

Manifold System for 5-Way Valves, ISO Sizes 1, 2, 3 and 4



Interfaces acc. to DIN ISO 5599
Design to VDMA 24345

Catalog Register
P13

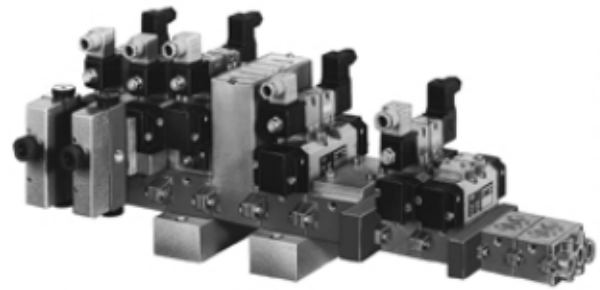
Publication 7501636.06.10.96



Description

This modular manifold system provides horizontal and vertical interconnection for ISO valve sizes 1, 2, 3 and 4 containing the following components:

- Manifold bases, Form A¹⁾
- Manifold bases, Form B¹⁾
- Manifold bases, Form C¹⁾
- End plates, Form D¹⁾ for manifold base
- Angular connection plate, Form E¹⁾ for manifold base
- Blank plates
- Isolator discs
- Adapter plates for interlinking of different ISO sizes
- Adapter plates for pressure monitoring
- Differential pressure switches
- Pressure switches
- Pressure control valves
- Throttle plates
- Silencers
- ISO / NAMUR manifold bases



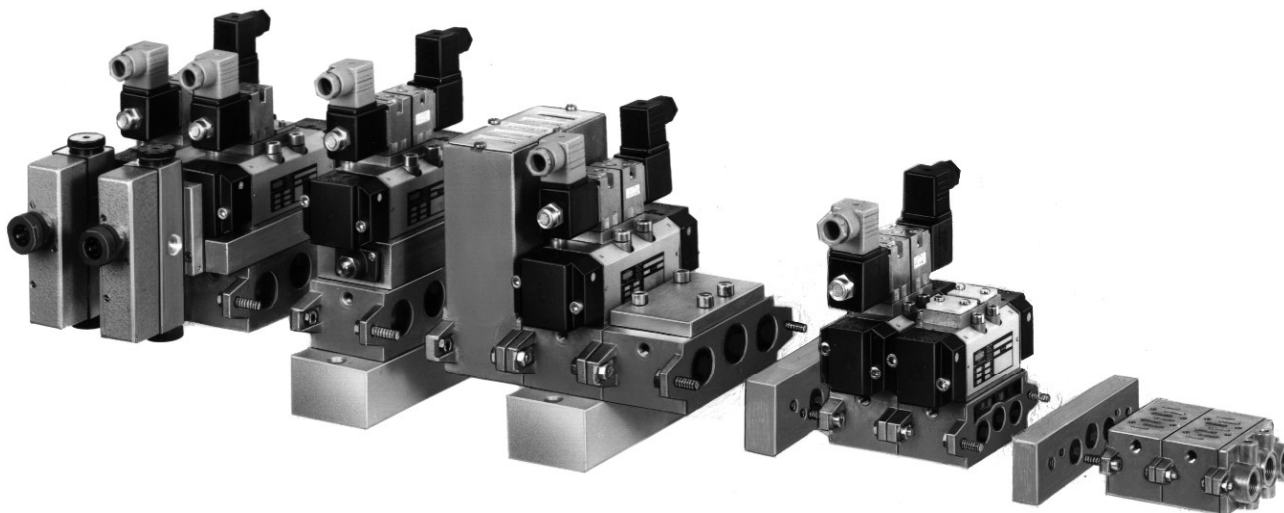
Features

- Common pressure supply for connected valves
- Environmentally friendly because of ducted exhaust air
- Individual pressure stage for valves
- Individual speed control for each cylinder
- Central pneumatic installation
- Simplified installation, no additional piping required

¹⁾ Design to VDMA 24345

Valve variants

Pneumatically and electromagnetically operated 5/2 and 5/3 directional control valves can be mounted at will on a common manifold. By means of adapters it is possible to mount valves of different ISO-sizes.



Variable pressure supply and speed control

- Splitting up of pressure supply into two or three pressure stages by isolator discs.
- Individual throttling of exhaust air of each cylinder by means of throttle plates, for both advance and return stroke.

Interlinking of ISO-sizes 1, 2, 3 and 4

with common pressure supply 1 and common exhaust 3 and 5, by means of adapter plates, adapting ISO-sizes 1 to 2, 2 to 3, 3 to 4, and 1 to 3. These adapter plates can be combined with standard manifold bases.

Subsequent up-rating of valves can be provided for in advance. A blank plate closes all connection ports of the manifold base.

Different pressure supply is possible by means of an isolator disc installed in the left or right side of the valve manifold. This isolator disc can also be installed in the exhaust pipes. A common throttling of exhaust air for the two valve groups is thus possible.

Item	Designation	ISO-size	Cat. No.
1	Manifold base assly., Form C, to VDMA 24345	1	0557921
		2	0557923
		3	0557925
		4	0557927
2	Pair of end plates, Form D, to VDMA 24345	1	0557920
		2	0557922
		3	0557924
		4	0557926
3	Blank plate assly.	1	0557673
		2	0557734
		3	0557674
		4	0558456
4	Adapter plate for pressure switch	1	0546744
		2	0546769
		3	0546772
		4	—
5	Silencer	1	0015510
		2	—
		3	0015530
		4	—
6	Angular connection plate assly., Form E, to VDMA 24345	1	0557982
		2	—
		3	0557956
		4	—

Item	Designation	ISO-size	Cat. No.
7	Adapter plate for interlinking of different ISO-sizes	2 to 1	0558167
		3 to 2	0558169
		4 to 3	0558352
		3 to 1	0558518
		3 to 1 ¹⁾	0545916
8	Isolator disc	1	0557678
		2	0558171
		3	0557679
		4	0558453
9	Adapter plate for differential pressure switch Connection: See page 14	1	0543518
		2	0544181
		3	0543502
		4	—
	Adapter plate for differential pressure switch Connection: See page 12	1	0543513
10	Throttle plate	2	0544184
		3	0543508
		4	—
		1	0543528
		2	0544133
		3	0543524
		4	0558357

¹⁾ however, O-rings on opposite side (ISO-1 side)

Manifold bases

For n-valves	Pair of end plates for manifolding, Form D	Manifold bases, Form C
	ISO-size 1 Cat. No. 0557920 ISO-size 2 Cat. No. 0557922 ISO-size 3 Cat. No. 0557924 ISO-size 4 Cat. No. 0557926	ISO-size 1 Cat. No. 0557921 ISO-size 2 Cat. No. 0557923 ISO-size 3 Cat. No. 0557925 ISO-size 4 Cat. No. 0557927
2	1 x	2 x
3	1 x	3 x
4	1 x	4 x
5	1 x	5 x
6	1 x	6 x
7	1 x	7 x
8	1 x	8 x
9	1 x	9 x
10	1 x	10 x

Dimensional drawing [mm]

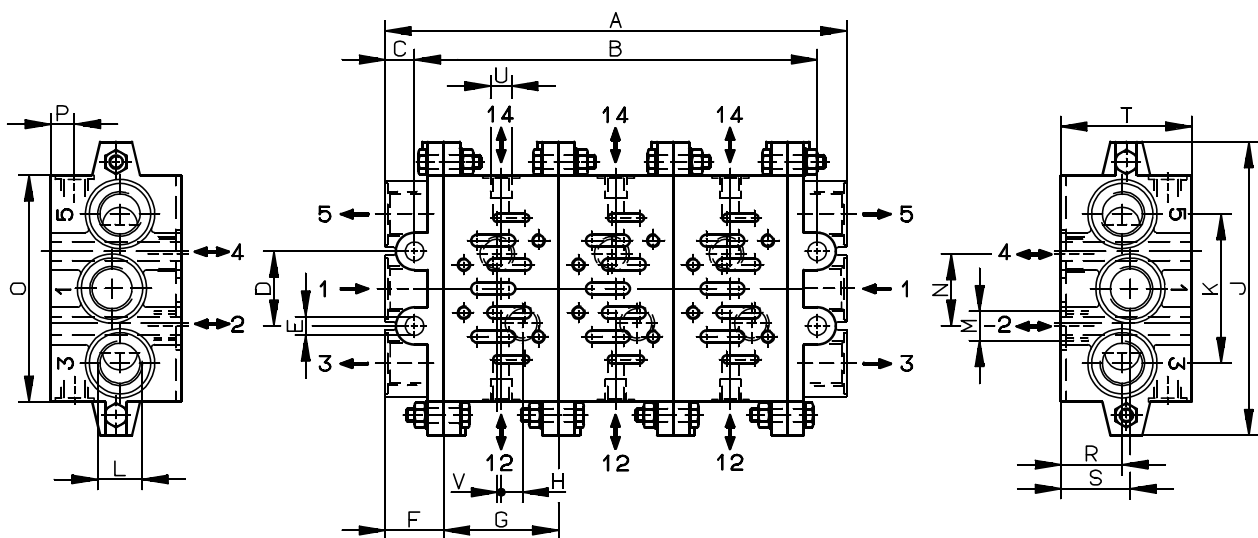


Table of dimensions [mm]

ISO-size	Number of manifold bases	A	B	C	D	E Dia.	F	G	H	J	K	L (G)	M (G)	N	O	P	R	S	T	U (G)	V	Cat. No. (complete)
1	2	130	108	11	28	ø 7	22	43	7.5	110	56	3/8	1/4	26	85	8.5	21	24	46	1/8	1.5	2539122
1	3	173	151	11	28	ø 7	22	43	7.5	110	56	3/8	1/4	26	85	8.5	21	24	46	1/8	1.5	2539123
1	4	216	194	11	28	ø 7	22	43	7.5	110	56	3/8	1/4	26	85	8.5	21	24	46	1/8	1.5	2539124
1	5	259	237	11	28	ø 7	22	43	7.5	110	56	3/8	1/4	26	85	8.5	21	24	46	1/8	1.5	2539125
1	6	302	280	11	28	ø 7	22	43	7.5	110	56	3/8	1/4	26	85	8.5	21	24	46	1/8	1.5	2539126
1	7	345	323	11	28	ø 7	22	43	7.5	110	56	3/8	1/4	26	85	8.5	21	24	46	1/8	1.5	2539127
1	8	388	366	11	28	ø 7	22	43	7.5	110	56	3/8	1/4	26	85	8.5	21	24	46	1/8	1.5	2539128
1	9	431	409	11	28	ø 7	22	43	7.5	110	56	3/8	1/4	26	85	8.5	21	24	46	1/8	1.5	2539129
1	10	474	452	11	28	ø 7	22	43	7.5	110	56	3/8	1/4	26	85	8.5	21	24	46	1/8	1.5	2539130

2	2	164	138	13	35	ø 9	26	56	6	135	68	1/2	3/8	30	100	9	22	24	47	1/8	5	2539222
2	3	220	194	13	35	ø 9	26	56	6	135	68	1/2	3/8	30	100	9	22	24	47	1/8	5	2539223
2	4	276	250	13	35	ø 9	26	56	6	135	68	1/2	3/8	30	100	9	22	24	47	1/8	5	2539224
2	5	332	306	13	35	ø 9	26	56	6	135	68	1/2	3/8	30	100	9	22	24	47	1/8	5	2539225
2	6	388	362	13	35	ø 9	26	56	6	135	68	1/2	3/8	30	100	9	22	24	47	1/8	5	2539226
2	7	444	418	13	35	ø 9	26	56	6	135	68	1/2	3/8	30	100	9	22	24	47	1/8	5	2539227
2	8	500	474	13	35	ø 9	26	56	6	135	68	1/2	3/8	30	100	9	22	24	47	1/8	5	2539228
2	9	556	530	13	35	ø 9	26	56	6	135	68	1/2	3/8	30	100	9	22	24	47	1/8	5	2539229
2	10	612	586	13	35	ø 9	26	56	6	135	68	1/2	3/8	30	100	9	22	24	47	1/8	5	2539230

3	2	206	172	17	52	ø12	32	71	8	190	104	1	1/2	38	140	10	31	34	56	1/8	6	2539322
3	3	277	243	17	52	ø12	32	71	8	190	104	1	1/2	38	140	10	31	34	56	1/8	6	2539323
3	4	348	314	17	52	ø12	32	71	8	190	104	1	1/2	38	140	10	31	34	56	1/8	6	2539324
3	5	419	385	17	52	ø12	32	71	8	190	104	1	1/2	38	140	10	31	34	56	1/8	6	2539325
3	6	490	456	17	52	ø12	32	71	8	190	104	1	1/2	38	140	10	31	34	56	1/8	6	2539326
3	7	561	527	17	52	ø12	32	71	8	190	104	1	1/2	38	140	10	31	34	56	1/8	6	2539327
3	8	632	598	17	52	ø12	32	71	8	190	104	1	1/2	38	140	10	31	34	56	1/8	6	2539328
3	9	703	669	17	52	ø12	32	71	8	190	104	1	1/2	38	140	10	31	34	56	1/8	6	2539329
3	10	774	740	17	52	ø12	32	71	8	190	104	1	1/2	38	140	10	31	34	56	1/8	6	2539330

4	2	224	194	15	56	ø12	30	82	9	215	108	1	3/4	52	160	10	28	28	58	1/8	8	2539422
4	3	306	276	15	56	ø12	30	82	9	215	108	1	3/4	52	160	10	28	28	58	1/8	8	2539423
4	4	388	358	15	56	ø12	30	82	9	215	108	1	3/4	52	160	10	28	28	58	1/8	8	2539424
4	5	470	440	15	56	ø12	30	82	9	215	108	1	3/4	52	160	10	28	28	58	1/8	8	2539425
4	6	552	522	15	56	ø12	30	82	9	215	108	1	3/4	52	160	10	28	28	58	1/8	8	2539426
4	7	634	604	15	56	ø12	30	82	9	215	108	1	3/4	52	160	10	28	28	58	1/8	8	2539427
4	8	716	686	15	56	ø12	30	82	9	215	108	1	3/4	52	160	10	28	28	58	1/8	8	2539428
4	9	798	768	15	56	ø12	30	82	9	215	108	1	3/4	52	160	10	28	28	58	1/8	8	2539429
4	10	880	850	15	56	ø12	30	82	9	215	108	1	3/4	52	160	10	28	28	58	1/8	8	2539430

Pressure monitoring Adapter plate for differential pressure switches

Monitoring of pressure difference at cylinder piston

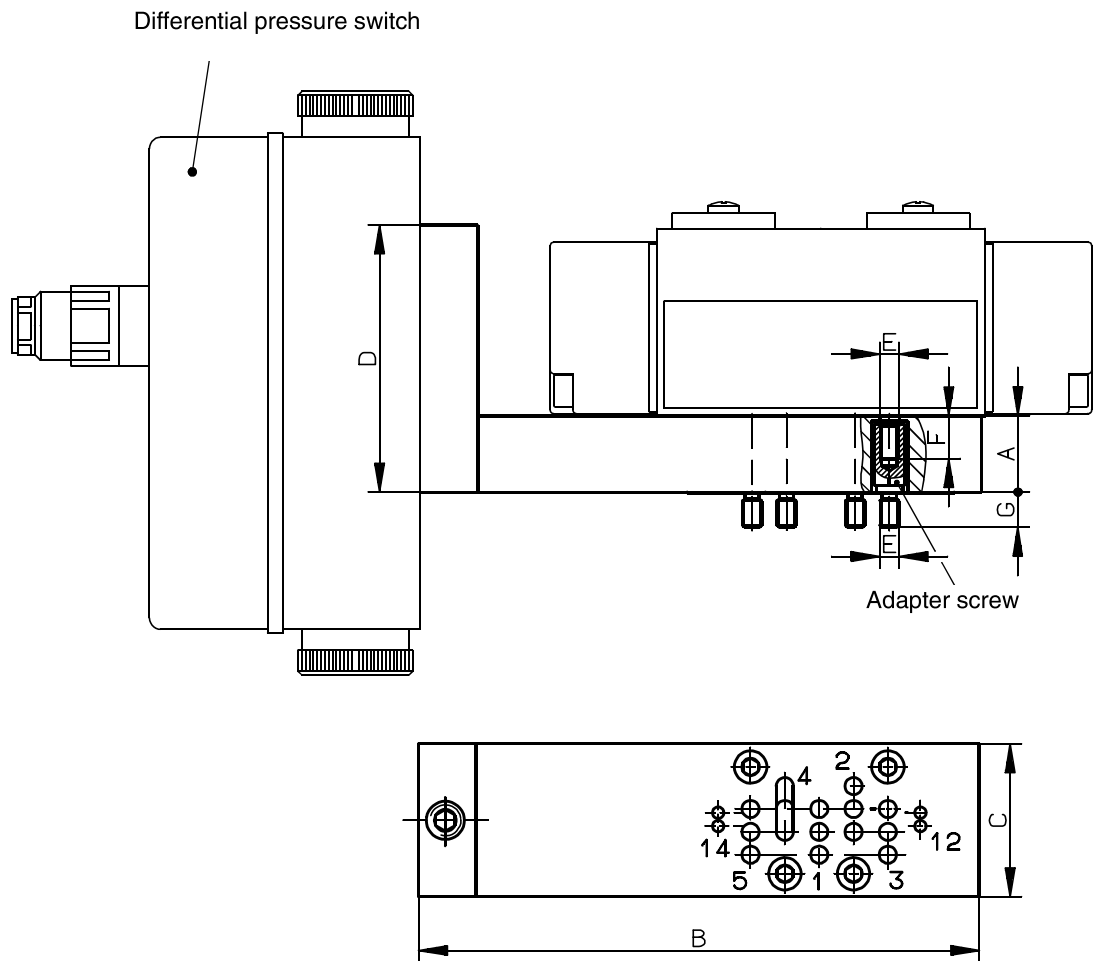


Table of dimensions [mm]

Symbol	ISO-size	Page	Cat. No.	Page	Cat. No.	A	B	C	D	E	F	G
	1	14	0543518	12	0543513	20	167	40	70	M5	11	9
	2	14	0544181	12	0544184	20	167	55	70	M6	12	9
	3	14	0543502	12	0543508	25	185	55	70	M8	16	14
	4	—	—	—	—	—	—	—	—	—	—	—

Adapter screws contained in delivery

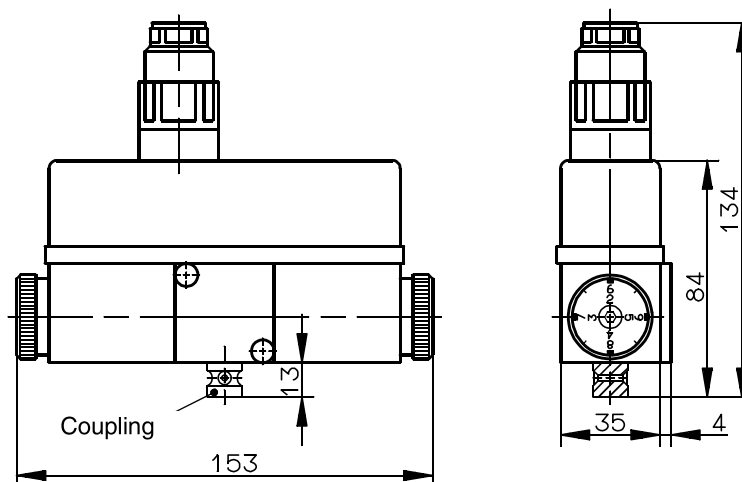
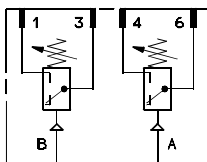
Differential pressure switch

For pressure monitoring

Dimensional drawings [mm]

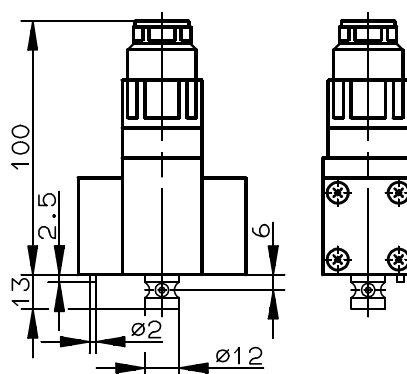
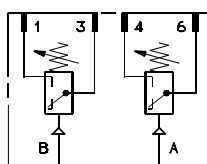
01

Symbol



02

Symbol



For detailed technical data on pressure switches and differential pressure switches, see Publication 7502193, Catalog Reg. P 19

Parameters (fixed switching pressure difference)

ISO-size	Cat. No.	Differential pressure range $p_{VU \min} \dots p_{VO \max}$ (VDI 3283) [bar]	Switching pressure difference		Working pressure range [bar]	Max. allowable pressure [bar]	Switching cycles per minute	Pressure sensor materials		Pressure connection	Dimensional drawing No.	Total weight [kg]
			Lower range [bar]	Upper range [bar]				Housing	Seals			
1, 2 and 3	9950517	2.0 ... 10 ¹⁾	0.6	2	1.5 ... 12	20	40	Al	Au	Flange	01	0.8
1, 2 and 3	9950518	2.5 ... 4.5 ¹⁾	0.6	0.9	2.0 ... 10	20	40	Al	Au	Flange	02	0.25

¹⁾ Factory-adjusted to $p_{VO} < 3.8$ bar

Pressure monitoring Adapter plate for pressure switch

Pressure monitoring on one or both sides

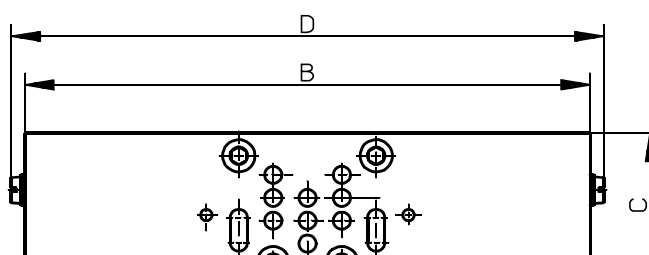
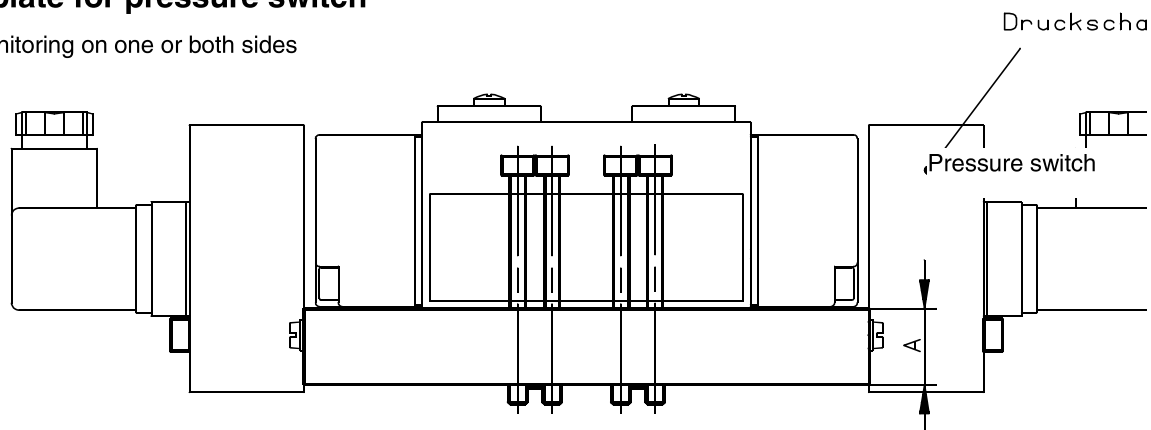
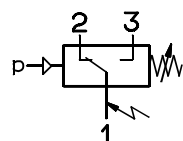


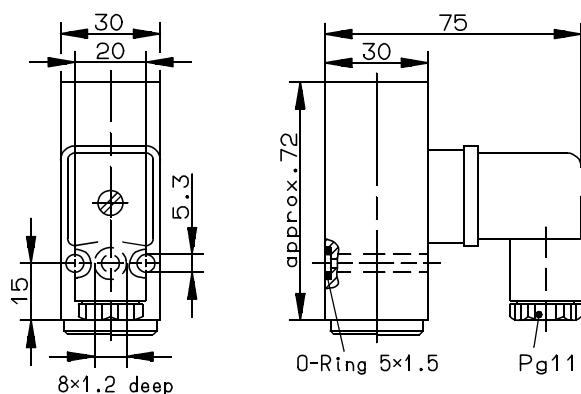
Table of dimensions [mm]

Symbol	ISO-size	Cat. No.	A	B	C	D
	1	0546766	20	148	40	155
	2	0546769	30	150	55	157
	3	0546772	35	190	70	197
	4	—	—	—	—	—

Pressure switch



Symbol



Parameters (switching pressure difference fixed)

ISO-size	Cat. No.	Switching pressure range $P_{VU\ min} \dots P_{VO\ max}$ (VDI 3283) [bar]	Switching pressure difference		Max. allowable pressure [bar]	Switching cycles per minute	Pressure sensor materials		Pressure connection	Total weight [kg]
			Lower range [bar]	Upper range [bar]			Housing	Seals		
1, 2 and 3	0881400	1 to 16	0.6	2.0	80	100	Al	NBR	Flange	0.2

Throttle plate

For speed control

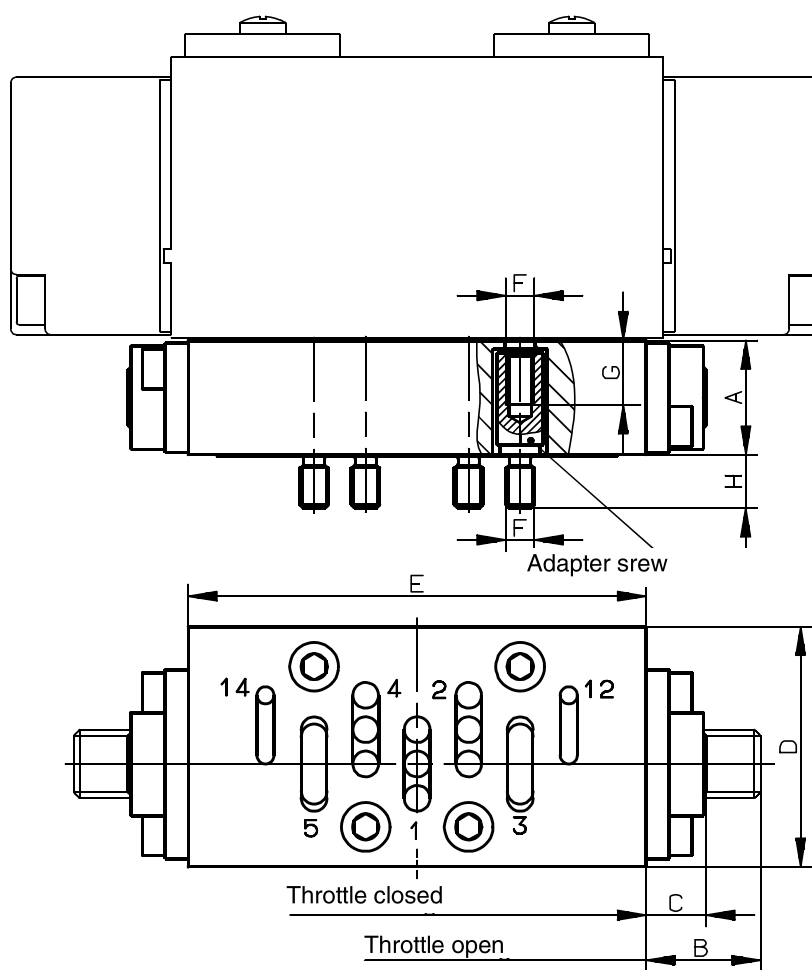


Table of dimensions [mm]

Symbol	ISO-size	Cat. No.	A	B	C	D	E	F	G	H
	1	0543528¹⁾	20	20	10.5	42	80	M5	11	9
	2	0544133¹⁾	30	30	19.5	55	100	M6	12	9
	3	0543524¹⁾	40	30	17.0	70	120	M8	16	14
	4	0558357	40	30	15.0	75	143	—	—	—

¹⁾ Adapter screws contained in delivery

Angular connection plate, Form E

For manifold base

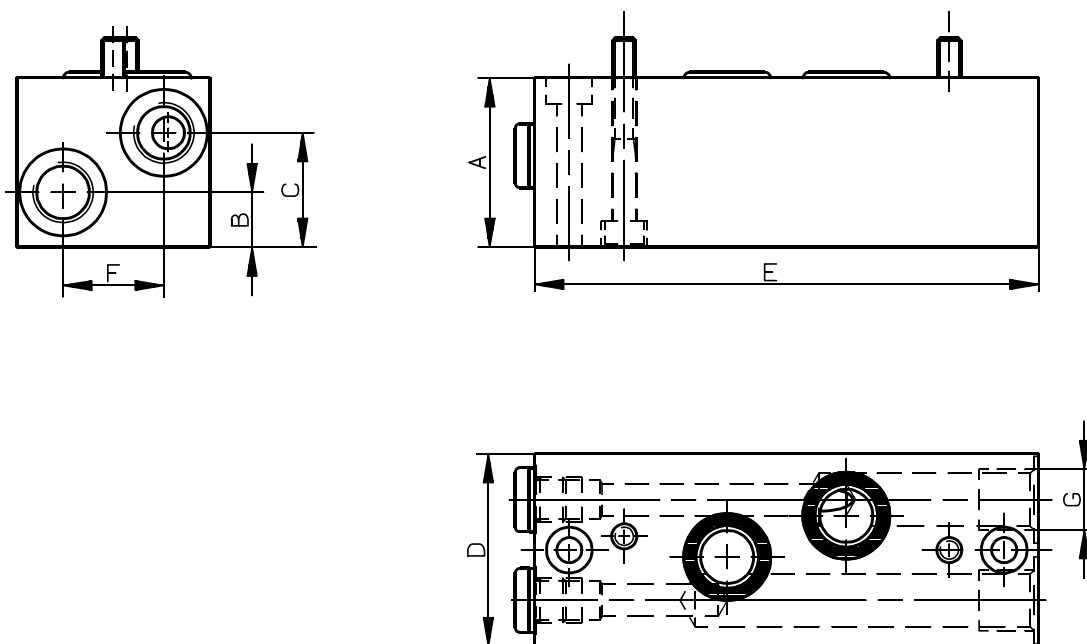


Table of dimension [mm]

ISO-size	Cat No.	A	B	C	D	E	F	G
1	0557982	37	12	25	42	110	22	G 1/4
2	—	—	—	—	—	—	—	—
3	0557956	45	17	29	70	190	36	G 1/2
4	—	—	—	—	—	—	—	—

Blank plate assly.

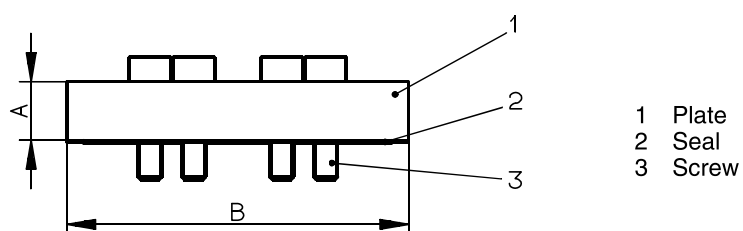


Table of dimension [mm]

ISO-size	Cat. No.	A	B	Width
1	0557673	12	70	40
2	0557734	12	90	55
3	0557674	12	110	70
4	0558456	12	135	80

Adapter plate assly.

For interlinking of different ISO-sizes

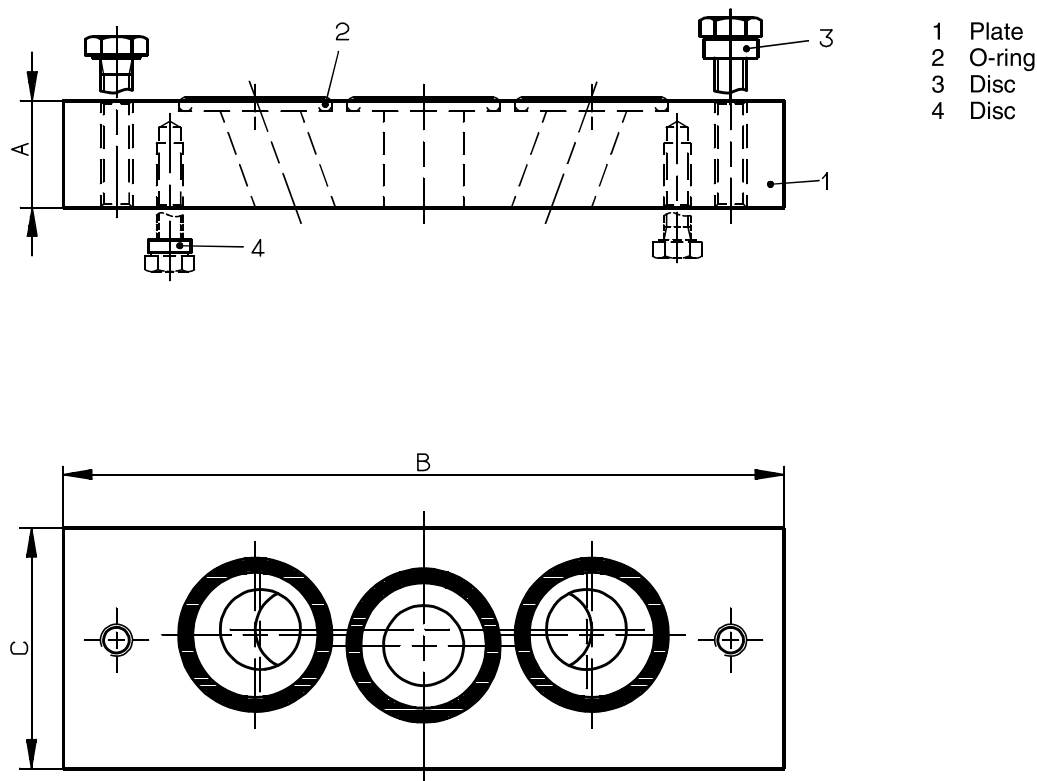


Table of dimensions [mm]

ISO-size	Cat. No.	A	B	C
Form ISO-2 to ISO-1	0558167	20	135	45
Form ISO-3 to ISO-2	0558169	25	190	55
Form ISO-4 to ISO-3	0558352	32	200	55
Form ISO-3 to ISO-1	0558518	35	190	50
Form ISO-3 to ISO-1 ¹⁾	0545916	35	190	50

¹⁾ however, with O-rings on opposite side (ISO-1 side)

Isolator disc assly.

ISO-size	Cat. No.
1	0557678
2	0558171
3	0557679
4	0558453



Silencer

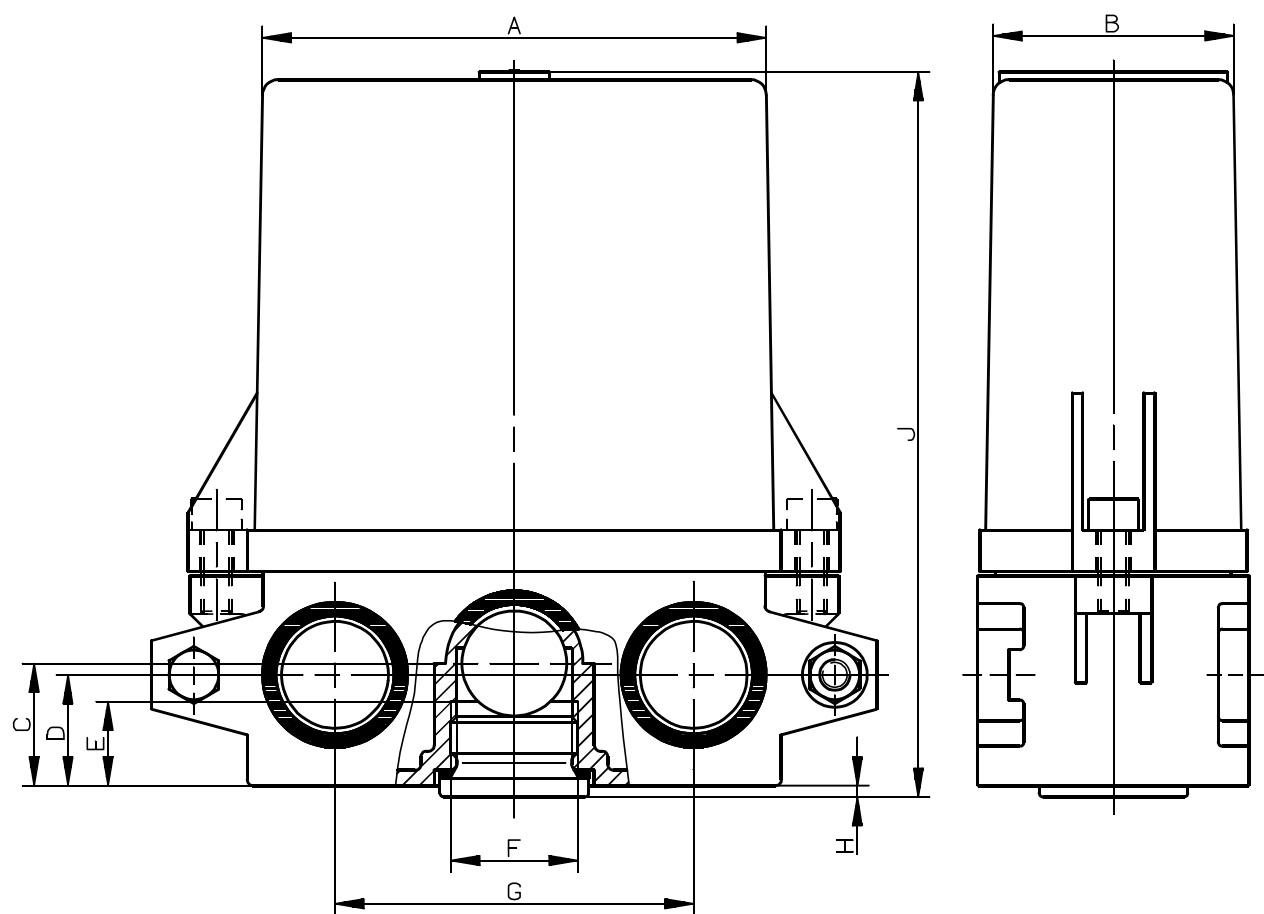


Table of dimensions [mm]

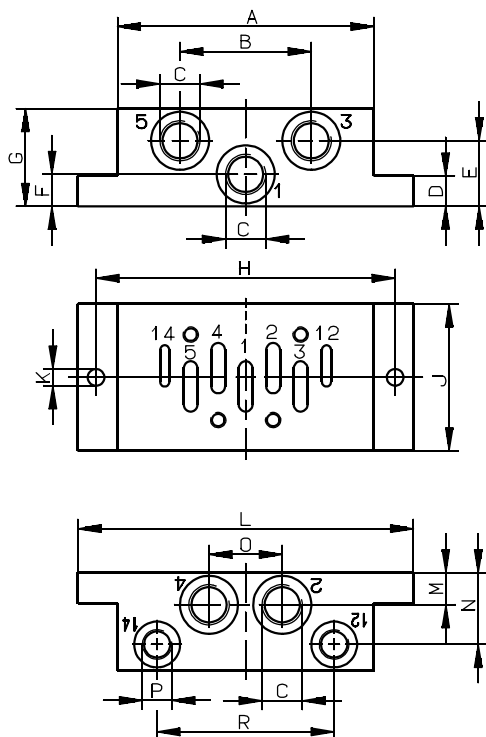
ISO-size	Cat. No.	A	B	C	D	E	F	G	H	J
1	0015510	77	38	22	19	15	G 3/8	48	2	≈ 122
2	—	—	—	—	—	—	—	—	—	—
3	0015530	130	62	32	29	22	G 1	94	2	190
4	—	—	—	—	—	—	—	—	—	—

Manifold base, Form A

Side-ported

Dimensional drawings [mm]

01



02

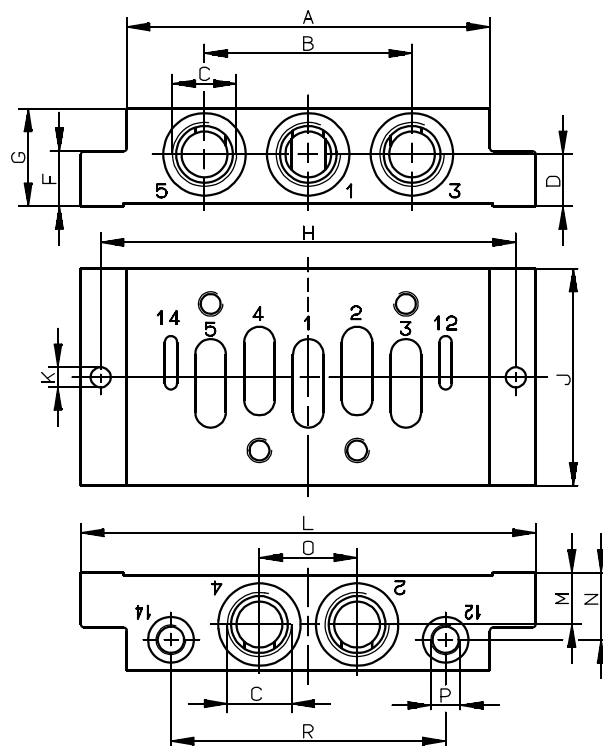


Table of dimensions [mm]

ISO-size	Cat. No.	Dimensional drawing	A	B	C	D	E	F	G	H
1	2538115	01	84	43	G 1/4	10	21.5	10,5	32	98
2	2538215	01	95	56	G 3/8	14	26.0	13,0	40	112
3	2538315	02	119	68	G 1/2	17	—	18,0	32	136
4	2538415	02	148	90	G 3/4	22	—	19,0	42	170

ISO-size	Cat. No.	Dimensional drawing	J	K	L	M	N	O	P	R
1	2538115	01	48	5.5	110	10.5	23.5	24	G 1/8	58
2	2538215	01	57	6.6	124	14.0	30.0	30	G 1/8	74
3	2538315	02	71	6.6	149	17.0	22.0	32	G 1/8	90
4	2538415	02	85	9.0	186	22.0	30.0	42	G 1/8	111

Manifold base, Form B

Bottom-ported

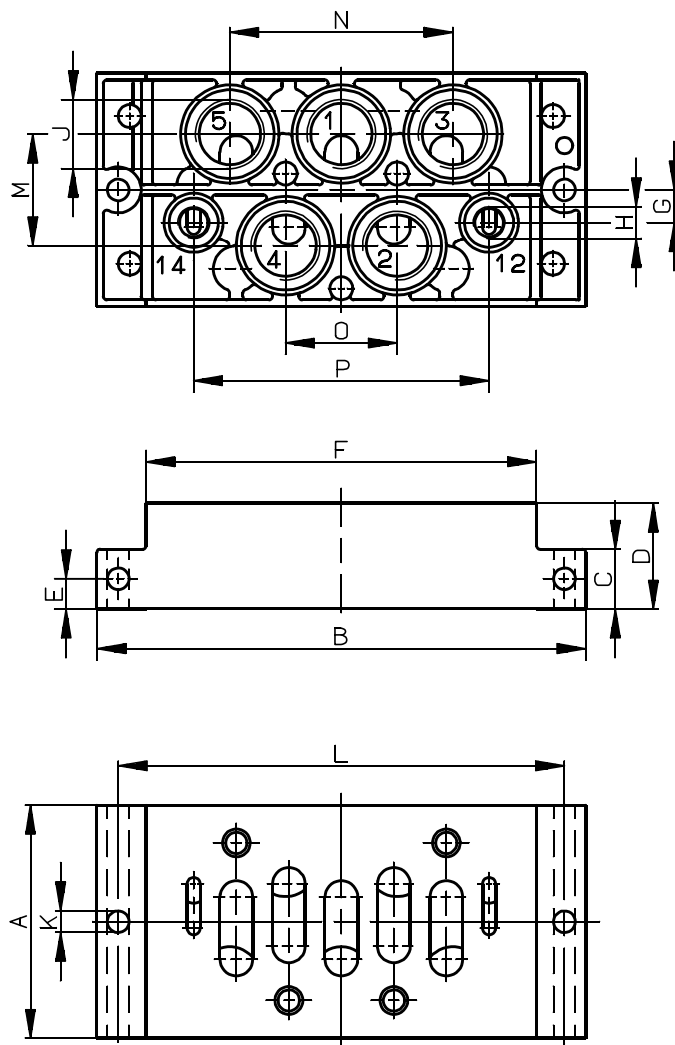


Table of dimensions [mm]

ISO-size	Cat. No.	A	B	C	D	E	F	G	H
1	2538120	46	110	10	30	5	84	7	G 1/8
2	2538220	56	124	13	35	6.5	95	8	G 1/8
3	2538320	71	149	18	32	9	119	10	G 1/8
4	2538420	85	186	19	28	9.5	148	15	G 1/8

ISO-size	Cat. No.	J	K	L	M	N	O	P
1	2538120	G 1/4	5.5	98	23	46	23	62
2	2538220	G 3/8	6.6	112	27	56	28	73
3	2538320	G 1/2	6.6	136	34	68	34	90
4	2538420	G 3/4	9	170	40	90	42	111

Pressure control valve

0.5 to 12 bar

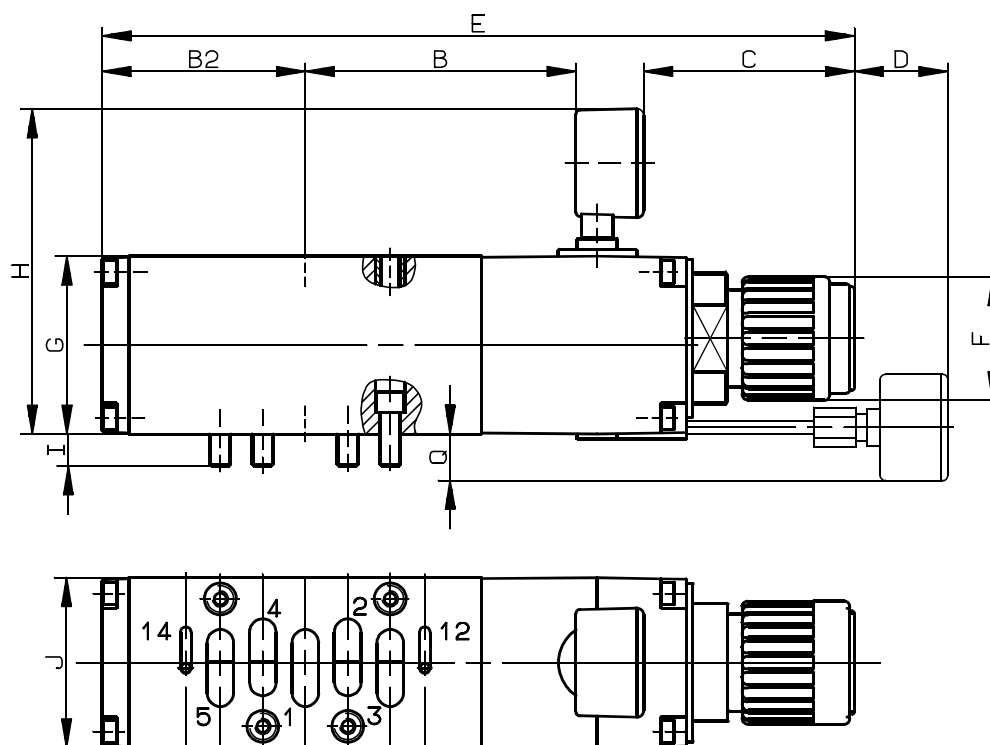
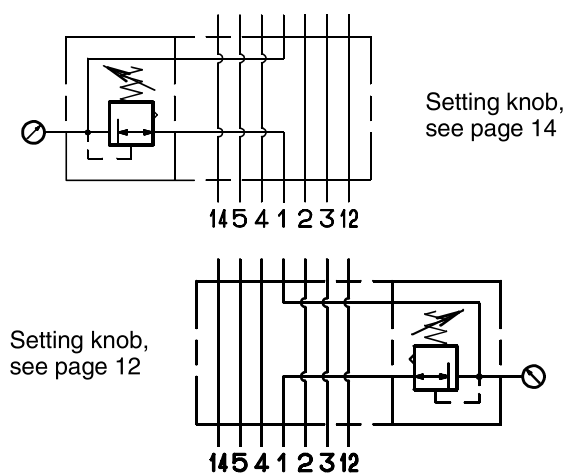


Table of dimensions [mm]

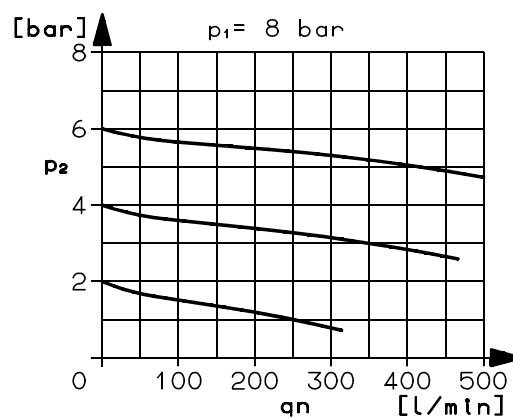
ISO-size	Cat. No.	Setting knob, see page 14	Setting knob, see page 12	B	B2	C	D	E	F	G	H	I	J	Q
1	2538136	2538135		—	52,5	—	34	194	Ø 27	45	—	10	42	17
2	2538236	2538235		82	76,5	74,5	—	256	Ø 38	60	115,5	12	54	—
3	2538336	2538335		102	76,5	80	—	285	Ø46	67	122,5	12	64	—

Symbol



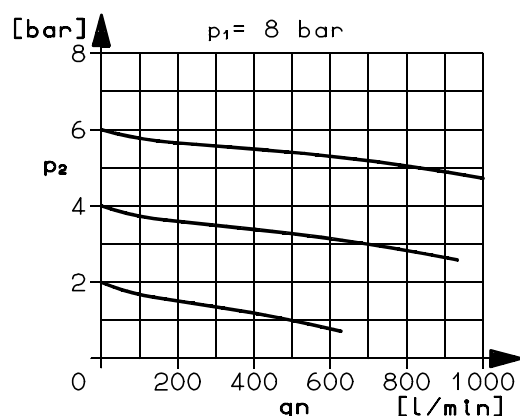
Characteristic curves

Flow diagram for ISO-size 1

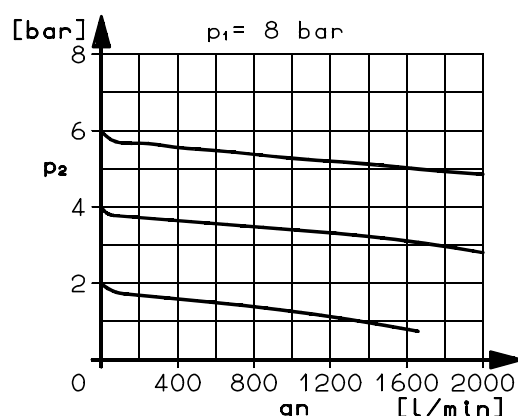


Characteristic curves

Flow diagram for ISO-size 2

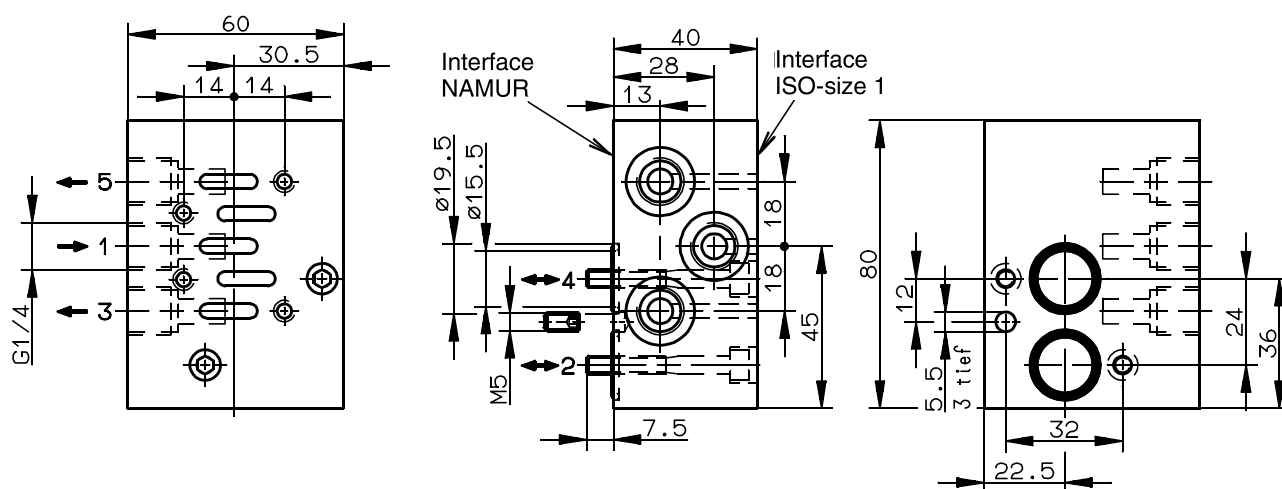


Flow diagram for ISO-size 3



Manifold base ISO-size 1/NAMUR

For direct installation of ISO valves
on pneumatic cylinders to NAMUR
Cat. No. **0541326**



Further information on ISO-type directional control valves

Model	Actuation	ISO size	Nominal size	Register	Publication
5/2 and 5/3 directional control valves	Pneumatic	1, 2, 3 and 4	7, 10, 15 and 21	8	7503097
5/2 and 5/3 directional control valves	Electromagnetic	1, 2, 3 and 4	7, 10, 15 and 21	11	7503043

Valves according to specifications of the automobile industry (on request)

Electromagnetically or pneumatically operated, ported to DIN ISO 5599

Model	Specification/Firm	ISO-size	Nominal size	Register	Publication
5-way valves	ADAM OPEL AG	1, 3 and 4	7, 15 and 21	—	7502521
5-way valves	BMW – BAYERISCHE MOTOREN-WERKE AKTIENGESELLSCHAFT	1, 3 and 4	7, 15 and 21	—	7501706
5-way valves	Ford	1, 2, 3 and 4	7, 10, 15 and 21	—	7501620
5-way valves	Mercedes-Benz AG	1, 3 and 4	7, 15 and 21	—	7501691
5-way valves	Volkswagen AG	1 and 3	7 and 15	—	7501693