



4/2-Way Pneumatic Solenoid Valve

- Robust servo assisted piston valve
- Service friendly manual override
- Single or block assembly
- Explosion-proof versions

Type 5413 can be combined with ...



Type 2508
Cable plug



Type 2510/11
Cable plug ASI



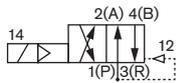
Type 2012
Globe valve



Type 2030
Diaphragm valve

Type 5413 is a pilot operated 4/2-way solenoid valve with manual override as standard. A 3/2 way solenoid pilot valve allows control. The valve consists basically of two assembled 3/2-way valves for ports A and B with a counter built-in servo piston with seat seals. Through pilot channels, the servo piston is operated at the inlet pressure and pushed either apart or towards the valve centre. To switch a minimum pressure difference of 1 bar is required.

Circuit function G



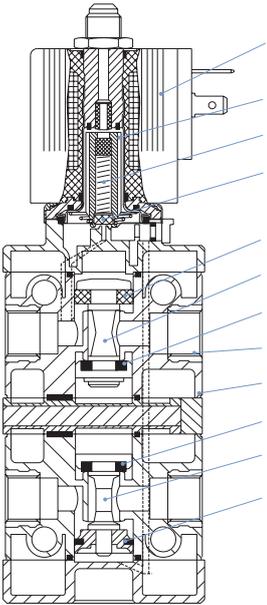
4/2-way valve, normally pressure port 1 connected to outlet 2, outlet 4 relieved

Technical data	
Orifice	DN 6.0 mm
Port connection	G 1/4
Body material	Polyamide (reinforced) with moulded-in brass threads
Coil material	Polyamide, Epoxy
Seal material	NBR
Medium	neutral medium, e.g. lubricated or unlubricated compressed air
Air pressure quality	ISO 8573-1:2010, class 7.4.4*
Medium Temperature	-10 to +60 °C
Medium pressure	1 to 10 bar
Ambient Temperature	max. 55 °C
QnN-Value air	900 l/min
Operating voltage	024 V DC 024/110/230 V/50-60Hz
Voltage tolerance	± 10%
Power consumption	version with V DC: 2 W version with V AC: 11 VA (inrush), 6 VA (hold)
Response time	opening: 50 ms (Pressure rise 0 to 90%) closing: 30 ms (Pressure drop 100 to 10%)
Duty cycle	100% continuously rated
Electrical connection	Tag connectors according to DIN EN 175301-803 (previously DIN 43650) Form A for cable plug Type 2508
Protection class	IP65 with cable plug
Installation	As required, preferably with solenoid system upright; Air exhausted from the relief port with pressed sintered bronze silencer must not be impeded.

Flow rate: QnN-value air [l/min]: Measured at +20 °C, 6 bar pressure at valve inlet and 1 bar pressure difference.
Pressure ranges [bar]: Overpressure to the atmospheric pressure

* To prevent freezing of the expanded compressed air, the pressure dew point must be at least 10 K lower than the temperature of the medium.

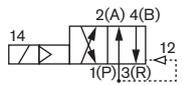
Materials



Coil	Standard: Polyamide, Epoxy Ex version: Epoxy
Stopper	1.4105
Magnet core	1.4105
Core Seal	FKM
Seal poppet	NBR
Poppet	Plastic
Seal poppet	NBR
Moulded-in thread	Brass
Body	Polyamide (reinforced)
Seal poppet	NBR
Poppet	Plastic
Seal poppet	NBR

Circuit function G

Circuit function G

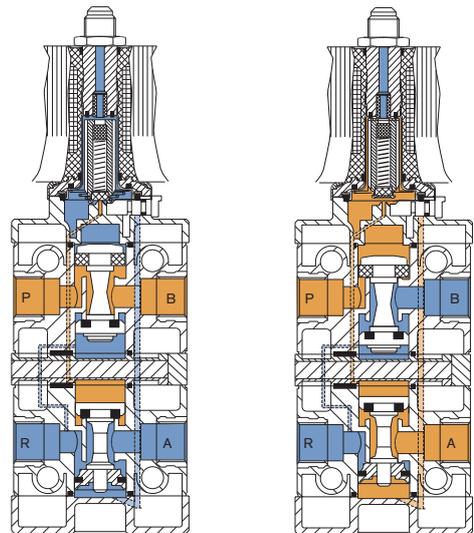


Position power-off:

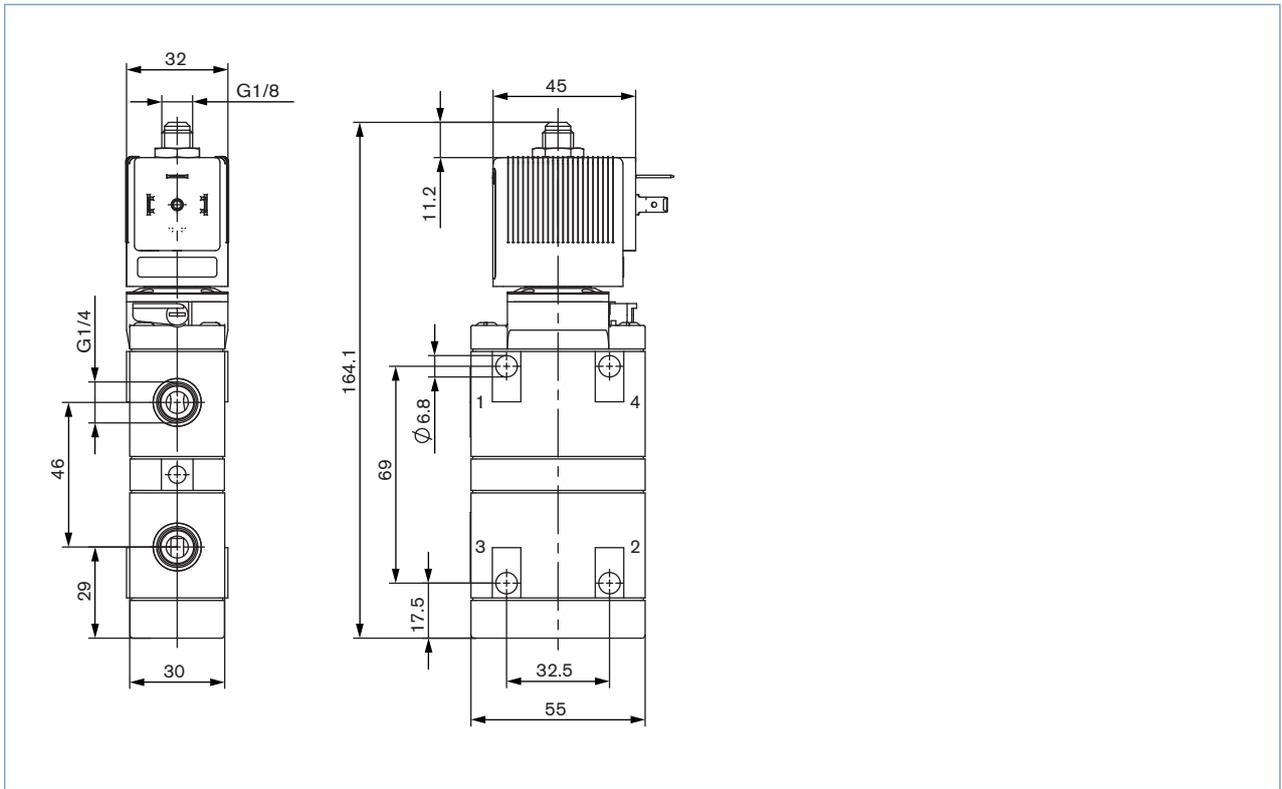
Normally both servo pistons are relieved on the operating side. The servo pistons are pushed apart with the pressure applied on the port (P), the upper piston opens the connection from (P) to (B), and the lower piston opens the connection from (A) to (R).

Position after switching on the current:

The pilot valve opens the pilot bore and exposes both pistons to pressure and pushes them towards the valve centre. The upper piston released the connection (B) to (R), the lower piston opens the connection (P) to (A).



Dimensions for standard version [mm]



Ordering chart

Version with manual override, NBR seal

	Circuit function	Orifice [mm]	Port connection	Q _{Nn} value air l/m	Pressure range [bar]	Power consumption [W]	Voltage/ Frequency [V/Hz]	Item no.
G 	4/2-way valve, normally pressure port 1 connected to outlet 2, outlet 4 relieved	6	G 1/4	900	1-10	2	024/DC	134 615
							024/50-60	134 616
							110/50-60	134 617
							230/50-60	134 618

Note: To switch a pressure difference of 1 bar is required.

Type 5413 – ATEX/IECEX version



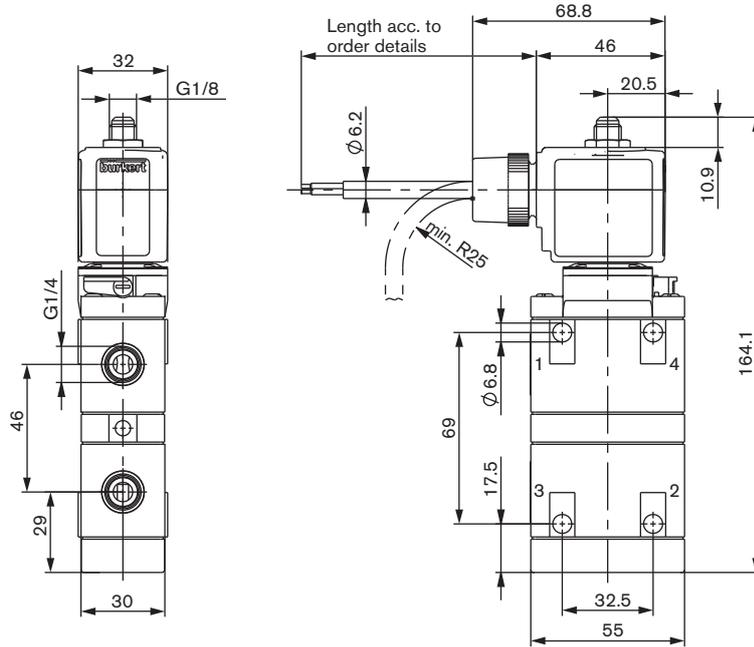
The approval Ex m is achieved by the mounting of an approved push-over coil. The cable connection and the cable are non-detachable and sealed together with the valve. The valves can be used individually or in blocks.

Technical data	
Body material	Polyamide
Seal material	NBR
Medium	neutral medium, e.g. lubricated or unlubricated compressed air
Air pressure quality	ISO 8573-1:2010, class 7.4.4*
Medium temperature	-10 °C to +60 °C
Ambient temperature	
Single mounting	-30 °C to +60 °C
Block mounting	-30 °C to +50 °C
Port connection	G1/4
Operating voltage	24/ 110/ 230 V UC
Voltage tolerance	+10%
Duty cycle	100% continuously rated
Electrical connection	3m cable, moulded Junction box (without fuse), moulded
Protection class	IP65
Type of protection	
with moulded cable	PTB 14 ATEX 2023 X / IECEx PTB 14.0049 X II 2G Ex mb IIC T5 Gb II 2D Ex mb IIIC T 100 °C Db
with junction box	EPS 16 ATEX 1046 X / IECEx EPS 16.0021 X II 2G EX eb mb IIC T5 Gb II 2D EX mb tb IIIC T100 °C Db
Installation	As required, preferably with actuator upright

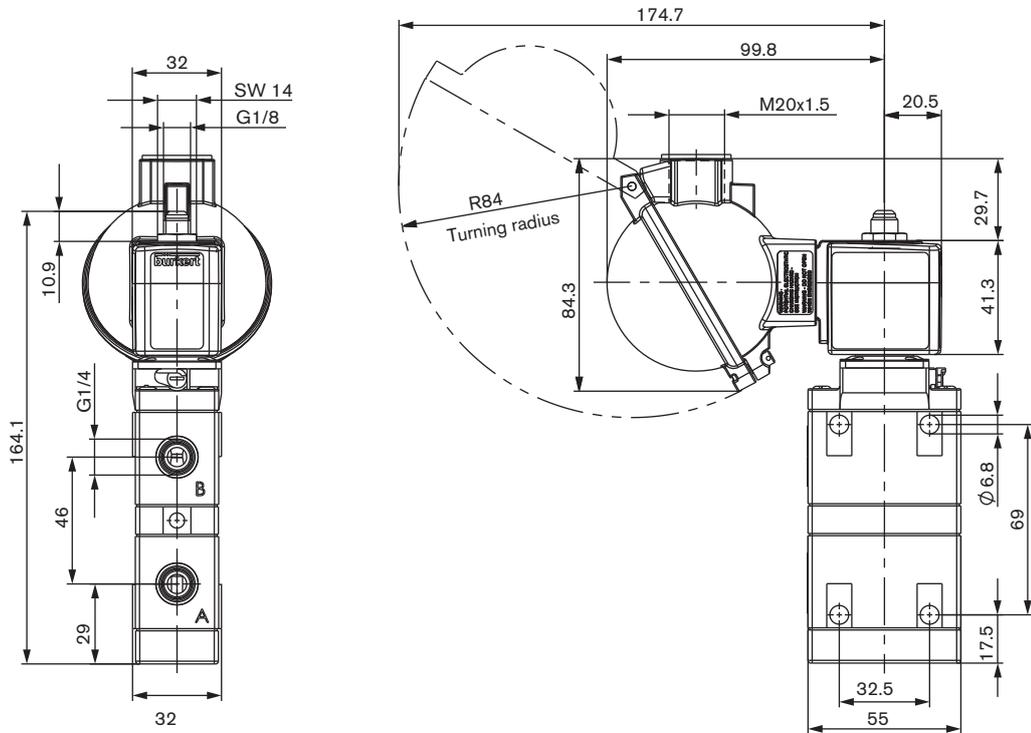
* To prevent freezing of the expanded compressed air, the pressure dew point must be at least 10 K lower than the temperature of the medium.

Dimensions for ATEX/IECEx versions [mm]

Version with moulded cable (3 m)



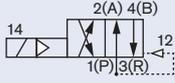
Version with junction box



Ordering chart for ATEX/IECEx versions

Version with manual override, NBR seal and moulded cable (3 m)

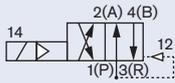
The maximum fluid temperature may never exceed the permissible temperature class (T4 135 °C, T5 100 °C, T6 85 °C) minus 5K.

Circuit function	Orifice [mm]	Port connection	QNm- value air l/m	Pressure range [bar]	Power consumption [W]	Voltage/ Frequency [V/Hz]	Item no.
G  4/2-way valve, normally pressure port 1 connected to outlet 2, outlet 4 relieved	6	G 1/4	900	1-10	3	024/UC	566 775
						110/UC	566 776
						230/UC	566 777

Note: To switch a pressure difference of 1 bar is required.

Version with manual override, NBR seal and junction box (without fuse)

The maximum fluid temperature may never exceed the permissible temperature class (T4 135 °C, T5 100 °C, T6 85 °C) minus 5K.

Circuit function	Orifice [mm]	Port connection	QNm- value air l/m	Pressure range [bar]	Power consumption [W]	Voltage/ Frequency [V/Hz]	Item no.
G  4/2-way valve, normally pressure port 1 connected to outlet 2, outlet 4 relieved	6	G 1/4	900	1-10	5	024/UC	x
						048/UC	x
						110/UC	x
						230/UC	x

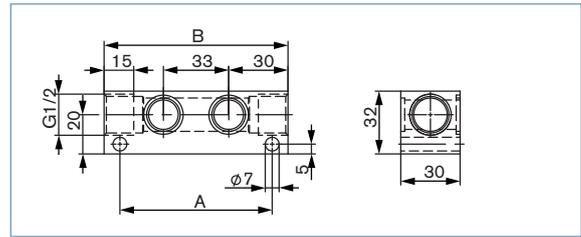
Note: To switch a pressure difference of 1 bar is required.

x on request

Ordering chart for accessories

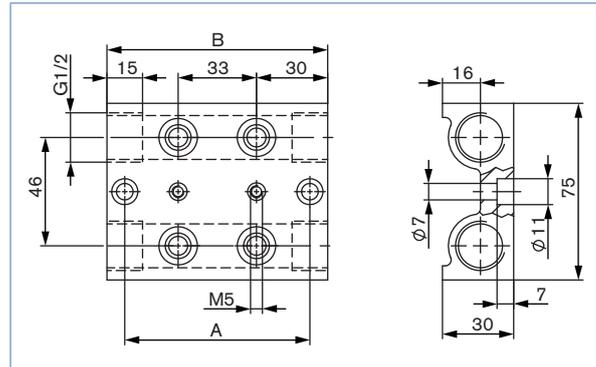
Single channel manifolds (for pressure port) in aluminium with banjo bolts and seals

Manifold	Hole spacing A	Total length B	Item no.
2 valves	77	93	005 811
3 valves	110	126	005 717
4 valves	143	159	005 843
5 valves	176	192	005 776
6 valves	209	225	005 718



Double channels manifolds (for pressure and exhaust port) with mounting screws M5x60 DIN 912 and O-rings 11x2.5

Manifold	Hole spacing A	Total length B	Item no.
2 valves	78	93	005 686
3 valves	111	126	005 688
4 valves	144	159	005 719
5 valves	177	192	005 696
6 valves	210	225	005 626
7 valves	243	258	005 738
8 valves	276	291	005 724
9 valves	309	324	005 739
10 valves	342	357	005 740
11 valves	375	390	005 804
12 valves	408	423	005 700



Cable plug Type 2508 acc. to DIN 43650 Form A

Description	Voltage	Item no.
Standard cable plug	0-250 V AC/DC	008 376
with LED	12-24 V AC/DC	008 360
with LED	100-120V AC/DC	008 361
with LED and varistor	12-24 V AC/DC	008 367
with LED and varistor	100-120V AC/DC	008 368
with LED and varistor	200-240 V AC/DC	008 369

Note: The delivery of a cable plug includes the flat seal and fixing screw.

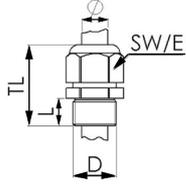
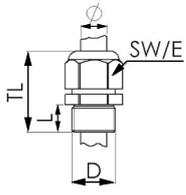
A wide selection of further cable plugs is available. Please refer to data sheet Type 2508.



Accessories (continued)

Ex-Cable gland

(polyamide version included in delivery / surcharge applied for brass nickel plated version)

Photo	Description	Ex Approvals		Item no	Drawing										
		Certification	Identifica-tion												
	Brass, nickel-plated, 6-13 mm	PTB 04 ATEX 1112 X, IECEx PTB 13.0027X	II 2 G Ex e IIC Gb, II 2 D Ex tb IIIC Db IP68,	773 278	 <table border="1"> <tr><td>TL</td><td>29-37 mm</td></tr> <tr><td>L</td><td>6 mm</td></tr> <tr><td>D</td><td>20</td></tr> <tr><td>SW</td><td>24 mm</td></tr> <tr><td>E</td><td>27 mm</td></tr> </table>	TL	29-37 mm	L	6 mm	D	20	SW	24 mm	E	27 mm
TL	29-37 mm														
L	6 mm														
D	20														
SW	24 mm														
E	27 mm														
	Polyamide, 7-13 mm	PTB 13 ATEX 1015 X, IECEx PTB 13.0034X	II 2 G Ex e IIC Gb, II 2 D Ex tb IIIC Db IP68	773 277	 <table border="1"> <tr><td>TL</td><td>36-45 mm</td></tr> <tr><td>L</td><td>10 mm</td></tr> <tr><td>D</td><td>20</td></tr> <tr><td>SW</td><td>24 mm</td></tr> <tr><td>E</td><td>28 mm</td></tr> </table>	TL	36-45 mm	L	10 mm	D	20	SW	24 mm	E	28 mm
TL	36-45 mm														
L	10 mm														
D	20														
SW	24 mm														
E	28 mm														

Special tool to turn the junction box (not included in delivery)

Photo	Description	Item no.
	Set SC02-AC10 Special wrench Service Manual	293 488

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