

5/2 Directional Valves DN 5



For neutral gaseous and liquid fluids
 Direct solenoid operated poppet valves
 Port size G 1/4, 1/4-18 NPT or
 flange-mounting design with NAMUR interface
 Operating pressure 0 to 10 bar

Catalog Register
A 11

Publication 7501611.06.09.91

**OBSOLETE
 DOCUMENT**
 Technical
 Reference
 Only

Description

Solenoid valve for air, water, oil

Flow direction: Determined
 Temperature min.: -25 °C
 Temperature max.: Fluid +80 °C
 Switching cycles: 100/min
 Mounting position: Optional,
 preferably vertical

Material used:
 – Body: Brass
 Aluminium (Al),
 hard anodized
 – Seat seal: NBR (Perbunan)
 FKM (Viton)
 – Inner parts: Stainless steel,
 brass

For contaminated fluids please provide for a filter.

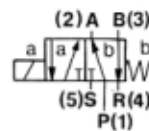


Features

- Working from 0 bar up
- Suited for medium-high vacuum (down to $1.33 \cdot 10^{-2}$ mbar)
- Easily interchangeable solenoid
- Control of ports A (2) and B (3) by throttle check valves.
- With NAMUR interface
 Add-on manual override for commissioning and maintenance
 Many mounting possibilities
- With DVGW-approval
 Safety shut-off valve, as per DIN 3394, Part 2,
 Group R_M
 Drop-out value $\geq 15\% U_N$

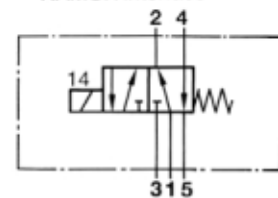
If type-tested pilot valves (DIN 3394, Part 2) are used on type-tested safety shut-off valves (DIN 3394, Part 1), a type test of the whole unit is not required. The standard function of the main valve must, however, be ensured.

The testing authority should be informed of type-tested pilot valves not incorporated in the main test report.



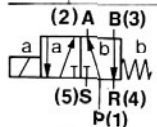
Switching function:
 With rest position

NAMUR interface



Valve parameters

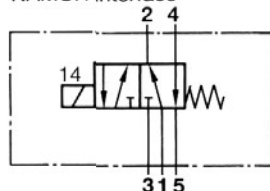
DN	Port size	Operating pressure [bar] for gaseous and liquid fluids up to 40 mm ² /s		k _V -value (C _V (US) ≈ k _V × 1.2)	Material		Weight without solenoid	Sec- tional drawing	Dimen- sional drawing	Cat. No.		Valve features
		min.	max.		Body	Seat seal						



Switching function: With rest position

5	G 1/4	0	10	0.48	Brass	NBR	1.15	01	01	2500300.	With DVGW approval
5	G 1/4	0	10	0.48	Brass	NBR	1.15	01	01	2500329.	
5	NPT 1/4	0	10	0.48	Brass	NBR	1.15	01	01	2500306.	
5	G 1/4	0	10	0.48	Brass	FKM	1.15	01	01	2500333.	
5	G 1/4	0	10	0.48	Al	NBR	0.65	01	01	2500301.	Manual override with detent
5	NPT 1/4	0	10	0.48	Al	NBR	0.65	01	01	2500307.	
5	G 1/4	0	10	0.48	Brass	NBR	1.25	01	01	2500311.	
5	G 1/4	0	10	0.48	Brass	NBR	1.25	01	01	2500316.	

NAMUR interface



Add-on manual override (see page 5)

5	G 1/4/ NAMUR	0	10	0.48	Al	NBR	0.65	02	02	2500335.	With DVGW approval
5	G 1/4/ NAMUR	0	10	0.48	Al	NBR	0.65	02	02	2500340.	

Inner parts free of non-ferrous metals, with DVGW approval

Solenoid parameters

Picture	Current draw		Current [mA]		Tolerance [%] pull-in current at 100 % duty cycle + - ³⁾	Protection class	Ambient temperature [°C]	Fluid temperature [°C]	Weight [kg]	Dimen- sional drawing No.	Circuit dia- gram No.	Cat. No.
	[W] DC	[VA] AC	24 V DC	220 V AC								
	16.8	18.2	700	83	10 20	IP 65	+55	+80	0.33	05	01	0801
	16.8		700		10 20	IP 65	+55	+80	0.34	05	02	0807⁴⁾
		18.2		83	10 20	IP 65	+55	+80	0.33	05	01	0838
					10 20	IP 65	+55	+80	0.34	05	02	0839⁴⁾
	14.5	16	604	72	10 30	(Ex)s G4	+40	+55	0.85	06	03	0870
					10 30	(Ex)s G4	+40	+55	0.85	06	04	0871
	12	12.8	498	58	10 25	(Ex)s G5	+40	+55	0.85	06	03	0880
	12		498		10 25	(Ex)s G4	+60	+70	0.85	06	03	0890
		12.8		58	10 25	(Ex)s G5	+40	+55	0.85	06	04	0881
					10 25	(Ex)s G4	+60	+70	0.85	06	04	0891
	7.5	10.5	312	46	10 20	(Ex)s G5	+40	+55	0.85	06	03	3888
					10 20	(Ex)s G5	+40	+55	0.85	06	04	3877
	7.5		312		10 20	(Ex)s G5	+40	+55	0.85	06	03	3876¹⁾
	12		498		10 25	EExe II T4	+70	+70	0.85	06	01	3898²⁾
	12		498		10 25	EExe II T5	+60	+70	0.85	06	01	0898
	12		498		10 25	EExe II T6	+40	+55	0.85	06	01	3880

¹⁾ This solenoid is provided with a hard anodized surface as protection against corrosion. It is available only for 24 VDC.

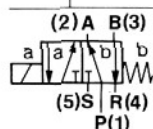
²⁾ Equipped with FKM seals the valve can be subjected to temperatures up to +80 °C.

³⁾ With DVGW-approved units, minus tolerances are 5 % less.

⁴⁾ With protective collar

Valve parameters with solenoid in protection class EEx d IIC T6/T5

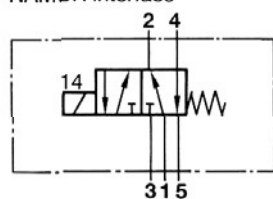
DN	Port size	Operating pressure [bar] for gaseous and liquid fluids up to 40 mm ² /s		k _v -value (C _v (US) ≈ k _v × 1.2)	Material		Weight without solenoid [kg]	Sectional drawing No.	Dimensional drawing No.	Cat. No.		Valve features
		min.	max.		Body	Seat seal				Valve	Solenoid (see table below)	



Switching function: With rest position

5	G 1/4	0	10	0.48	Brass	NBR	1.25	01	03	2500336.	
5	NPT 1/4	0	10	0.48	Brass	NBR	1.25	01	03	2500337.	

NAMUR interface



Add-on manual override (see page 5)

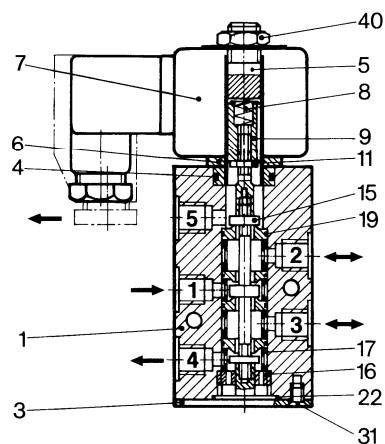
5	G 1/4/ NAMUR	0	10	0.48	Al	NBR	0.75	02	04	2500341.	
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Solenoid parameters

Picture	Current draw		Current [mA]		Tolerance [%] pull-in current at 100 % duty cycle + - ³⁾	Protection class	Ambient temperature	Fluid temperature	Weight	Dimensional drawing	Circuit diagram	Cat. No.
	[W] DC	[VA] AC	24 V DC	220 V AC			[°C]	[°C]	[kg]	No.	No.	
	14.3		598		10 20	EEx d IIC T6	+40	+40	0.8	07	05	3616
	14.3		598		10 20	EEx d IIC T5	+60	+60	0.8	07	05	
		14.7		67	10 20	EEx d IIC T6	+40	+40	0.8	07	06	3617
		14.7		67	10 20	EEx d IIC T5	+60	+60	0.8	07	06	

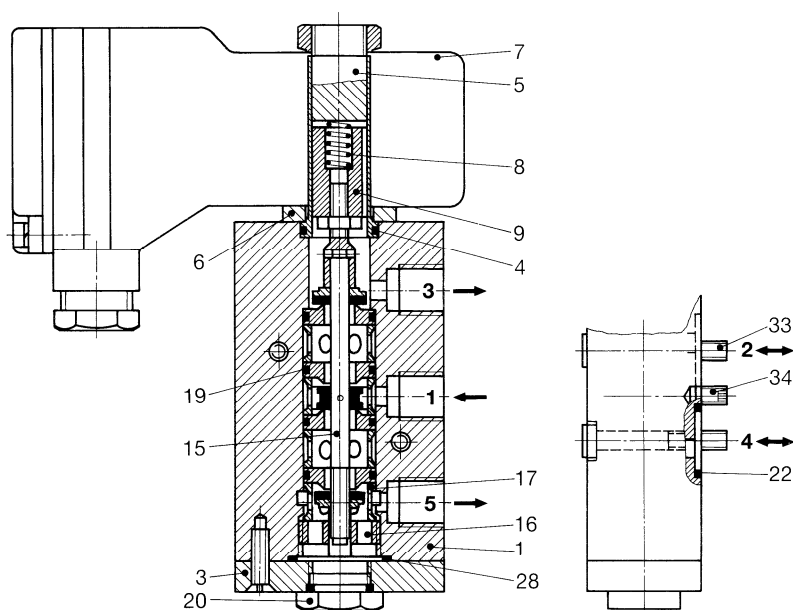
Sectional drawings

01



- 1 Body
- 3 Plate
- *4 O-ring
- 5 Core tube
- 6 Plate
- 7 Solenoid
- *8 Spring
- 9 Plunger
- 11 Nut
- *15 Spindle assy.
- 16 Union
- 17 Ring
- *19 O-ring
- *22 O-ring
- 31 Srew
- 40 Nut

02



- 1 Body
- 3 Plate
- *4 O-ring
- 5 Core tube
- 6 Plate
- 7 Solenoid
- *8 Spring
- 9 Plunger
- *15 Spindle assy.
- 16 Threaded plug
- 17 O-ring
- *19 O-ring
- 20 Screw plug
- *22 O-ring
- *28 O-ring
- 33 Socket head screw
- 34 Threaded pin

O-rings, mounting bolts and threaded pin are included in delivery.

All parts marked with an asterisk are included in spare parts kit. When ordering, please state also valve Cat. No.

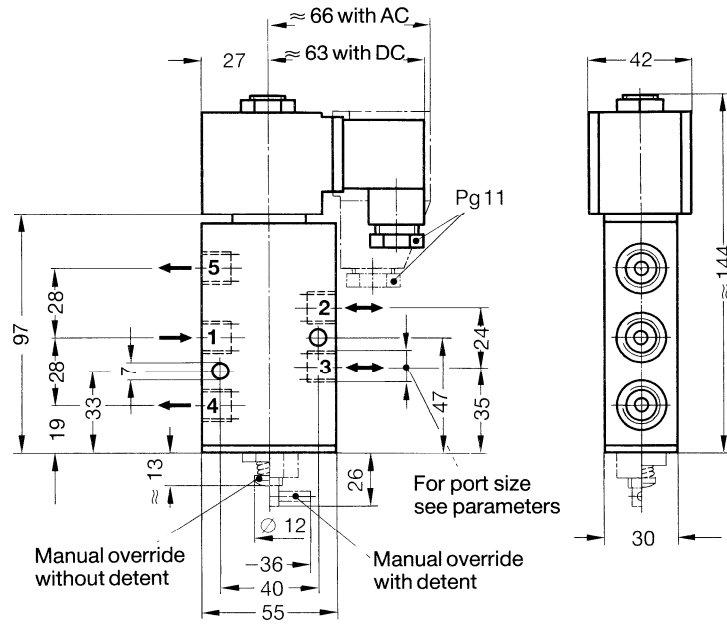
Spare parts kits

Cat. No. Valve	Cat. No. Spare parts kit
2500300	0596631
2500301	0596631
2500306	0596631
2500307	0596631
2500311	0596631
2500316	0596631
2500329	0596631

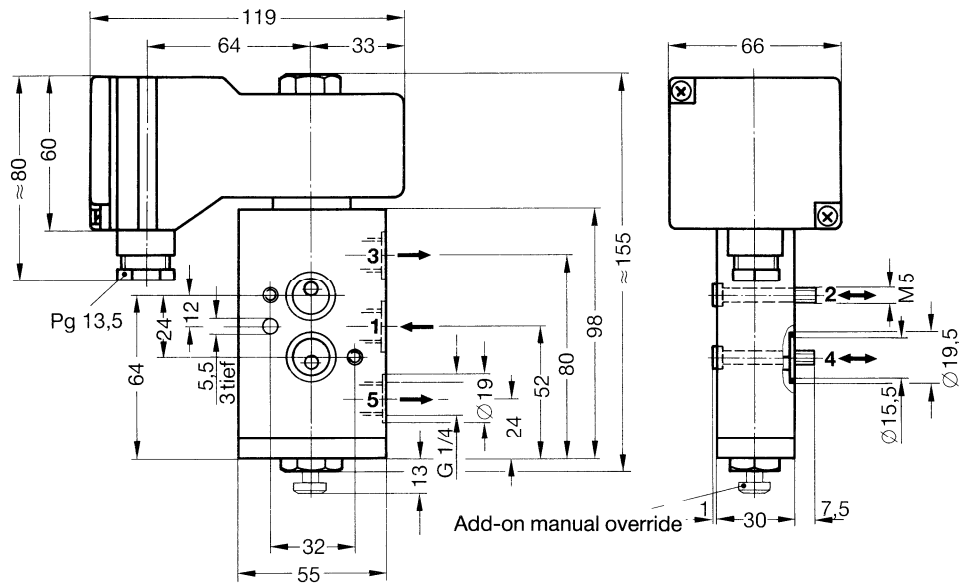
Cat. No. Valve	Cat. No. Spare parts kit
2500333	0607296
2500335	0605016
2500336	0602869
2500337	0602869
2500340	0606004
2500341	0606007

Dimensional drawings

01



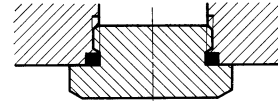
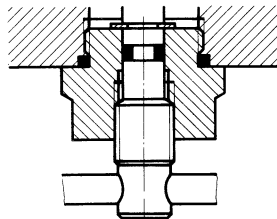
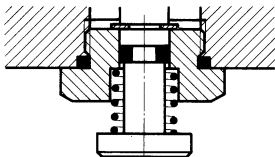
02



Add-on manual override
without detent
Cat. No. **0602767**

with detent
Cat. No. **0602768**

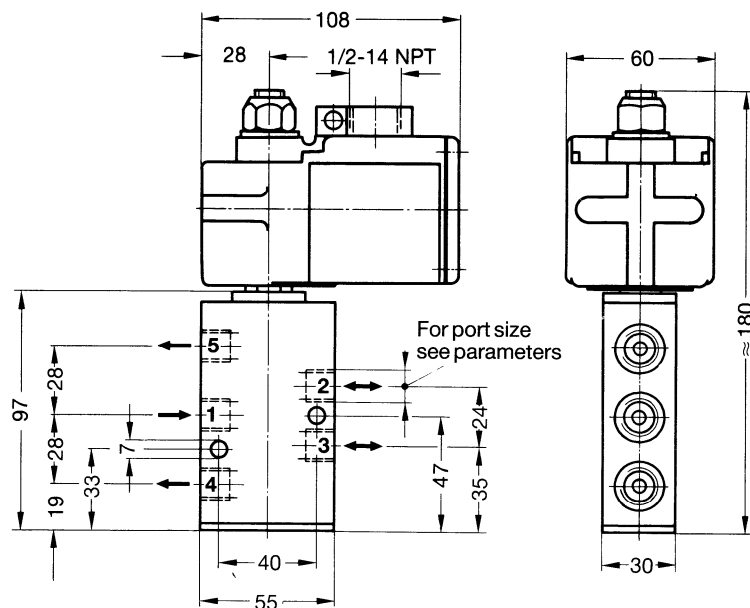
Threaded plug
Item 20 (spare part)
Cat. No. **0602764**



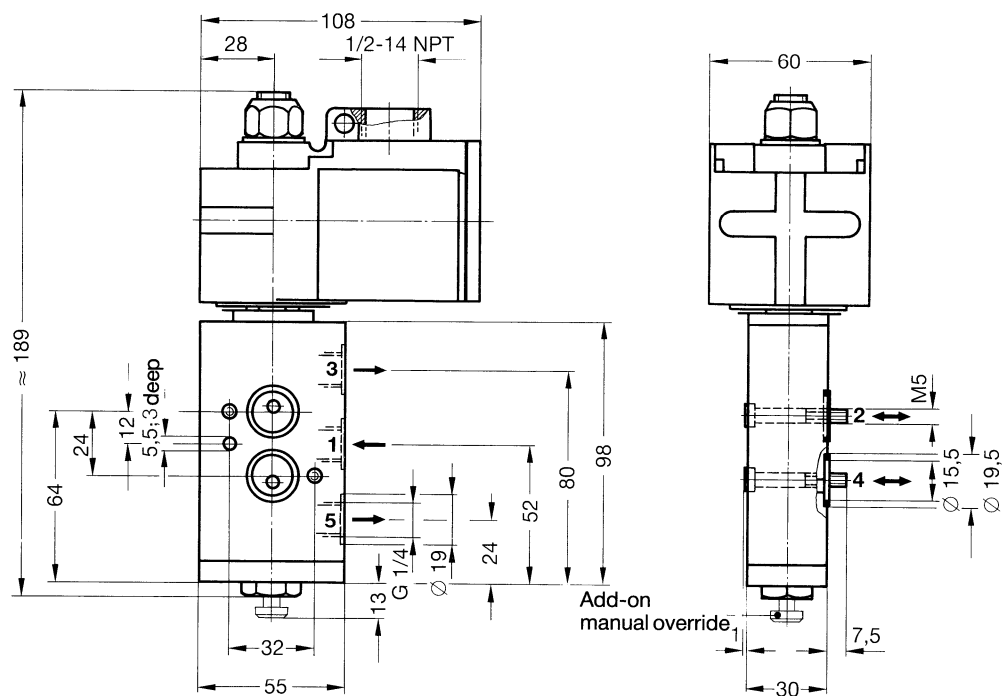
Manual override provided only for commissioning and tests. DVGW-approval becomes invalid if equipped with manual override.

Dimensional drawings

03

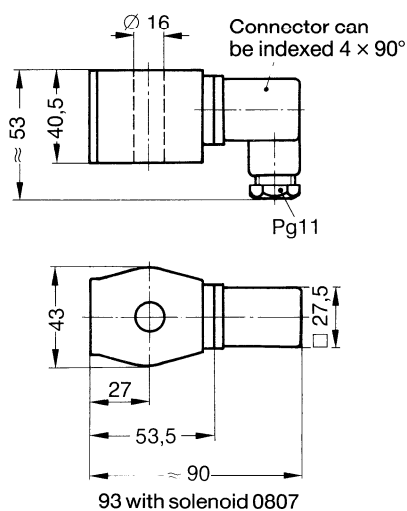


04

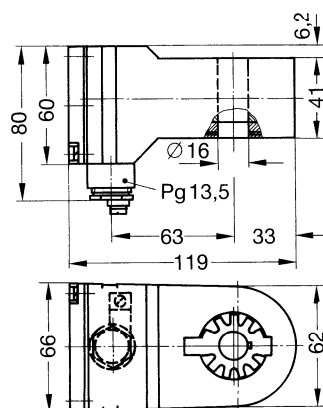


Dimensional drawings

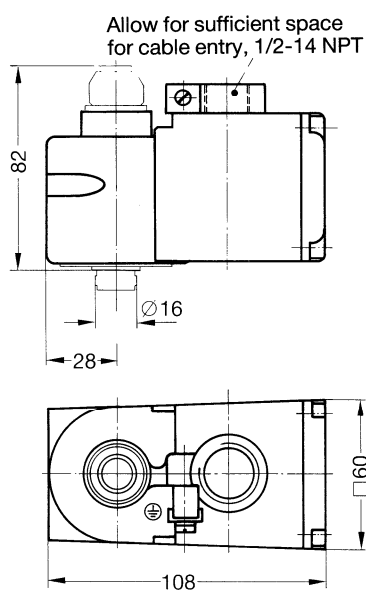
05



06

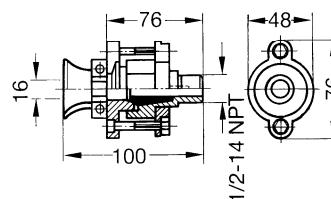


07



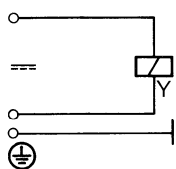
Accessories

Cable entry 1/2-14 NPT in protection class EEx d IIC
for cable dia. 9 to 11 mm Cat. No. **0664093**
for cable dia. 11 to 13 mm Cat. No. **0664094**

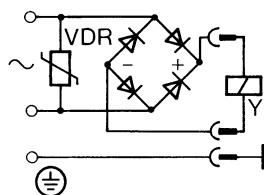


Circuit diagrams

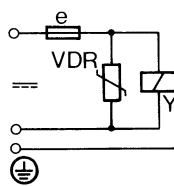
01



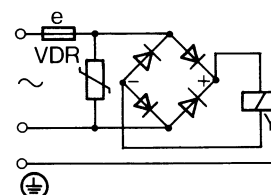
02



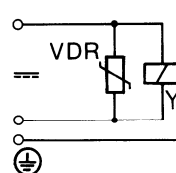
03



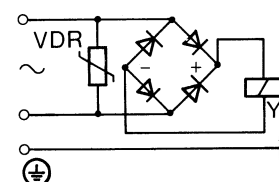
04



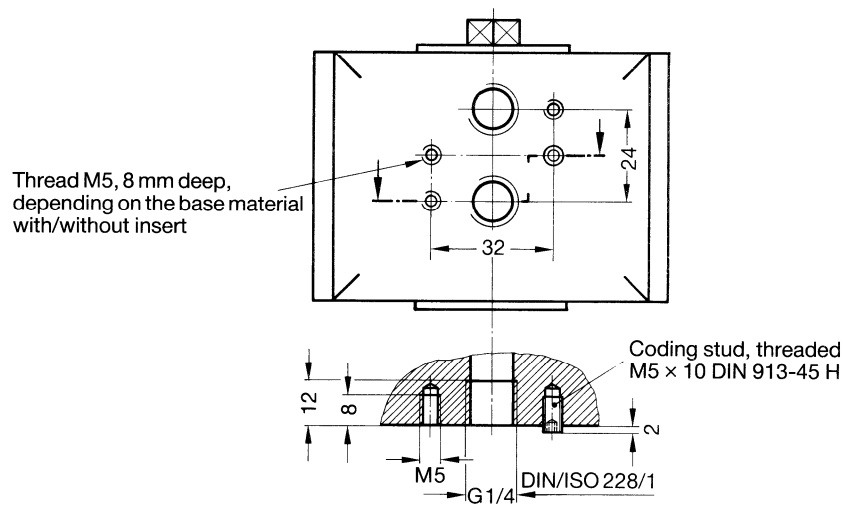
05



06



NAMUR interface



Mounting parts

Designation	Application	For further information see publication	Weight [kg]	Cat. No.
Flange plate	Direct attachment to pneumatic linear actuators with NAMUR ripping and for wall mounting, depending on the tubing position	HERION 7502242	0.50	0559857
Yoke	In conjunction with a flange plate for attachment to pneumatisch linear actuators with NAMUR pillar (round)		1.0	0540593
Spacer plate	Direct attachment to pneumatic pivot drives, e. g. when using a solenoid with terminal box		0.25	0540109
Adapter plate	Direct attachment to older design pneumatic pivot drives, with hole pattern for valve Cat. No. 2500310 , 2500328		0.18	0559853