EM-01-03 Dec. 2023

WATER SUPPLIES DEPARTMENT STANDARD SPECIFICATION EM-01-03 PRESSURE GAUGES

1. GENERAL

Pressure gauge shall comply with the latest version of relevant international standards currently enforced and as listed below:

BS EN 837 Pressure gauges

IEC 60529 Degrees of protection provided by enclosures (IP code)

2. <u>DESIGN</u>

Pressure gauge shall have dial type indication. The gauge shall have an over-range protection of up to 200% of the scale range. Where specified, it shall be fitted with high and low volt-free spring-loaded contacts for initiation of alarm or control with allowance for the dial pointer to move freely beyond the control setting.

The pressure gauge shall meet the following requirements:

Accuracy : +1% of scale range to BS EN 837 for Bourdon tube type

+3% of scale range to BS EN 837 for diaphragm type

Operating temperature : -5°C to +50°C

Enclosure rating : IEC 60529 IP55

The suction and delivery pressure gauges for pumping application shall be of Bourdon tube type fitted with 316 stainless steel pressure pulsation dampers for protection.

3. CONSTRUCITON

The pressure gauge casing shall be of die-cast metal suitable for outdoor installation. The size of the dial shall follow <u>Table 1</u> with 270° linear scale for the measuring range except when it is a built-in part of a mass produced equipment. The scale of the dial shall be marked in both kPa and metre head of water. Static head correction shall not be required.

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Diameter of Pipeline Being Measured (mm)	Dial Size of Pressure Gauge (mm)
≤ 100	80
> 100	150

<u>Table 1 – Pressure Gauge Dial Size Requirements</u>

The pressure gauge shall be completed with 3/8" BSPP male thread for connection. An isolating cock shall be provided for mounting at the connection.

The diaphragm and wetted parts of the diaphragm type pressure gauge shall be compatible with the fluid measured.

4. <u>OUTPUT CONTACTS</u>

Output contacts where required shall be DPDT contacts rated at 2A 220V 50Hz.

5. <u>INFORMATION TO BE SUBMITTED</u>

The following information shall be stated in the technical schedule of the material submission for material approval / acceptance by the Engineer or the *Project Manager*:

Item No.	Description
1	Manufacturer
2	Model Number
3	Damping Liquid
4	Country of Origin
5	Туре
6	Dial Size
7	Applicable Standards
8	Level of Accuracy
9	Range of Operating Temperature
10	Measurement Range
11	Overpressure Limit
12	Type of Connection
13	Degree of Protection
14	Material of Construction of the following Components:
	- Case
	- Wetted Part
	- Bourdon Tube (for Bourdon tube type)
	- Diaphragm (for diaphragm type)

Table 2 – Information to be Stated in the Technical Schedule