

Latching 3-way Solenoid Valve

The Latching solenoid valves are normally de-energized and are activated to operate the BERMAD valve by an electrical pulse, latching it in the release position.

Magna-Latch solenoid valve consists of two coils that are incorporated in one enclosure. It is activated to release the control pressure by means of a short electrical impulse signal to the "Pull" coil, the solenoid actuator is then latched in the energized position by a permanent Holding Magnet. To Reset the system, an electrical pulse should be applied to the De-latch coil, creating a counter-force which overcomes the magnet and allows the actuator to return to its normal position. The Magna-Latch Solenoid valve is typically used to enable safe remote control of the BERMAD Deluge valve and other water control valves, by latching the valve in its open position for safe discharge of firewater.

Mechanical-Latch solenoid valve (Electrically tripped), is activated to release the control pressure by means of an electrical pulse to the coil, when the solenoid actuator is de-energized, the solenoid valve will remain latched in the release position. Mechanical - Latch type is equipped with a manual reset lever to enable local Reset (De-Latch) to return it to normal position, while the coil is de-energized.

Latching solenoid valves are also used in areas where the system runs on limited power supply. They require only 50ms pulse duration to operate with minimal electric current to reduce demand of the power supply, enabling the batteries power capacity to be reduced and increase system reliability.

Features

- Low energy consumption
- Safer operation of hydraulic valves
- Brass or Stainless Steel 316 construction
- Isolated type are available, Refer to Selection table

Power

- 11 Watts, 24 VDC
- Tolerance: ±10%
- 50ms minimum pulse duration

Materials

- Body: Brass or Stainless Steel 316
- Internals: Stainless steel
- Elastomers: NBR
- Enclosure: refer to the Selection table

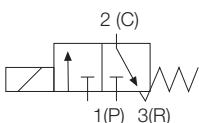
Temperature

- Nominal Ambient⁽¹⁾: 50°C (125°F)
- Maximum Fluid: 80°C (176°F)

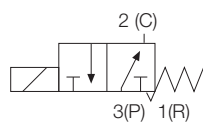
Notes:

(1) Max. ambient temperature is determined under continuously energized conditions.

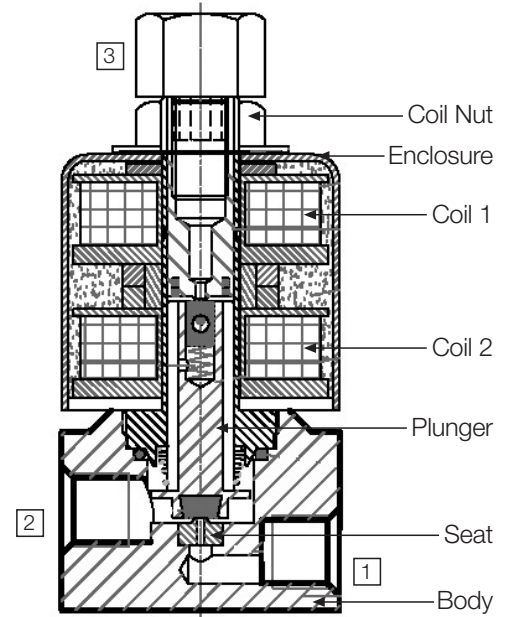
Circuit Function



3/2-way Normally Closed



3/2-way Normally Open



Note: Image & Illustrations are for display only

Installation

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 according to the design wiring drawings and 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. Provide cable of sufficient rating for operating solenoid. The maximum power rating of the solenoid is < 20W and cable should not be less than 1.5 mm².

Warning: Prevent power supply to Common and Latch simultaneously with De-latch terminals. This product shall be installed and wired by an authorized 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.

Technical Data

Magna-Latch General Purpose, model O332D-GP

The General Purpose magna-latch solenoid valve is an Isolating Membrane type, used in non-classified locations where no special certification required. It is rated for IP 65 Ingress protection, with class F coil insulation. This type is equipped with integral cable plug to ISO 4400 (DIN connector), including screw terminals (max. 0.75 mm² lead), including gland for 5-6 mm cable entry.

Magna-Latch EExd, model SX13-3701-LC

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

Mechanical-Latch type, EExd (with manual reset)

This Mechanical-latch solenoid valve is De-Energized in normal position, the coil should be energized to change to "Release" position and Latch the solenoid valve in that position. When the coil is De-energized it remains Latched.

The solenoid valve is equipped with a manual resetting lever to enable local manual

"De-Latching" while the solenoid is de-energized. This Mechanical - latch 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 or IP 67 Ingress protection. This enclosure is an "EExd" Flame Proof design and equipped with an integral terminal box, including screw terminals.

Model SX13-3701-ML is equipped with an epoxy coated aluminum enclosure, with 1/2" NPT cable entry.

Model SM1304B and SM1304S are equipped with a Stainless steel enclosure, with M20x1.5 cable entry.

Solenoid Valve Selection Table

Magna-Latch type

Model	Normally	Body Material	Enclosure Type/Class	Code	Cable Entry	Ports Size	Orifice mm	Pres. Bar	Power Watts	Approval See Notes
0332D-GP	Last Position	Brass	IP 65	-	DIN Plug	1/4	2	16	11	(1)
0332D-GP		SS316	IP 65	-	DIN Plug	1/4	2	16	11	(1)
SX-3701-LC		SS316	EEx d IIC T6	9	1/2" NPT	1/4	1.6	16	11	ATEX (4)

Mechanical-Latch type

Model	Normally	Body Material	Enclosure Type/Class	Code	Cable Entry	Ports Size	Orifice mm	Pres. Bar	Power Watts	Approval See Notes
SX-3701-ML	N.O.	SS316	EEx d IIC T6	9	1/2" NPT	1/4	1.6	16	10	ATEX (4)
SM1304B		Al. Bronze	EEx d IIC T6	9	M20x1.5	1/4	7	20	9.6	ATEX (4)
SM1304S		SS316	EEx d IIC T6	9	M20x1.5	1/4	7	20	4.5	ATEX (4)

Notes:

(1) General purpose / watertight, IP 65 Ingress Protection to IEC Spec.

(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) Specifications subject to change without notice.

