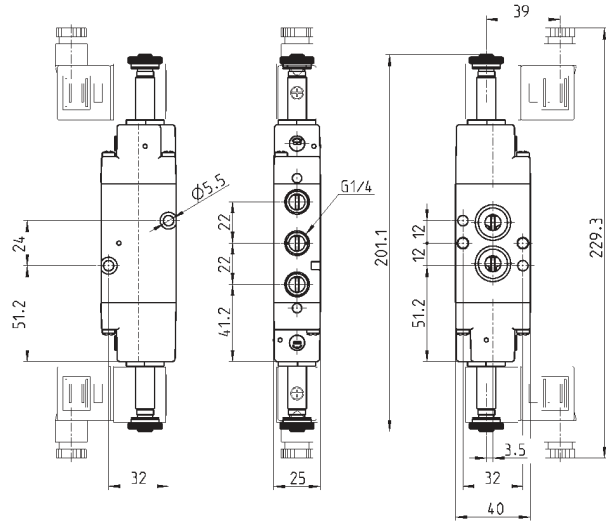
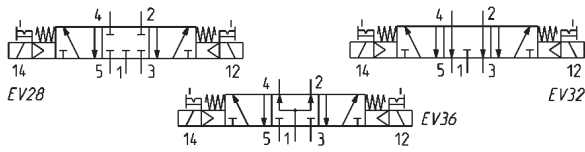
5/2-way, solenoid valve, bistable



Mod.

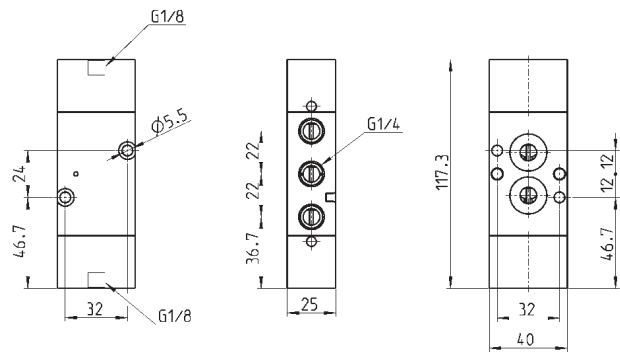
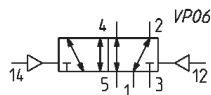
NA54N-11-02

5/3-way solenoid valve CC CO CP



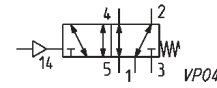
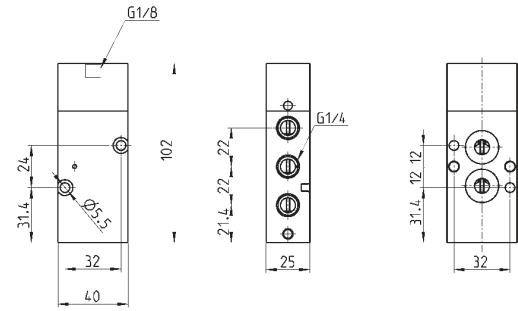
Mod.	Symbol
NA64N-11-02	EV28
NA74N-11-02	EV32
NA84N-11-02	EV36

5/2-way pneumatic valve, bistable



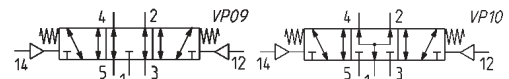
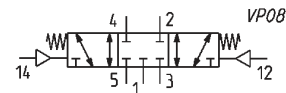
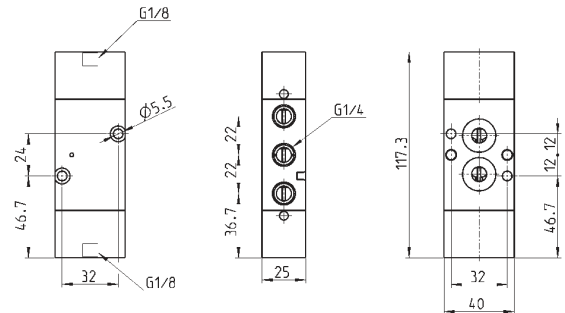
Mod.
NA54N-33

5/2-way pneumatic valve, monostable



Mod.	NA54N-35
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5/3-way pneumatic valve CC CO CP



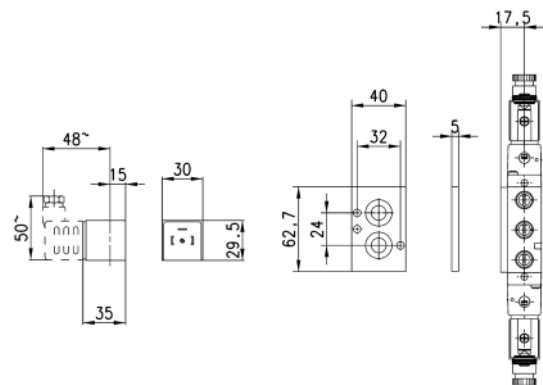
Mod.	
NA64N-33	VP08
NA74N-33	VP09
NA84N-33	VP10

Single subbase Mod. NA54-PC



Distance plate for the mounting of Series H8 solenoids

Supplied with:
2x screws
2x O-rings



Mod.	NA54-PC
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Solenoids

GP... - B7... - G93 - U7... - U7...EX - G7... - A8... - B8... - H8... - B9...

Version A and B

Connections according to industrial standard and to DIN EN 175 301-803 standards



The mechanical part of the tube in the solenoid valves Series A, 3, 4, 9 and NA allows the mounting of various types of solenoids.

- » Mod. GP...: in compliance with industrial standard (9.4mm) and designed to be mounted only on Series AP proportional valves, size 16 mm.
- » Mod. B...: to be used only with Series CFB solenoid valves (2/1.30).
- » Mod. G93: special solenoids with incorporated memory for pulsed operation.
- » Mod. U7...: standard solenoids are certified by UL as Recognized Component for USA and Canada. Solenoids Mod. U7 are available also with ATEX certification.
- » Mod. H8...: explosion-proof solenoids suitable for potentially explosive ambients (ATEX, IECEx).

GENERAL DATA

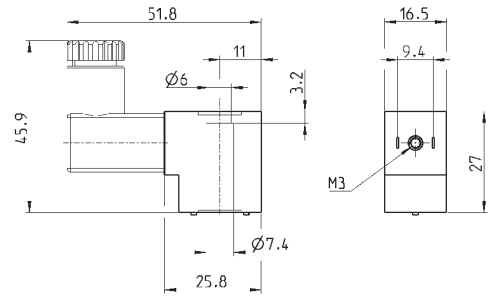
	U7... / G7... / G93	A8...	B...	H8...
Wire insulation	class F (155° C)	class H (180° C)	class H (200° C)	class H (200° C)
Protection class	IP54 - DIN 40050	IP54 - DIN 40050	IP54 - DIN 40050	IP64
	IP65 (with connector Mod. 122-800 and Mod. 122-800EX)	IP65 (with connector Mod. 124-800)	IP65 (with connector Mod. 124-800)	
Operation	ED 100%	ED 100%	ED 100%	ED 100%
Tolerance V AC	-15% / +10%	-15% / +10%	±10%	-
Tolerance V DC	±10%	±10%	±5%	-

Solenoids Mod. GP...



Electrical connection: bipolar
Norm: industrial standard (9.4 mm)

Solenoid material: PA



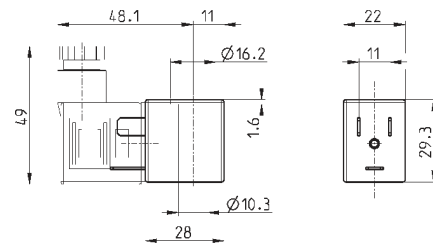
Mod.	Solenoid voltage	Power absorption
GP7	12 V DC	3 W
GP7	24 V DC	3 W

Solenoids Mod. B7...



Electrical connection: bipolar plus earth
Norm: DIN EN 175 301-803-B

Solenoid material: PA-MXD6

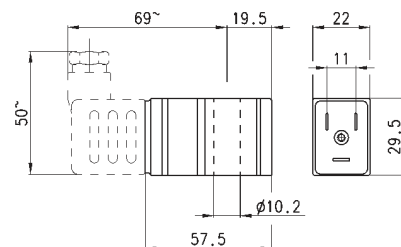


Mod.	Solenoid voltage	Power absorption
B7B	24 V - 50/60 Hz	9 VA
B7D	110 V - 50/60 Hz	9 VA
B7E	230 V - 50/60 Hz	9 VA
B7H	24 V - 50/60 Hz	4 VA
B72	12 V - DC	10 W
B73	24 V - DC	10 W
B74	24 V - DC	7 W

Solenoids Mod. G93 (with memory)



Electrical connection: bipolar plus earth
Norm: DIN EN 175 301-803-B
Voltage tolerance: ±10%
Pulsed operation (see description)



Mod.	Voltage	Minimum impulse latch/release	Consumption latch/release
G93	24 V DC	18 ms - 10 ms	168 mA - 80 mA

Description of solenoids Mod. G9...

Solenoids Mod. G9... can be replaced on all other Series A solenoid valves or pilots allowing to change the valve functioning from:

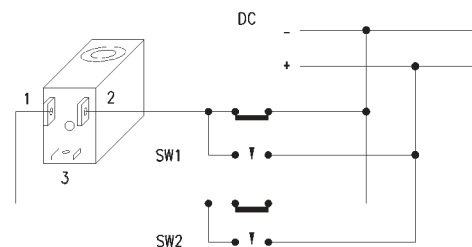
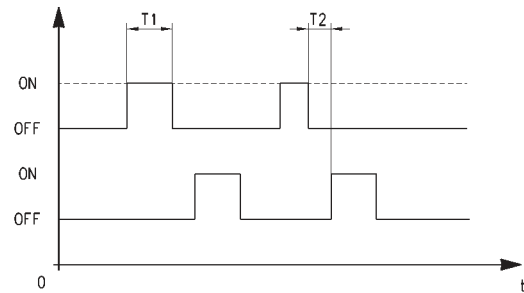
- unstable functioning system (spring return) to:
- stable functioning system (memory)

The stable functioning has the following advantages:

- with an impulse of about 20 ms after which the valve always remains in the controlled position.
- the valve remains in the controlled position (opened or closed) even if there is no power.
- when normally opened valves should be used, it is not necessary to use valves with special mechanical parts as a NC valve becomes a NO valve just by changing the control impulse sequence.
- The impulse control system facilitates the utilization with electronic circuits. The minimum required impulse for the function is 20 ms; if, for circuit reasons, the impulse last for a longer period, there is no danger of heating.
- magnet attraction command = Actuation SW1
- magnet release command = Actuation SW2

If the solenoids are mounted in batteries, a magnetic scheme type G90/L should be used.

To facilitate the cabling a special connector is available, which contains a circuit which realises the inversion of the power supply to the solenoid, indispensable for the PLC command, 122-892 P with common positive or 122-893 N with common negative.

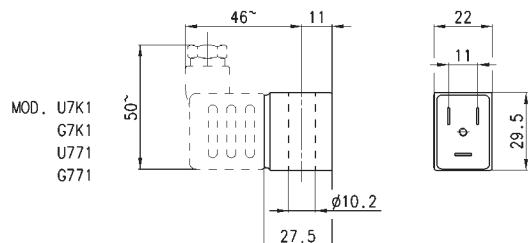
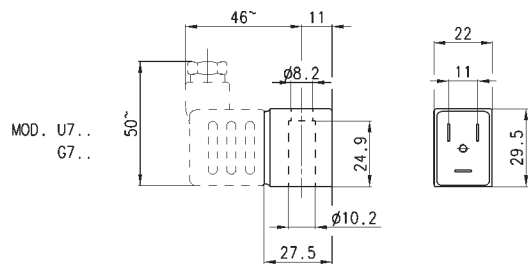


SOLENOIDS

Solenoids Mod. U7... / U7*EX and Mod. G7...



Electrical connection: bipolar plus earth
 Norm: DIN EN 175 301-803-B
 Solenoid material: U7* = PET; G7* = PA
 To order the ATEX version of Mod. U7 (not available for Mod. U7F, U7K1 with voltage 125V 50/60Hz) it is necessary to add EX at the end of the code.
 Mod. U7*EX marked:
 II 3G Ex nA IIC T4 Gc X IP65
 II 3D Ex tc IIIC 130°C Dc X



Mod.	Sol. volt. (1)	Pow. abs. (1)	Sol. volt. (2)	Pow. abs. (2)	Sol. volt. (3)	Pow. abs. (3)
U7H	12 V DC	3.1 W	24V - 50/60 Hz	3.5 VA		
G7H	12 V DC	3.1 W	24V - 50/60Hz	3.5 VA		
U7K	110V - 50/60Hz	3.8 VA	125V - 50/60Hz	5.5 VA	72 V DC	4.8 W
U7K1	110V - 50/60Hz	5.8 VA	125V - 50/60Hz	8.3 VA	72 V DC	5.6 W
G7K	110V - 50/60Hz	3.8 VA	125V - 50/60Hz	5.5 VA	72 V DC	4.8 W
G7K1	110V - 50/60Hz	5.8 VA	125V - 50/60Hz	8.3 VA	72 V DC	5.6 W
U7J	230V - 50/60Hz	3.5 VA	240V - 50/60Hz	4 VA		
G7J	230V - 50/60Hz	3.5 VA	240V - 50/60Hz	4 VA		
U79	48 V DC	3.1 W				
G79	48 V DC	3.1 W				
U710	110 V DC	3.2 W				
G710	110 V DC	3.2 W				
U77	24 V DC	3.1 W	48V - 50/60Hz	3.8 VA		
U771	24 V DC	3.1 W	48V - 50/60Hz	3.8 VA		
G77	24 V DC	3.1 W	48V - 50/60Hz	3.8 VA		
G771	24 V DC	3.1 W	48V - 50/60Hz	3.8 VA		
U7F	380V - 50/60Hz	7 VA				
U72	12 V DC	5 W				
G72	12 V DC	5 W				
U73	24 V DC	5 W				
G73	24 V DC	5 W				

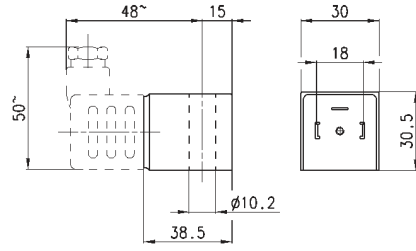
Notes to the table:
 Sol. volt. = Solenoid voltage
 Pow. abs. = Power absorption

Mod. U7K1, G7K1, U771 and G771 are to be used only with sol. valves series A, NO in line.

Solenoids Mod. A8...



Electrical connection: bipolar plus earth
Norm: DIN EN 175 301-803-A

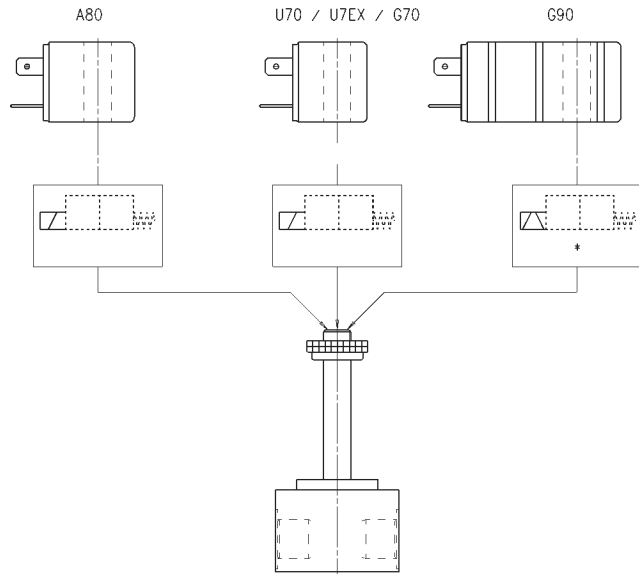


Mod.	Solenoid voltage	Power absorption
A8B	24V - 50/60Hz	5VA
A8D	110V - 50/60Hz	5VA
A8E	220V - 50/60Hz	5VA
A8S	24V DC	4W

Solenoids for solenoid valves Series A, 3, 4, 9 and NA

All solenoids presented can be mounted on the following solenoid valves: Series A - 3 - 4 - 9 - NA

NB:
For the tightening of the solenoids' nut we recommend to do it manually, avoiding the use of any equipment.



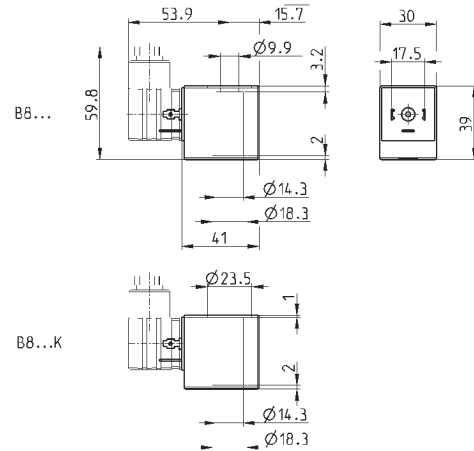
Solenoids Mod. B8...

Electrical connection: bipolar plus earth
Norm: DIN EN 175 301-803-A



Solenoid material: PA-MXD6

The B8*K models can be used only with some solenoid valves Series CFB (Mod. CFB-D1..., 2/2 NO).
Further details in the dedicated section 1.30.



Mod.	Solenoid voltage	Power absorption
B8B	24 V - 50 Hz	15 VA
B8BK	24 V - 50 Hz	15 VA
B8D	110 V - 50/60 Hz	15 VA
B8DK	110 V - 50/60 Hz	15 VA
B8E	220/230 V - 50/60 Hz	15 VA
B8EK	230 V - 50/60 Hz	15 VA
B8F	220/230 V - 50/60 Hz	21 VA
B8FK	220/230 V - 50/60 Hz	21 VA
B8Z	12 V - DC	19 W
B8ZK	12 V - DC	19 W
B83	24 V - DC	19 W
B83K	24 V - DC	19 W

Solenoid Mod. H8.. for potentially explosive ambients



Certification in compliance with
EN 60079-0 EN 60079-18

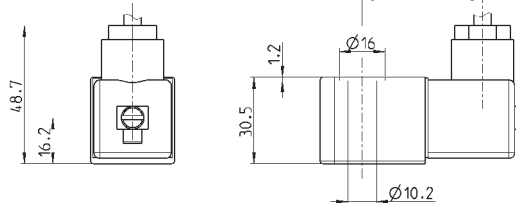
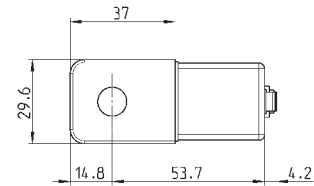
ATEX :

II 2G Ex mb IIC T4 Gb
II 2D Ex mb IIIC T135°C Db
I M2 Ex mb I Mb
INERIS 06ATEX0002X

IECEX :

Ex mb IIC T4 Gb
Ex mb IIIC T135°C Db
Ex mb I Mb
IECEX INE 15.0053X

For Series NA use plate mod. NA54-PC.



Mod.	Solenoid voltage	Power absorption
H83I	24 V - DC	5.3 W
H8BI	24 V - 50/60 Hz	5.3 W
H8CI	48 V - 50/60 Hz	5.3 W
H8DI	110 V - 50/60 Hz	5.3 W
H8EI	230 V - 50/60 Hz	5.3 W

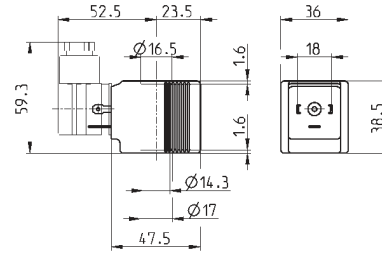
Temperature class/Max surface temperature: T4/135°C
Environment temperature: -20°C + 40°C
Connection: tripolar cable 3 m (other lengths on request)
Incapsulating material: self-extinguishing PA.

Solenoids Mod. B9...



Electrical connection: bipolar plus earth
Norm: DIN EN 175 301-803-A

Solenoid material: PA-MXD6



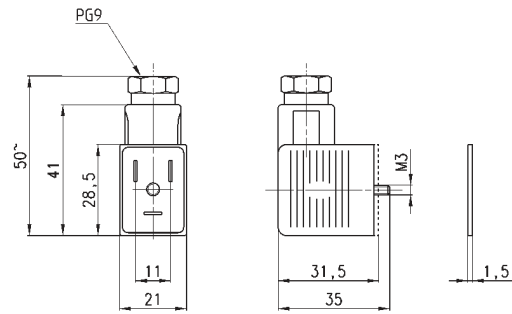
Mod.	Solenoid voltage	Power absorption
B9B	24 V - 50 Hz	29 VA
B9D	110 V - 50/60 Hz	29 VA
B9E	230 V - 50 Hz	29 VA
B92	12 V - DC	30 W
B93	24 V - DC	30 W

Connectors Mod. 122-... DIN EN 175 301-803-B



For solenoids Mod. U7/U7*EX, G7 and B7

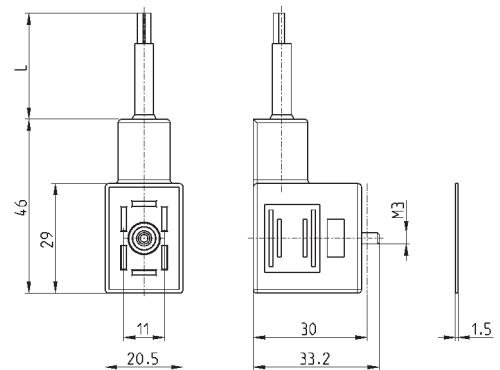
Mod. 122-800EX:
for ATEX certified solenoids mod. U7*EX, with anti-screwing off screw mod. TORX.



Mod.	description	colour	working voltage	cable holding	tightening torque
122-601	connector, diode + Led	transparent	10/50 V DC	PG9	0.5 Nm
122-701	connector, varistor + Led	transparent	24 V AC/DC	PG9	0.5 Nm
122-702	connector, varistor + Led	transparent	110 V AC/DC	PG9	0.5 Nm
122-703	connector, varistor + Led	transparent	230 V AC/DC	PG9	0.5 Nm
122-800	connector, without electronics	black	-	PG9	0.5 Nm
122-800EX	connector, without electronics	black	-	PG9	0.5 Nm

Connectors Mod. 122-571 DIN EN 175 301-803-B with cable

For solenoids Mod. U7/U7*EX, G7 and B7

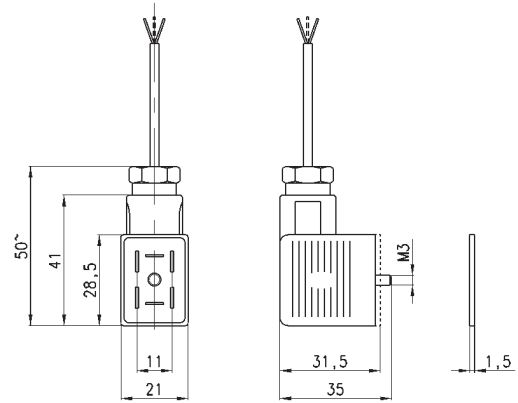


Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
122-571-1	moulded cable, varistor + Led	black	24 V AC/DC	1000 mm	-	0.5 Nm
122-571-2	moulded cable, varistor + Led	black	24 V AC/DC	2000 mm	-	0.5 Nm
122-571-3	moulded cable, varistor + Led	black	24 V AC/DC	3000 mm	-	0.5 Nm
122-571-5	moulded cable, varistor + Led	black	24 V AC/DC	5000 mm	-	0.5 Nm
122-571-10	moulded cable, varistor + Led	black	24 V AC/DC	10000 mm	-	0.5 Nm

Connectors Mod. 122-89*C DIN EN 175 301-803-B



For solenoids Mod. G9



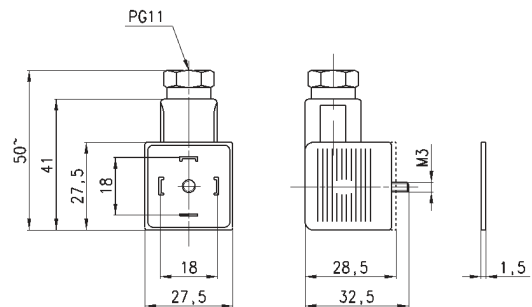
Mod.	description	colour	working voltage	cable length [L]	cable holding	tightening torque
122-892C	pre-wired connector, positive common	transparent	12/24V DC	2000 mm	PG9	0.5 Nm
122-893C	pre-wired connector, negative common	transparent	12/24V DC	2000 mm	PG9	0.5 Nm

Connector Mod. 124-... DIN EN 175 301-803-A



For solenoids Mod. A8 and Mod. B8/B9

Protection class IP65



Mod.	description	colour	working voltage	cable holding	tightening torque
124-800	connector, without electronics	black	-	PG9/PG11	0.5 Nm
124-702	connector, varistor + Led	black	110 V AC/DC	PG9/PG11	0.5 Nm
124-701	connector, varistor + Led	black	24 V AC/DC	PG9/PG11	0.5 Nm
124-703	connector, varistor + Led	black	230 V AC/DC	PG9/PG11	0.5 Nm

Series 2 mechanically operated minivalves

3/2-way
Ports M5, cartridge $\varnothing 4$

SERIES 2 MECHANICALLY OPERATED MINIVALVES



Series 2 mechanically operated miniature valves, 3/2-way normally closed, are available with M5 threaded ports or with an integrated super-rapid fitting for $\varnothing 4$ mm tubes.

The devices are actuated by a plunger, roller/lever or a unidirectional lever.

GENERAL DATA

Construction	poppet type
Valve group	3-way/2-position
Materials	aluminium body, brass plunger, NBR seals
Mounting	by means of screws in the through-holes of the valve body
Ports	M5, $\varnothing 4$ mm cartridge
Room temperature	$0^{\circ}\text{C} \div 60^{\circ}\text{C}$
Fluid temperature	$0^{\circ}\text{C} \div 50^{\circ}\text{C}$
Operating pressure	0 bar \div 10 bar
Fluid	Filtered air, without lubrication. If lubricated air is used, it is recommended to use ISO VG32 oil. Once applied the lubrication should never be interrupted.

CODING EXAMPLE

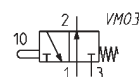
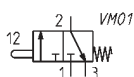
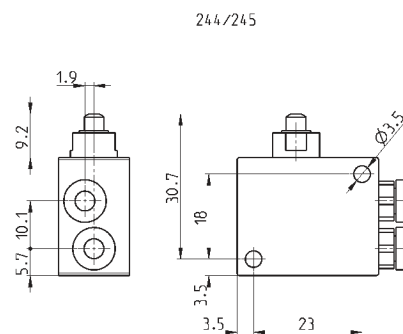
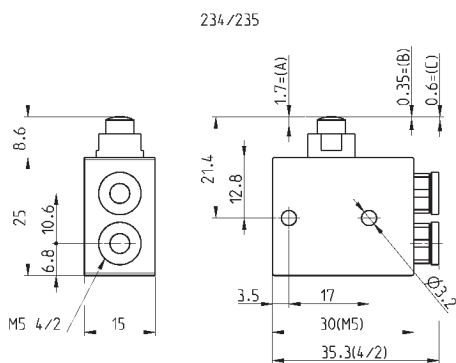
2	3	4	-	94	5
2	SERIES				
3	FUNCTION 3 = 3/2-way NC 4 = 3/2-way NO				
4	PORTS 4 = cartridge \varnothing 4mm 5 = M5				
94	ACTUATION 94 = plunger 95 = lever/roller 96 = unidirectional lever 98 = plunger, panel mounting				
5	RESETTING 5 = spring return				

SERIES 2 MECHANICALLY OPERATED MINIVALVES

Minivalves with plunger



DRAWING LEGEND
A = total stroke
B = pre-stroke
C = effective stroke

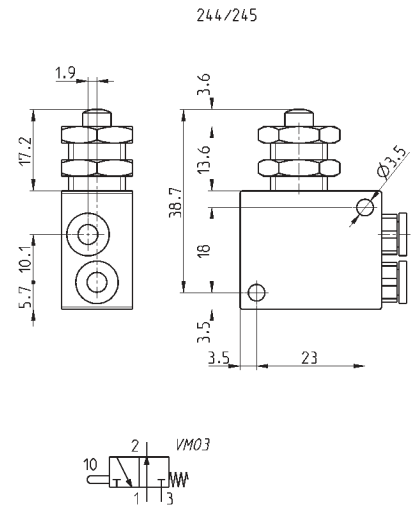
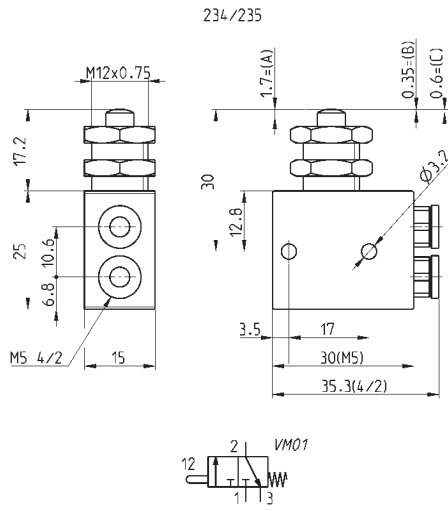


Mod.	Operating pressure (bar)	Flow Qn (NI/min)	Actuating force at 6 bar (N)	SYMBOL
234-945	2 ÷ 10	60	6	VM01
235-945	2 ÷ 10	60	6	VM01
244-945	2 ÷ 10	60	6	VM03
245-945	2 ÷ 10	60	6	VM03

Minivalves with plunger, panel mounting



DRAWING LEGEND
A = total stroke
B = pre-stroke
C = effective stroke

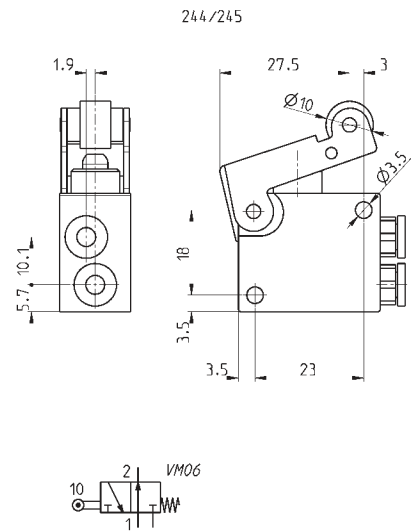
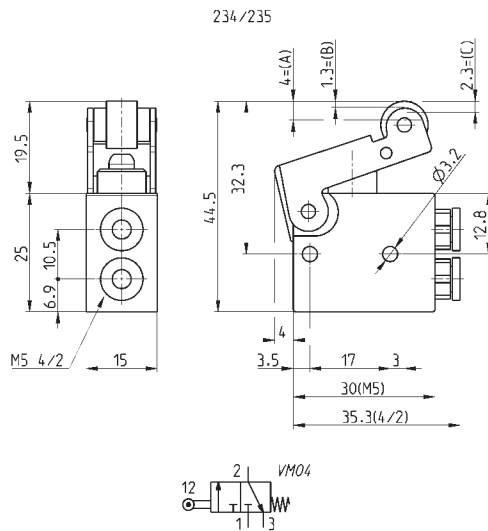


Mod.	Operating pressure (bar)	Flow Qn (NI/min)	Actuating force at 6 bar (N)	SYMBOL
234-985	2 ÷ 10	60	6	VM01
235-985	2 ÷ 10	60	6	VM01
244-985	2 ÷ 10	60	6	VM03
245-985	2 ÷ 10	60	6	VM03

Minivalves with lever/roller



DRAWING LEGEND
A = total stroke
B = pre-stroke
C = effective stroke

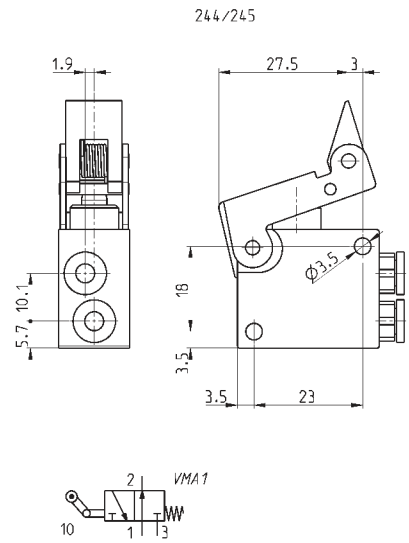
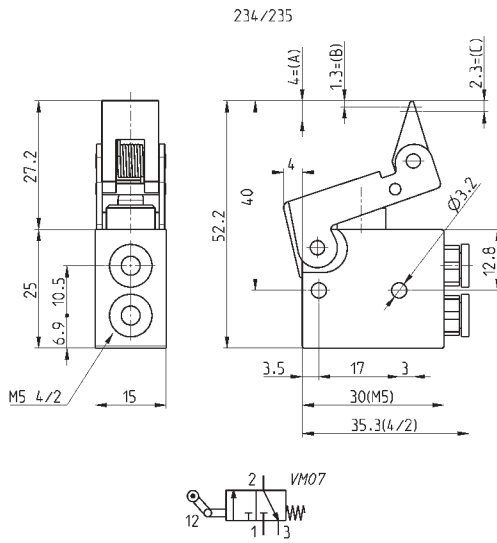


Mod.	Operating pressure (bar)	Flow Qn (NI/min)	Actuating force at 6 bar (N)	SYMBOL
234-955	2 ÷ 10	60	6	VM04
235-955	2 ÷ 10	60	6	VM04
244-955	2 ÷ 10	60	6	VM06
245-955	2 ÷ 10	60	6	VM06

Minivalves, unidirectional lever



DRAWING LEGEND
 A = total stroke
 B = pre-stroke
 C = effective stroke



Mod.	Operating pressure (bar)	Flow Qn (NI/min)	Actuating force at 6 bar (N)	SYMBOL
234-965	2 ÷ 10	60	6	VM07
235-965	2 ÷ 10	60	6	VM07
244-965	2 ÷ 10	60	6	VMA1
245-965	2 ÷ 10	60	6	VMA1

Series 1 and 3 mechanically operated valves

Series 1: 3/2-way and 5/2-way, ports G1/8 and G1/4

Series 3: 3/2-way and 5/2-way, ports G1/8



These mechanically operated valves have been designed with three different types of actuation:

- plunger
- lever/roller
- unidirectional lever/roller

In each case, return is triggered by a mechanical spring.

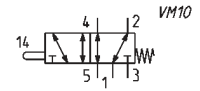
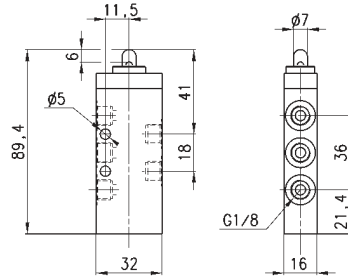
3/2-way monostable valves Series 3 are normally closed in the rest position when pressure is supplied in 1 and are normally open when pressure is supplied on connection 3, the user port 2 remaining unchanged.

5/2-way valves Series 3 can be supplied via the ports 3 and 5 with two different pressures if a cylinder has to be operated using a delivery pressure which is different from the return pressure.

GENERAL DATA

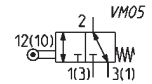
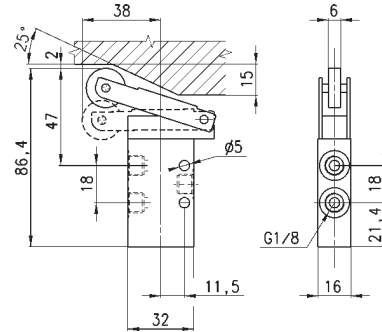
Construction	spool-type (Series 3), poppet-type (Series 1)
Valve group	3/2, 5/2 way/pos.
Materials	aluminium body, brass poppet, stainless steel spool, NBR seals
Ports	G1/8, G1/4
Ambient temperature	0°C + 60°C
Medium temperature	0°C + 50°C
Operating pressure	see models
Fluid	Filtered air, without lubrication. If lubricated air is used, it is recommended to use ISO VG32 oil. Once applied the lubrication should never be interrupted.

Valve Mod. 358-945



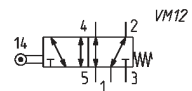
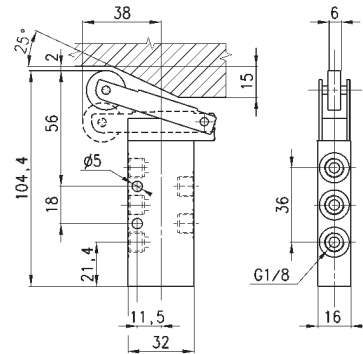
Mod.	Operating pressure (bar)	Flow (NL/min)	Actuating force (N)
358-945	-0.9 ÷ 10	700	35

Valve Mod. 338-955



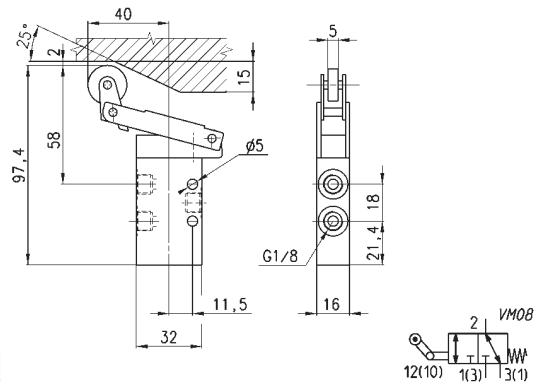
Mod.	Operating pressure (bar)	Flow (NL/min)	Actuating force (N)
338-955	-0.9 ÷ 10	700	15

Valve Mod. 358-955



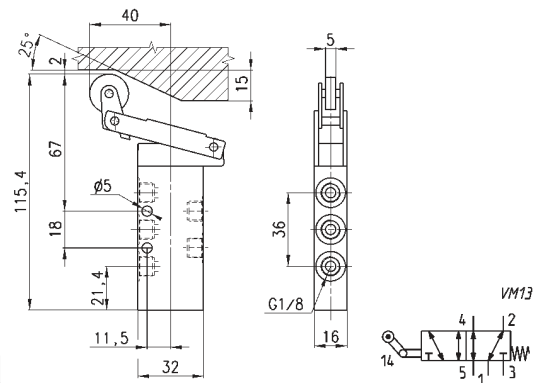
Mod.	Operating pressure (bar)	Flow (NL/min)	Actuating force (N)
358-955	-0.9 ÷ 10	700	17

Valve Mod. 338-965



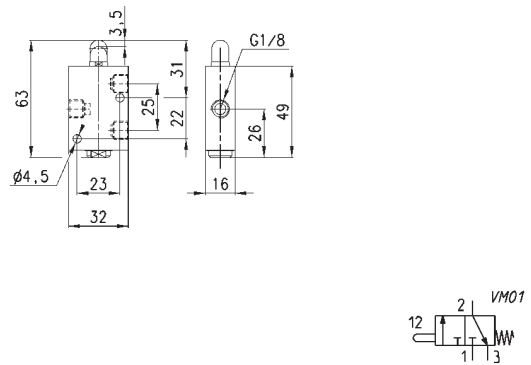
Mod.	Operating pressure (bar)	Flow (NL/min)	Actuating force (N)
338-965	-0.9 ÷ 10	700	15

Valve Mod. 358-965



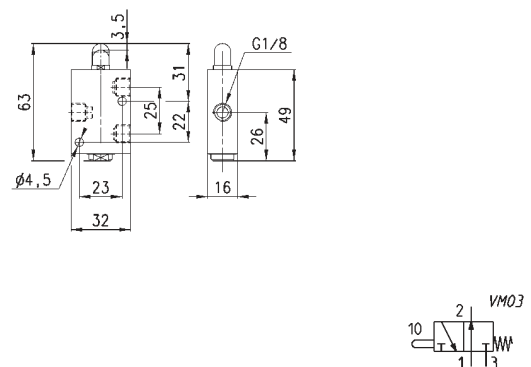
Mod.	Operating pressure (bar)	Flow (NL/min)	Actuating force (N)
358-965	-0.9 ÷ 10	700	16

Valve Mod. 138-945



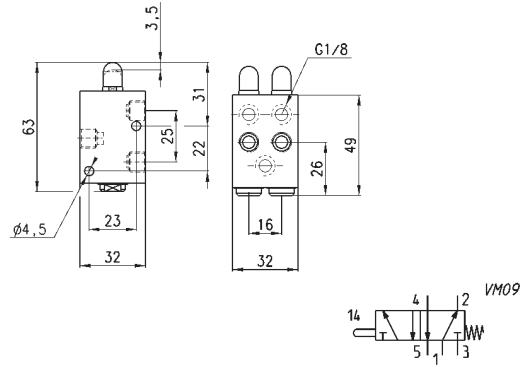
Mod.	Operating pressure (bar)	Flow rate (NL/min)	Actuating force at 6 bar (N)
138-945	0 ÷ 10	500	70

Valve Mod. 148-945



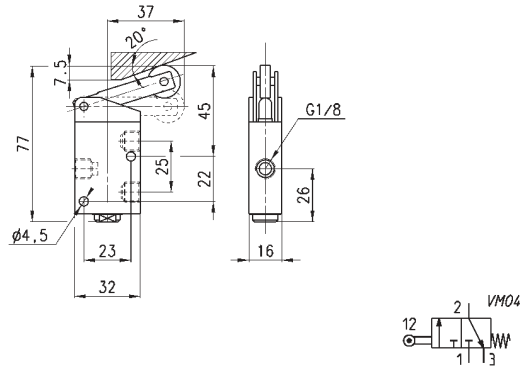
Mod.	Operating pressure (bar)	Flow rate (NL/min)	Actuating force at 6 bar (N)
148-945	0 ÷ 10	500	70

Valve Mod. 158-945



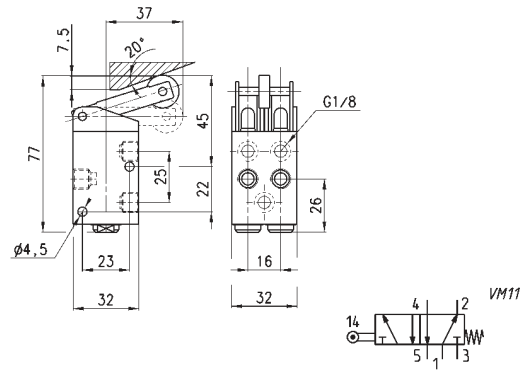
Mod.	Operating pressure (bar)	Flow rate (NL/min)	Actuating force at 6 bar (N)
158-945	0 ÷ 10	500	120

Valve Mod. 138-955



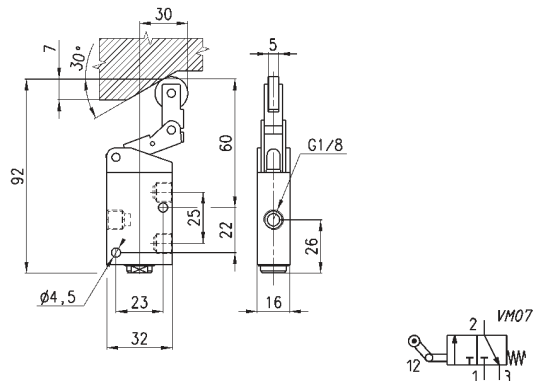
Mod.	Operating pressure (bar)	Flow rate (NL/min)	Actuating force at 6 bar (N)
138-955	0 ÷ 10	500	36

Valve Mod. 158-955



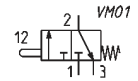
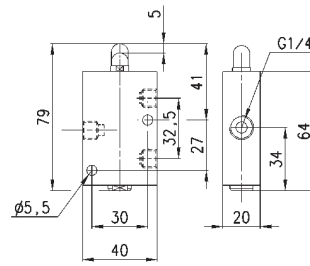
Mod.	Operating pressure (bar)	Flow rate (NL/min)	Actuating force at 6 bar (N)
158-955	0 ÷ 10	500	92

Valve Mod. 138-965



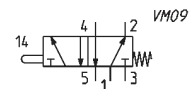
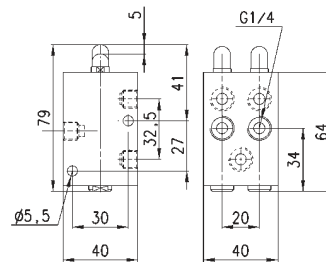
Mod.	Operating pressure (bar)	Flow rate (NL/min)	Actuating force at 6 bar (N)
138-965	0 ÷ 10	500	41

Valve Mod. 134-945



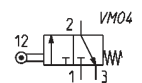
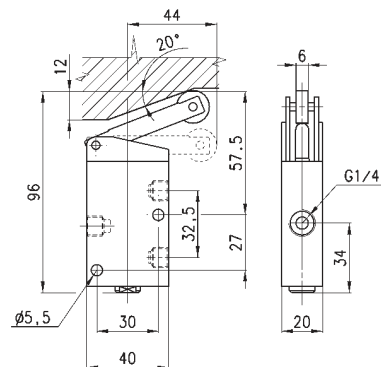
Mod.	Operating pressure (bar)	Flow rate (NL/min)	Actuating force at 6 bar (N)
134-945	0 ÷ 10	1250	64

Valve Mod. 154-945



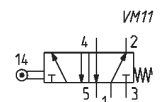
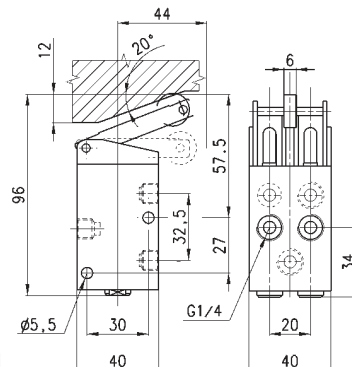
Mod.	Operating pressure (bar)	Flow rate (NL/min)	Actuating force at 6 bar (N)
154-945	0 ÷ 10	1250	147

Valve Mod. 134-955



Mod.	Operating pressure (bar)	Flow rate (NL/min)	Actuating force at 6 bar (N)
134-955	0 ÷ 10	1250	41

Valve Mod. 154-955



Mod.	Operating pressure (bar)	Flow rate (NL/min)	Actuating force at 6 bar (N)
154-955	0 ÷ 10	1250	110

Series 3 and 4 mechanically operated sensor valves

3/2 and 5/2-way
Ports G1/8, G1/4

SERIES 3 AND 4 MECHANICALLY OPERATED SENSOR VALVES



The particular mechanical device allows these end-stroke valves to operate with very low actuating forces.

Series 3 has been designed with a mechanical lever device which works in negative pressure. To increase sensitivity it is possible to add to the lever a steel extension with $\varnothing 3$ mm.

GENERAL DATA

Construction	spool-type (servocontrolled)
Valve group	3/2, 5/2 way/pos.
Materials	aluminium body, stainless steel spool, NBR seals
Ports	G1/8, G1/4
Ambient temperature	0°C + 60°C
Medium temperature	0°C + 50°C
Operating pressure	see models
Fluid	Filtered air, without lubrication. If lubricated air is used, it is recommended to use ISO VG32 oil. Once applied the lubrication should never be interrupted.

CODING EXAMPLE

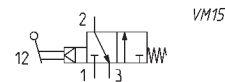
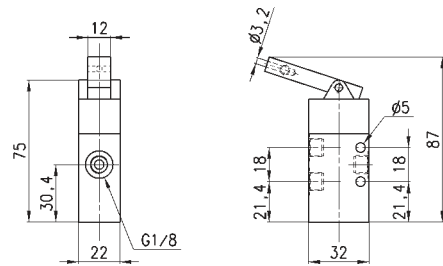
3	3	8	-	D15	-	9A5
3	SERIES: 3 4					
3	FUNCTION: 3 = 3/2-way NC 4 = 3/2-way NO 5 = 5/2-way					
8	PORTS: 8 = G1/8 4 = G1/4					
D15	ACTUATION: D15 = pressure drop/spring 015 = pressure/spring 011 = pressure/pressure					
9A5	DEVICES: 9A5 = lever sensor, spring return 194 = plunger sensor, spring return 294 = plunger sensor, bistable		195 = lever/roller, spring return 295 = lever/roller, bistable			

SERIES 3 AND 4 MECHANICALLY OPERATED SENSOR VALVES

Valve Mod. 338-D15-9A5



The function of the valve is indicated by the symbol when operating between 4 and 10 bar.

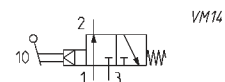
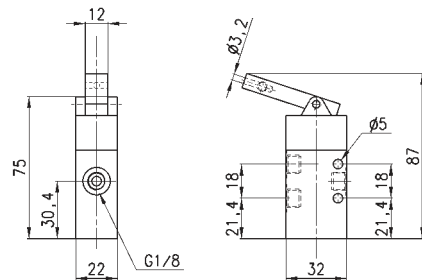


Mod.	Operating pressure (bar)	Flow rate (NI/min)	Actuating force at 6 bar (N)
338-D15-9A5	4 ÷ 10	700	2

Valve Mod. 348-D15-9A5



The function of the valve is indicated by the symbol when operating between 4 and 10 bar.

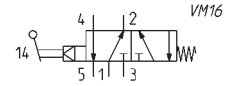
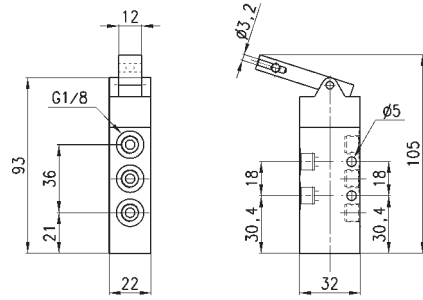


Mod.	Operating pressure (bar)	Flow rate (NI/min)	Actuating force at 6 bar (N)
348-D15-9A5	4 ÷ 10	700	2

Valve Mod. 358-D15-9A5

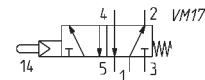
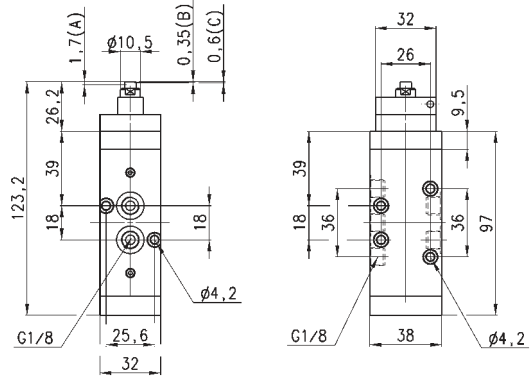


The function of the valve is indicated by the symbol when operating between 4 and 10 bar.



Mod.	Operating pressure (bar)	Flow rate (NL/min)	Actuating force at 6 bar (N)
358-D15-9A5	4 ÷ 10	700	2

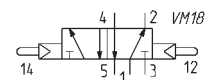
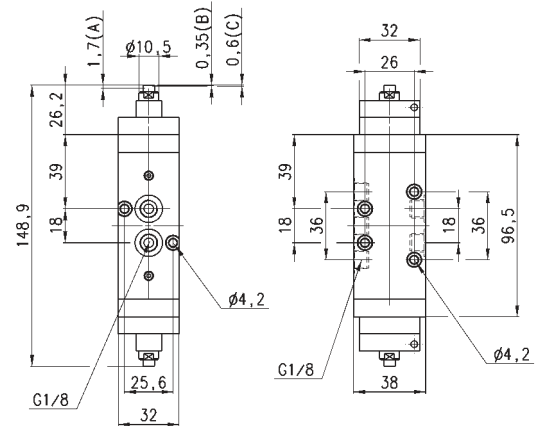
Valve Mod. 458-015-194



Mod.	Operating pressure (bar)	Flow rate (NL/min)	Actuating force at 6 bar (N)
458-015-194	2.5 ÷ 8	650	6

(A) = total stroke
(B) = pre-stroke
(C) = useful stroke

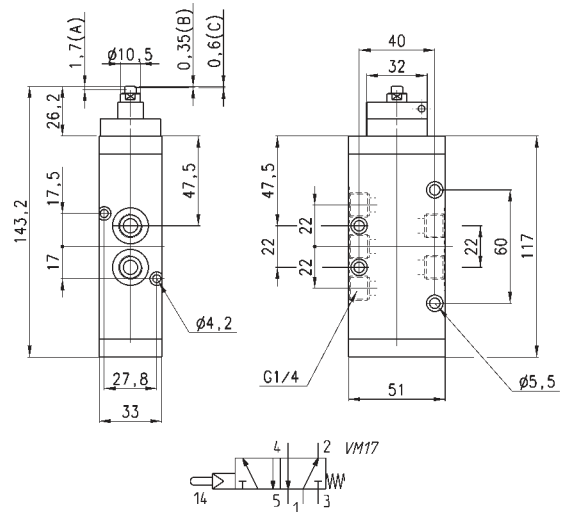
Valve Mod. 458-011-294



Mod.	Operating pressure (bar)	Flow rate (NL/min)	Actuating force at 6 bar (N)
458-011-294	2 ÷ 8	650	6

(A) = total stroke
(B) = pre-stroke
(C) = useful stroke

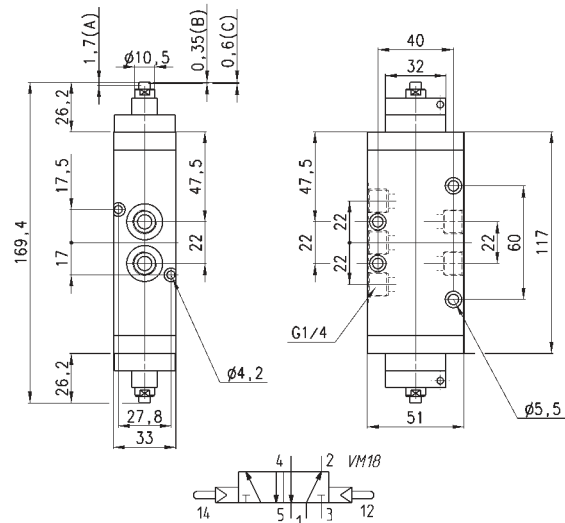
Valve Mod. 454-015-194



Mod.	Operating pressure (bar)	Flow rate (NI/min)	Actuating force at 6 bar (N)
454-015-194	2.5 ÷ 8	1250	6

(A) = total stroke
(B) = pre-stroke
(C) = useful stroke

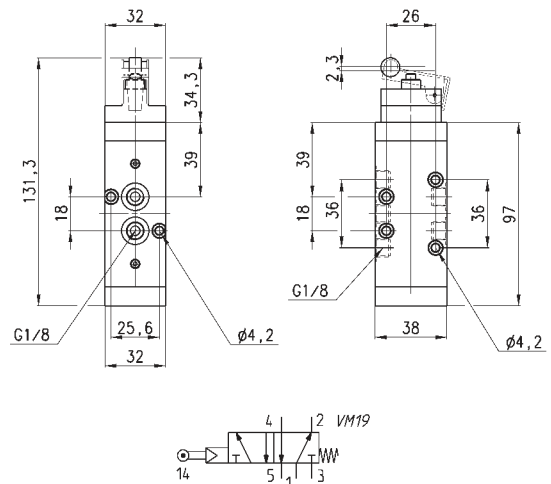
Valve Mod. 454-011-294



Mod.	Operating pressure (bar)	Flow rate (NI/min)	Actuating force at 6 bar (N)
454-011-294	2 ÷ 8	1250	6

(A) = total stroke
(B) = pre-stroke
(C) = useful stroke

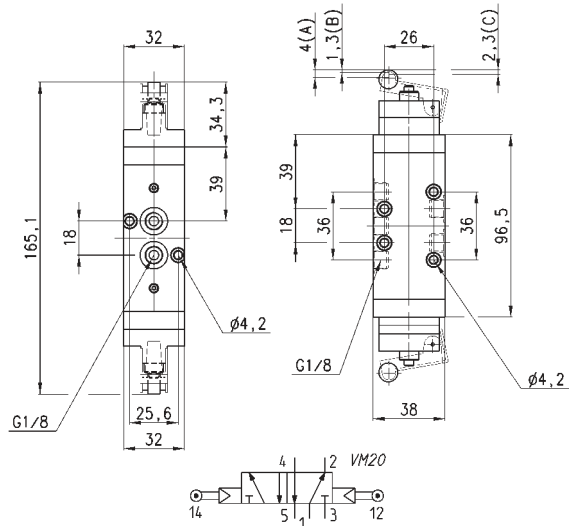
Valve Mod. 458-015-195



Mod.	Operating pressure (bar)	Flow rate (NI/min)	Actuating force at 6 bar (N)
458-015-195	2.5 ÷ 8	650	4

(A) = total stroke
(B) = pre-stroke
(C) = useful stroke

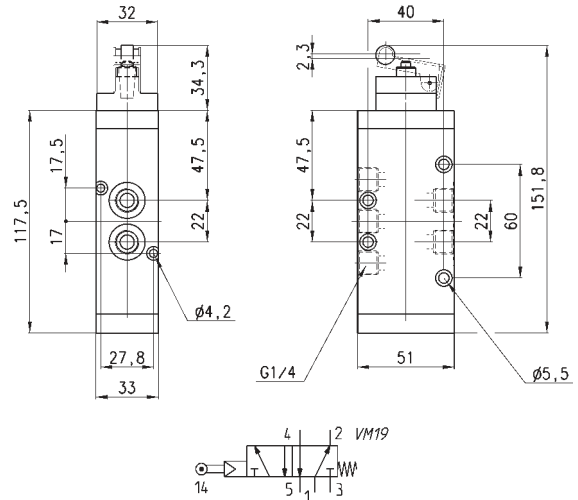
Valve Mod. 458-011-295



Mod.	Operating pressure (bar)	Flow rate (NI/min)	Actuating force at 6 bar (N)
458-011-295	2 ÷ 8	650	4

(A) = total stroke
(B) = pre-stroke
(C) = useful stroke

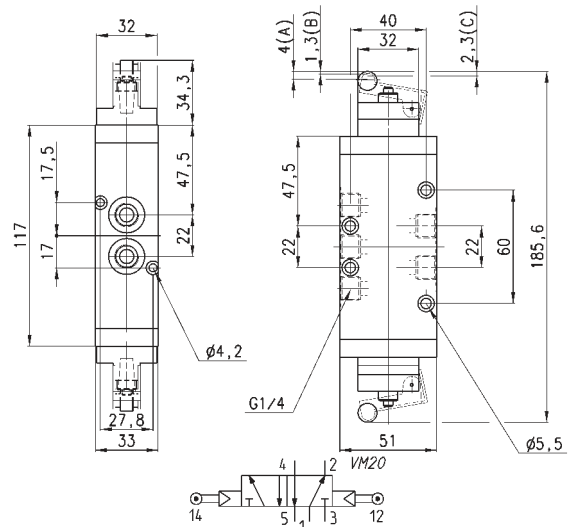
Valve Mod. 454-015-195



Mod.	Operating pressure (bar)	Flow rate (NI/min)	Actuating force at 6 bar (N)
454-015-195	2.5 ÷ 8	1250	4

(A) = total stroke
(B) = pre-stroke
(C) = useful stroke

Valve Mod. 454-011-295



Mod.	Operating pressure (bar)	Flow rate (NI/min)	Actuating force at 6 bar (N)
454-011-295	2 ÷ 8	1250	4

(A) = total stroke
(B) = pre-stroke
(C) = useful stroke

Foot operated pedal

Electrical and pneumatic - Series 3

Pneumatic - Series 2

Series 3: G1/4, 5/2-way - NC / NO contacts

Series 2: M5; 4/2 tube; 3/2-way NC



The pedals can be supplied in either a pneumatic or electrical foot operated version. The pneumatic type is available with a 5/2 valve and G1/4 front ports, which allow the fittings and silencers to be assembled conveniently on the front face. A 3/2 operation can be obtained by closing an outlet port.

The electrical type is available with a single-pole changeover contact microswitch and a front wire outlet (PG9).

The pedal can be operated as bistable or monostable, by switching the selector placed under the small red protection flap, as shown in the drawing.

GENERAL DATA

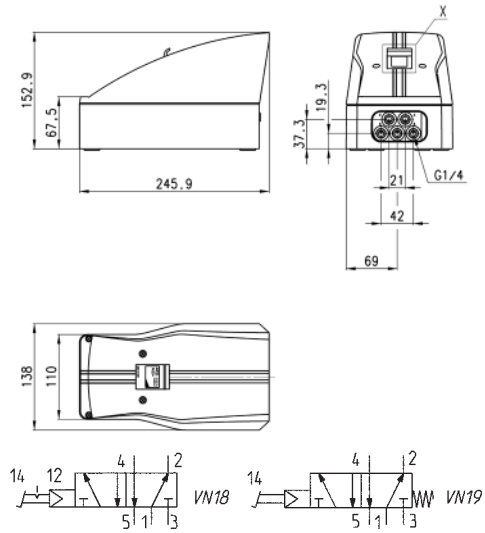
Construction	spool-type
Valve group	5/2, 3/2 NC way/pos.
Materials	- Series 3: aluminium body - stainless steel spool - NBR seals - plastic casing - Series 2: aluminium body - OT58 poppet - NBR seals.
Ports	- Series 3: G1/4 gas - Series 2: M5; tube 4/2.
Ambient temperature	0°C + 50 °C (with dry air at - 10°C)
Medium temperature	0°C + 50 °C
Construction	single-pole changeover contact microswitch
Cable entry	by means of wire PG9
Protection class	IP20
Fluid	Filtered air, without lubrication.

If lubricated air is used, it is recommended to use ISO VG32 oil. Once applied the lubrication should never be interrupted.

Pneumatic foot operated pedal Series 3

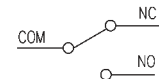
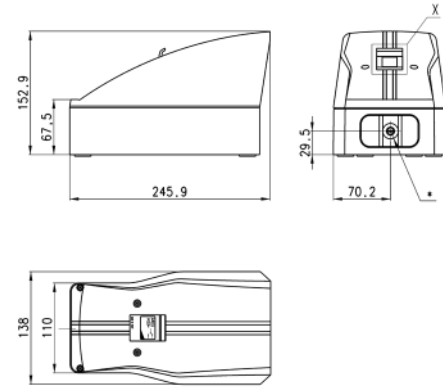


Actuating force at 6 bar = 17N
Operating pressure = 2,5 ÷ 8 bar
Flow rate = 650NL/min.



Mod.	Symbol
354N-925	VN18 - VN19

Electrical foot operated pedal Series 3

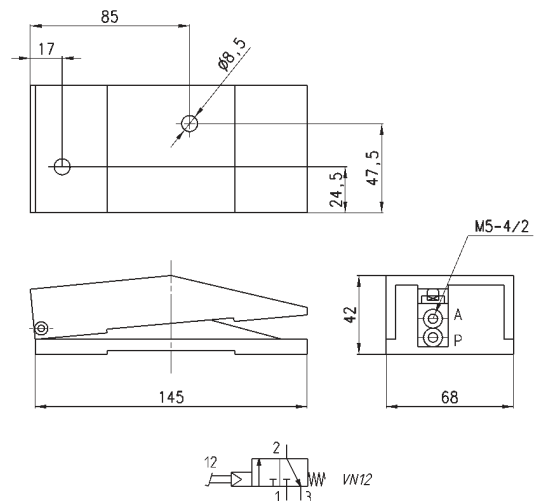


Mod.
3E2-925

Pneumatic foot operated pedal Series 2



Operating pressure = 2 ÷ 8 bar
Flow rate = 60 NL/min.



Mod.
234-925
235-925

Series 2 manually operated console minivalves

3/2 NC, NO
Ports M5, Cartridge Ø 4



This series of miniature valves has been especially designed to satisfy all the application requirements of the controls industry with particular attention paid to the operating characteristics required from these components:

- short operational stroke
- small dimensions

GENERAL DATA

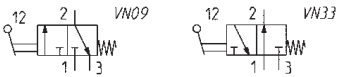
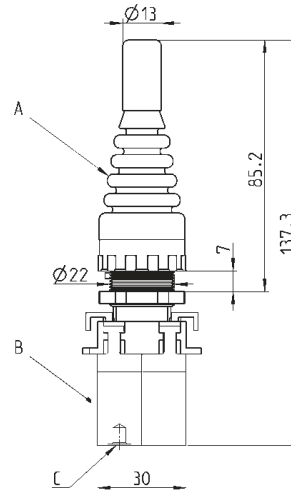
Construction	poppet-type (closed centres)
Valve group	3/2 NC, NO 5/2 and 5/3 CO
Materials	aluminium body, brass plunger, NBR seals
Mounting	panel
Ports	M5 or cartridge dia. 4
Ambient temperature	0°C + 60°C
Medium temperature	0°C + 50°C
Operating pressure	see models

CODING EXAMPLE

2	3	4	-	97	5
2	SERIES				
3	FUNCTION: 3 = 3/2-way NC 4 = 3/2-way NO 8 = 5/3-way CO (function realized with 2x 3/2-way NC valves)				
4	PORTS: 4 = cartridge \varnothing 4 5 = M5				
97	MODE OF OPERATION: 87 = 3 position selector 89 = push button 97 = palm switch 90 = joystick 99 = 2 position selector 92 = pedal 904 = key				
5	RESETTING: 5 = spring return 0 = stable 2 = latching-twist to release 54 = joystick				

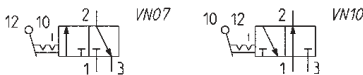
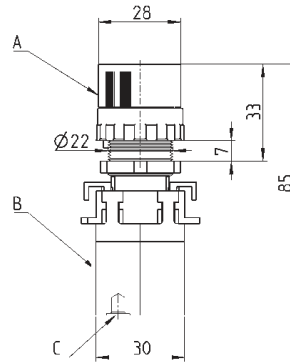
SERIES 2 MANUALLY OPERATED CONSOLE MINIVALVES

Minivalves Mod. 23..-905, 24..-905



Mod.	Operating pressure (bar)	Flow (NL/min)	A	B	C (Supply/port)	Symbols
234-905	2 ÷ 8	60	200-905	234-000	\varnothing 4/2	VN09
235-905	2 ÷ 8	60	200-905	235-000	M5	VN09
244-905	2 ÷ 8	60	200-905	244-000	\varnothing 4/2	VN33
245-905	2 ÷ 8	60	200-905	245-000	M5	VN33

Minivalves Mod. 23...-990, 24...-990

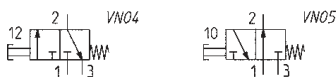
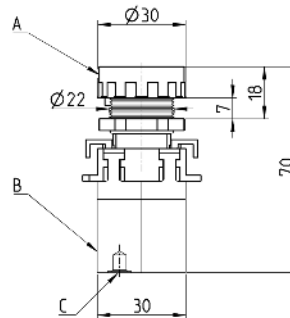


Mod.	Operating pressure (bar)	Flow (NL/min)	A	B	C (Supply/port)	Symbols
234-990	2 ÷ 8	60	200-990	234-000	Ø4/2	VN07
235-990	2 ÷ 8	60	200-990	235-000	M5	VN07
244-990	2 ÷ 8	60	200-990	244-000	Ø4/2	VN10
245-990	2 ÷ 8	60	200-990	245-000	M5	VN10

Minivalves Mod. 23...-895, 24...-895

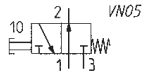
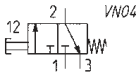
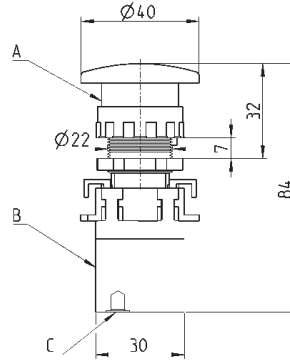


The packaging of the button includes 3 interchangeable disks in the colours red, black and green.



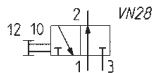
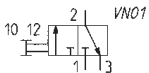
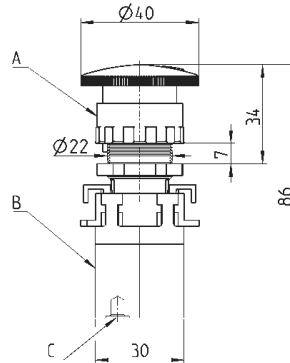
Mod.	Operating pressure (bar)	Flow (NL/min)	Actuating force at 6 bar (N)	A	B	C (Supply/port)	Symbols
234-895	2 ÷ 8	60	7	200-895	234-000	Ø4/2	VN04
235-895	2 ÷ 8	60	7	200-895	235-000	M5	VN04
244-895	2 ÷ 8	60	7	200-895	244-000	Ø4/2	VN05
245-895	2 ÷ 8	60	7	200-895	245-000	M5	VN05

Minivalves Mod. 23...-975, 24...-975



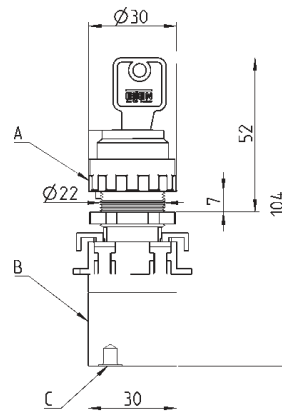
Mod.	Operating pressure (bar)	Flow (NL/min)	Actuating force at 6 bar (N)	A	B	C (Supply/port)	Symbols
234-975	2 ÷ 8	60	7	200-975	234-000	Ø4/2	VN04
235-975	2 ÷ 8	60	7	200-975	235-000	M5	VN04
244-975	2 ÷ 8	60	7	200-975	244-000	Ø4/2	VN05
245-975	2 ÷ 8	60	7	200-975	245-000	M5	VN05

Minivalves Mod. 23...-972, 24...-972



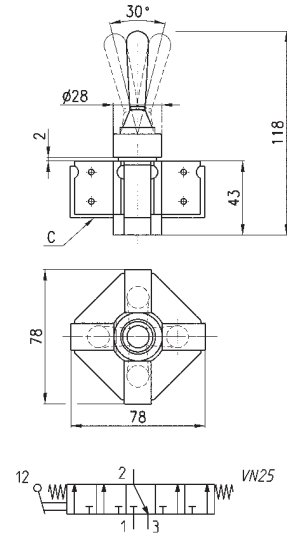
Mod.	Operating pressure (bar)	Flow (NL/min)	Actuating force at 6 bar (N)	A	B	C (Supply/port)	Symbols
234-972	2 ÷ 8	60	7	200-972	234-000	Ø4/2	VN01
235-972	2 ÷ 8	60	7	200-972	235-000	M5	VN01
244-972	2 ÷ 8	60	7	200-972	244-000	Ø4/2	VN28
245-972	2 ÷ 8	60	7	200-972	245-000	M5	VN28

Minivalves Mod. 23...-904, 24...-904



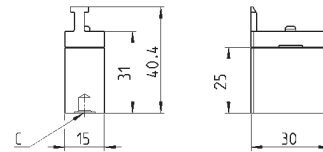
Mod.	Operating pressure (bar)	Flow (NL/min)	A	B	C (Supply/port)	Symbols
234-904	2 ÷ 8	60	200-904	234-000	Ø4/2	VN02
235-904	2 ÷ 8	60	200-904	235-000	M5	VN02
244-904	2 ÷ 8	60	200-904	244-000	Ø4/2	VN31
245-904	2 ÷ 8	60	200-904	245-000	M5	VN31

Joystick valves Mod. 234-9054, 235-9054

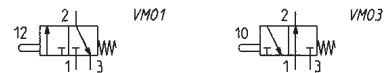


Mod.	Minimum pressure (bar)
234-9054	2
235-9054	2

Minivalves Mod. 234-000, 235-000, 244-000, 245-000



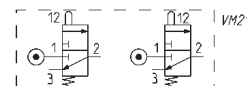
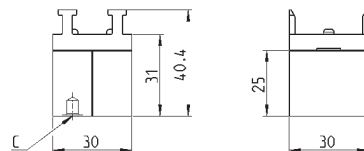
Mod.	Operating pressure (bar)	Flow (Nl/min)	Symbols
234-000	2 ÷ 8	60	VM01
235-000	2 ÷ 8	60	VM01
244-000	2 ÷ 8	60	VM03
245-000	2 ÷ 8	60	VM03



Minivalves Mod. 284-000, 285-000

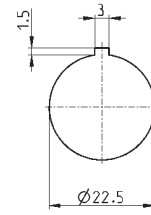


The codes shown in the table are composed by two 3/2-way valves NC which can be operated with the control device Mod. 200-870 only.



Mod.	Operating pressure (bar)	Flow (Nl/min)	Symbols
284-000	2 ÷ 8	60	VM21
285-000	2 ÷ 8	60	VM21

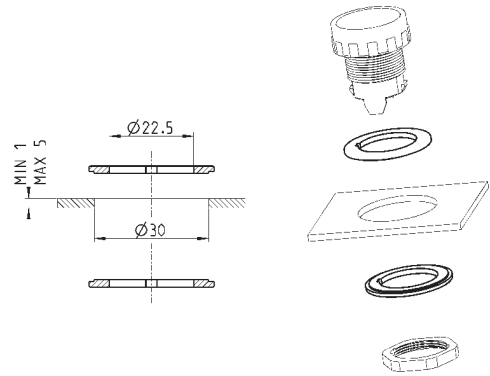
Drilling for mounting



Adaptor

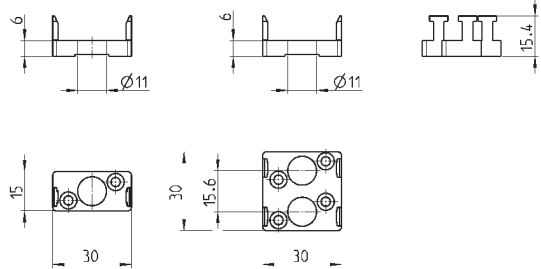


Panel hole adaptor Ø30
 Supplied with:
 2x reduction rings



Mod.
 200-2230

End cover



Mod.
 210-000
 220-000

Series 1, 3, 4 and VMS manually operated valves

Series 1, 3 and 4: 3/2-, 5/2- and 5/3-way CC, CO; ports G1/8, G1/4
Series VMS: 3/2-way; ports M5, G1/8, G1/4, G3/8, G1/2 and G3/4

SERIES 1, 3, 4 AND VMS MANUALLY OPERATED VALVES



Series 3 manual valves (G1/8) and Series 4 (G1/4), 3/2-, 5/2- and 5/3-way, are available with several devices designed to satisfy different needs.

Series 1 is provided with two devices: pushbutton (3/2-way) and lever (3/2 and 5/2-way).

Series VMS valves are 3/2-way slide valves which are available with ports M5, G1/8, G1/4, G3/8, G1/2 and G3/4.

The 3/2-way valves Series 3 and 4 are normally closed when 1 is the inlet and they can also be normally open when 3 is the inlet.

Series 3 and 4 5/2-way valves can be supplied via ports 3 and 5 with two different pressures, if a cylinder has to be operated using a delivery pressure which is different from the return pressure.

GENERAL DATA

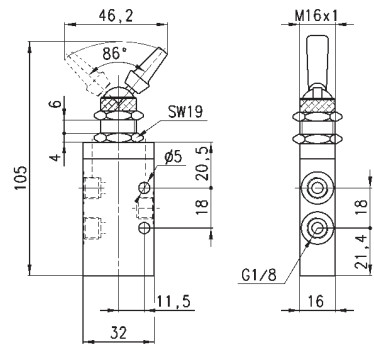
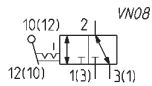
Construction	Series 3 and 4: spool-type Series 1: poppet-type Series VMS: slide
Function	Series 1, 3 and 4: 3/2 - 5/2 - 5/3 ways CC CO Series VMS: 3/2-way
Materials	aluminium body, stainless steel spool, brass poppet, NBR seals
Ports	Series 1, 3 and 4: G1/8, G1/4 Series VMS: M5, G1/8, G1/4, G3/8, G1/2, G3/4
Ambient temperature	0°C ÷ 60°C
Medium temperature	0°C ÷ 50°C
Operating pressure	see the single models
Fluid	Filtered air, without lubrication. If lubricated air is used, it is recommended to use ISO VG32 oil. Once applied the lubrication should never be interrupted.

SERIES 1, 3, 4 CODING EXAMPLE

3	3	8	-	900
3	SERIES: 1 3 4			
5	FUNCTION: 3 = 3/2-way NC 5 = 5/2-way 6 = 5/3-way CC 7 = 5/3-way CO			
8	PORTS: 8 = G1/8 4 = G1/4			
900	RESETTING: 895 = pushbutton, monostable, black 896 = pushbutton, monostable, green 897 = pushbutton, monostable, red 900 = lever, bistable 905 = lever, monostable 910 = knob, bistable 915 = knob, monostable 935 = digital monostable 975 = palm-switch, monostable, black 976 = palm-switch, monostable, green 977 = palm-switch, monostable, red 990 = switch, bistable			

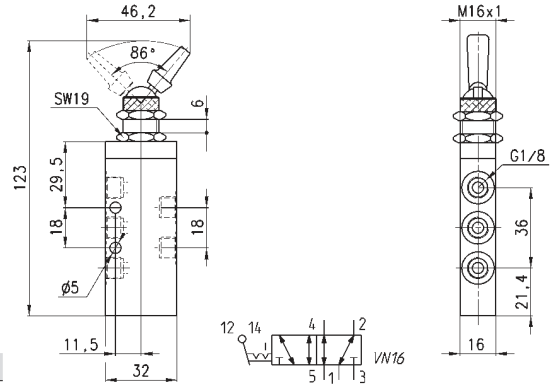
SERIES 1, 3, 4 AND VMS MANUALLY OPERATED VALVES

Valve Mod. 338-990



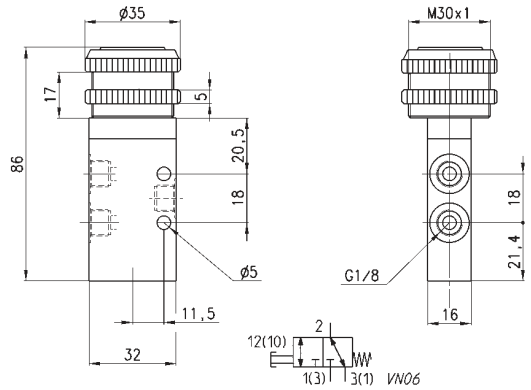
Mod.	Operating pressure (bar)	Flow (l/min)	Actuating force (N)
338-990	-0.9 ÷ 10	700	18

Valve Mod. 358-990



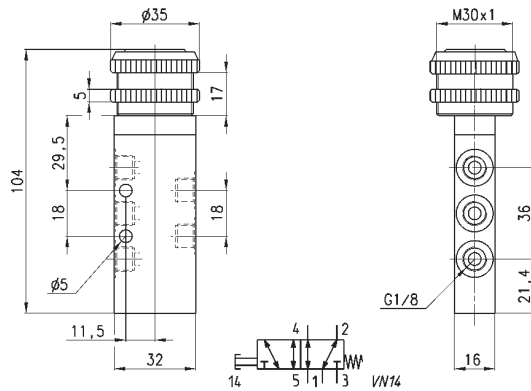
Mod.	Operating pressure (bar)	Flow (NI/min)	Actuating force (N)
358-990	-0.9 ÷ 10	700	18

Valves Mod. 338-89...



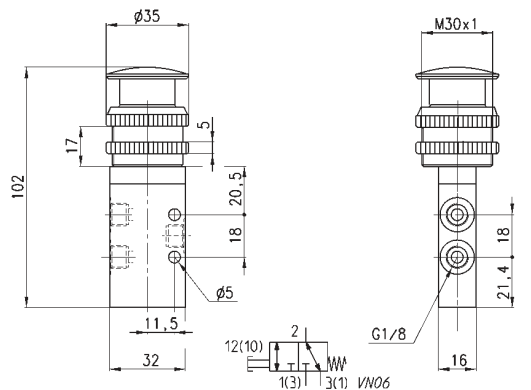
Mod.	Operating pressure (bar)	Flow (NI/min)	Actuating force (N)	Colors
338-895	-0.9 ÷ 10	700	35	Black
338-896	-0.9 ÷ 10	700	35	Green
338-897	-0.9 ÷ 10	700	35	Red

Valves Mod. 358-89...



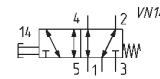
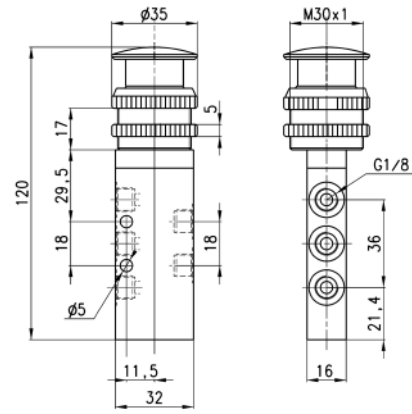
Mod.	Operating pressure (bar)	Flow (NI/min)	Actuating force (N)	Colors
358-895	-0.9 ÷ 10	700	35	Black
358-896	-0.9 ÷ 10	700	35	Green
358-897	-0.9 ÷ 10	700	35	Red

Valves Mod. 338-97...



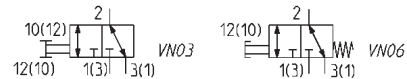
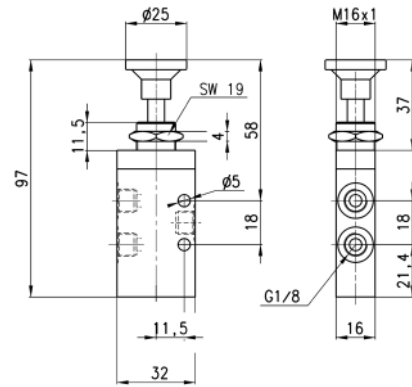
Mod.	Operating pressure (bar)	Flow (NI/min)	Actuating force (N)	Colors
338-975	-0.9 ÷ 10	700	35	Black
338-976	-0.9 ÷ 10	700	35	Green
338-977	-0.9 ÷ 10	700	35	Red

Valves Mod. 358-97...



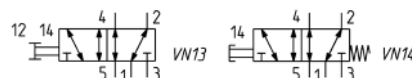
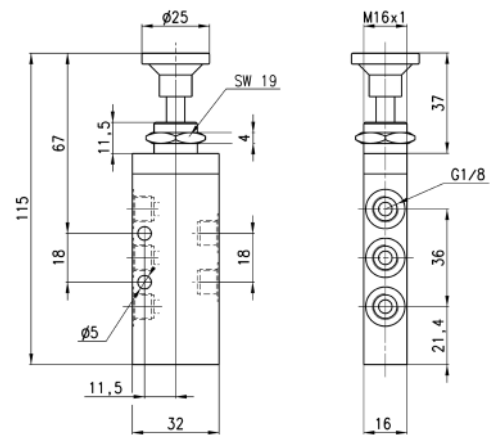
Mod.	Operating pressure (bar)	Flow (NL/min)	Actuating force (N)	Colors
358-975	-0.9 ÷ 10	700	35	Black
358-976	-0.9 ÷ 10	700	35	Green
358-977	-0.9 ÷ 10	700	35	Red

Valves Mod. 338-91...



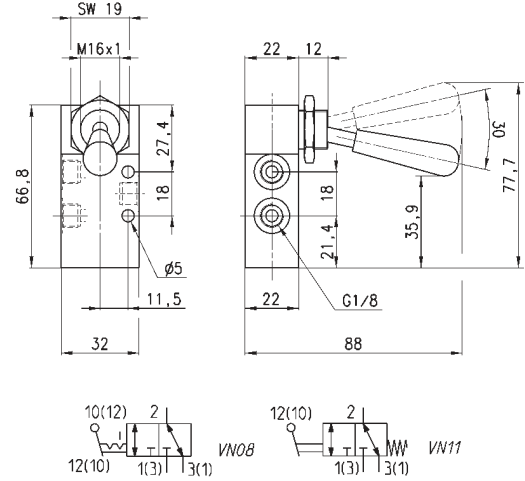
Mod.	Operating pressure (bar)	Flow (NL/min)	Actuating force (N)	Symbol
338-910	-0.9 ÷ 10	700	6	VN03
338-915	-0.9 ÷ 10	700	35	VN06

Valves Mod. 358-91...



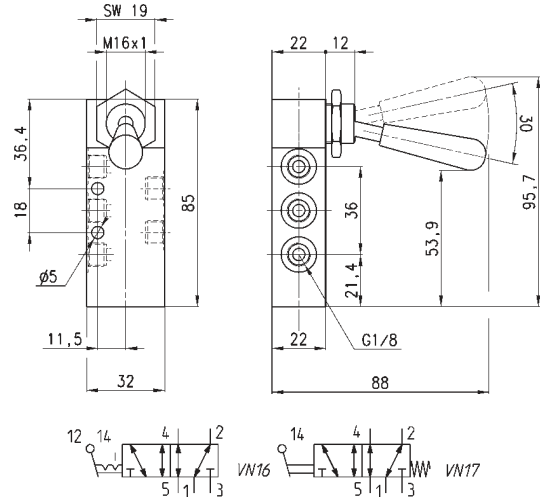
Mod.	Operating pressure (bar)	Flow (NL/min)	Actuating force (N)	Symbol
358-910	-0.9 ÷ 10	700	6	VN13
358-915	-0.9 ÷ 10	700	35	VN14

Valves Mod. 338-90...



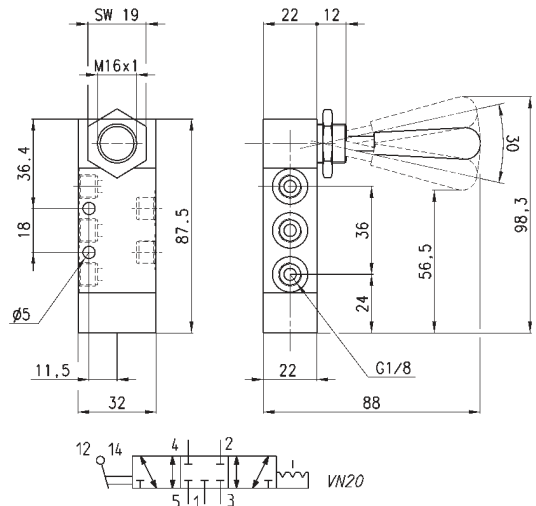
Mod.	Operating pressure (bar)	Flow (NI/min)	Actuating force (N)	Symbol
338-900	-0.9 ÷ 10	700	5	VN08
338-905	-0.9 ÷ 10	700	22	VN11

Valves Mod. 358-90...



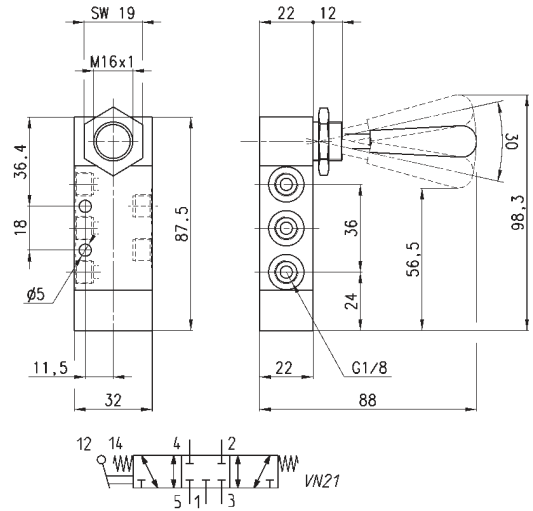
Mod.	Operating pressure (bar)	Flow (NI/min)	Actuating force (N)	Symbol
358-900	-0.9 ÷ 10	700	5	VN16
358-905	-0.9 ÷ 10	700	22	VN17

Valve Mod. 368-900



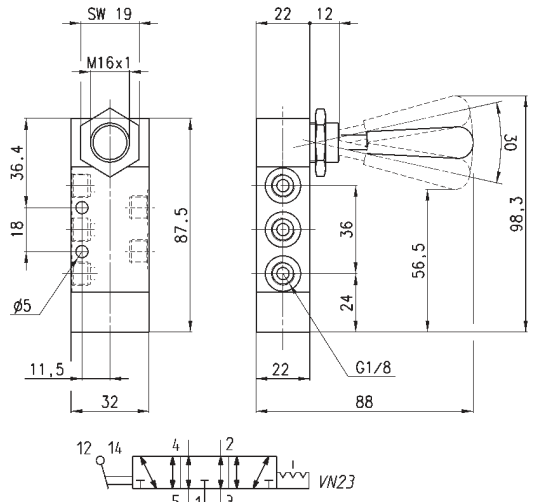
Mod.	Operating pressure (bar)	Flow (NI/min)	Actuating force (N)
368-900	-0.9 ÷ 10	500	5

Valve Mod. 368-905



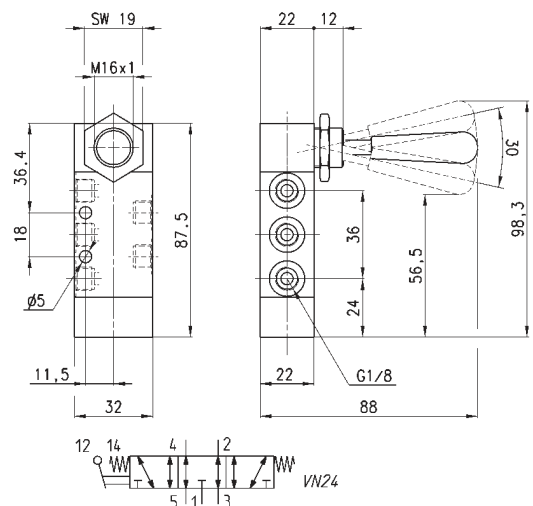
Mod.	Operating pressure (bar)	Flow (NL/min)	Actuating force (N)
368-905	-0.9 ÷ 10	500	20

Valve Mod. 378-900



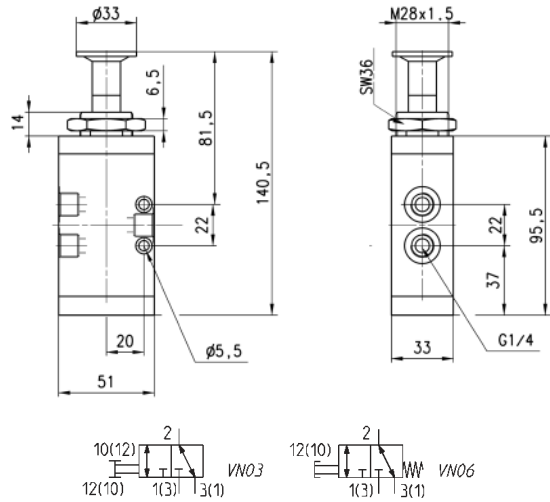
Mod.	Operating pressure (bar)	Flow (NL/min)	Actuating force (N)
378-900	-0.9 ÷ 10	500	5

Valve Mod. 378-905



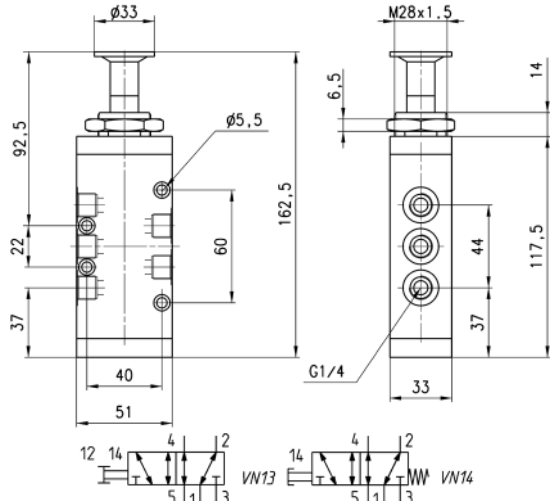
Mod.	Operating pressure (bar)	Flow (NL/min)	Actuating force (N)
378-905	-0.9 ÷ 10	500	20

Valves Mod. 434-91...



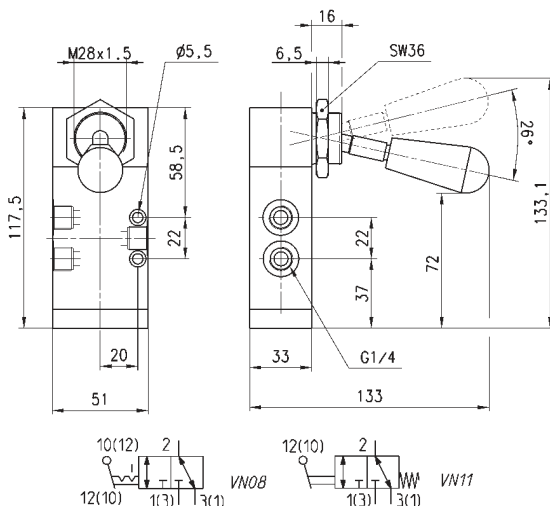
Mod.	Operating pressure (bar)	Flow (l/min)	Actuating force (N)	Symbol
434-910	-0.9 ÷ 10	1250	10	VN03
434-915	-0.9 ÷ 10	1250	37	VN06

Valves Mod. 454-91...



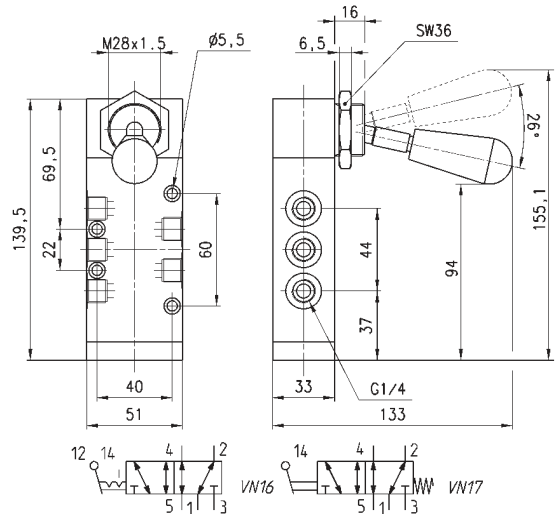
Mod.	Operating pressure (bar)	Flow (l/min)	Actuating force (N)	Symbol
454-910	-0.9 ÷ 10	1250	10	VN13
454-915	-0.9 ÷ 10	1250	37	VN14

Valves Mod. 434-90...



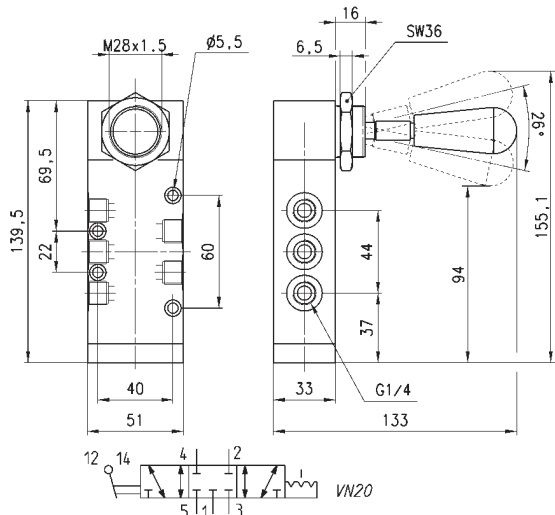
Mod.	Operating pressure (bar)	Flow (l/min)	Actuating force (N)	Symbol
434-900	-0.9 ÷ 10	1250	5	VN08
434-905	-0.9 ÷ 10	1250	37	VN11

Valves Mod. 454-90...



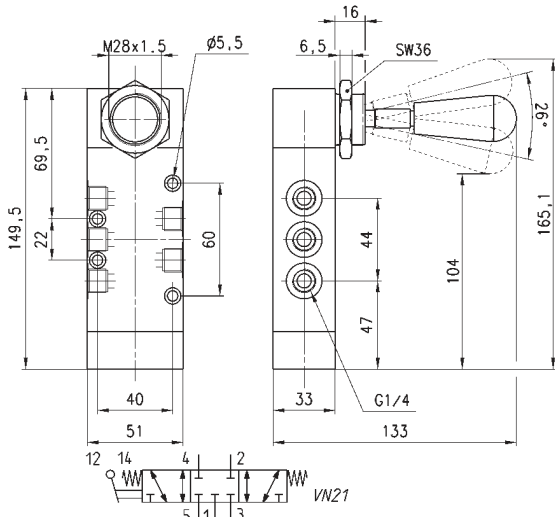
Mod.	Operating pressure (bar)	Flow (NI/min)	Actuating force (N)	Symbol
454-900	-0.9 ÷ 10	1250	5	VN16
454-905	-0.9 ÷ 10	1250	37	VN17

Valve Mod. 464-900



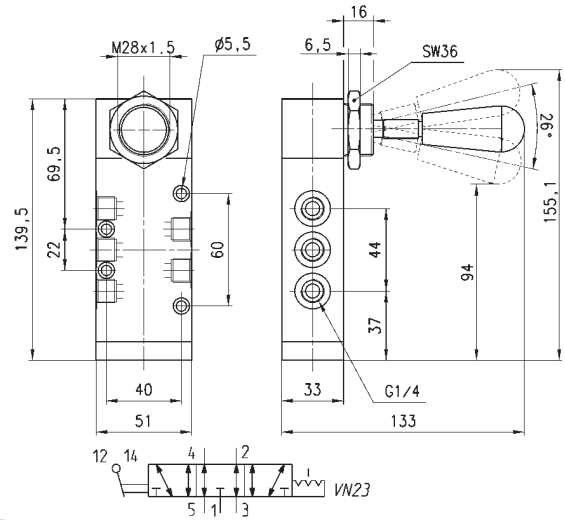
Mod.	Operating pressure (bar)	Flow (NI/min)	Actuating force (N)
464-900	-0.9 ÷ 10	1250	5

Valve Mod. 464-905



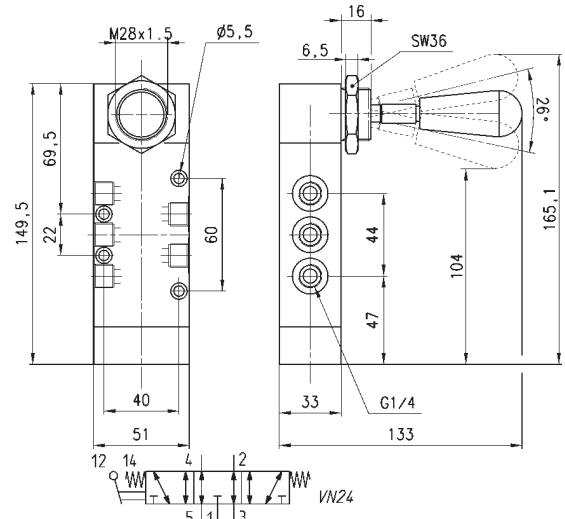
Mod.	Operating pressure (bar)	Flow (NI/min)	Actuating force (N)
464-905	-0.9 ÷ 10	1250	10

Valve Mod. 474-900



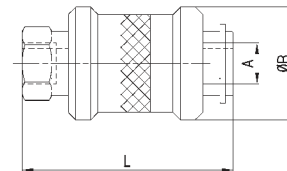
Mod.	Operating pressure (bar)	Flow (NL/min)	Actuating force (N)
474-900	-0.9 ÷ 10	1250	5

Valve Mod. 474-905

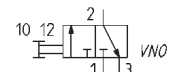


Mod.	Operating pressure (bar)	Flow (NL/min)	Actuating force (N)
474-905	-0.9 ÷ 10	1250	10

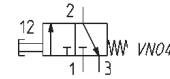
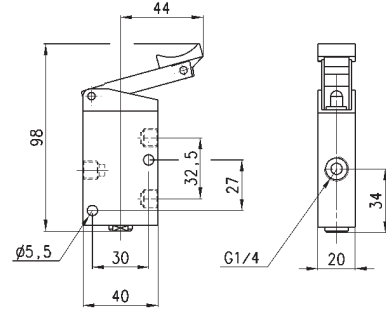
Series VMS slide valves



Mod.	A	ØB	L	Flow at 6 bar 1 (NL/min) 1-2	ΔP	Flow at 6 bar 1 (NL/min) 2-3	ΔP	Operating press. (bar)	Operating temp. (°C)
VMS-105-M5	M5	15	33,5	140		145		0 ÷ 15	-10 ÷ 80
VMS-118-1/8	G1/8	25	48	600		740		0 ÷ 15	-10 ÷ 80
VMS-114-1/4	G1/4	30	58	1200		1780		0 ÷ 15	-10 ÷ 80
VMS-138-3/8	G3/8	35	70	2100		1830		0 ÷ 15	-10 ÷ 80
VMS-112-1/2	G1/2	40	80	3350		4030		0 ÷ 15	-10 ÷ 80
VMS-134-3/4	G3/4	49,5	83	5350		5000		0 ÷ 15	-10 ÷ 80

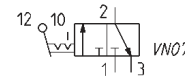
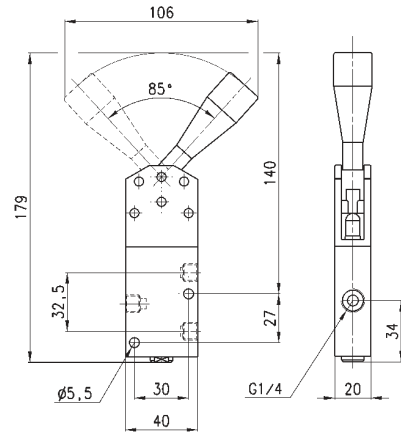


Valve Mod. 134-935



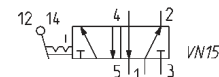
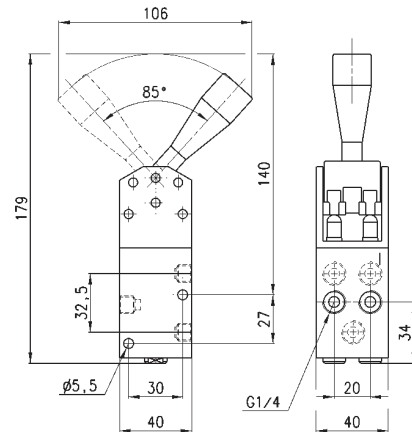
Mod.	Operating pressure (bar)	Flow (NL/min)	Actuating force (N)
134-935	0 ÷ 10	1250	40

Valve Mod. 134-900



Mod.	Operating pressure (bar)	Flow (NL/min)	Actuating force (N)
134-900	0 ÷ 10	1250	30

Valve Mod. 154-900



Mod.	Operating pressure (bar)	Flow (NL/min)	Actuating force (N)
154-900	0 ÷ 10	1250	55

Series 2 mini-handle valves

Handle with incorporated micro valve 3/2 NC and NO
Handle with incorporated micro switch

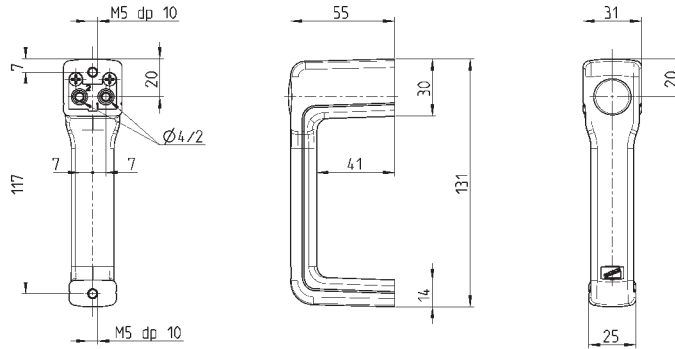
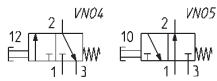


Manual handle with integrated pneumatic micro valve 3/2 or with an electrical micro switch with single pole changeover contacts.
Rugged construction particularly suited to be incorporated in to other equipment.

GENERAL DATA

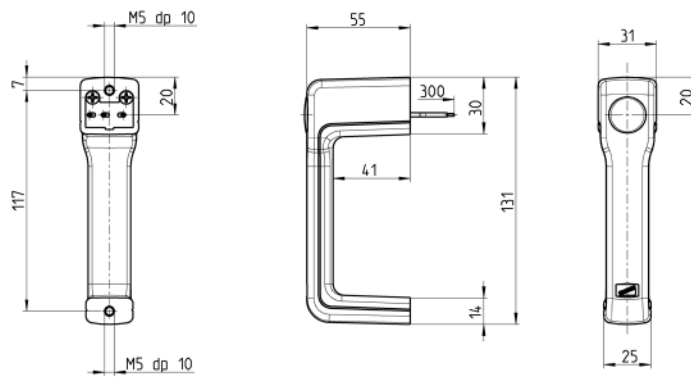
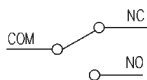
Construction	poppet-type (closed centres)
Valve group	way/pos. 3/2 way NC and NO
Nominal diameter	2,5 mm
Fixing	N°2 holes M5
Ports	push in cartridge Ø4
Installation	in any position
Operating temperature	0 ÷ +70°C (-20°C with dry air)
Operating pressure	2 ÷ 8 bar
Nominal flow rate	Qn 60 Nl/min. (6 bar Δ p1)
Fluid	Filtered air, without lubrication. If lubricated air is used, it is recommended to use ISO VG32 oil. Once applied the lubrication should never be interrupted.
Actuating force	at 6 bar 13N
Construction	switch device
Electrical connections	3 wires Ø external 2,2 mm internal section 0,5 length 30 cm NC = black wire NO = blue wire
Fixing	N° 2 holes M5
Mounting	in any position
Operating temperature	0 ÷ +70°C
Protection class	IP40
Activation stroke	2 mm
Actuating force	5 N

Handle 3/2 NC and NO



Mod.	Symbol
234-885	VN04
244-885	VN05

Handle



Electrical characteristics						
Mod.	Voltage	Non-inductive load Resist. NC / NO	Non-inductive load Lamp NC / NO	Inductive load NC / NO	Inductive load Motor NC/NO	
234-88E	125VAC	5A	1,5 A / 0,7 A	3 A	2,5 A / 1,3 A	
	250 VAC	3A	1 A / 0,5 A	2 A	1,5 A / 0,8 A	
	8 VDC	5A	2 A	5 A / 4 A	3 A	
	14 VDC	5A	2 A	4 A	3 A	
	30 VDC	4A	2 A	3 A	3 A	
	125 VDC	0,4A	0,05 A	0,4 A	0,05 A	
	250 VDC	0,2A	0,05 A	0,2 A	0,05 A	
234-88E	The above-mentioned values refer to steady-state-current	The inductive load refers to power factor = 0,4 in AC. and a time constant of 7 msec max. in DC.	Lamp load has an inrush current of 10 times the steady-state current.	Motor load has an inrush current of 6 times the steady-state current.	If the switch is used in a DC circuit and is subjected to a surge connect a surge suppressor across the switch.	

Series 2L basic logic valves

Cartridge \varnothing 4 mm.
or - and - yes - not - memory



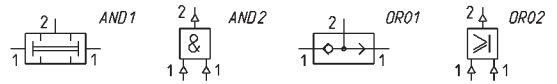
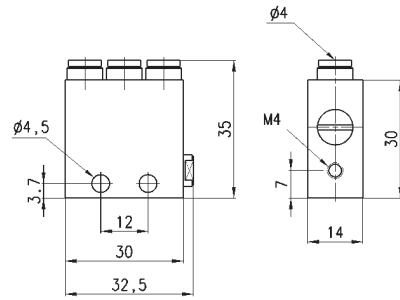
Series 2L basic logic functions are available in 5 different models and can be mounted separately by means of 2 passing holes in the body. Bracket Mod. 2LQ-8A allows to have the inlets and outlets on the front side, facilitating the mounting of the connection tubes.

All models are constructed with the pressure window incorporated, which allows an easy detection of any problems. Moreover the fittings are incorporated into the valve body and are super-rapid \varnothing 4. The "NOT" element has an actuating pressure of 0,3 bar.

GENERAL DATA

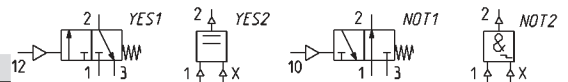
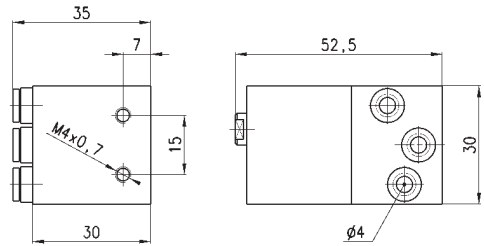
Construction	poppet (spool memory)
Materials	aluminium body; NBR seals; OT58 brass
Valve group	automatic valves (logic units)
Ports	cartridge \varnothing 4
Operating temperature	0°C ÷ 60°C (-20°C with dry air)
Operating pressure	2 bar ÷ 10 bar
Nominal flowrate	100 Nl/min. (6 bar Δ P = 1)
Fluid	filtered air, without lubricant. If lubricated air is used, it is recommended to use oil ISO VG32. Once applied the lubrication should never be interrupted.

Basic logic valves AND / OR



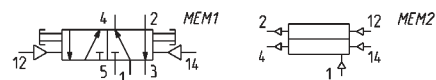
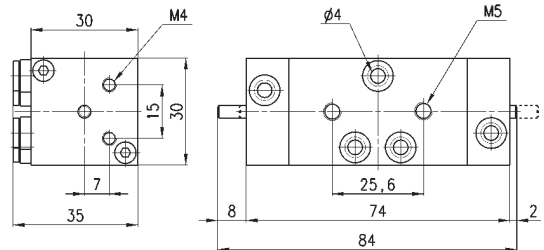
Mod.	Function	Pneumatic symbol	Logic symbol
2LD-SB4-B	AND	AND1	AND2
2LR-SB4-B	OR	OR01	OR02

Basic logic valves YES / NOT



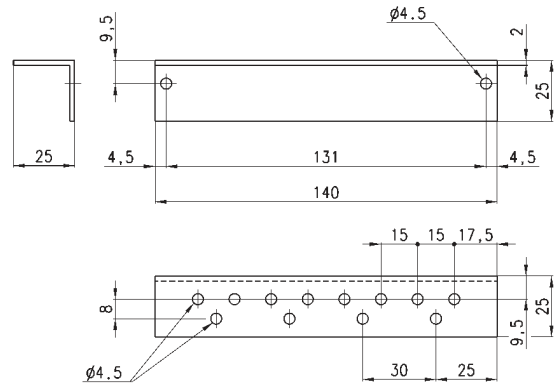
Mod.	Function	Pneumatic symbol	Logic symbol
2LS-SB4-B	YES	YES1	YES2
2LT-SB4-B	NOT	NOT1	NOT2

Basic logic valves "Memory"



Mod.	Function	Pneumatic symbol	Logic symbol
2LM-SB4-B	Memory	MEM1	MEM2

Right-angled bracket



Mod.
2LQ-8A

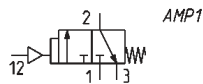
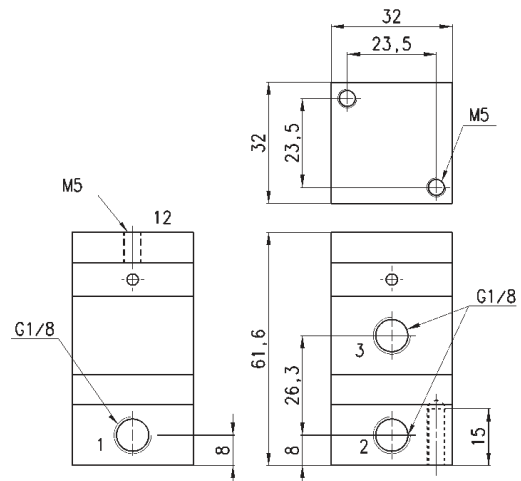
Pneumatically operated 3/2 NC amplifier valve - G1/8 ports



The amplifier valve Mod. 2LA-AM is able to change low pressure signals with pressure from 2 to 8 bar. The poppet type construction shows a minimum permanent air consumption at rest.

Mounting: with M5 screws
Installation: in any position
Fluid: filtered air, without lubricant

Materials:
- AL body
- NBR seals



Mod.	Working pressure (bar)	Min/max operating pressure (bar)	Permanent air consumption at rest (NL/min)	Nominal flow (NL/min ΔP 1)
2LA-AM	2 ÷ 8	0.05 / 0.6	3.3	120

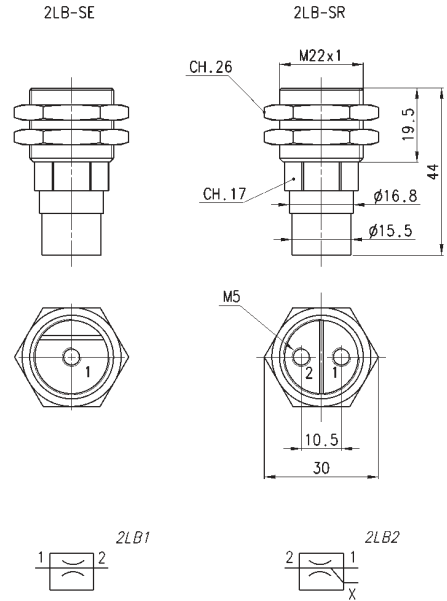
Sender and receiver sensor Series 2L - M5 ports



Materials: aluminium - brass
 Construction: nozzle without moving parts
 Threading mounting: M22 x 1
 Mounting diameter: 22.5 mm
 Mounting bracket: B20-25, E20-25
 Max air consumption: P 2 bar @ 45 NI/min
 Fluid: filtered air, without lubricant

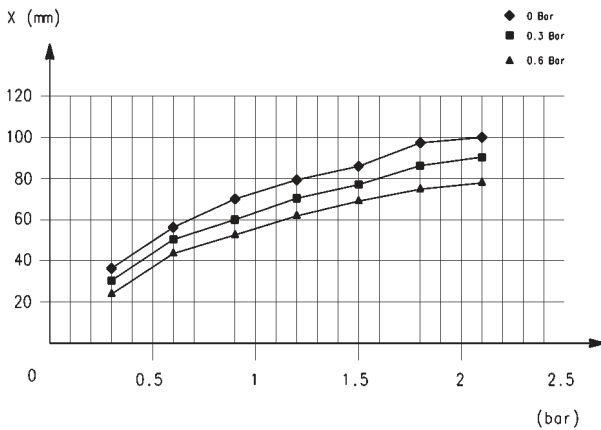
Conditions of functioning: the receiver pressure (2LB-SR) has to be lower or equal compared with the sender pressure (2LB-SE)

The receiver nozzle (2LB-SR) is supplied to ensure the self-cleaning. The air jet of the sender (2LB-SE) avoids the free outflow of the air jet from the receiver. A back pressure is thus produced that generates at outlet A a pilot pressure which is sent to the amplifier drive. When an object interrupts the air jet between the two sensors, this signal becomes zero.

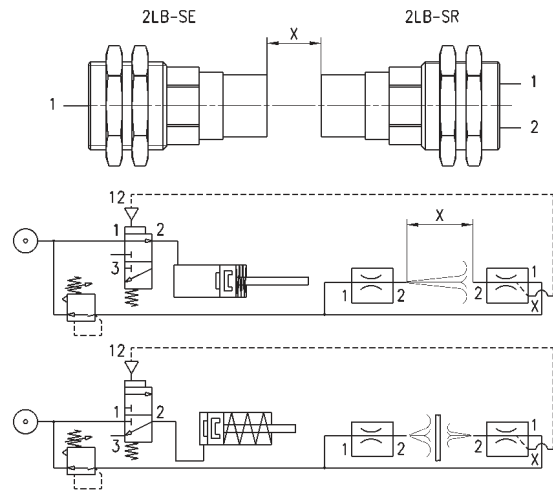


Mod.	Type	Min. pressure	Max pressure	Temperature	Symbol
2LB-SE	Sender	0.3 bar	2 bar	-20°C ÷ +60°C	2LB1
2LB-SR	Receiver	0.3 bar	0.6 bar	-20°C ÷ +60°C	2LB2

SENDER AND RECEIVER SENSORS SERIES 2L



DISTANCE DIAGRAM between SENDER (2LB-SE) and RECEIVER (2LB-SR) according to the supply pressures



X = distance between nozzles (30 mm ÷ 80 mm)

Circuit selector Mod. SCS

Ports: G1/8

» Channelling of two signals coming alternately from two different points towards the same point



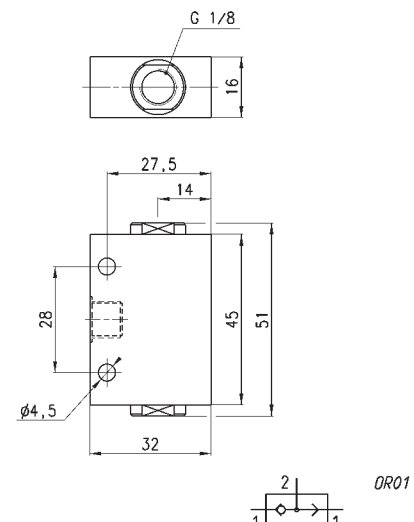
The circuit selector Mod. SCS - 668-06 enables two signals coming alternately from two different points to be channelled towards the same point.

GENERAL DATA

Valve group	automatic valves
Construction	poppet-type
Materials	AL body brass bush Delrin poppet NBR seals
Mounting	in any position
Ports	G1/8
Operating temperature	0°C ÷ 80°C (with dry air -20°C)
Medium	filtered air, without lubrication. If lubricated air is used, it is recommended to use ISO VG32 oil. Once applied the lubrication should never be interrupted.

Circuit selector Mod. SCS

The selector is mounted by through holes in the body.



Mod.	Flow (NL/min)	Min. operating pressure (bar)	Max working pressure (bar)
SCS-668-06	800	0.2	10

Series VNR unidirectional valves

Ports: M5, G1/8, G1/4, G3/8, G1/2, G3/4, G1

SERIES VNR UNIDIRECTIONAL VALVES

» Operations at low pressures



Series VNR unidirectional valves, thanks to their poppet-type construction, can operate at low pressures both when there is a free flow and during retention.

GENERAL DATA

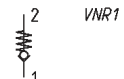
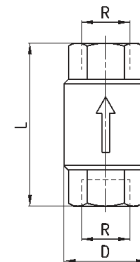
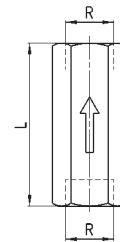
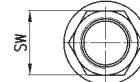
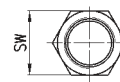
Valve group	automatic valves
Construction	poppet-type
Materials	brass body stainless steel spring NBR seals
Mounting	in any position
Ports	M5, G1/8, G1/4, G3/8, G1/2, G3/4, G1
Operating temperature	0°C ÷ 80°C (with dry air -20°C)
Medium	filtered air, without lubrication. If lubricated air is used, it is recommended to use ISO VG32 oil. Once applied the lubrication should never be interrupted.

Series VNR unidirectional valves



M5-G1/8-G1/4

G3/8-G1/2-G3/4-G1



DIMENSIONS							
Mod.	R	L	SW	D	Flow (l/min)	Min. operating pressure (bar)	Max working pressure (bar)
VNR-205-M5	M5	25	8	9	50	1	10
VNR-210-1/8	G1/8	34	13	15	600	0.2	10
VNR-843-07	G1/4	43	17	20	1400	0.2	10
VNR-238-3/8	G3/8	55	23	34.5	3000	0.02	25
VNR-212-1/2	G1/2	58.5	27	34.5	5800	0.02	25
VNR-234-3/4	G3/4	65	33	41.5	8000	0.06	25
VNR-201-01	G1	74.5	40	48	13000	0.06	25

Series VSO, VSC quick exhaust valves

Series VSO ports: M5, G1/8, cartridge $\varnothing 4$

Series VSC ports: G1/8, G1/4, G1/2



- » Suitable to rapidly discharge air contained in tanks, systems or cylinder chambers.
- » Threaded versions and with fitting

Series VSC and VSO quick exhaust valves are commonly used to increase the speed of cylinders or for rapid depressurisation of tanks containing compressed air.

Mod. VSO 425-M5, VSO 426-04: they are particularly suitable to be mounted on solenoid valves and valves incorporating a $\varnothing 4$ cartridge.

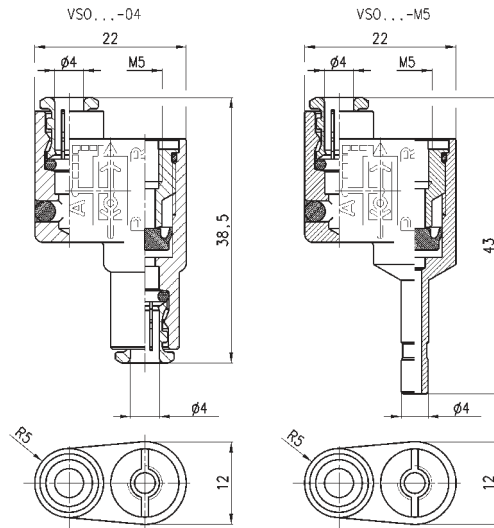
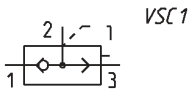
Mod. VSO 4-1/8: it is particularly suitable for direct mounting on the actuator connection. The air coming in from the jointed part (1) is used by the threaded side (2), whilst the exhaust (3) passes through the holes sideways to the valve body.

Mod. VSC: they are particularly suitable to be mounted directly on the cylinder mouth through the use of a nipple. It is recommended to mount a silencer on the outlet.

GENERAL DATA

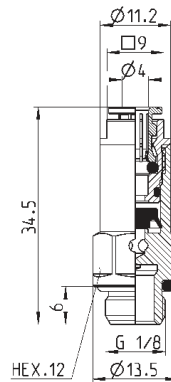
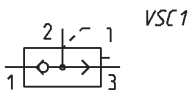
Valve group	automatic valves
Construction	poppet-type
Materials	Series VSO: brass body - NBR seals Series VSC: brass body - Desmopan seal
Mounting	in any position
Ports	Series VSO: M5, G1/8, cartridge $\varnothing 4$ Serie VSC: G1/8, G1/4, G1/2
Operating temperature	0°C ÷ 80°C (with dry air -20°C)
Fluid	filtered air, without lubrication. If lubricated air is used, it is recommended to use ISO VG32 oil. Once applied the lubrication should never be interrupted.

Quick exhaust valves Mod. VSO 425-M5, VSO 426-04



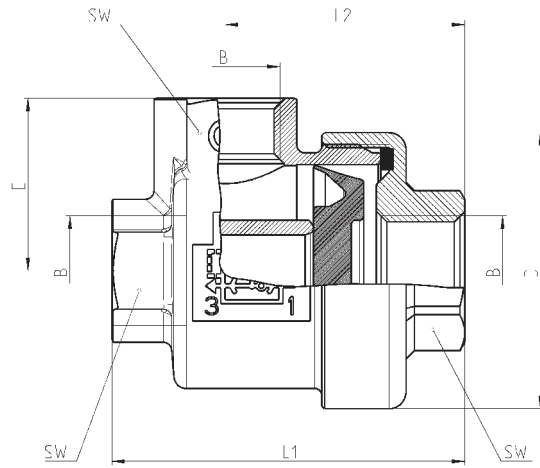
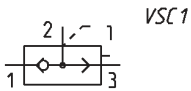
Mod.	Ports	Flow rate at 6 bar 1 > 2 (NL/min)	Flow rate at 6 bar 2 > 3 (NL/min)	Min. operating pressure (bar)	Max working pressure (bar)
VSO 425-M5	M5	50 ($\Delta P = 1$ bar)	100 ($\Delta P = 1$ bar)	1	16
VSO 426-04	cartridge $\phi 4$	50 ($\Delta P = 1$ bar)	100 ($\Delta P = 1$ bar)	1	16

Quick exhaust valve Mod. VSO 4-1/8



Mod.	Ports	Flow rate at 6 bar 1 > 2 (NL/min)	Flow rate at 6 bar 2 > 3 (NL/min)	Min. operating pressure (bar)	Max working pressure (bar)
VSO 4-1/8	G1/8	50 ($\Delta P = 1$ bar)	330 (free flow)	0.5	16

Series VSC quick exhaust valves



Mod.	B	D	E	L1	L2	SW	Ports	Medium inlet flow rate 1 > 2 [flow at 6 bar, ΔP 1 bar] (NL/min)	Medium exhaust flow rate 2 > 3 [flow at 6 bar, ΔP 1 bar] (NL/min)	Min. operating pressure (bar)	Max working pressure (bar)
VSC 588-1/8	1/8	28	17.5	36.5	25	14	G1/8	630	940	0.5	12
VSC 544-1/4	1/4	33	20.5	42	28.5	17	G1/4	860	1600	0.3	12
VSC 522-1/2	1/2	43	27	57.5	39.5	24	G1/2	4700	6250	0.2	12

Adjustable overpressure exhaust valve Mod. VMR 1/8-B10

Ports: G1/8



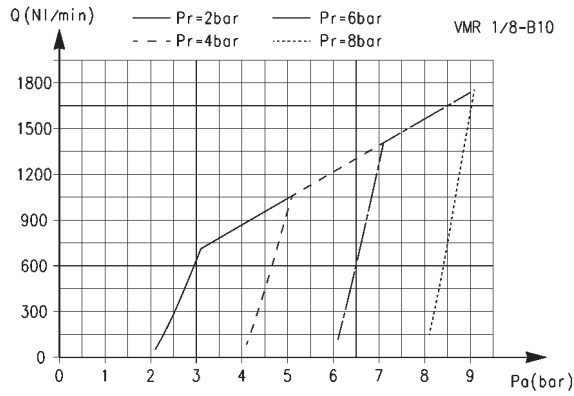
» Able to maintain pressure constant at a set value which allows the overpressure to exhaust

The adjustable valve Mod. VMR 1/8-B10 allows to discharge the overpressure that can be generated in a volume.

GENERAL DATA

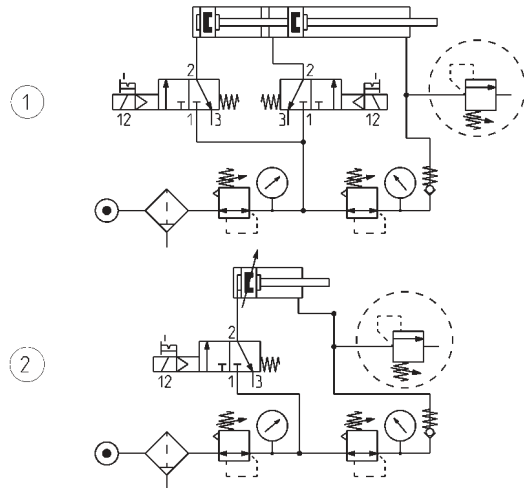
Valve group	automatic valves
Construction	diaphragm type
Materials	brass body zinc-plated steel spring NBR seals
Mounting	in any position
Ports	G1/8
Operating temperature	-5°C ÷ 50°C (with the dew point of the fluid lower than 2°C at the min. working temperature)
Medium	filtered air, without lubrication. If lubricated air is used, it is recommended to use ISO VG32 oil. Once applied the lubrication should never be interrupted.

FLOW DIAGRAM and FUNCTIONING SCHEMES



FLOW DIAGRAM

Pa = Inlet pressure
 Pr = Regulated pressure
 Q = Flow

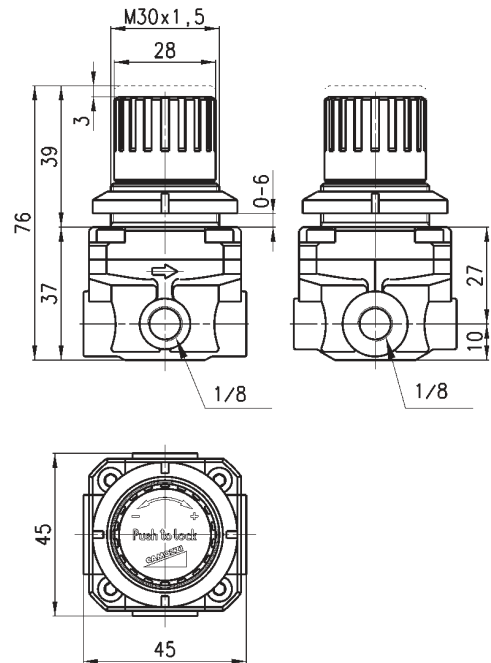
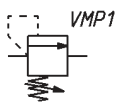


FUNCTIONING SCHEME 1: overpressure exhaust in a cylinder chamber or in a tank when the set value has been exceeded.

FUNCTIONING SCHEME 2: VMR valve with maximum adjustable pressure allows pressure in a cylinder chamber or in tank to exhaust in the atmosphere every time the set regulation value is exceeded.

ADJUSTABLE VALVE MOD. VMR 1/8-B10

Valve with maximum adjustable pressure Mod. VMR 1/8-B10



Mod.	Working pressure (bar)
VMR 1/8-B10	1 ÷ 8

Series VBO - VBU blocking valves

Unidirectional valves (VBU) and bidirectional valves (VBO)
Ports G1/8, G1/4, G3/8 and G1/2

SERIES VBO AND VBU BLOCKING VALVES



- » Series VBU: unidirectional valves with operating pressure from 0.3 to 10 bar
- » Series VBO: bidirectional valves with operating pressure from 0 to 10 bar
- » Direct mounting on cylinders or on distribution and fluid control blocks

These unidirectional and bidirectional blocking valves have been realised in order to enable mounting directly on cylinders. They can be used as high flow valves for blows, cleaning of pieces, filling of volumes. For these applications it is suggested to connect the supply to port 2 (having the male thread).

These valves can be mounted directly also on distribution and fluid control blocks.

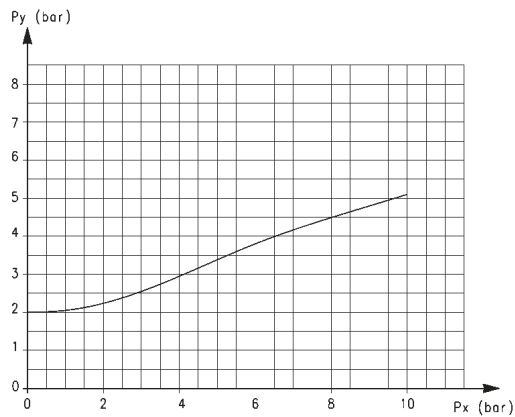
GENERAL DATA

Construction	poppet type
Valve group	unidirectional and bidirectional blocking valve
Materials	Brass - NBR seals - stainless steel springs - PTFE
Mounting	by male thread
Ports	G1/8 - G1/4 - G3/8 - G1/2
Position	in any position
Operating temperature	0°C ÷ 80°C (with dry air -20°C)
Operating pressure	VBU: 0,3 ÷ 10 bar, VBO: 0 ÷ 10 bar
Nominal pressure	6 bar
Nominal flow	see graph
Nominal diam.	G1/8 ø 5,5 mm - G1/4 ø 8 mm - G3/8 ø 11 mm - G1/2 ø 15 mm
Fluid	filtered air, without lubrication. If lubricated air is used, it is recommended to use oil ISO VG32. Once applied, the lubrication should never be interrupted.

CODING EXAMPLE

VB	U	1/8
VB	SERIES: VB	
U	VERSIONS: U = unidirectional O = bidirectional	
1/8	PORTS: G1/8 G1/4 G3/8 G1/2	

DIAGRAM OF THE PILOT PRESSURE



This diagram shows the relation between working pressure (Px) and pilot pressure required in order to operate the valve (Py). The opening pressure of the unidirectional valve is 0,3 bar.

FLOW DIAGRAMS OF UNIDIRECTIONAL AND BIDIRECTIONAL VALVES

SERIES VBO AND VBU BLOCKING VALVES

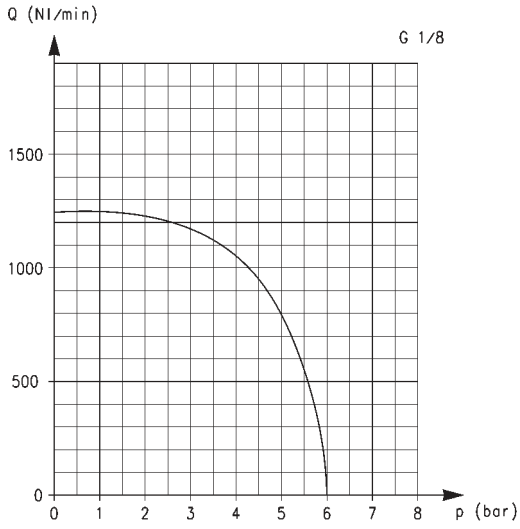


Diagram for valves VBU and VBO with G1/8 ports.

Q is the flow measured in NL/min and determined with an inlet pressure of 6 bar.

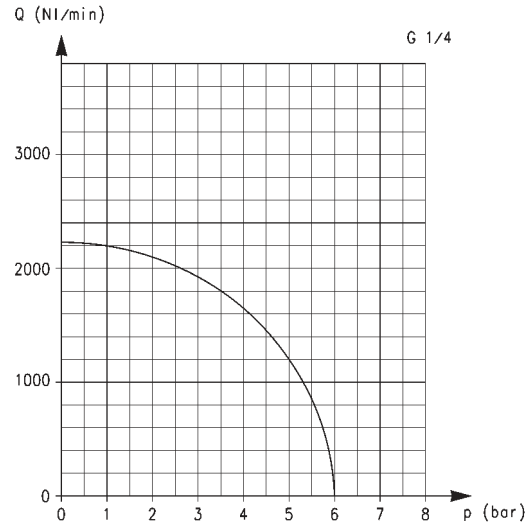


Diagram for valves VBU and VBO with G1/4 ports.

Q is the flow measured in NL/min and determined with an inlet pressure of 6 bar.

FLOW DIAGRAMS OF UNIDIRECTIONAL AND BIDIRECTIONAL VALVES

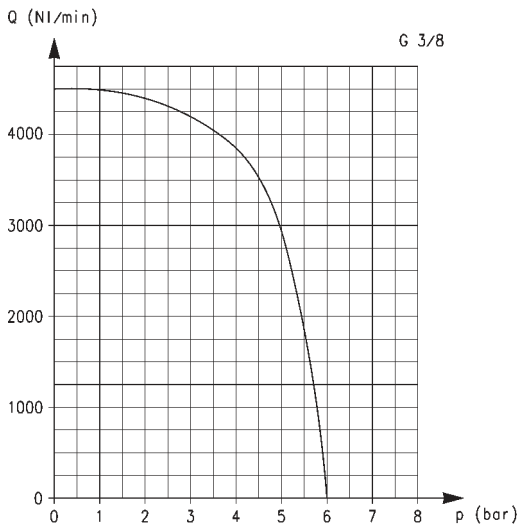


Diagram for valves VBU and VBO with G3/8 ports.

Q is the flow measured in NL/min and determined with an inlet pressure of 6 bar.

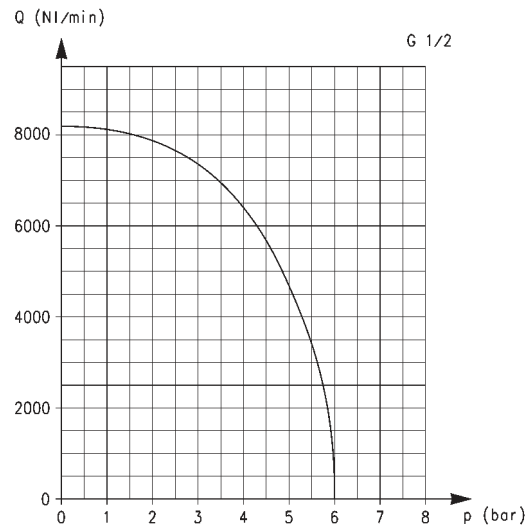
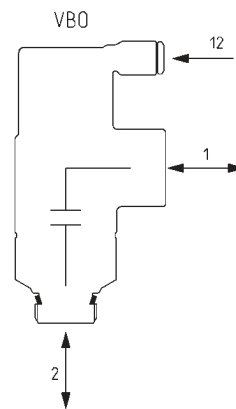
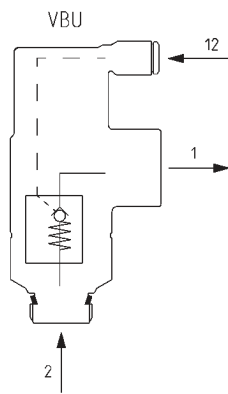
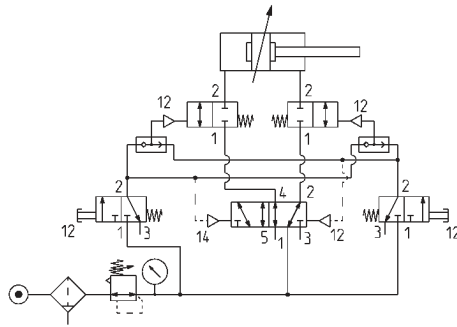
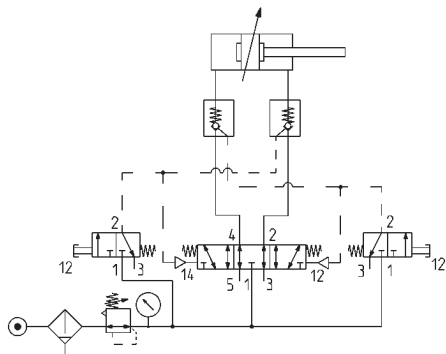
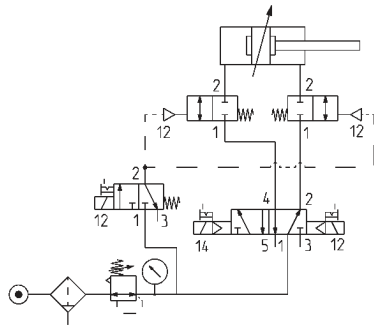
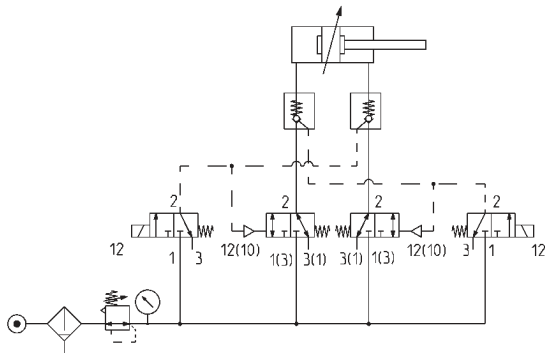


Diagram for valves VBU and VBO with G1/2 ports.

Q is the flow measured in NL/min and determined with an inlet pressure of 6 bar.

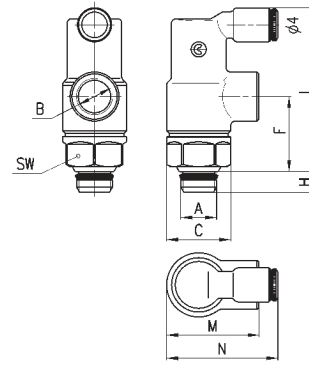
APPLICATION SCHEMES

VBU = UNIDIRECTIONAL blocking valve
 VBO = BIDIRECTIONAL blocking valve



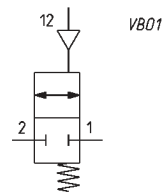
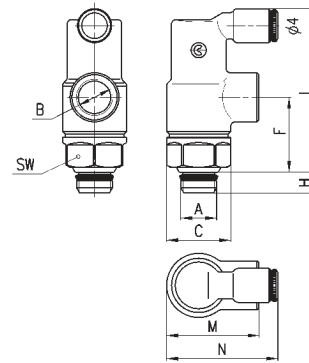
SERIES VBO AND VBU BLOCKING VALVES

Unidirectional blocking valve



DIMENSIONS									
Mod.	A	B	C	F	H	L	M	N	SW
VBU 1/8	1/8	1/8	16,9	20	5,5	43	24,5	30	15
VBU 1/4	1/4	1/4	20,5	25	7	50	32,2	33,5	19
VBU 3/8	3/8	3/8	26,8	33	8	67	40	39,5	24
VBU 1/2	1/2	1/2	30	45,5	9	85,7	52	48	27

Bidirectional blocking valve



DIMENSIONS									
Mod.	A	B	C	F	H	L	M	N	SW
VBO 1/8	1/8	1/8	16,9	20	5,5	43	24,5	30	15
VBO 1/4	1/4	1/4	20,5	25	7	50	32,2	33,5	19
VBO 3/8	3/8	3/8	26,8	33	8	67	40	39,5	24
VBO 1/2	1/2	1/2	30	45,5	9	85,7	52	48	27

Series SCU, MCU, SVU, MVU, SCO, MCO flow control valves

Unidirectional and bidirectional banjo flow control regulators

Ports: M5, G1/8, G1/4, G3/8, G1/2



These unidirectional and bidirectional flow controllers have been designed as small as possible so as to be mounted directly on valves or cylinders.

The great variety of adjustable fittings makes it possible to complete the regulator with the most suitable system in relation to the available tube.

Only the G1/2 model is supplied complete with banjo flow controllers.

For the other models the banjo flow controller is to be requested separately.

GENERAL DATA

Construction	needle type
Valve group	unidirectional and bidirectional controller
Materials	body and regulation screw: M5 = stainless steel; 1/8 - 1/4 - 3/8 - 1/2 = OT; seals = NBR
Mounting	by male thread
Ports	M5 - G1/8 - G1/4 - G3/8 - G1/2
Installation	in any position
Operating temperature	0°C ÷ 80°C (with dry air - 20°C)
Operating pressure	1 ÷ 10 bar
Nominal pressure	6 bar
Nominal flow	see graph
Nominal diameter	M5 = 1,5 mm - G1/8 = 2 mm - G1/4 = 4 mm - G3/8 = 7 mm - G1/2 = 12 mm
Fluid	filtered air

CODING EXAMPLE

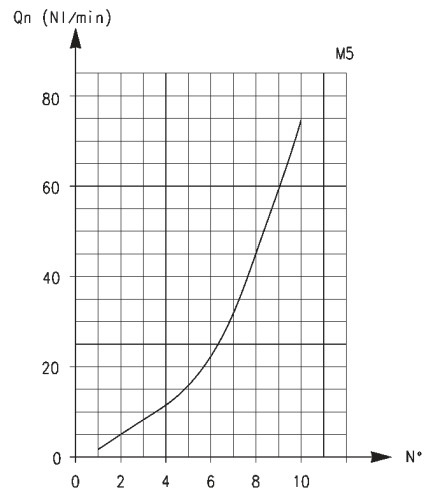
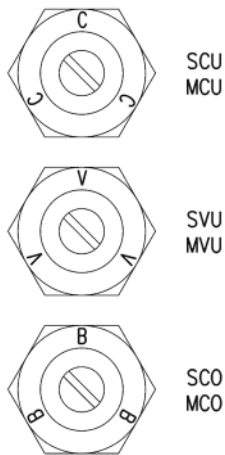
M	CU	7	02	-	M5
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M	ACTUATION: M = Manual S = Screwdriver
CU	ASSEMBLY: CU = on cylinders unidirectional VU = on valves unidirectional CO = bidirectional
7	VERSIONS: 6 = needle (screwdriver operated) 7 = needle (manual operated)
02	NOMINAL DIAMETER: 02 = ø 1,5 max 04 = ø 2 max 06 = ø 4 max 08 = ø 7 max 10 = ø 12 max
M5	PORTS: M5 = M5 1/8 = G1/8 1/4 = G1/4 3/8 = G3/8 1/2 = G1/2

SERIES SCU, MCU, SVU, MVU, SCO, MCO VALVES

To ensure the right choice of unidirectional flow controller, proceed as follows: calculate the quantity of air in NI/min (see cylinder Table); determine the stroke time of the cylinder; refer to graph to see which controller is the right type.

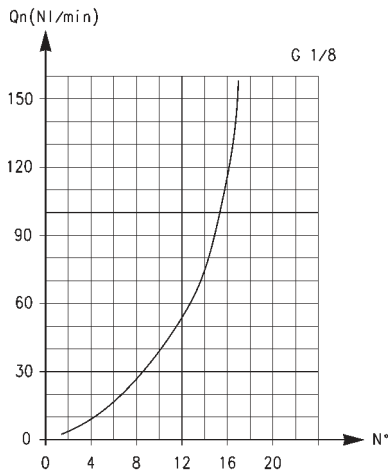
UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROLLERS



IDENTIFICATION OF DIFFERENT TYPES:
 SCU - MCU = assembly directly on the cylinders
 SVU - MVU = assembly directly on the valves
 SCO - MCO = assembly directly on the cylinders or valves

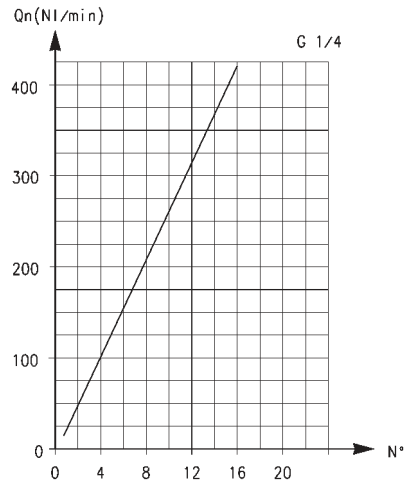
Flow Qn (NI/min.) from 2 → 1 with controller OPEN: 70
 Flow Qn (NI/min.) from 2 → 1 with controller CLOSED: 33
 Qn = supply pressure of 6 bar and with ΔP = 1 bar at the outlet
 N° = number of screw turns.

UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROL REGULATORS



Flow Qn (NL/min.) from 2 → 1 with controller OPEN: 200
 Flow Qn (NL/min.) from 2 → 1 with controller CLOSED: 70

Qn = supply pressure of 6 bar and with ΔP = 1 bar at the outlet
 N° = number of screw turns.

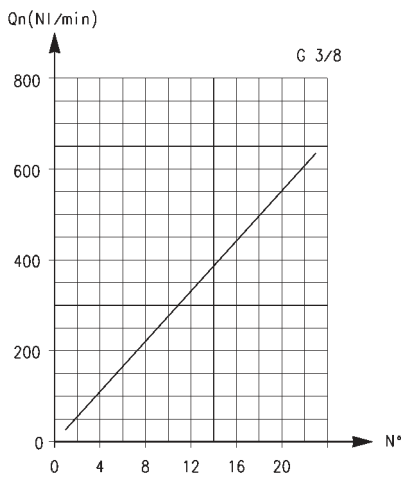


Flow Qn (NL/min.) from 2 → 1 with controller OPEN: 530
 Flow Qn (NL/min.) from 2 → 1 with controller CLOSED: 160

Qn = supply pressure of 6 bar and with ΔP = 1 bar at the outlet
 N° = number of screw turns.

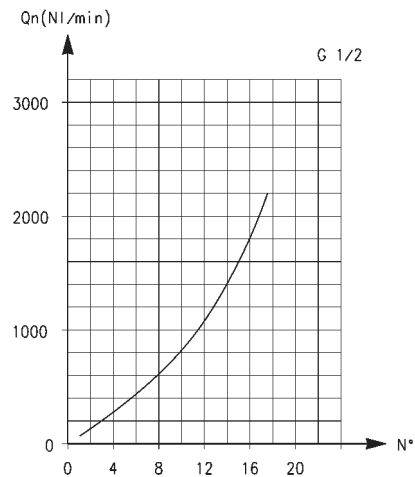
SERIES SCU, MCU, SVU, MVU, SCO, MCO VALVES

UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROL REGULATORS



Flow Qn (NL/min.) from 2 → 1 with controller OPEN: 710
 Flow Qn (NL/min.) from 2 → 1 with controller CLOSED: 410

Qn = supply pressure of 6 bar and with ΔP = 1 bar at the outlet
 N° = number of screw turns.



Flow Qn (NL/min.) from 2 → 1 with controller OPEN: 2570
 Flow Qn (NL/min.) from 2 → 1 with controller CLOSED: 1330

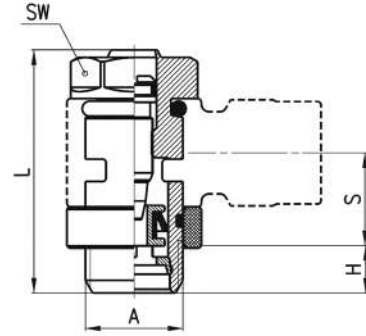
Qn = supply pressure of 6 bar and with ΔP = 1 bar at the outlet
 N° = number of screw turns.

Unidirectional flow controllers Series SCU

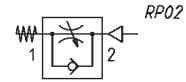


For mounting on single-acting or double-acting cylinders.
Adjustment of setting by a screwdriver.
Ports: M5, G1/8, G1/4 and G3/8.

Assembly with fittings Mod. 6610; 6620; 1610; 1620; 2023; 1170.



DIMENSIONS					
Mod.	A	H	L	S	SW
SCU 602-M5	M5	3,5	21,5	5,5	8
SCU 604-1/8	G1/8	5	31,5	12,5	12
SCU 606-1/4	G1/4	6	32,5	12,5	15
SCU 608-3/8	G3/8	7	40,5	12,5	18



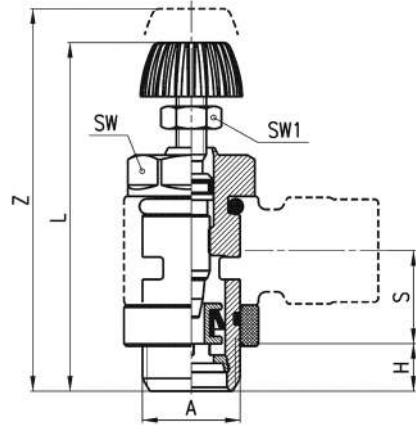
Note: M5 flow controllers must be used together with M6 adjustable fittings.

Unidirectional flow controllers Series MCU

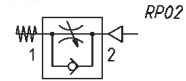


For mounting on single-acting or double-acting cylinders.
Adjustment of setting by a manually operated knurled screw.
Ports: M5, G1/8, G1/4, G3/8.

Assembly with fittings Mod. 6610; 6620; 1610; 1620; 2023; 1170.



DIMENSIONS							
Mod.	A	H	L	S	SW	SW1	Z
MCU 702-M5	M5	3,5	31	5,5	8	5,5	35
MCU 704-1/8	G1/8	5	41	12,5	12	7	46
MCU 706-1/4	G1/4	6	43,5	12,5	15	7	49
MCU 708-3/8	G3/8	7	52,5	12,5	18	10	60,5



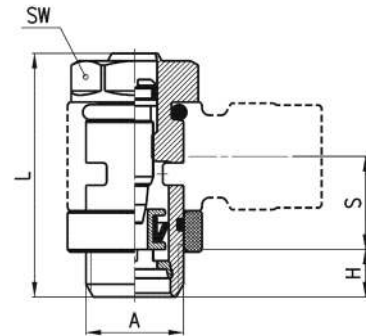
Note: M5 flow controllers must be used together with M6 adjustable fittings.

Unidirectional flow controllers Series SVU

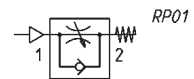


For mounting on valves.
Adjustment of setting by a screwdriver.
Ports: M5, G1/8, G1/4.

Assembly with fittings Mod. 6610; 6620; 1610; 1620; 2023; 1170.



DIMENSIONS					
Mod.	A	H	L	S	SW
SVU 602-M5	M5	3,5	21,5	5,5	8
SVU 604-1/8	G1/8	5	31,5	12,5	12
SVU 606-1/4	G1/4	6	32,5	12,5	15



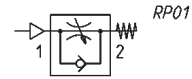
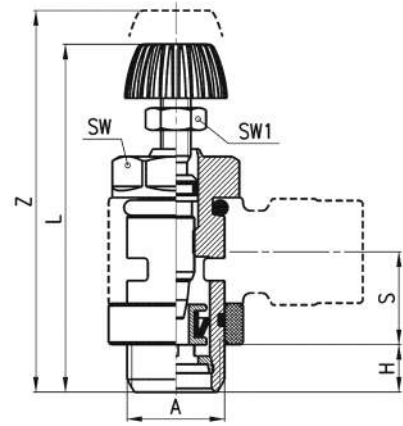
Note: M5 flow controllers must be used together with M6 adjustable fittings.

Unidirectional flow controllers Series MVU



For mounting on valve. Adjustment of setting by a manually operated knurled screw.
Ports: M5, G1/8, G1/4.

Assembly with fittings Mod. 6610; 6620; 1610; 1620; 2023; 1170.



Note: M5 flow controllers must be used together with M6 adjustable fittings.

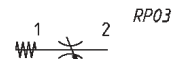
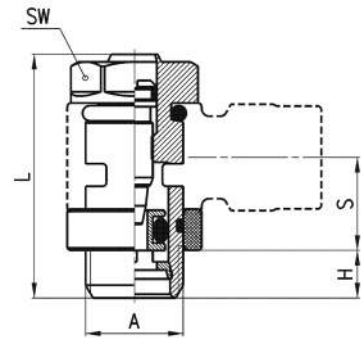
DIMENSIONS							
Mod.	A	H	L	S	SW	SW1	Z
MVU 702-M5	M5	3,5	31	5,5	8	5,5	35
MVU 704-1/8	G1/8	5	41	12,5	12	7	46
MVU 706-1/4	G1/4	6	43,5	12,5	15	7	49

Bidirectional flow controllers Series SCO



Adjustment of setting by a screwdriver.
Ports: M5, G1/8, G1/4.

Assembly with fittings Mod. 6610; 6620; 1610; 1620; 2023; 1170; 2905.



Note: M5 flow controllers must be used together with M6 adjustable fittings.

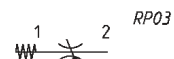
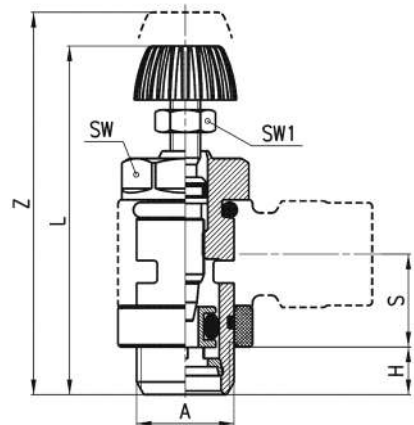
DIMENSIONS					
Mod.	A	H	L	S	SW
SCO 602-M5	M5	3,5	21,5	5,5	8
SCO 604-1/8	G1/8	5	31,5	12,5	12
SCO 606-1/4	G1/4	6	32,5	12,5	15

Bidirectional flow controllers Series MCO



Adjustment of setting by a manually operated knurled screw.
Ports: M5, G1/8, G1/4.

Assembly with fittings Mod. 6610; 6620; 1610; 1620; 2023; 1170; 2905.



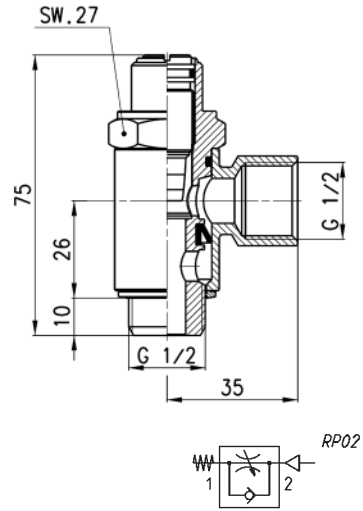
Note: M5 flow controllers must be used together with M6 adjustable fittings.

DIMENSIONS							
Mod.	A	H	L	S	SW	SW1	Z
MCO 702-M5	M5	3,5	31	5,5	8	5,5	35
MCO 704-1/8	G1/8	5	41	12,5	12	7	46
MCO 706-1/4	G1/4	6	43,5	12,5	15	7	49

Unidirectional flow controllers Series SCU



For mounting on single-acting or double-acting cylinders.
Screwdriver adjustment.

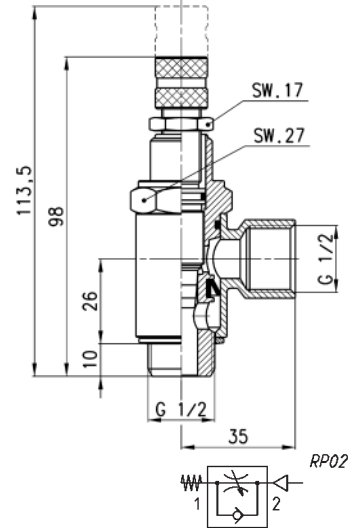


Mod.
SCU 610-1/2

Unidirectional flow controllers Series MCU



For mounting on single-acting or double-acting cylinders.
Adjustment of setting by a manually operated knurled screw.

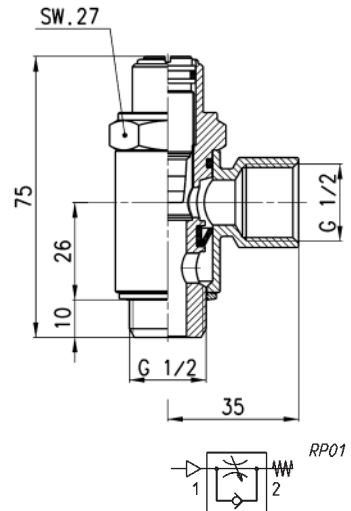


Mod.
MCU 710-1/2

Unidirectional flow controllers Series SVU



For mounting on valves.
Screwdriver adjustment.

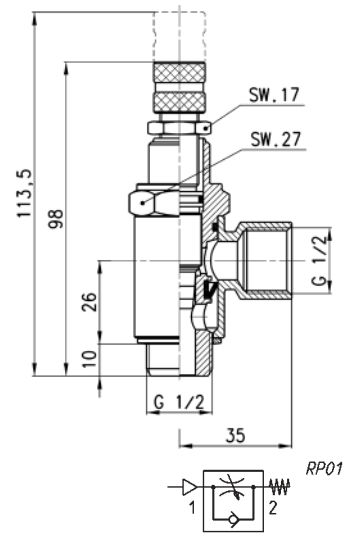


Mod.
SVU 610-1/2

Unidirectional flow controllers Series MVU



For mounting on valve.
Adjustment of setting by a manually operated knurled screw.

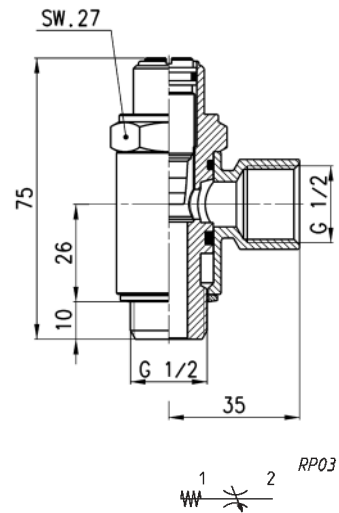


Mod.
MVU 710-1/2

Bidirectional flow controllers Series SCO



Screwdriver adjustment.

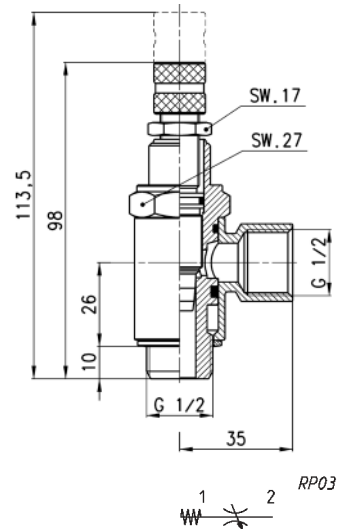


Mod.
SCO 610-1/2

Bidirectional flow controllers Series MCO



Adjustment of setting by a manually operated knurled screw.

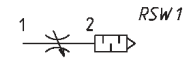
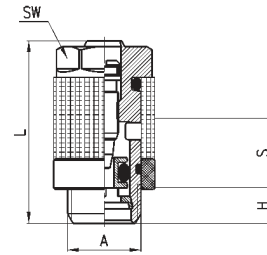


Mod.
MCO 710-1/2

Silenced exhaust controllers Mod. SCO + 2905



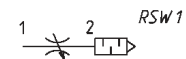
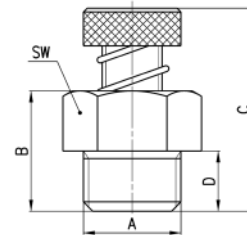
The flow control valve Mod. SCO and the silencer Mod. 2905 are supplied separately.



DIMENSIONS					
Mod.	A	H	L	S	SW
SCO 602-M5+2905 M5	M5	3.5	21.5	5.5	8
SCO 604-1/8+2905 1/8	G1/8	5	31.5	12.5	12
SCO 606-1/4+2905 1/4	G1/4	6	32.5	12.5	15

Series RSW flow control valves with silencer

Ports: G1/8, G1/4, G1/2.



DIMENSIONS						
Mod.	A	B	C	D	SW	Q* (NI/min)
RSW 1/8	G1/8	10.5	22	6	13	410
RSW 1/4	G1/4	13	27	7.5	16	650
RSW 3/8	G3/8	16	30	9.5	20	1100
RSW 1/2	G1/2	18	40	10.5	26	1700

*determined with supply pressure 6 bar with free flow; ensuring screw is open to maximum output.

Series PSCU, PMCU, PSVU, PMVU, PSCO, PMCO flow control valves

Unidirectional and bidirectional flow regulators with banjo in brass (M5) or in technopolymer (G1/8, G1/4, G3/8)
Ports: M5, G1/8, G1/4, G3/8



These unidirectional and bidirectional flow controllers have been designed as small as possible so as to be mounted directly on valves or cylinders. The great variety of adjustable fittings makes it possible to complete the regulator with the most suitable system in relation to the available tube.

All models are supplied complete with banjo flow controllers.

GENERAL DATA

Construction	needle type
Valve group	unidirectional and bidirectional controller
Materials	body, regulation screw: stainless steel (M5), brass (G1/8 - G1/4 - G3/8) collet and insert = brass banjo: brass (M5), technopolymer (G1/8 - G1/4 - G3/8) controller = technopolymer - seals = NBR
Mounting	by male thread
Ports	M5 - G1/8 - G1/4 - G3/8
Installation	in any position
Operating temperature	0°C ÷ 60°C (with dry air -20°C)
Operating pressure	1 ÷ 10 bar
Nominal pressure	6 bar
Nominal flow	see graph
Nominal diameter	M5 = 1.5 mm - G1/8 = 2 mm - G1/4 = 4 mm - G3/8 = 7 mm
Fluid	filtered air

CODING EXAMPLE

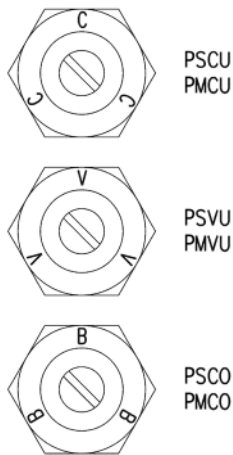
P	M	CU		7	04	-	1/8	-	4
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P	SERIES
M	ACTUATION: M = Manual S = Screwdriver
CU	ASSEMBLY: CU = on cylinders unidirectional VU = on valves unidirectional CO = bidirectional
7	VERSIONS: 6 = needle (screwdriver operated) 7 = needle (manual operated)
04	NOMINAL DIAMETER: 02 = Ø1.5 MAX 04 = Ø2 MAX 06 = Ø4 MAX 08 = Ø7 MAX
1/8	PORTS: M5 = M5 1/8 = G1/8 1/4 = G1/4 3/8 = G3/8
4	TUBE: 4 = Ø 4 6 = Ø 6 8 = Ø 8 10 = Ø 10 12 = Ø 12

SERIES PSCU, PMCU, PSVU, PMVU, PSCO, PMCO VALVES

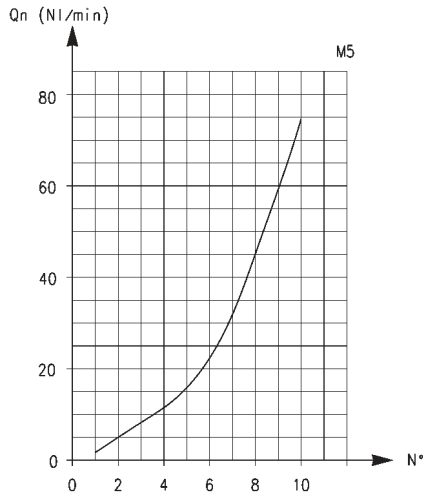
To ensure the right choice of unidirectional flow controller, proceed as follows:
calculate the quantity of air in NL/min (see cylinders table); determine the stroke time of the cylinder; refer to graph to see which is the right type of controller.

UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROLLERS



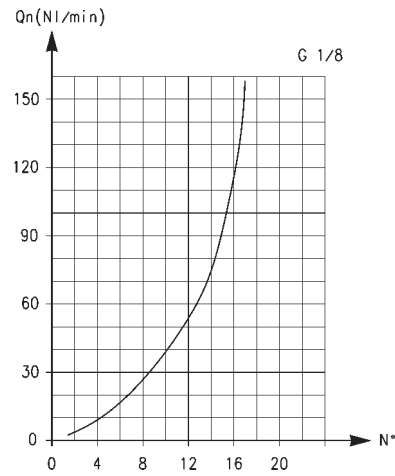
IDENTIFICATION OF DIFFERENT TYPES:
PSCU - PMCU = assembly directly on the cylinders
PSVU - PMVU = assembly directly on the valves
PSCO - PMCO = assembly directly on the cylinders or valves

UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROL REGULATORS



Flow Qn (NL/min.) from 2 → 1 with controller OPEN: 70
 Flow Qn (NL/min.) from 2 → 1 with controller CLOSED: 33

Qn = supply pressure of 6 bar and with ΔP = 1 bar at the outlet
 N° = number of screw turns

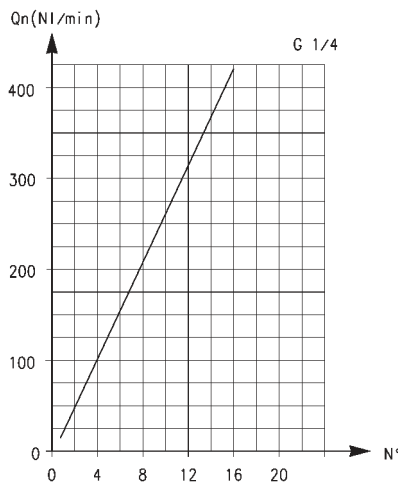


Flow Qn (NL/min.) from 2 → 1 with controller OPEN: 200
 Flow Qn (NL/min.) from 2 → 1 with controller CLOSED: 70

Qn = supply pressure of 6 bar and with ΔP = 1 bar at the outlet
 N° = number of screw turns

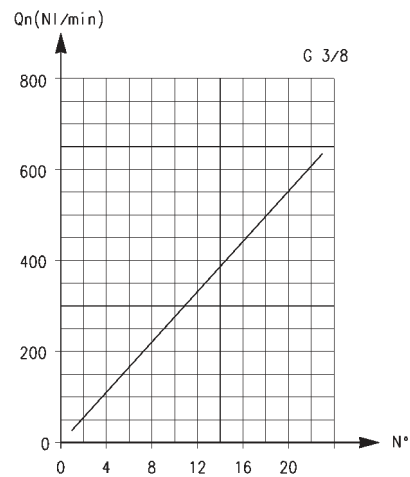
SERIES PSCU, PMCU, PSVU, PMVU, PSCO, PMCO VALVES

UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROL REGULATORS



Flow Qn (NL/min.) from 2 → 1 with controller OPEN: 530
 Flow Qn (NL/min.) from 2 → 1 with controller CLOSED: 160

Qn = supply pressure of 6 bar and with ΔP = 1 bar at the outlet
 N° = number of screw turns



Flow Qn (NL/min.) from 2 → 1 with controller OPEN: 710
 Flow Qn (NL/min.) from 2 → 1 with controller CLOSED: 410

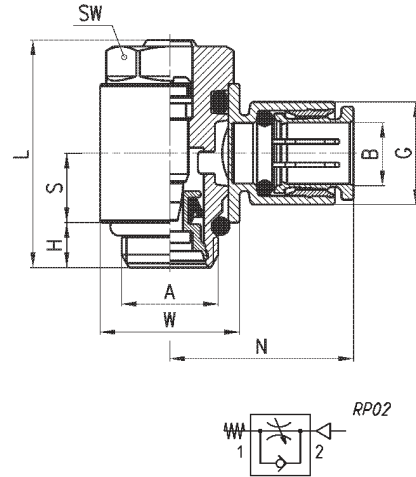
Qn = supply pressure of 6 bar and with ΔP = 1 bar at the outlet
 N° = number of screw turns

Unidirectional flow controllers Series PSCU



For mounting on single-acting or double-acting cylinders.
A screwdriver must be used to adjust the registration setting.
Ports: M5, G1/8, G1/4 and G3/8.

Port M5: banjo in brass



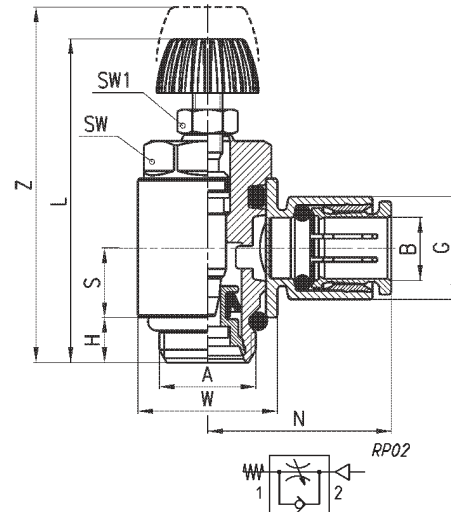
DIMENSIONS									
Mod.	A	B	G	H	L	N	S	W	SW
PSCU 602-M5-4	M5	4	8.6	3.5	21.5	18	5.7	8	8
PSCU 602-M5-6	M5	6	10.4	3.5	21.5	19	5.7	8	8
PSCU 604-1/8-4	G1/8	4	11.6	5	27	21	7.75	14	12
PSCU 604-1/8-6	G1/8	6	11.6	5	27	21	7.75	14	12
PSCU 604-1/8-8	G1/8	8	13.9	5	27	22.5	7.75	14	12
PSCU 606-1/4-6	G1/4	6	13.9	6	30.5	24.5	9.25	18.6	15
PSCU 606-1/4-8	G1/4	8	13.9	6	30.5	24.5	9.25	18.6	15
PSCU 606-1/4-10	G1/4	10	16.1	6	30.5	27	9.25	18.6	15
PSCU 608-3/8-10	G3/8	10	20.2	7	36.5	29	11	22	18
PSCU 608-3/8-12	G3/8	12	20.2	7	36.5	29	11	22	18

Unidirectional flow controllers Series PMCU



For mounting on single-acting or double-acting cylinders.
A manually operated knurled screw must be used to adjust the registration setting.
Ports: M5, G1/8, G1/4 and G3/8.

Port M5: banjo in brass



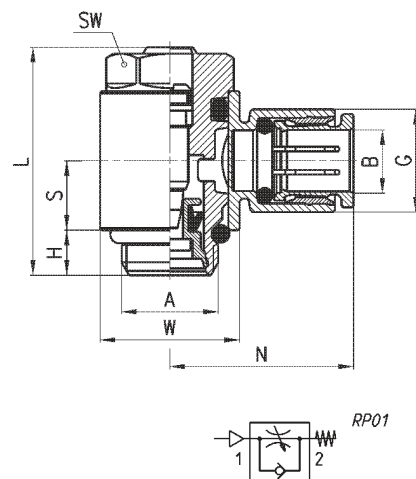
DIMENSIONS											
Mod.	A	B	G	H	L	N	S	W	SW	SW1	Z
PMCU 702-M5-4	M5	4	8.6	3.5	31	18	5.7	8	8	5.5	35
PMCU 702-M5-6	M5	6	10.4	3.5	31	19	5.7	8	8	5.5	35
PMCU 704-1/8-4	G1/8	4	11.6	5	36.5	21	7.75	14	12	7	42.5
PMCU 704-1/8-6	G1/8	6	11.6	5	36.5	21	7.75	14	12	7	42.5
PMCU 704-1/8-8	G1/8	8	13.9	5	36.5	22.5	7.75	14	12	7	42.5
PMCU 706-1/4-6	G1/4	6	13.9	6	42	24.5	9.25	18.6	15	7	48
PMCU 706-1/4-8	G1/4	8	13.9	6	42	24.5	9.25	18.6	15	7	48
PMCU 706-1/4-10	G1/4	10	16.1	6	42	27	9.25	18.6	15	7	48
PMCU 708-3/8-10	G3/8	10	20.2	7	48.5	29	11	22	18	10	56.5
PMCU 708-3/8-12	G3/8	12	20.2	7	48.5	29	11	22	18	10	56.5

Unidirectional flow controllers Series PSVU



For mounting on valves.
A screwdriver must be used to adjust the registration setting.
Ports: M5, G1/8, G1/4 and G3/8.

Port M5: banjo in brass



DIMENSIONS									
Mod.	A	B	G	H	L	N	S	W	SW
PSVU 602-M5-4	M5	4	8.6	3.5	21.5	18	5.7	8	8
PSVU 602-M5-6	M5	6	10.4	3.5	21.5	19	5.7	8	8
PSVU 604-1/8-4	G1/8	4	11.6	5	27	21	7.75	14	12
PSVU 604-1/8-6	G1/8	6	11.6	5	27	21	7.75	14	12
PSVU 604-1/8-8	G1/8	8	13.9	5	27	22.5	7.75	14	12
PSVU 606-1/4-6	G1/4	6	13.9	6	30.5	24.5	9.25	18.6	15
PSVU 606-1/4-8	G1/4	8	13.9	6	30.5	24.5	9.25	18.6	15
PSVU 606-1/4-10	G1/4	10	16.1	6	30.5	27	9.25	18.6	15
PSVU 608-3/8-10	G3/8	10	20.2	7	36.5	29	11	22	18
PSVU 608-3/8-12	G3/8	12	20.2	7	36.5	29	11	22	18

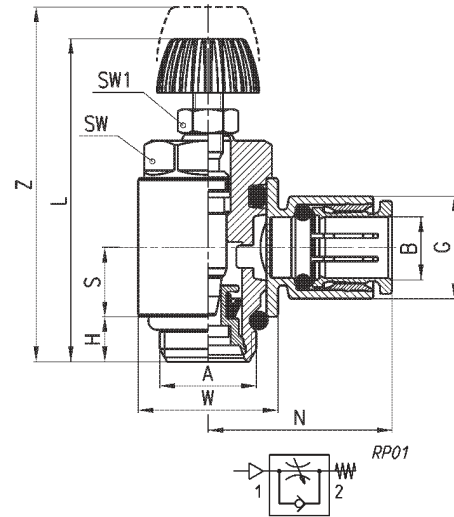
Unidirectional flow controllers Series PMVU



For mounting on valve.
A manually operated knurled screw must be used to adjust the registration setting.
Ports: M5, G1/8, G1/4 and G3/8.

Port M5: banjo in brass

DIMENSIONS											
Mod.	A	B	G	H	L	N	S	W	SW	SW1	Z
PMVU 702-M5-4	M5	4	8.6	3.5	31	18	5.7	8	8	5.5	35
PMVU 702-M5-6	M5	6	10.4	3.5	31	19	5.7	8	8	5.5	35
PMVU 704-1/8-4	G1/8	4	11.6	5	36.5	21	7.75	14	12	7	42.5
PMVU 704-1/8-6	G1/8	6	11.6	5	36.5	21	7.75	14	12	7	42.5
PMVU 704-1/8-8	G1/8	8	13.9	5	36.5	22.5	7.75	14	12	7	42.5
PMVU 706-1/4-6	G1/4	6	13.9	6	42	24.5	9.25	18.6	15	7	48
PMVU 706-1/4-8	G1/4	8	13.9	6	42	24.5	9.25	18.6	15	7	48
PMVU 706-1/4-10	G1/4	10	16.1	6	42	27	9.25	18.6	15	7	48
PMVU 708-3/8-10	G3/8	10	20.2	7	48.5	29	11	22	18	10	56.5
PMVU 708-3/8-12	G3/8	12	20.2	7	48.5	29	11	22	18	10	56.5



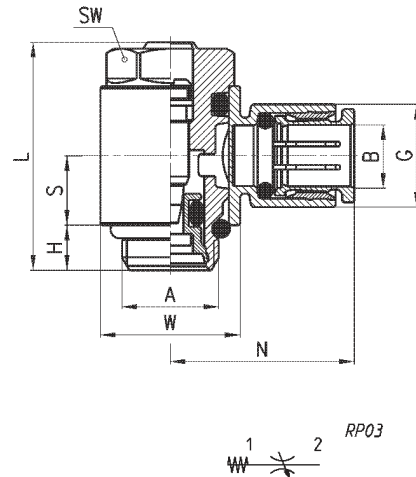
Bidirectional flow controllers Series PSCO



A screwdriver must be used to adjust the registration setting.
Ports: M5, G1/8, G1/4 and G3/8.

Port M5: banjo in brass

DIMENSIONS										
Mod.	A	B	G	H	L	N	S	W	SW	
PSCO 602-M5-4	M5	4	8.6	3.5	21.5	18	5.7	8	8	
PSCO 602-M5-6	M5	6	10.4	3.5	21.5	19	5.7	8	8	
PSCO 604-1/8-4	G1/8	4	11.6	5	27	21	7.75	14	12	
PSCO 604-1/8-6	G1/8	6	11.6	5	27	21	7.75	14	12	
PSCO 604-1/8-8	G1/8	8	13.9	5	27	22.5	7.75	14	12	
PSCO 606-1/4-6	G1/4	6	13.9	6	30.5	24.5	9.25	18.6	15	
PSCO 606-1/4-8	G1/4	8	13.9	6	30.5	24.5	9.25	18.6	15	
PSCO 606-1/4-10	G1/4	10	16.1	6	30.5	27	9.25	18.6	15	
PSCO 608-3/8-10	G3/8	10	20.2	7	36.5	29	11	22	18	
PSCO 608-3/8-12	G3/8	12	20.2	7	36.5	29	11	22	18	



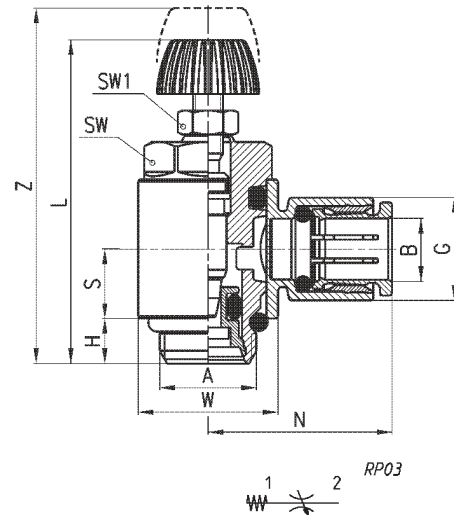
Bidirectional flow controllers Series PMCO



A manually operated knurled screw must be used to adjust the registration setting.
Ports: M5, G1/8, G1/4 and G3/8.

Port M5: banjo in brass

DIMENSIONS											
Mod.	A	B	G	H	L	N	S	W	SW	SW1	Z
PMCO 702-M5-4	M5	4	8.6	3.5	31	18	5.7	8	8	5.5	35
PMCO 702-M5-6	M5	6	10.4	3.5	31	19	5.7	8	8	5.5	35
PMCO 704-1/8-4	G1/8	4	11.6	5	36.5	21	7.75	14	12	7	42.5
PMCO 704-1/8-6	G1/8	6	11.6	5	36.5	21	7.75	14	12	7	42.5
PMCO 704-1/8-8	G1/8	8	13.9	5	36.5	22.5	7.75	14	12	7	42.5
PMCO 706-1/4-6	G1/4	6	13.9	6	42	24.5	9.25	18.6	15	7	48
PMCO 706-1/4-8	G1/4	8	13.9	6	42	24.5	9.25	18.6	15	7	48
PMCO 706-1/4-10	G1/4	10	16.1	6	42	27	9.25	18.6	15	7	48
PMCO 708-3/8-10	G3/8	10	20.2	7	48.5	29	11	22	18	10	56.5
PMCO 708-3/8-12	G3/8	12	20.2	7	48.5	29	11	22	18	10	56.5



Series TMCU, TMVU, TMCO flow control valves

Unidirectional and bidirectional banjo flow controllers with nominal diameter 2 - 3,8 - 5,8 - 8 mm
Ports: G1/8, G1/4, G3/8, G1/2

SERIES TMCU, TMVU, TMCO VALVES



Series TMCU, TMVU, TMCO unidirectional and bidirectional flow controllers have been revised in order to decrease their dimensions and improve their flow rate characteristics. Their construction allows for easy assembly to cylinders and valves and allows the regulation adjustment to be precise and gradual.

GENERAL DATA

Construction	needle - type
Valve group	unidirectional and bidirectional controller
Materials	brass - technopolymer - NBR
Mounting	by male threaded
Threaded ports	G1/8 - G1/4 - G3/8 - G1/2
Installation	in any position
Operating temperature	0°C ÷ 60°C (with dry air -20°C)
Operating pressure	0,5 ÷ 10 bar
Nominal pressure	6 bar
Nominal flow	see graph
Nominal dia.	Tube 4 Ø2 - Tube 6 Ø3,8 - Tube 8 Ø5,8 - Tube 10 and 12 Ø8
Fluid	filtered air If lubricated air is used, it is recommended to use ISOVG 32 oil. Once applied the lubrication should never be interrupted.

CODING EXAMPLE

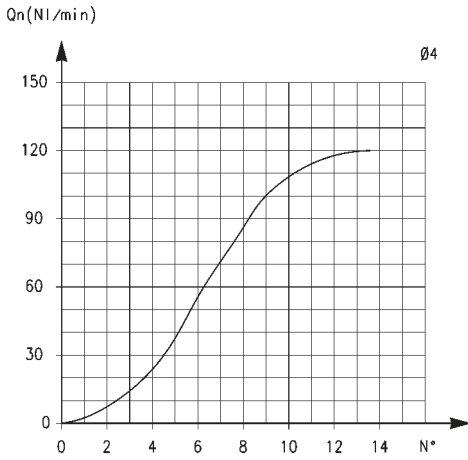
TM	CU		9	74	-	1/8	-	6
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TM	ACTUATION: TM = manual																				
CU	ASSEMBLY: CU = on cylinders unidirectional VU = on valves unidirectional CO = bidirectional																				
9	VERSIONS: 9 = manual needle																				
74	REGULATION: <table border="1"> <thead> <tr> <th></th> <th>step</th> <th>-</th> <th>∅ tube</th> </tr> </thead> <tbody> <tr> <td>72 =</td> <td>2</td> <td></td> <td>4</td> </tr> <tr> <td>74 =</td> <td>3.8</td> <td></td> <td>6</td> </tr> <tr> <td>76 =</td> <td>5.8</td> <td></td> <td>8</td> </tr> <tr> <td>78 =</td> <td>8</td> <td></td> <td>10</td> </tr> </tbody> </table>		step	-	∅ tube	72 =	2		4	74 =	3.8		6	76 =	5.8		8	78 =	8		10
	step	-	∅ tube																		
72 =	2		4																		
74 =	3.8		6																		
76 =	5.8		8																		
78 =	8		10																		
1/8	PORTS: 1/8 1/4 3/8 1/2																				
6	∅ TUBE: 4 6 8 10																				

To ensure the right choice of unidirectional flow controller, proceed as follows: calculate the quantity of air in NI/min (see cylinder Table); determine the stroke time of the cylinder; refer to graph to see which controller is the right type.

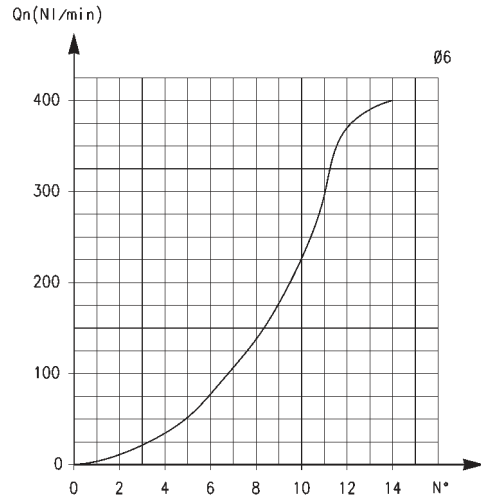
UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROL REGULATORS

SERIES TMCU, TMVU, TMCO VALVES



TUBE Ø4

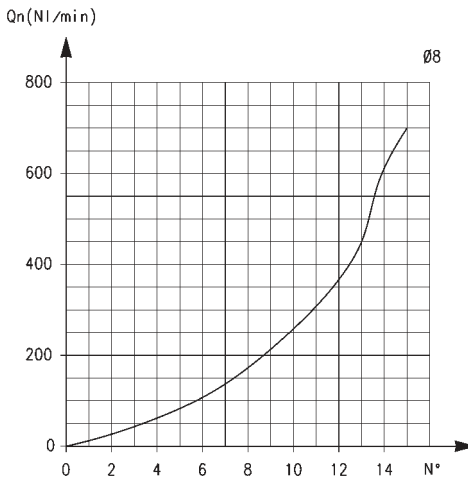
Flow Qn (NL/min.) from 2 → 1 with controller OPEN: 400
 Flow Qn (NL/min.) from 2 → 1 with controller CLOSED: 280
 Qn is determined with a supply pressure of 6 bar and with ΔP = 1 bar at the outlet
 N° = number of screw turns.



TUBE Ø6

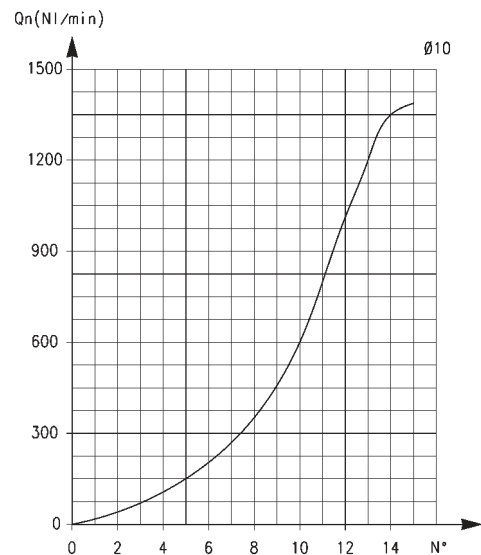
Flow Qn (NL/min.) from 2 → 1 with controller OPEN: 550
 Flow Qn (NL/min.) from 2 → 1 with controller CLOSED: 280
 Qn is determined with a supply pressure of 6 bar and with ΔP = 1 bar at the outlet
 N° = number of screw turns.

UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROL REGULATORS



TUBE Ø8

Flow Qn (NL/min.) from 2 → 1 with controller OPEN: 890
 Flow Qn (NL/min.) from 2 → 1 with controller CLOSED: 460
 Qn is determined with a supply pressure of 6 bar and with ΔP = 1 bar at the outlet
 N° = number of screw turns.



TUBE Ø10

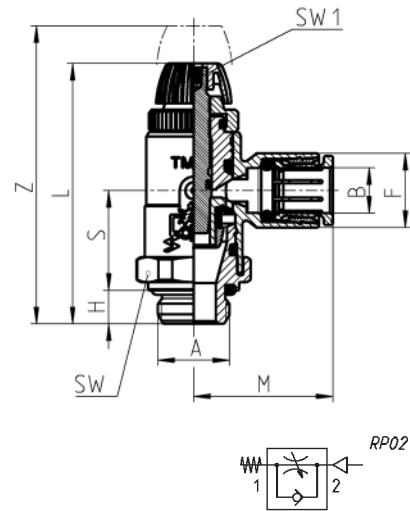
Flow Qn (NL/min.) from 2 → 1 with controller OPEN: Ø 10-1200/Ø12-1250
 Flow Qn (NL/min.) from 2 → 1 with controller CLOSED: Ø 10-600/Ø12-600
 Qn is determined with a supply pressure of 6 bar and with ΔP = 1 bar at the outlet
 N° = number of screw turns.

Series TMCU valves



Unidirectional flow controller for mounting on single-acting or double-acting cylinders.
Adjustment of setting by a hexagonal male key or a manually operated knurled screw.
Ports: G1/8, G1/4, G3/8, G1/2

DIMENSIONS										
Mod.	A	B	F	H	L	M	S	SW	SW1	Z
TMCU 972-1/8-4	G1/8	4	11,5	5	43	21,5	16,5	16	1,5	50
TMCU 974-1/8-6	G1/8	6	11,5	5	43	21,5	16,5	16	1,5	50
TMCU 974-1/4-6	G1/4	6	11,5	6	44	21,5	16,5	17	1,5	51
TMCU 976-1/8-8	G1/8	8	13,5	5	47	25	17,5	19	2,5	54
TMCU 976-1/4-8	G1/4	8	13,5	6	48,5	25	18	19	2,5	55,5
TMCU 976-3/8-8	G3/8	8	13,5	7	49,5	25	18	20	2,5	56,5
TMCU 978-3/8-10	G3/8	10	16	7	51	29	17	25	2,5	59,5
TMCU 978-1/2-10	G1/2	10	16	8	52	29	17	25	2,5	60,5

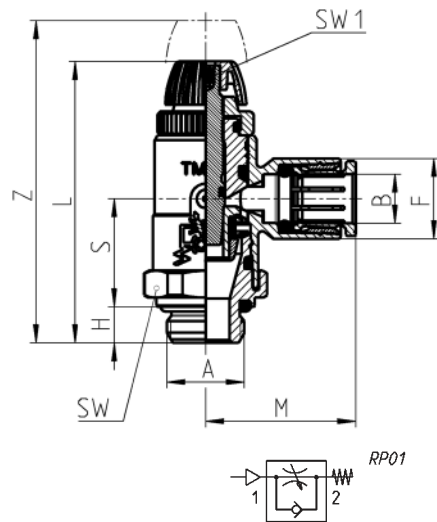


Series TMVU valves



Unidirectional flow controller for mounting on valves.
Adjustment of setting by a hexagonal male key or a manually operated knurled screw.
Ports: G1/8, G1/4, G3/8, G1/2

DIMENSIONS										
Mod.	A	B	F	H	L	M	S	SW	SW1	Z
TMVU 972-1/8-4	G1/8	4	11,5	5	43	21,5	16,5	16	1,5	50
TMVU 974-1/8-6	G1/8	6	11,5	5	43	21,5	16,5	16	1,5	50
TMVU 974-1/4-6	G1/4	6	11,5	6	44	21,5	16,5	17	1,5	51
TMVU 976-1/8-8	G1/8	8	13,5	5	47	25	17,5	19	2,5	54
TMVU 976-1/4-8	G1/4	8	13,5	6	48,5	25	18	19	2,5	55,5
TMVU 976-3/8-8	G3/8	8	13,5	7	49,5	25	18	20	2,5	56,5
TMVU 978-3/8-10	G3/8	10	16	7	51	29	17	25	2,5	59,5
TMVU 978-1/2-10	G1/2	10	18	8	52	29	17	25	2,5	60,5

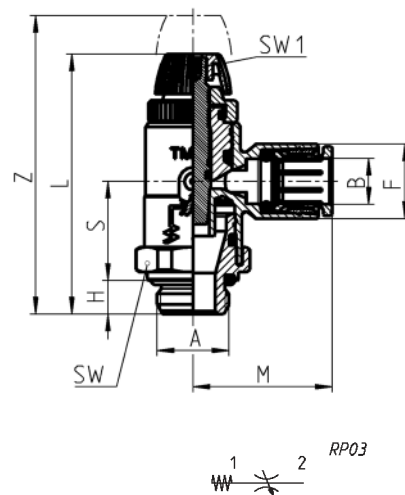


Series TMCU valves



Bidirectional flow controller.
Adjustment of setting by a hexagonal male key or a manually operated knurled screw.
Ports: G1/8, G1/4, G3/8, G1/2

DIMENSIONS										
Mod.	A	B	F	H	L	M	S	SW	SW1	Z
TMCU 972-1/8-4	G1/8	4	11,5	5	43	21,5	16,5	16	1,5	50
TMCU 974-1/8-6	G1/8	6	11,5	5	43	21,5	16,5	16	1,5	50
TMCU 974-1/4-6	G1/4	6	11,5	6	44	21,5	16,5	17	1,5	51
TMCU 976-1/8-8	G1/8	8	13,5	5	47	25	17,5	19	2,5	54
TMCU 976-1/4-8	G1/4	8	13,5	6	48,5	25	18	19	2,5	55,5
TMCU 976-3/8-8	G3/8	8	13,5	7	49,5	25	18	20	2,5	56,5
TMCU 978-3/8-10	G3/8	10	16	7	51	29	17	25	2,5	59,5
TMCU 978-1/2-10	G1/2	10	16	8	52	29	17	25	2,5	60,5



Series GSCU, GMCU, GSVU, GMVU, GSCO, GMCO flow control valves

Unidirectional and bidirectional banjo flow controllers with nominal diameter 1,5 - 3,5 - 5 mm
Ports: M5, G1/8 and G1/4



These unidirectional and bidirectional flow controllers have been designed as small as possible to enable mounting directly on valves or cylinders. The flow regulation range is wide and gradual, allowing the regulation to be very accurate either at minimum or maximum flow.

GENERAL DATA

Construction	needle - type
Valve group	unidirectional and bidirectional controller
Materials	body and screws M5 inox; 1/8 - 1/4 - 3/8 - 1/2 OT58 seals NBR
Mounting	by male threaded
Installation	in any position
Operating temperature	0°C ÷ 80°C (with dry air -20°C)
Operating pressure	1 ÷ 10 bar
Nominal pressure	6 bar
Nominal flow	see graph
Nominal diameter	M5 = 1.5 mm - G1/8 = 2 mm - G1/4 = 4 mm G3/8 = 7 mm - G1/2 = 12 mm
Fluid	filtered air

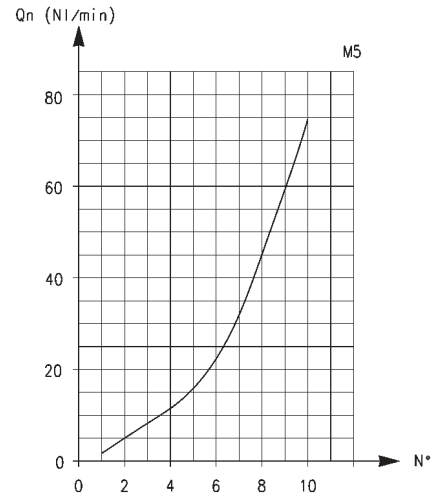
CODING EXAMPLE

GM	CU		9	03	-	1/8	-	6																					
GM	ACTUATION: GM = manual GS = screwdriver																												
CU	ASSEMBLY: CU = on cylinders unidirectional VU = on valves unidirectional CO = bidirectional																												
9	VERSIONS: 8 = needle (screwdriver operated) 9 = needle (manually operated)																												
03	FLOW CONTROL RANGE: <table border="1"> <thead> <tr> <th></th> <th>size</th> <th>∅ tube</th> </tr> </thead> <tbody> <tr> <td>13 =</td> <td>1.5</td> <td>3</td> </tr> <tr> <td>14 =</td> <td>1.5</td> <td>4</td> </tr> <tr> <td>03 =</td> <td>3.5</td> <td>6</td> </tr> <tr> <td>04 =</td> <td>3.5</td> <td>8</td> </tr> <tr> <td>05 =</td> <td>5</td> <td>8</td> </tr> <tr> <td>06 =</td> <td>5</td> <td>10</td> </tr> </tbody> </table>									size	∅ tube	13 =	1.5	3	14 =	1.5	4	03 =	3.5	6	04 =	3.5	8	05 =	5	8	06 =	5	10
	size	∅ tube																											
13 =	1.5	3																											
14 =	1.5	4																											
03 =	3.5	6																											
04 =	3.5	8																											
05 =	5	8																											
06 =	5	10																											
1/8	PORTS: M5 1/8 1/4																												
6	∅ TUBE: 3 4 6 8 10																												

To ensure the right choice of unidirectional flow controller, proceed as follows: calculate the quantity of air in NI/min (see cylinder Table); determine the stroke time of the cylinder; refer to graph to see which controller is the right type.

UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROL REGULATORS

SERIES GSCU, GMCU, GSCO, GMCO VALVES

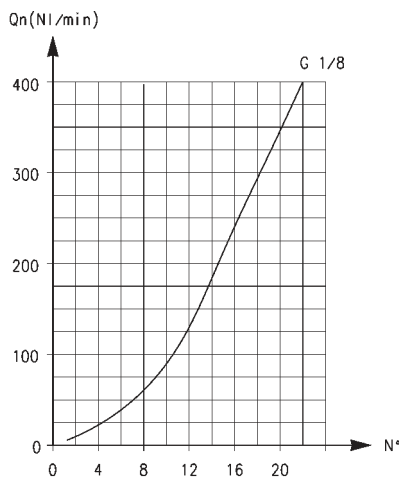


To ensure the right choice of unidirectional flow controller, proceed as follows: calculate the quantity of air in NL/min (see cylinder Table); determine the stroke time of the cylinder; refer to graph to see which controller is the right type. In the case of bidirectional regulators, refer to the graph and check whether the flow control range is suitable for the work required.

M5
Flow Qn (NL/min.) from 2 → 1 with controller OPEN: 70
Flow Qn (NL/min.) from 2 → 1 with controller CLOSED: 33

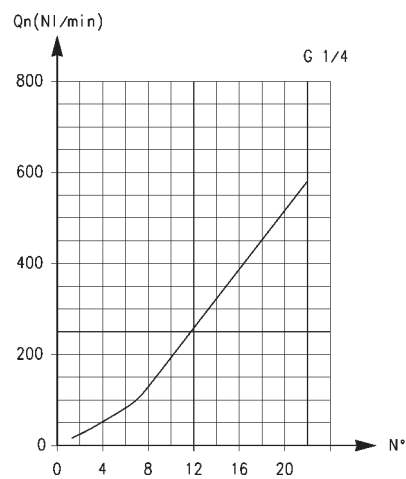
N° = number of screw turns
NB: Qn is determined with a supply pressure of 6 bar and with ΔP = 1 bar at the outlet.

UNIDIRECTIONAL AND BIDIRECTIONAL FLOW CONTROL REGULATORS



G1/8
Flow Qn (NL/min.) from 2 → 1 with controller OPEN: 440
Flow Qn (NL/min.) from 2 → 1 with controller CLOSED: 170

N° = number of screw turns
NB: Qn is determined with a supply pressure of 6 bar and with ΔP = 1 bar at the outlet.



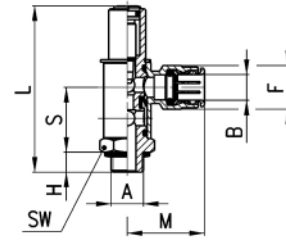
G1/4
Flow Qn (NL/min.) from 2 → 1 with controller OPEN: 790
Flow Qn (NL/min.) from 2 → 1 with controller CLOSED: 460

N° = number of screw turns
NB: Qn is determined with a supply pressure of 6 bar and with ΔP = 1 bar at the outlet.

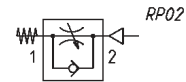
Valves Series GSCU



Unidirectional flow controller for mounting on single-acting or double-acting cylinders.
Screwdriver adjustment.
Ports: M5, G1/8, G1/4.



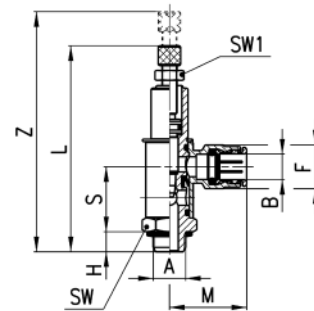
DIMENSIONS								
Mod.	A	B	S	H	L	M	F	SW
GSCU 813-M5-3	M5	3	12	3	27,5	12,5	6,5	8
GSCU 814-M5-4	M5	4	12	3	27,5	19	8,8	8
GSCU 803-1/8-6	G1/8	6	22,5	5	50	26,5	13	14
GSCU 804-1/8-8	G1/8	8	22,5	5	50	28	15	14
GSCU 805-1/4-8	G1/4	8	27	7	67,5	28,5	15	19
GSCU 806-1/4-10	G1/4	10	27	7	67,5	31	17,5	19



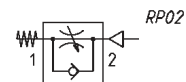
Valves Series GMCU



Unidirectional flow controller for mounting on single-acting or double-acting cylinders.
Knurled screw adjustment.
Ports: M5, G1/8, G1/4.



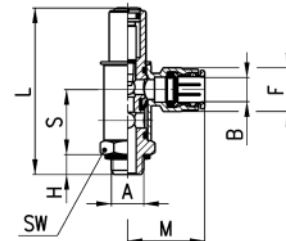
DIMENSIONS										
Mod.	A	B	S	H	L	Z	M	F	SW	SW1
GMCU 913-M5-3	M5	3	12	3	37	42,5	12,5	6,5	8	5,5
GMCU 914-M5-4	M5	4	12	3	37	42,5	19	8,8	8	5,5
GMCU 903-1/8-6	G1/8	6	22,5	5	65,5	72,5	26,5	13	14	7
GMCU 904-1/8-8	G1/8	8	22,5	5	65,5	72,5	28	15	14	7
GMCU 905-1/4-8	G1/4	8	27	7	85	97,5	28,5	15	19	10
GMCU 906-1/4-10	G1/4	10	27	7	85	97,5	31	17,5	19	10



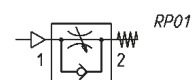
Valves Series GSVU



Unidirectional flow controller for mounting on valves.
Screwdriver adjustment.
Ports: M5, G1/8, G1/4.



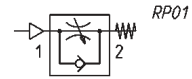
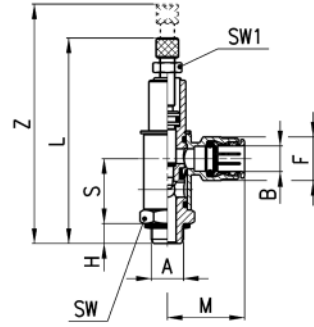
DIMENSIONS								
Mod.	A	B	S	H	L	M	F	SW
GSVU 813-M5-3	M5	3	12	3	27,5	12,5	6,5	8
GSVU 814-M5-4	M5	4	12	3	27,5	19	8,8	8
GSVU 803-1/8-6	G1/8	6	22,5	5	50	26,5	13	14
GSVU 804-1/8-8	G1/8	8	22,5	5	50	28	15	14
GSVU 805-1/4-8	G1/4	8	27	7	67,5	28,5	15	19
GSVU 806-1/4-10	G1/4	10	27	7	67,5	31	17,5	19



Valves Series GMVU



Unidirectional flow controller for mounting on valve.
Adjustment of setting by a manually operated knurled screw.
Ports: M5, G1/8, G1/4.

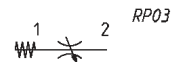
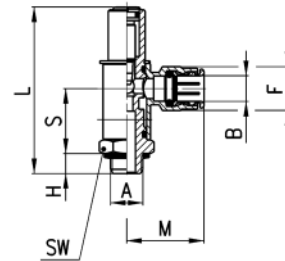


DIMENSIONS										
Mod.	A	B	S	H	L	Z	M	F	SW	SW1
GMVU 913-M5-3	M5	3	12	3	37	42,5	12,5	6,5	8	5,5
GMVU 914-M5-4	M5	4	12	3	37	42,5	19	8,8	8	5,5
GMVU 903-1/8-6	G1/8	6	22,5	5	50	72,5	26	13	14	7
GMVU 904-1/8-8	G1/8	8	22,5	5	50	72,5	28	15	14	7
GMVU 905-1/4-8	G1/4	8	27	7	67,5	97,5	29	15	19	10
GMVU 906-1/4-10	G1/4	10	27	7	67,5	97,5	31	17,5	19	10

Valves Series GSCO



Bidirectional flow controller.
Screwdriver adjustment.
Ports: M5, G1/8, G1/4.

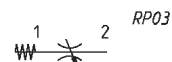
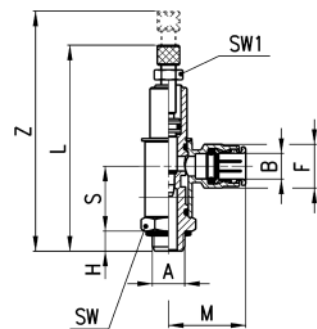


DIMENSIONS									
Mod.	A	B	S	H	L	M	F	SW	
GSCO 813-M5-3	M5	3	12	3	27,5	12,5	6,5	8	
GSCO 814-M5-4	M5	4	12	3	27,5	19	8,8	8	
GSCO 803-1/8-6	G1/8	6	22,5	5	50	26,5	13	14	
GSCO 804-1/8-8	G1/8	8	22,5	5	50	28	15	14	
GSCO 805-1/4-8	G1/4	8	27	7	67,5	28,5	15	19	
GSCO 806-1/4-10	G1/4	10	27	7	67,5	31	17,5	19	

Valves Series GMCO



Bidirectional flow controller.
Adjustment of setting by a manually operated knurled screw.
Ports: M5, G1/8, G1/4.



DIMENSIONS										
Mod.	A	B	S	H	L	Z	M	F	SW	SW1
GMCO 913-M5-3	M5	3	12	3	37	42,5	12,5	6,5	8	5,5
GMCO 914-M5-4	M5	4	12	3	37	42,5	19	8,8	8	5,5
GMCO 903-1/8-6	G1/8	6	22,5	5	65,5	72,5	26,5	13	14	7
GMCO 904-1/8-8	G1/8	8	22,5	5	65,5	72,5	28	15	14	7
GMCO 905-1/4-8	G1/4	8	27	7	85	97,5	28,5	15	19	10
GMCO 906-1/4-10	G1/4	10	27	7	85	97,5	31	17,5	19	10

Series RFU and RFO flow control valves

Unidirectional and bidirectional

Ports: M5, G1/8, G1/4, G3/8 and G1/2

Nominal diameters: 1,5 mm (M5), 2 and 3 mm (G1/8), 4 and 6 mm (G1/4), 7 mm (G3/8 and G1/2)



- » Series RFU: unidirectional flow control valves for the speed regulation of a cylinder
- » Series RFO: bidirectional flow control valves for the air flow regulation in both directions and for the pressurization or depressurization of a container.

The unidirectional flow controllers are equipped with M5, G1/8, G1/4, G3/8 and G1/2 ports.

G1/8 and G1/4 ports are available with two different types of adjustment (see diagrams), whereas M5, G3/8 and G1/2 ports have just one type of adjustment. All models can be panel or wall mounted or they can be mounted on cylinders, as required.

To choose the most suitable model, it is recommended to:

1. calculate the quantity of air in Nl/min (see the cylinders tables in the catalogue appendix);
2. determine the stroke time of the cylinder;
3. check the flow diagrams (see pages 2/7.20.03 and 2/7.20.04).

GENERAL DATA

Construction	needle-type
Valve group	unidirectional and bidirectional controller
Materials	AL body - brass needle (not nickel-plated) - NBR seals
Mounting	with screws in the holes of the valve body or panel mounted
Threaded ports	M5 - G1/8 - G1/4 - G3/8 - G1/2
Installation	as required
Operating temperature	$0^{\circ}\text{C} \div 80^{\circ}\text{C}$ (with dry air - 20°C)
Operating pressure	1 \div 10 bar (for models with M5 - G1/8 - G1/4 ports) 2 \div 10 bar (for models with G3/8 - G1/2 ports)
Nominal pressure	6 bar
Nominal flow	see graph
Nominal diameter	M5 = 1,5 - G1/8 = 2 or 3 mm - G1/4 = 4 or 6 mm - G3/8 and G1/2 = 7 mm
Fluid	filtered air

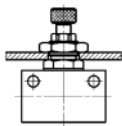
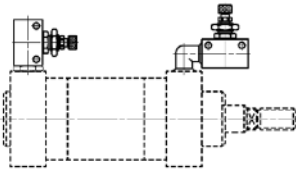
CODING EXAMPLE

RF	U		4	8	2	-	1/8
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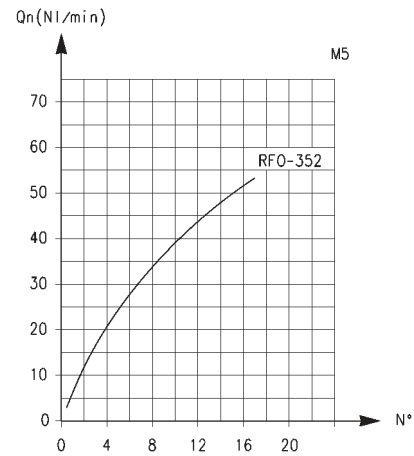
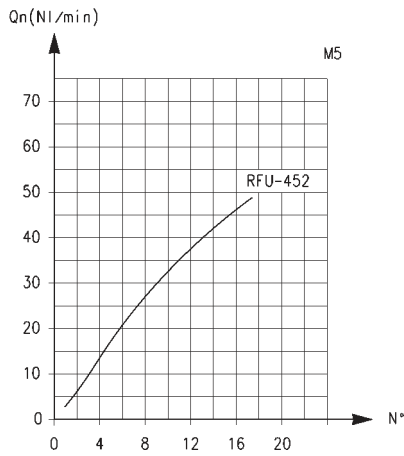
RF	SERIES
U 4	FUNCTION: U 4 = unidirectional O 3 = bidirectional
8	PORTS: 4 = G1/4 5 = M5 6 = G3/8 7 = G1/2 8 = G1/8
2	FLOW CONTROL RANGE: 2 = \emptyset 1.5 mm max (for ports M5) \emptyset 2 mm max (for ports 1/8 only) 3 = \emptyset 3 mm max (for ports 1/8 only) 4 = \emptyset 4 mm max (for ports 1/4 only) 6 = \emptyset 6 mm max (for ports 1/4 only) 7 = \emptyset 7 mm max (for ports 3/8, 1/2 only)
1/8	PORTS: M5 1/8 1/4 3/8 1/2

SERIES RFU AND RFO VALVES

EXAMPLES OF SERIES RFO - RFU VALVES ASSEMBLY



FLOW DIAGRAMS (1 → 2) - VALVES SERIES RFU / RFO - M5 PORTS



RFU 452-M5: flow from 2 → 1 needle type OPEN = 55 NL/min CLOSED = 41 NL/min

RFO 352-M5

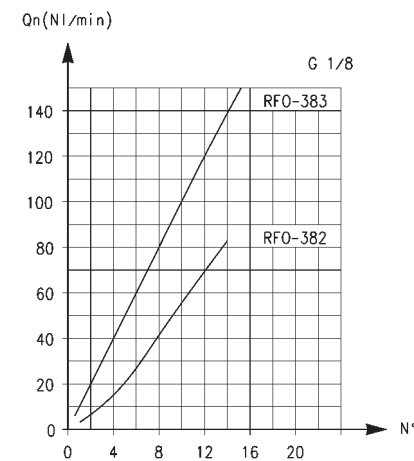
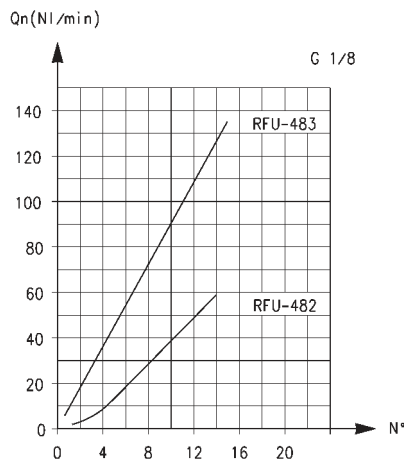
N° = number of screw turns

N° = number of screw turns

Note: the flow (Qn) is determined with a pressure of 6 bar at the inlet and $\Delta P = 1$ bar at the outlet.

Note: the flow (Qn) is determined with a pressure of 6 bar at the inlet and $\Delta P = 1$ bar at the outlet.

FLOW DIAGRAMS (1 → 2) - VALVES SERIES RFU / RFO - G1/8 PORTS



RFU 482-1/8: flow from 2 → 1 needle type OPEN = 149 NL/min CLOSED = 130,5 NL/min
RFU 483-1/8: flow from 2 → 1 needle type OPEN = 180 NL/min CLOSED = 140 NL/min

RFO 382-1/8 - RFO 383-1/8

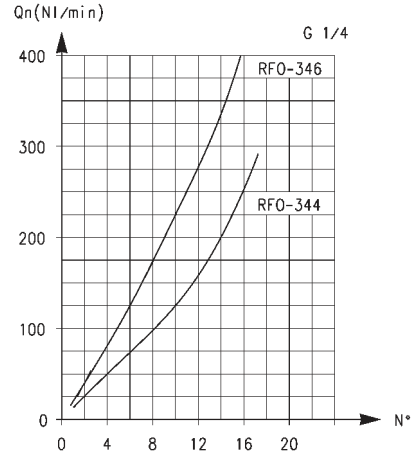
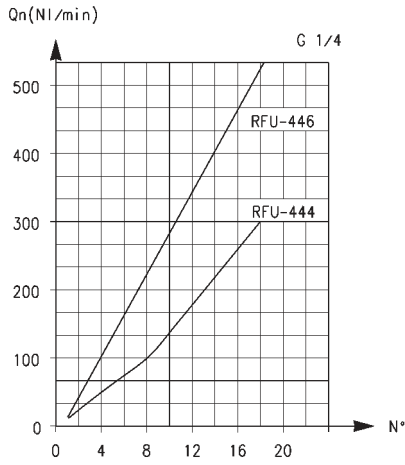
N° = number of screw turns

N° = number of screw turns

Note: the flow (Qn) is determined with a pressure of 6 bar at the inlet and $\Delta P = 1$ bar at the outlet.

Note: the flow (Qn) is determined with a pressure of 6 bar at the inlet and $\Delta P = 1$ bar at the outlet.

FLOW DIAGRAMS (1 → 2) - VALVES SERIES RFU / RFO - G1/4 PORTS



RFU 444-1/4: flow from 2 → 1 needle type OPEN = 680 NI/min CLOSED = 534 NI/min
 RFU 446-1/4: flow from 2 → 1 needle type OPEN = 680 NI/min CLOSED = 534 NI/min

RFO 344-1/4 - RFO 346-1/4

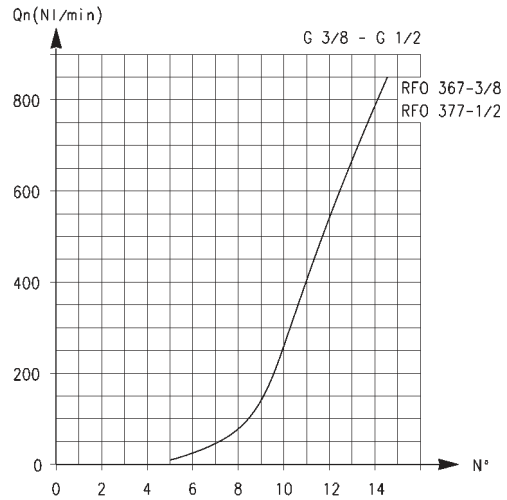
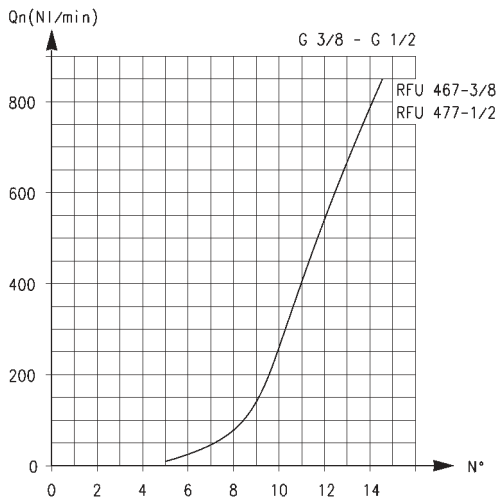
N° = number of screw turns.

Note: the flow (Qn) is determined with a pressure of 6 bar at the inlet and ΔP = 1 bar at the outlet.

N° = number of screw turns

Note: the flow (Qn) is determined with a pressure of 6 bar at the inlet and ΔP = 1 bar at the outlet.

FLOW DIAGRAMS (1 → 2) - VALVES SERIES RFU / RFO - G3/8, G1/2 PORTS



RFU 467-3/8: flow from 2 → 1 needle type OPEN = 1700 NI/min CLOSED = 1700 NI/min
 RFU 477-1/2: flow from 2 → 1 needle type OPEN = 1700 NI/min CLOSED = 1700 NI/min

RFO 367-3/8 - RFO 377-1/2

N° = number of screw turns

Note: the flow (Qn) is determined with a pressure of 6 bar at the inlet and ΔP = 1 bar at the outlet.

N° = number of screw turns

Note: the flow (Qn) is determined with a pressure of 6 bar at the inlet and ΔP = 1 bar at the outlet.

Unidirectional flow control valves Series RFU



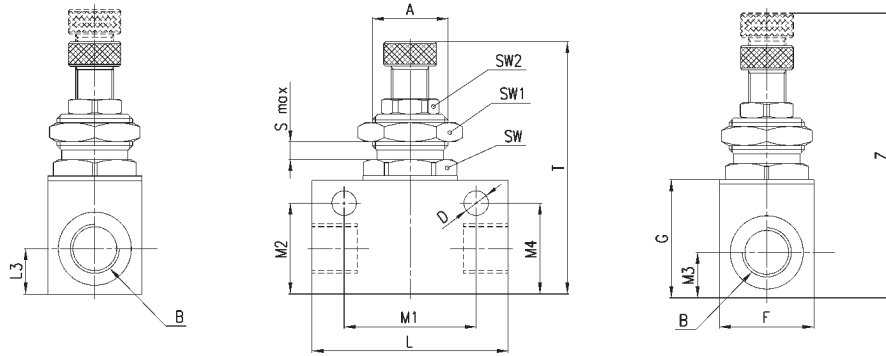
To regulate the cylinder speed, the discharging chamber air flow has to be controlled. Therefore, it is recommended to connect the valve threaded outlet 1 to the cylinder inlet and the outlet 2 to the valve user port.

TABLE NOTE:

* knurled ring nut



RFU1



DIMENSIONS																		
Mod.	∅	A	B	D	F	G	L	M1	M2	M3	L3	M4	T	Z	S _{Max}	SW	SW1	SW2
RFU 452-M5	1.5	M10x1	M5	4.2	14	16	26	18.5	13.2	7	-	13.2	39	44.5	3	12	14	8
RFU 482-1/8	2	M12x1	G1/8	4.5	16	21	34	24.5	16.5	8	-	16.5	46	51	4	14	17	9
RFU 483-1/8	3	M12x1	G1/8	4.5	16	21	34	24.5	16.5	8	-	16.5	46	51	4	14	17	9
RFU 444-1/4	4	M20x1.5	G1/4	6.5	25	30	52	35	24	12	-	24	60	69	7	22	24	14
RFU 446-1/4	6	M20x1.5	G1/4	6.5	25	30	52	35	24	12	-	24	60	69	7	22	24	14
RFU 467-3/8	7	M18x1	G3/8	6.5	27	42	56	43	34.5	14	28	7.5	75	85	8	22	22	*
RFU 477-1/2	7	M18x1	G1/2	6.5	27	42	56	43	34.5	14	28	7.5	75	85	8	22	22	*

Bidirectional flow control valves Series RFO

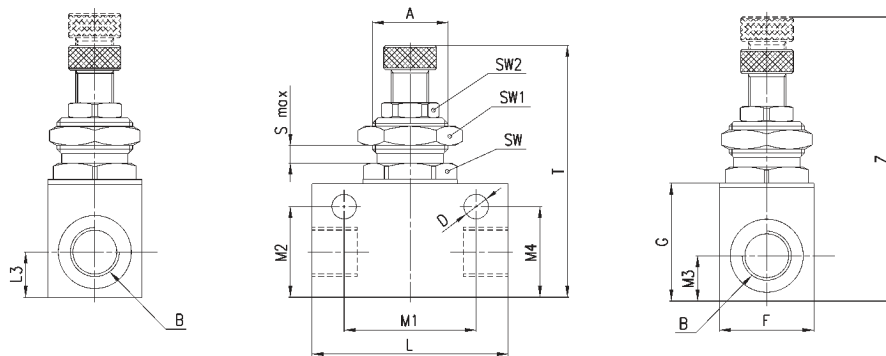


TABLE NOTE:

* knurled ring nut



RFO1



DIMENSIONS																		
Mod.	∅	A	B	D	F	G	L	M1	M2	M3	L3	M4	T	Z	S _{Max}	SW	SW1	SW2
RFO 352-M5	1.5	M10x1	M5	4.2	14	16	26	18.5	13.2	7	-	13.2	39	44.5	3	12	14	8
RFO 382-1/8	2	M12x1	G1/8	4.2	16	21	34	24.5	16.5	8	-	16.5	46	51	4	14	17	9
RFO 383-1/8	3	M12x1	G1/8	4.5	16	21	34	24.5	16.5	8	-	16.5	46	51	4	14	17	9
RFO 344-1/4	4	M20x1.5	G1/4	6.5	25	30	52	35	24	12	-	24	60	69	7	22	24	14
RFO 346-1/4	6	M20x1.5	G1/4	6.5	25	30	52	35	24	12	-	24	60	69	7	22	24	14
RFO 367-3/8	7	M18x1	G3/8	6.5	27	42	56	43	34.5	14	28	7.5	75	85	8	22	22	*
RFO 377-1/2	7	M18x1	G1/2	6.5	27	42	56	43	34.5	14	28	7.5	75	85	8	22	22	*

Series 28 flow control valves

Bidirectional

Ports: G1/8, G1/4, G3/8, G1/2

SERIES 28 VALVES



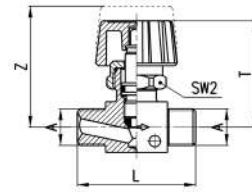
These are bidirectional control valves made entirely of nickel-plated brass, with NBR seals and a technopolymer control knob.

They are suitable for regulating compressed air, water or mineral oil. For models 2810, 2820, 2819 and 2829 exists the possibility to connect plastic, brass or copper tubes, using nut Mod. 1303 and cushion sleeve Mod. 1310/1320.

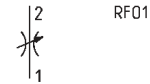
GENERAL DATA

Construction	cone - type
Materials	body = nickel-plated brass control knob = technopolymer seals = NBR
Ports	G1/8, G1/4, G3/8, G1/2
Installation	as required
Operating pressure	0°C ÷ 80°C (with dry air - 20°)
Operating pressure	0 ÷ 10 bar
Nominal flowrate	see table

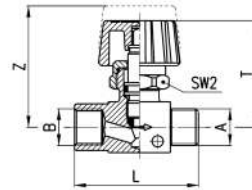
Valve Mod. 2810



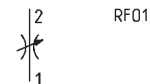
DIMENSIONS								
Mod.	A	L	T	Z	SW2	$\Delta 1\text{bar NL/min}$	Free flow NL/min	
2810 1/8	G1/8	40	37	42,5	19	415	590	
2810 1/4	G1/4	42	37	42,5	19	508	740	
2810 3/8	G3/8	42	37	42,5	19	620	900	
2810 1/2	G1/2	54	42	48	22	1540	2080	



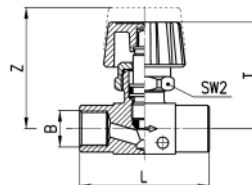
Valve Mod. 2820



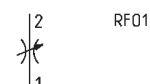
DIMENSIONS								
Mod.	A	B	L	T	Z	SW2	$\Delta 1\text{bar NL/min}$	Free flow NL/min
2820 1/8	G1/8	G1/8	41	37	42,5	19	400	640
2820 1/4	G1/4	G1/4	44	37	42,5	19	530	840
2820 3/8	G3/8	G3/8	55,5	41,5	48	22	1415	1990
2820 1/2	G1/2	G1/2	59	42	49	22	1520	2150



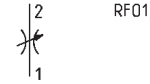
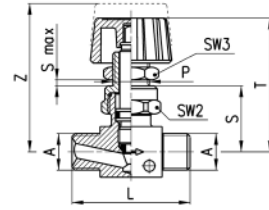
Valve Mod. 2830



DIMENSIONS								
Mod.	B	L	T	Z	SW2	$\Delta 1\text{bar NL/min}$	Free flow NL/min	
2830 1/8	G1/8	42	37	42,5	19	415	635	
2830 1/4	G1/4	46	37	42,5	19	530	850	
2830 3/8	G3/8	62	41,4	48	22	1415	1980	
2830 1/2	G1/2	64	42	49	22	1520	2100	

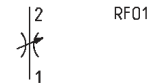
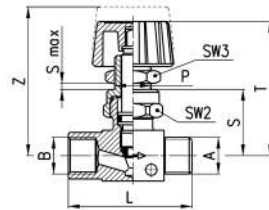


Valve Mod. 2819



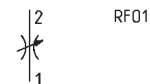
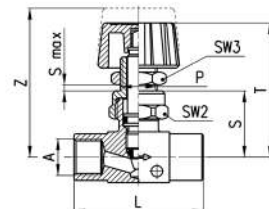
DIMENSIONS										
Mod.	A	L	P	S	T	Z	S _{max}	SW2	SW3	
2819 1/8	G1/8	40	1/4	23	47	52,5	7	19	17	
2819 1/4	G1/4	42	1/4	23	47	52,5	7	19	17	

Valve Mod. 2829



DIMENSIONS										
Mod.	A	B	L	P	S	T	Z	S _{max}	SW2	SW3
2829 1/8	G1/8	G1/8	41	1/4	23	47	52,5	7	19	17
2829 1/4	G1/4	G1/4	44	1/4	23	47	52,5	7	19	17

Valve Mod. 2839



DIMENSIONS										
Mod.	A	L	P	S	T	Z	S _{max}	SW2	SW3	
2839 1/8	G1/8	42	1/4	23	47	52,5	7	19	17	
2839 1/4	G1/4	46	1/4	23	47	52,5	7	19	17	
2839 3/8	G3/8	62	14X1	28	56,5	63	7	22	17	
2839 1/2	G1/2	64	14X1	29	57	64	7	22	17	

Silencers

Series: 2901 - 2903 - 2921 - 2931 - 2938 - 2939 - 2905 - RSW

Ports: M5, G1/8, G1/4, G3/8, G1/2, G3/4, G1



The silencers are indispensable elements for eliminating or reducing the characteristic noise of compressed air during discharge operations. They should always be placed on the outlets of 3/2, 5/2 or 5/3-way valves.

When carrying out maintenance, the silencers should be degreased using white spirit or paraffin and compressed air blown through them in the opposite direction to operation.

Flow rate: determined with inlet supply 6 bar and output in atmosphere.

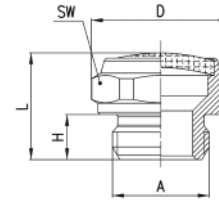
Noise level: determined through a test which is carried out using a phonometer. Placing the phonometer one meter away from the application at the same height for a period of ten seconds gives an average reading of the noise generated.

GENERAL DATA

Construction	body with male and female thread
Materials used for body	2901 - 2903: brass 2921 - 2931: coppering steel 2938 - 2939: polyethylene
Materials used for silencing	2901 - 2903: stainless steel 2921 - 2931: bronze (sintered) 2938 - 2939: polyethylene
Ports	M5 - G1/8 - G1/4 - G3/8 - G1/2 - G3/4 - G1

Silencers Series 2901

New model

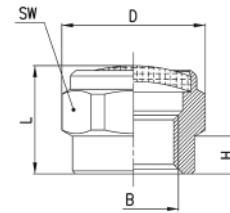


DIMENSIONS									
Mod.	A	D	H	L	SW	Max operating pressure (bar)	Flow rate (NL/min)	Noise db (A)	
2901 M5	* M5	9	4	8.5	8	10	150	66	* sintered bronze silencer element
2901 1/8	G1/8	15.3	5	12	14	10	700	76	
2901 1/4-17	G1/4	18.5	6	14	17	10	1000	78	
2901 1/4-22	G1/4	23.5	6	15	22	10	1600	80	
2901 3/8	G3/8	23.5	7	16	22	10	1500	76	
2901 1/2	G1/2	29.5	8	17.5	27	10	3400	86	
2901 3/4	G3/4	34	9	20	32	6	4100	87	
2901 1	G1	43	11	24.5	40	6	7600	88	

SIL1



Silencers Series 2903

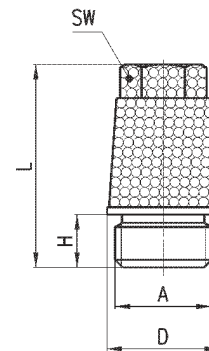


DIMENSIONS								
Mod.	B	D	H	L	SW	Max. Oper. Pressure	Flow rate NL/Min	Noise db (A)
2903 1/8	G1/8	15,3	4	11	14	10	700	74

SIL1



Silencers Series 2921

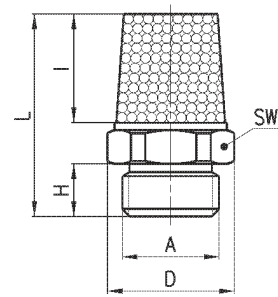


DIMENSIONS								
Mod.	A	D	H	L	SW	Max. Oper. Pressure	Flow rate NL/Min	Noise db (A)
2921 1/8	G1/8	12	4,5	21,5	8	10	1730	81
2921 1/4	G1/4	15	6	28	10	10	3300	85
2921 3/8	G3/8	19	8	37	13	10	4250	79
2921 1/2	G1/2	23	9	43,5	15	10	6800	87
2921 3/4	G3/4	30	10	56	19	10	9800	84
2921 1	G1	37	12	67	24	10	10900	86

SIL1



Silencers Series 2931

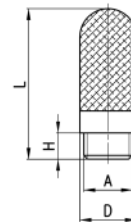


DIMENSIONS										
Mod.	A	D	H	I	L	SW	Max. Oper. Pressure	Flow rate NI/Min	Noise db (A)	
2931 M5	M5	7,7	4	8	16,5	7	10	450	69	
2931 M7	M7	9	5	8,5	20	8	10	1130	76	
2931 1/8	G1/8	13	4,5	13	21	12	10	1927	88	
2931 1/4	G1/4	16,2	6	16,5	27	15	10	3200	86	
2931 3/8	G3/8	20	7	23	35,5	19	10	4560	81	
2931 1/2	G1/2	24,5	8	28	42	23	10	6800	87	
2931 3/4	G3/4	32	9	37	54	30	10	9600	84	
2931 1	G1	38,5	11	47	67	36	10	10800	86	

SIL 1



Silencers Series 2938



DIMENSIONS								
Mod.	A	D	H	L	Max. Oper. Pressure	Flow rate NI/Min	Noise db (A)	
2938 M5	M5	6,5	4,1	23	10	546	67	
2938 1/8	G1/8	12,5	5,7	34	10	1441	75	
2938 1/4	G1/4	15,5	7	42,5	10	2752	79	
2938 3/8	G3/8	18,5	11,5	67,5	10	4735	73	
2938 1/2	G1/2	23,5	11	77	10	8534	86	

SIL 1

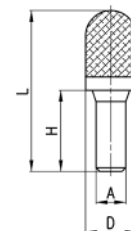


Operating temperature:
- 40 / + 80 °C

Silencers Series 2939



Operating temperature:
- 40 / + 80 °C



DIMENSIONS							
Mod.	A	D	H	L	Max. Oper. Pressure	Flow rate NI/Min	Noise db (A)
2939 4	4	7	16	32	10	335	80
2939 6	6	12,5	20,5	45	10	632	79 *
2939 8	8	13,5	21,5	43,5	10	1229	89 *
2939 10	10	15,5	26,5	57,5	10	2650	87 *

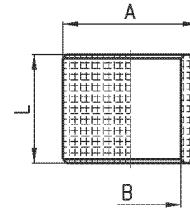
SIL 1



Silencing bush Series 2905







For flow control valves Mod. SCO and MCO
(see the dedicated section)



DIMENSIONS			
Mod.	A	B	L
2905 1/8	14	10	14.5
2905 1/4	18	13.5	14.5
2905 3/8	21	16.8	14.5

Pneumatic symbols

Symbol	Type	Symbol	Type
SOLENOID VALVES			
EV01	 Directly operated solenoid valve, 2/2 NC	EV19	 Solenoid valve, 5/2, monostable, solenoid pilot with separate air supply and bistable manual override
EV02	 Directly operated solenoid valve, 2/2 NO	EV20	 Solenoid valve, 5/2, monostable, (pneumatic spring) and manual override
EV03	 Directly operated solenoid valve, 3/2 NC	EV21	 Solenoid valve, 5/2, monostable, (pneumatic spring) and bistable manual override
EV04	 Directly operated solenoid valve, 3/2 NC, monostable, with manual override	EV22	 Solenoid valve, 5/2, monostable, solenoid pilot with separate air supply, pneumatic spring and bistable manual override
EV05	 Directly operated solenoid valve, 3/2 NO	EV23	 Solenoid valve, 5/2, bistable, with bistable manual override
EV06	 Directly operated solenoid valve, 3/2 NC, monostable, with manual override	EV24	 Solenoid valve, 5/2, bistable, with manual override
EV07	 Solenoid valve, 3/2 NC with quick exhaust	EV25	 Solenoid valve, 5/2, bistable, solenoid pilot with separate air supply and bistable manual override
EV08	 Directly operated solenoid valve, 3/2 NC, with bistable manual override	EV26	 Solenoid valve, 5/2, bistable, solenoid pilot with separate air supply and bistable manual override
EV09	 Directly operated solenoid valve, 3/2 NO, with bistable manual override	EV27	 Solenoid valve, 5/3 CC, with manual override
EV10	 Solenoid valve, 3/2 NC, monostable, with bistable manual override	EV28	 Solenoid valve, 5/3 CC, with bistable manual override
EV11	 Solenoid valve, 3/2, monostable, solenoid pilot with separate air supply and bistable manual override	EV29	 Solenoid valve, 5/3, solenoid pilot with separate air supply and bistable manual override
EV12	 Solenoid valve, 3/2 NO, monostable, with bistable manual override	EV30	 Solenoid valve, 5/3, solenoid pilot with separate air supply and bistable manual override
EV13	 Solenoid valve, 3/2, monostable, solenoid pilot with separate air supply and bistable manual override	EV31	 Solenoid valve, 5/3 CO, with manual override
EV14	 Solenoid valve, 3/2, bistable, with manual override bistable	EV32	 Solenoid valve, 5/3 CO, with bistable manual override
EV15	 Solenoid valve, 3/2, bistable, solenoid pilot with separate air supply and bistable manual override	EV33	 Solenoid valve, 5/3 CO, solenoid pilot with separate air supply and bistable manual override
EV16	 Solenoid valve, 3/2 NC, monostable, (pneumatic spring) and bistable manual override	EV34	 Solenoid valve, 5/3 CO, solenoid pilot with separate air supply and bistable manual override
EV17	 Solenoid valve, 3/2 NO, monostable, (pneumatic spring) and bistable manual override	EV35	 Solenoid valve, 5/3 CP, with manual override
EV18	 Solenoid valve, 5/2, monostable, with bistable manual override	EV36	 Solenoid valve, 5/3 CP, with bistable manual override
		EV37	 Solenoid valve, 5/3 CP, solenoid pilot with separate air supply and bistable manual override

Symbol	Type
EV38 	Solenoid valve, 5/3 CP, solenoid pilot with separate air supply and bistable manual override
EV39 	Double solenoid valve, 3/2 NC, monostable, with bistable manual override
EV40 	Double solenoid valve, 3/2, monostable, solenoid pilot with separate air supply and bistable manual override
EV41 	Double solenoid valve, 3/2 NO, monostable, with bistable manual override
EV42 	Double solenoid valve, 3/2, monostable, solenoid pilot with separate air supply and bistable manual override
EV43 	Double solenoid valve, 3/2 NC, NO, monostable, with bistable manual override
EV44 	Double solenoid valve, 3/2, monostable, solenoid pilot with separate air supply and bistable manual override
EV45 	Directly operated solenoid valve, 3/2, possible universal use, reversed printed ports 1 and 2 on the body
EV46 	Indirectly operated solenoid valve, 2/2 NO
EV47 	Directly operated solenoid valve, 2/2 NC, with linked diaphragm
EV48 	Indirectly operated solenoid valve, 2/2 NC
EV49 	Indirectly operated Booster solenoid valve, 2/2 NC
EV50 	Indirectly operated Booster solenoid valve, 2/2 NO
EV51 	Indirectly operated Booster solenoid valve, 3/2 NC
EV52 	Indirectly operated Booster solenoid valve, 3/2 NO
EV55 	Pneumatic solenoid valve, 3/2 NC, monostable, with separated solenoid pilot supply and bistable manual override
EV54 	Pneumatic solenoid valve, 3/2 NC, monostable, with monostable manual override
EV56 	Pneumatic solenoid valve, 3/2 NC, monostable, with separated solenoid pilot supply and monostable manual override
EV57 	Pneumatic solenoid valve, 3/2 NO, monostable, with separated solenoid pilot supply and monostable manual override

Symbol	Type
EV58 	Pneumatic solenoid valve, 3/2 NO, monostable, with monostable manual override
EV59 	Pneumatic solenoid valve, 2/2 NO, monostable, with separated solenoid pilot supply and monostable manual override
EV60 	Pneumatic solenoid valve, 2/2 NO with monostable manual override
EV61 	Pneumatic solenoid valve, 2/2 NC, monostable, with separated solenoid pilot supply and monostable manual override
EV62 	Pneumatic solenoid valve, 2/2 NC with monostable manual override

PNEUMATICALLY OPERATED VALVES

VP01 	Pneumatically operated valve, 3/2, monostable, mechanical spring
VP02 	Pneumatically operated valve, 3/2, bistable
VP03 	Pneumatically operated valve, 3/2, preferential
VP04 	Pneumatically operated valve, 5/2, monostable, mechanical spring
VP05 	Pneumatically operated valve, 5/2, preferential
VP06 	Pneumatically operated valve, 5/2, bistable
VP07 	Pneumatically operated valve, 5/2, monostable, pneumatic spring
VP08 	Pneumatically operated valve, 5/3 CC
VP09 	Pneumatically operated valve, 5/3 CO
VP10 	Pneumatically operated valve, 5/3 CP
VP11 	Pneumatically operated double valve, 3/2, monostable
VP12 	Pneumatically operated double valve, 3/2, monostable
VP13 	Pneumatically operated double valve, 3/2, monostable

Symbol	Type	Symbol	Type
VP14 	Indirect pneumatically operated valve, 2/2, monostable	VM19 	Mechanically operated sensor valve, lever/roller actuation, 5/2, monostable, mechanical spring
MECHANICALLY OPERATED VALVES			
VM01 	Mechanically operated valve, plunger actuation, 3/2 NC, monostable, mechanical spring	VM20 	Mechanically operated sensor valve, lever/roller actuation, 5/2, bistable
VM02 	Mechanically operated valve, plunger actuation, 3/2, monostable, mechanical spring	VM21 	Mechanically operated valve, front actuation, 5/2 NC, monostable, mechanical spring
VM03 	Mechanically operated valve, plunger actuation, 3/2 NO, monostable, mechanical spring	MANUALLY OPERATED VALVES	
VM04 	Mechanically operated valve, lever/roller actuation, 3/2 NC, monostable, mechanical spring	VN01 	Manually operated valve, 3/2, bistable
VM05 	Mechanically operated valve, lever/roller actuation, 3/2, monostable, mechanical spring	VN02 	Manually operated valve, 3/2, bistable, lockable in two positions
VM06 	Mechanically operated valve, lever/roller actuation, 3/2 NO, monostable, mechanical spring	VN03 	Manually operated valve, 3/2, bistable
VM07 	Mechanically operated valve, unidirectional lever actuation, 3/2 NC, monostable, mechanical spring	VN04 	Manually operated valve, 3/2 NC, monostable, mechanical spring
VM08 	Mechanically operated valve, unidirectional lever actuation, 3/2 monostable, mechanical spring	VN05 	Manually operated valve, 3/2 NO, monostable, mechanical spring
VM09 	Mechanically operated valve, plunger actuation, 5/2, monostable, mechanical spring	VN06 	Manually operated valve, 3/2, monostable, mechanical spring
VM10 	Mechanically operated valve, lever/roller actuation, 5/2, monostable, mechanical spring	VN07 	Manually operated lever valve, 3/2, bistable
VM11 	Mechanically operated valve, lever/roller actuation, 5/2, monostable, mechanical spring	VN08 	Manually operated lever valve, 3/2, bistable
VM12 	Mechanically operated valve, lever/roller actuation, 5/2, monostable, mechanical spring	VN09 	Manually operated lever valve, 3/2 NC, monostable, mechanical spring
VM13 	Mechanically operated valve, unidirectional lever actuation, 5/2, monostable, mechanical spring	VN10 	Manually operated lever valve, 3/2, bistable
VM14 	Mechanically operated sensor valve, 3/2 NO, monostable, mechanical spring	VN11 	Manually operated lever valve, 3/2, monostable, mechanical spring
VM15 	Mechanically operated sensor valve, 3/2 NC, monostable, mechanical spring	VN12 	Pedal operated valve, 3/2 NC, monostable, mechanical spring
VM16 	Mechanically operated sensor valve, plunger actuation, 5/2, monostable, mechanical spring	VN13 	Manually operated valve, 5/2, bistable
VM17 	Mechanically operated sensor valve, 5/2, monostable, mechanical spring	VN14 	Manually operated valve, 5/2, monostable, mechanical spring
VM18 	Mechanically operated sensor valve, plunger actuation, 5/2, bistable	VN15 	Manually operated lever valve, 5/2, bistable
		VN16 	Manually operated lever valve, 5/2, bistable

Symbol	Type
VN17 	Manually operated lever valve, 5/2, monostable, mechanical spring
VN18 	Pedal operated valve, 5/2, bistable
VN19 	Pedal operated valve, 5/2, monostable bistable
VN20 	Manually operated lever valve, 5/3 CC, stable
VN21 	Manually operated lever valve, 5/3 CC, monostable
VN22 	Manually operated lever valve, 5/3 CO, stable
VN23 	Manually operated lever valve, 5/3 CO, stable
VN24 	Manually operated lever valve, 5/3 CO, monostable
VN25 	Manually operated lever valve, Joystik

PNEUMATIC LOGIC VALVES

AND1 	"AND" pneumatic symbol
AND2 	"AND" logical symbol
OR01 	"OR" pneumatic symbol and circuit selector
OR02 	"OR" logical symbol
YES1 	"YES" pneumatic symbol
YES2 	"YES" logical symbol
NOT1 	"NOT" pneumatic symbol
NOT2 	"NOT" logical symbol
MEM1 	"MEMORY" pneumatic symbol
MEM2 	"MEMORY" logical symbol

Symbol	Type
AMP1 	Signal amplifier, 3/2 NC, mechanical spring return
2LB1 	Jet interruption sender sensor
2LB2 	Jet interruption receiver sensor

AUTOMATIC VALVES

VMP1 	Maximum pressure valve
VSC1 	Quick exhaust valves
VBU1 	Unidirectional blocking valves
VB01 	Bidirectional blocking valves
VNR1 	Non return valves
VNV1 	Check valve

FLOW CONTROL VALVES

RFU1 	Unidirectional flow control valve
RF01 	Bidirectional flow control valve
RP01 	Unidirectional flow control valve
RP02 	Unidirectional flow control valve
RP03 	Bidirectional flow control valve

SILENCIER

SIL1 	Silencier
RSW1 	Silenced exhaust controller

Quality: our priority commitment

Research, technological innovation, training, respect for personnel, employee and environmental safety and total customer care are all factors that Camozzi considers strategic in the achievement of quality.

To Camozzi quality is a system that ensures excellence, not only of the final product but throughout the entire business process.



Our certifications

Camozzi's main goals include quality and safety, the protection of the environment and compatibility of our activities with the territories in which they are performed.

Since 1993 Camozzi has been certified in accordance with the ISO 9001 standard for quality management. In 2003 the company obtained ISO 14001 certification for environmental management.

In the same year, DNV, the global quality assurance and risk management company, certified Camozzi's Integrated Management System, which includes both ISO 9001 and ISO 14001 standards. Furthermore, in 2013 Camozzi obtained ISO/TS 16949 certification for the Series C-Truck and Series 9000 fuel fittings, then transitioned to the new edition of the IATF 16949 standard in 2018.

From 1 July 2003, all products sold in the European Union and destined to be used in potentially explosive areas, had to be approved according to directive 94/9/CE, also known as ATEX.

This directive covered both electrical and non-electrical parts, including for instance pneumatic power and control equipment.

Mandatory directives

- Directive 99/34/EC concerning liability for defective products modified by Legislative Decree 02/02/01 n° 25.
- Directive 2014/35/EU "Equipment designed for use within certain voltages".
- Directive 2014/30/EU "Electromagnetic Compatibility EMC" and relative additions.
- Directive 2014/34/EU "Atex".
- Directive 2006/42/EC "Machinery".
- Directive 2014/68/EU "Pressure Equipment Directive".
- Directive 2001/95/EC "General product safety".
- Regulation 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

Technical standards

- ISO 4414 - Pneumatic fluid power - General rules and safety requirements for systems and their components

Environmental notes

- Packaging: we respect the environment, so use materials which can be recycled, including recyclable PE and paper.
- Green Design Project: in the study of new products, the environmental impact is always taken into consideration (real project, elaboration, etc.).

Information for the use of Camozzi products

In order to ensure proper functioning of Camozzi products these general guidelines should be noted.

Air quality

While resources such as electricity, water and gas are normally supplied by external companies to guaranteed standards, compressed air is produced from the ambient atmosphere. It is therefore the user that has to guarantee compressed air quality.

High quality air is essential for proper functioning of pneumatic systems. One cubic metre of air at atmospheric pressure typically contains the following:

- more than 150 million solid particles with dimensions from 0,01 μm to 100 μm ,
- fumes due to combustion,
- water vapour, with volume depending on temperature; at 30° there are about 30 g/m³ of water
- oil, up to about 0,03 mg
- micro organisms
- plus a variety of chemical contaminants, odours etc ...

The further the air is compressed, the higher the air quantity in the same volume and therefore the higher the amount of contaminants.

In order to reduce unwanted contents, compressors are fitted with filters, driers and oil separators at the inlet and outlet.

In spite of these precautions, the air, during its passage along pipes and tubes or while in storage tanks, can collect contaminants such as flakes of rust. Further, water vapour contained in the air can cool down and liquefy, then absorb and retain oil fumes.

For this reason it is advisable to fit compressed air systems and pneumatic machinery with air treatment equipment.

Air treatment: classification according to ISO 8573-1-2010 standard

ISO 8573-1-2010 Class	Solid particles			Max Concentration mg/m ³	Water		Oil Total content (liquid, aerosol and vapour) mg/m ³	
	Max. Number of Particles per m ³ 0,1 - 0,5 μm	0,5 - 1 μm	1 - 5 μm		Water pressure dew point °C	Liquid g/m ³		
0	More strict than class 1, defined by the device user							
1	≤ 20,000	≤ 400	≤ 10	-	≤ - 70°	-	≤ 0,01	
2	≤ 400,000	≤ 6,000	≤ 100	-	≤ - 40°	-	≤ 0,1	
3	-	≤ 90,000	≤ 1,000	-	≤ - 20°	-	≤ 1	
4	-	-	≤ 10,000	-	≤ + 3°	-	≤ 5	
5	-	-	≤ 100,000	-	≤ + 7°	-	-	
6	-	-	-	≤ 5	≤ + 10°	-	-	
7	-	-	-	5 - 10	-	≤ 0,5	-	
8	-	-	-	-	-	0,5 - 5	-	
9	-	-	-	-	-	5 - 10	-	
X	-	-	-	> 10	-	> 10	-	

Different types of air treatment equipment have different functions: isolation valves, pressure regulators, soft-start valves and of course filters. In some applications lubricators are still used, but this is increasingly unusual. Regarding filtering, there are international standards, such as ISO 8573-1-2010, that classify air according to its quality.

ISO 8573-1-2010 classifies compressed air according to the presence of three contaminating categories: solid particles, water or water vapour, and concentration of micro mist or oil vapours. In general, if not specified otherwise in the characteristics of the single component, Camozzi products require an ISO 8573-1-2010 class 7-4-4 air quality.

- **class 7** = air has a maximum concentration of SOLID PARTICLES of 5 mg/m³. The filtering elements are designed to separate solid particles with a dimension of more than 25 μm .

The air exiting from our filters and therefore the air at the inlet of all other components can contain solid particles with a maximum concentration of 5 mg/m³ and with a maximum dimension of 25 μm .

- **class 4** = the compressed AIR temperature has to be ≤ 3°C in order for entrained water vapour to condense and become liquid. Conventional filters have characteristics that separate the humidity in the air only if it is in a liquid or near-liquid state. It is the cooling of the air that enables condensation and removal of water vapour.

The air flow entering the bowl of the filter sustains a minimum expansion phase, (according to the Gas Law when gas suddenly expands, its temperature drops) followed by a vortex, this enables the heavier particles and the water vapour (condensing due to the expansion) to adhere to the sides of the bowl and slide down towards the drain.

Except for specific versions, users of Camozzi filters have to install driers in their compressed air production systems that, by cooling the air, dehumidify it.

- **class 4** = the concentration of OIL PARTICLES must be of maximum 5 mg/m³. It should be noted that compressors use oil for lubrication and that this can be carried into the compressed air system in the form of aerosol, vapour or liquid.

This oil, as with all other contaminants, can be transported by the air into the pneumatic circuit. It can then contact the seals of the components and subsequently pass into the environment through the outlets of the solenoid valves. In this case coalescing filters are used to aggregate those micro-molecules of oil suspended in the air and remove them.

The use of Camozzi coalescing filters enable to reach classes 2 and 1.

It is important to keep in mind that best performance is reached only by means of a multi-phase filtering process with subsequent phases.

As illustrated, different filters have different characteristics - a very efficient filter for a certain contaminant may not be so effective for other contaminants.

The filtering elements determine the class of the filters, these elements should be replaced after a specified period or after a specified number of working hours. These parameters vary according to the characteristics of the incoming air.

Camozzi filters are subdivided into different groups:

- Filtering element of 25 μm , class 7-8-4
- Filtering element of 5 μm , class 6-8-4
- Filtering element of 1 μm , class 2-8-2 with pre-filter class 6-8-4
- Filtering element of 0,01 μm , class 1-8-1 with pre-filter class 6-8-4 residual oil content of 0,01 mg/m³
- Activated carbon, class 1-7-1 with pre-filter class 1-8-1 residual oil content of 0,003 mg/m³

The components are factory greased with special products and do not need an additional lubrication. In case it should be necessary, use ISO VG 32 oil. The quantity of oil introduced into the circuit depends on the applications. Camozzi suggests a maximum dosage of three drops per minute.

Pneumatic cylinders

The choice of the correct cylinder mounting and also that of the rod attachment to any moving parts, are as important as the control of parameters relating to speed, mass and radial loads.

The control of these parameters has to be guaranteed by the user.

The location of position sensors (reed switches), and their switching response times to magnetic fields, is dependent upon the type and bore size of the cylinder and the appropriate precautions need to be taken when fixing these items. (see notes on the pages about sensors).

We do not advise the use of a cylinder as a shock absorber or for pneumatic cushioning. If used at the maximum speed, we recommend gradual deceleration to avoid a violent impact between piston and the cylinder end cover.

As a general value, we calculate a maximum average speed of 1 m/sec. In this case no lubrication is required as the lubrication introduced during assembly is sufficient to guarantee good operation.

If faster speeds are required, we suggest lubrication in the quantities described above.

Directive ATEX 2014/34/EU: Products classified for the use in potentially explosive atmospheres



Since 19 April 2016 all products which are sold in the European Union and destined to be used in **potentially explosive atmospheres** have had to be approved according to new Directive 2014/34/EU, also known as ATEX. This Directive applies to both electrical and non-electric items, such as pneumatic drives.

Main changes introduced by Directive 2014/34/EU:

- Non-electric apparatus and devices, such as pneumatic cylinders, have to comply with the Directive.
- Equipment is classified into different categories, which identifies the potentially explosive zones in which they may be used.
- The products are identified with the CE mark Ex.
- The instructions for use and the declarations of conformity should be supplied with each product that is to be used in potentially explosive zones.
- The Directive applies to products intended to be used in zones that are potentially explosive due to the presence of dust as well as to zones where potentially explosive gases may be present.

A potentially explosive atmosphere could be composed of gas, mist, steam or dust, which may be present constantly, intermittently or created by processes conducted within the zone. An explosion can occur when there are one or more inflammable substances plus an ignition source present.

An ignition source could be:

- Electrical (electric arcs, induced current, heat generated by the Joule effect, i.e. heat created when an electric current flows through a resistance.)
- Mechanical (heat between surfaces caused by friction, sparks generated by the collision of metallic bodies, electrostatic discharges, adiabatic compression, i.e. compression of an atmosphere causing a temperature rise)
- Chemical (exothermic reactions between materials)
- Naked flames. The products which are subject to approval are those which, during their normal use or because of a malfunction, present one or more ignition sources within a potentially explosive atmosphere.

The manufacturer has to guarantee that the product conforms to the declarations and carries the appropriate markings. Moreover, the product should always be accompanied by the appropriate instructions.

The maker and/or user of the equipment should identify the risk zone(s), as defined by Directive 99/92/CE, in which the products are to be used and ensure all instructions are followed.

In the case where a product is made up of two or more components with different markings, the component which is classified in the lowest category defines the class to which the complete product belongs.

Example:
solenoid suitable for Category 3 marked ...
Ex - II 3 Ex...

and valve suitable for Category 2 ...
Ex - II 2 Ex...

The valve unit with solenoid can be used only in Category 3 or Zone 2/22.

Zones, groups and categories

In the places and for the types of equipment subject to Directive 99/92/CE, the user should identify the classification of the zones in relation to the danger of the creation of explosive atmospheres because of the presence of gas or dust.

Apparatus and equipment for the use in potentially explosive zones are divided in groups:

Group I > apparatus used in mines

Group II > apparatus used in installations above ground

Group I: Apparatus used in mines

CATEGORY M1
Functioning in explosive atmospheres

CATEGORY M2
Non-supplied equipment in explosive atmospheres

Group II: Apparatus for installations above ground

Product category	Gas	Dust
1	Zone 0	Zone 20
2	Zone 1	Zone 21
3	Zone 2	Zone 22

Classification of zones according to Directive 99/92/CE

- Category 1**
- Zone 0 - Area in which (permanently, for long periods or often) an explosive atmosphere is present, consisting of a mixture of air and inflammables in the form of gas, vapour or mist.
 - Zone 20 - Area in which (permanently, for long periods or often) an explosive atmosphere is present in the form of a dust/powder cloud which is combustible in air.
- Category 2**
- Zone 1 - Area in which, during normal activities, the formation of an explosive atmosphere is probable, consisting of a mixture of air and inflammables in the form of gas, vapours or mist.
 - Zone 21 - Area in which occasionally during normal activities the formation of an explosive atmosphere is probable, in the form of a dust cloud which is combustible in air.
- Category 3**
- Zone 2 - Area in which, during normal activities, the formation of an explosive atmosphere, consisting of a mixture of air and inflammables in the form of gas, vapour or mist is not probable and, whenever this should occur, it is only of a short duration.
 - Zone 22 - Area in which, during normal activities, the formation of an explosive atmosphere in the form of a combustible dust cloud is not probable and, whenever this should occur, it is only of a short duration.

Example of Marking: $\text{Ex} \text{II} 2 \text{GD} \text{c} \text{T}100^\circ\text{C} (\text{T}5) -20^\circ\text{C} \leq \text{Ta} \leq 60^\circ\text{C}$

II	II Group: Devices which are to be used in spaces exposed to risks of an explosive atmosphere, different from underground spaces, mines, tunnels, etc., classified according to the criteria in Annex I of the Directive 2014/34/EU (ATEX).
2	Category: Devices designed to function in compliance with the operational parameters determined by the manufacturer and guarantee a high protection level.
GD	Qualification gas and dusts: Protected against gas (G) and explosive dusts (D).
c	Non-electrical devices: Non-electrical devices for potentially explosive atmospheres. Protection through constructive security.
T 100°C	Max. temperature for components for dusts: Max. superf. temp. of 100°C regarding potential hazards resulting from striking within the vicinity of hazardous dusts.
T5	Max. temperature for components for gas: Max. superf. temp. of 100°C regarding potential hazards which may result from striking within gas environments.
Ta	Environmental temperature: -20°C ≤ Ta ≤ 60°C . Environmental temperature range (with dry air)

Group I: Temperature classes

Temperature = 150°C or = 450°C according to the level of dust on the apparatus.

Group II: Temperature classes

Temp. classes for gas (G)	Admissible surface temperatures
T1	450°C
T2	300°C
T3	200°C
T4	135°C
T5	100°C
T6	85°C

ATEX certified Camozzi products**APPARATUS** classified as ATEX Group II**Cylinders**

Series	Category	Zone	Gas/Dust
16*	2 DE-3 SE	1/21 DE -2/22 SE	G/D
24*	2 DE-3 SE	1/21 DE-2/22SE	G/D
25*	2 DE-3 SE	1/21 DE-2/22SE	G/D
31-32	2 DE-3 SE	1/21DE-2/22SE	G/D
31-32 Tandem/multi-position	2 DE	1/21 DE	G/D
40*	2 DE	1/21 DE	G/D
41*	2 DE	1/21 DE	G/D
60*	2 DE-3 SE	1/21 DE-2/22 SE	G/D
61*	2 DE-3 SE	1/21 DE-2/22 SE	G/D
62*	2 DE	1/21 DE	G/D
63*	2 DE-3 SE	1/21 DE-2/22 SE	G/D
27	2 DE	1/21 DE	G/D
QP-QPR	2 DE-3 SE	1/21 DE-2/22 SE	G/D
QN	3 SE	2/22 SE	G/D
42	2 DE-3 SE	1/21 DE-2/22 SE	G/D
ARP	2	1/21	G/D
QCT-QCB-QXT-QXB	2	1/21	G/D

Proximity switches

Series	Category	Zone	Gas/Dust
CSH/CST/CSV	3	2/22	G/D
CSG	3	2/22	G/D

Valves

Series	Category	Zone	Gas/Dust
P	3	2/22	G/D
W	3	2/22	G/D
Y	3	2/22	G/D

Solenoids

Series	Category	Zone	Gas/Dust
U70	3	2/22	G/D
H801**	2	1/21	G/D

Pressure switches

Series	Category	Zone	Gas/Dust
PM 11**	1	0/20	G/D

Freely installable **COMPONENTS** classified as ATEX Group II

Products	Category	Zone	Gas/Dust
Silencers	2	1/21	G/D
Quick release couplings	2	1/21	G/D
Manifolds	2	1/21	G/D
Sub-bases	2	1/21	G/D
Feet	2	1/21	G/D
Caps	2	1/21	G/D
Plates	2	1/21	G/D

FRL

Series	Category	Zone	Gas/Dust
MC#	2	1/21	G/D
N	2	1/21	G/D
MX#	2	1/21	G/D
T	2	1/21	G/D
CLR	2	1/21	G/D
M	2	1/21	G/D
MD#	2	1/21	G/D

Valves

Series	Category	Zone	Gas/Dust
9#*	2	1/21	G/D
A#	2	1/21	G/D
2	2	1/21	G/D
3#	2	1/21	G/D
4#	2	1/21	G/D
NA (NAMUR) #	2	1/21	G/D
E (pneumatic)	2	1/21	G/D

* According to ISO standard

** Products with ATEX and IECEx certification

Without solenoid

>> The order code number of the certified products is obtained by adding "EX" to the standard article number

Es. 358-015 standard solenoid valve

Es. 358-015EX ATEX certified solenoid valve

Accessories available in Category 2 Zone 1/21: couplings, junctions, brackets, piston rod nuts, nuts, counter brackets, bushings, pins, clevis pins, caps, gaskets, diaphragm, sub-bases, plates, feet, hand operated valves, flow valves, flanges, screw, tie rods, automatic and blocking valves, silencers and pressure gauge, connector kits, clamps, rapid and super rapid push-in fittings, hoses, sealing rings, locking nuts. Accessories available in Category 3, Zone 2/22: adaptors, slot covers, extensions, connectors. For more information on this kind of products see the website:

<http://catalogue.camozzi.com> within the section: Downloads > Certifications > ATEX Directive 2014/34/EU > List of products excluded from the directive 2014/34/EU ATEX.

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