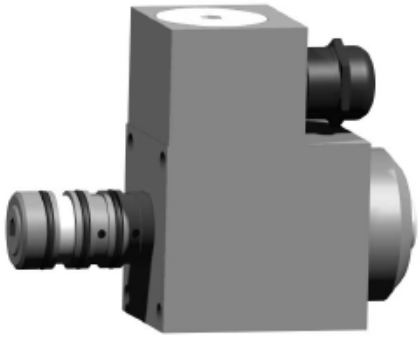
PONAR wadowice	Three-way explosion proof directional control valve type 3IREH2			WK 499 415
	NS2	up to 31,5 MPa	up to1,3 dm^3/min	04.2009

DATA SHEET - SERVICE MANUAL

APPLICATION

The three-way directional control valves are used to control the direction of flow in hydraulic. These valves are mainly used in hazardous areas especially in mining industry. It is certified with ⟨Ex⟩ **I M1 Ex ia I**, and can work with outlet explosion proof circuit "**a**" or "**b**" of the power pack permitted for group I gas explosion at maximum parameter **Ui =15V**, **Ii = 1,6A**.



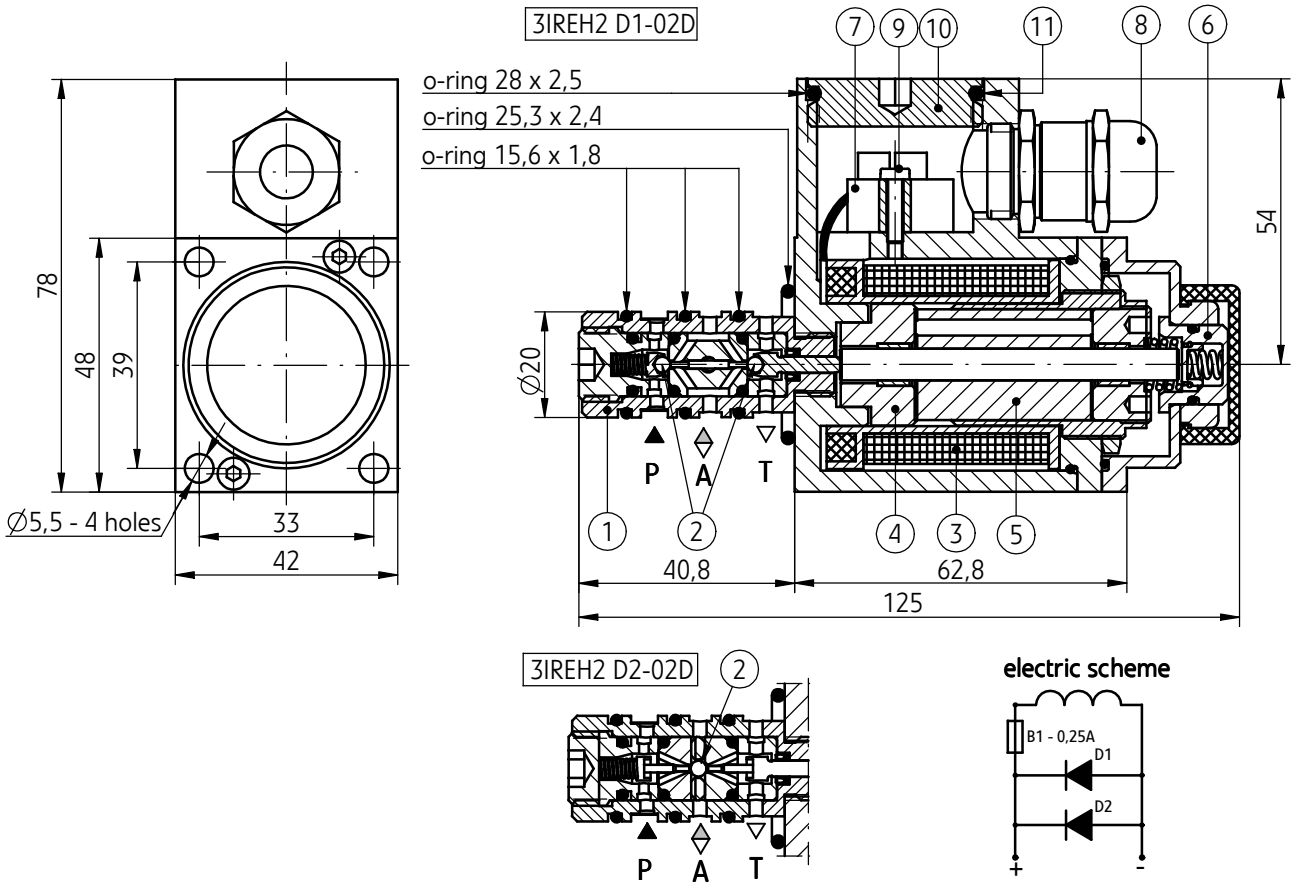
DESCRIPTION OF OPERATION

Versions: 3IREH2D1...D; 3IREH2D2...D

The directional valve depending on version (hydraulic schemes according to page 3) is switched by changing position of the balls (2) – version 3IREH2 **D1**...D or the ball (2) – version 3IREH2 **D2**...D, which moving along its axis in the sleeve (1) separates or connects ports **P** with port **A** or port **A** with port **T**. The change of flow direction is followed by transferring the voltage to the coil (3). Optionally, the position of spool can be shifted manually by manual override (6). The valve is equipped with explosion proof solenoid type EMSGJ-42 which is composed of the sleeve (4) and armature of the solenoid (5). There is a coil (3) on the sleeve (4). Inside the coil are diodes as well as safety device preventing excessive current increase. Power lead in version with gland: 3IREH2 D1...**D**; 3IREH2 D2...**D** must be connected to terminal strip (7) and sealed and immobilized by using gland (8). Terminal strip is fixed to the housing with bolt (9). After installing the chamber must be closed with plug (10) with sealing ring (11).

OVERALL AND CONNECTION DIMENSIONS

Versions: 3IREH2D1...D; 3IREH2D2...D



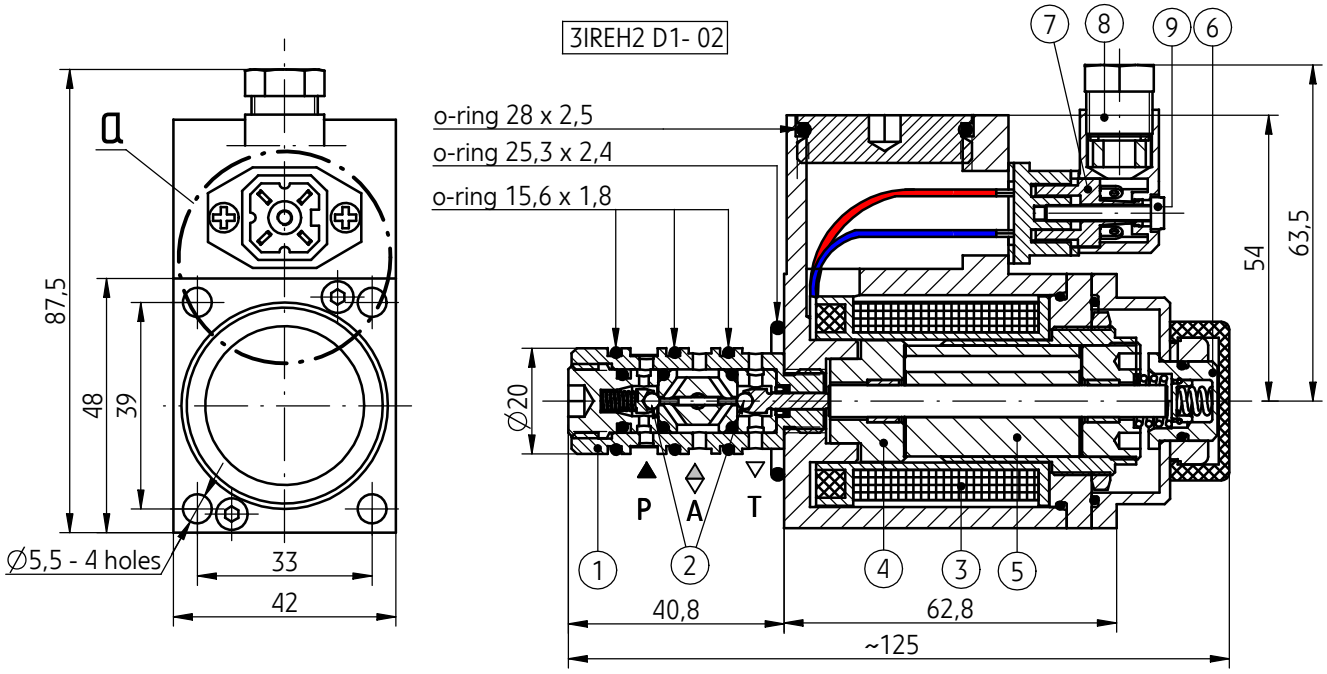
DESCRIPTION OF OPERATION

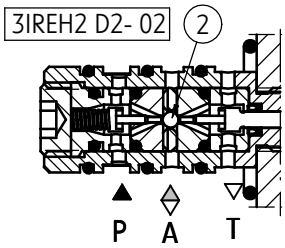
Versions: **3IREH2D1...**; **3IREH2D2...**

The directional valve depending on version (hydraulic schemes according to page 3) is switched by changing position of the balls (2) – version 3IREH2 D1... or the ball (2) – version 3IREH2 D2..., which moving along its axis in the sleeve (1) separates or connects ports **P** with port **A** or port **A** with port **T**. The change of flow direction is followed by transferring the voltage to the coil (3). Optionally, the position of spool can be shifted manually by emergency button (6). The valve is equipped with explosion proof solenoid type EMSGJ - 42 which is composed of the sleeve (4) and armature of the solenoid (5). There is a coil (3) on the sleeve (4). Inside the coil are diodes as well as safety device preventing excessive current increase. Power lead in version with connector (7): 3IREH2 D1...; 3IREH2 D2... must be connected according to the page 2: power lead **(+)** into connector contact "**1**", power lead **(-)** into connector contact "**2**" and then tighten the bolt (9) in connector (7) and then tighten power lead in the gland (8).

OVERALL AND CONNECTION DIMENSIONS

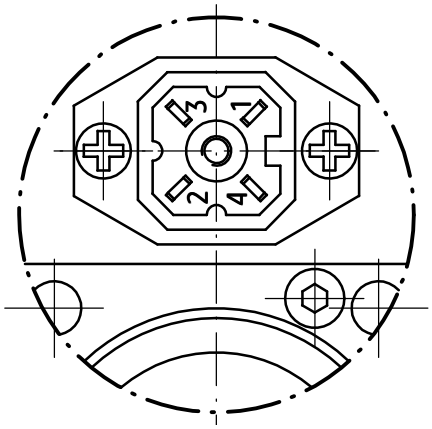
Versions: **3IREH2D1...**; **3IREH2D2...**



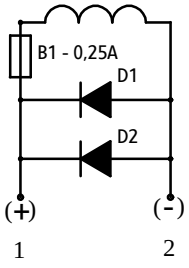


detail a

view of electrical connection



electric scheme



TECHNICAL DATA

Hydraulic fluid	mineral oil
Required filtration	**up to25 µm**
Recommended Filtration	up to10 µm
Nominal fluid viscosity	37 mm ^{2}/s at temperature 55 °C
Viscosity range	2,8 up to 328 mm^2/s
Optimum working temperature	40 up to 55°C
Working temperature range	-20 up to 60°C
Relative humidity of air	up to 95%
Maximum pressure	**31,5 MPa**
Maximum flow	**1,3 dm^3/min**
Weight	1, 2 kg
Supply voltage Un / resistance	**12 VDC / 110 Ω**
Supply current In	110 mA
Scope of insulation	**IP 54**

ACCORDING TO DIRECTIVE 94/9/WE

Quality certificate	**CE 1026 No. FTZ U 05 ATEX Q 013**
Inspection certificate	**FTZU 05 ATEX 0067**
Type of protection	**⟨Ex⟩ I M 1 Ex ia I**

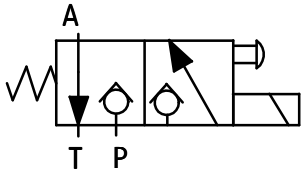
ASSEMBLY AND OPERATION REQUIREMENTS

1. Electric connection of the valve must be made according to electric scheme.
2. Conductors of valve must be meet requirements applied in the mining machinery.
3. Only skilled workers can direct connect valve to an electrical system.
4. The plug must be supported by retains screw.
5. During the period of operation must be kept the fluid viscosity and filtration according to requirements defined in Service Manual
6. In order to ensure the failure free and safe operation must be check:
   - condition of the electrical connection,
   - the verity proper working of the valve,
   - cleanness of the hydraulic fluid.
7. Any valve repair in the mine condition is forbidden. A damaged valve must be supplied to the producer in order to repair. The address of service is shown on the last page of this Data sheet – Service Manual
8. A person that operates the valve has to acquaint with Service Manual.

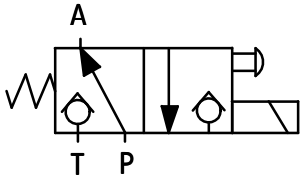
SCHEMES

graphical symbol

3IREH2 **D1...**D
3IREH2 **D1...**

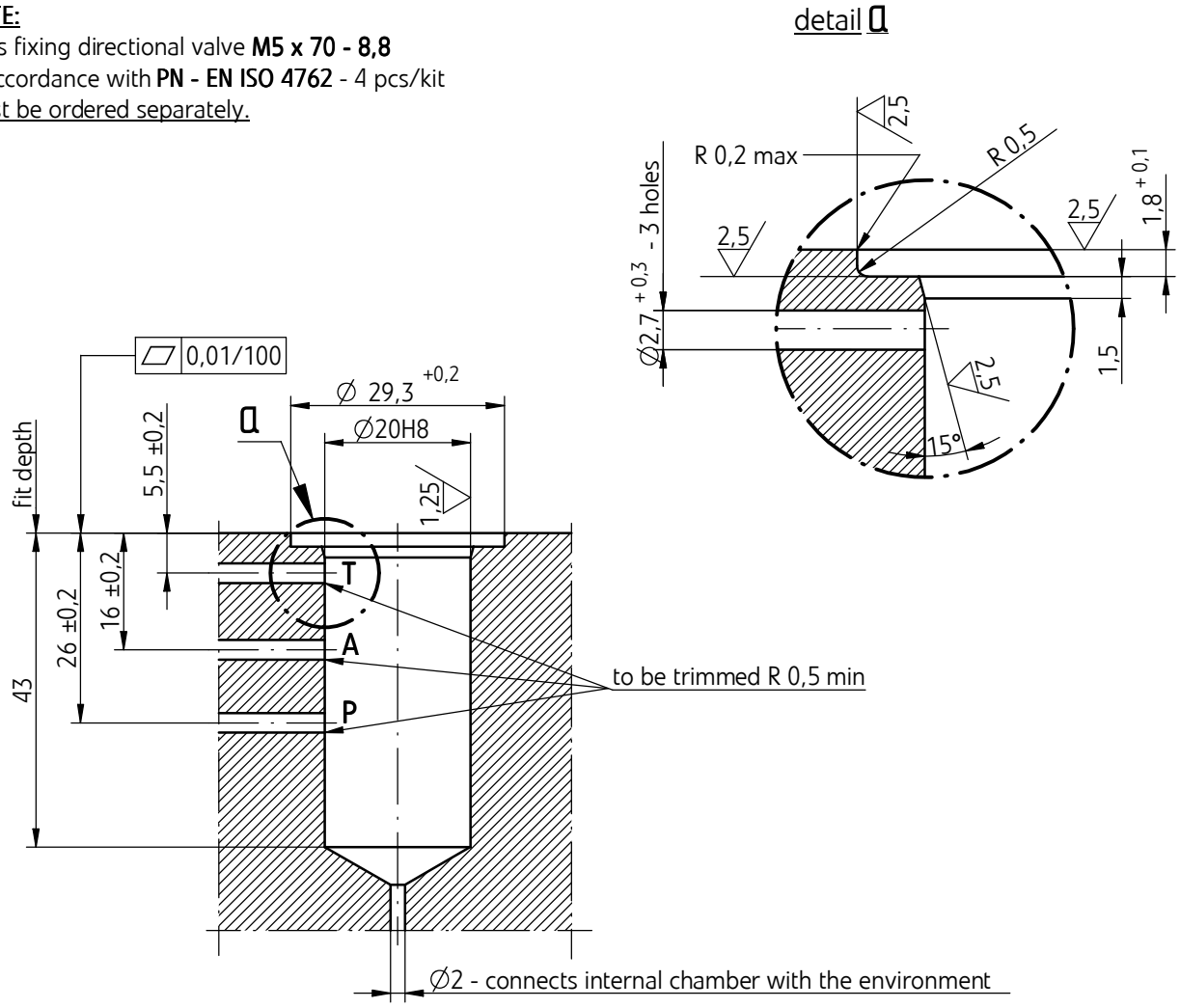


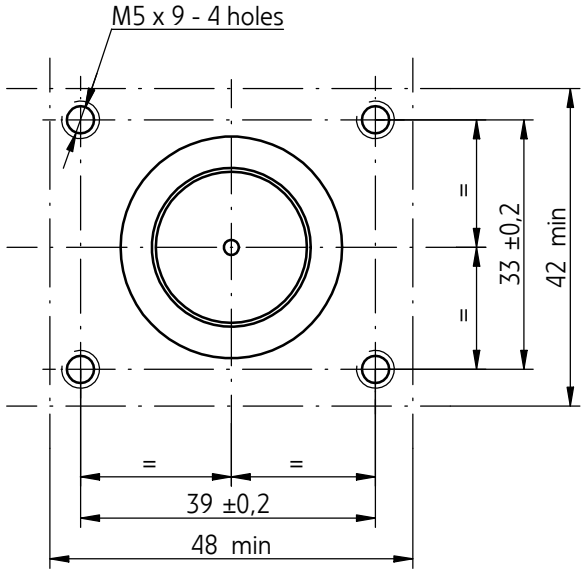
3IREH2 **D2...**D
3IREH2 **D2...**



DIMENSION OF CAVITY

NOTE:
Bolts fixing directional valve **M5 x 70 - 8,8**
in accordance with **PN - EN ISO 4762** - 4 pcs/kit
must be ordered separately.





HOW TO ORDER

3	IREH	2		–	

Number of service ports
3-way = **3**

Type
Explosion-proof directional control valve = **IREH**

Nominal size (NS)
NS2 = **02**

Hydraulic scheme (see page 3)
Scheme 3IREH2 **D1**… = **D1**
Scheme 3IREH2 **D2**… = **D2**

Series number
(02-10) - connection and installation dimensions unchanged = **02**

Electric connection
Plug-in-connector = **no designation**
Gland = **D**

NOTES:

The directional control valve should be ordered according to the above coding.
The symbols in bold are preferred versions in short delivery time.
Coding example: 3IREH2 D1- 02 D

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