

4/2 Directional Control Valves



Nominal sizes 4 and 7

Solenoid pilot actuated poppet valve

Port size G 1/8, G 1/4

Manifold system G 1/4, manifold bars G 3/8

Operating pressure 1 to 10 bar

Catalog Register

P11

Publication 7503249.06.04.97



Description

Solenoid valve for filtered, lubricated¹⁾ or non-lubricated air

Flow direction: Fixed

Temperature range: -10 to +60 °C

Features

- LABS-free⁴⁾
- Standard manual override with detent
- Mounting position optional
- Compact design
- High flow rate
- Common exhaust line
- Maintenance-free
- Easily mounting: as single unit or manifold system
- Low power consumption ≤ 2 W and 4.5 W
- Connector interface to DIN 43650 Form B



Parameters

Symbol ²⁾	Nom. size	Line connection	Operating pressure [bar]		Flow rate Q _N	Switching time ³⁾ appr. [ms]		Weight	Sectional drawing	Dimensional drawing	Cat. No.	
			min.	max.	[l/min]	On	Off	[kg]	No.	No.	Valve	Solenoid
	Power consumption 4.5 Watt											See solenoid specifications
	4	G 1/8	1.5	10	700	20	20	0.3	01	01	2622000	
	7	G 1/4	1	10	1900	24	27	0.39	01	01	2622200	
	Power consumption 4.5 Watt											See solenoid specifications
	4	G 1/8	1.5	10	700	11	12	0.4	02	02	2622100	
	7	G 1/4	1	10	1900	24	27	0.62	02	02	2622300	
	Power consumption ≤ 2 Watt											See solenoid specifications
	4	G 1/8	2	8	700	19	62	0.3	01	01	2622001	
	7	G 1/4	2	8	1900	23	75	0.39	01	01	2622201	
	Power consumption ≤ 2 Watt											See solenoid specifications
	4	G 1/8	2	8	700	13	14	0.4	02	02	2622101	
	7	G 1/4	2	8	1900	24	27	0.62	02	02	2622301	

¹⁾ Oil recommendation: Shell Hydrol DO 32, ESSO Febis K 32 (as of July 1992) or comparable oils with DVI values < 8 (DIN 53521) and ISO viscosity class 32-46 (DIN 51519).

²⁾ At a pressure of 6 bar to VDI 3290, with DC type solenoid

³⁾ Port 3 cannot be throttled

⁴⁾ Valve does not contain any surface-active agents which could cause a reaction in paintwork applications.

Solenoids with / without connectors acc. to DIN 43650

Standard voltage: 24 VDC, 230 VAC. Further voltages available on request.

Design acc. to VDE 0580, 100% duty cycle.

Design acc. to VDE 6500, 100% duty cycle.

Picture	Connector interface to DIN 43650	Degree of protection DIN 40050	Rated power at		Temperatures ¹⁾ [°C]		Cat. No.
			DC [W]	AC [VA] Inrush/Holding	Fluid max.	Ambience	
	Form A	IP 00	1.6	4.55/3.5	-20 to +50	-20 to +50	3036
		IP 00	2.7	4.9			3032
		IP 65	1.6	4.55/3.5	-20 to +50	-20 to +50	3031
		IP 65	2.7	4.9			3033
	Form B	IP 00	1.7	5.6/4.3	-20 to +50	-20 to +50	3050
		IP 00	4.5	8.5			3052
		IP 65	1.7	5.6/4.3	-20 to +50	-20 to +50	3051
		IP 65	4.5	8.5			3053

¹⁾ Temperatures refer to the respective solenoid only. Permissible valve temperatures are not considered here. The max. temperature sum, composed of ambient + fluid temperature, must not be exceeded.

Connectors for solenoids / Degree of protection acc. to DIN 40050: IP 65

Picture	Description	Electrical circuit diagram	Operating temperature [°C]	Operating voltage [V]	Cat. No.
	Connector acc. to DIN 43650, Form A Without cable Without LED		-40...+125	12...250 DC/AC	0570275
	Connector acc. to DIN 43650, Form B Without cable Without LED		-40...+125	12...250 DC/AC	0680003
	Connector acc. to DIN 43650, Form A Without cable With LED and quenching diode or fluorescent lamp		-40...+100	15...30 DC	0663035
	Connector acc. to DIN 43650, Form A Without cable With LED and quenching diode or fluorescent lamp		-40...+100	150...250 DC/AC	0663034
	Connector acc. to DIN 43650, Form B Without cable With LED and quenching diode or fluorescent lamp		-40...+100	15...30 DC	0664811
	Connector acc. to DIN 43650, Form A With cable, 3 m Without LED		-40...+100	150...250 DC/AC	0664812
	Connector acc. to DIN 43650, Form B With cable, 3 m Without LED		-40...+90	12...250 DC/AC	0681493
	Connector acc. to DIN 43650, Form A With cable, 3 m With LED and Zener diode	green/yellow	-40...+90	12...250 DC/AC	0681494
	Connector acc. to DIN 43650, Form B With cable, 3 m With LED and Zener diode		-20...+80	24 DC/AC	0664363
			-20...+80	24 DC/AC	0680208

Solenoids in protection class EEx m

Standard voltages: 24 VDC, 230 VAC. Further voltages available on request.
 Design acc. to VDE 0580 or VDE 0171,100% duty cycle.

Picture	Protection class	Degree of protection DIN 40050	Rated power at		Permissible temperatures [°C]		Cat. No.
			DC [W]	AC [VA]	Fluid max.	Ambience	
	EEx m II T5 with cable, 3 m	IP 65	3.3	—	+50	−15 to +50	3042
	EEx m II T5 with cable, 3 m	IP 65	—	3.3	+50	−15 to +50	3043

Cat. No. (example): 2622000. 3050
 Valve Solenoid

Please indicate voltage [V] and frequency [Hz]

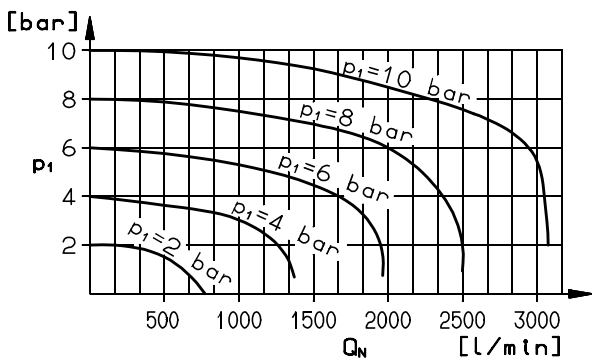
Attention: Valves and solenoids can only be combined if their electric characteristics correspond with each other (see parameters, page 1)

Further versions available on request

Characteristic curves

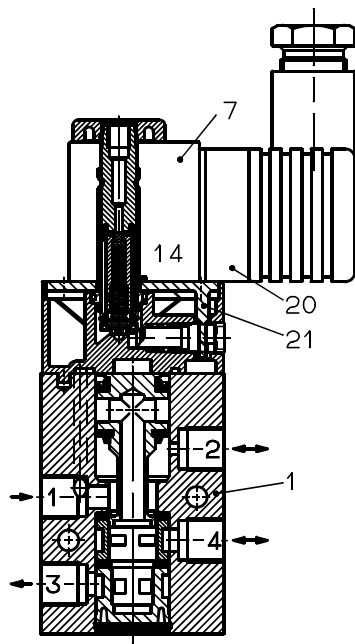
Size 4

Size 7



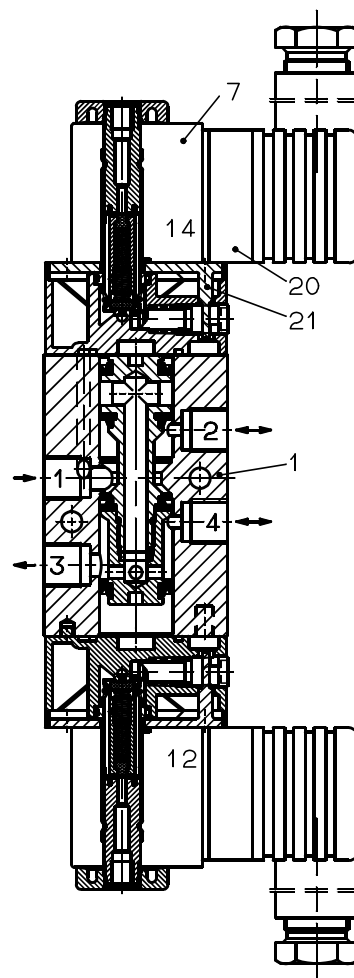
Sectional drawings

01



- 1 Body assly.
- 7 Solenoid
- 20 Connector
- 21 3/2 pilot valve

02

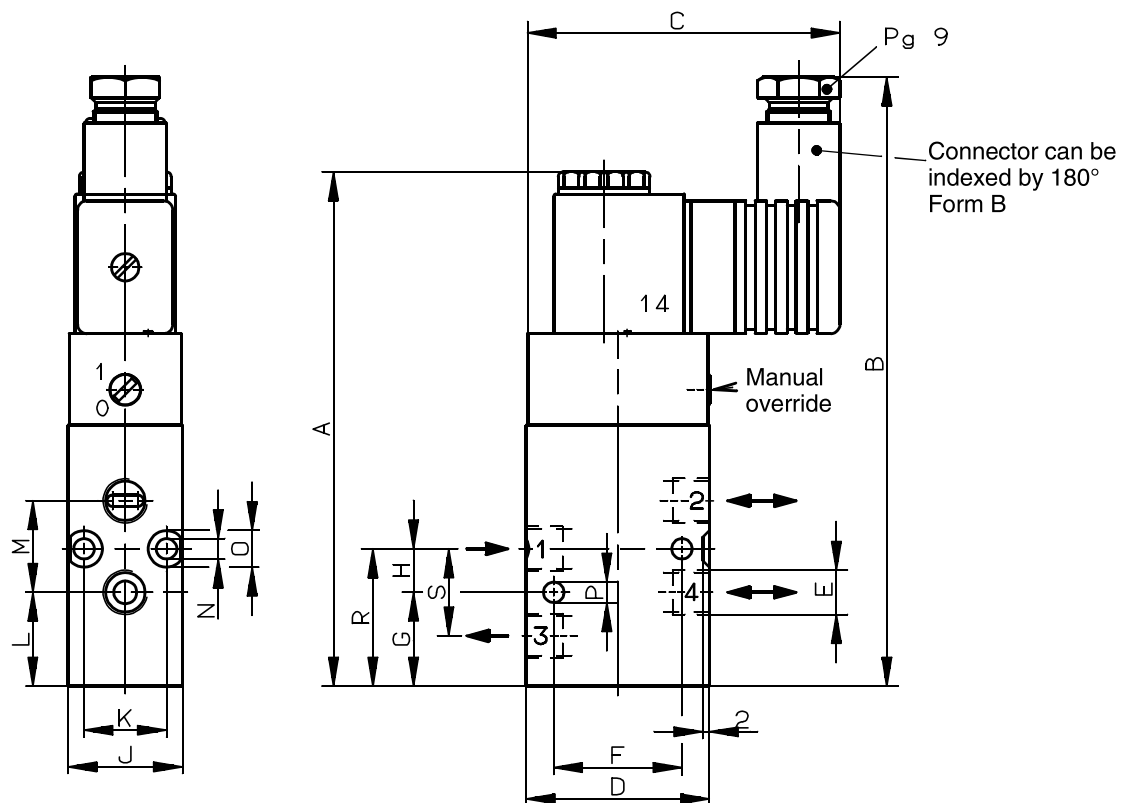


Spare parts

Rated power	Cat. No. 3/2 pilot valve	
	Size 4	Size 7
2 W	9032933	9032833
4.5 W	9032930	9032830

Dimensional drawings [mm]

01

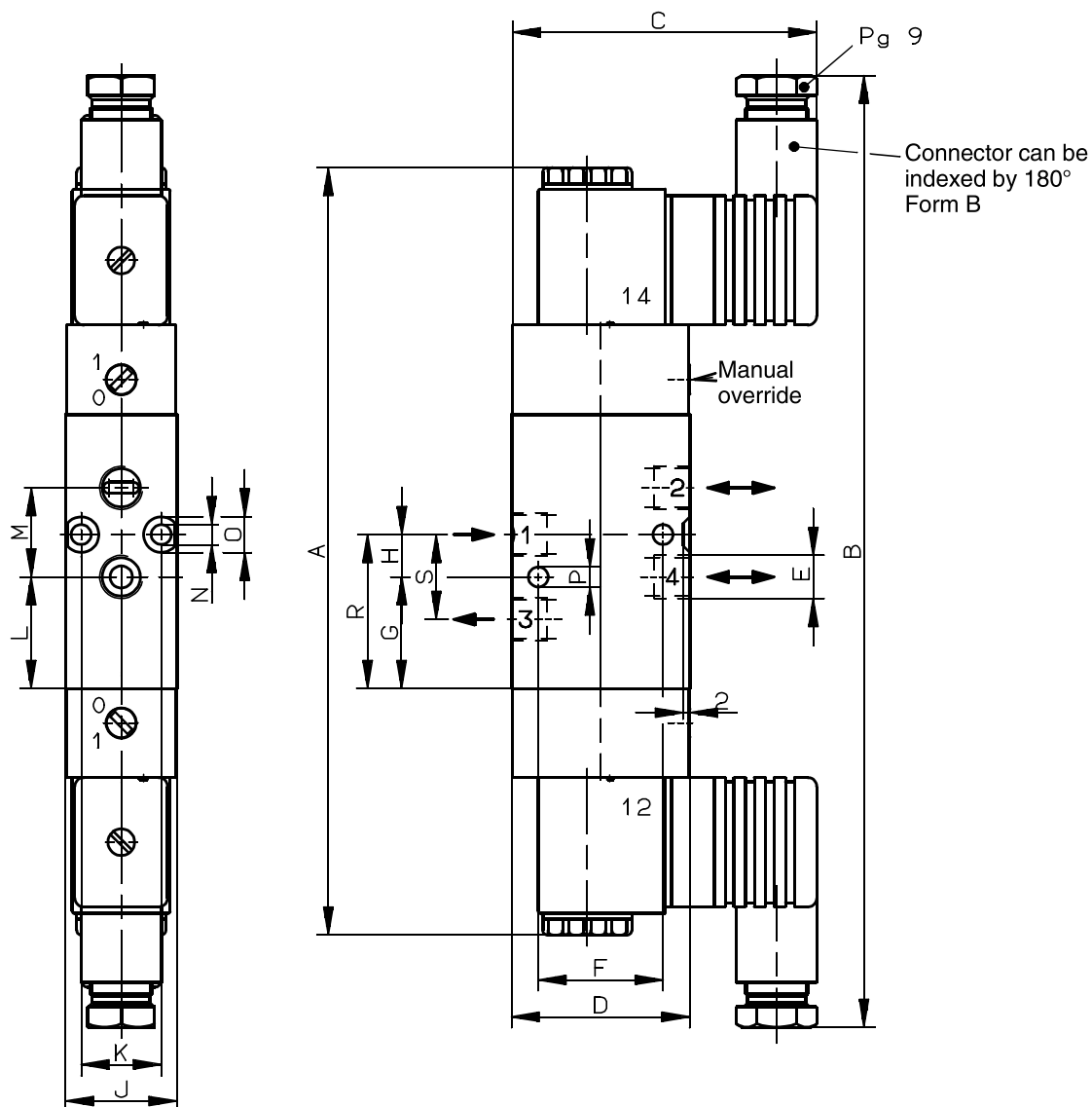


Dimensional table [mm]

Cat. No.	Nom. size	A	B	C	D	E	F	G	H	J	K	L	M	Dia. N	Dia. O	Dia. P	R	S
2622000/2622001	4	112.3	131.5	68.5	40	G 1/8	28	20.5	9.5	25	18	20.5	20	4.5	8	4.5	30	19
2622200/2622201	7	127.3	152	83	55	G 1/4	32	28.5	12	30	23	28.5	24	4.5	—	5.5	40.5	29

Dimensional drawings [mm]

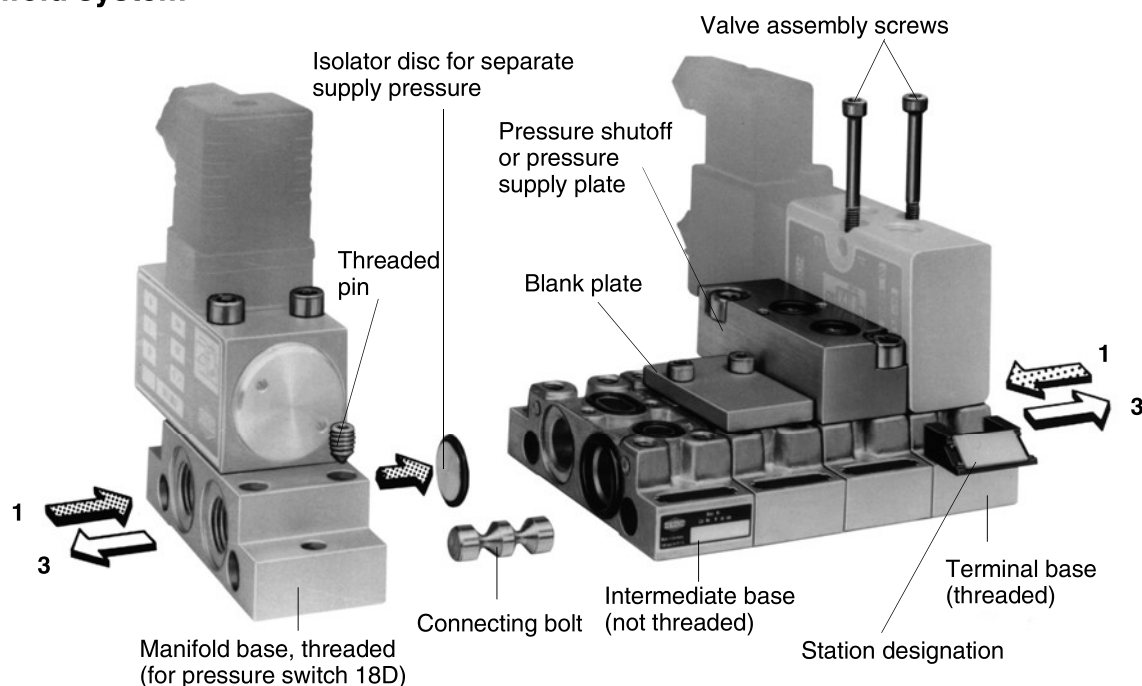
02



Dimensional table [mm]

Cat. No.	Nom. size	A	B	C	D	E	F	G	H	J	K	L	M	Dia. N	Dia. O	Dia. P	R	S
2622100/2622101	4	172	210	68.5	40	G 1/8	28	25	9.5	25	18	25	20	4.5	8	4.5	34.5	19
2622300/2622301	7	191	227	83	55	G 1/4	32	36	12	30	23	36	24	4.5	—	5.5	48	29

Manifold system

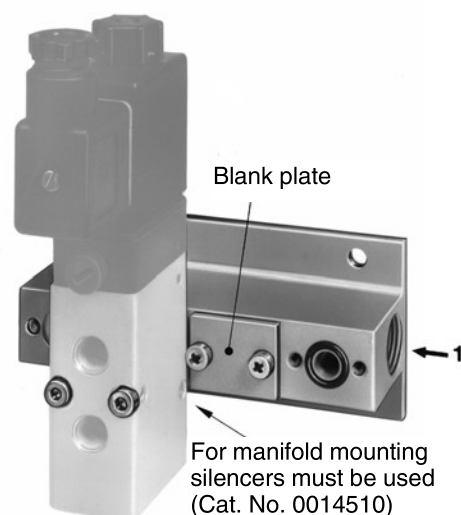


Components

Manifold system without valves

Designation	Size 4		Size 7	
	Weight [kg]	Cat. No.	Weight [kg]	Cat. No.
Terminal base assly. (threaded)	0.10	0559984	0.16	0559986
Intermediate base assly. (not threaded)	0.10	0559985	0.16	0559987
Manifold base assly. (for pressure switch 18D)	0.10	0540937	0.18	0540909
Pressure shutoff plate assly. (for valve mounting under pressure)	0.08	0541502	0.16	0541461
Pressure supply plate assly. (for separate air supply)	0.08	0541505	0.16	0542940
Manifold system for 2 valves	0.18	2629202	0.32	2629402
for 3 valves	0.28	2629203	0.49	2629403
for 4 valves	0.37	2629204	0.65	2629404
for 5 valves	0.47	2629205	0.82	2629405
for 6 valves	0.56	2629206	0.98	2629406
for 7 valves	0.66	2629207	1.15	2629407
for 8 valves	0.75	2629208	1.32	2629408
for 9 valves	0.85	2629209	1.48	2629409
for 10 valves	0.94	2629210	1.65	2629410
for 11 valves	1.04	2629211	1.81	2629411
for 12 valves	1.13	2629212	1.98	2629412
Blank plate assly.	0.01	0540038	0.02	0540527
Screw plug	0.01	0565449	0.02	0701192
Sealing ring for screw plug	—	0660835	—	0700835
Isolator disc (for separate supply pressure)	—	0540594	—	0540526
Station marking: Support	—	0542054	—	0542054
Label (10 pcs.)	—	0543028	—	0680710

Manifold bars



Manifold bars without valves

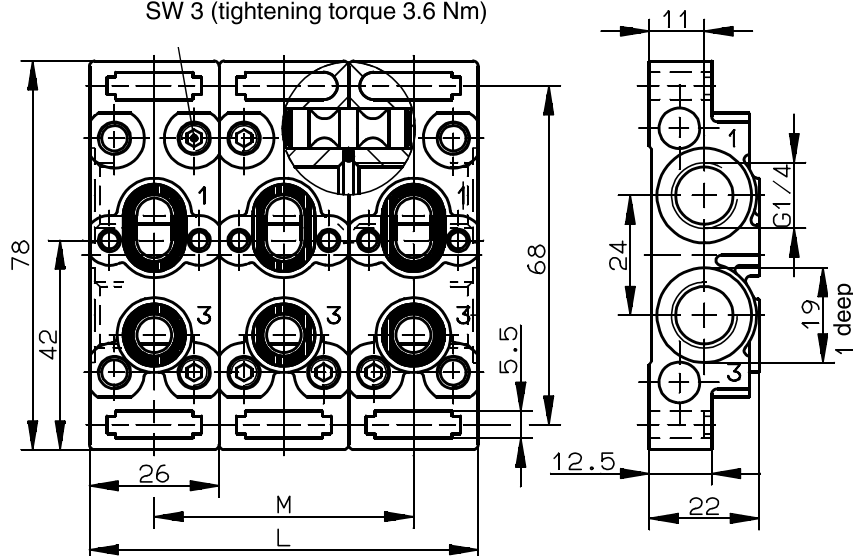
Designation	Size 4		Size 7	
	Weight [kg]	Cat. No.	Weight [kg]	Cat. No.
Manifold bar for 2 valves	0.10	2629302	0.11	2629502
for 3 valves	0.15	2629303	0.17	2629503
for 4 valves	0.20	2629304	0.23	2629504
for 5 valves	0.25	2629305	0.28	2629505
for 6 valves	0.30	2629306	0.34	2629506
for 7 valves	0.35	2629307	0.40	2629507
for 8 valves	0.40	2629308	0.46	2629508
Blank plate assly.	—	0541244	—	0541256
Screw plug	—	0701192	—	0701192
Sealing ring for screw plug	—	0662898	—	0662898

The manifold bases are available as individual units or completely assembled acc. to customer's requirements. Valve assembly screws are included in the delivery.

Dimensional drawings [mm]

Manifold system, Size 4

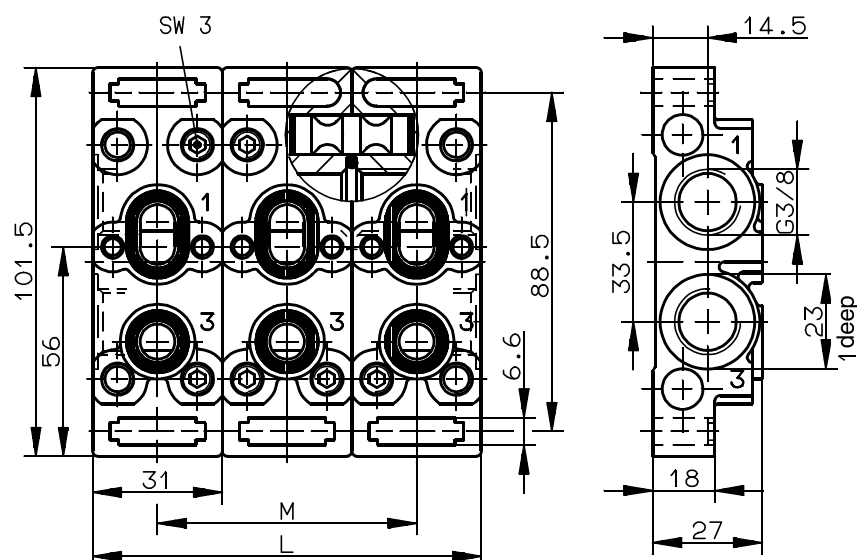
SW 3 (tightening torque 3.6 Nm)



Dimensional table [mm]

Cat. No.	Number of valves	L	M
0559984	1	26	—
0559985	1	26	—
2629202	2	52	26
2629203	3	78	52
2629204	4	104	78
2629205	5	130	104
2629206	6	156	130
2629207	7	182	156
2629208	8	208	182
2629209	9	234	208
2629210	10	260	234
2629211	11	286	260
2629212	12	312	286

Manifold system, Size 7



Dimensional table [mm]

Cat. No.	Number of valves	L	M
0559986	1	31	—
0559987	1	31	—
2629402	2	62	31
2629403	3	93	62
2629404	4	124	93
2629405	5	155	124
2629406	6	186	155
2629407	7	217	186
2629408	8	248	217
2629409	9	279	248
2629410	10	310	279
2629411	11	341	310
2629412	12	372	341

Order

The manifold bases are available as individual units or completely assembled acc. to customer's requirements. Valve assembly screws are included in the delivery.

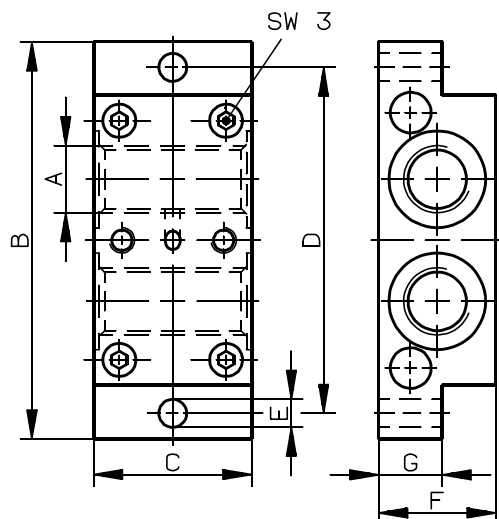
Example of order Size 4: Cat. No.

a) Manifold system for 3 valves (assembled) **2629203**

or

b) 2 terminal bases: 2x **0559984**
1 intermediate base: **0559985**
(not assembled)

Base for pressure switch 18 D

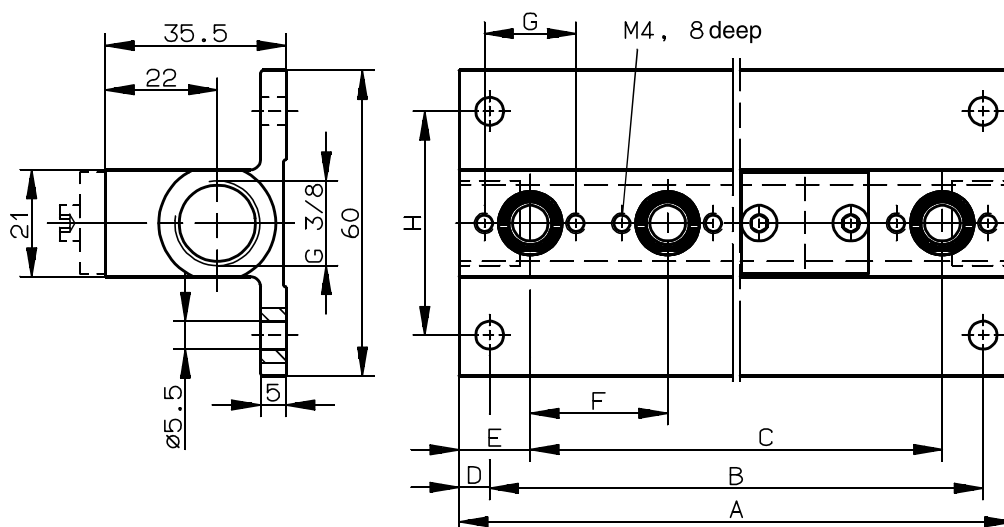


Dimensional table [mm]

Cat. No.	Nom. size	A	B	C	D	E	F	G
0540937	4	G 1/4	78	31	68	5.5	23	12.5
0540909	7	G 3/8	101	31	88	7	28	18

Dimensional drawing

Manifold bars, Sizes 4 and 7



Dimensional table, Size 4 [mm]

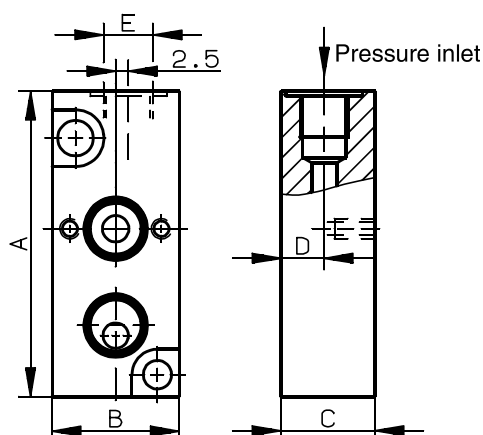
Cat. No.	Number of valves	A	B	C	D	E	F	G	H
2629302	2	55	43	27	6	14	27	18	44
2629303	3	82	70	54	6	14	27	18	44
2629304	4	109	97	81	6	14	27	18	44
2629305	5	136	124	108	6	14	27	18	44
2629306	6	163	151	135	6	14	27	18	44
2629307	7	190	178	162	6	14	27	18	44
2629308	8	217	205	189	6	14	27	18	44

Dimensional table, Size 7 [mm]

Cat. No.	Number of valves	A	B	C	D	E	F	G	H
2629502	2	63	50	31	6.5	16	31	23	50
2629503	3	94	81	62	6.5	16	31	23	50
2629504	4	125	113	93	6	16	31	23	50
2629505	5	156	145	124	5.5	16	31	23	50
2629506	6	187	177	155	5	16	31	23	50
2629507	7	218	178	186	4.5	16	31	23	50
2629508	8	249	240	217	4.5	16	31	23	50

Dimensional drawings [mm]

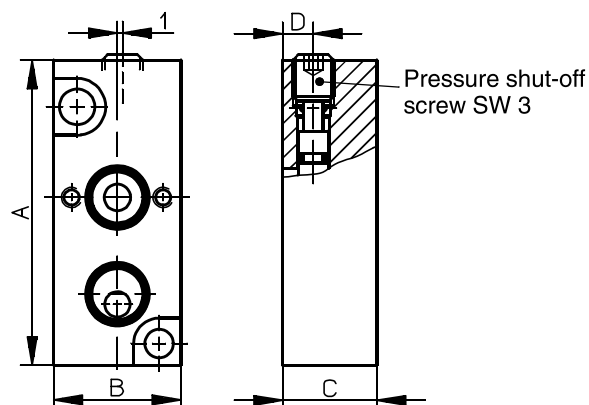
Pressure supply plate, Sizes 4 and 7



Dimensional table [mm]

Cat. No.	Nom. size	A	B	C	D	E
0541505	4	60	25	18.5	8.5	G 1/8
0542940	7	77.5	30	24	12	G 1/4

Pressure shut-off plate, Sizes 4 and 7



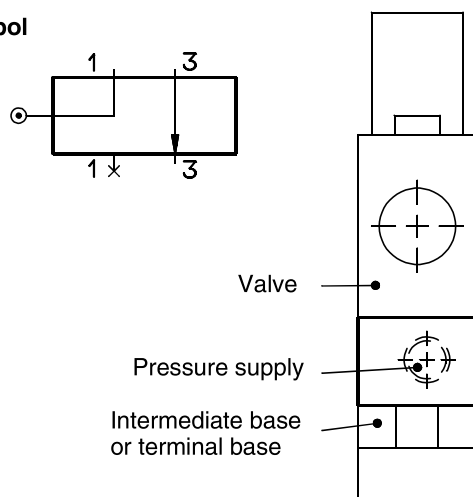
Dimensional table [mm]

Cat. No.	Nom. size	A	B	C	D
0541502	4	60	25	18.5	6
0541461	7	77.5	30	24	12

Mounting instructions

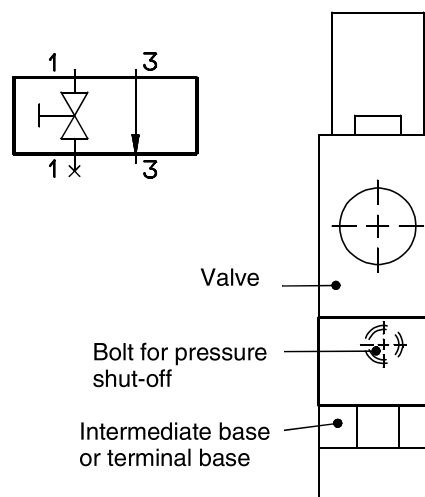
Pressure supply plate

Symbol



Pressure shut-off plate

Symbol



Components

Designation	For further information see publication
Pneumatic cylinder	7502131 Standard program
Throttle check valve, threaded	7502184
Throttle valve	7502188
Throttle check valve	7502187
Silencer	7501080 / 7501079

Designation	For further information see publication
Quick exhaust valve	7502189
Throttle check valve	7501068
Throttle check valve	7501100
Check valves	7501062
Electronic components	7502131 Standard program
Pressure switch	7501628