

Solenoid valves 4/3-way valve NG2

Pilot valve for actuating
hydraulic control systems
and other main valves

- Rugged construction
- Use of corrosion-resistant materials for all components
- Additional facility for manual operation as standard
- Tried and tested for decades
- Fastened by means of screws
- Two different electrical connector options
- Two different hydraulic port options
- Valve solenoid rotated through 180° as option
- Approval for different countries
- Valve solenoid maintenance-free
- Type of protection: IP54 according to EN 60529/IEC 529
- Ex-approval: I M2 EEx ia I intrinsically safe acc. to Directive 94/9/EC (ATEX)

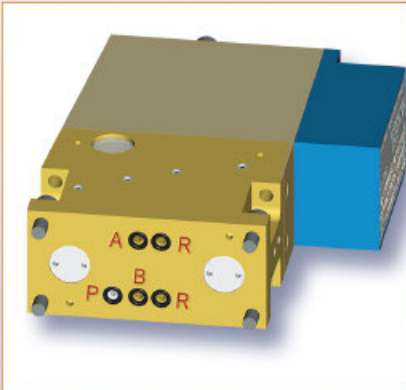


4/3-way valve NG2 as pilot valve
of an electrohydraulic control unit

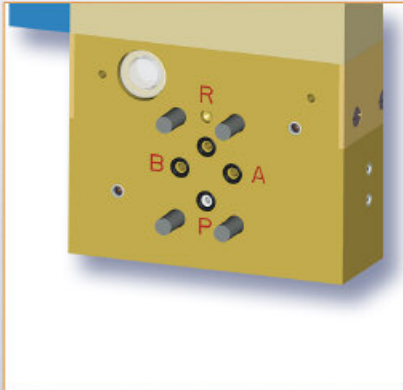
4/3-way valve NG2

>>> HYDRAULIC CONNECTIONS:

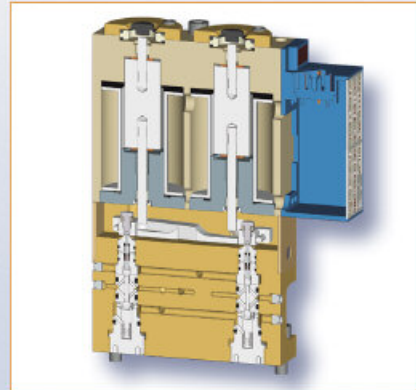
■ "BOTTOM" FLANGE CONNECTION TYPE



■ "SIDE" FLANGE CONNECTION TYPE

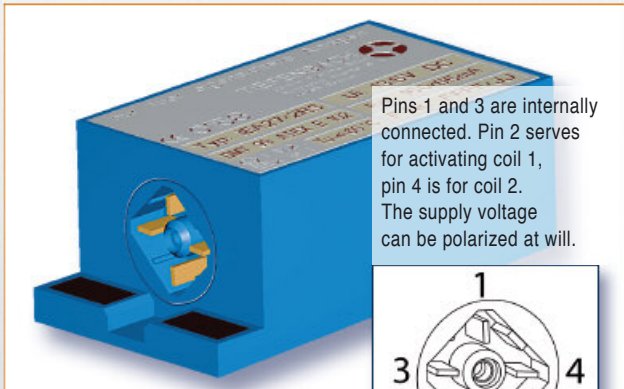


■ INTERIOR VIEW OF 4/3-WAY VALVE WITH "SIDE" FLANGE CONNECTION



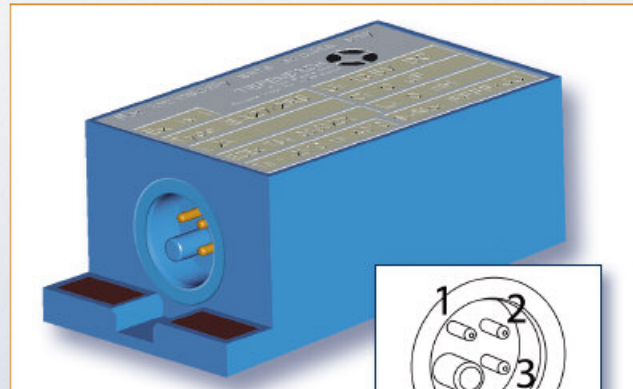
>>> ELECTRICAL CONNECTIONS:

■ 4-PIN CONNECTION HIRSCHMANN

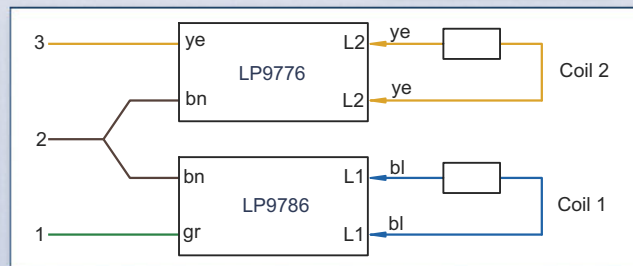
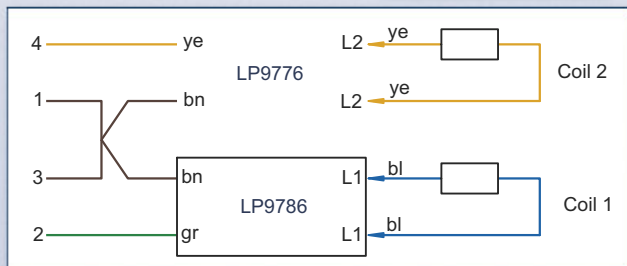


Connecting voltage: 12 V DC
Starting current: a' 160 mA
Reduced current: a' 65 mA

■ 3-PIN CONNECTION TC-01



Connecting voltage: 12 V DC
Starting current: a' 160 mA
Reduced current: a' 65 mA





4/3-way valve NG2

FUNCTION AND DESIGN

The 4/3-way valve is a pilot valve designed for the operation of hydraulic controls or other main valves. The valve is activated electrically via a 3-pin or 4-pin connecting cable and is provided with a facility for manual operation which can be used in repair mode.

The 4/3-way valve mainly consists of three modules: a housing with double solenoid, a housing with control circuit board for activating the double solenoid, and a housing with the directional control valves.

The double solenoid housing firmly connected with the control circuit board housing forms the valve solenoid. The valve solenoid is fastened to the directional control valve housing by screws.

The valve solenoid can be mounted rotated by 180° to facilitate cable routing and to save space. However, this arrangement changes the switching sequence.

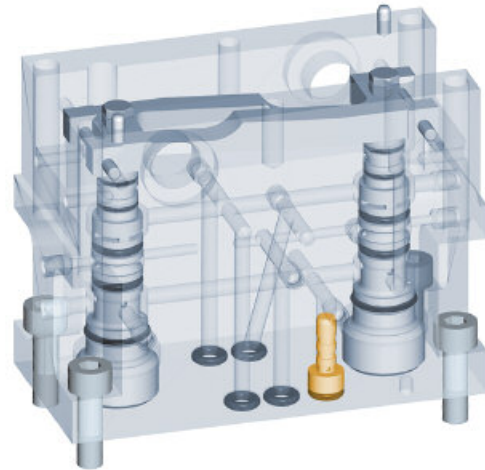
The directional control valve housing contains two 3/2-way valves. These can either be operated via a solenoid or by means of the facility for manual operation.

Via the pins of the connecting cable and the control circuit board one solenoid can be activated independently of the other. Applying power to both solenoids of the double solenoid at the same time allows to actuate both 3/2-way valve capsules which means that two hydraulic functions can be operated at the same time.

All components of the 4/3-way valve are made of corrosion-resistant materials. The components of the solenoid are largely embedded in cast resin. The overall design ensures adequate safety with respect to explosion protection and mechanical damage. The 4/3-way valve has been certified by a notified body according to Directive 94/9/EC (ATEX).

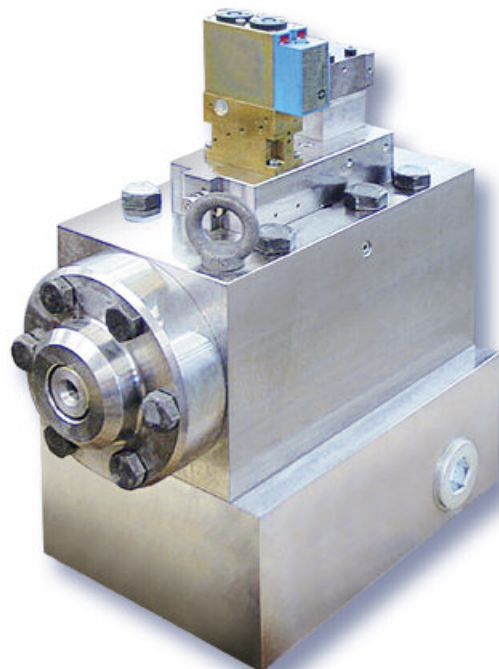
In the adverse conditions of underground mining operations this valve has proved its worth for decades.

3/2-way valve capsules protected against dirt by the use of a slotted filter in the P-duct



3/2-way valve capsule DN2

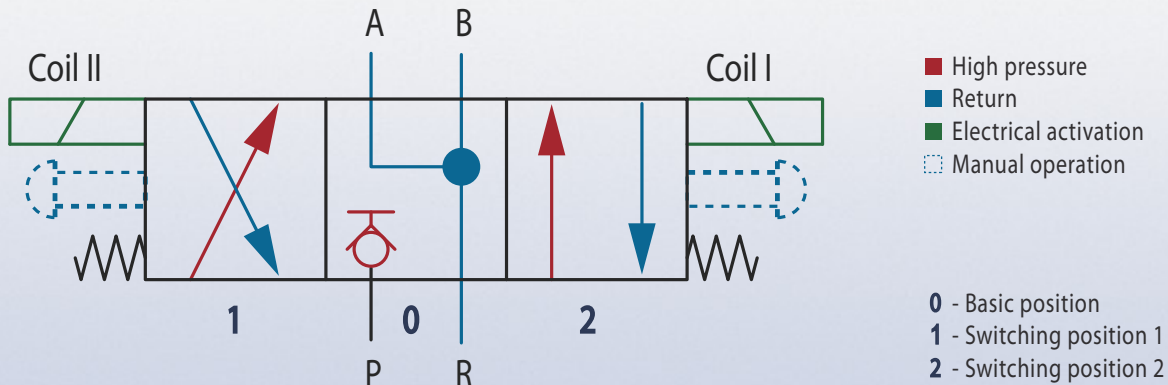
4/3-way valve NG2 as pilot valve of a dump valve unit





4/3-way valve NG2

SWITCHING DIAGRAM:



TECHNICAL DATA

Hydraulic data

Nominal pressure	400 bar
Type of connection	Flange – “bottom” or “side” type
Weight	approx. 3.1 kg
Fluid	Pressure fluid acc. to DIN 24320
Housing material	Coated low-alloy steel / wrought copper alloy
Attachment	4 hex. socket head cap screws DIN EN ISO 4762 M5x16 for “bottom” flange type
Attachment	4 hex. socket head cap screws DIN EN ISO 4762 M5x50 for “side” flange type

Electrical data

Solenoid type	2RS
Nominal voltage	12.0 V DC
Maximum voltage	13.5 V DC
Connection	4-pin Hirschmann connectors, type G4WW1F 3-pin TC-01 connectors
Current consumption	160 mA (=I _{max}), lowered to 65 mA
Duty factor	100% ED
Type of protection	IP54 acc. to DIN60529
Ex-approval	I M2 EEx ia I
Operating temperature	-20°C to +60°C
ATEX number	DMT 99 ATEX E 102

Subject to technical alterations · Version 07/12