MANUAL Spool valves Series 331-341-342-347-531-541-542-547 N03 N04

Description

3/2 NC or 5/2 5/3 monostable or bistable spool valves with anodized aluminium body and threaded 1/4" or 1/2" inlet ports and NAMUR interface 1/4" or 1/2".

Pilot operated with standard solenoid or pneumatically.

Special conditions for safe use

To ensure the proper function of the device and promote long service lift, you must comply with the information in these manual and the application conditions and specification provided in the data sheet. Usage of the device in a manner that is contrary to these Operating Instructions or the application conditions and specification provided in the Data Sheet is improper and will void 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 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 representative. Installation and maintenance of the valve must be carried out by qualified personnel only. Those solenoid spool valves are designed to operate with filtered, dry or lubricated air or neutral gas and within the technical characteris-

tics specified on the nameplate and in the Data Sheet.

\rm 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 in any position. Fixing is made with 2 screw M5 (Torque 4 to 5 Nm) provided for model with NAMUR 1/4" and with 2 screws M6 for model NAMUR 1/2".

Pneumatic connection

• General recommendations for pneumatic connection

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 connection point. To avoid damage to the equipment, DO NOT OVERTIGHTEN pipe connections.

Connection of the spool NAMUR valve

- Models with subbase mounting NAMUR 7mm

(Flow 1270NI/mn) Pressure inlet at port I G 1/4". Pressure outlet at port 2 and 4 on subbase. Exhaust at ports 3 and 5 G 1/4".

- Models with subbase mounting NAMUR 12mm

(Flow 3000NI/mn) Pressure inlet at port I G I/2". Pressure outlet at port 2 and 4 on subbase. Exhaust at ports 3 and 5 G I/2".

- Connection for externally operated version
- 1/8" (Model 531N..541N.. 542N.. 547N..)

A Electrical connection

• General recommendation

- Electrical connection must be made by qualified personnel and according to applicable local standards and regulations.

- Before any intervention, 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 conditions.

• Miniature coils

Electrical connection is made with detachable DIN 43650 B plug connector for cable dia. 6-8mm (Pg9), rotatable by 180° increments (3 pins: 2 + earth)

Service

The spool valves comprise a manual override providing operation without electrical supply. Spool valves offer the following standard options:

- In line pilot
- 22mm pilot
- Nominal flow 1270NI/mn (7mm) or 3000I/mn (12mm)
- Standard Fluid temperature (-10°c to 50°C)
- Monostable electrically operated, spring return (341 series)
- Bistable electrically operated, with neutral position return (342 series)
- Bistable electrically operated, air-solenoid return (347 series)
- Monostable pneumatic operated, sping return (541 series)
- Bistable pneumatic operated, with neutral position return (542 series)
- Bistable pneumatic operated and return (547 series)

Maintenance

Prior any maintenance work, switch off power supply, depressurise 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 not be made with solvent.

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 open coil. Check that mobile parts (spool, pilot plunger) are not blocked by foreign par- ticles.
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 subbase. Verify the tightening of the pilot.

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FIG I - Monostable in line Miniature pilot (331N03, 341N03)

FIG 2 - Bistable Miniature pilot (342N03, 347N03)



FIG 3 - Monostable in line Pneumatic pilot (531N03, 541N03)



FIG 4 - Bistable Pneumatic pilot (542N03, 547N03)



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Design and specifications subject to change without prior notice.