

Solenoid Valves ProValve

Instructions for use, installation and maintenance



The solenoid valves are manufactured and assembled by skilled personnel. The products are checked and shipped with proof of test, see the enclosed Quality Control document.

Description

- Solenoid valves, 2-way or 3-way, direct and indirect acting, diaphragm or piston pilot operated; bodies made of plastic, metal, or combinations.
- Class F or class H coils;
- Electrical connections for DIN EN 175301-803 (ex DIN 43650-A) connector;
- Protection class: IP-00, IP 65 or higher (with properly installed connector and gasket);

Product information

- Please compare to the specific usage values of the valve with your specification and your application before installation. Also refer to the information and type designation of the valve with or without coil for the ratings of both parts. Please also consider that your supplier and/or producer will never simply take back valves once ordered. Please make sure that you order the correct valves for your function and application. Also consider your choice of connection voltage and material selection for housing and seals in relation to your project. If there are any questions, don't hesitate to ask; please submit your questions in writing to our sales department. We are happy to be of service.

Caution

⚠ DANGER - This product will contain fluid under pressure. The fluids can be hot and/or corrosive. Improper or careless use could be dangerous and possibly cause injury to people and/or damaging equipment. This product is not a safety device and must not be used as such.

⚠ ATTENTION - Hot/cold surface: do not touch and avoid accidental contact with tubing or connecting systems.

⚠ NOTE - Accidental shocks due to fall or collision during transport may damage the operator and/or the integrity of the coil encapsulation thus causing malfunctions.

Before installation / start-up / maintenance

- Read carefully the manufacturer's instructions, when applicable of the specific valves, combinations or assemblies. Please check the delivery sheet for compliance with your order and purpose.
- Check beforehand the operating conditions on

the product label and on the technical documents for suitability with your application.

- Check for compatibility between medium and valve materials. In case of doubt, please contact the manufacturer.
- Do not remove the valve nameplate or the coil label.
- Make sure before installation that there is no pressure inside the tubing or inside the valve itself.
- Remove dirt or material chips from tubing before use, flush the tubing in accordance with DIN 3394 / DIN EN 161 before use. Use professional tools by qualified personnel.

Installation

- It is highly recommended to install the valve in vertical position (with coil upside) to prevent any dirt from gathering around the plug.
- Respect the flow direction indicated on the valve body. Valves with an arrow printed on the body can work only in that direction.
- It is often necessary to install a proper filter in order to retain possible solid particles suspended in the fluid. Only clean liquids are allowed for optimal functioning of the valve.
- Fitting, assembly and disassembly of the valve must be carried out by qualified, authorized persons. Tubing and pipes must not transfer any static or dynamic load or vibration to the valve body.
- Ensure that assembly and disassembly is done in a professional way. Make sure to use a torque wrench to never exceed the maximum allowable tightening forces of connections and valve housing, and never to exceed the maximum strength values of the plastic or metal. Especially plastics can start to tear when excessive force is applied.
- The configuration of the valve, the fixing holes, the connections or anything else on the valve itself must NOT be modified.
- Install the valve away from sources of heat and in environments where the heat produced by the coil can be easily dissipated.
- Use suitable seal material on the valve threads.
- In those installations where liquid sealants are used, it is important to prevent them from entering the valve and block the moving parts.
- Do not block the circuit holes in pilot operated solenoid valves.
- The coil provides basic insulation only. Install the product in a protected place to prevent accidental shocks and damage.
- For applications in very humid environments it is recommended to use impregnated coils with connectors and gaskets, or to provide suitable, adequate protection. Without connector and/or gasket the insulation is of class IP00 so the core is not guaranteed and possible short circuits can be

the consequence.

- Always connect the coil's earth terminal to ground, then connect the connector(s) with the indicated voltage to the coil. Check if the voltage tolerances are suitable for the coil.
- Voltage: Do not apply voltage to the coil if it has not been mounted correctly onto a core (on the valve) housing. Erroneous high voltage can cause a coil to explode.
- Do not use the tubes for conveying fluid for grounding electrical devices.
- Do not energize the coil if it is not fitted onto a valve and without a plunger inside the valve, as it would overheat and get damaged.
- The coil temperature normally increases during operation (this is a normal condition). Irregular overheating, in combination with excessive ambient temperature and/or excessive medium temperatures can cause smoke and smell of burning. In this case the power supply must be immediately stopped.
- Coils can often be rotated on their axis. Always check if the coil has been properly fixed. by loosening the coil nut. Tighten the coil nut at 0,5 Nm max. Tighten the connector screw at 0,5 Nm max.
- Do not exceed the limits of pressure, temperature and voltage given by the manufacturer and shown on the product label and on the technical documents.

Maintenance

It is necessary that valves receive regular maintenance or check-up. The frequency depends on the applications, medium, temperatures and number of switching operations. The recommended inspection frequency applicable to indirect or zero-bar valves is every 6 or 12 months. For direct acting valves and plastic valves the recommended frequency is often 12 months. The risk of contamination and ageing is always present. These recommendations are related to the lifespan and wear of parts. They also apply to plastic valves which are often not removable.

It is of the utmost importance to release and empty the installation, at the front and back of the valve, before performing the inspection or maintenance. This is especially important for installations which operate at high temperature or where aggressive media are present.

Use only original spare parts supplied by the manufacturer.

Disassemble the valve only for maintenance and to clean or replace the internal parts. Remove dirt and debris, replace all moving and worn components and then re-assemble all the components. Check the proper functioning of the valve prior to operation of the installation.

The user is responsible for setting up a maintenance

plan based on the valve construction and materials and operating conditions.

Problems

Valve does not open, valve does not close, vibrates, gives water hammer, core sticks, coil is defective.

Check by disassembly of the valve for possible causes such as: system pressure too low or too high; pressure surges in the system; pipes which are too long; pre-pressure; back pressure; pipe diameter in relation to valve diameter; required delta P; viscosity of the medium; pollution, ageing or deterioration; any combinations thereof. Also check your connection voltage, power consumption and deviation.

To help the supplier or manufacturer to provide assistance provide a careful and extensive description of your complaint(s), with a copy of receipt, assembly and work schedule with date and description of the process or system. Also take some photos with visible the type of place, coil connection voltage. Send this in writing to your supplier or manufacturer. You will receive answer(s) within a reasonable period of time.

At the end of its life the product must be disposed in accordance with EC directive 2008/98/EC and all further modifications as well as any local regulations in force.

Regarding Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility it can be concluded that the components described here can be considered as "inherently benign" as described in section 1.4.4. similar to products such as "induction motors" and "electromagnetic relays" without electronic parts.

The solenoid valves are intended to be used by apparatus manufacturers or assemblers, not by end-users, and following Flowchart 2 from the Guideline to the Directive it is concluded that the Directive 2014/30/EU is not applicable to this situation.

It should be noted that in practice the electromagnetic properties of the pressure components will be influenced by the position and other electrical components in the vicinity when applied in an assembly, and the assembler of the apparatus in which the components are used will have to make his own judgement on compliance with this directive.

Assure yourself of your own operating, maintenance and safety protocols in comparison to updated valve documents which are available online. Download relevant data sheets, declarations of conformity and our solenoid valve catalogue from the website.