

THERMOMETER GAUGE INSTALLATION INSTRUCTIONS

INSTALLATION

Care must be taken to ensure that the bulb is not damaged during installation. Do not attempt to bend bulb. The sensing bulb should be totally immersed in the medium which is being measured. If a thermowell is being used, the heat transfer delay can be improved by filling the thermowell with heat transfer substance (i.e. graphite). When fitting bulb into a thermowell it is essential the bulb is not forced against the bottom of the thermowell when tightening the nut. This can lead to an increase in pressure within the bulb and cause incorrect readings. The bulb should be inserted into the thermowell until it bottoms and then withdrawn approximately 5 mm before tightening compression nut to hand tight plus quarter turn.

Check capillary is correct length by laying along proposed route. Never attempt to stretch capillary as this will lead to fracture of the system. The capillary should be securely supported and clipped to wall or other solid surface and must be free from buckling and twists and have minimum bending radius of 60mm. Particular care should be taken at the points where the capillary enters the case and the bulb. Excess capillary should be coiled and arranged in free swinging loops between the last fixing point and the bulb.

Do not tighten instrument into the system by grasping the case, as any distortion created will lead to calibration errors.

Instrument heads should be mounted in the vertical position unless otherwise agreed with PCI.

MATERIALS

Standard stainless steel bulbs and pockets are suitable for air, oil, water and other non-corrosive fluids. For corrosive fluids, alternative materials e.g. PTFE and Hastelloy etc. should be specified. Environmental conditions should be taken into account when considering suitable materials for cases, capillary etc.

MAXIMUM AVAILABLE RANGES

It is recommended that the maximum temperatures do not exceed the -200/+800 deg.c. span. The temperature gauges are able to withstand 30% over-range with a maximum of 800 deg.c

AMBIENT TEMPERATURE

Instruments are designed to operate in ambient temperatures of -10 to + 50 deg.c. The instrument head and capillary should be protected from localised heat or cold sources as this can lead to indicating errors.

THERMOWELLS

The use of thermowells is recommended in all applications. The correct specification for thermowells is dependent upon a number of factors (e.g. temperature, flow, medium, vibration etc.) and it is recommended each application be discussed with PCI to ensure correct selection.

VIBRATION

A temperature indicator should be installed in a vibration free area. The instrument might exhibit excessive wear on the bearing surfaces of the movement. If an installed gauge fails and exhibits these symptoms it is almost certain that the wrong type of instrument has been used for that particular application and it is essential that PCI is consulted.

THREADS AND JOINTING

Care must be taken to ensure mis-match of threads does not occur. Mating female connections must have a pressure rating that is compatible with the pressure range of the gauge.

MAINTENANCE

The function of the gauge does not require any special maintenance procedures but frequent checks must be made to ensure that the instrument is still working correctly and accurately. Any shift in temperature readings greater than twice the tolerance of the instrument must be investigated and the immediate replacement of the gauge if it is faulty.

STORAGE

Instruments should be stored in dry, clean conditions and care should be taken to ensure the ambient temperature does not exceed or fall below the measuring range of the instruments. They must be protected against any impact damage.

TRANSPORT

Although care is taken in packing these instruments for shipment it is possible they can sustain transit damage. They should be checked for damage before use.