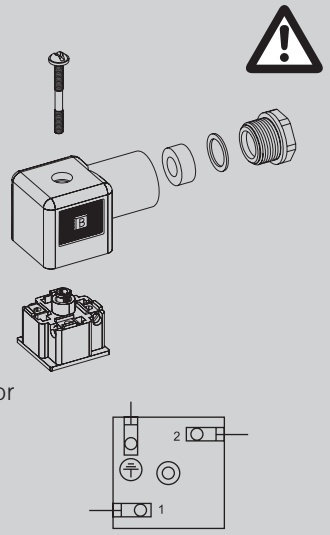
Electrical connection

General recommendation

- Electrical connection must be made by qualified personnel and according to applicable local standards and regulations.
- Before any electrical connection, turn off the electrical current to power off the components
- Depending on the voltage, electrical components must be grounded according to local standards and regulations.
- Most valves are designed for continuous duty. To prevent the risk of personal injury, do not touch the solenoid operator which can become hot under normal operating condition.
- Standard coils
  Electrical connection is made with detachable plug connector for cable dia.6–8mm (see fig.), rotatable by 180° increments (3 pins:1,2 electric pins+PE)
- Explosion proof coils
  See particular instructions sheet delivered with those coils.



SERVICE

–ACHEM spool valve with 3/2 and 5/2 function NAMUR interface plates are delivered for controlling double–acting and single–acting actuators.

–The spool valves comprise a manual override providing operation without electrical supply.

–ACHEM spool valves offer the following standard options:

- Nominal flow 1300L/min (5mm at the beginning of 6 Bar)
- Standard Fluid temperature (–25℃ to 80℃, On requires: –50℃ ~ 150℃)
- Mono–stable electrically operated, spring return spool valve (ALS510/610 series)
- Bi–stable electrically operated spool valve (ALS520/620 series)
- Spool valves suitable for 15mm miniature pilot.

MAINTENANCE

Prior any maintenance work, switches off power supply, depressurize and vent the valve to prevent the risk of personal injury or damage equipment.

◆ ***Preventive maintenance***

Operate the valve at least once a month to check its function.

Avoid obstruction of exhaust port when it is not connected or protect it with a cap.

◆ ***Cleaning***

Maintenance of the valve depends on the operating conditions. They must be cleaned at regular intervals. Cleaning must be done when a slowing down of the cycle, a leakage or an abnormal noise is noticed. The components must be checked for excessive wear. Cleaning must be made with suitable solvent.

◆ ***Spare parts***

After a prolonged use, it can be necessary to replace the active components of the valve. A spare Parts Kit is available for each version of spool valve. Contact the manufacturer or his representative.

◆ ***Troubleshooting***

Valve fails to operate (No switching noise)	–Check that electrical supply complies with values mentioned on the nameplate or coil. –Check coil for shorts or damage. –Check that mobile parts (spool, pilot plunger) are not blocked by foreign particles.
Valve switches but without effect	–Verify air pilot pressure (mini 2 bar) –Verify if the pilot plunger spring is broken.
External leakage	–Verify connectors and tightening of the valve on its interface plate. –Verify the tightening of the pilot.

ALV Series Solenoid Valve Operation Instruction

DESCRIPTION

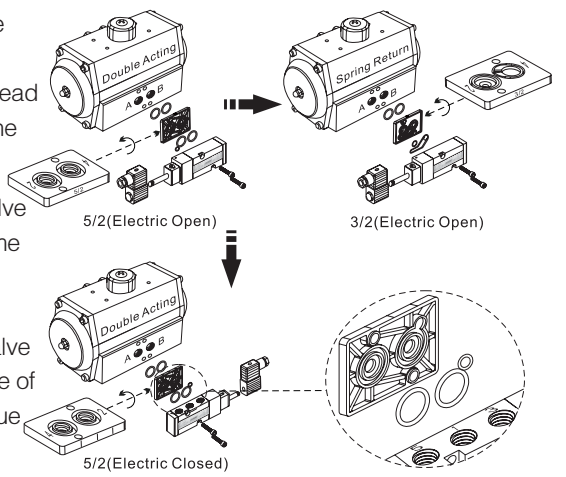
ACHEM ALV series spool valves make of anodized aluminum or stainless steel. The solenoid operated spool valves have threaded port connections 1/4" BSPP or NPT and NAMUR interface. The same spool valve can be adapted for 3/2 NC or 5/2 functions for controlling double–acting and single–acting actuators. ACHEM Pilot operated is suitable for single/dual solenoid (mono/bi–stable) with standard coil or with various explosion–proof coils certified for use in all hazardous areas (Class I, Div. 1&2, Group A, B, C and D, Ex d IICT6, Ex ia CT6 and Ex m II T6).

SPECIAL CONDITIONS FOR SAFE USE

- To ensure the proper function of the device and promote long service life, you must comply with the information in these Operation Instructions and the application conditions and specifications provided in the Data Sheet. Usage of the device in a manner that is contrary to those Operating Instructions or the application condition and specification provided in the Data Sheet is improper and will avoid your warranty. This device serves exclusively as a 3/2 or 5/2 solenoid valve for the media stated to be permissible on the Data Sheet. Any other use is considered to be improper use. The manufacturer will not be responsible for any improper use of the device.
- Changes to the product may only be made after consulting the manufacturer or his represen–tative. Installation and maintenance of the valve must be carried out by qualified personnel only.
- Those solenoid spool valves are designed to operate with filtered (<=40 μ m), dry or lubri–cated air or neutral gas and within the technical characteristics specified on the nameplate and in the Data Sheet.

MOUNTING

- Prior installing the solenoid valve, depressurize the pipes and clean them internally to avoid particles entering the system (tape sealant, thread compound). The valves may be mounted on the NAMUR interface of the pneumatic actuator.
- The dimension design of the ACHEM spool valve is exactly in light of NAMUR standard. The same spool valve equips with 3/2 and 5/2 function NAMUR interface plates. According to the direction of the interface plate, Fix the spool valve and the interface plate on the NAMUR interface of the pneumatic actuator with 2 screw M5 (Torque 4 to 5 Nm) provided. Details see right Fig.



PNEUMATIC CONNECTION

◆ ***General recommendations***

Connect pipes for the required functions in accordance with this documentation and the ports markings on the product. Make sure that no foreign matter enters the system. Correctly support and align pipes to prevent mechanical strain on the valve.

When tightening, do not use the valve as a lever. Locate wrenches as close as possible to connec–tion point. To avoid damage to the equipment, **DO NOT OVER TIGHTEN** pipe connections.

◆ ***Connection of the spool valve***

AVHEM spool valve equips with 3/2 and 5/2 function NAMUR interface plates (5mm, Flow rate 1300L/min at the beginning of 6 Bar). Pressure inlet at port 1 BSPP 1/4" or NPT 1/4" on the body of the valve, Pressure outlet at port 2 and 4 on the interface plates, Exhaust at ports 3 and 5 BSPP 1/4" or NPT 1/4" on the body of the valve.

◆ ***Connection of pilot exhaust***

The standard model has a ϕ 3 exhaust port at end of the pilot valve. Just fixing and tightening a M8 × 0.75 female nut supplied on it.