

3/2 Directional Valves DN 5 to 50



For neutral gaseous and liquid fluids
Solenoid direct operated poppet valves
Connection: Internal thread G 1/4 to G 2
Operating pressure 0 to 100 bar (see table)

Catalog Register
A 9

Publication 7500**537**.06.02.93



Description

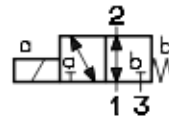
Solenoid valve for air, water, oil

Flow direction:	Optional
Temperature min.:	-25 °C, grey cast iron -10°C
Temperature max.:	+80 °C (fluid) +60 °C (ambience)
Mounting position:	Optional, preferably vertical
Materials	
– Body:	Brass (Ms) Red brass (Rg) Grey cast iron (GG)
– Seat seal:	Perbunan (NBR) Steel/steel
– Inner parts:	Stainless steel, brass

For contaminated fluids, insertion of a dirt trap is recommended (see accessories).

Features

- Working from 0 bar up
- Suitable for medium-high vacuum range with sleeves down to $1.33 \cdot 10^{-2}$ mbar without sleeves down to $1.33 \cdot 10^{-3}$ mbar
- Approved for installation on board ships



Switching function:
Pressure connection at port 1, 2 or 3
Multi-purpose valve

Parameters

DN	Line connection	Operating pressure [bar]			k _v -value (C _v (US) ≈ k _v x 1.2)		Switching cycles with gaseous and liquid fluids up to 40 mm ² /s [1/min]	Material		Weight [kg]	Sectional drawing No.	Dimensional drawing No.	Cat. No.		Cat. No.	
		min.	max.													
				gaseous fluids		liquid fluids up to 40 mm ² /s		Body	Seat seal				Valve	Solenoid DC	Valve	Solenoid AC

Switching function: Pressure connection at port 1, 2 or 3

5	G 1/4	0	10	10	0.32	0.38	100	Ms	NBR	1.2	—	01	2401103.0801	2401103.0807¹⁾
8	G 1/4	0	3	3	0.65	0.92	100	Ms	NBR	2.6	01	02	2405650.1300²⁾	2405650.1301²⁾
8	G 1/4	0	15	15	0.65	0.92	100	Ms	NBR	2.6	01	02	2401550.1300³⁾	2401550.1301³⁾
8	G 3/8	0	3	3	0.77	1.02	100	Ms	NBR	2.6	01	02	2405750.1300²⁾	2405750.1301²⁾
8	G 3/8	0	15	15	0.77	1.02	100	Ms	NBR	2.6	01	02	2401650.1300	2401650.1301
8	G 1/2	0	3	3	0.78	1.10	100	Ms	NBR	2.6	01	02	2405850.1300²⁾	2405850.1301²⁾
8	G 1/2	0	15	15	0.78	1.10	100	Ms	NBR	2.6	01	02	2401750.1300	2401750.1301
12	G 3/8	0	3	3	1.12	1.25	100	Ms	NBR	4.2	01	03	2408150.1500²⁾	2408150.1501²⁾
12	G 3/8	0	12	12	1.12	1.25	100	Ms	NBR	3.0	01	02	2402450.1300	2402450.1301
12	G 3/8	0	25	25	1.25	1.95	100	Ms	NBR	4.2	01	03	2402650.1500	2402650.1501
12	G 3/8	0	40	40	1.12	1.25	100	Ms	NBR	4.2	01	03	2406650.1500	2406650.1501
12	G 3/8	0	—	100	1.12	1.25	80	Ms	Stahl	4.2	01	03	2407850.1500	2407850.1501
12	G 1/2	0	3	3	1.25	1.69	100	Ms	NBR	4.2	01	03	2408250.1500²⁾	2408250.1501²⁾
12	G 1/2	0	12	12	1.25	1.69	100	Ms	NBR	3.0	01	02	2402550.1300³⁾	2402550.1301³⁾
12	G 1/2	0	25	25	1.25	1.95	100	Ms	NBR	4.2	01	03	2402750.1500	2402750.1501
12	G 1/2	0	40	40	1.25	1.69	100	Ms	NBR	4.2	01	03	2406750.1500³⁾	2406750.1501³⁾
12	G 1/2	0	—	100	1.25	1.69	80	Ms	Stahl	4.2	01	03	2407950.1500	2407950.1501
15	G 1/2	0	12	12	2.8	2.7	70	Rg	NBR	6.2	02	04	2403350.1500	2403350.1501
15	G 3/4	0	12	12	2.8	2.7	70	Rg	NBR	6.2	02	04	2403450.1500	2403450.1501
20	G 3/4	0	6	6	5.0	5.5	50	Rg	NBR	7.7	02	05	2403510.1500	2403510.1501
20	G 1	0	6	6	5.0	5.5	50	Rg	NBR	7.7	02	05	2403610.1500	2403610.1501
25	G 1	0	8	8	9.0	10.0	30	Rg	NBR	22.9	02	06	2403810.1800	2403810.1801
25	G 1 1/4	0	8	8	9.0	10.0	30	Rg	NBR	22.9	02	06	2403910.1800	2403910.1801
50	G 1 1/2	0	3	3	25.0	28.5	20	GG	NBR	36.3	02	07	2402410.1800	2404010.1801
50	G 2	0	3	3	25.0	28.5	20	GG	NBR	36.3	02	07	2404110.1800	2404110.1801

Ms - Brass
Rg - Red brass
GG - Grey cast iron
NBR - Perbunan

State voltage [V] and frequency [Hz]

1) For alternating-current operation, solenoid is equipped with a DC coil, the appropriate rectifier is installed in the connector.

2) Design not pressure balanced (without sleeves)

3) Equipped with solenoids 1309, 1310, 1509 or 1510, these solenoids are approved for marine engineering by: GL Germanischer Lloyd, LR Lloyd's Register of Shipping, DNV Det Norske Veritas, PRS Polski Rejestr Statkow, USSR Register of Shipping

Solenoids

Standard voltages	DC	AC 40 to 60 Hz	Other voltages on request
	24 V	24 V 110 V 220 V 230 V	

Design acc. to VDE 0580
100 % duty cycle

For more technical details on solenoids see:
Publication 7500784 (solenoids 0801/0807),
Publication 7500779 (solenoids 1300/1301),
Publication 7500778 (solenoids 1500/1501),
Publication 7500773 (solenoids 1800/1801).

Current draw:

Solenoid	DC	Solenoid	AC	
			Inrush	Holding
0801	16 W	0807	18 VA	18 VA
1300	20 W	1301	24 VA	24 VA
1500	39 W	1501	42 VA	42 VA
1800	70 W	1801	80 VA	80 VA

Enclosure to DIN 40050

Solenoids 080X, 130X 150X: IP 65

Solenoids 180X: IP 53

Electric connection

Solenoids 080X: Connector to DIN 43650

Solenoids 130X, 150X, 180X: Cable gland Pg 13,5

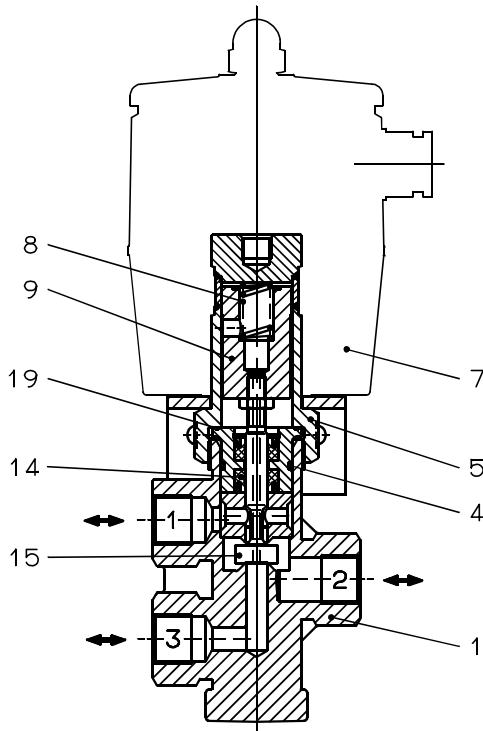
Other versions available upon request

- With DVGW-approval to DIN 3394, page 2, Group R_M
- Seat seal Viton (FKM), Teflon (PTFE) or Ethylene-propylene-dien-rubber (EPDM)
- With manual override, without detent 360 (push button) or 361 (lever)
- With manual override and detent 350 (lever) or (hand wheel)

- Switching monitor position:
Mechanical/electrical
Inductive/electrical
- With semi-automatic actuation
- With solenoid in protection classes (Ex)s, Ex s IIC T5
- With solenoid in protection classes (Sch)d (Ex)d, EEx d

Sectional drawings

01

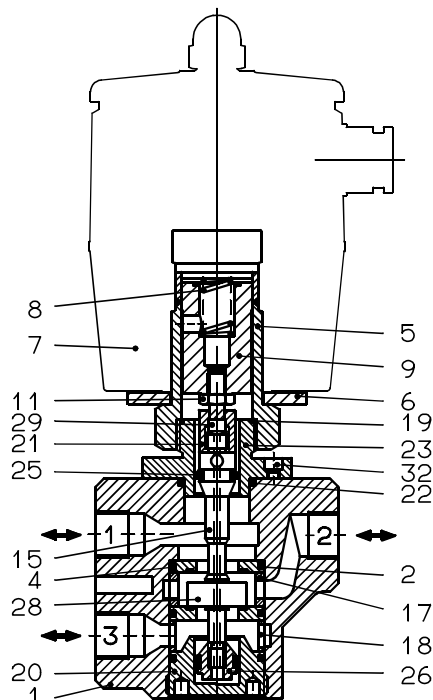


- 1 Body
- 4 O-ring *
- 5 Core tube
- 7 Solenoid
- 8 Spring *
- 9 Plunger
- 14 Grooved ring
- 15 Spindle assly.
- 19 O-ring *

Spare parts kits

Cat. No. Valve	Cat. No. Spare parts kit
2401103	0596651
2401550, 2401650, 2401750	0592402
2402450, 2402550	0592713
2402650, 2402750	0592447
2403350, 2403450	0593212
2405650, 2405750, 2405850	0592789
2406650, 2406750	0592790
2407850, 2407950	0592436
2408150, 2408250	0593293
2403510, 2403610	0598531
2403810, 2403910	0593270
2404010, 2404110	0598535

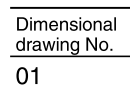
02



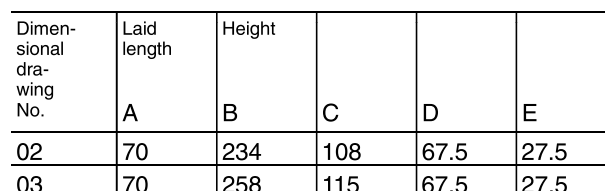
- 1 Body
- 2 Valve seat
- 4 O-ring *
- 5 Core tube
- 6 Disk
- 7 Solenoid
- 8 Spring *
- 9 Plunger
- 11 Nut
- 15 Spindle
- 17 Ring
- 18 Ring
- 19 O-ring *
- 20 Plug
- 21 Union
- 22 O-ring *
- 23 Flange
- 25 Lip ring *
- 26 Piston
- 28 Valve disk *
- 29 Bolt
- 32 Screw

All parts marked with an asterisk are enclosed in spare part kits.
When ordering spares, please state also valve Cat. No.

01



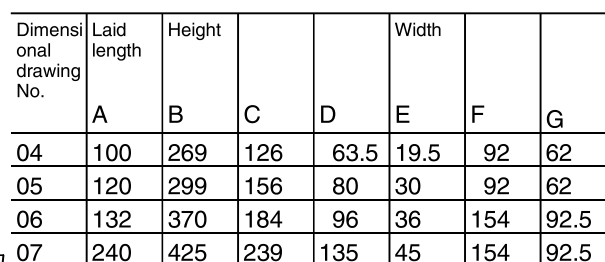
Connector can
be indexed $4 \times 90^\circ$

02
03

For line connection
see parameters

Dimensional drawing No.	F	Width ØG	H	J
02	47.5	86	59	38
03	47.5	92	62	38

04
05
06
07



Dimensional drawing No.	H	J	K	L	M	N	O	P
04	30	15	13.5	50	M10	12	39	77
05	30	15	15	70	M10	12	42	82
06	40	20	15	100	M12	12	57	102
07	80	40	33	130	M16	21	98	171