

### 2/2-Way



### Advantages/Benefits

- ▶ Solvent joint, fusion spigot
- ▶ Normally open or closed
- ▶ Body material: PVC, PVDF
- ▶ Isolating diaphragm between the solenoid and fluid
- ▶ Silent operation and low water hammer
- ▶ Non-metallic valve internals
- ▶ Lockable manual override standard

### Design/Function

Servo-assisted solenoid valve with diaphragm.

In the normally closed function, the spring action in the pilot valve diverts the fluid to pressurise the diaphragm from above and shuts the valve off.

When the pilot valve is energised the pressure above the diaphragm is relieved. The fluid pressure below the diaphragm then raises it and the valve opens.

The 3/2-way servo-assisted valve design ensures there is no fluid contact with metallic components.

The solenoid epoxy encapsulation efficiently dissipates the heat generated by the coil.

Valves can be mounted or removed radially for a space-saving installation.

### Applications

- Aggressive gases and liquids
- Water treatment
- Effluent treatment
- Electroplating
- Environmental technology
- Food- and beverage bottling systems, pharmacy
- Chemical industry and systems engineering
- High-tech sectors, e.g. the production of semi-conductors
- Textile industry

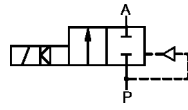
# Solenoid Valve with Pivoted Armature for Aggressive Fluids

## Type 142

### Technical Data

#### Circuit Function

A 2/2-way valve,  
normally closed,  
with 3-way pilot servo-assistance



#### Body Material

Body and cover: PVC or PVDF  
Valve internals: PVDF

#### Specifications

Orifice DN [mm]	Kv-Value Water [m <sup>3</sup> /h]	Q <sub>Nn</sub> -Value Air [l/min]	Pressure Range [bar]	Weight	
				PVC [kg]	PVDF [kg]
15	5,0	5400	0,5-6	0,65	0,70
20	6,0	6400	0,5-6	0,65	0,70
25	14,0	15000	0,5-6	1,20	1,30
32	16,0	17000	0,5-6	1,20	1,30
40	30,0	33000	0,5-6	2,20	2,60
50	36,0	38700	0,5-6	2,20	2,60

All pressures quoted are gauge pressures with respect to the prevailing atmospheric pressure.  
A minimum pressure differential of 0.5 bar is required for complete opening and closing.

#### Operating Data (Valve)

##### Seal Materials/Fluids Handled/Temp.- Range

	PVC	PVDF
EPDM Alkalis, acids up to medium concentration, alkaline washing and bleaching lyes	0 to +50 °C	0 to +70 °C
FPM Oxidizing acids, oxidizing substances, salt solutions, oil with additives	0 to +50 °C	0 to +70 °C

max. pH-Value

12

For more detailed information see resistance chart (Leaflet-No. 1896009).

Max. ambient temperature PVC: 0 to +40 °C  
PVDF: 0 to +55 °C

Max. viscosity approx. 21 mm<sup>2</sup>/s

Response times opening 0,1 - 0,8 s  
closing 1 - 4 s

The response times have been measured at an operating pressure of 6 bar with water. They are dependent upon the orifice and the circuit function of the valve, as well as the pressure and viscosity of the fluid handled. The valve is provided with lockable manual override.

Port connection PVC solvent joint to DIN 8063  
20, 25, 32, 40, 50,  
63 mm ø  
PVDF fusion spigot  
20, 25, 32, 40 mm ø

#### Operating Data (Actuator)

Operating voltage AC 24, 110, 230, 240 V/50 Hz  
DC 24 V

Voltage tolerance ±10 %

Power consumption AC 20 VA (inrush)  
11 VA/5 W (hold)  
DC 5 W

Duty cycle 100 % continuously rated

Cycling rate 10 - 50 c.p.m.

Rating IP 65 with cable plug  
Type 1051 (supplied as standard)

#### Installation/Accessories

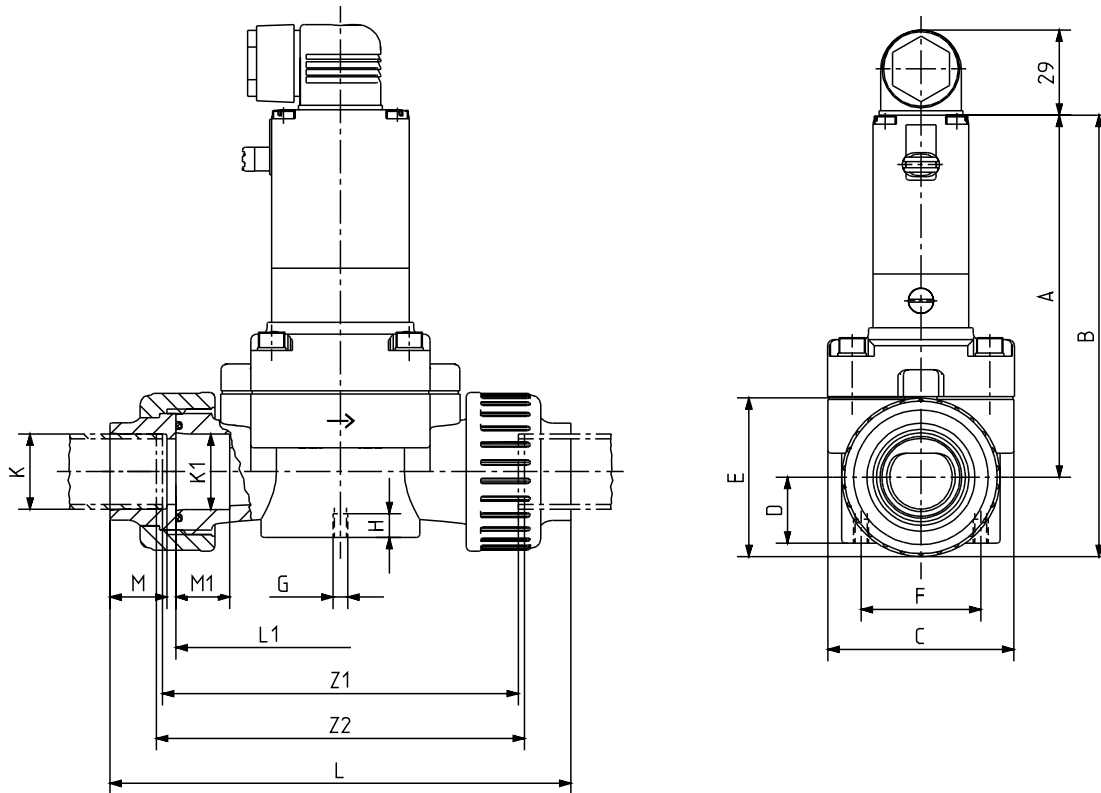
Installation as required

Electrical connection cable plug for 7 mm ø cable  
(supplied as standard)  
Body material: Noryl

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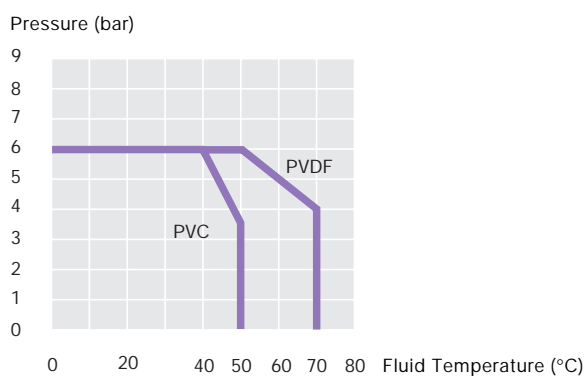
Type 142

## Dimensions in mm



External pipe Ø	DN	PVC-version with solvent joint									PVDF-version with fusion spigot										
		A	B	C	D	E	F	G	H	L	L1	K	K1	M	M1	Z1	L	L1	K	M	Z2
63	50	160	212	115	42,5	104,5	44,5	M8	15	268	192	63,2	63,2	38	33	198	253	189	62,3	29	200
50	40	160	212	115	42,5	104,5	44,5	M8	15	254	192	50,2	-	31	-	198	245	189	49,3	25	200
40	32	136,5	174,5	85	31	76	44,5	M8	15	198	141	40,2	40,2	26	22,5	147	189	139	39,3	22	150
32	25	136,5	174,5	85	31	76	44,5	M8	15	190	141	32,2	-	22	-	147	185	139	31,4	20	150
25	20	122	148	62,5	22	53	40	M5	8	154	110	25,2	25,2	19	18	116	151	109	24,2	18	120
20	15	122	148	62,5	22	53	40	M5	8	148	110	20,2	-	16	-	116	147	109	19,4	16	120

## Pressure-Temperature-Diagram



# Solenoid Valve with Pivoted Armature for Aggressive Fluids

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### Ordering Chart (Other Versions on Request)

Circuit Function	Orifice DN [mm]	Flow Rate		Port Connection ø [mm]	Pressure Range [bar]	Body Material	Seal Material	Weight [kg]	Voltage/Frequency [V/Hz]	Order-No.
		Water Kv-Value [m³/h]	Air QNn [l/min]							
A	15,0	5,0	5400	<sup>1)</sup> 16 mm	0,5-6	PVC	EPDM	0,65	024/50	050 898 G
									024/=	041 980 Z
									110/50	058 422 W
									230/50	041 911 P
									240/50	050 929 E
									FPM	0,70
							024/=	041 938 S		
							110/50	067 649 J		
							230/50	041 934 N		
							240/50	051 012 P		
							PVDF	0,70	024/50	088 663 E
							024/=	088 662 D		
	110/50	088 664 F								
	230/50	088 665 G								
	240/50	088 666 H								
	20,0	6,0	6400	<sup>3)</sup> 25 mm	0,5-6	PVC	EPDM	0,65	024/50	050 908 J
									024/=	042 045 X
									110/50	063 241 D
									230/50	041 986 K
									240/50	050 946 F
									FPM	0,70
							024/=	042 008 B		
							110/50	067 650 P		
							230/50	042 005 Y		
240/50							051 031 J			
PVDF							0,70	024/50	088 660 P	
024/=							088 661 C			
110/50	088 658 R									
230/50	063 676 H									
240/50	088 659 J									
25,0	14,0	15000	<sup>5)</sup> 32 mm	0,5-6	PVC	EPDM	1,20	024/50	050 916 Z	
								024/=	042 047 Z	
								110/50	067 651 C	
								230/50	042 126 M	
								240/50	050 950 P	
								FPM	1,30	024/50
						024/=	042 079 H			
						110/50	067 653 E			
						230/50	042 113 Q			
						240/50	051 042 V			
						PVDF	1,30	024/50	089 942 X	
						024/=	089 941 W			
110/50	089 943 Y									
230/50	089 944 Z									
240/50	089 945 S									

<sup>1)</sup> solvent joint to DIN 8063 ø 16 mm, <sup>2)</sup> fusion spigot ø 20 mm, <sup>3)</sup> solvent joint to DIN 8063 ø 25 mm, <sup>4)</sup> fusion spigot ø 25 mm, <sup>5)</sup> solvent joint to DIN 8063 ø 32 mm, <sup>6)</sup> fusion spigot ø 32 mm,

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Circuit Function	Orifice DN [mm]	Flow Rate		Port Connection ø [mm]	Pressure Range [bar]	Body Material	Seal Material	Weight [kg]	Voltage/Frequency [V/Hz]	Order-No.												
		Water Kv-Value [m³/h]	Air QNn [l/min]																			
A	32,0	16,0	17000	7) 40 mm	0,5-6	PVC	EPDM	1,20	024/50	050 917 S												
									024/=	042 183 P												
									110/50	067 683 V												
									230/50	042 128 X												
									240/50	050 952 D												
	40,0	30,0	33000	9) 50 mm	0,5-6	PVC	EPDM	2,20	230/50	042 247 E												
									50,0	36,0	38700	10) 63 mm	0,5-6	PVC	EPDM	230/50	042 261 C					
																240/50	057 546 Z					
																63 mm	0,5-6	PVC	FPM	2,20	024/=	042 264 F
024/=	089 946 T																					
110/50	089 948 D																					

7) solvent joint to DIN 8063 ø 40 mm, 8) fusion spigot ø 40 mm, 9) solvent joint DIN 8063 ø 50 mm, 10) fusion spigot DIN 8063 ø 63 mm,

