

TRADE AND COMMERCE
CANADA

STANDARDS BRANCH

SD-GA.167

OTTAWA August 5, 1959.

TYPE APPROVALFOXBORO TEMPERATURE RECORDERS - CLASS 1A AND CLASS 1B

The apparatus specified and illustrated herein has been duly approved by the Standards Branch under the provisions of the Gas Inspection Act, Chap. 120, R.S. 1952, and may be admitted to verification in Canada.

Apparatus Approved: Temperature Recorders with Liquid-Filled Sensing Element for Class 1A and Class 1B, manufactured by The Foxboro Company Limited, Town of LaSalle, Montreal 32, Quebec.

Rating of Apparatus:	Class 1A	Class 1B
Temperature Range	-300° to +600°F.	-200° to +600°F.
Bulb Diameter	1/4" or 3/8"	1/4" or 3/8"
Tubing Length	5 to 100 feet	0 to 20 feet
Instrument Ambient		
Temperature Limit	-30° to +150°F.	0° to +150°F.
Element Tubing Ambient		
Temperature Limit	-100° to +200°F.	0° to +150°F.

Description: The two classes listed differ basically in the type of compensation provided. Class 1A (illustrated here) has a fully compensated system and is suitable for use in applications where the instrument proper and the tubing of the sensing element are subjected to different ambient temperatures. The compensation is effected by the two capillaries and helixes which are matched in volume and adjusted so that the angular motions of the helixes, caused by temperature variations at the recorder case and along the tubing, cancel each other. Class 1B has a single capillary and a bimetallic helical compensator and is referred to as a "case compensated system". It provides adequate compensation when both instrument and the tubing are at the same temperature.

In operation, the pressure change which takes place in the sensitive bulb of the liquid-filled element, when its temperature changes, is transmitted to a helical measuring element through a fine capillary tube. The pressure changes in the measuring element are translated into displacement changes along the pen arc through a suitable linkage system. Adequate means are included for calibration of the recorder in the form of "reference" and "multiplication" adjustments.

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