

# Valves and Solenoid valves

## Series 4

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



**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.

### GENERAL DATA

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

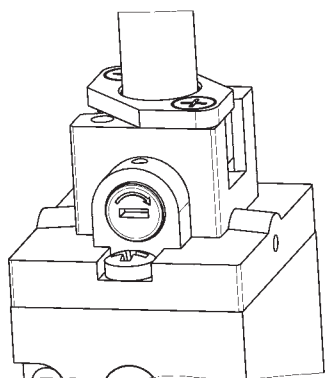
**CODING EXAMPLE**

4	5	4	-	015	-	22	-	U	7	7
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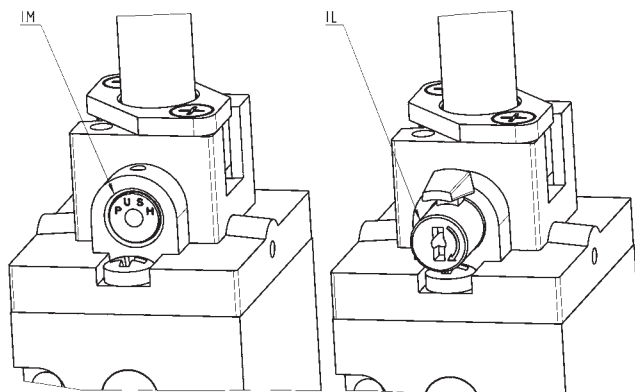
<b>4</b>	SERIES
<b>5</b>	NUMBER OF WAYS - POSITIONS: 3 = 3/2 NC 4 = 3/2 NO 5 = 5/2 6 = 5/3 CC 7 = 5/3 CO
<b>4</b>	PORTS: 8 = G1/8 4 = G1/4 2C = G1/2
<b>015</b>	ACTUATION: 011 = double solenoid (horizontal solenoids) V11 = double solenoid (vertical solenoids) for G1/4 port only 015 = single solenoid, 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
<b>22</b>	SOLENOID INTERFACE: 22 = mech. sol. 22 x 22 50 = mech. sol. 32 x 32 - only G1/2
<b>U</b>	SOLENOID MATERIAL: U = PET G = PA A6 = PPS H8 = PA 6 V0 A8 = PPS
<b>7</b>	SOLENOID DIMENSIONS: 6 = 32 x 32 solo G1/2 7 = 22 x 22 8 = 30 x 30 9 = 22 x 58
<b>7</b>	SOLENOID VOLTAGE: see solenoids section on page 2.2.35.01
	TYPE OF MANUAL OVERRIDE: = bistable, standard IL = bistable, lever type (available on demand) IM = monostable (available on demand)

**TYPES OF MANUAL OVERRIDE**

New



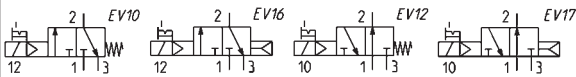
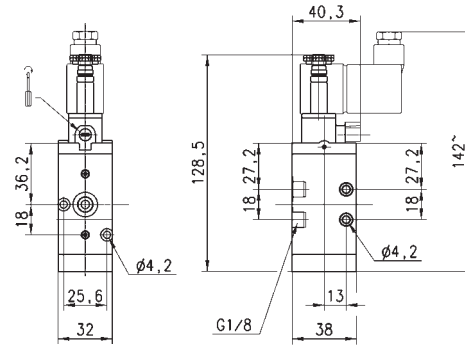
Example of solenoid valve with a bistable standard manual override.



Example of solenoid monostable valve (IM) and bistable valve with a lever type manual override (IL). Both versions are available on demand. To order them it is necessary to add IM or IL at the end of the code. Code ex.: 454-015-22-U77IL.

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

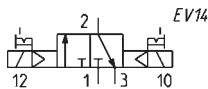
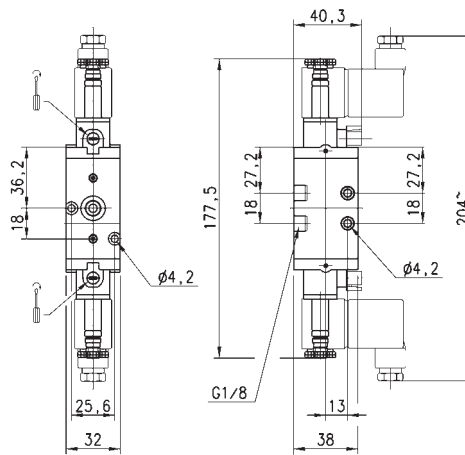
These solenoid valves, which have electropneumatic actuation and spring return, are available in the NC (closed) or NO (open) version.



Mod.	Function	Flow rate (NI/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...

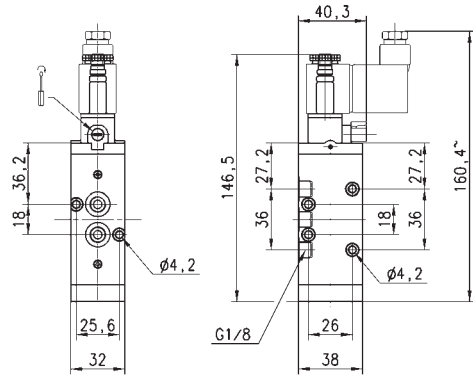
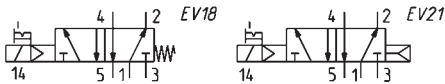
These solenoid valves, which have electropneumatic actuation and return, assume the NC (closed) or NO (open) operating status depending on the last pulse received.



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

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

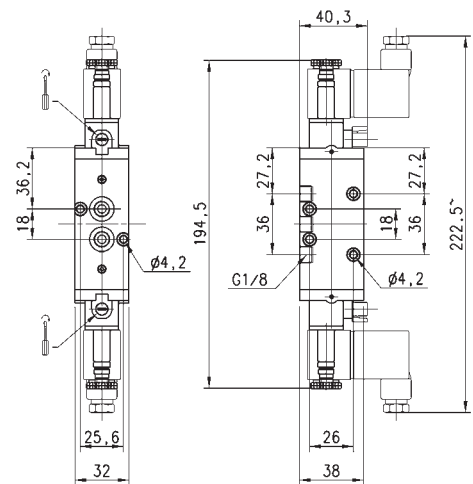
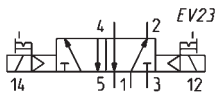

These solenoid valves, which have electropneumatic actuation and spring return, are suitable for operating double-acting cylinders.



Mod.	Function	Flow rate (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...**

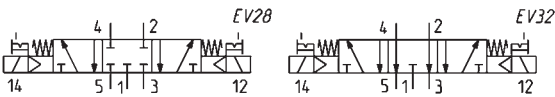
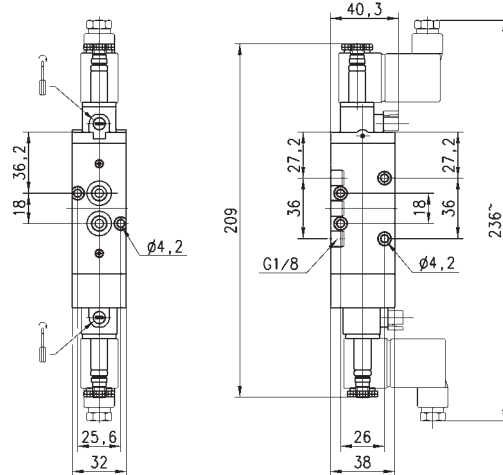

These solenoid valves, with electropneumatic actuation and return, are suitable for operating double-acting cylinders.



Mod.	Function	Flow rate (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...

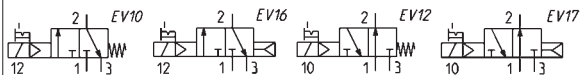
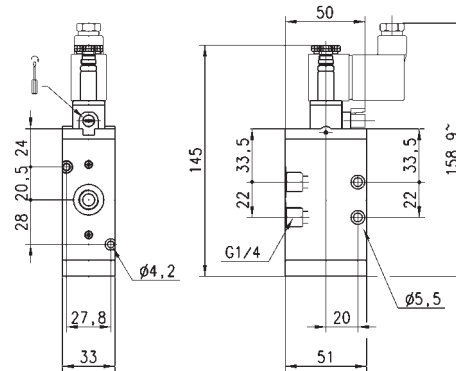
CC = Centres Closed  
CO = Centres Open



Mod.	Function	Flow rate (NI/min)	Operating pressure (bar)	Symbol
468-011-22	5/3 CC	600	2 ÷ 10	EV28
478-011-22	5/3 CO	600	2 ÷ 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.

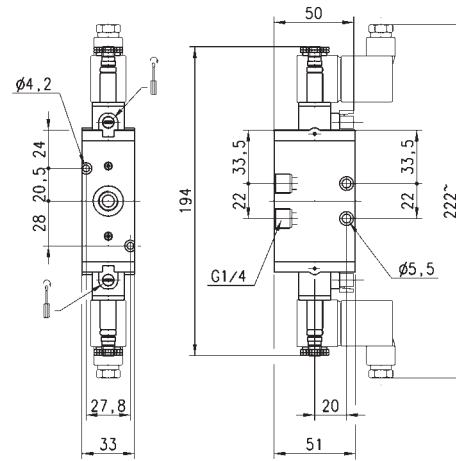
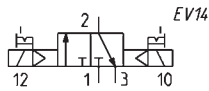


Mod.	Function	Flow rate (NI/min)	Operating pressure (bar)	Symbol
434-015-22	3/2 NC	1250	2 ÷ 10	EV10
434-016-22	3/2 NC	1250	2 ÷ 10	EV16
444-015-22	3/2 NO	1250	2 ÷ 10	EV12
444-016-22	3/2 NO	1250	2 ÷ 10	EV17

### 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.

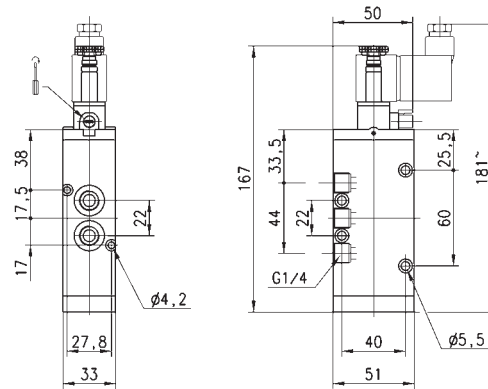
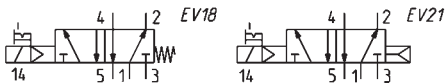


Mod.	Function	Flow rate (NI/min)	Operating pressure (bar)
434-011-22	3/2	1250	2 ÷ 10

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



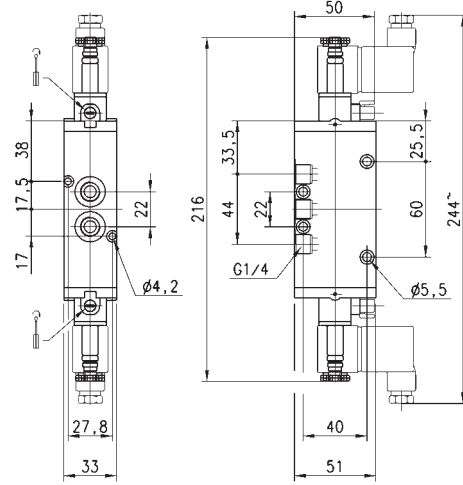
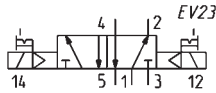
These solenoid valves, which have electropneumatic actuation and spring return, are suitable for operating double-acting cylinders.



Mod.	Function	Flow rate (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...

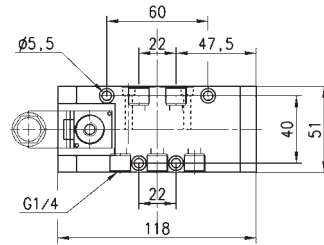
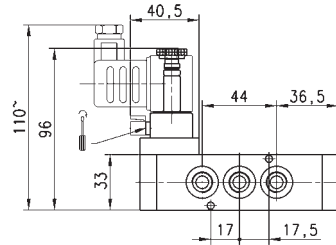
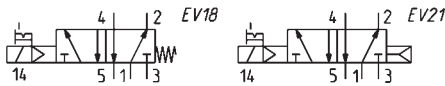
These solenoid valves, which have electropneumatic actuation and return, are suitable for operating double-acting cylinders.



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

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

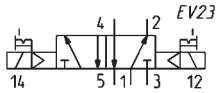
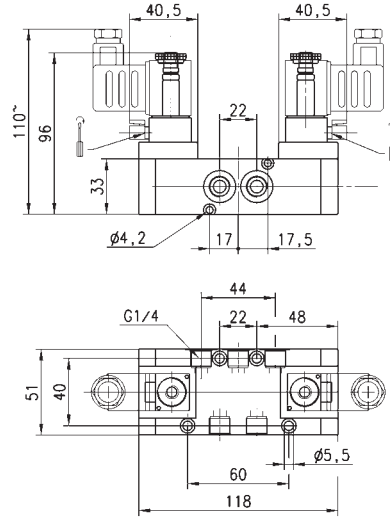
These solenoid valves, which have electropneumatic actuation and spring or pneumatic spring return are suitable for operating double-acting cylinders.



Mod.	Function	Flow rate (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...**

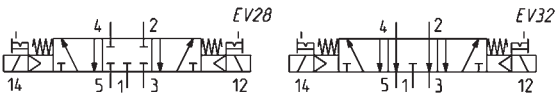
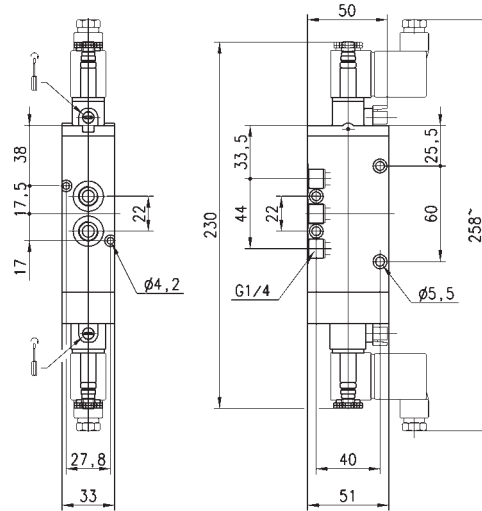
These solenoid valves, which have electropneumatic actuation and return, are suitable for operating double-acting cylinders.



Mod.	Function	Flow rate (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



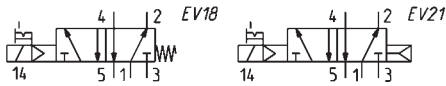
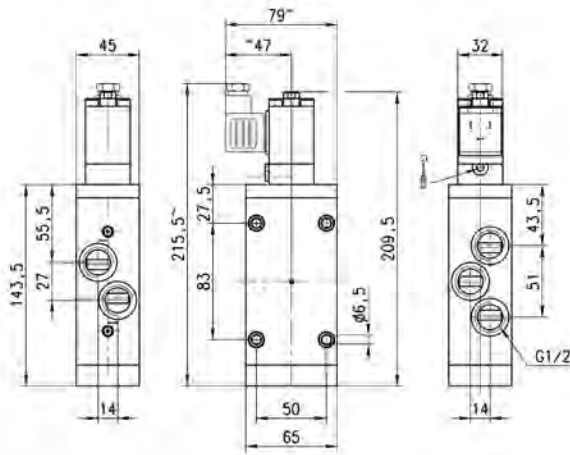
Mod.	Function	Flow rate (NI/min)	Operating pressure (bar)	Symbol
464-011-22	5/3 CC	1250	3 ÷ 10	EV28
474-011-22	5/3 CO	1250	3 ÷ 10	EV32



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.

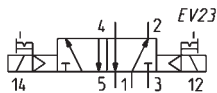
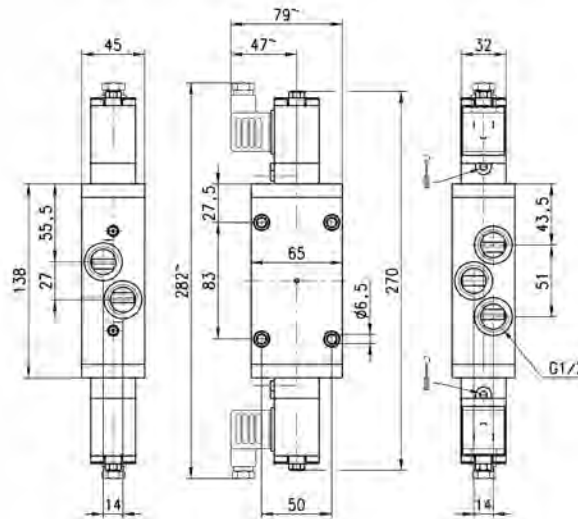


Mod.	Function	Flow rate (NI/min)	Operating pressure (bar)	Symbol
452C-015-50-A6*	5/2	2500	2,5 ÷ 10	EV18
452C-016-50-A6*	5/2	2500	2,5 ÷ 10	EV21

5/2-way solenoid valve, G1/2, bistable - Mod. 452C-011...

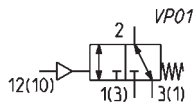
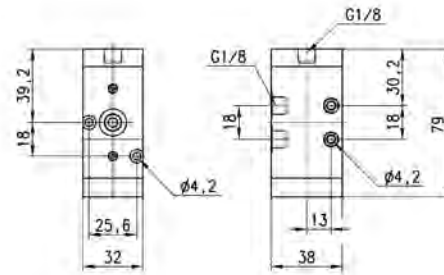


These solenoid valves, which have electropneumatic actuation and return, are suitable for operating double-acting cylinders.



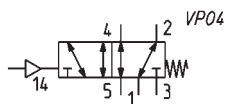
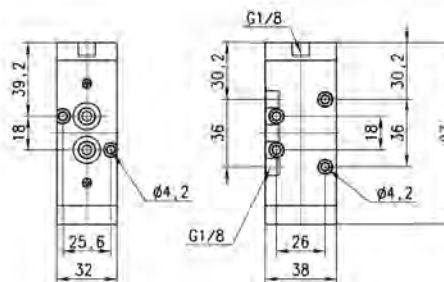
Mod.	Function	Flow rate (NI/min)	Operating pressure (bar)
452C-011-50-A6*	5/2	2500	2 ÷ 10

## 3/2-way valve, G1/8 port, monostable



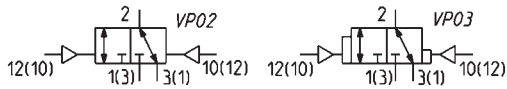
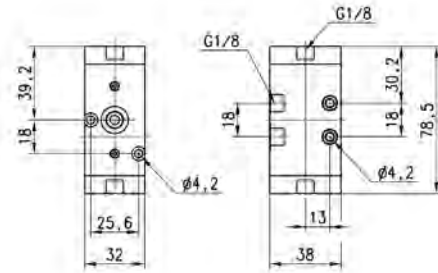
Mod.	Mounting	Function	Flow rate (NI/min)	min. pilot Pressure (bar)	Working pressure (bar)
438-35	in-line/on manifold	3/2 NC	700	2,5	0 ÷ 10

## 5/2-way valve, G1/8 port, monostable



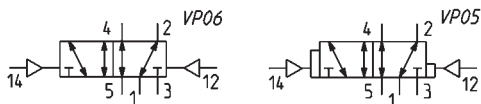
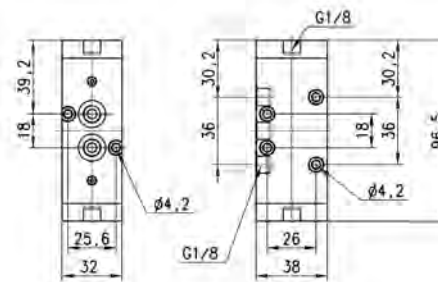
Mod.	Mounting	Function	Flow rate (NI/min)	min. pilot Pressure (bar)	Working pressure (bar)
458-35	in-line/on manifold	5/2	700	2,5	0 ÷ 10

3/2-way valve, G1/8 port, bistable



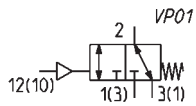
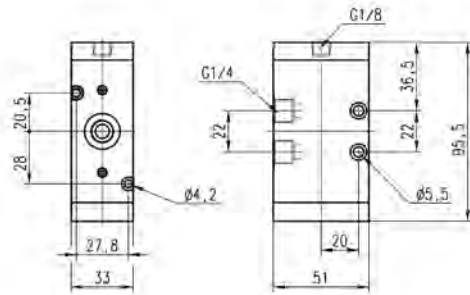
Mod.	Mounting	Function	Flow rate (NI/min)	min. pilot Pressure (bar)	Working pressure (bar)	Symbol
<b>438-33</b>	in-line/on manifold	3/2	700	2	0 ÷ 10	VP02
<b>438-34</b>	in-line/on manifold	3/2	700	2	0 ÷ 10	VP03

5/2-way valve, G1/8 port, bistable



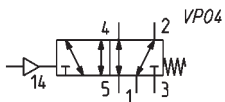
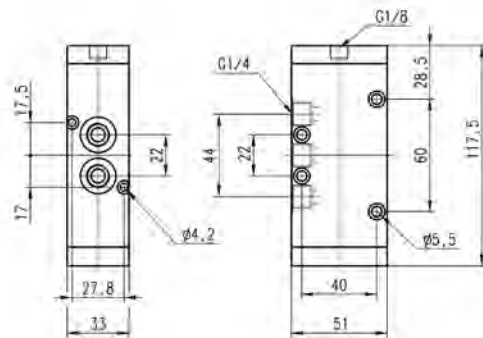
Mod.	Mounting	Function	Flow rate (NI/min)	min. pilot Pressure (bar)	Working pressure (bar)	Symbol
<b>458-33</b>	in-line/on manifold	5/2	700	2	0 ÷ 10	VP06
<b>458-34</b>	in-line/on manifold	5/2	700	2	0 ÷ 10	VP05

## 3/2-way valve, G1/4 port, monostable



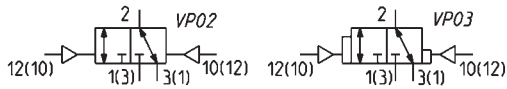
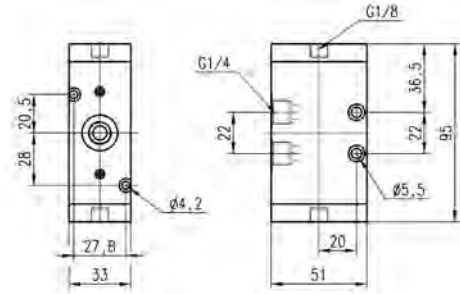
Mod.	Mounting	Function	Flow rate (NI/min)	min. pilot Pressure (bar)	Working pressure (bar)
434-35	in-line/on manifold	3/2 NC	1250	2,5	0 ÷ 10

## 5/2-way valve, G1/4 port, monostable



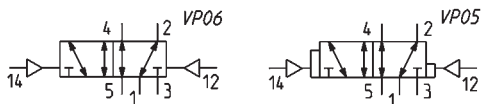
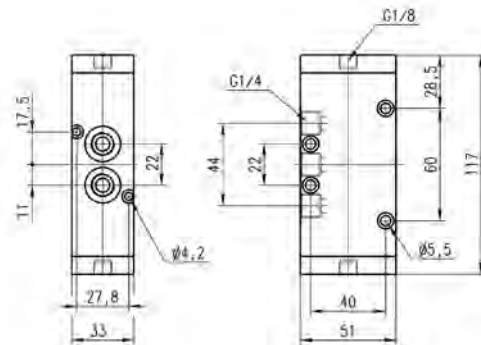
Mod.	Mounting	Function	Flow rate (NI/min)	min. pilot Pressure (bar)	Working pressure (bar)
454-35	in-line/on manifold	5/2	1250	2,5	0 ÷ 10

3/2-way valve, G1/4 port, bistable



Mod.	Mounting	Function	Flow rate (NI/min)	min. pilot Pressure (bar)	Working pressure (bar)	Symbol
434-33	in-line/on manifold	3/2 NC	1250	2	0 ÷ 10	VP02
434-34	in-line/on manifold	3/2 NC	1250	2	0 ÷ 10	VP03

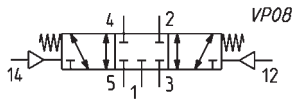
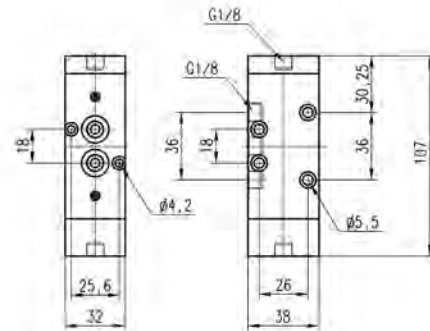
5/2-way valve, G1/4 port, bistable



Mod.	Mounting	Function	Flow rate (NI/min)	min. pilot Pressure (bar)	Working pressure (bar)	Symbol
454-33	in-line/on manifold	5/2	1250	2	0 ÷ 10	VP06
454-34	in-line/on manifold	5/2	1250	2	0 ÷ 10	VP05

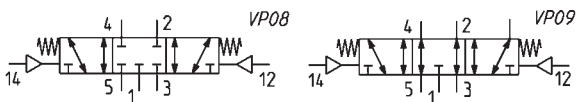
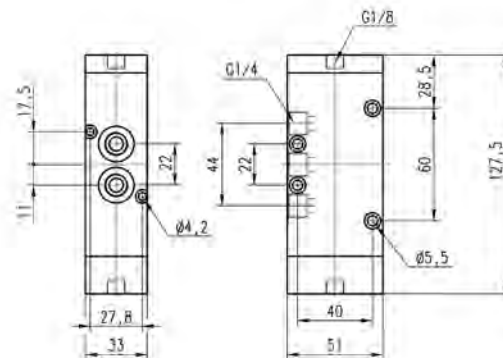
**5/3-way C.C. valve, G1/8, monostable, with central stable position**

CC = Centres Closed



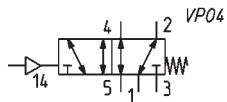
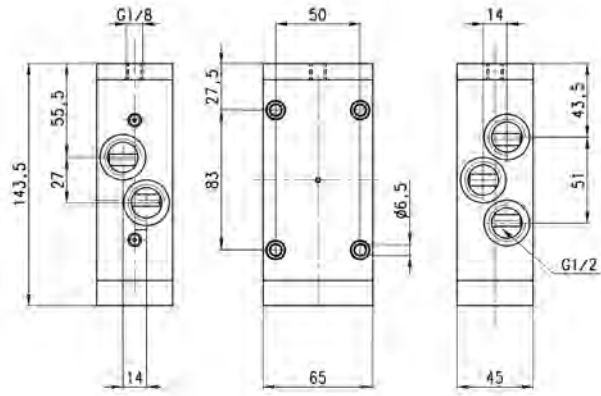
Mod.	Mounting	Function	Flow rate (NI/min)	min. pilot Pressure (bar)	Working pressure (bar)
<b>468-33</b>	in-line/on manifold	5/3 CC	700	2,5	0 ÷ 10

**5/3-way CC CO valve, G1/4, monostable, central stable position**

 CC = Centres Closed  
 CO = Centres Open


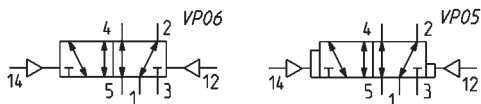
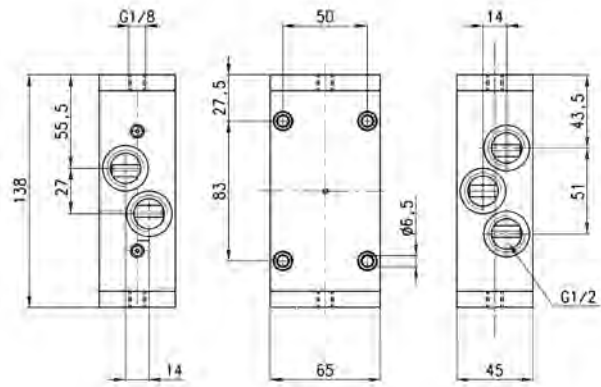
Mod.	Mounting	Function	Flow rate (NI/min)	min. pilot Pressure (bar)	Working pressure (bar)	Symbol
<b>464-33</b>	in-line/on manifold	5/3 CC	1250	2,5	0 ÷ 10	VP08
<b>474-33</b>	in-line/on manifold	5/3 CO	1200	2,5	0 ÷ 10	VP09

5/2-way valve, G1/2 port, monostable



Mod.	Mounting	Function	Flow rate (NI/min)	min. pilot Pressure (bar)	Working pressure (bar)
452C-35	in-line	5/2	2500	2,5	0 ÷ 10

5/2-way valve, G1/2 port, bistable



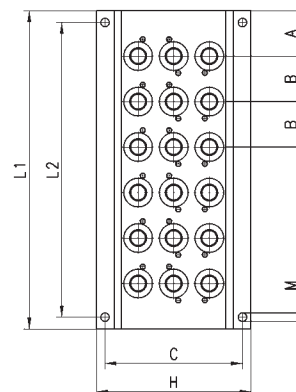
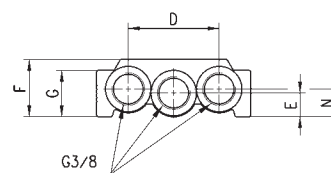
Mod.	Mounting	Function	Flow rate (NI/min)	min. pilot Pressure (bar)	Working pressure (bar)	Symbol
452C-33	in-line	5/2	2500	2	0 ÷ 10	VP06
452C-34	in-line	5/2	2500	2	0 ÷ 10	VP05

**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**

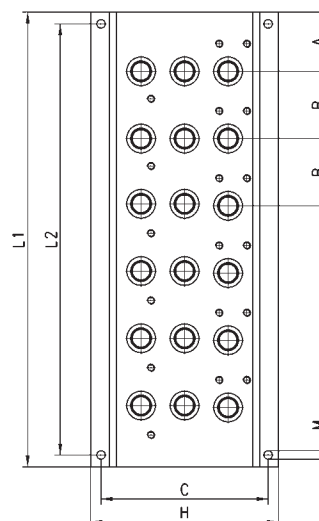
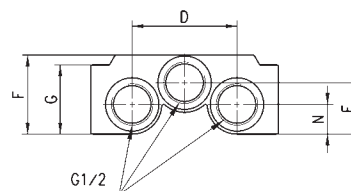
Mod.	A	B	C	D	E	F	G	H	L1	L2	M	N
<b>CNVL-42</b>	28	33	69,5	46	12	29	23,5	78	89	77	4,3	14
<b>CNVL-43</b>	28	33	69,5	46	12	29	23,5	78	122	110	4,3	14
<b>CNVL-44</b>	28	33	69,5	46	12	29	23,5	78	155	143	4,3	14
<b>CNVL-45</b>	28	33	69,5	46	12	29	23,5	78	188	176	4,3	14
<b>CNVL-46</b>	28	33	69,5	46	12	29	23,5	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

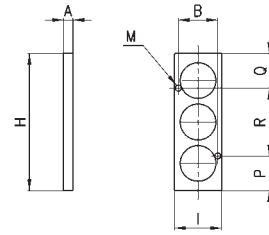

**DIMENSIONS**

Mod.	A	B	C	D	E	F	G	H	L1	L2	M	N
<b>CNVL-52</b>	30	34	84,5	53	26	40	35	95	94	82	4,3	15
<b>CNVL-53</b>	30	34	84,5	53	26	40	35	95	128	116	4,3	15
<b>CNVL-54</b>	30	34	84,5	53	26	40	35	95	162	150	4,3	15
<b>CNVL-55</b>	30	34	84,5	53	26	40	35	95	196	184	4,3	15
<b>CNVL-56</b>	30	34	84,5	53	26	40	35	95	230	218	4,3	15



### Blanking plate for CNVL manifolds

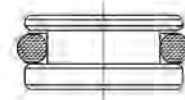
The plate closes the positions that are not used.  
The following is supplied:  
2x fixing screws  
3x O-Rings



DIMENSIONS									
Mod.	A	B	H	I	M	P	Q	R	
<b>CNVL/2</b> (series 4-1/8)	5	25,6	52	32	4,2	17	17	18	
<b>CNVL/3</b> (series 4-1/4)	5	27,8	70	32,5	4,2	7,5	3,5	59	

### Blanking plug for TCNVL manifolds

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



DIMENSIONS	
Mod.	Series
<b>TCNVL/3</b>	4 G1/8
<b>TCNVL/5</b>	4 G1/4