WATER SUPPLIES DEPARTMENT
STANDARD SPECIFICATION E-82-01
PRESSURE TRANSMITTERS

1.   GENERAL

Pressure transmitters are used to measure liquid or gas pressure and translate the measured signals into another form that are suitable for transmission and processing. Unless otherwise specified, gauge pressure transmitters shall be used. The pressure transmitters shall include the power supply units and valve manifolds.

2.   DESIGN

2.1   Transmitter

(a)   General Requirement

The pressure transmitters shall meet the following requirements :

Accuracy	: Better than 0.25% of calibrated span, including combined effects of linearity, hystersis and repeatability
Operating temperature	: 0 – 65 °C
Supply voltage effect	: Better than 0.01% of calibrated span per volt
Temperature effect	: Better than 0.03% of calibrated span per °C

(b)   Input

Surge pressure	: For level measurement applications where over-pressure rating shall be at least 200kPa and for gauge pressure measurement, the over-pressure shall be at least 6MPa.

(c)   Output

Output signal	: 4-20mA proportional to the gauge pressure input
Span adjustment	: Continuously adjustable between 25 and 100% of maximum measurement range
Zero adjustment	: Continuously adjustable between 0 and 10% of the calibrated span
Damping	: The output damping shall be adjustable between 0.2 and 2 sec.

2.2   Power Supply Unit

The power supply unit of the pressure transmitters supplied shall comply with WSD Standard Specification E-86-03.

3.   CONSTRUCTION

The transmitter enclosure shall be of die-cast aluminium alloy or stainless steel 316 (for gauge pressure transmitter mounted directly to the pipe/pressure source) suitable for outdoor installation. The wetted parts of the measuring element and valves shall be manufactured from stainless steel 316 for fresh water or air, and Monel or Hastelloy C for salt water or chemical applications. Flanges, bolts and nuts, if applicable,   shall be stainless steel 316.

Each pressure transmitter shall incorporate an isolation valve with material suitable for the specified application.

- End of this Specification -