

# INSTALLATION AND OPERATING INSTRUCTIONS FOR REOTEMP PRESSURE GAUGES

## I. MANUAL CONTENT

This manual contains installation, operation, maintenance, calibration instructions for REOTEMP pressure gauges. American National Standard ANSI B40.1 Gauges, Pressure and Pressure Indicating Dial Type - Elastic Element, contains valuable information including installation, operation, calibration and safe usage. It is recommended that anyone using, installing or calibrating pressure gauges be familiar with this industry standard.

## II. GENERAL

These gauges are available in vacuum, compound and pressure ranges. (Refer to applicable data sheets.) A general outline of construction is listed below:

**(A) CASE:** Available in Stainless, ABS, or Phenolic, with back, front or no flange design.

**(B) RING:** Available with threaded or crimped.

**(C) WINDOW:** Available with glass, clear plastic or shatter-resistant glass. (Refer to applicable data sheet.)

**(D) CONNECTION:** Bottom male or lower back male 2-14"NPT, 3-18"NPT.

**(E) DIAL:** Available in 2 1/2", 3 1/2" 4", 4 1/2" or 6" dial sizes.

**(F) POINTER:** Adjustable or plain pointer. (Refer to applicable data sheet.)

## III. INSTALLATION

**A. STEM OR PIPE MOUNTING:** Gauges mounted directly on piping should be assembled with reasonable care, always using the wrench grip provided on the pressure connection to secure it to the threaded fitting. Do not use the gauge case as a means of tightening the connection.

In order to extend the service life and continued accuracy, the gauge should be protected as far as possible from effects of mechanical vibration. It is desirable to isolate it from severely vibrating machinery. The gauge may be rigidly mounted to a non-vibrating surface and connected to the pressure source using flexible tubing.

**B. PANEL OR SURFACE MOUNTING:** Gauges should be free of piping strains when mounted. If mounting surface is uneven, insert washers under flange of the gauge case to obtain a three point suspension.

Refer to applicable data sheet for panel openings and mounting dimensions for various types, sizes, and case construction. When surface mounting a gauge, with a blow-out back, a clearance behind the gauge equal to the area of the pressure relieving back must be provided. This can be obtained by cutting a hole in the mounting surface equal to the diameter of the pressure relieving back or by spacing the gauge away from the mounting surface so as to provide an annular area equal to the area of the pressure relieving back.

**C. LOCATION:** Gauges should be located where they will not be subjected to abnormally high or low temperatures. A slight error in indication will exist when the gauge is exposed to a temperature above or below 70 deg. Fahrenheit, the temperature at which it was calibrated. Error due to temperature is approximately 0.2% of indicated reading for a 10 deg. Fahrenheit change, plus a small zero shift. The gauge will generally read high under elevated temperatures and low at low temperatures.

**D. PROTECTORS:** If gauges are to be used for steam service, a siphon filled with water must be installed between gauge and line to prevent live steam from entering the Bourdon tube.

A gauge cock should be installed in the pressure line. This might be the standard shut-off valve or a needle valve for throttling pressure pulses. Should severe pulsation exist, the gauge should be protected by adding a throttling orifice screw in the gauge socket or by addition of a pulsation damper, such as a snubber.

A diaphragm seal should be used in applications where process media should not come in contact with gauge.

## IV. OPERATION

**A.** Admit pressure slowly by throttling gauge cock. The maximum, pressure at which a pressure gauge is continuously operated shall not exceed 75% of full scale pressure. The gauge selected should have a full scale pressure of approximately twice the intended operating pressure.

**B.** If it is desirable to compensate the indication for head effect in the piping leg it can be accomplished by removing bezel ring and window and resetting pointer using the pointer adjusting screw. (This applies only to models with resetting pointers.)

**C. Relieving Case Pressure:** Filled cases or other sealed cases must be vented to avoid internal pressure, which can affect accuracy. After installation, cut or pierce fill plug at top of case for best accuracy.

## V. MAINTENANCE

**A.** Replace broken gauge window promptly to keep dirt out of the mechanism.

**B.** For gauges with safety blow-out back, check that pressure relieving back is properly seated, free to operate and that adequate clearance is provided behind the gauge. (See Section 3.B)

**C.** Do not apply oil to movement or linkage since this may result in sluggish operation.

**D.** Dependent upon the severity of the service, gauges should be removed at intervals and compared with a suitable master test gauge or dead weight tester. Minor corrections may be accomplished by resetting the pointer if applicable. Should movement appear sluggish or lack sensitivity, it should then be disassembled for cleaning, overhaul or replacement.

PGINST.1204