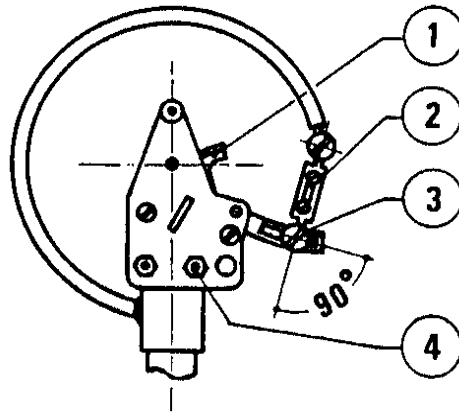
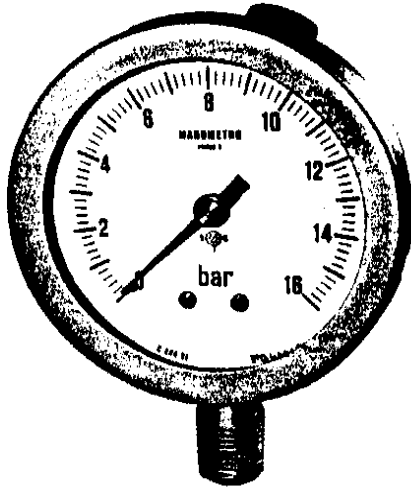


## OPERATION INSTRUCTIONS FOR PRESSURE GAUGE 4XQ WITH DIAPHRAGM SEAL



### Installation

- Position case vertical.
- To screw the gauge use the socket connection with a proper wrench; do not use the manometer case.
- If pipe connection is straight threaded, fit a proper gasket.
- Maximum temperature the tube may stand for a short time is 200 °C.

### Maintenance

#### Glass removing

- Unscrew the closing ring. Lay always the rubber gasket to the new glass.

#### Movement removing

It can be necessary for cleaning or replacement when pointer motion is broken and not uniform.

- Extract the pointer which is friction locked on its shaft, it is necessary to make use of a proper pointer puller.
- Remove the dial unscrewing its fixing screws.
- Remove the link (2) unscrewing the screw (3).
- Remove the movement unscrewing the screws (4).

**Attention:** movement replacement always needs a new calibration.

### Measuring element removing (socket and Bourdon tube)

It can be necessary in case of spring breakage.

To perform such operation, it is enough to unscrew socket screws. Should socket be welded to case, measuring element removing is not possible.

## Calibration

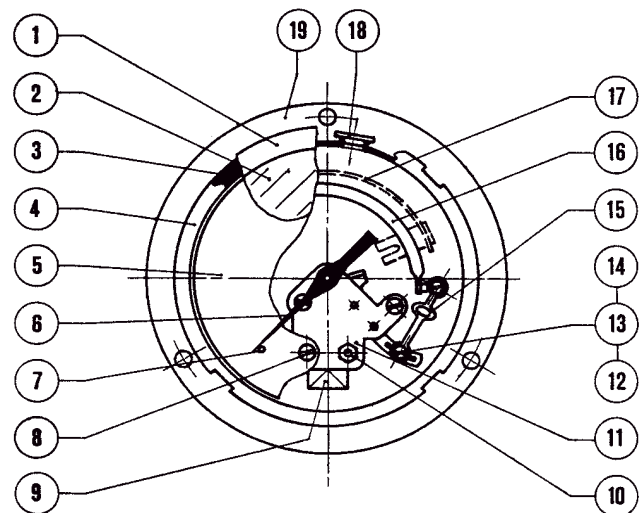
Calibration is to be performed in the workshop with the use of a comparison test pump with test gauges or a dead weight tester. Controls are performed at 0% - 50% and 100% of range, by annulling the following errors:

- Zero: constant error throughout the range. Adjust the zero on the pointer.
- Linearity: with pointer on center scale check that the axis of the sector (1) and the link (2) are both at an angle of 90°. If not, adjust by correcting the length of the link (2): if the indication is too high the length of the link shall be shortened, the contrary if the indication is too low. Before calibration, take off pressure.
- Span: check that throughout the range the rotation of the pointer is the same for a same pressure variation. Correct by shifting the stair screw (3) towards the sector fulcrum to increase, the contrary to decrease.

Repeating the linearity and span calibration will increase accuracy. The dial and the pointer are not definitively assembled.

## Spare parts

1	Ring	Aisi 304
2	Safety window	Plexiglass
3	Gasket	Neoprene
4	Case	Aisi 304
5	Dial	Aluminium
6	Adjustable pointer	Carbon steel
7	Stop pointer	Neoprene
8	Dial fixing screws	Aisi 303
9	Connection (THR ...)	Aisi 304
10	Movement fixing column	Aisi 303
11	Movement assembly	Aisi 304
12	Shoulder screws	Aisi 303
13	Washer	Aisi 303
14	Shoulder nut	Aisi 303
15	Link	Aisi 304
16	Manometer element	Aisi 316L
17	Protection belt	Aisi 304
18	Pressure relief device	Neoprene
19	Lip	Aisi 304



Manometer 4XQ

## Fluid seal

Type	: MX
Connection	: G 1/2"
Capillary	: 3 m
Filling	: standard glycerine
Temperature	: ≤ 150 °C

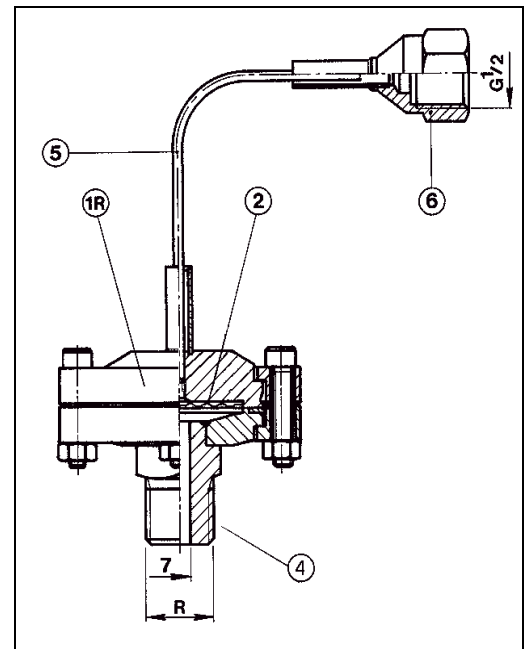
## General

Fluid seals are employed whenever a fluid, whose pressure is to be measured, must be prevented from coming into contact with the internal parts of the measuring element, either because the fluid could occur them, or because it could clog them, by leaving deposits or even solidifying. Pressure to be measured is transmitted to measuring element through an intermediate fluid, clean and non-corrosive, separated from process fluid by means of a sealing baffle. This baffle, which can be metallic or synthetic, must obviously withstand chemical etching.

## Installation

During installation avoid to bend the flexible tubing on too short radii. Avoid placing the tubing where it will be heated directly by radiation from steam pipes, furnace, radiators etc.

Seal filling and connection to pressure measuring element are to be factory performed: **never disconnect the seal from the instrument**. This will put the instrument-seal assembly out of operation.



Fluid seal MX

- 1R Body
- 2 Diaphragm
- 4 Process connection
- 5 Capillary
- 6 Instrument connection