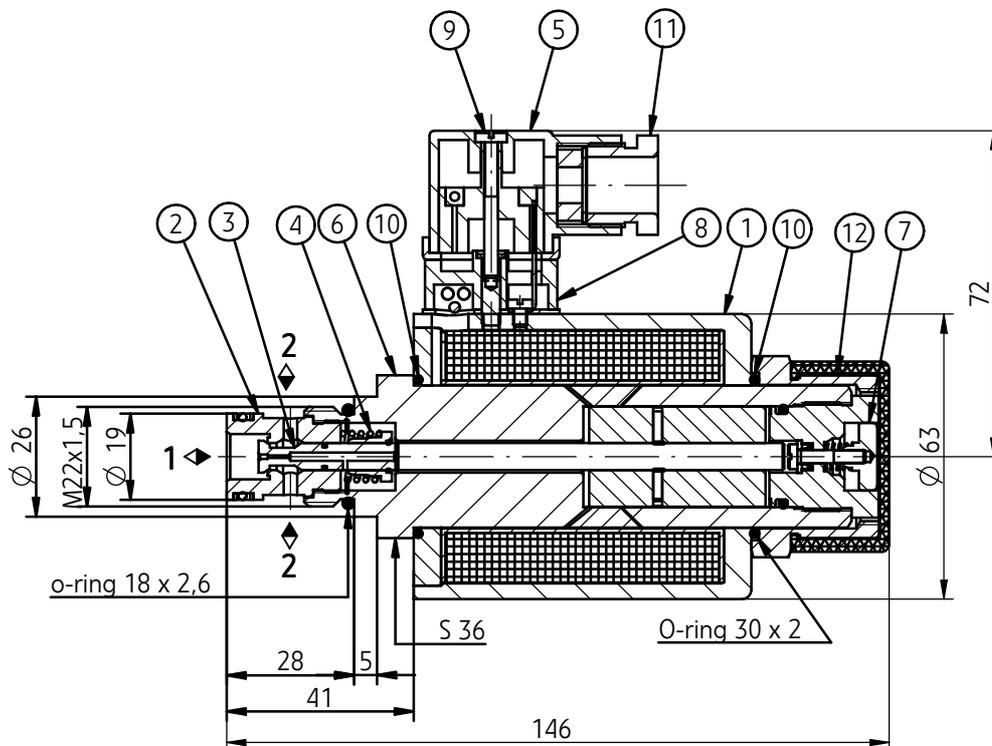


### DATA SHEET - SERVICE MANUAL

#### APPLICATION

The two-way directional control valves type 2IRED6... are designed as direct operated components for subplate mounting. These valves are mainly used in hazardous areas especially in mining industry. It is certified with  $\text{Ex}$  I M1 Ex ia I, and can work with outlet explosion proof circuit "ia" or "ib" of the power pack permitted for group I gas explosion at maximum parameter  $U_i = 15V$ ,  $I_i = 1,6A$ .

#### OVERALL DIMENSIONS



#### DESCRIPTION OF OPERATION

The directional valve is switched by changing position of the spool (3) which moving along its axis separates or connects port in the sleeve (2). Opening of flow is secured by putting voltage on coil (1). The return of the spool to dead position are secured by spring (4) and switching off the current. The coil can be placed in each angle position to the sleeve (6). An optional emergency button (7) permits movement of the spool without solenoid. The valve is equipped with explosion proof solenoid type EMSGI – 45. Solenoid is assembled with sleeve (6) and emergency button (7). There is a coil (1) on the sleeve (6). Outside of coil mounted is socket (8); inside the socket are diodes as well as safety device preventing excessive current increase. Electrical connection is realized by using plug (5). Use bolt (9) to support the plug. Power lead must be sealed and immobilized in both types using gland (11). Sealing rings (10) protect the coil against external impacts and prevent from turning coil after tightening up the nut (12).

## TECHNICAL DATA

Hydraulic fluid	mineral oil
<b>Required filtration</b>	<b>up to 16 µm</b>
Recommended Filtration	up to 10 µm
Nominal fluid viscosity	37 mm <sup>2</sup> /s at temperature 55 °C
Viscosity range	2,8 up to 328 mm <sup>2</sup> /s
Optimum working temperature	40 up to 55°C
Working temperature range	-20 up to 60°C
Relative humidity of air	up to 95%
<b>Maximum pressure</b>	<b>31,5 MPa</b>
<b>Maximum flow</b>	<b>20 dm<sup>3</sup>/min</b>
Weight	1, 6 kg
<b>Supply voltage Un</b>	<b>12 V</b>
Supply current In	110 mA
<b>Scope of insulation</b>	<b>IP 64</b>

ACCORDING TO DIRECTIVE 94/9/WE

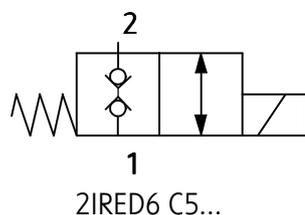
Quality certificate	CE 1026	No. FTZU 05 ATEX Q 013
Inspection certificate	FTZU 05 ATEX 0068	
Type of protection		

## ASSEMBLY AND OPERATION REQUIREMENTS

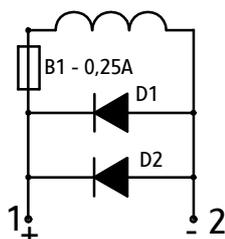
1. Electric connection of the valve must be made according to electric scheme.
2. Conductors of valve must meet requirements applied in the mining machinery.
3. Only skilled workers can direct connect valve to an electrical system.
4. The plug must be supported by retains screw.
5. During the period 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

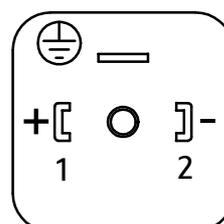
graphical symbol



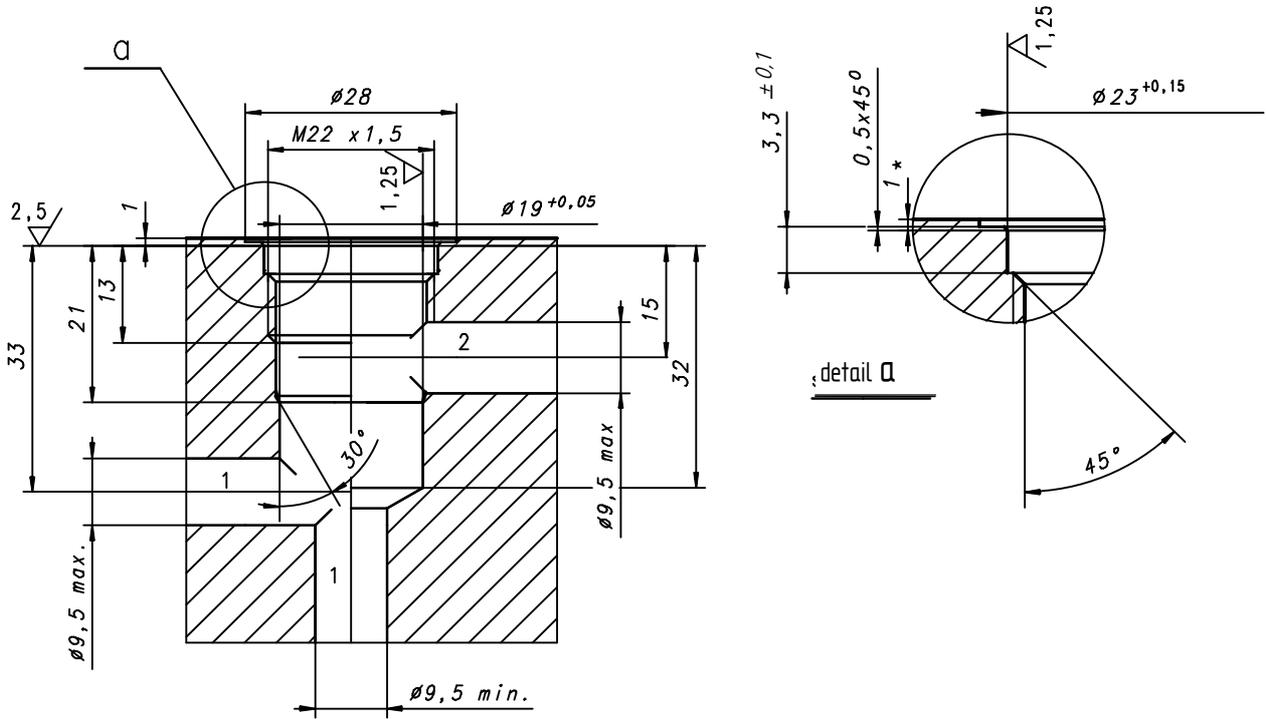
electrical scheme



view of electrical connection



## DIMENSION OF CAVITY



(\*) - max 4,9

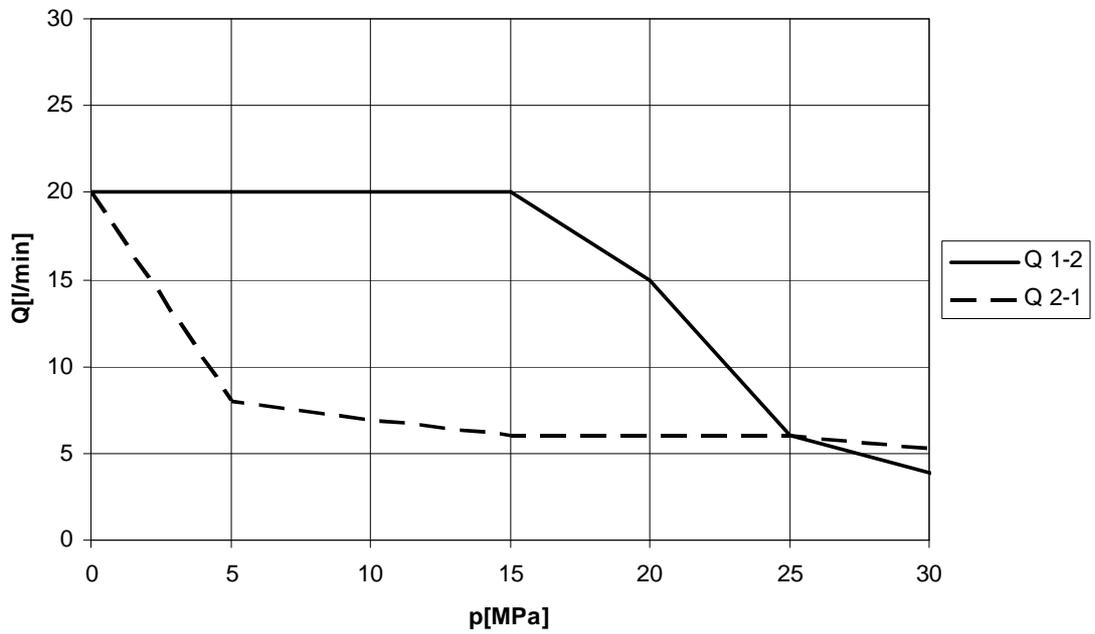
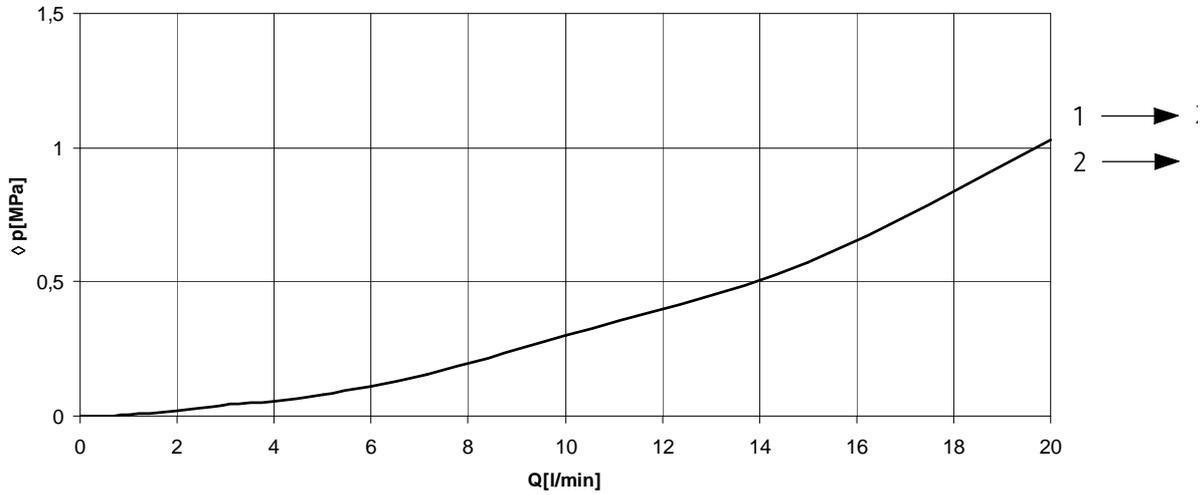
$\text{◎} \varnothing 0,025$  - Applied to all main hole diameters and phase point

Tightening torque of valve 30 Nm.

# PERFORMANCE CURVES

oil viscosity  $\nu = 41 \text{ mm}^2/\text{s}$  at temperature  $50^\circ\text{C}$

## Flow curves



## HOW TO ORDER

Order coded in the way showed below should be forwarded to the manufacturer.

<b>2IRED6</b>	<b>C5</b>	<b>02</b>	<b>/</b>	<b>2</b>	<b>M1</b>	<b>G12</b>	<b>Z4</b>		<b>★</b>
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### Hydraulic scheme

Scheme C5 = C5

### Series number

(02-09) - connection and installation dimension unchanged = 02

### Number of position

2 position = 2

### Mounting method

Port M22 x 1,5 = M1

### Control voltage solenoids

12V DC = G12

### Electrical connection

Plug in connector = Z4

### Sealing

NBR (for fluids on mineral oil base) = no code  
 FPM (for fluids on phosphate ester base) = V

Additional requirements in clear text  
 (to be advanced with the manufacturer)

Coding example:

2IRED6 C5 - 02/2 M1 G12 Z4

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](http://www.ponar-wadowice.pl)

