



TRADE AND COMMERCE  
CANADA

CD-GA.43

## STANDARDS DIVISION

OTTAWA, September 18, 1953.

TYPE APPROVALBAILEY CLASS 3 STATIC PRESSURE ELEMENT

The apparatus specified and illustrated herein has been duly approved by the Standards Division under the provisions of the Gas Inspection Act, Chapter 82, R.S. 1927, as amended, and may be admitted to verification in Canada.

Apparatus Approved: Class 3 Static Pressure Element, manufactured by the Bailey Meter Company Limited, Montreal, P. Q.

Application: For the measurement of static pressure of liquids or gases in the low range of pressures.

## Rating of Apparatus:

Pressure ranges .....  $\pm$  0-4" to  $\pm$  0-12" water using oil seal  
 $\pm$  0-12" to  $\pm$  0-40" water using mercury seal.

Description: The Bailey Pressure Recorder, Class 3, may be of either the oil-sealed or mercury-sealed type. The mercury-sealed type is used on the higher ranges of pressure as shown above.

The mechanism consists of a bell-beam and pendulum, an inverted bell, counterweight, linkage and pen arm, and a reservoir containing either oil or mercury. In the middle of the reservoir is a stand pipe which extends above the oil or mercury level. Pressure is applied to the inside of the bell and the bell rises until the pendulum has shifted sufficiently to restore equilibrium. The bell-beam moves by an amount such that the tangent of the angle of movement is proportional to the pressure. If the angles are kept small the movements of the bell and the pen are closely proportional to the change in pressure.

The calibration of the recorder is made at the factory, first by using the proper size and weight of bell and then by adjustment of the pendulum action of the bell-beam. Field calibration of the oil-sealed type may be effected by adjustment of the position of the weight on the pendulum. This adjustment must be made very carefully inasmuch as a very small change of the position of the weight on the pendulum will change the calibration noticeably. The calibration of the mercury-sealed mechanism may be facilitated by adding mercury to or taking it from the reservoir with a glass dropper.

E. F. Power,  
Assistant Director (E&G),  
Standards Division.

R. W. MacLean,  
Director,  
Standards Division.

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