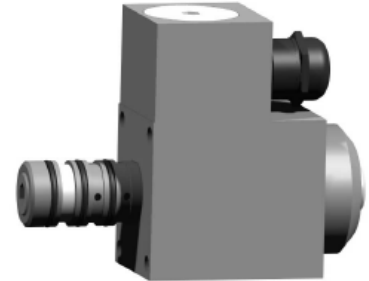


DATA SHEET - OPERATION MANUAL

APPLICATION

The three-way directional control valve type 3IREH2... is designed to control the direction of the flow of liquid (oil) in a hydraulic system. The valve is designed for use in potentially explosive atmospheres in underground mines (group I) and in equipment working near inflammable substances in the form of gas, vapor, mist (group II). The valve has been certified for intrinsic safety - ATEX: Ex I M1 Ex ia I Ma; Ex II 2G Ex ia II B T4 Gb; GOST - R: PO Ex ia I Ma; 1Ex ia IIB T4 Gb. It can work with the intrinsically safe circuit "ia" or "ib" with maximum parameters: $U_i = 15 \text{ V}$; $I_i = 1.6 \text{ A}$; $C_i = 0$; $L_i = 0$. For the group II of devices power supply should have the power limit P_i , according to the technical data table on page 3.



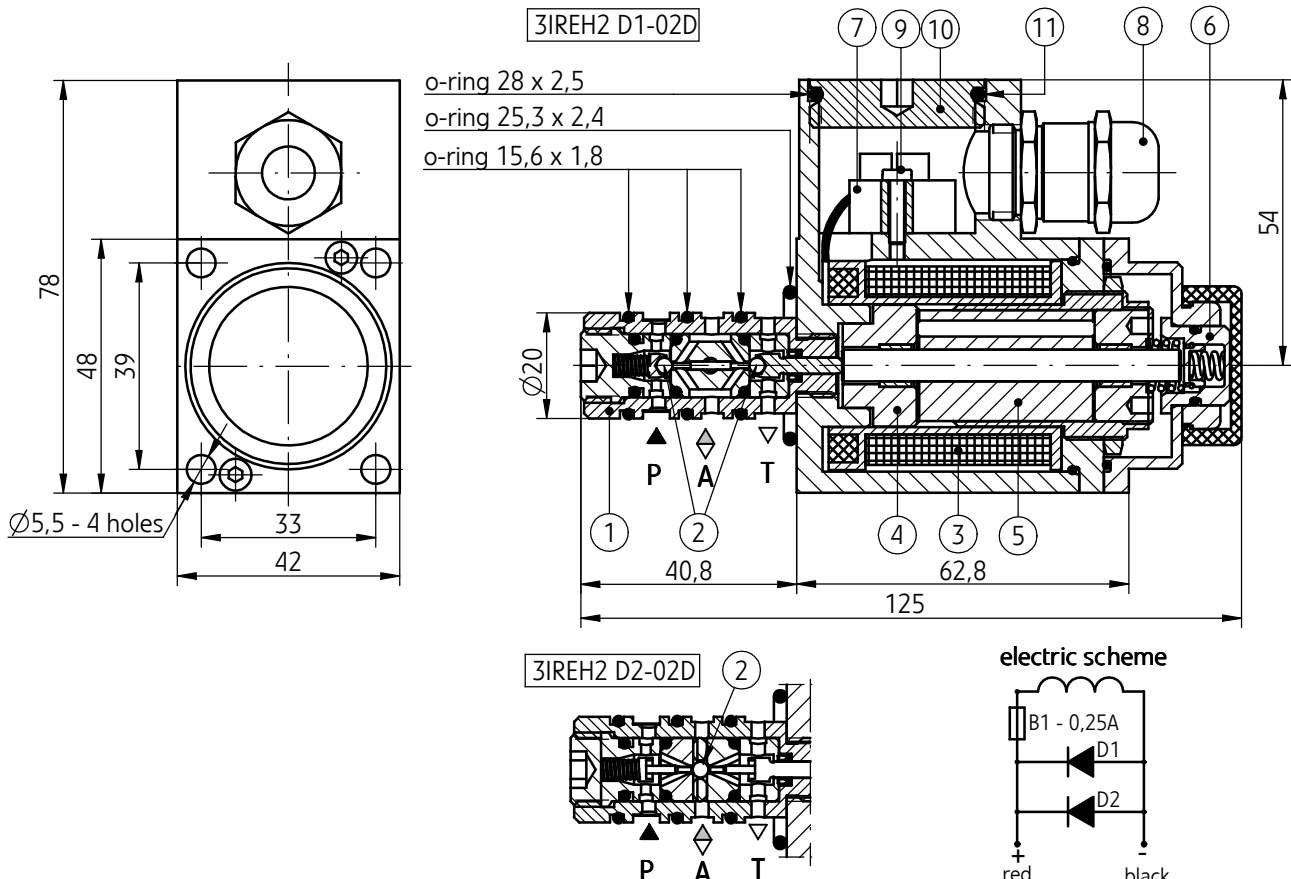
DESCRIPTION OF OPERATION

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



TECHNICAL DATA

Hydraulic fluid	mineral oil
Required filtration	up to 25 μm
Recommended Filtration	up to 10 μm
Nominal fluid viscosity	37 mm ² /s at temperature 55 °C
Viscosity range	2,8 up to 380 mm ² /s
Optimum working temperature	40 up to 55 °C
Relative humidity of air	up to 95%
Maximum pressure	31,5 MPa
Maximum flow	1,3 dm³/min
Weight	1,2 kg
Supply voltage Un / resistance	12 VDC / 110 Ω
Supply current In	110 mA
Degree of protection	IP 54

COMPLIANCE WITH STANDARD SYSTEM

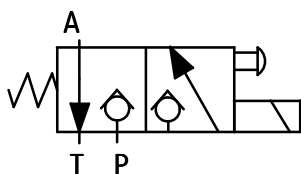
Standard system	ATEX (94/9/WE)	GOST - R
Certificate of examination type	CE 1026 FTZU 05 ATEX 0067	RU C - PL.ГБ08.В.00250
Intrinsic safety feature Ambient temperature T _a	 I M 1 Ex ia I Ma - 20 do 60 °C	PO Ex ia I Ma - 20 do 60 °C
	 II 2G Ex ia IIB T4 Gb - 20 do 60 °C Pi ≤ 1,2 W - 20 do 40 °C Pi ≤ 1,3 W	1Ex ia IIB T4 Gb - 20 do 60 °C Pi ≤ 1,2 W - 20 do 40 °C Pi ≤ 1,3 W
Quality assurance certificate	CE 1026 No. FT ZU 05 ATEX Q 013	

INSTALLATION AND OPERATION REQUIREMENTS

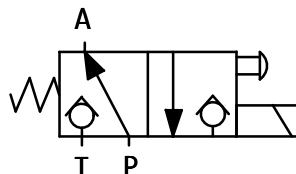
- Electric connection of the valve must be made according to electric scheme on page 1 or 2.
- Conductors of valve must meet requirements applied in the mining machinery.
- Only skilled workers can direct connect valve to an electrical system.
- The plug must be supported by retains screw.
- During the period of operation must be kept the fluid viscosity and filtration according to requirements defined in Operation Manual
- 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.
- 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 - Operation Manual
- A person that operates the valve has to acquaint with Operation Manual.

SCHEMES

graphical symbol of the valve type 3IREH2...



versions: 3IREH2 D1...; 3IREH2 D1...D



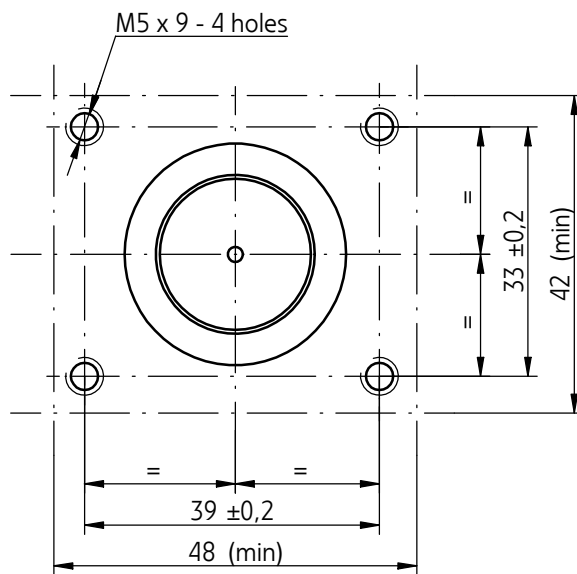
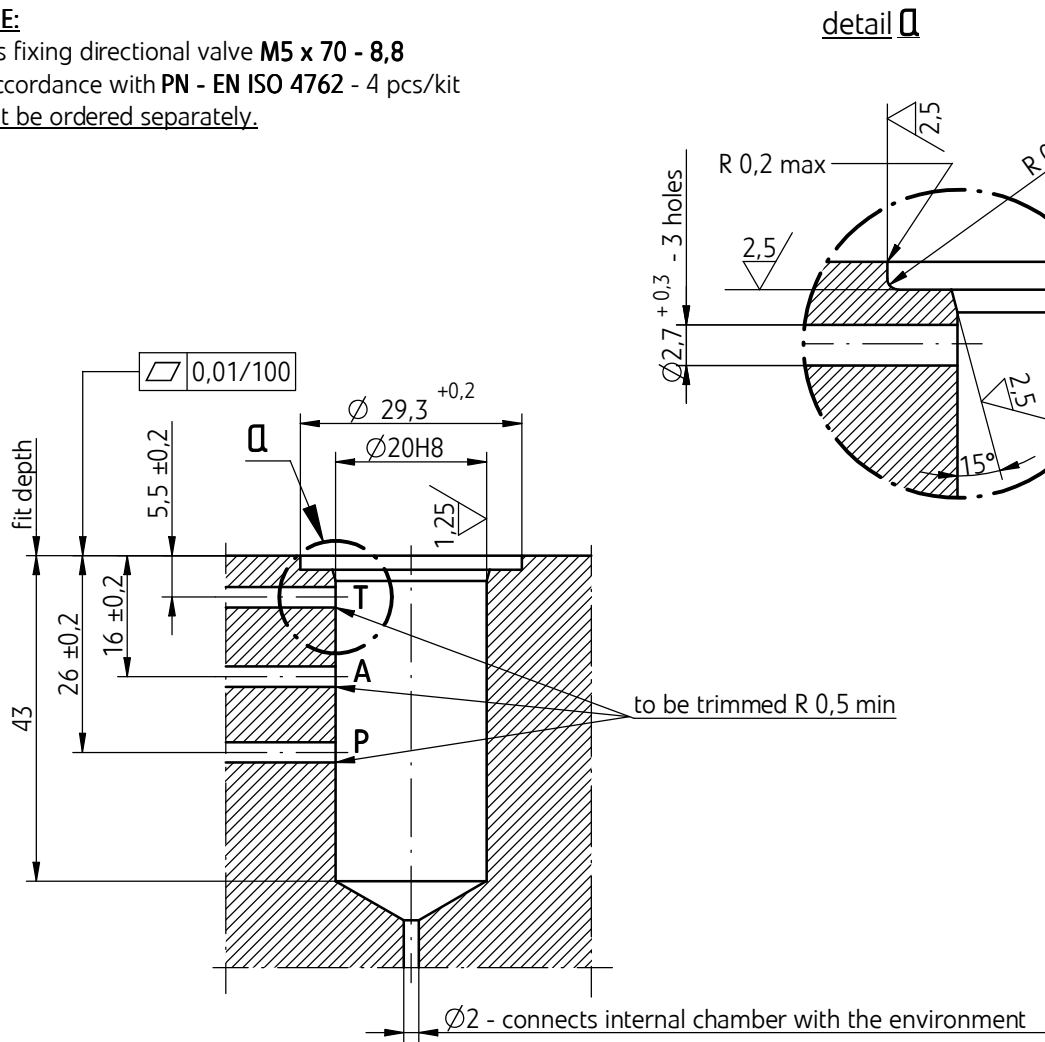
versions: 3IREH2 D2...; 3IREH2 D2...D

OVERALL AND CONNECTION DIMENSIONS

installation 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 intrinsically safe directional 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 series 02	= 0X = 02						
Electric connection plug-in-connector gland	= no designation = D						
Type of construction standard design special design - version for water or aqueous emulsion	= no designation = S027						

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

Special design version 3IREH2...SO27

APPLICATION, DESCRIPTION OF OPERATION, INSTALLATION AND OPERATION REQUIREMENTS, SCHEMES, OVERALL AND CONNECTION DIMENSIONS, CODING

like in standard version - according to **pages 1 up to 5.**

TECHNICAL DATA

Hydraulic fluid	water or aqueous emulsion
Required filtration	up to 25 μm
Recommended Filtration	up to 10 μm
Nominal fluid viscosity	37 mm ² /s at temperature 55 °C
Optimum working temperature	40 up to 55 °C
Relative humidity of air	up to 95%
Maximum pressure	31,5 MPa
Maximum flow	1,3 dm³/min
Weight	1, 2 kg
Supply voltage Un / resistance	12 VDC / 110 Ω
Supply current In	110 mA
Degree of protection	IP 54

COMPLIANCE WITH STANDARD SYSTEM

Standard system	ATEX (94/9/WE)	GOST - R
Certificate of examination type	CE 1026 FTZU 05 ATEX 0067	RU C - PL.ГБ08.B.00250
Intrinsic safety feature Ambient temperature T _a	$\text{\textcircled{Ex}}$ I M 1 Ex ia I Ma - 20 do 60 °C	PO Ex ia I Ma - 20 do 60 °C
	$\text{\textcircled{Ex}}$ II 2G Ex ia IIB T4 Gb - 20 do 60 °C Pi ≤ 1,2 W - 20 do 40 °C Pi ≤ 1,3 W	1Ex ia IIB T4 Gb - 20 do 60 °C Pi ≤ 1,2 W - 20 do 40 °C Pi ≤ 1,3 W
Quality assurance certificate	CE 1026 No. FTZU 05 ATEX Q 013	

PONAR Wadowice S.A.
 ul. Wojska Polskiego 29
 34-100 Wadowice
 tel. +48 33 488 29 00
 fax. +48 33 488 21 03
www.ponar-wadowice.pl

