

STANDARDS DIVISION

OTTAWA July 6, 1953.

TYPE APPROVAL

AMERICAN METER COMPANY VOLUME AND PRESSURE GAUGE

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: Volume and Pressure Gauge, manufactured by the American Meter Company, Inc., Erie, Pa., U.S.A., and distributed in Canada by the Canadian Meter Company Ltd., Hamilton, Ontario.

Rating of Apparatus:

Static Pressure Ranges	0 - 36 oz.	0 - 200 lb.
	0 - 15 lb.	0 - 300 lb.
	0 - 30 lb.	0 - 500 lb.
	0 - 50 lb.	30" Vac - 15 lb.
	0 - 100 lb.	

Volume Units 100, 1,000 or 10,000 cu.ft.

Description: Gas is normally bought or sold in terms of its volume at some standard or "base pressure" which is usually approximately atmospheric pressure. When gas is measured above or below atmospheric pressure, the pressure at which each cubic foot is measured must be known and the factor for pressure must be determined in order to convert the quantity indicated by the meter into the quantity at the "base pressure". This pressure factor is:

$$\frac{\text{Line Pressure} + \text{Atmospheric Pressure}}{\text{Base Pressure}}$$

(Note that the term "base pressure" in this formula is the total or absolute pressure and includes the atmospheric pressure.)

Where the line pressure varies appreciably, it is not sufficient to determine an average pressure from the readings of a pressure gauge but it is necessary to relate the fluctuations in pressure to the amounts of gas flowing. The American volume-pressure gauge is a device which records the volume and pressure variations with relation to time so that the pressure factor can be accurately determined for each increment of volume.

The device may be furnished with the conventional index for use directly on an American ironcase displacement gas meter, or attached to a base pressure index or a base volume index. In the latter two cases the volume-pressure gauge gives a graphic record of the volume and pressure fluctuations which the base pressure index or the base volume index (as the case may be) is integrating and recording on a counter. The volume record in units of displaced volume (units may be 100, 1,000 or 10,000 cubic feet) is recorded on the margin of an 8-inch-diameter chart. The pressure is recorded in the normal way on the chart. The volume record is obtained through gearing from the positive displacement meter and the pressure record by means of a conventional helical pressure element.

The chart drive clocks are spring driven and may be either 24-hour or 7-day. (See also American Meter Company Handbook E-4 for further details.)

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Ref: A-319