



TRADE AND COMMERCE  
CANADA

SD-GA.56

## STANDARDS DIVISION

OTTAWA, November 2, 1954.

TYPE APPROVALBAILEY CLASS "Q" TEMPERATURE ELEMENT

The apparatus specified and illustrated herein has been duly approved by the Standards Division under the provisions of the Gas Inspection Act, Chapter 129, R.S. 1952, and may be admitted to verification in Canada.

Apparatus Approved: Class "Q" Temperature Element, manufactured by the Bailey Meter Company, Limited, Montreal, P.Q.

Application: For the measurement of temperature where temperature is a factor in gas flow determinations.

## Rating of Apparatus:

Minimum Full Scale Range .....	100 Fahr. degrees, approx.
Maximum Temperature Limit .....	1200°F., approx.
*Sensitivity .....	.25°F. for ranges below 500 Fahr. degrees
(without transformer) .....	.5°F. " " " 1200 " "
Sensitivity .....	.05°F. " " " 500 " "
(with transformer) .....	.1°F. " " " 1200 " "

\* Note: Where increased sensitivity is required, a high-ratio transformer is used between the bridge network and the amplifier.

Description: The Class "Q" temperature recording element is an electronic resistance thermometer. It incorporates a platinum wire resistance "sensing" device, a "null balance" bridge network and an electronic amplifier and motor control for driving the bridge balancing slidewire unit. Although the relation between slidewire rotation and element temperature is not a perfect straight line, the temperature is indicated or recorded on a uniform scale or chart by properly shaping the slidewire cam which drives the indicating pointer and recording pen. In addition to measuring single temperatures, the thermometer may be connected to measure the difference between two temperatures or the average of several temperatures. The electronic voltage amplifiers may be mounted on the meter case or separate from it altogether. When Bailey temperature elements only are mounted in the meter case, the meter is termed the Type "W" or Type "WS" (the "S" stands for shallow case). Thus a recorder containing three Class "Q" elements in a shallow rectangular case would be designated "Type WS35 Class QQQ". Recorders containing both temperature and static pressure elements may be allotted either the static pressure type designation (K) or the temperature type designation (W or WS), depending on the mounting of the amplifiers. Some Bailey meters containing temperature devices have a temperature indicator which reads on a large circular scale surrounding the chart and attached to the door of the meter case. Such meters have an additional number (7) in the type designation; thus, for example, "WS357". The additional (7) concerns an indication which will not likely be used in billing, and it does not invalidate the approval of the device.

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Ref: A-391