



CANADA

SD-GA.8

DEPARTMENT OF TRADE AND COMMERCE  
STANDARDS DIVISION

OTTAWA, January 26, 1951.

NOTIFICATION OF TYPE APPROVAL

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

Apparatus Approved: Metric Base Volume Index, manufactured by the American Meter Company, Erie, Pa., U.S.A., and submitted for approval by the Canadian Meter Company, Hamilton, Ontario.

Application: For use in conjunction with an ironcase positive displacement meter for measurement of high pressure gases where both the pressure and temperature are subject to variation.

Rating of Apparatus: There are four capacities:- BP30 BP60 BP120 BP300  
Gauge pressure (maximum) :- 15 45 100 300

Description: The device consists essentially of:-

(a) a counter (viewed through a window from the back of the device) which records a proportion of the meter registration; thus,  
meter registration  
100

(b) a pressure element (left side) which indicates the line pressure (gauge) and which integrates the meter registration corrected for the effect of the fluctuations in line pressure; thus,

$$\text{Volume corrected for pressure} = V \times \frac{P + A}{P_b}$$

where V = meter registration  
P = line pressure above atmospheric  
P<sub>b</sub> = base pressure as per contract  
A = accepted atmospheric pressure (average usually 14.4 pounds per square inch)

(c) a temperature element (right side) which indicates the flowing temperature and which integrates the effect of temperature changes; thus,

$$\text{Volume corrected for temperature} = V \times .833 \times \frac{T_b + 460}{T_f + 460}$$

where V = meter registration  
T<sub>b</sub> = base temperature in Fahrenheit  
T<sub>f</sub> = flowing temperature in Fahrenheit  
460 = constant to change temperature to absolute Fahrenheit degrees  
.833 = a constant introduced for mechanical reasons.

(d) gearing which eliminates the effect of the constant .833 above, and which may permit the use of a larger multiplier on the final counter.

(e) the final counter (viewed from the front) which records the final corrected volume passed according to the complete formula; thus,

$$\text{Corrected volume} = V \times \frac{P + A}{P_b} \times \frac{T_b + 460}{T_f + 460}$$

The following information is shown on the main nameplate:- the atmospheric pressure; the base pressure and the base temperature for which the device is adjusted; the serial number; and the BP number. A separate nameplate shows the multipliers for the front and back counters.

NOTE:- For more complete details refer to Technical Bulletin #2.

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