

REFERENCE

EN 837-3
IS 3624

CERTIFICATE

ISO 9001 : 2008
ISO 14001 : 2004
BS OHSAS 18001 : 2007

1 WARNING

Differential Pressure gauges should be selected and installed by this the possibility of failure resulting in injury or damage caused by misuse or misapplication is can eliminate or minimized. For correct selection and use of gauges, refer to standard EN837-2.

2 Important factors for proper gauge selection are:

- 2a Process: Wetted parts must be compatible / suitable with the measured media.
- 2b Pressure: The Pressure Range of the Gauge should generally be twice the working pressure. The working pressure in all cases should be limited to 75% of the gauge full scale range. Where alternating pressure and pulsation are encountered, working pressure should be limited to 2/3 of the gauge range.
- 2c Pulsation / Vibration: Pressure pulsation and vibration could result in fatigue failure of the measuring system. Therefore, dampening provisions such as liquid filling of the gauge, installing flow restricting devices or isolating (Through capillary) from the vibration source should be considered.
- 2d Temperature: Excessive temperature exposure may result in damage to the measuring system and/or gauge outer parts, case, gasket, and window. Preventive temperature lowering devices such as the ITEC cooling Tower or a siphon should be considered.
- 2e Liquid Fill: Be sure that the filling liquid can safely mix with the process fluid.

3 General

ITEC gauges are designed and built to deliver long and reliable service under conditions of severe stress. For inquiries concerning gauge selection and operation, the standard specification EN837-2 & 3, should be considered.

- 4 This Operating Manual contains fundamental and essential advice to be followed for the installation, operation and servicing of the device. It must be read without fail before assembly and start-up of the device by the fitter, the operator and the specialist personnel responsible for the device. This Operating Manual must be available at the point of use at all times.

- 6 The pressures to be compared act on flexible stainless steel diaphragms on either side of the Chamber. The two diaphragms are mechanically linked by a rigid connecting rod. To compensate high static pressures, the cavity between the two diaphragms is filled with hydraulic fluid. When pressures are equal on both diaphragms, they are at zero position. When there is a difference in pressures acting on the two diaphragms, they are deflected away from the high pressure side, towards the lower pressure side, causing a displacement of the connecting rod. A precision mechanism translates the linear displacement of the diaphragm connecting rod to angular movement of the gauge's dial pointer. The pointer's displacement range of 270° corresponds to the full scale differential pressure. The connecting rod has intermediate flanges on either side, which protects the diaphragms against excess differential pressure.

7 INSTALLATION

To ensure safe working during installation and servicing, suitable shut-off valves must be installed in the plant, enabling the device:

- To be depressurized or taken out of operation
- To be disconnected from the mains supply,

- 8 Gauges should always be mounted by using the wrench / Spanner flats (squares) provided on the pressure connection. Under no circumstances should the pressure connection be tightened by applying force to the gauge case by hand.

It is preferable to mount gauges in a location free from mechanical vibration. If this is not possible, a liquid filled gauge or a flexible capillary connection is necessary.

9

The gauge should be located so that it is not exposed to abnormally low or high temperatures. This may cause an additional accuracy error, depending on the deviation from the reference temperature of 25°C.

10

MAINTENANCE

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All the gauges should be checked regularly for wear and tear, accuracy, and proper functioning by comparing them to a precision test gauge or a dead weight tester. Replace all broken or damaged parts immediately.