

2-Way Solenoid Valve

This solenoid valve is a 2-way pilot operated diaphragm plunger type, requiring a minimum differential pressure to operate properly. It has an internal pilot and a bleed orifice, which enables it to use line pressure for operation. The solenoid valve's design allows for a small overall dimension and a high flow-capacity, which provides a long-life in normal non-corrosive conditions. The solenoids coil is continuous duty design, with an Epoxy molded construction. This 2-way solenoid valve is suitable for activating BERMAD Deluge valves, Preaction Valves and other Hydraulic Control Valves.



Features

- High flow capacity, 12 mm orifice min.
- Internal pilot operated
- One-piece molded epoxy enclosure

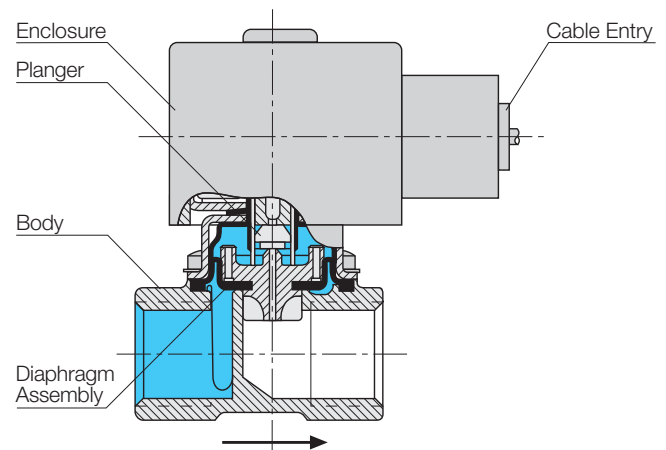
Power

- 8 Watts, 24V DC or 120, 220 VAC/50-60 Hz
- Tolerance: $\pm 10\%$

Materials

- **Body:** Brass
- **Internals:** Stainless steel
- **Diaphragm:** NBR
- **Enclosure:** Molded Epoxy
- **Optional:** Stainless Steel 316 body

Typical Construction



Note: Image & Illustrations are for display only

Installation and Maintenance

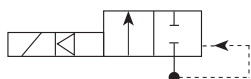
The Solenoid Valve is the most critical unit in the Deluge system, it should be installed and wired by qualified and trained personnel only.

The coil should be wired in accordance with the requirements of the applied norm such as NEC, NEMA, IEC, or ATEX codes. Ensure that the voltage supply and frequency corresponds with the markings that appear on the enclosure label. A conduit hub on the enclosure side must be supported against torque during the assembly. Use appropriate tools while tightening a fitting into the conduit connector. Attention must be paid that a Torque of 20Nm is not exceeded. After installation, the cable or conduit must be well supported to avoid excessive load on the conduit hub.

Warning: This product shall be installed and wired by an authorize electrician only. The conduit hub on the enclosure must be supported against torque during assembly by using appropriate tools. While tightening a fitting into the conduit hub, attention must be paid that a max. torque of 20Nm is not exceeded.

Maintenance: Proper operation of the Solenoid Valve should be periodically verified. Testing and Maintenance should be done according to the IOM (Installation Operation & Maintenance) manual for the specific Bermad Valve in use. It is recommended that the Solenoid Valve be inspected monthly for proper wiring and for leakage. The Solenoid valve must be Tested annually. It must be operated when maximum system working conditions are applied to simulate the extreme conditions. The unit should be replaced if a malfunction occurs.

Circuit Functions



2/2-way, normally closed

Technical Data

General purpose, model 5281A-GP

This solenoid valve is used in non-classified locations where no special certification is required. It is rated for IP 65 ingress protection, continuous duty design with class F coil insulation. This type is equipped with integral cable plug to ISO 4400 (DIN connector) of PA material, including screw terminals (max. 0.75 mm² lead), including gland for 5-6 mm cable entry.

UL-Listed, model 5281A-UL or 5282A-UL

This solenoid valve is UL-Listed, it is also FM approved to be used in Class I Division 2, Groups A, B, C, D hazardous locations, where flammable materials are present abnormally. It is rated for IP 65 ingress protection, continuous duty design with T4 class F coil insulation. This type is equipped with integral cable plug type 2509 of PA material, including screw terminals (max. 0.75 mm² lead) with 1/2" NPT cable entry.

Exproof Div. I, model 5281A-EX or 5282A-EX

This Explosion proof solenoid valve is FM approved to be used in Class I Div. 1 and 2 Groups A, B, C, D and Class II Groups E, F, G hazardous locations according to ANSI/NFPA 70, NEC 500, where hazardous materials are present intermittently. The solenoid enclosure is watertight, NEMA 4, 7, 9 rated, continuous duty design with T4 class F coil insulation. This type is provided with flying leads and 1/2" NPT metal conduit hub.

ATEX, EEx em II T4, model 5281A-EM

This solenoid valve is ATEX certified for hazardous locations II 2 G EEx em II T4, area classification for zone 1 or zone 2 according to ATEX directive 94/9/EC.

It is rated for IP 65 ingress protection, continuous duty design with class F coil insulation.

This enclosure is of Encapsulated type of protection and is equipped with an integral Reinforced PA terminal box, including screw terminals with cable gland entry.

ATEX, EEx d IIC T6, model SX12-370I

This solenoid valve is ATEX certified for hazardous locations II 2 G EEx d IIC T6, area classification for zone 1 or zone 2 according to ATEX directive 94/9/EC.

It is rated for IP 66 ingress protection, continuous duty design with class F coil insulation.

This enclosure is "EExd" Flame Proof design and is equipped with an integral epoxy coated aluminum terminal box, including screw terminals, with 1/2" NPT cable entry.

The solenoid valve body is constructed of Stainless steel 316

Solenoid Valve Selection Table

Model	Normally	Body Material	Enclosure Type/Class	Code	Cable Entry	Ports Size	Orifice mm	Pres. Bar	Power Watts	Approval See Notes
5281A-GP	N.C.	Brass	IP 65	-	DIN Plug	1/2	13	0.3-16	8	(1)
5281A-UL		Brass	Div. 2	-	1/2" NPT Plug	1/2	13	0.3-16	8	UL (2)
5281A-EX		Brass	Div. 1	7	1/2" NPT	1/2	13	0.3-16	8	FM (3)
5281A-EM		Brass	EEx m II T5	8	Cable Gland	1/2	13	0.3-16	8	ATEX (5)
5282A-UL		SS316	Div. 2	-	1/2" NPT Plug	1/2	13	0.3-16	8	UL (2)
5282A-EX		SS316	Div. 1	7	1/2" NPT	1/2	13	0.3-16	8	FM (3)
SX12-370I		SS316	EEx d IIC T6	9	1/2" NPT	1/2	12	0.5-16	8	ATEX (4)

Notes:

- (1) General purpose / watertight, IP 65 Ingress Protection to IEC Spec.
- (2) UL-Listed for Fire Protection Special Systems (UL429A). FM Approved for Class I, Div 2, Groups A, B, C, D
- (3) FM Approved for hazardous locations Class I, Division 1, Groups A, B, C, D; Class II Gr. E, F, G
- (4) ATEX certified for hazardous locations II 2 G EEx d IIC (gas group A, B, C) T6, IP 66 Ingress Protection to IEC Spec.
- (5) ATEX certified for hazardous locations II 2 G EEx m II T5, IP 65 Ingress Protection to IEC Spec.
- (6) Specifications subject to change without notice.

