DEPARTMENT OF TRADE AND COMMERCE

STANDARDS BRANCH

CANADA

G-27

OTTAWA July 8, 1966.

NOTICE OF APPROVAL

FOR

ROOTS-CONNERSVILLE ROTARY-TYPE
POSITIVE DISPLACEMENT GAS METER

Apparatus

	Max. Pressure P.S.I.G.		Max. Displacement
Model	Static	Operating	Cu. ft. / hr. (Air)
3M125	125	125	3,000
7M125	125	125	7,000
16M125	125	125	16,000
23M125	125	125	23,000
38M125	125	125	38,000
56M125	125	125	56,000
102M125	125	125	102,000
102M300	300	300	102,000
2M900	1200	900	2,000
4.6M900	1200	900	4,600
8M400	600	400	8,000
11.5M400	600	400	11,500
19M400	600	400	19,000

Description

The Rotary positive-displacement gas meter consists of two figure-eight-shaped impellers or rotors contained in a cylindrical housing enclosed by head plates at both ends. Two pressure sealed domes, bolted through these head plates, enclose the timing gears which fix the position of the impellers at 90 degrees to each other and provide for their contrarotation. The larger of the two end domes also contains the reduction gearing for the read out counter or the instrument drive shaft. Both end-domes serve as oil sumps for the splash lubrication of the gears. Bullseye-type oil sight gauges are provided so that the oil can be maintained at the correct level. The size, strength and thickness of the construction materials used for the case, end-domes and gearing depends on the requirement for capacity and working pressures.

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In operation, the flow of gas causes the impellers to rotate, thus measuring the volume by each rotor sweeping out the compartment formed by half the wall of the cylindrical housing and the surface of half the corresponding rotor. The rotational speed of the impellers is proportional to the flow of gas through the meter and the measured volume closely approximates twice the volume of the measuring chambers times the number of impeller's revolutions, except at low speeds where the small amount of slippage of the gas begins to have a more appreciable effect.

The meters are normally equipped with a counter type register which indicates the volume of gas passed at meter or line conditions in 100 cubic feet increments. An additional graduated dial may also be provided on these counters, with each division representing 10 cubic feet.

The meters may be equipped with an instrument drive gear box, whose output shaft rotation corresponds to 10 cu. ft. per rev. for the 3M and 7M meters, and 100 cu.ft. per rev. for the larger capacity meters. Approved pressure, temperature, or pressure and temperature volume correcting devices, for the purpose of indicating, recording or telemetering the gas flow, may be used with the instrument drive provision.

While the selection of meter size, type of readout and installations usually governs the choice of vertical or horizontal flow line positioning, the meters, types 2M900, 4.6M900, 8M400, 11.5M400, and 19M400 are at present available with top inlet only and are provided with a restricting orifice to prevent overspeeding.

Canadian Meter Company nameplates shall be used on these meters with an indication that they are manufactured by Roots-Connersville Ltd., Connersville, Indiana, U.S.A.

This approval consolidates all Roots-Connersville Rotary meters approved for distribution by the Canadian Meter Co. Ltd. under Circulars S-GA-208, S-GA-221 and G7, and extends coverage to include the new model 102M300.

For more detailed information on Roots-Connersville meters refer to Technical Bulletin No. 3.

Approval granted to: Canadian Meter Company Limited,
Milton, Ontario.
and Edmonton, Alberta.

W. J. S. Fraser,
Chief, Standards Laboratory,
Standards Branch.

K. Cryer,
Chief, Electricity & Gas Livision,
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