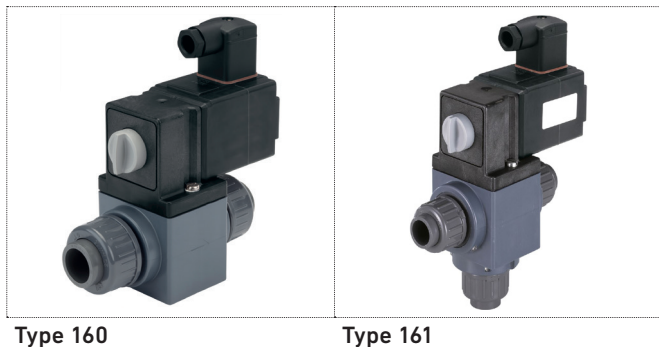


Solenoid Valve Type 160/161



Product description

Type 160/161 works according to the leverage principle and can therefore switch large nominal diameters directly. It is available in both the 2/2-way and the 3/2-way valve designs. It can be used for a wide range of functions, such as opening, locking, dosing, mixing and dispensing. The anchor operates horizontally on a permanently coupled rocker. The sealing cylinder on the lower lever is pressed to the valves seats through the horizontal movement. The plastic-coated metal lever forms one unit with the gas-tight diaphragm bushing. Through this construction, the actuator media is kept separate from the fluid housing.

Function

A solenoid valve is a valve which is actuated by an electromagnet. Their tasks are to shut off, release, dose, distribute or mix gases and fluids. The solenoid valves can switch very fast, they guarantee high reliability and a long lifetime at a low actuator power. Solenoid valves with position measuring can be operated as a servo valve.

Applications

- Water treatment
- Process/chemical engineering
- Plant/mechanical engineering
- Semiconductor industry
- Environmental engineering
- Medical engineering
- Apparatus engineering
- Analytical technology

Benefits/features

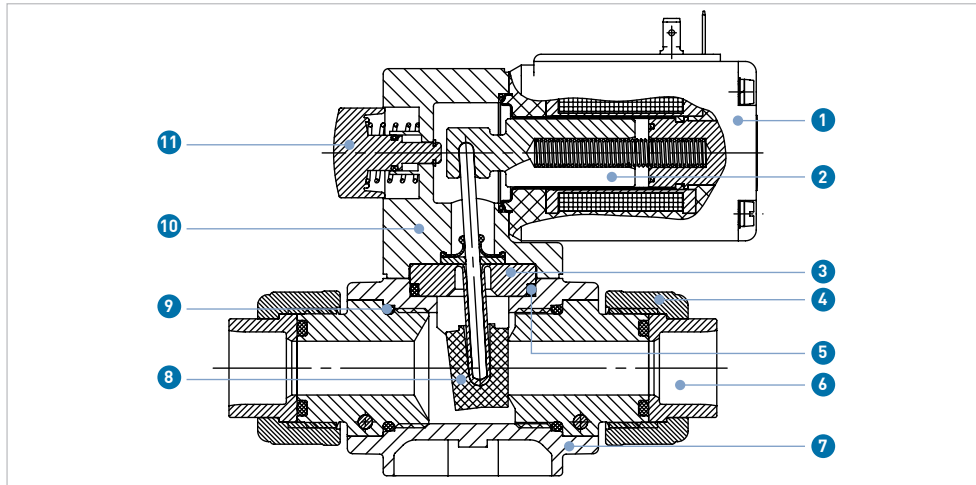
- With solvent cement socket, metric
- Circuit functions: A and B (Type 160), E and F (Type 161)
- PN 0 – 3bar
- Handle with ratchet setting
- Electrical connection with cable plug
- Protection rating IP65
- Directly-acting valve up to nominal diameter DN20, separated from media
- Vibration-resistant, block-connected coil system
- Energy-efficient decrease in power in all DC models
- Increased safety through electrical position feedback
- Robust, service-friendly manual override

Flow media

Suited for aggressive, abrasive and slightly contaminated media.

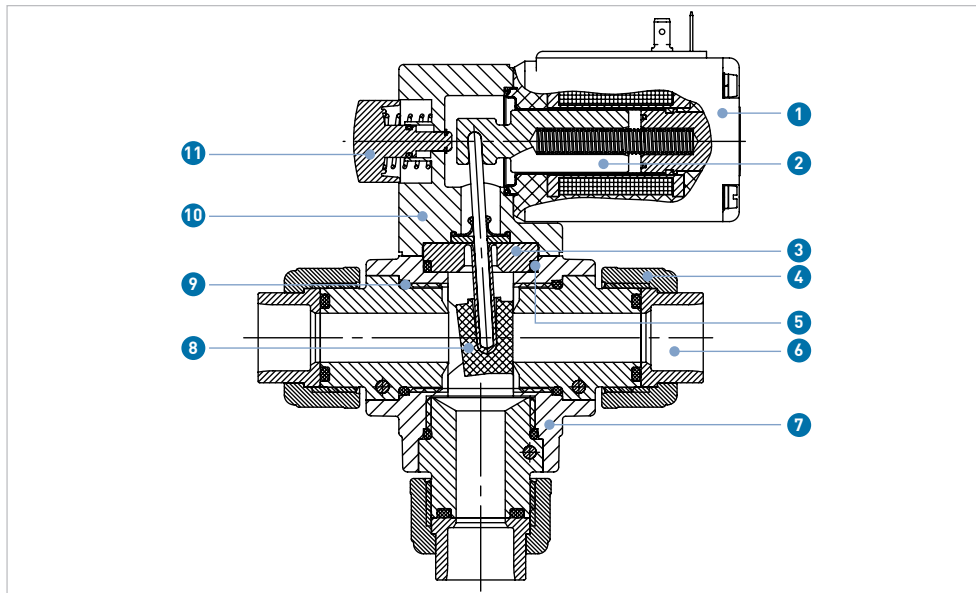
Technical data

2/2-way with union nut and connection fitting



- ① Coil (epoxy)
- ② Core (stainless steel 1.4105)
- ③ Rotating stem (PTFE)
- ④ Union nut (PVC)
- ⑤ O-ring (FKM, EPDM)
- ⑥ Connection fitting (solvent cement socket)
- ⑦ Housing (PVC)
- ⑧ Valve cone (FKM, EPDM)
- ⑨ O-ring (FKM, EPDM)
- ⑩ Angle flange (PC)
- ⑪ With manual override with locking function

3/2-way with union nut and connection fitting



- ① Coil (epoxy)
- ② Core (stainless steel 1.4105)
- ③ Rotating stem (PTFE)
- ④ Union nut (PVC)
- ⑤ O-ring (FKM, EPDM)
- ⑥ Connection fitting (solvent cement socket)
- ⑦ Housing (PVC)
- ⑧ Valve cone (FKM, EPDM)
- ⑨ O-ring (FKM, EPDM)
- ⑩ Angle flange (PC)
- ⑪ With manual override with locking function

Specification	
Nominal diameter	DN10-20
Housing material	PVC
Sealing material	EPDM, FKM
Media	Aggressive and non-aggressive liquids, neutral gases, aggressive gases according to their diffusion characteristics
Media temperature	PVC / EPDM -10 to +50 °C
(Housing and gasket)	PVC / FKM -10 to +50 °C
Ambient temperature	Max. +50 °C
Viscosity	37mm ² /s
Supply voltage	24 V / UC*, 230 V / 50 Hz
Voltage tolerance	±10 %
Switching frequency	AC 60/min
	UC Max. 6/min
Rated duty	ED 100 %
Electrical connection	Cable plug, according to DIN EN 175301-803, form A
Protection rating	IP 65 with cable plug
Mounting position	As desired, preferably with actuator on top

*UC = Universal Current = AC/DC

Electrical power consumption

Nominal diameter (mm)	Kv value water ¹⁾ (l/min)	Pressure range ²⁾				Power consumption Inrush (electrical)		Power consumption Operation (electrical)		Weight (kg)
		A (bar)	B (bar)	E (bar)	F (bar)	AC (VA)	UC (W)	AC (VA/W)	UC (W)	
10	33	0-3	0-2	0-0.6	0-1	100 - 120	100	48/16	9	1.2
15	75	0-1	0-1	0-0.3	0-0.5	100 - 120	100	48/16	9	1.2
20	100	0-0.5	0-0.5	0-0.15	0-0.25	100 - 120	100	48/16	9	1.2

¹⁾ Kv value (l/min) at +20 °C, 1 bar pressure at valve inlet and free outlet

²⁾ Pressure data (bar) gauge pressure

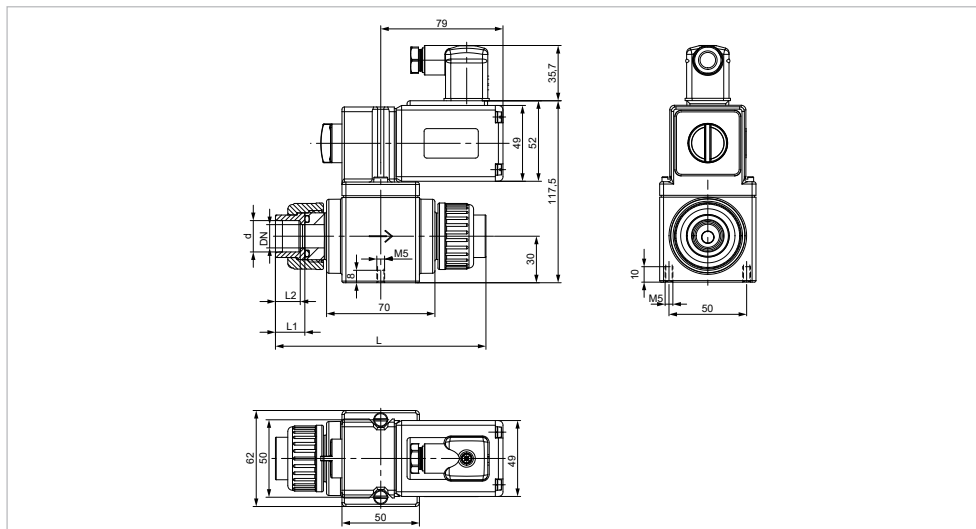
Switching time

Open (ms)	Close (ms)
10 - 20	40 - 60

Switching time (ms): Measurement at valve outlet at 6 bar and +20 °C. Open: Pressure build-up 0% to 90%. Close: Pressure build-up 100% to 10%.

Dimensions

2/2-way with union nut and connection fitting



Material	DN (mm)	Process connection	L1 (mm)	L2 (mm)	d (mm)	L (mm)
PVC	10	Solvent cement socket	17	14	16	130
	10 (with connection for DN15)	Solvent cement socket	19	16	20	134
	15	Solvent cement socket	19	16	20	136
	15 (with connection for DN20)	Solvent cement socket	22	19	25	142
	20	Solvent cement socket	22	19	25	144

