



TR 2

PRESSURE SWITCH

| KE 7009 | 1/15 |

4 MPa | 10 MPa | 32 MPa



Pressure switch is a hydraulic element which connects/disconnects electrical circuit once the pressure in hydraulic circuit exceeds/fall below the adjusted pressure.

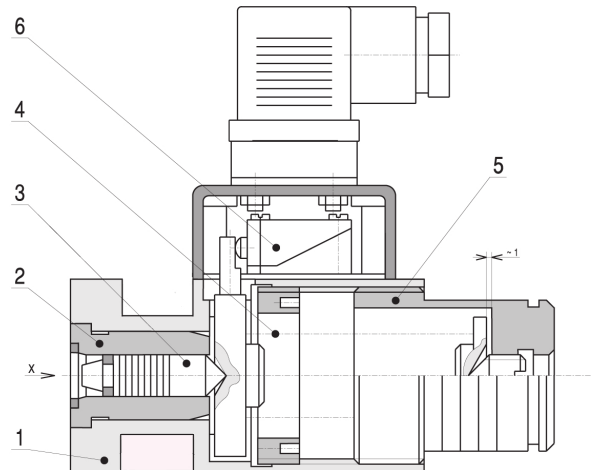
Simple construction | Small built-up area | Connection by socket acc. to DIN 43 650 to electrical circuit

DESCRIPTION OF FUNCTION

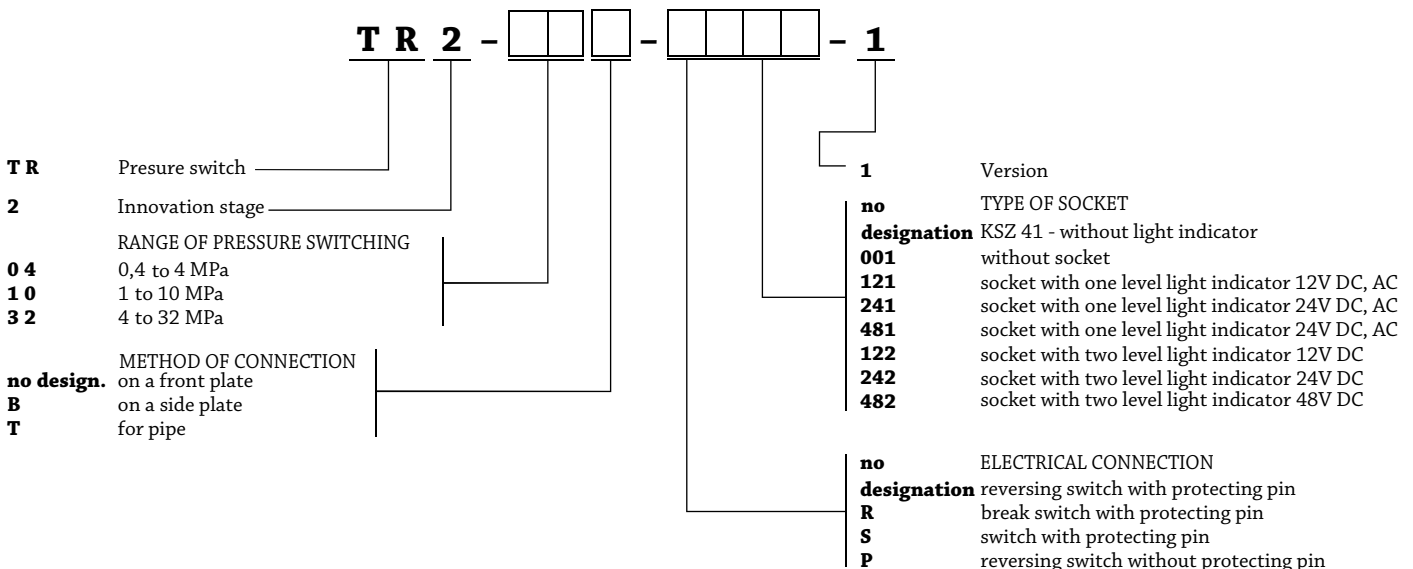
The pressure switch TR2 is of piston construction without leakage outlet. The pressure is applied to the piston via port X. In version intended for the front or side plate mounting, the port X is created by drilling at the matching part. At the main switch housing **1** there is a steel housing **2** with a precise bore. In the steel housing **2** the reaction piston **3** is acting against the force of the spring **4**. The movement of the piston is transmitted to the contact of a micro switch **6**. The threshold pressure adjustment is carried out by adjusting screw **5**. Electrical cables are connected by a socket. The design with electrical connection R,S,P allows the connection with light indication to be used.

Pressure switch can be installed as follows:

- 1) on front plate - pressure switch axis is normal to the mounting surface contact connection
- 2) on the side plate - pressure switch axis is parallel to the mounting surface contact connection
- 3) pipe mounting - diameter 6x1 terminated by fitting according to ISO 6149



TYPE CODE



INSTALLATION, DUTY SERVICE AND MAINTENANCE

The pressure switch can be installed in any mounting position. Pressure switch is connected either to the front plate by two fixing screws M6x16 8G (torque 10Nm) or to a side plate by two screws M6x55 (torque 7Nm). Orientation of a pressure switch on the mounting surface can be varied in 90° steps along the longitudinal axis. In case of pressure surges or pulsation in hydraulic circuit the orifice of type 22 (size 035) is recommended (B and T design only). Position of adjustment screw is locked by detent screw. In case of need the adjusting screw can be sealed. Surface roughness and flatness deviation of the mounting surface shall not exceed $R_a = 1,6 \mu\text{m}$ and $0,01/100\text{mm}$. The pressure switch does not require any special maintenance.

DELIVERY

The pressure switches are delivered assembled. Spare parts, fixing screws, front and side plate and orifices are not included in the package. These must be ordered separately. Surface of pressure switch is phosphate coated.

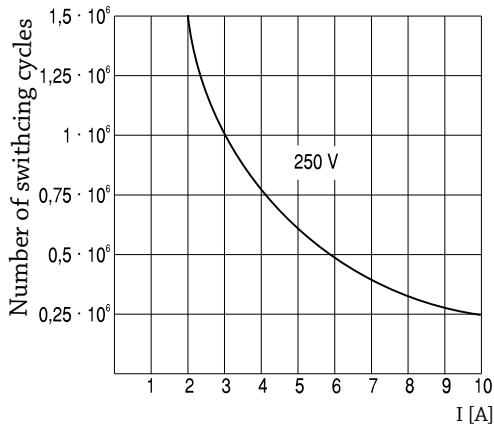
TECHNICAL DATA

Technical Data	Symbol	Unit	TR 2-04	TR 2-10	TR2-32
Range of pressure switching	p	bar	4 to 40	10 to 100	40 to 320
Maximal pressure	p_{max}	bar	250	320	320
Hydraulic medium		Hydraulic oils of power classes (HL, HLP) according do DIN 51524			
Fluid temperature range	t_{po}	°C	-20 up to +80		
Environmental temperature range	t_k	°C	-20 up to +70		
Recommended working viscosity range		mm^2/s	10 up to 400		
Allowable viscosity range		mm^2/s	10 up to 1500		
Weight - connection on front plate	m	kg	1.025		
Weight - connection on the side plate	m	kg	1.225		
Enclosure type according to EN 60 529			IP 65		
Service life		for number of switching cycles of micro switch see operation curve			
Maximal switching voltage	U	V	250AC, 250DC		
Maximal switching voltage (with light indicator)	U	V	12,24,48		
Maximum degree of fluid contamination		Class 21/18/15 according to ISO 4406 (1999)			

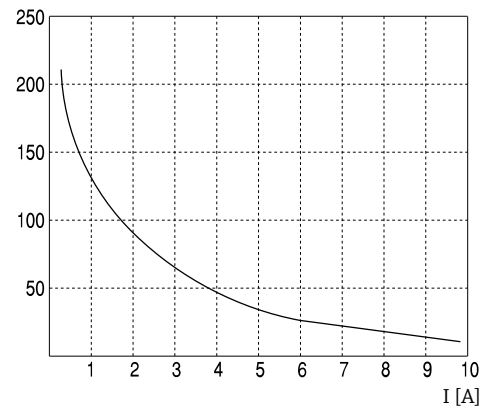
*) The values of hysteresis and repeating are guaranteed only in the working fluid viscosity range

SERVICE LIFE OF MICRO SWITCH AT THE DIFFERENT LOAD

AC supply current



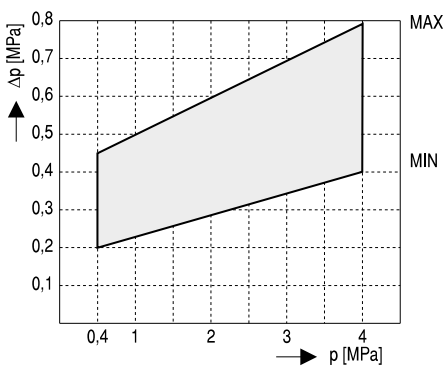
DC supply current



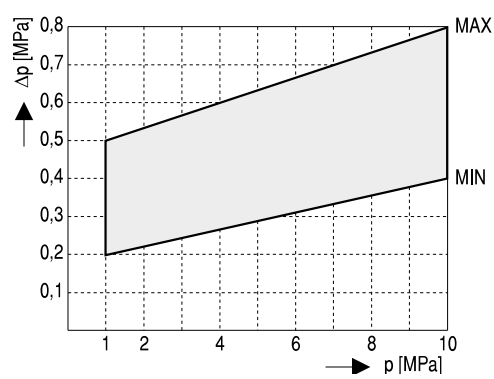
Maximum switching frequency 150/min (at 10A, 250V AC, 30/min only)

HYSTERESIS CURVES

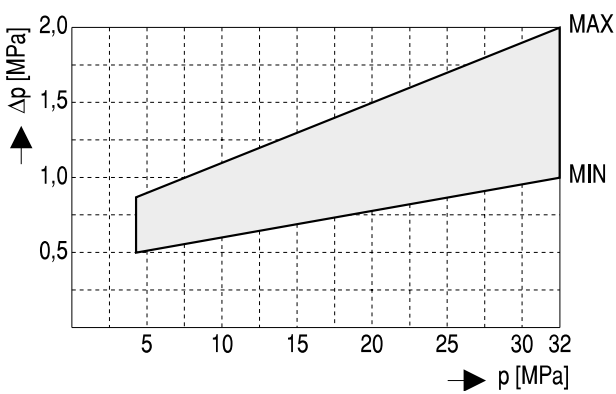
TR2-04-1



TR2-10-1



TR2-32-1

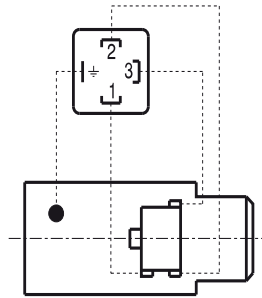
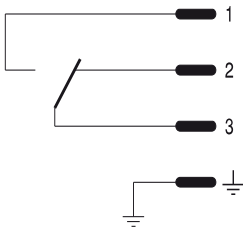




TR2

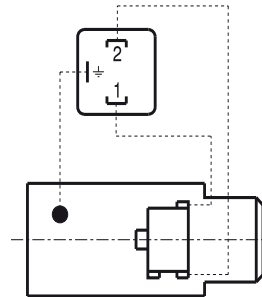
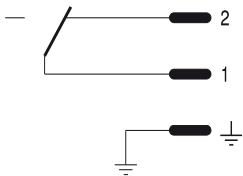
ELECTRICAL CONNECTION DIAGRAM

Pressure switch TR 2-xxx-1



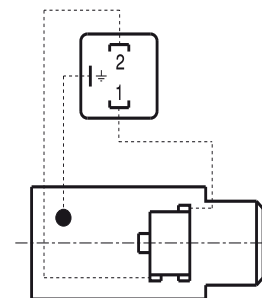
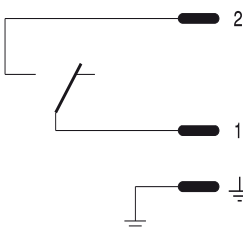
For use of socket without light indicator

Pressure switch TR 2-xxx-Rxxx-1



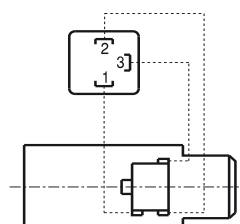
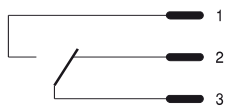
For use of socket with light indicator - LED does not shine when idle

Pressure switch TR 2-xxx-Sxxx-1



For use of socket with light indicator - LED shines when idle
Only for types 121, 241, 481

Pressure switch TR 2-xxx-Pxxx-1



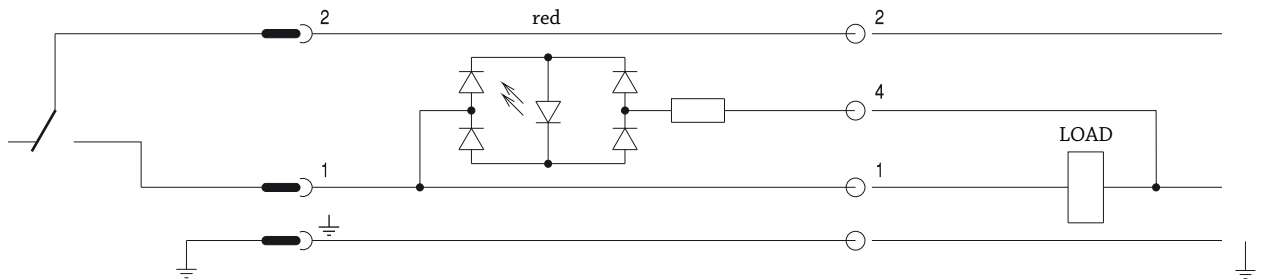
For use of socket with light indicator - red LED shines when idle green LED shines when operated
Only for types 122, 242, 482

TABLE OF CONNECTORS WITH ELECTRONIC ACCESSORIES
Pressure switch
Socket with light indicator
User pars

type: TR 2-xxx-Sxxx-1

KSZ 7932 54	12 V	B - black
KSZ 7932 55	24 V	B - black
KSZ 7932 56	48 V	B - black

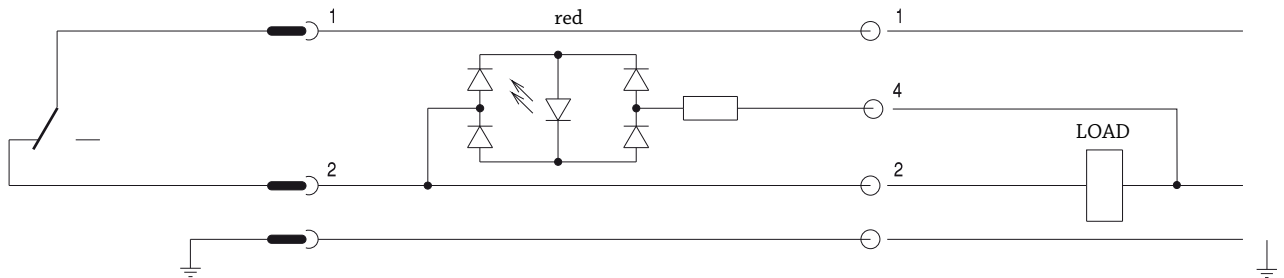
Power supply can be DC or AC.


Pressure switch
Socket with light indicator
User part

type: TR 2-xxx-Rxxx-1

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Power supply can be DC or AC.

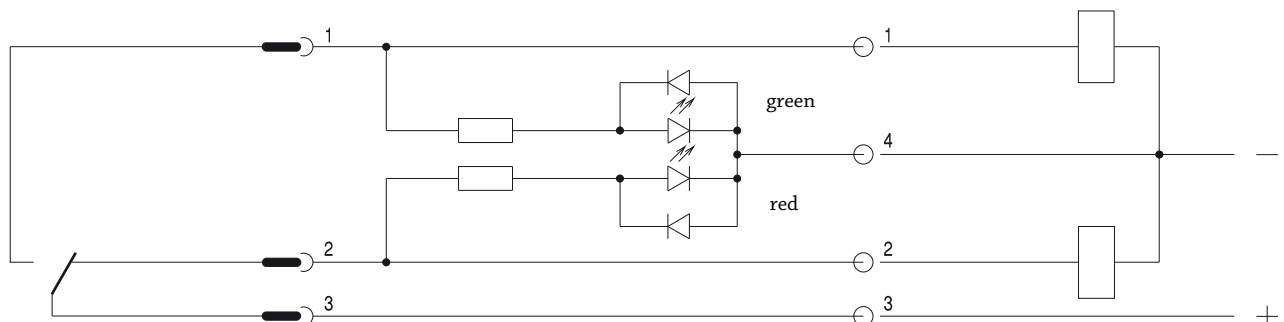

Pressure switch
Socket with light indicator
User part

type: TR 2-xxx-Pxxx-1

KSZ 7932 57	12 V	B - black
KSZ 7932 58	24 V	B - black
KSZ 7932 59	48 V	B - black

Power supply must be DC. It is determined only for connection with safety voltage.

Safety area	48 V
Dangerous area	24 V
Very dangerous area	12 V

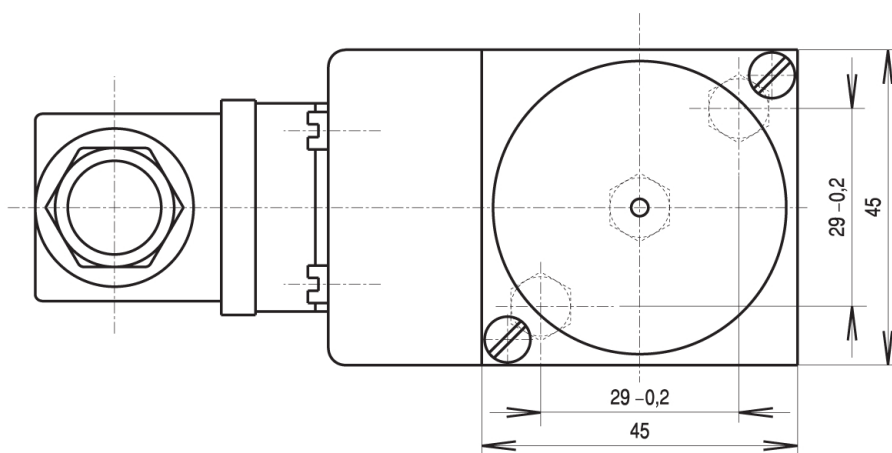
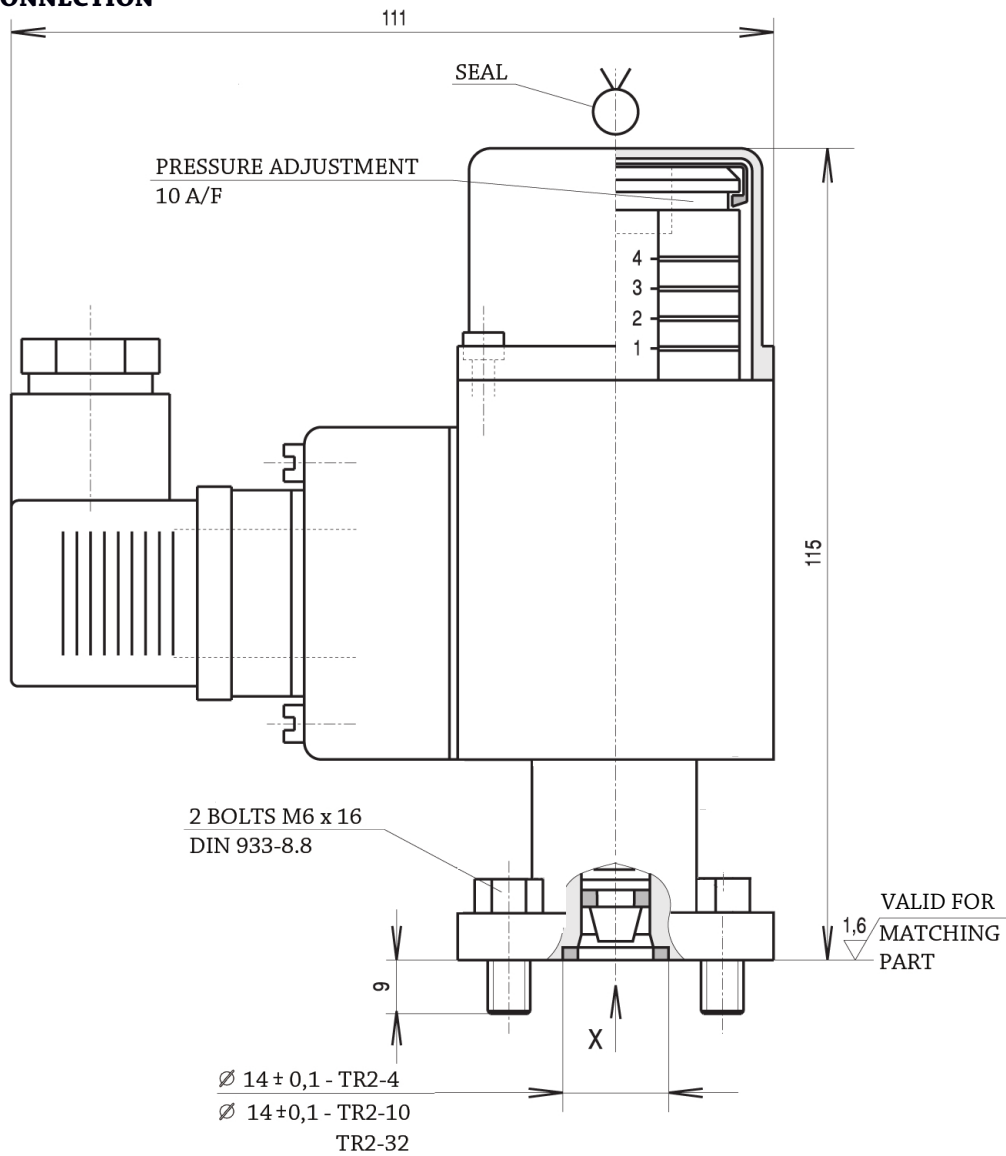


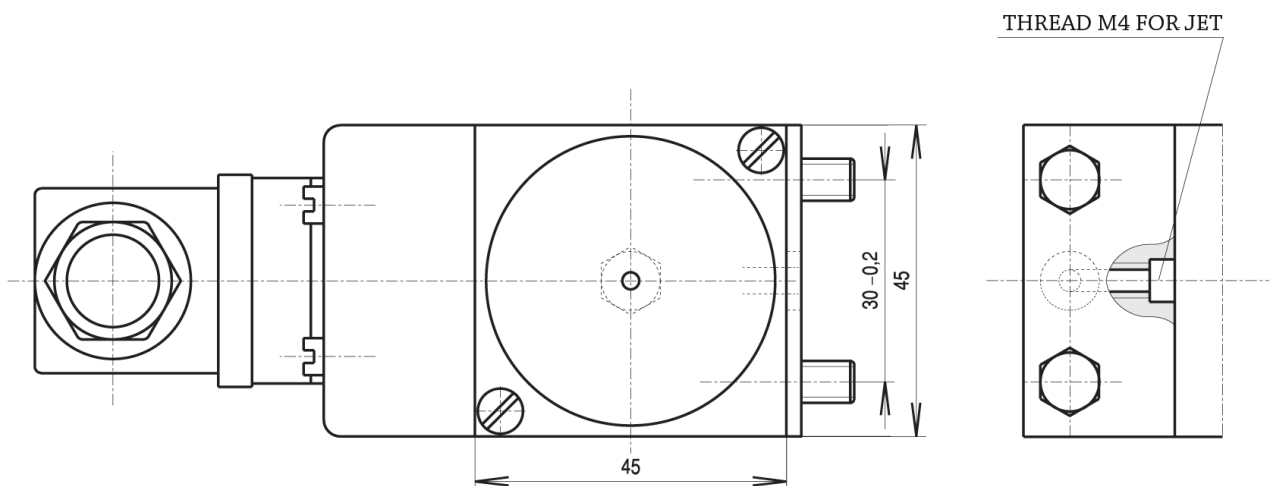
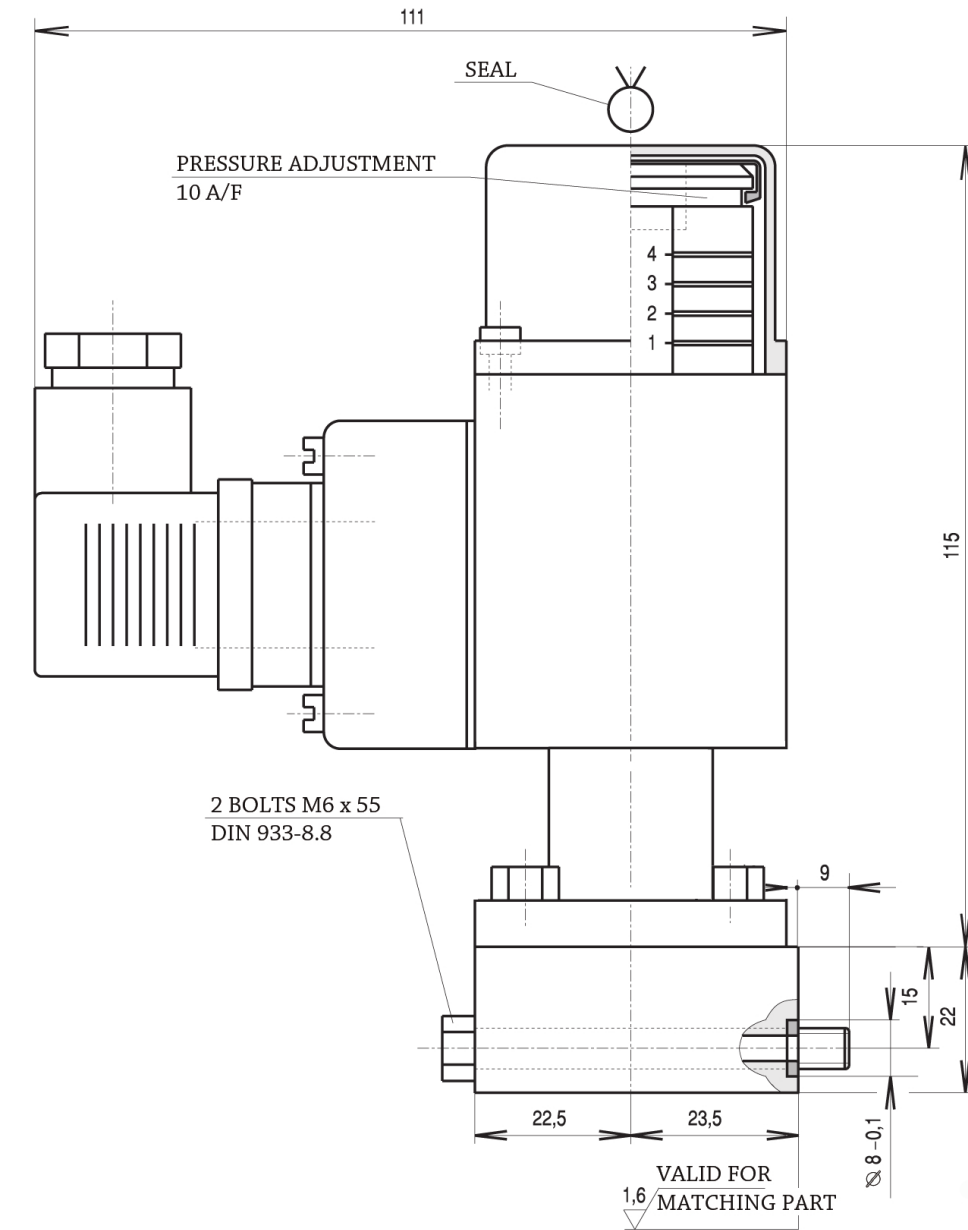


TR2

INSTALLATION DIMENSIONS

FRONT PLATE CONNECTION



SIDE PLATE CONNECTION




NOTES

Consultancy service is provided by: **PQS Technology, Ltd.**

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