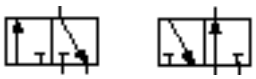
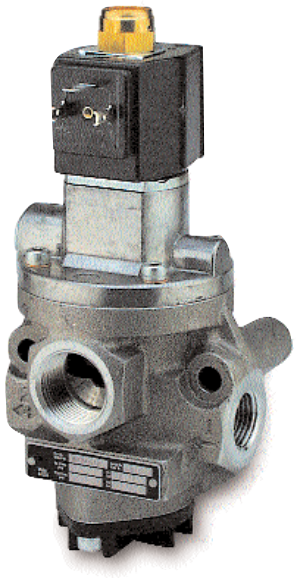
80200 Series

Indirect solenoid actuated poppet valves

15 to 50 mm orifice

3/2, G½ to G2





High flow rate

Optionally pilot-operated by external pilot source

High repeatability of switching time

Easily interchangeable solenoid system

Technical data

Medium:

Compressed air, filtered, lubricated or non-lubricated

Mounting position:

Optional, preferably vertical; with strong vibration vertical to axis of vibration

Operating pressure:

10 bar maximum

Flow:

(at 6 bar Δp 1 bar)

Orifice Ø	l/min
G1/2	5000
G3/4	8000
G1	12000, 18000*
G1½	25000
G2	35000

*For 8026870 valves only

Ambient temperature:

-10°C to +60°C

Consult our Technical Service for use below +2°C.

Materials

Housing: aluminium

Seat seal: AU (polyurethane)

Inner parts: POM

Alternative models

Manual override

Direct pneumatic actuated models

Other models available, please contact our Technical Service.

Standard models

Port size 1	2	3	Orifice (mm)	Type	Operating pressure (bar)	Control pressure (bar)	Switching time (ms)	kg	Model
G1/2	G1/2	G3/4	15	NC	2 ... 10	–	10	1,3	8026570xxxx*****
G3/4	G3/4	G1	20	NC	2 ... 10	–	10	1,5	8026670xxxx*****
G1	G1	G1	25	NC	2 ... 10	–	10	1,5	8026770xxxx*****
G1	G1¼	G1¼	32	NC	2 ... 10	–	12	3,0	8026870xxxx*****
G1½	G1½	G1½	40	NC	2 ... 10	–	15	3,8	8026970xxxx*****
G2	G2	G2	50	NC	2 ... 10	–	20	6,8	8027070xxxx*****
G1/2	G1/2	G3/4	15	NO	2 ... 10	–	10	1,3	8028570xxxx*****
G3/4	G3/4	G1	20	NO	2 ... 10	–	10	1,5	8028670xxxx*****
G1	G1	G1	25	NO	2 ... 10	–	10	1,5	8028770xxxx*****
G1	G1¼	G1¼	32	NO	2 ... 10	–	12	3,0	8028870xxxx*****
G1½	G1½	G1½	40	NO	2 ... 10	–	15	3,8	8028970xxxx*****
G2	G2	G2	50	NO	2 ... 10	–	20	6,8	8029070xxxx*****
G1/2	G1/2	G3/4	15	NC	0 ... 10	2 ... 10	10	1,3	8026571xxxx*****
G3/4	G3/4	G1	20	NC	0 ... 10	2 ... 10	10	1,5	8026671xxxx*****
G1	G1	G1	25	NC	0 ... 10	2 ... 10	10	1,5	8026771xxxx*****
G1	G1¼	G1¼	32	NC	0 ... 10	2 ... 10	12	3,0	8026871xxxx*****
G1½	G1½	G1½	40	NC	0 ... 10	2 ... 10	15	3,8	8026971xxxx*****
G2	G2	G2	50	NC	0 ... 10	2 ... 10	20	6,8	8027071xxxx*****
G1/2	G1/2	G3/4	15	NO	0 ... 10	2 ... 10	10	1,3	8028571xxxx*****
G3/4	G3/4	G1	20	NO	0 ... 10	2 ... 10	10	1,5	8028671xxxx*****
G1	G1	G1	25	NO	0 ... 10	2 ... 10	10	1,5	8028771xxxx*****
G1	G1¼	G1¼	32	NO	0 ... 10	2 ... 10	12	3,0	8028871xxxx*****
G1½	G1½	G1½	40	NO	0 ... 10	2 ... 10	15	3,8	8028971xxxx*****
G2	G2	G2	50	NO	0 ... 10	2 ... 10	20	6,8	8029071xxxx*****

Vacuum models

Port size 1	2	3	Orifice (mm)	Type	Operating pressure (bar)	Control pressure (bar)	Switching time (ms)	kg	Model
G1/2	G1/2	G3/4	15	NC	0,01 ... 6	4 ... 10	20	1,3	8026572xxxx*****
G3/4	G3/4	G1	20	NC	0,01 ... 6	4 ... 10	20	1,5	8026672xxxx*****
G1	G1	G1	25	NC	0,01 ... 6	4 ... 10	20	1,5	8026772xxxx*****
G1	G1¼	G1¼	32	NC	0,01 ... 6	4 ... 10	25	3,0	8026872xxxx*****
G1½	G1½	G1½	40	NC	0,01 ... 6	4 ... 10	30	3,8	8026972xxxx*****
G2	G2	G2	50	NC	0,01 ... 6	4 ... 10	35	6,8	8027072xxxx*****

xxxx Insert solenoid code from table below ***** Insert voltage code from table below. Plugs according to DIN 43650 Form A

* Required pilot pressure ≥ operating pressure, min. 2 bar; with vacuum operating pressure + 1 bar, min. 4 bar.

Solenoid operating details

Power consumption 24 V d.c.	230 V a.c.	Protection class	Operating temperature °C Media	Ambient	Electrical connection	Solenoid code
16	27	IP 00 without connector	80	-25 ... 60		0800
11,4 W		EEx me II T4/T5	-40 ... +50/+40	-40 ... +50/+40	M20x1,5	4280
15,2 VA		EEx me II T4/T5	-40 ... +50/+40	-40 ... +50/+40	M20x1,5	4281

Voltage codes

Voltage	Code
24 V d.c.	02400
24 V a.c.	02450

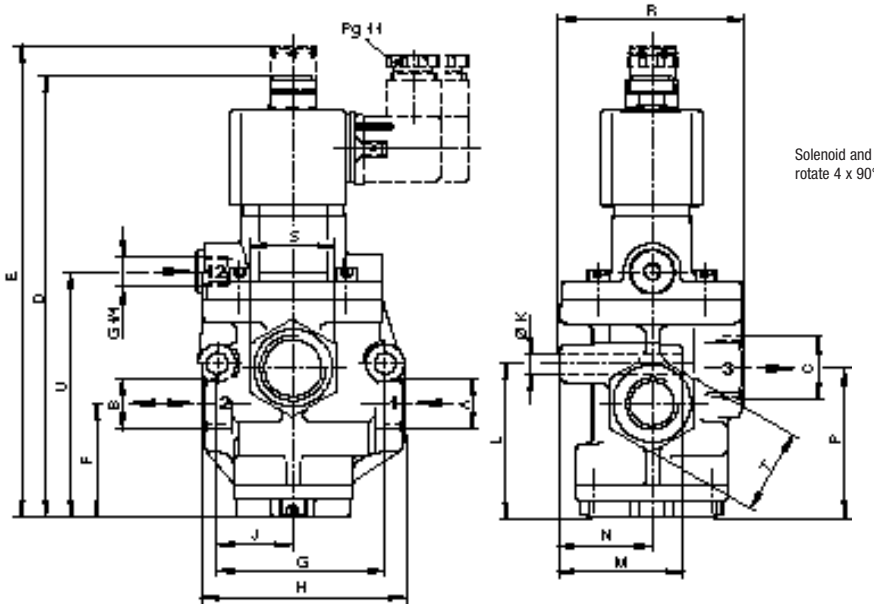
Other voltages on request.

80200 Series

Indirect solenoid actuated poppet valves

15 to 50 mm orifice

3/2, G½ to G2



Solenoid and connector rotate 4 x 90°

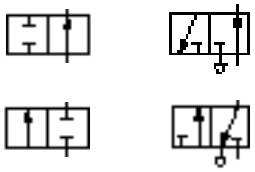
Model	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	R	S	W
80265xx	G1/2	G1/2	G3/4	187,5	–	48	71	86	32	9	65,5	52	39	63,5	78	36	36	104,5
80266xx	G3/4	G3/4	G1	197,5	–	51,5	82,5	112	39	9	74,5	54	40	73	92	46	46	114,5
80267xx	G1	G1	G1	197,5	–	51,5	82,5	112	39	9	74,5	54	40	73	92	46	46	114,5
80268xx	G1	G1¼	G1¼	239	–	70	104	142	48	11	108	64	42	98	108	60	60	148
80269xx	G1½	G1½	G1½	265	–	85	118	164	50,5	14	121,5	70	46	115,5	123	60	68	168
80270xx	G2	G2	G2	304	–	98	148	200	66	18	144	85	56	137	153	90	90	204
80285xx	G1/2	G1/2	G3/4	–	200,5	48	71	86	32	9	65,5	52	39	63,5	78	36	36	104,5
80286xx	G3/4	G3/4	G1	–	210,5	51,5	82,5	112	39	9	74,5	54	40	73	92	46	46	114,5
80287xx	G1	G1	G1	–	210,5	51,5	82,5	112	39	9	74,5	54	40	73	92	46	46	114,5
80288xx	G1	G1¼	G1¼	–	252	70	104	142	48	11	108	64	42	98	108	60	60	148
80289xx	G1½	G1½	G1½	–	279	85	118	164	50,5	14	121,5	70	46	115,5	123	60	68	168
80290xx	G2	G2	G2	–	317	98	148	200	66	18	144	85	56	137	153	90	90	204

Prospector®

Solenoid & pilot actuated poppet valves

In-line

G⅜ to G1, 2/2 & 3/2



Exceptionally high flow
High reliability
Durable
Reversible seals

Technical data

Medium

Filtered and lubricated compressed air.

Mounting

Through-holes in valve body.

Operating pressure

2 to 10 bar solenoid pilot
0 to 20 bar air pilot

Ambient temperature

Solenoid pilot: -20°C to +50°C
Air pilot: -20°C to +80°C
Consult our Technical Service for use below +2°C.

Materials

Body: aluminium alloy body, piston, poppets and sub-base
Operators: zinc or aluminium solenoid pilot operators, stainless steel or steel, reinforced polyester, brass or polyurethane, acetal, copper wire
Elastomers: nitrile rubbers seals (fluorocarbon seals optional, contact our Technical Service)

Alternative models

Vacuum service.
Fluorocarbon seals.
4/2 function.
Up to 2" ports.

Solenoid

Body size (inch)	Port size	Function	Flow (l/min)	kg	Model	Service kit
1/2	G3/8	2/2 NC	3,351	0,98	AA013C-00-CE***	53474-03
1/2	G1/2	NC	5,224	0,98	AA014C-00-CE***	53474-03
1/2	G3/4	NC	6,407	0,98	AA015C-00-CE***	53474-03
1	G1	NC	13,307	1,97	AA026C-00-CE***	53475-01
1/2	G3/8	2/2 NO	3,746	0,98	BA013C-00-CE***	53474-03
1/2	G1/2	NO	5,323	0,98	BA014C-00-CE***	53474-03
1/2	G3/4	NO	6,210	0,98	BA015C-00-CE***	53474-03
1	G1	NO	15,180	1,97	BA026C-00-CE***	53475-01
1/2	G3/8	3/2 NC	4,830	1,11	DA023C-00-CE***	53474-03
1/2	G1/2	NC	5,717	1,11	DA024C-00-CE***	53474-03
1/2	G3/4	NC	6,111	1,11	DA025C-00-CE***	53474-03
1	G1	NC	14,391	2,02	DA036C-00-CE***	53475-01
1/2	G3/8	3/2 NO	4,534	1,11	EA023C-00-CE***	53474-03
1/2	G1/2	NO	5,421	1,11	EA024C-00-CE***	53474-03
1/2	G3/4	NO	5,717	1,11	EA025C-00-CE***	53474-03
1	G1	NO	13,602	2,02	EA036C-00-CE***	53475-01

*** Insert voltage codes from table below.
NC = Normally closed, NO = Normally open

Voltage codes & spare coils

Voltage	Code	Power inrush/hold	Coil
24 V d.c.	83J	7,5 W	QM/48/83J/21
110 V a.c.	88J	12/8 VA	QM/48/88J/21
230 V a.c.	89J	12/8 VA	QM/48/89J/21

Electrical details for solenoid operators

Voltage tolerance:	+10/-15%
Rating:	100% E.D.
Inlet orifice:	1,6 mm
Electrical connection:	22 mm Industrial Standard
Manual override:	Locking
Protection class:	IP 65 (DIN 40050)

For details of connector plugs and light emitting gaskets see page 383

Pilot

Body size (inch)	Port size	Function	Flow (l/min)	kg	Model	Service kit
1/2	G3/8	2/2 NC	3,351	0,83	AA013C-AA	53474-03
1/2	G1/2	NC	5,224	0,83	AA014C-AA	53474-03
1/2	G3/4	NC	6,407	0,83	AA015C-AA	53474-03
1	G1	NC	13,307	1,82	AA026C-AA	53475-01
1/2	G3/8	2/2 NO	3,746	0,83	BA013C-AA	53474-03
1/2	G1/2	NO	5,323	0,83	BA014C-AA	53474-03
1/2	G3/4	NO	6,210	0,83	BA015C-AA	53474-03
1	G1	NO	15,180	1,82	BA026C-AA	53475-01
1/2	G3/8	3/2 NC	4,830	0,96	DA023C-AA	53474-03
1/2	G1/2	NC	5,717	0,96	DA024C-AA	53474-03
1/2	G3/4	NC	6,111	0,96	DA025C-AA	53474-03
1	G1	NC	14,391	1,86	DA036C-AA	53475-01
1/2	G3/8	3/2 NO	4,534	0,96	EA023C-AA	53474-03
1/2	G1/2	NO	5,421	0,96	EA024C-AA	53474-03
1/2	G3/4	NO	5,717	0,96	EA025C-AA	53474-03
1	G1	NO	13,602	1,86	EA036C-AA	53475-01

Prospector®

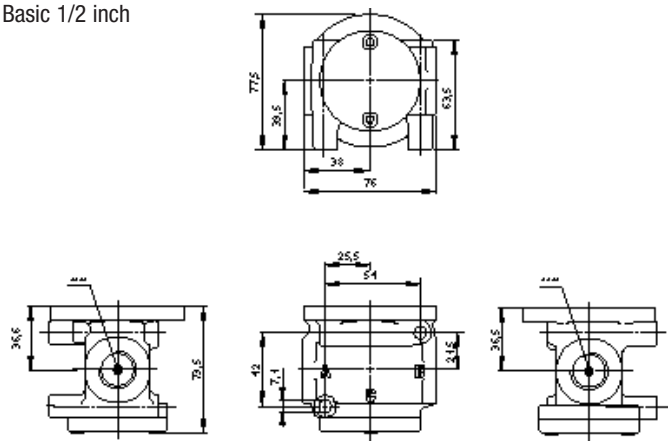
Solenoid & pilot actuated poppet valves

In-line

G⅜ to G1, 2/2 & 3/2

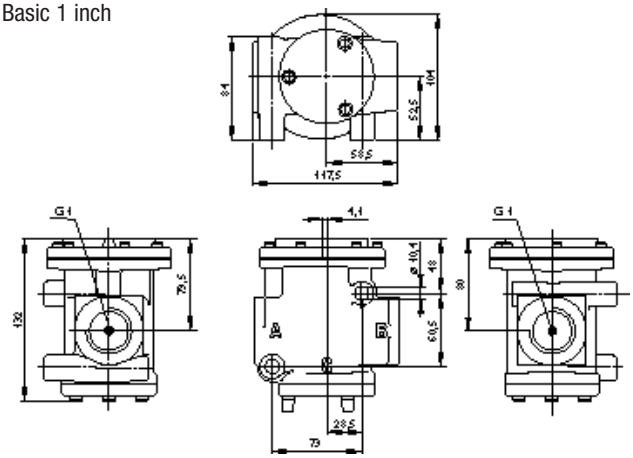
2/2 In-line

Basic 1/2 inch



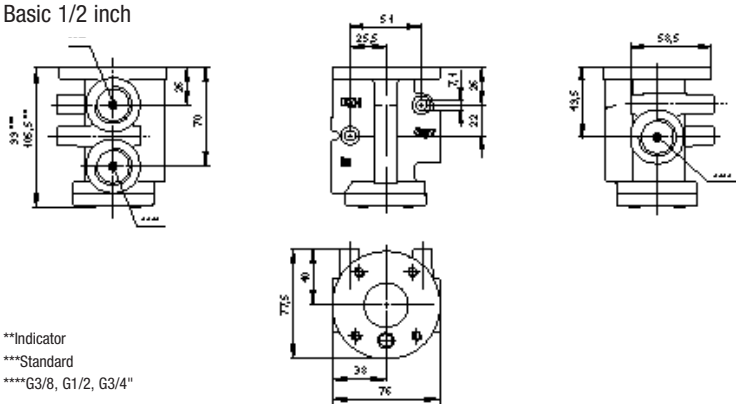
****G3/8, G1/2, G3/4"

Basic 1 inch



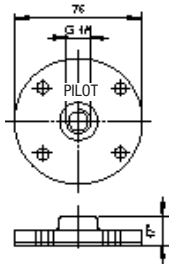
3/2 In-line

Basic 1/2 inch



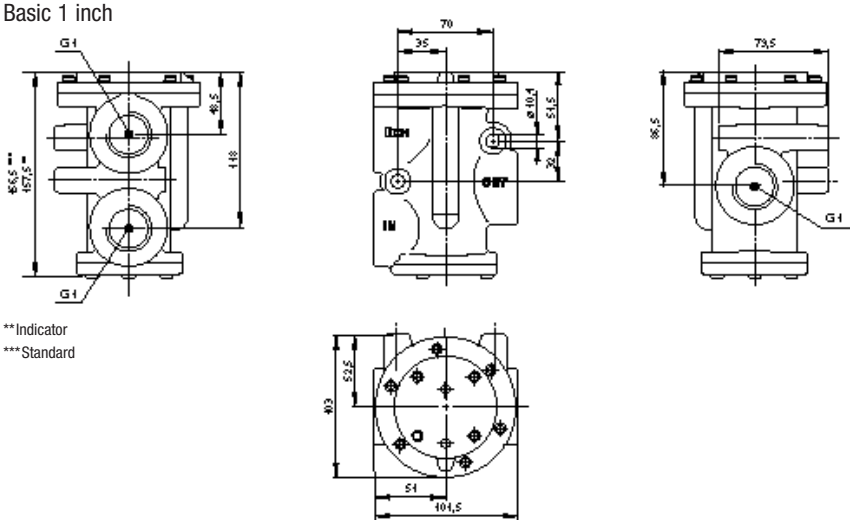
**Indicator
***Standard
****G3/8, G1/2, G3/4"

Air operators dimensions



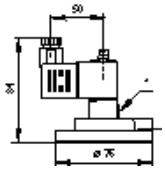
* 0,03" gasket

Basic 1 inch



**Indicator
***Standard

Solenoid operator dimensions



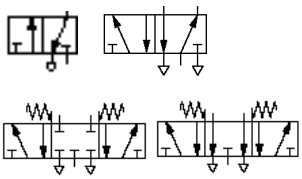
*Manual override

Super X

Manually & mechanically actuated spool valve

In-line

3/2, 5/2 & 5/3, G⅛, G¼



Wide range of operators

Suitable for multi-directional flow and dual supply applications

High flow capacity

Lightweight corrosion resistant materials

*Applies to emergency stop valves only

Technical data

Medium:

Compressed air, filtered, lubricated and non-lubricated

Operating pressure:

Maximum 10 bar.

Flow:

Size	l/min
G1/8	335
G1/4	965

Ambient temperature:

0°C to +70°C.

Consult our Technical Service for use below +2°C.

Materials

Body: die-cast aluminium alloy

End cover: aluminium or glass-filled nylon

Seals: nitrile rubber

Alternative models

Solenoid and pilot operated version – see V60-63 Series, page 282

Mechanical

Port size	Function	Actuation	kg	Model	Service kit	Drawing no.
G1/8	3/2	Plunger /Spring	0,14	03 0400 02	03 8408 02	A, 1
G1/8	3/2	Plunger /Pilot	0,20	03 0417 02	03 8408 02	C, 1
G1/8	3/2	Roller /Spring	0,14	03 0402 02	03 8408 02	A, 2
G1/8	3/2	Roller lever /Spring	0,21	03 0411 02	03 8408 02	A, 4
G1/8	3/2	Roller lever (heavy duty) /Spring	0,21	03 0293 02	03 8408 02	A, 10
G1/8	3/2	Sensitve roller lever /Spring	0,25	03 0423 02	–	A, 5
G1/8	3/2	Roller /Pilot	0,18	03 0409 02	03 8408 02	C, 2
G1/8	3/2	Roller lever /Pilot	0,25	03 0427 02	03 8408 02	C, 4
G1/8	3/2	One-way trip /Spring	0,21	03 0410 02	03 8408 02	A, 7
G1/8	3/2	One-way trip (heavy duty) /Spring	0,21	03 0294 02	03 8408 02	A, 11
G1/8	3/2	Antenna /Spring	0,21	03 0432 02	–	A, 8
G1/8	5/2	Plunger /Spring	0,25	X3 0440 02	03 8408 02	E, 1
G1/8	5/2	Plunger /Pilot	0,31	X3 0457 02	03 8408 02	G, 1
G1/8	5/2	Roller /Spring	0,25	X3 0442 02	03 8408 02	E, 2
G1/8	5/2	Roller lever /Spring	0,32	X3 0451 02	03 8408 02	E, 4
G1/8	5/2	Roller lever (heavy duty) /Spring	0,29	X3 0393 02	03 8408 02	E, 10
G1/8	5/2	Sensitive roller lever /Spring	0,36	X3 0463 02	–	E, 5
G1/8	5/2	Roller /Pilot	0,29	X3 0449 02	03 8408 02	G, 2
G1/8	5/2	Roller lever /Pilot	0,36	X3 0467 02	03 8408 02	G, 4
G1/8	5/2	One-way trip /Spring	0,32	X3 0450 02	03 8408 02	E, 7
G1/8	5/2	One-way trip (heavy duty) /Spring	0,29	X3 0394 02	03 8408 02	E, 11
G1/8	5/2	Antenna /Spring	0,30	X3 0472 02	–	E, 8
G1/4	3/2	Plunger /Spring	0,34	03 0600 02	03 8602 02	B, 3
G1/4	3/2	Roller /Spring	0,34	03 0602 02	03 8602 02	B, 6
G1/4	3/2	Roller lever /Spring	0,41	03 0611 02	03 8602 02	B, 9
G1/4	3/2	Roller /Pilot	0,39	03 0609 02	03 8612 02	D, 6
G1/4	3/2	Roller lever /Pilot	0,45	03 0624 02	03 8612 02	D, 9
G1/4	5/2	Plunger /Spring	0,46	X3 0640 02	03 8602 02	F, 3
G1/4	5/2	Roller /Spring	0,46	X3 0642 02	03 8602 02	F, 6
G1/4	5/2	Roller lever /Spring	0,53	X3 0651 02	03 8602 02	F, 9
G1/4	5/2	Roller /Pilot	0,50	X3 0649 02	03 8612 02	H, 6
G1/4	5/2	Roller lever /Pilot	0,57	X3 0664 02	03 8612 02	H, 9

Super X

Manually & mechanically actuated spool valve

In-line

3/2, 5/2 & 5/3, G⅛, G¼

Manual

Port size	Function	Actuation	Mid position	Colour	kg	Model	Service kit	Drawing no.
G1/8	3/2	Button/spring	–	Black	0,15	03 0404 02	03 8408 02	A, 12
G1/8	3/2	Button/spring	–	Green	0,15	03 0405 02	03 8408 02	A, 12
G1/8	3/2	Button/spring	–	Red	0,15	03 0406 02	03 8408 02	A, 12
G1/8	3/2	Button (palm)/spring	–	Red	0,29	03 0366 02	03 8408 02	A, 15
G1/8	3/2	Button (palm)/spring	–	Green	0,29	03 0367 02	03 8408 02	A, 15
G1/8	3/2	Button (palm)/spring	–	Black	0,29	03 0368 02	03 8408 02	A, 15
G1/8	3/2	Button (shrouded)/spring	–	Black	0,21	03 0414 02	03 8408 02	A, 13
G1/8	3/2	Button (shrouded)/spring	–	Green	0,21	03 0415 02	03 8408 02	A, 13
G1/8	3/2	Button (shrouded)/spring	–	Red	0,21	03 0416 02	03 8408 02	A, 13
G1/8	3/2	Button/pilot	–	Black	0,22	03 0408 02	03 8408 02	D, 12
G1/8	3/2	Button/pilot	–	Green	0,22	03 0420 02	03 8408 02	D, 12
G1/8	3/2	Button/pilot	–	Red	0,22	03 0421 02	03 8408 02	D, 12
G1/8	3/2	Emergency stop/twist ring	–	Red	0,31	03 0428 02	03 8473 02	A, 16
G1/8	3/2	Button (palm)/key	–	Red	0,37	03 0335 02 801	03 8408 02	A, 17
G1/8	3/2	Lever/spring	–	Black	0,28	03 0438 02	03 8408 02	A, 23
G1/8	3/2	Lever knob/spring	–	Black	0,24	03 0426 02	03 8408 02	A, 19
G1/8	3/2	Lever/lever	–	Black	0,29	03 0437 02	03 8408 02	A, 23
G1/8	3/2	Toggle/toggle	–	Black	0,16	03 0403 02	03 8408 02	A, 22
G1/8	3/2	Knob/knob	–	Black	0,17	03 0425 02	03 8408 02	A, 21
G1/8	3/2	Knob/knob or pilot	–	Black	0,21	03 0424 02	03 8408 02	D, 21
G1/8	3/2	Rotary knob/rotary knob	–	Black	0,29	03 0419 02	03 8408 02	A, 27
G1/8	3/2	Key/key	–	Chrome	0,36	03 0418 02 801	03 8408 02	A, 28
G1/8	3/2	Pedal/spring	–	Black	1,03	03 0481 02	03 8408 02	29
G1/8	3/2	Pedal/pedal	–	Black	1,07	03 0483 02	03 8408 02	29
G1/8	5/2	Button/spring	–	Black	0,26	X3 0444 02	03 8408 02	E, 12
G1/8	5/2	Button/spring	–	Green	0,26	X3 0445 02	03 8408 02	E, 12
G1/8	5/2	Button/spring	–	Red	0,26	X3 0446 02	03 8408 02	E, 12
G1/8	5/2	Button (palm)/spring	–	Red	0,40	X3 0386 02	03 8408 02	E, 15
G1/8	5/2	Button (palm)/spring	–	Green	0,40	X3 0387 02	03 8408 02	E, 15
G1/8	5/2	Button (palm)/spring	–	Black	0,40	X3 0388 02	03 8408 02	E, 15
G1/8	5/2	Button (shrouded)/spring	–	Black	0,32	X3 0454 02	03 8408 02	E, 13
G1/8	5/2	Button (shrouded)/spring	–	Green	0,32	X3 0455 02	03 8408 02	E, 13
G1/8	5/2	Button (shrouded)/spring	–	Red	0,32	X3 0456 02	03 8408 02	E, 13
G1/8	5/2	Button/pilot	–	Black	0,34	X3 0448 02	03 8408 02	G, 12
G1/8	5/2	Button/pilot	–	Green	0,34	X3 0460 02	03 8408 02	G, 12
G1/8	5/2	Button/pilot	–	Red	0,34	X3 0461 02	03 8408 02	G, 12
G1/8	5/2	Knob, push/knob, pull	–	Black	0,28	X3 0465 02	03 8408 02	E, 26
G1/8	5/2	Emergency stop/twist ring	–	Red	0,54	X3 0468 02	03 8473 02	E, 16
G1/8	5/2	Button (palm)/key	–	Red	0,48	X3 0375 02 801	03 8408 02	E, 17
G1/8	5/2	Lever/spring	–	Black	0,40	X3 0478 02	03 8408 02	E, 22
G1/8	5/2	Lever knob/spring	–	Black	0,35	X3 0466 02	03 8408 02	E, 19
G1/8	5/2	Toggle/toggle	–	Black	0,27	X3 0443 02	03 8408 02	E, 24
G1/8	5/2	Lever/lever	–	Black	0,40	X3 0477 02	03 8408 02	E, 23
G1/8	5/2	Knob/knob or pilot	–	Black	0,32	X3 0464 02	03 8408 02	G, 21
G1/8	5/2	Rotary knob/rotary knob	–	Black	0,40	X3 0459 02	03 8408 02	E, 27
G1/8	5/2	Key/key	–	Chrome	0,47	X3 0458 02 801	03 8408 02	E, 28
G1/8	5/2	Pedal/spring	–	Black	1,12	X3 0482 02	03 8408 02	29
G1/8	5/2	Pedal/pedal	–	Black	1,18	X3 0484 02	03 8408 02	29
G1/8	5/3	Lever/spring/lever	APB	Black	0,85	X3 3438 02	03 8408 02	J, 32
G1/8	5/3	Lever/spring/lever	COE	Black	0,85	X3 3478 02	03 8408 02	J, 32
G1/8	5/3	Lever/lever/lever	APB	Black	0,44	X3 3437 02	03 8408 02	J, 32
G1/8	5/3	Lever/lever/lever	COE	Black	0,44	X3 3477 02	03 8408 02	J, 32
G1/4	3/2	Button/spring	–	Black	0,35	03 0604 02	03 8602 02	B, 14
G1/4	3/2	Button/pilot	–	Black	0,42	03 0608 02	03 8612 02	D, 14
G1/4	3/2	Lever/spring	–	Black	0,48	03 0638 02	03 8602 02	B, 31
G1/4	3/2	Lever/lever	–	Black	0,49	03 0637 02	03 8602 02	B, 31
G1/4	3/2	Knob/knob	–	Black	0,37	03 0625 02	03 8602 02	B, 20
G1/4	3/2	Knob/knob or pilot	–	Black	0,41	03 0627 02	03 8612 02	D, 20
G1/4	3/2	Pedal/spring	–	Black	1,23	03 0681 02	03 8602 02	29
G1/4	3/2	Pedal/pedal	–	Black	1,27	03 0683 02	03 8602 02	29
G1/4	5/2	Button/spring	–	Black	0,47	X3 0644 02	03 8602 02	F, 14
G1/4	5/2	Button/pilot	–	Black	0,54	X3 0648 02	03 8612 02	H, 14
G1/4	5/2	Lever/spring	–	Black	0,60	X3 0678 02	03 8602 02	F, 31
G1/4	5/2	Lever/lever	–	Black	0,61	X3 0677 02	03 8602 02	F, 31
G1/4	5/2	Knob/knob	–	Black	0,49	X3 0665 02	03 8602 02	29
G1/4	5/2	Pedal/spring	–	Black	1,33	X3 0682 02	03 8602 02	29
G1/4	5/2	Pedal/pedal	–	Black	1,39	X3 0684 02	03 8602 02	J, 32
G1/4	5/3	Lever/spring/lever	APB	Black	1,06	X3 3638 02	03 8602 02	J, 32
G1/4	5/3	Lever/spring/lever	COE	Black	1,06	X3 3678 02	03 8602 02	J, 32
G1/4	5/3	Lever/lever/lever	APB	Black	0,65	X3 3637 02	03 8602 02	J, 32
G1/4	5/3	Lever/lever/lever	COE	Black	0,65	X3 3677 02	03 8602 02	J, 32

APB = All Ports Blocked COE = Centre Open Exhaust

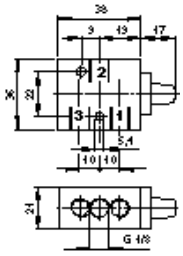
Super X

Manually & mechanically actuated spool valves

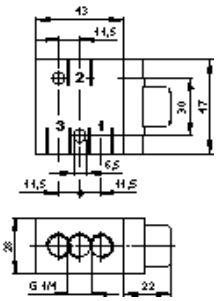
In-line

3/2, 5/2 & 5/3, G⅛, G¼

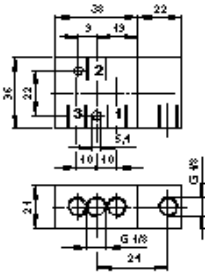
G1/8, 3/2 Spring return, basic body **A**



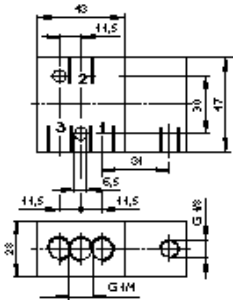
G1/4, 3/2 Spring return, basic body **B**



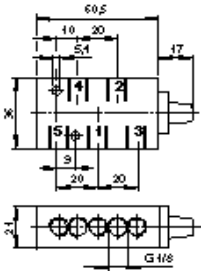
G1/8, 3/2 Pilot return, basic body **C**



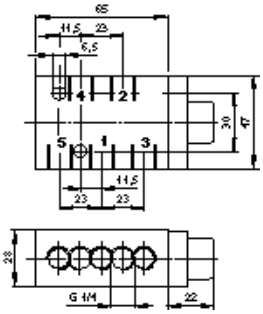
G1/4, 3/2 Pilot return, basic body **D**



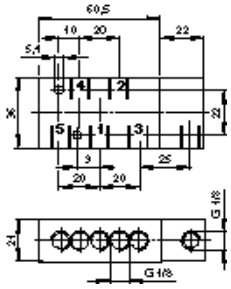
G1/8, 5/2 Spring return, basic body **E**



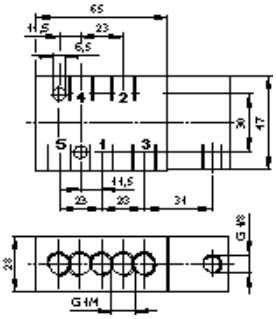
G1/4, 5/2 Spring return, basic body **F**



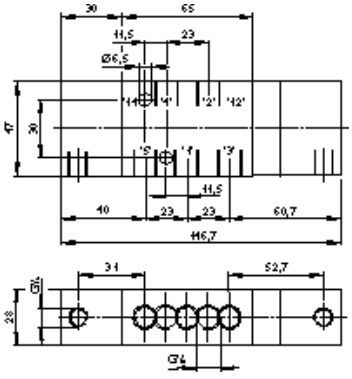
G1/8, 5/2 Pilot return, basic body **G**



G1/4, 5/2 Pilot return, basic body **H**

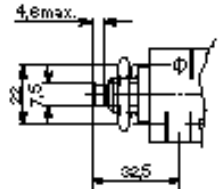


G1/4, 5/3 Spring return, basic body **J**

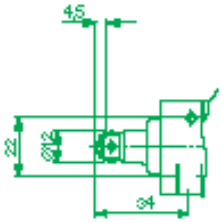


Mechanical valve actuators

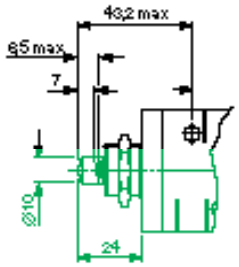
Plunger – G1/8 valves **1**



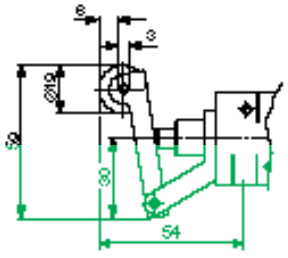
Roller – G1/8 valves **2**



Plunger – G1/4 valves **3**



Roller lever – G1/8 valves **4**



Super X

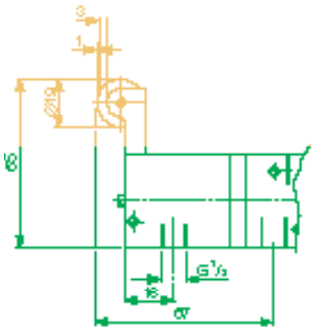
Manually & mechanically actuated spool valves

In-line

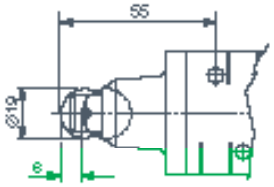
3/2, 5/2 & 5/3, G⅛, G¼

Mechanical valve actuators

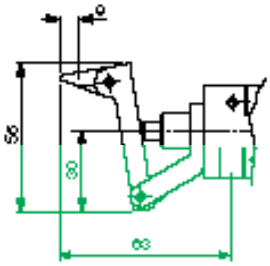
Sensitive roller lever – G1/8 valves (5)



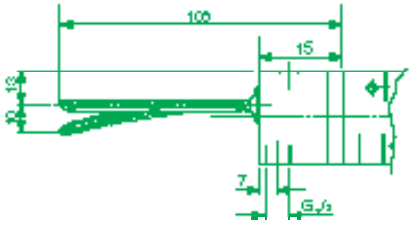
Roller – G1/4 valves (6)



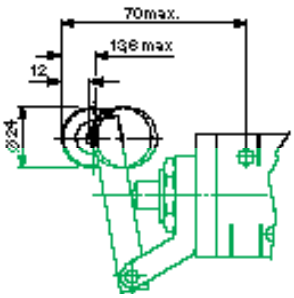
One way trip – G1/8 valves (7)



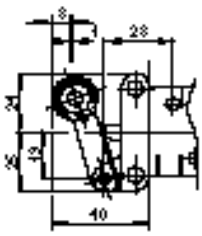
Antenna – G1/8 valves (8)



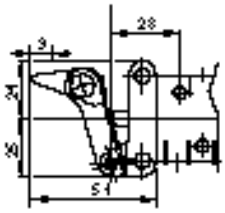
Roller lever – G1/4 valves (9)



Heavy duty roller lever – G1/8 valves (10)

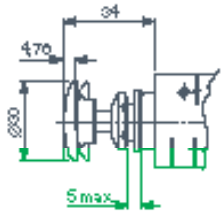


Heavy duty one-way trip – G1/8 valves (11)

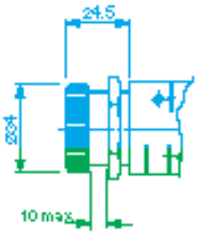


Manual valve actuators

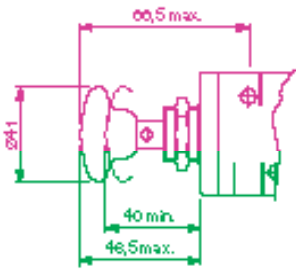
Button – G1/8 valves (12)



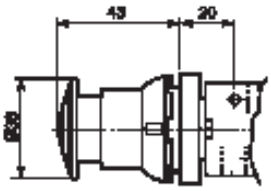
Button (shrouded) – G1/8 valves (13)



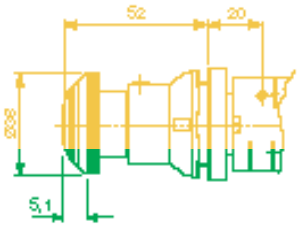
Button – G1/4 valves (14)



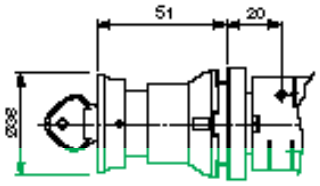
Button (palm) – G1/8 valves (15)



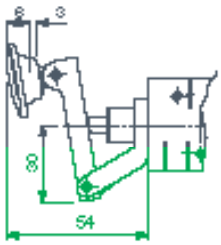
Emergency stop – G1/8 valves (16)



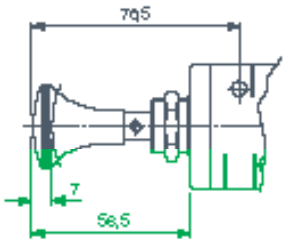
Button/key – G1/8 valves (17)



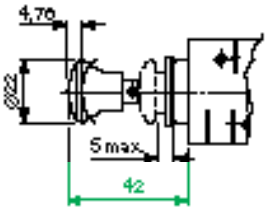
Lever/knob – G1/8 valves (19)



Knob – G1/4 valves (20)



Knob – G1/8 valves (21)



Super X

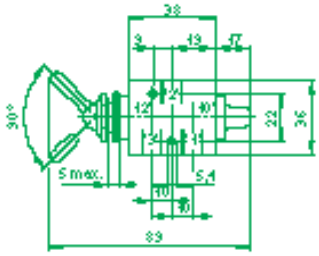
Manually & mechanically actuated spool valves

In-line

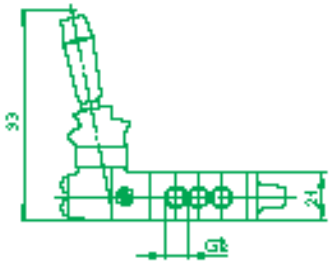
3/2, 5/2 & 5/3, G⅛, G¼

Manual valve actuators

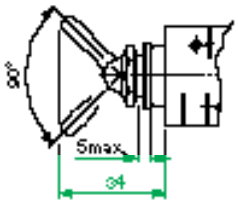
Lever operated spring return valve – G1/8 valves



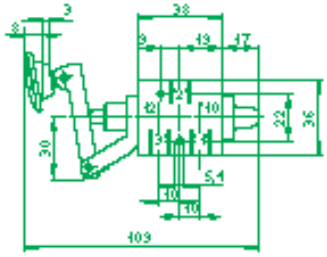
22 Lever operated spring return valve – G1/8 valves



23 Switch – G1/8 valves

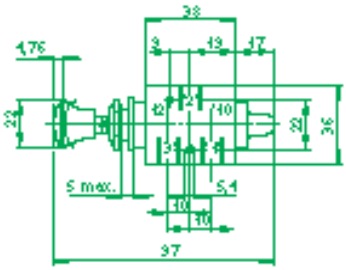


24 Lever operated spring return valve – G1/8 valves

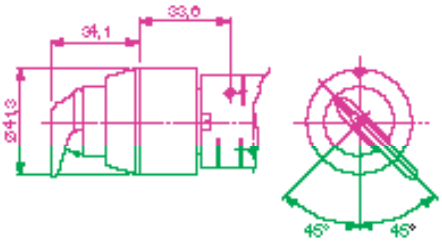


25

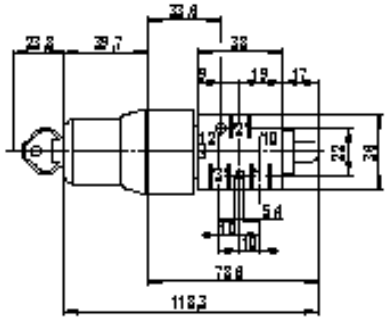
Knob operated knob return valve – G1/8 valves



26 Rotary knob – G1/8 valves



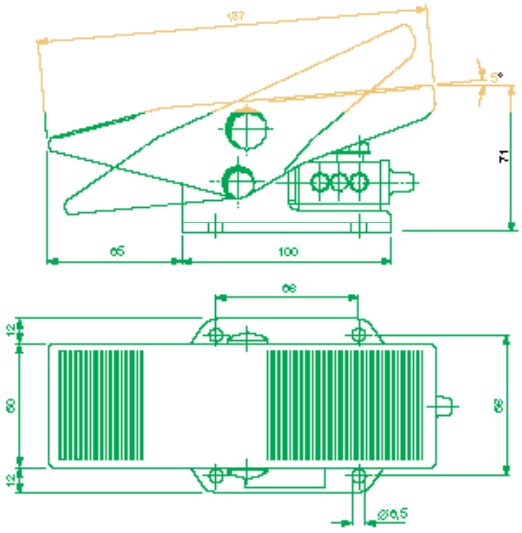
27 Key – G1/8 valves



28

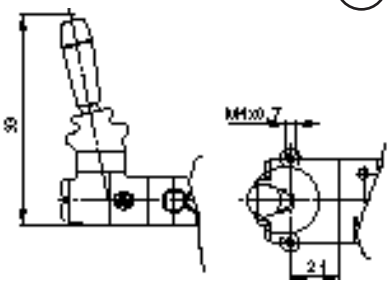
Pedal/treadle – G1/8-G1/4 valves

29



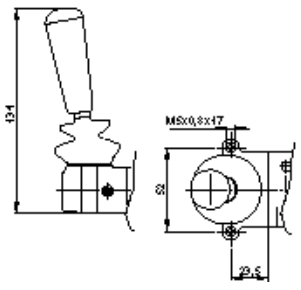
Lever – G1/8 valves

30



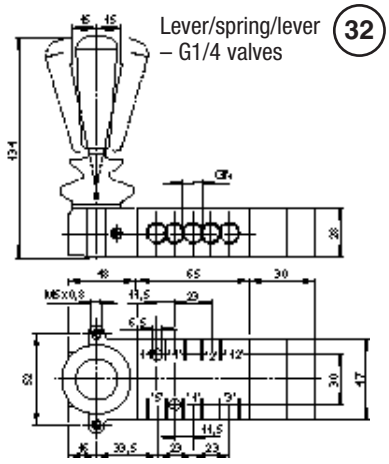
Lever – G1/4 valves

31

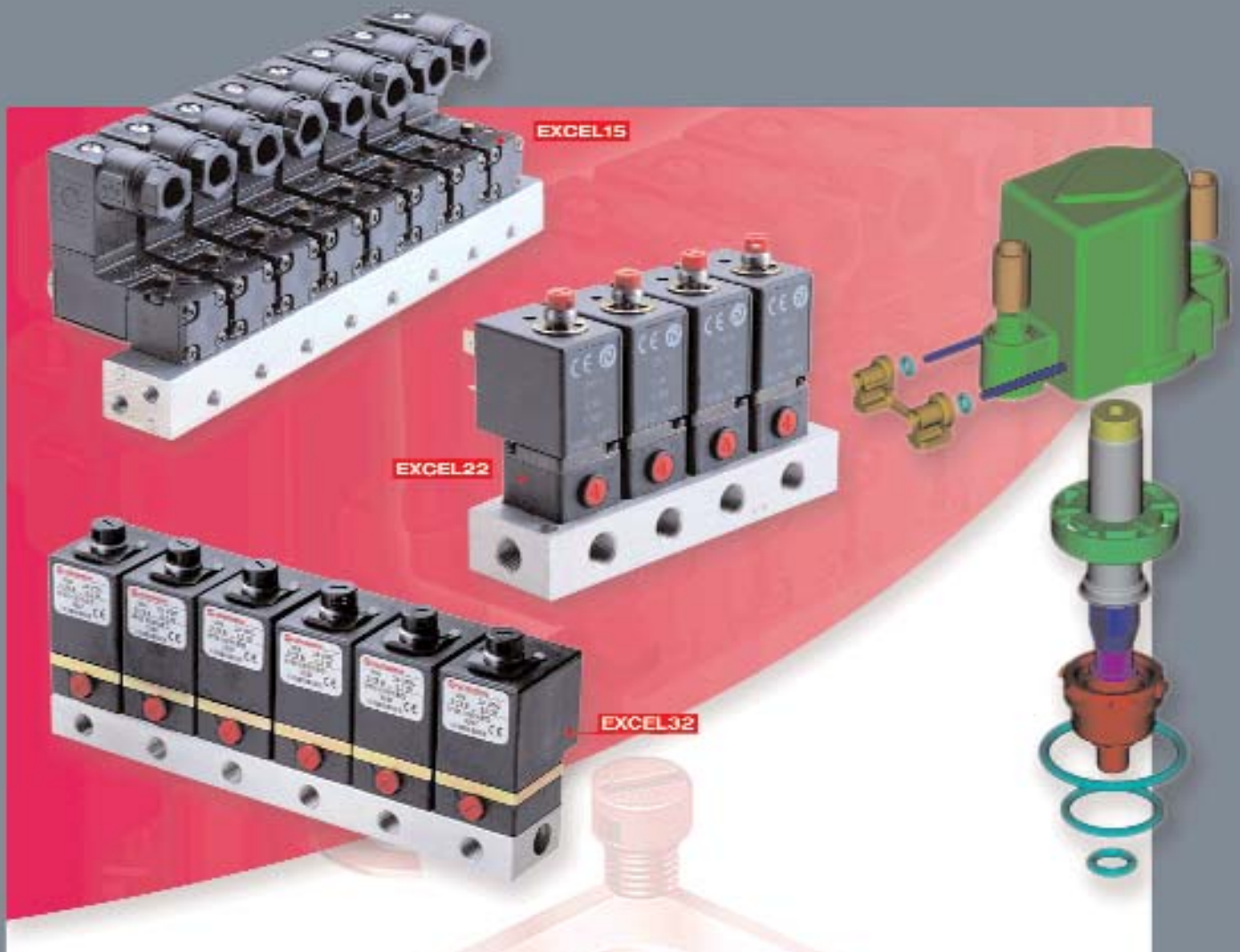


Lever/spring/lever – G1/4 valves

32



Operating force: 12 N (X3 3638 02 & X3 3678 02),
15 N (X3 3637 02 & X3 3677 02)
Panel hole: Ø 31 mm Panel thickness: 8 mm maximum



Solenoid valve technology

Norgren is a leading international supplier of solenoid valves for general pneumatic and industrial duties. Our range of products has been developed to meet market needs in direct consultation with the end user.

To further enhance our position we have an unrelenting commitment to quality, including a product test regime that is amongst the most stringent in the industry.

EXCEL15 - 15 mm Solenoid valve

The EXCEL15 from Norgren is the smallest valve in the EXCEL range. Its compact and convenient size make it an ideal choice for applications where space is at a premium.

EXCEL22 - 22 mm Solenoid valve

This is the best selling range of solenoid valves from Norgren. The EXCEL22 is a compact versatile valve available with standard or low power removable coils and supplied with a variety of base and connection options.

EXCEL32 - 32 mm Solenoid valve

The EXCEL32 range of valves from Norgren offers the best electropneumatic performance levels available in the industry today. An extensive range of power and orifice size options are available for pressure ratings from 0 to 16 bar. In short, a great choice of valves with exceptional flow characteristics.

Cartridge valve

Developed specifically to meet the demanding requirements of the automotive industry the Cartridge valve offers protection from the external environmental and high performance. The unique interface facilitates a greater degree of system integration than is possible with a standard solenoid valve.

Customised solutions

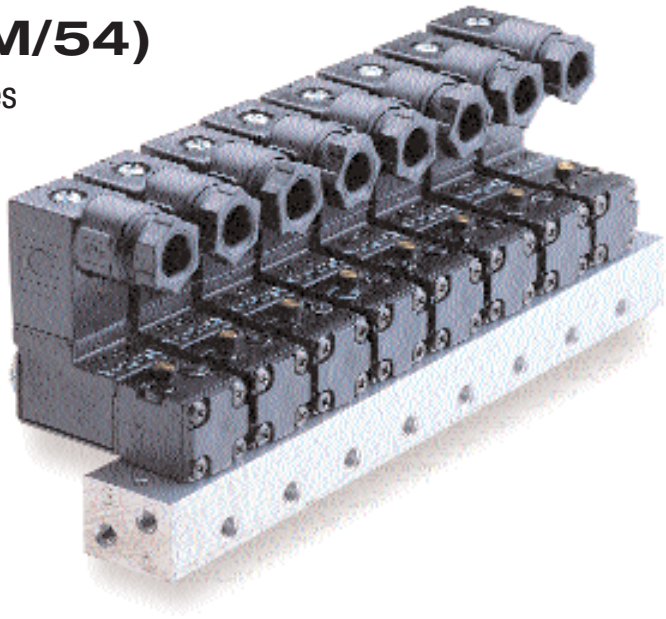
Standard valves offer the benefits of speed and convenience but are not always best suited to an application. It is here that Norgren's expertise at customised solutions offers the best of both worlds. Integrated products, tailored to meet the customer's needs but based upon proven components.

Excel 15 (M/54, DM/54)

Solenoid actuated 15 mm poppet valves

Sub-base

3/2, M5



15 mm micro solenoids normally closed

Sub-base and manifold mounted – extremely compact and convenient

Manual override as standard

Piped exhaust for clean room applications

Technical data

Medium:
Compressed air, filtered, lubricated and non lubricated.

Operating pressure:
0 to 10 bar

Flow:
16 l/min

Ambient temperature:
-20°C to +50°C.
Consult our Technical Service for use below +2°C.

Materials

Coil: epoxy encapsulated nylon
Base and end caps: acetal
Armature: stainless iron
Manifold base: aluminium
Seals: nitrile
Tube & spring: stainless steel

Alternative models

22 mm models.
32 mm models.
Contact our Technical Service for details.

Size	Function	Actuation	kg	Mounting	Model
M5	3/2 NC	Sol/spring	0,069	Single	M/54/NTZ*
M5	3/2 NC	Sol/spring	0,127 ... 0,475	Manifold	DM/54/NTZ*/T‡

Service kits are not available for these valves.
* Insert voltage code from table below.
‡ Add number of valves in manifold: 2 stations 2; 4 stations 4; 6 stations 6; 8 stations 8.

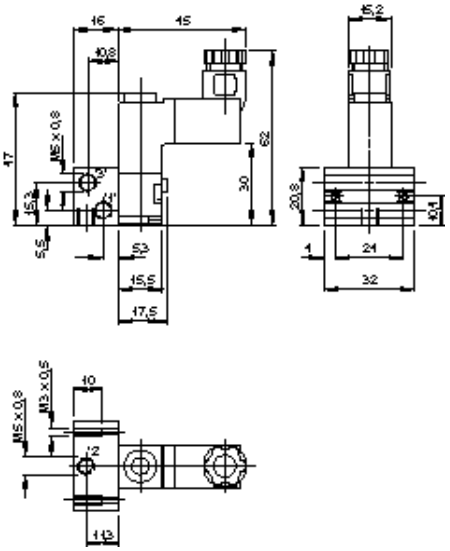
Voltage codes and spare coils

Voltage	Code	Power	Coil
12 V d.c.	12V=	1,5 W	QM/54/A12V=/21
24 V d.c.	24V=	1,5 W	QM/54/A24V=/21

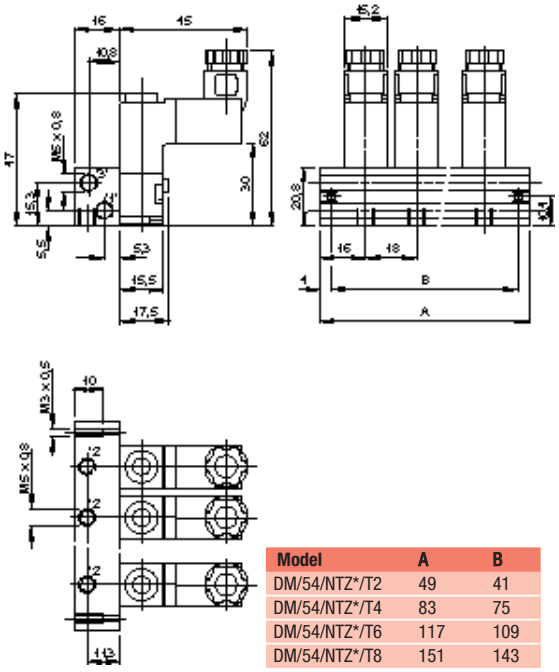
Electrical details for solenoid operators

Voltage tolerance:	±10%
Power:	1,5 W
Inlet orifice:	0,7 mm
Electrical connection:	3 pin Industrial Standard
Cable entry:	Pg 7
Protection class:	IP 65 (DIN 40 050) with plug fitted

M/54/NTZ*



DM/54/NTZ*/T‡



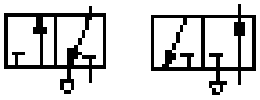
Model	A	B
DM/54/NTZ*/T2	49	41
DM/54/NTZ*/T4	83	75
DM/54/NTZ*/T6	117	109
DM/54/NTZ*/T8	151	143

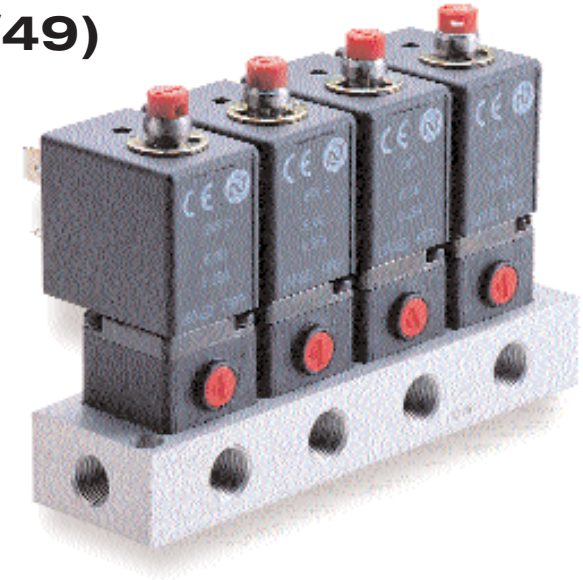
Excel 22 (M/48, M/49)

Solenoid actuated 22 mm poppet valves

Sub-base

3/2, M5, G⅛





Miniature 22 mm normally open and normally closed models

Sub-base mounted and manifold mounted – compact and convenient

Manual override as standard

Technical data

Medium:

Compressed air, filtered, lubricated and non lubricated.

Operating pressure:

0 to 10 bar

Flow:

Orifice	l/min
1,0 mm	30
1,6 mm	77

Ambient temperature:

-20°C to +50°C.

Consult our Technical Service for use below +2°C.

Materials

Coil: glass reinforced thermo plastic
Manual override base: glass reinforced nylon
Armature: stainless iron
Sub-base: aluminium
Seals: nitrile
Tube & spring: stainless steel

Alternative models

2/2 N/C models
N/O models
Push button manual operators
15 mm models
32 mm models
Flying lead coils
Viton
Contact our Technical Service for details.

Size	Function	Actuation	kg	Mounting	Model 1,0 mm orifice (low power)	1,6 mm orifice
M5	3/2 NC	Sol/spring	0,13	Single	M/48/MAZ***	M/48/MDZ***
M5	3/2 NC	Sol/spring	0,31 ... 0,9	Manifold	DM/48/MAZ***/T‡	DM/48/MDZ***/T‡
G1/8	3/2 NC	Sol/spring	0,14	Single	M/49/MAZ***	M/49/MDZ***
G1/8	3/2 NC	Sol/spring	0,31 ... 0,9	Manifold	DM/49/MAZ***/T‡	DM/49/MDZ***/T‡

Service kits are not available for these valves.
*** Insert voltage codes from table below.
‡ Add number of valves in manifold up to 6 maximum.
Order connector plugs separately.

Electrical details for solenoid operators

Voltage tolerance:	±10%
Rating:	100% E.D.
Inlet orifice:	1,0 mm or 1,6 mm
Electrical connection:	22 mm Industrial Standard*
Protection class:	IP 65 (DIN 40 050) with plug fitted
Cable entry:	Pg 9
Manual override:	Screwdriver operated, memory type, standard

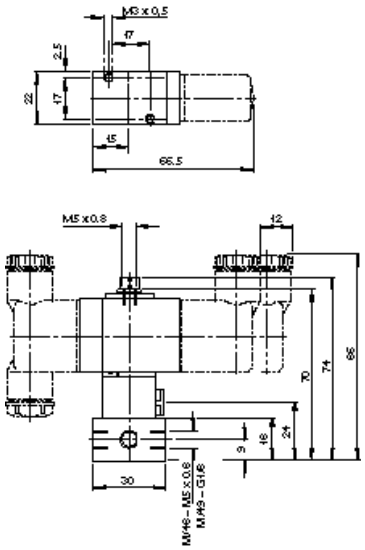
*Form B electrical connections available – please refer to data sheets.

Voltage codes

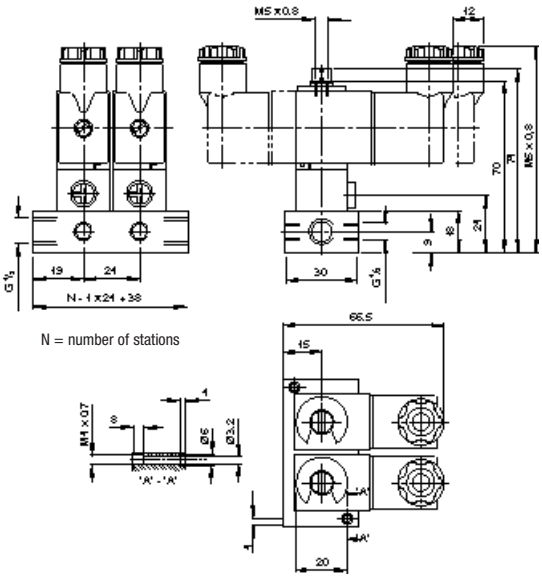
Voltage	1,0 mm orifice (low power) Code	Power	Coil	1,6 mm orifice Code	Power	Coil
12 V d.c.	12J	2 W	QM/48/12J/21	82J	7,5 W	QM/48/82J/21
24 V d.c.	13J	2 W	QM/48/13J/21	83J	6 W	QM/48/83J/21
24 V 50/60 Hz	14J	4/2,5 VA	QM/48/14J/21	84J	12/8 VA	QM/48/84J/21
110/120 V 50/60 Hz	18J	4/2,5 VA	QM/48/18J/21	88J	12/8 VA	QM/48/88J/21
220/240 V 50/60 Hz	19J	6/5 VA	QM/48/19J/21	89J	12/8 VA	QM/48/89J/21

For details of connector plugs and indicators see page 383

M/48, M/49



DM/48/*/T‡, DM/49/*T‡

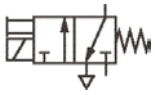


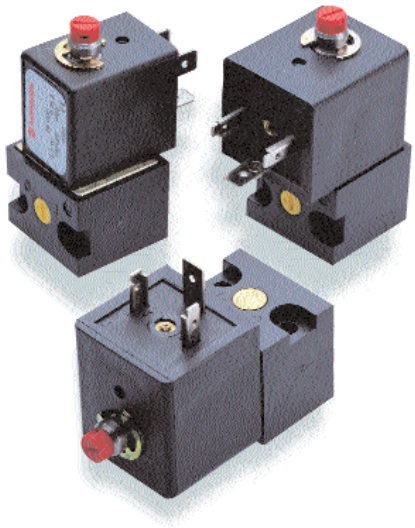
Excel 22 CNOMO

Solenoid actuated 22 & 30 mm poppet valves

Sub-base

3/2, CNOMO





30 mm CNOMO interface base

Lightweight plastic material

22 mm or 30 mm low power coil options

Circlip coil retention (threaded locknut diffuser option also available)

Technical data

Medium:

Compressed air, filtered, lubricated and non-lubricated

Operating pressure:

0 to 16 bar (maximum)

Flow:

Orifice Ø	l/min
1,0	30
1,6	77

Ambient temperature:

-20°C to +50°C

Consult our Technical Service for use below +2°C.

Materials

Base: acetal plastic resin
Coil: glass reinforced thermoplastic
Armature: stainless iron
Stem tube: stainless steel
Springs: stainless steel
Seals: nitrile rubber (viton top seat)

Alternative models

15 mm models
32 mm models
22 mm flying lead coils
Viton seals

3/2 Normally closed, fitted with 22 mm coils

Model	Orifice (mm)	Operating pressure (bar)	Power (W/VA)	Manual override
VSE4L4D1-A31*J	1,0	10	2 W/2,5 VA (5 VA, 230 V a.c.)	Push only
VSE4L4D1-A32*J	1,0	16	7,5 W (6 W, 24 V d.c.)/8 VA	Push only
VSE4L4D1-A61*J	1,0	10	2 W/2,5 VA (5 VA, 230 V a.c.)	Turn & lock
VSE4L4D1-A62*J	1,0	16	7,5 W (6 W, 24 V d.c.)/8 VA	Turn & lock
VSE4L4G1-A32*J	1,6	10	7,5 W (6 W, 24 V d.c.)/8 VA	Push only
VSE4L4G1-A62*J	1,6	10	7,5 W (6 W, 24 V d.c.)/8 VA	Turn & lock

3/2 Normally closed, fitted with 30 mm coils

Model	Orifice (mm)	Operating pressure (bar)	Power (W/VA)	Manual override
VSE4L4D1-A31*N	1,0	10	1,5 W/2 VA (3 VA, 230 V a.c.)	Push only
VSE4L4D1-A32*N	1,0	16	4 W/8 VA	Push only
VSE4L4D1-A61*N	1,0	10	1,5 W/2 VA (3 VA, 230 V a.c.)	Turn & lock
VSE4L4D1-A62*N	1,0	16	4 W/8 VA	Turn & lock
VSE4L4G1-A32*N	1,6	10	4 W/8 VA	Push only
VSE4L4G1-A33*N	1,6	16	7,5 d.c. only	Push only
VSE4L4G1-A62*N	1,6	10	4 W/8 VA	Turn & lock
VSE4L4G1-A63*N	1,6	16	7,5 d.c. only	Turn & lock

*Insert voltage codes from table below.

Extended push button manual override. Change 11th digit to 5 e.g. VSE4L4D1-A**5**1*J

Without manual override. Change 11th digit to 1 e.g. VSE4L4D1-A**1**1*J

Threaded locknut diffuser. Change 10th digit to E e.g. VSE4L4D1-**E**31*J

Excel 22 CNOMO

Solenoid actuated 22 & 30 mm poppet valves

Sub-base

3/2, CNOMO

Voltage codes and spare coils for 10 bar solenoid models

	22 mm Coil with connector interface acc. to Industrial Standard			22 mm Coil with connector interface acc. to DIN 43650 table B			30 mm Coil with connector interface acc. to DIN 43650 table A		
Voltage	**Code**	**Power inrush/hold**	**Model**	**Code**	**Power inrush/hold**	**Model**	**Code**	**Power inrush/hold**	**Model**
12 V d.c.	12J	2 W	QM/48/12J/21	12L	2 W	V10626-A12L	22N	1,5 W	V10633-A22N
24 V d.c.	13J	2 W	QM/48/13J/21	13L	2 W	V10626-A13L	23N	1,5 W	V10633-A23N
24 V 50/60 Hz	14J	4/2,5 VA	QM/48/14J/21	14L	4/2,5 VA	V10626-A14L	24N	2 VA	V10633-A24N
48 V 50/60 Hz	–	–	–	–	–	–	26N	2 VA	V10633-A26N
110/120 V 50/60 Hz	18J	4/2,5 VA	QM/48/18J/21	18L	4/2,5 VA	V10626-A18L	28N	2 VA	V10633-A28N
220/240 V 50/60 Hz	19J	6/5 VA	QM/48/19J/21	19L	6/5 VA	V10626-A19L	29N	3 VA	V10633-A29N

Voltage codes and spare coils for 16 bar models (CNOMO only)

Voltage	30 mm Coil with connector interface acc. to DIN 43650 table A		
	Code	**Power inrush/hold**	**Model**
24 V d.c.	33N	4 W	V10633-A33N
110/120 V a.c.	88N	8 VA	V10633-A88N
230 V a.c.	89N	8 VA	V10633-A89N

Electrical details – 22 mm coil

Voltage tolerance:	±10%
Power consumption:	2 & 7,5 W (6 W for 24 V d.c. high power coils)
Power inrush/hold:	a.c. 2,5/4, 8/12 VA
	(5/9 VA for 230V 50/60 Hz a.c. low power coils)
Electrical duty:	100% E.D.
Electrical connections:	3 flat pin (Industrial standard)*
Manual override:	Screwdriver - memory type
	Push only - non memory type
Protection class:	IP 65 (DIN 40 050) with connector plug fitted

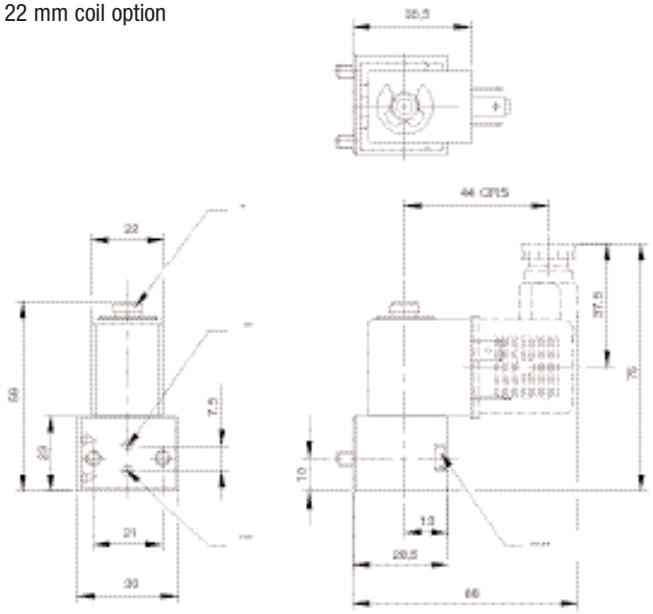
* Form B electrical connections available. Please consult our Technical Service for details.

Electrical details – 30 mm coil (low power)

Voltage tolerance:	±10%
Power consumption:	1,5 & 4 & 7,5 W
Power inrush/hold:	a.c. 2/3, 8/10 VA
	(3/4 VA for 230 V 50/60 HZ a.c. low power coils)
Electrical duty:	100 % E.D.
Electrical connections:	3 pin table A DIN 436 50
Manual override:	Screwdriver - memory type
	Push button - non memory type
Protection class:	IP 65 (DIN 40 050) with connector plug fitted

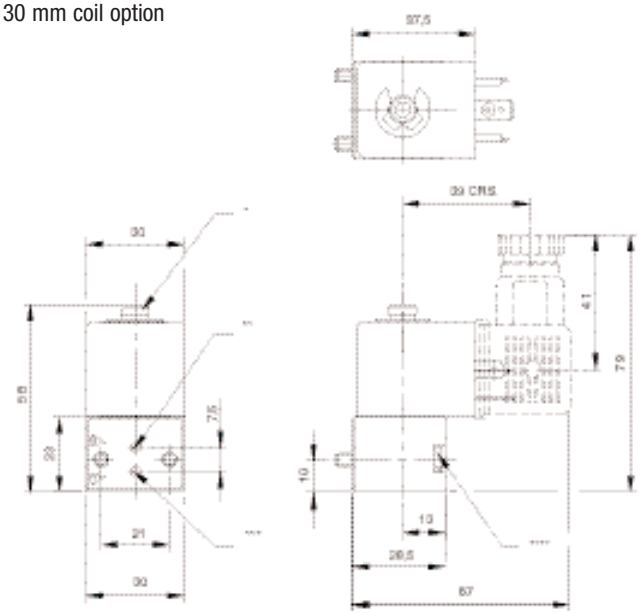
For details of connector plugs and indicators see page 384

22 mm coil option



* Port 3 (Exhaust) (M5)
** Port 2 (Outlet), Ø 3 hole
*** Port 1 (Inlet), Ø 3 hole
**** 2 M4 Fixing screws

30 mm coil option



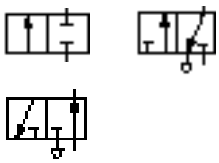
* Port 3 (Exhaust) (M5)
** Port 2 (Outlet), Ø 3 hole
*** Port 1 (Inlet), Ø 3 hole
**** 2 M4 Fixing screws

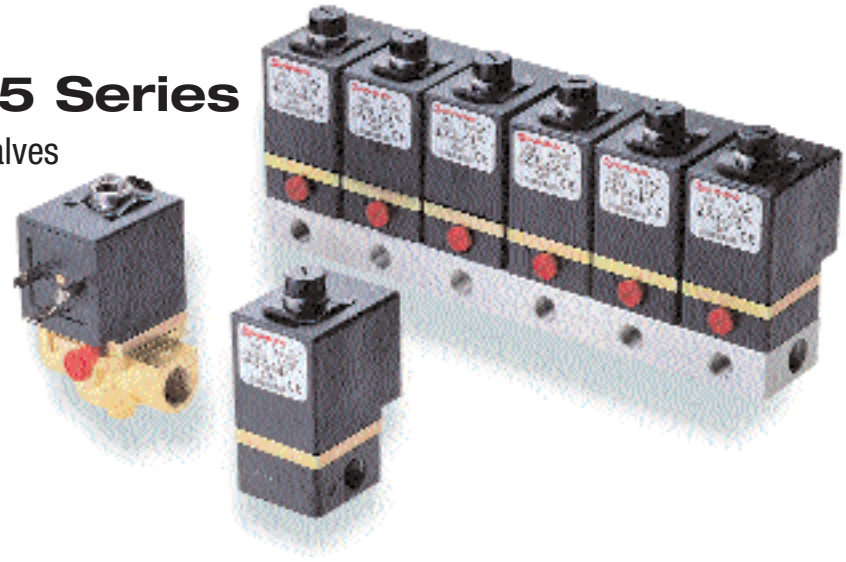
Excel 32
V03, V04 and V05 Series

Solenoid actuated 32 mm poppet valves

In-line & sub-base

2/2 & 3/2, G⅛, G¼





Extensive range of power and orifice size options
G1/8, G1/4, 7 mm interface
Compact installation
Removeable coil
Standard exhaust diffuser
Choice of manual override

Technical data

Medium:
Compressed air, filtered, lubricated and non lubricated.

Operating pressure:
Maximum 16 bar.
See individual details.

Flow:

Orifice Ø	Interface	G⅛, G¼
1,0 mm	25	30
1,5 mm	55	70
2,0 mm	95	120
2,5 mm	150	190
3,0 mm	–	260

Ambient temperature:
-20°C to +50°C.
Consult our Technical Service for use below +2°C.

Materials

Coil: glass reinforced nylon
Armature: stainless iron
Tube & spring: stainless steel
Base: zinc alloy (G1/8), brass (G1/4), polyester (interface)
Manifold: aluminium
Seals: nitrile (Viton top seat)

Alternative models

15 mm models, 22 mm models.
Viton seals

V03

Function	Orifice (mm)	Operating pressure (bar)	kg	Mounting	Model
2/2 NC	1,0	0 ... 10	0,20	Interface	V03X286J-B613A
2/2 NC	1,0	0 ... 10	0,24	G1/8	V03A286J-B613A
3/2 NC	1,0	0 ... 10	0,20	Interface	V03X486J-B613A
3/2 NC	1,0	0 ... 10	0,24	G1/8	V03A486J-B613A

V03 models are only available with 24 V d.c. coil. Spare coil part no. V03X286A-Q1213.

V04

Function	Orifice (mm)	Operating pressure (bar)	kg	Mounting	Model
2/2 NC	2,5	0 ... 10	0,20	Interface	V04X286M-B62*A
2/2 NC	2,5	0 ... 10	0,24	G1/8	V04A286M-B62*A
2/2 NC	2,5	0 ... 10	0,32	G1/4	V04B286M-B42*A
2/2 NC	3,0	0 ... 7	0,32	G1/4	V04B286N-B42*A
3/2 NC	2,0	0 ... 10	0,20	Interface	V04X486L-B62*A
3/2 NO	2,0	0 ... 10	0,20	Interface	V04X386L-B62*A
3/2 NC	2,0	0 ... 10	0,24	G1/8	V04A486L-B62*A
3/2 NO	2,0	0 ... 10	0,24	G1/8	V04A386L-B62*A

V05

Function	Orifice (mm)	Operating pressure (bar)	kg	Mounting	Model
2/2 NC	2,5	0 ... 16	0,20	Interface	V05X286M-B63*A
2/2 NC	2,5	0 ... 16	0,24	G1/8	V05A286M-B63*A
2/2 NC	2,5	0 ... 16	0,32	G1/4	V05B286M-B43*A
2/2 NC	3,0	0 ... 13	0,32	G1/4	V05B286N-B43*A
3/2 NC	2,5	0 ... 10	0,20	Interface	V05X486M-B63*A
3/2 NO	2,5	0 ... 10	0,20	Interface	V05X386M-B63*A
3/2 NC	2,5	0 ... 10	0,24	G1/8	V05A486M-B63*A
3/2 NO	2,5	0 ... 10	0,24	G1/8	V05A386M-B63*A

* Insert voltage codes from table below.
All models are available without manual override. Change 10th digit to 1 eg. V04A486L-B12*A.
Other orifices are available. Contact our Technical Service for details. Service kits are not available for these valves.
Order connector plugs separately.

Voltage codes & spare coils – V04 and V05

Voltage	Code	Coil V04	V05
6 V d.c.	1	V04X286A-Q1221	V05X286A-Q1231
12 V d.c.	2	V04X286A-Q1222	V05X286A-Q1232
24 V d.c.	3	V04X286A-Q1223	V05X286A-Q1233
48 V d.c.	5	V04X286A-Q1225	V05X286A-Q1235
110 V d.c.	7	V04X286A-Q1227	V05X286A-Q1237
24 V 50/60 Hz	4	V04X286A-Q1224	V05X286A-Q1234
48 V 50/60 Hz	6	V04X286A-Q1226	V05X286A-Q1236
110 ...120 V 50/60 Hz	8	V04X286A-Q1228	V05X286A-Q1238
220 ... 240 V 50/60 Hz	9	V04X286A-Q1229	V05X286A-Q1239

Electrical details for solenoid operators

Voltage tolerance:	±10%	
Power consumption:	Excel V03	d.c. 1,0 W
Inrush/hold:	Excel V04	d.c. 4,5 W a.c. 14/10 V A
	Excel V05	d.c. 9,0 W a.c. 27/20 V A
Rating:	100% E.D.	
Electrical connection:	3 pin plug (DIN 43 650 Form A) Coil may be rotated at 90° intervals	
Manual override:	Screwdriver operated, memory type, standard	
Protection class:	IP 65 (DIN 40 050) with terminal box fitted	

For details of connector plugs and indicators see page 384

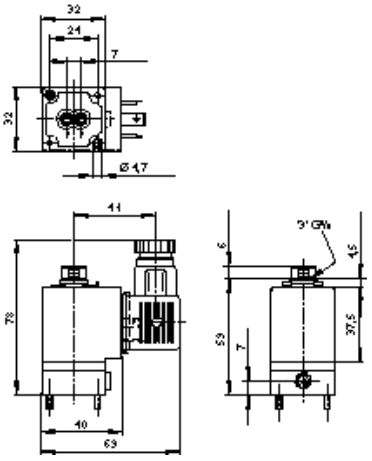
Excel 32
V03, V04 and V05 Series

Solenoid actuated 32 mm poppet valves

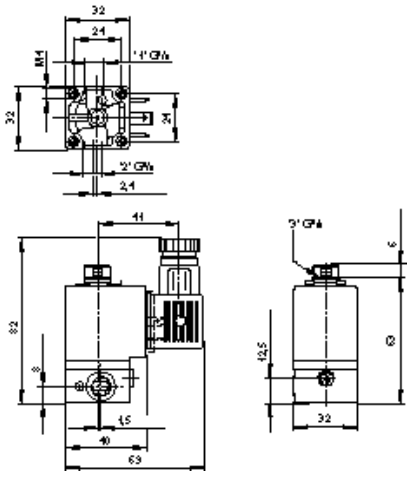
In-line & sub-base

2/2 & 3/2, G⅛, G¼

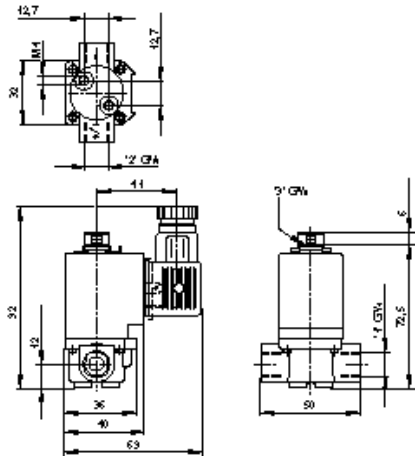
Interface mounted valves



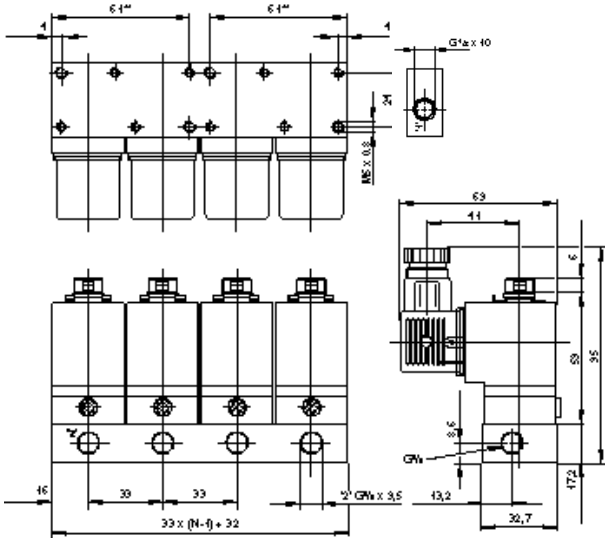
G1/8 Valves



G1/4 Valves



Manifold for use with interface valves



M/P35598/‡
‡ Indicates the number of stations: 1 to 20
N = number of stations
** Two additional holes with five or more stations.
Weight: 0,041 kg/station.

Accessories

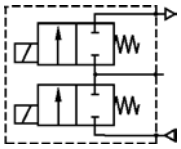
Blanking plate – QM/7600/23

Manifold assemblies are available. Contact our Technical Service for details.

Excel 22 Dual control

Twin solenoid actuated 22 mm poppet valves

4 mm, 6 mm push-in



Twin solenoid offers dual control

Two 2/2 normally closed valves combined in a single unit

Integral push in fittings for simple and rapid installation

Ideal for applications requiring inflation and deflation control

Function	Orifice (mm)	Operating pressure (bar)	Power (W/VA)	Model
2/2 NC	1,0	10	2 W	VSD2DAD1-A1***

*** Insert voltage code from table below.

Technical data

Medium:

Compressed air, filtered, lubricated and non-lubricated

Operating pressure:

Up to 10 bar

Flow:

29 l/min

Ambient temperature:

-20°C to +50°C

Consult our Technical Service for use below +2°C.

Electrical details for solenoid operators

Voltage tolerance:	±10%
Power consumption:	2 W
Electrical duty:	100 % E.D.
Electrical connections:	3 flat pin (Industrial standard)
Manual override:	None
Protection class:	IP 65 (DIN 40 050) with connector plug fitted

For details of connector plugs and indicators see page 384

Voltage codes

Voltage	Code
12 V d.c.	12J
24 V d.c	13J

Materials

Base: plastic resin

Coil: glass reinforced thermoplastic

Armature: stainless iron

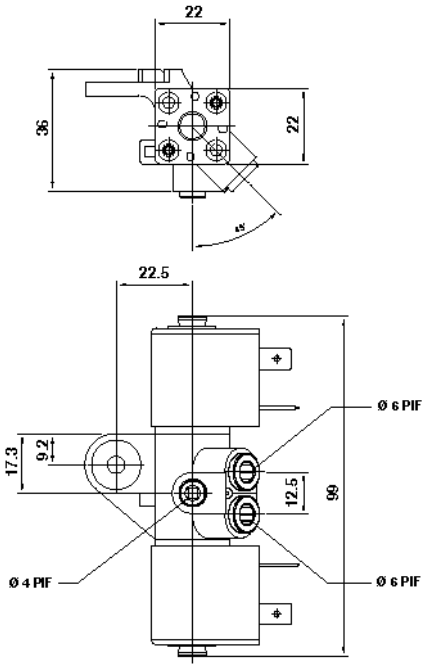
Stem tube: stainless steel

Springs: stainless steel

Seals: nitrile rubber

Alternative models

Flying lead coils



VM10 valve island - Easy to select & configure from more than 7 million possible configurations

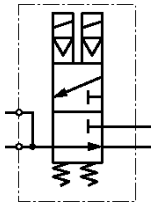
- Save time with Norgren's unique easy-to-use valve island configurator, available either online or on CD
- Viewable/downloadable 2D and 3D CAD drawings in 14 file formats
- Downloadable multi-language technical and dimensional information
- List price automatically calculated for complete valve islands

- Easy to configure up to 20 stations (40 coils) Configure the unit that exactly meets your needs from:
  - ~ 260 valve options per station,including 5/2, 5/3 and 2 x 3/2 functions
  - ~ 7 fitting sizes per valve
  - ~ Individually wired, Multipole or Fieldbus
  - ~ Internal or external pilot
  - ~ 4 inlet/exhaust fitting sizes

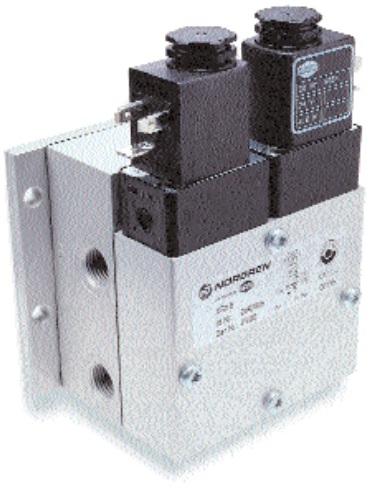
XSz Safety valves

Fail-safe double valves

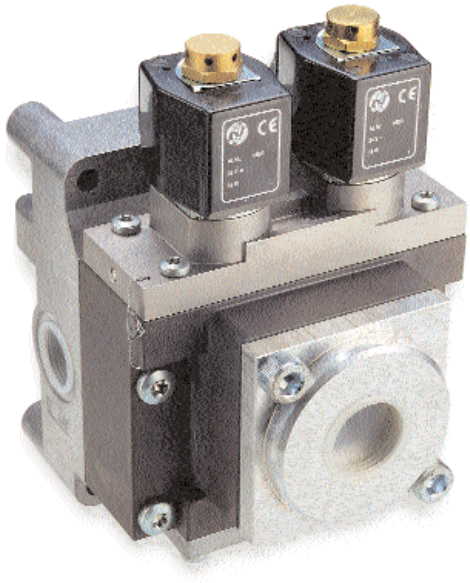
3/2, G¼ to G2



- **Inherently fail-safe without residual pressure**
- **Dynamic self monitoring**
- **Double valve control system**
- **For use with pneumatic clutch and brake systems and other 3-way safety functions**
- **Poppet design with feedback signal ports**
- **Fast exhaust capability**
- **Conforms to EN 692, BG, OSHA, SUWA and other approvals**
- **Improves safety and reduces downtime on mechanical power press applications**
- **Quick and easy adjustment of 'overlap' on mechanical presses**
- **No additional electrical monitoring required**
- **Easily fitted into existing systems**



XSz 8



XSz 20

Type	Voltage	Port size P	A	A1	R	Model G-thread
XSz 8*	d.c/a.c.	1/4"	1/4"	–	1/4"	24928063052*****
XSz 10**	a.c.	1/2"	1/2"	(1/2")	3/4"	24929000200*****
XSz 10**	d.c.	1/2"	1/2"	(1/2")	3/4"	24929010200*****
XSz 20**	d.c/a.c.	1/2"	3/4"	(1")	1"	24930000800*****
XSz 20**	d.c/a.c.	3/4"	3/4"	(1")	1"	24930400800*****
XSz 20**	d.c/a.c.	3/4"	(3/4")	1"	1"	24930420800*****
XSz 32	d.c./a.c.	1"	1"	–	1½"	24931300800*****
XSz 32	d.c./a.c.	1"	1"	1½"	1½"	24931340800*****
XSz 50	d.c./a.c.	1½"	2"	–	2"	24932300800*****

***** Insert voltage codes from table below.

Port sizes in brackets are plugged.

Supplied without plug. If required, select model 0570275, see page 384

* Silencer enclosed ** Valve with integrated silencer available

Voltage codes

Voltage	Code
24 V d.c.	02400
24 V a.c.	02450
110 V a.c.	11050
230 V a.c.	23050

Technical data

Medium:

Compressed air, filtered, lubricated and non-lubricated

Operating pressure:

Size 8: 3 to 10 bar
Size 10: 2 to 10 bar
Size 20/32/50: 2 to 8 bar

Ambient temperature:

-10°C to +60°C

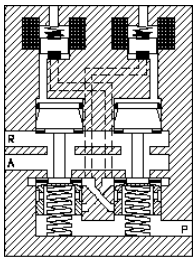
Consult our Technical Service for use below +2°C.

Materials

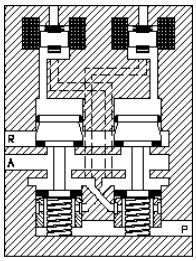
Body: aluminium

Seals: polyurethane and NBR

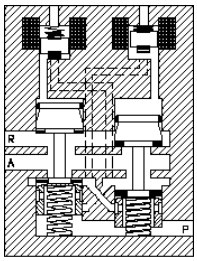
For full details of our press ancilliary equipment please contact our Technical Service.



Neutral position



Activator position



Malfunction position

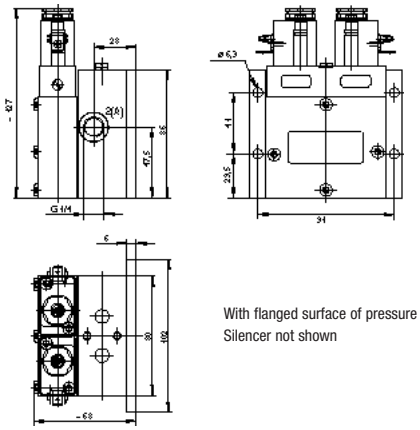
P = Air pressure port. A = Power port (clutch / brake). R = Exhaust

XSz Safety valves

Fail-safe double valves

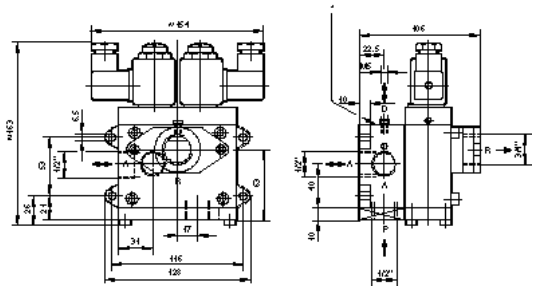
3/2, G¼ to G2

XSz 8



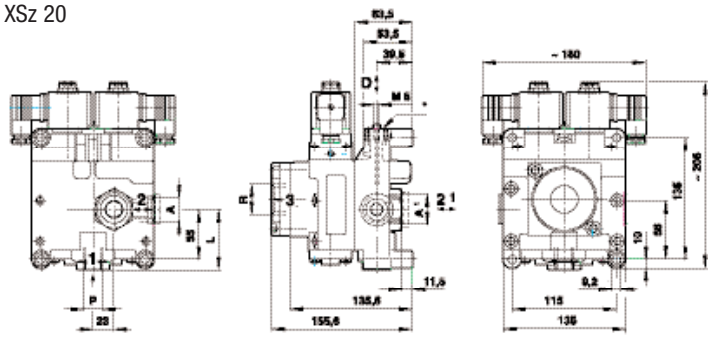
With flanged surface of pressure switch and failure indication element.
Silencer not shown

XSz 10



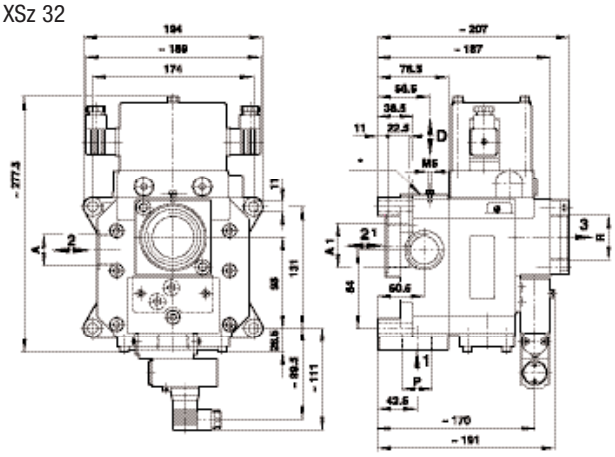
*Flanged surface of pressure switch and failure indication element.
Silencer not shown

XSz 20



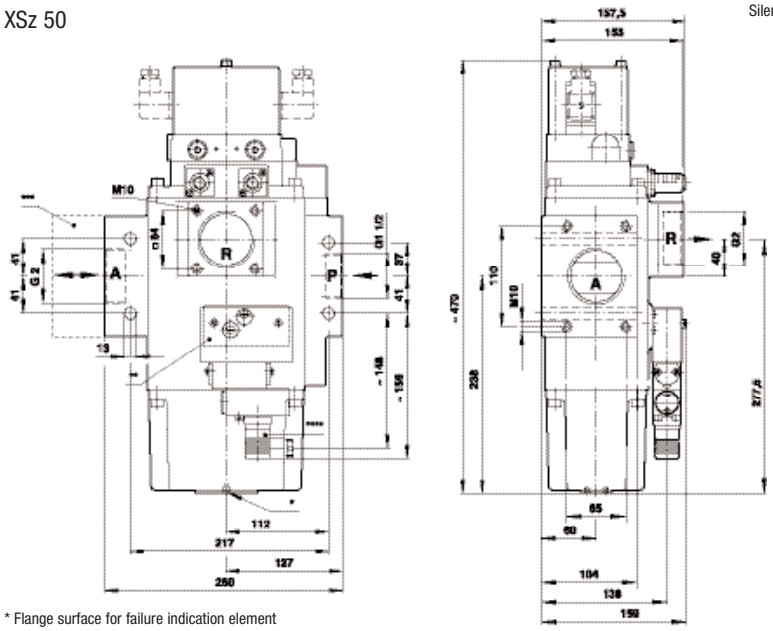
* Flange surface for failure indication element and flange surface for pressure balance.
Silencer not shown

XSz 32



* Flange surface for failure indication element and flange surface for pressure balance.
Silencer not shown

XSz 50

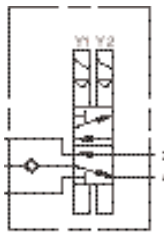


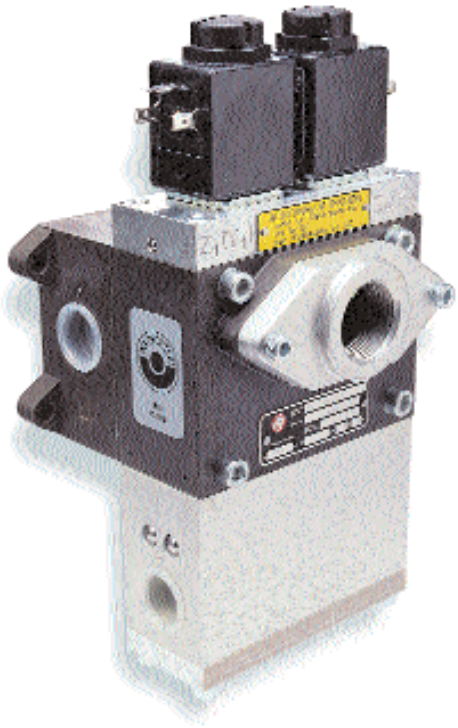
* Flange surface for failure indication element
** Flange surface for pressure balance
*** Flange surface for 18D pressure switch. Adapter flange, type 0545005
**** Piston manometer

XSz 10 V Safety valves

Fail-safe double valves

5/2, G½





Inherently fail safe without residual pressure

Dynamic self - monitoring

Double valve control system

For safety functions (double acting cylinder, rotary actuator etc.)

Technical data

Medium:

Compressed air, filtered, lubricated and non-lubricated

Operating pressure:

3 to 10 bar

Ambient temperature:

-10°C to +55°C

Consult our Technical Service for use below +2°C.

Materials

Body: aluminium

Seals: polyurethane (AU & NBR)

Alternative models

Pilot operated model

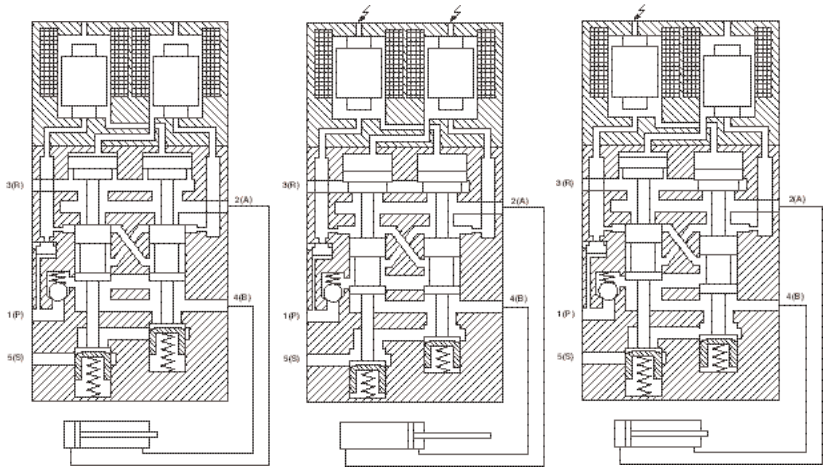
Type	Voltage	Port size P	A	A1	R	B	S	Model G-thread
XSz 10 V*	a.c.	G1/2	G1/2	G1/2	G3/4	G1/2	G1/2	24929500200*****
XSz 10 V*	d.c.	G1/2	G1/2	G1/2	G3/4	G1/2	G1/2	24929510200*****

***** Insert voltage code from table below. Supplied without plugs. If required, select model 0570275, see page 384

* With integrated silencer (not shown)

Voltage codes

Voltage	Code
24 V d.c.	02400
24 V a.c.	02450
110 V a.c.	11050
230 V a.c.	23050



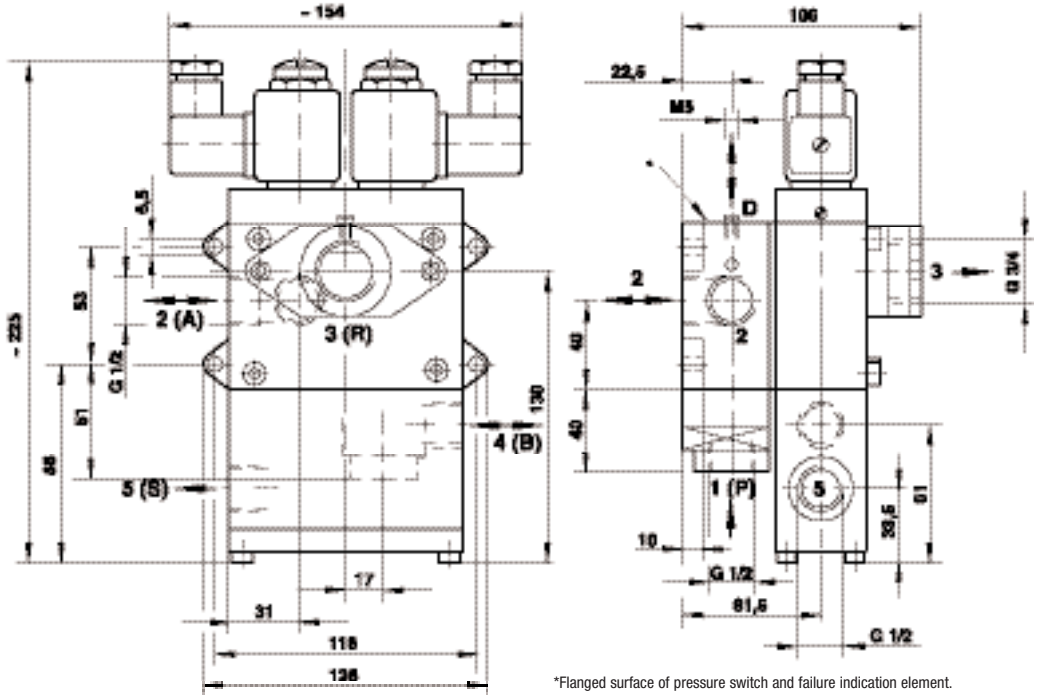
Neutral position | Activator position | Malfunction position

1 = Air pressure port. 2 & 4 = Power port 3 & 5 = Exhaust

XSz 10 V Safety valves

Fail-safe double valves

5/2, G½



*Flanged surface of pressure switch and failure indication element.
Silencer not shown

Additional ranges

XSz Safety silencer – flange connection

Can be mounted directly to the valve
Direct flange mounting
Low weight
Small size
Meets requirements contained in the safety regulations
The free passage inside the silencer eliminates possible obstruction

Type	Model
XSz 8	MB002B
XSz 10/XSz 10 V	0016422
XSz 20	0016522
XSz 32	0016622

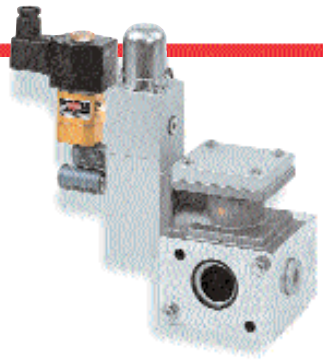
XSz Damping module – soft start

Compact design
Simple installation
Reduction wear and tear
Noise-reduction
The soft start valve can be used for a soft engagement of the pneumatically operated clutch on presses and also for a soft pressure build-up on a machine. It can be directly flanged on port 1 (P) of the safety valve XSz 32 and with an adapter plate on the XSz 50. It has an interchangeable bypass orifice to adapt to individual operating conditions.

Operating pressure (bar)	Control pressure (bar)	Smooth start	Voltage	Model
0,6 ... 8	0,6 ... 8	From 2 bar	d.c.	1020113.0700
0,6 ... 8	0,6 ... 8	From 0 to 2 bar	a.c.	1020113.3703
0,6 ... 8	0,6 ... 8	From 0 to 2 bar	d.c.	1020141.0800
0,6 ... 8	0,6 ... 8	From 0 to 2 bar	a.c.	1020141.3803

Adapter plate for flanged version, type XSz 50, model 0557164

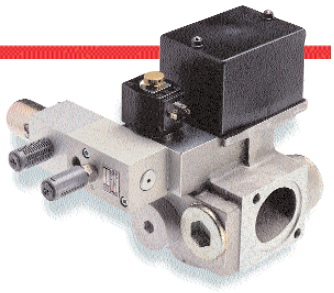
All solenoids are delivered without plugs. If required, select model 0570275, see page.384



XSz Damping module – soft stop

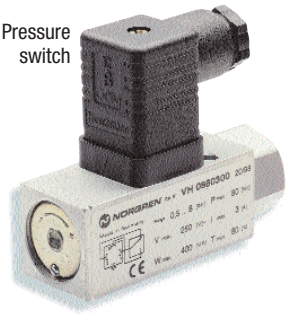
Compact design
Adapts easily to prevailing operating conditions
Reduction of noise, wear and tear
The soft stop valve can be used for a soft engagement of the pneumatically operated brake on presses and for a soft pressure drop on a machine. It is connected downstream of the safety valve and functions as a 2/2 directional control valve which is normally open. The switching position is monitored via a mechanical or proximity switch.
The soft stop valve can be directly flanged on port 3 (R) of the safety valves XSz 32 and XSz 50.

Control pressure (bar)	Type	Voltage	Model
2 ... 8	XSz 32	a.c./d.c.	1022023.0200
2 ... 8	XSz 50	a.c./d.c.	1022035.0800

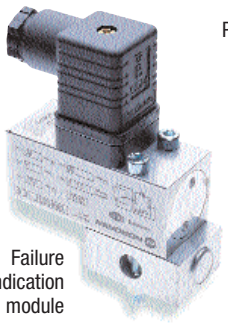


Failure indication elements for XSz safety valves

Although the XSz safety valves do not require an external electrical monitoring to fulfil the safety function, some applications need to have a visual electrical or acoustic signalling of a malfunction. This can be achieved by failure indication elements mounted on the XSz safety valve.



Pressure switch



Failure indication module

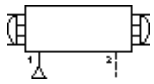
Pressure balance

Description	Model	XSz8	XSz 10	XSz 20	XSz32	XSz 50	XSz 10 V	Notes
Pressure switch	0881400	●	●	●	●	●*	●	Switches every time the valve switches, response time dependent on the valve
Failure indication	1028063	●	●	●	●	●	●	Switches only in case of malfunction
Pressure balance	1028100				●	●		For separately used clutch and brake

* Mounting only possible with flange model 0545005

Two-hand control unit

G⅛



Certificate of Conformity supplied with every unit

Notified Body Approval from BSI Testing

Meets the requirements of EN574 Class IIIB*

Both hands must be engaged simultaneously

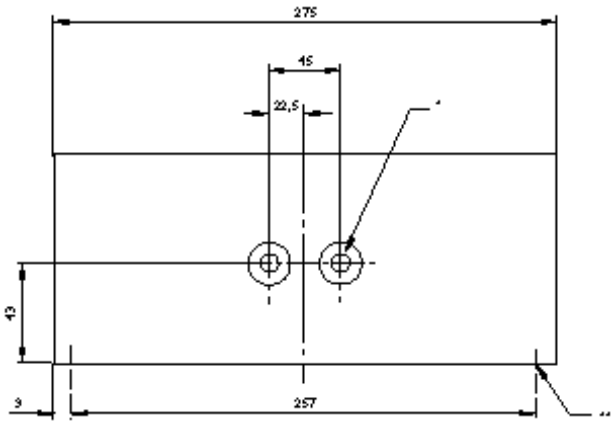
Single fault tolerant

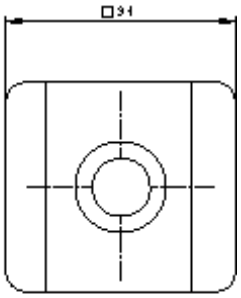
Protection against accidental operation

No setting or adjustment required

*The scope of the Machinery Directive encompasses safety components as well as machinery, and since two-hand control units are classed as safety components this requires the M/2720 to satisfy the essential health and safety requirements of the Directive. One method of ensuring this is to conform with published European Norm (EN) Standards. In the case of the M/2720 the main standard is EN574 Safety of Machinery – Two Hand Control Devices, Functional Aspects – Principles for Design. This standard classifies two-hand controls into various types, each requiring minimum performance and safety characteristics, such as simultaneous operation, fault tolerance, prevention of accidental operation etc. In addition, the M/2720 is dimensionally identical to the M/2710 which it directly replaces.

Model	Switch 'On'	Switch 'Off'	kg
M/2720	Both buttons must be operated within 0,5 secs	0,6 secs max.	1,8





* 2 ports, G1/8 BSP ** 2 x 6,5 holes

Technical data

Medium:

Compressed air filtered to 40 µm, lubricated or non-lubricated.

Operating pressure:

3 to 8 bar

Ambient temperature:

+5°C to +40°C.

Consult our Technical Service for use below +2°C.

Materials

Outer cover & end plates: aluminium alloy

Buttons: plastic

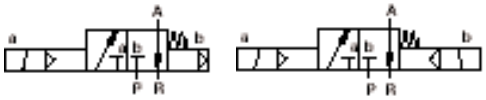
Seals: nitrile

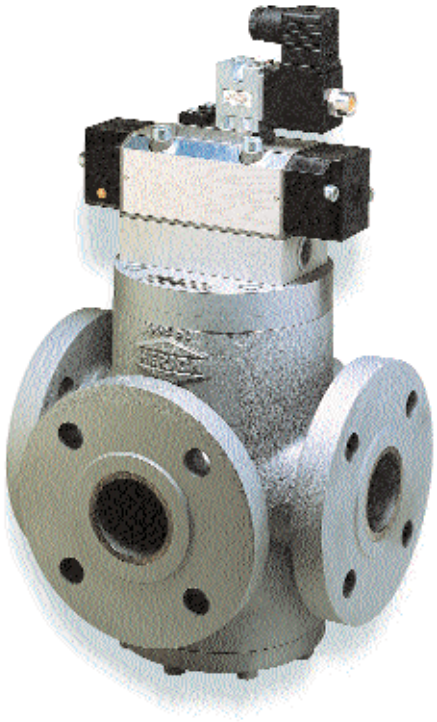
80000 Series

Solenoid pilot actuated poppet valves

50 to 150 mm orifice

3/2, Flange





Control of single-acting cylinders
Control of die cushion on high-power presses
Standard manual override

Technical data

Medium:
Compressed air, filtered and lubricated air

Operating pressure:
0 to 20 bar

Fluid connection:
Flange DIN 2501 / PN 25/40

Ambient temperature:
-10 to + 80 °C
Consult our Technical Service for use below +2°C.

Flow direction:
Fixed

Materials

Housing: Modular graphite cast iron (GGG 50)
Seat seal: Polyurethane (AU)

Alternative models

Pressure port open in rest position
For gaseous, liquid and neutral fluids
Motor industry approved (pilot valve)
With damped switching
Flange DIN 2501, PN16

Orifice (mm)	Actuation	Pilot supply	Operating pressure (bar)	Control pressure (bar)	kv value m^3/h*	Switching time (ms)	Model
50	Solenoid/pilot	Internal	2 ... 20	–	38	175	8000171xxxx*****
65	Solenoid/pilot	Internal	2 ... 20	–	58	200	8000271xxxx*****
80	Solenoid/pilot	Internal	2 ... 20	–	90	250	8000371xxxx*****
125	Solenoid/pilot	Internal	2 ... 20	–	200	340	8000571xxxx*****
150	Solenoid/pilot	Internal	2 ... 20	–	250	400	8000671xxxx*****
50	Solenoid/pilot	External	0,5 ... 20	2 ... 20	38	175	8000172xxxx*****
65	Solenoid/pilot	External	0,5 ... 20	2 ... 20	58	200	8000272xxxx*****
80	Solenoid/pilot	External	0,5 ... 20	2 ... 20	90	250	8000372xxxx*****
125	Solenoid/pilot	External	0,5 ... 20	2 ... 20	200	340	8000572xxxx*****
150	Solenoid/pilot	External	0,5 ... 20	2 ... 20	250	400	8000672xxxx*****
80	Solenoid/solenoid	External	0,5 ... 20	2 ... 20	90	250	8002372xxxx*****
150	Solenoid/solenoid	External	0,5 ... 20	2 ... 20	250	400	8002672xxxx*****

xxxx Insert solenoid code from table below ***** Insert voltage code from table below. * Cv (US) = k_V x 1,2

Solenoid operators

Power consumption 24 V d.c.	Power consumption 230 V a.c.	Protection class	Operating temperature °C Media	Operating temperature °C Ambient	Electrical connection	Solenoid code
12	15	IP 00 without connector				0200
11,4 W		EEx me II T4/T5	-40 ... +50/+40	-40 ... +50/+40	M20x1,5	4230
15,2 VA		EEx me II T4/T5	-40 ... +50/+40	-40 ... +50/+40	M20x1,5	4231

For connectors and plugs, see page 384. Plugs according to DIN 43650 Form A.

Voltage codes

Voltage	Code
24 V d.c.	02400
24 V a.c.	02450

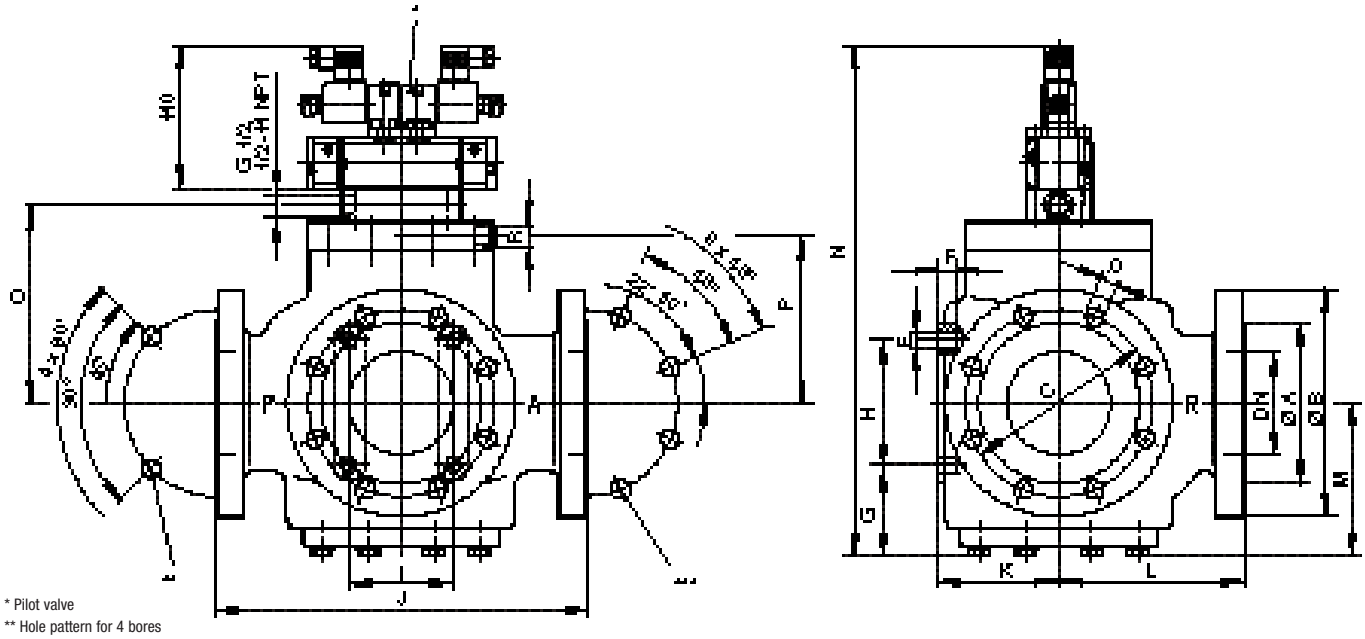
Other voltages on request.

80000 Series

Solenoid pilot actuated poppet valves

50 to 150 mm orifice

3/2, Flange



* Pilot valve
** Hole pattern for 4 bores
*** Hole pattern for 8 bores

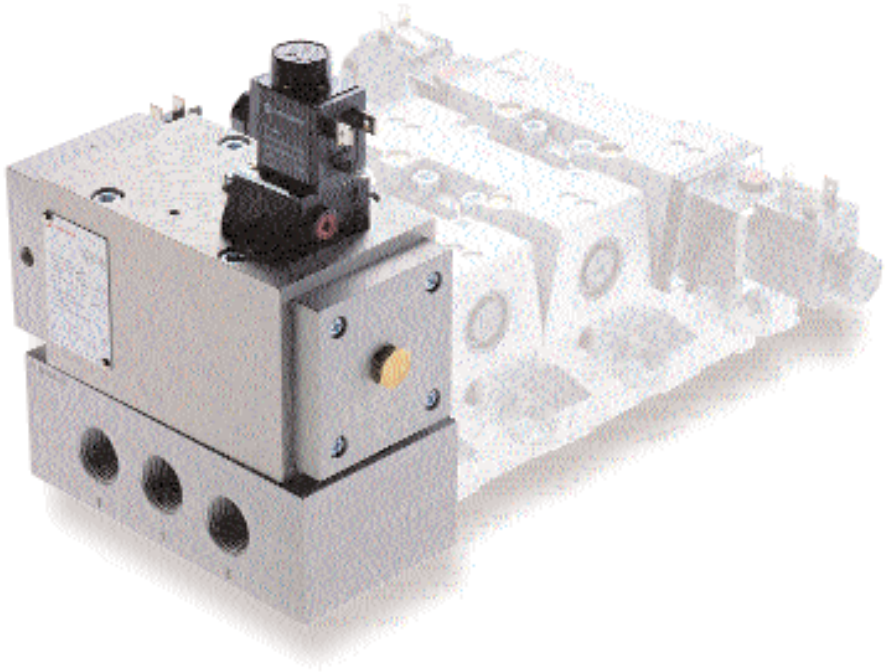
Orifice (mm)	Ø A	Ø B	C	D	No. D	E	F	G	H	I	J	K	L	M	N (ca.)	O	P	R
50	80	165	125	18	4	M14	21,5	72	80	70	230	89	115	124	427	148,5	122	G 1/4
65	120	185	145	18	8	M14	21,5	77,5	80	70	290	94	145	118	427	155	128,5	G 1/4
80	139	200	160	18	8	M16	33	89	100	100	360	122	180	155	498	188,5	159	G 1/2
100	155	235	190	22	8	M16	33	93	120	100	360	120	180	153	498	190,5	161	G 1/2
125	188	270	220	26	8	M16	33	141	180	130	400	152	200	231	655	269,5	241	G 1/2
150	212	300	250	26	8	M16	33	141	180	130	480	152	240	231	655	269,5	241	G 1/2

SE 9300

Soft start valves

Sub-base & in-line

ISO #1, G½



Specially coated glandless spool and sleeve for long trouble-free life

Emergency dump facility and adjustable fill rate

In-line and sub-base mounted versions

Technical data

Medium:
Compressed air, filtered, lubricated and non lubricated.

Operating pressure:
3 to 8 bar SE 9304, SE 9314

Ambient temperature:
-5°C to +50°C.
Consult our Technical Service for use below +2°C.

Pressure switch:
250 V a.c. 2A
24 V= 3A
IP 55

Materials

Body: die-cast aluminium
Spool & sleeve: anodised aluminium with special Teflon coating
Seals: nitrile

Size	Actuation	Pressure switch	Flow (l/min)	kg	Mounting	Type	Model
G1⁄2	Sol/Spring	External connection	1900	0,85	In-line	–	SE 9304-A08-00/***
ISO #1	Sol/Spring	External connection	1900	0,80	Sub-base	–	SE 9314-A08-00/***

ISO valves do not feature an ISO interface but are mounted onto sub-bases which can be attached to ISO sub-bases.
Service kits not available for these valves. ***Insert voltage codes from table below. Order connector plugs separately.

Voltage codes & spare coils

Voltage	Code	Power	Coil
12 V d.c.	12J	2 W	QM/48/12J/21
24 V d.c.	13J	2 W	QM/48/13J/21
24 V 50/60 Hz	14J	4/2,5 VA	QM/48/14J/21
110/120 V 50/60 Hz	18J	4/2,5 VA	QM/48/18J/21
220/240 V 50/60 Hz	19J	6/5 VA	QM/48/19J/21

For details of connector plugs and indicators see page 383

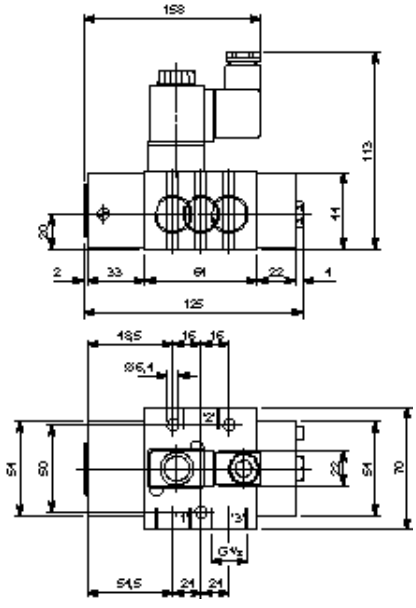
Sub-bases

Model	Side ported for connection to ISO

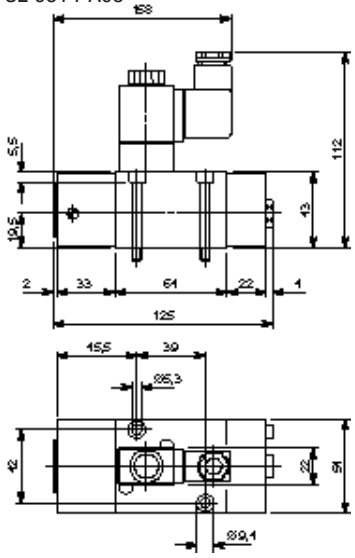
SE 9314-A08/A18	FP 8320 (G3⁄8 for ISO #1 manifold)

For details of base systems for ISO valves see page 277

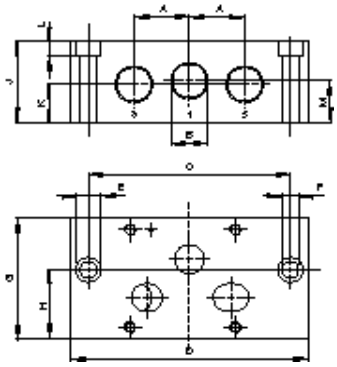
SE 9304-A08



SE 9314-A08



Modular sub-base FP 8320



FP 8320 replaces 1 Form D in VDMA 24345 base assembly.

ISO	Model	A	B	C	D	Ø E	
1	FP8320	24	G3/8	95	110	14	
ISO	**Model**	**Ø F**	**G**	**H**	**J**	**K**	**L**
1	FP8320	9	70	35	46	19	9

Norgren in the medical industry

Adding value through integrated design solutions for fluid and motion control

Norgren proven solutions for the medical industry are widely accepted by leading manufacturers worldwide – and are consistently delivering the performance and results they need.

The winning combination of Norgren and KIP expertise and technology brings you all the benefits of 20 years specialized experience and understanding of a wide range of medical applications from respiration, dialysis and dental to high volume laboratory automation.

At the heart of this is the capability to design and engineer added-value, integrated solutions to answer the most demanding application challenges.

- Integrated solutions
- Technical expertise
- Specialised engineering
- International manufacturing
- Quality assurance
- Flexible deliveries
- Global service network

www.norgren.com/medical

Clinical chemistry

Norgren valve systems can help end users and manufacturers in areas such as biochemistry, haematology, speciality testing and high volume laboratory testing to eliminate contamination carry over, reduce space, accuracy, speed and modularised solutions.

Laboratory automation

Norgren offers a wide range of automation solutions to enhance speed and provide optimum flexibility to help with the increasing and demanding test requirements.

Respiration

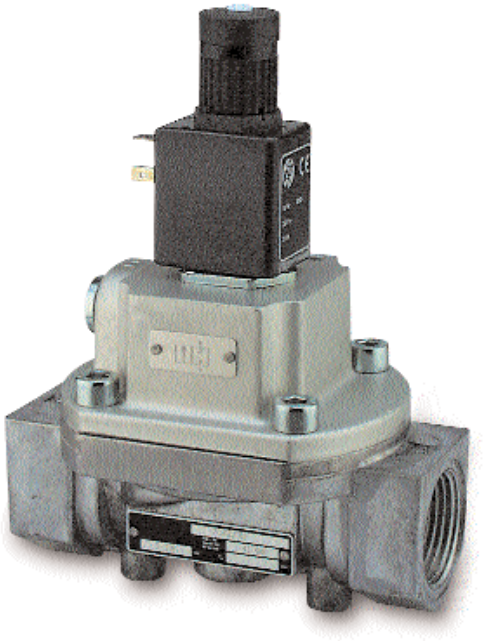
Norgren has a proven ability to manage compressed air as well as gases such as O_2, CO_2 and N_2O

70300 Series

Indirect solenoid actuated poppet valves

12 to 50 mm orifice

2/2, G½ to G2



High switching capability at low power

Interchangeable solenoid options

Manual override standard on normally closed valves

Technical data

Medium:

Compressed air, filtered, lubricated or non-lubricated.

Mounting position:

Optional, preferably vertical

Operating pressure:

0 to 18 bar

Flow:

Orifice Ø	l/min
1/2"	3000
3/4 to 1"	8500
1¼"	10600
1½ to 2"	29400

Ambient temperature:

+10°C to +60°C.

Consult our Technical Service for use below +2°C.

Materials

Housing: aluminium

Seat seal: AU (polyurethane)

Inner parts: POM

Solenoid

Port size	Orifice (mm)	Type	Operating pressure (bar)	Control pressure (bar)	Switching time (ms)	kg	Model
G1/2	12	NC	1 ... 16	–	20	0,2	7030117xxxx*****
G1/2	12	NC	1 ... 18	–	20	0,2	7030119xxxx*****
G3/4	20	NC	1 ... 16	–	25	1,2	7032130xxxx*****
G1	25	NC	1 ... 16	–	25	1,2	7032230xxxx*****
G1¼	32	NC	1 ... 16	–	40	1,3	7032330xxxx*****
G1½	40	NC	1 ... 10	–	190	2,6	7032430xxxx*****
G2	50	NC	1 ... 10	–	190	2,6	7032530xxxx*****
G1/2	12	NO	1 ... 18	–	20	0,2	7030707xxxx*****
G3/4	20	NO	1 ... 15	–	25	1,2	7032630xxxx*****
G1	25	NO	1 ... 15	–	25	1,2	7032730xxxx*****
G1¼	32	NO	1 ... 15	–	40	1,3	7032830xxxx*****
G1½	40	NO	1 ... 10	–	190	2,6	7032930xxxx*****
G2	50	NO	1 ... 10	–	190	2,6	7033030xxxx*****
G3/4	20	NC	0 ... 15	1 ... 16	25	1,2	7032131xxxx*****
G1	25	NC	0 ... 15	1 ... 16	25	1,2	7032231xxxx*****
G1¼	32	NC	0 ... 15	1 ... 16	40	1,3	7032331xxxx*****
G1½	40	NC	0 ... 10	1 ... 11	190	2,6	7032431xxxx*****
G2	50	NC	0 ... 10	1 ... 11	190	2,6	7032531xxxx*****
G3/4	20	NO	0 ... 14	1 ... 15	25	1,2	7032631xxxx*****
G1	25	NO	0 ... 14	1 ... 15	25	1,2	7032731xxxx*****
G1¼	32	NO	0 ... 14	1 ... 15	40	1,3	7032831xxxx*****
G1½	40	NO	0 ... 10	1 ... 11	190	2,6	7032931xxxx*****
G2	50	NO	0 ... 10	1 ... 11	190	2,6	7033031xxxx*****

Vacuum

G1/2	12	NC	-1 ... 6	4 ... 10	20	0,55	7030118xxxx*****
G3/4	20	NC	-1 ... 6	4 ... 10	25	1,2	7032132xxxx*****
G1	25	NC	-1 ... 6	4 ... 10	25	1,2	7032232xxxx*****
G1¼	32	NC	-1 ... 6	4 ... 10	40	1,3	7032332xxxx*****
G1½	40	NC	-1 ... 6	4 ... 10	190	2,6	7032432xxxx*****
G2	50	NC	-1 ... 6	4 ... 10	190	2,6	7032532xxxx*****
G1/2	12	NO	-1 ... 6	4 ... 10	20	0,55	7030709xxxx*****
G3/4	20	NO	-1 ... 6	4 ... 10	25	1,2	7032632xxxx*****
G1	25	NO	-1 ... 6	4 ... 10	25	1,2	7032732xxxx*****
G1¼	32	NO	-1 ... 6	4 ... 10	40	1,3	7032832xxxx*****
G1½	40	NO	-1 ... 6	4 ... 10	190	2,6	7032932xxxx*****
G2	50	NO	-1 ... 6	4 ... 10	190	2,6	7033032xxxx*****

xxxx Insert solenoid code from table below. ***** Insert voltage code from table below. Plugs according to DIN 43650 Form A

Solenoid operating details

Power consumption 24 V d.c.	230 V a.c.	Protection class	Temperature °C Fluid	Ambient	Electrical connection	Solenoid code
12	15	IP 00 without connector	80	-25 ... +60		0200
11,4 W	–	EEx me II T4/T5	-40 ... +50/+40	-40 ... +50/+40	M20x1,5	4230
15,2 VA	–	EEx me II T4/T5	-40 ... +50/+40	-40 ... +50/+40	M20x1,5	4231

Voltage codes

Voltage	Code
24 V d.c.	02400
230 V a.c.	23050

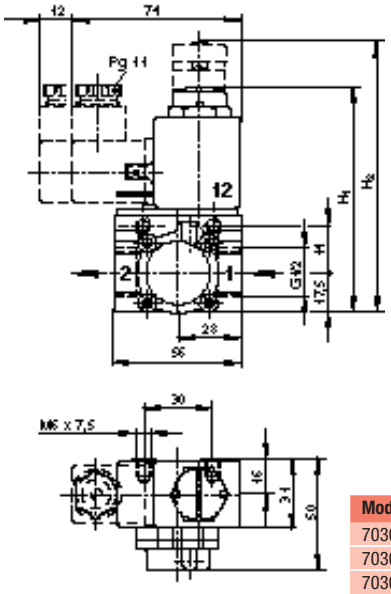
Other voltages on request.

70300 Series

Indirect solenoid actuated poppet valves

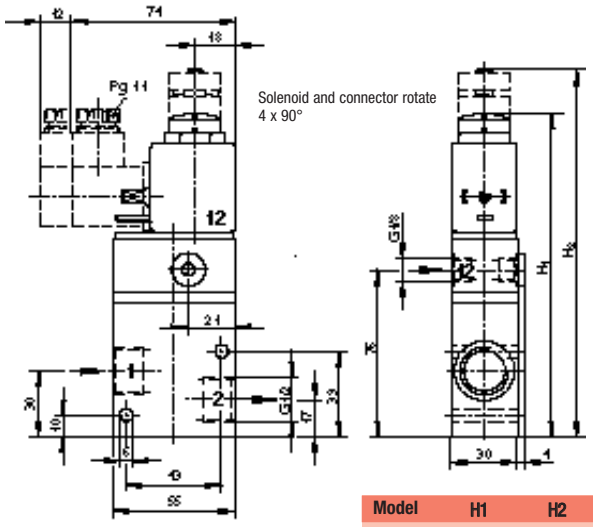
12 to 50 mm orifice

2/2, G½ to G2



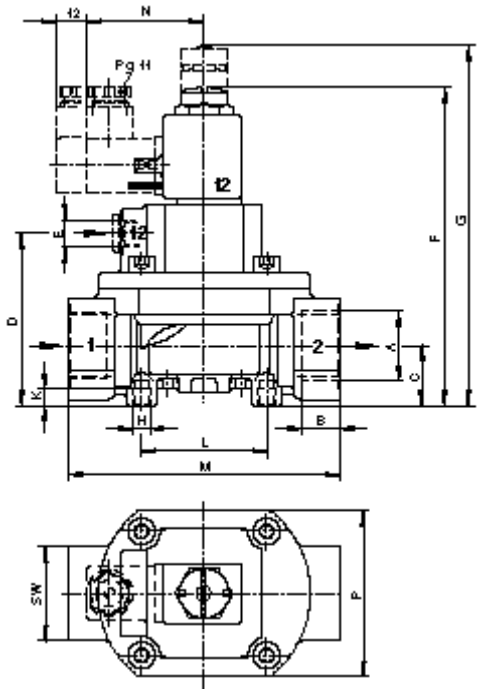
Solenoid and connector rotate
4 x 90°

Model	H1	H2
7030117	–	121
7030119	–	121
7030707	100	–



Solenoid and connector rotate
4 x 90°

Model	H1	H2
7030118	–	167
7030709	147	–



Solenoid and connector rotate
4 x 90°

Model	A	B	C	D	E	F	G	H	K	L	M	N	P	SW
703213x	G3/4	20	29	83,5	G1/4	–	174	M8	8	60	130	55	80	46
703263x	G3/4	20	29	83,5	G1/4	154	–	M8	8	60	130	55	80	46
703223x	G1	18	29	83,5	G1/4	–	174	M8	8	60	130	55	80	46
703273x	G1	18	29	83,5	G1/4	154	–	M8	8	60	130	55	80	46
703233x	G1¼	20	33	91	G1/4	–	181	M8	8	60	130	55	Ø 108	55
703283x	G1¼	20	33	91	G1/4	161	–	M8	8	60	130	55	Ø 108	55
703243x	G1½	28	45	132,5	G1/4	–	222	M8	12	90	182	55	Ø 142	75
703293x	G1½	28	45	132,5	G1/4	202	–	M8	12	90	182	55	Ø 142	75
703253x	G2	28	45	132,5	G1/4	–	222	M8	12	90	182	55	Ø 142	75
703303x	G2	28	45	132,5	G1/4	202	–	M8	12	90	182	55	Ø 142	75