



CANADA

DEPARTMENT OF TRADE AND COMMERCE
STANDARDS BRANCH

S-GA,307

OTTAWA, Sept. 16, 1964.

TYPE APPROVAL

CANADIAN METER COMPANY BASE VOLUME INDEX, TYPE 3

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

Apparatus Approved: Base Volume Index, Type 3, manufactured and distributed in Canada by the Canadian Meter Company Limited, Milton, Ontario.

Rating of Apparatus:	Model and Pressure Element Designation	Static Pressure Range p. s. i.
	BP 30 Special	0-24 " w. g. to 0-5 p.s.i.
	BP 30	0-12 to 0-15
	BP 45	0-25 to 0-30
	BP 60	0-35 to 0-45
	EP 120	0-90 to 0-100
	EP 180	0-125 to 0-165
	BP 300	0-230 to 0-300
	BP 360	0-270 to 0-350
	BP 600	0-500 to 0-600
	BP 1200	0-1,000 to 0-1,200

Temperature Range	Base Temperature	Cam Factor
-10°F to +150°F	70°F	0.8333
-20°F to +140°F	60°F	0.8333
-40°F to +110°F	60° or 70°F	0.7500
-50°F to +110°F*	60° or 70°F	0.7500
*Effective compensation range -40°F to +110°F		

Description:

The Base Volume Index is designed to sense and indicate, in some metering devices, the line pressure and the flowing temperature of the gas, and automatically apply the required correction so that the volume passed through the meter is totalized at definite base conditions of temperature and pressure. This function is achieved through the employment of cylinder type integrators, whose raised cams are properly shaped to effect required correction.

Description (cont'd) The device consists of the following main parts:-

- (a) a rear counter which indicates the volume passed through the meter at line conditions of temperature and pressure.
- (b) a temperature element with associated linkage and pointer which indicates the flowing temperature and in conjunction with the integrating drum actuates the gearing system for the drive of the pressure integrating cylinder.
- (c) a pressure element with associated linkage and pointer which indicates the line pressure and in conjunction with the integrating cylinder actuates the gearing which drives the front counter.
- (d) the front counter which indicates the volume passed through the meter at base conditions.

The integrating cylinders for temperature and pressure have a raised portion on their surfaces over which slides the stylus of the indicating pointer. During the time the stylus is on the raised portion the gearing is engaged to provide the drive for the micrometer wheel carrying suitable scale for calibration purposes. The temperature micrometer wheel is permanently attached to the pressure integrating cylinder and the pressure micrometer wheel is geared to the front counter.

For technical reasons the temperature integrating cylinder introduces, in addition to the required temperature factor, a cam factor as listed above, and it must be taken into account during calibration of the temperature integrator alone. This factor is however eliminated by suitable gearing between the pressure micrometer wheel and the front counter and it does not enter into computation of the overall correcting factor.

There are two types of the rear counters and three types of the front counters available for use with the Base Volume Index. Proper multipliers are selected for each counter and these are stamped on the coefficient plate together with the drive shaft rate in cubic feet per revolution, temperature cam factor and the instruments serial number.

Base Volume Indexes may be used on any approved diaphragm or rotary type positive displacement gas meter, provided the instrument baseplate fits the meter properly and carries its designation. The Indexes are not intended for use on domestic type meters.

Base Volume Indexes may be used in conjunction with any approved Volume and Pressure Gauge, or 'Telemike' or 'Telecount' Transmitter manufactured by the Canadian Meter Company Limited.

Each instrument has a nameplate mounted on the inside of the front cover which contains information as to Type, Model, Serial number Pressure range, Atmospheric and Base Pressure, Temperature range and Base Temperature.

This Approval Circular consolidates and extends coverage of the Base Volume Indexes previously approved under Circulars SD-GA.8 of January 26, 1951; SD-GA.140 of July 3, 1958; S-GA.206 of February 24, 1961 and S-GA.269 of August 19, 1963.

Note: For more complete details of operation refer to the Technical Bulletin #2.

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Ref: A-187G.

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