Department of consumer and corporate affairs / Ministère de la consommation et des corporations

STANDARDS BRANCH - DIRECTION DES NORMES

NOTICE OF APPROVAL G-44-1

OTTAWA September 16, 1969.

SPRAGUE METER DIVISION, TYPES 400, 675 and 1,000 STANDARD AND TEMPERATURE COMPENSATED POSITIVE DISPLACEMENT GAS METERS

Apparatus

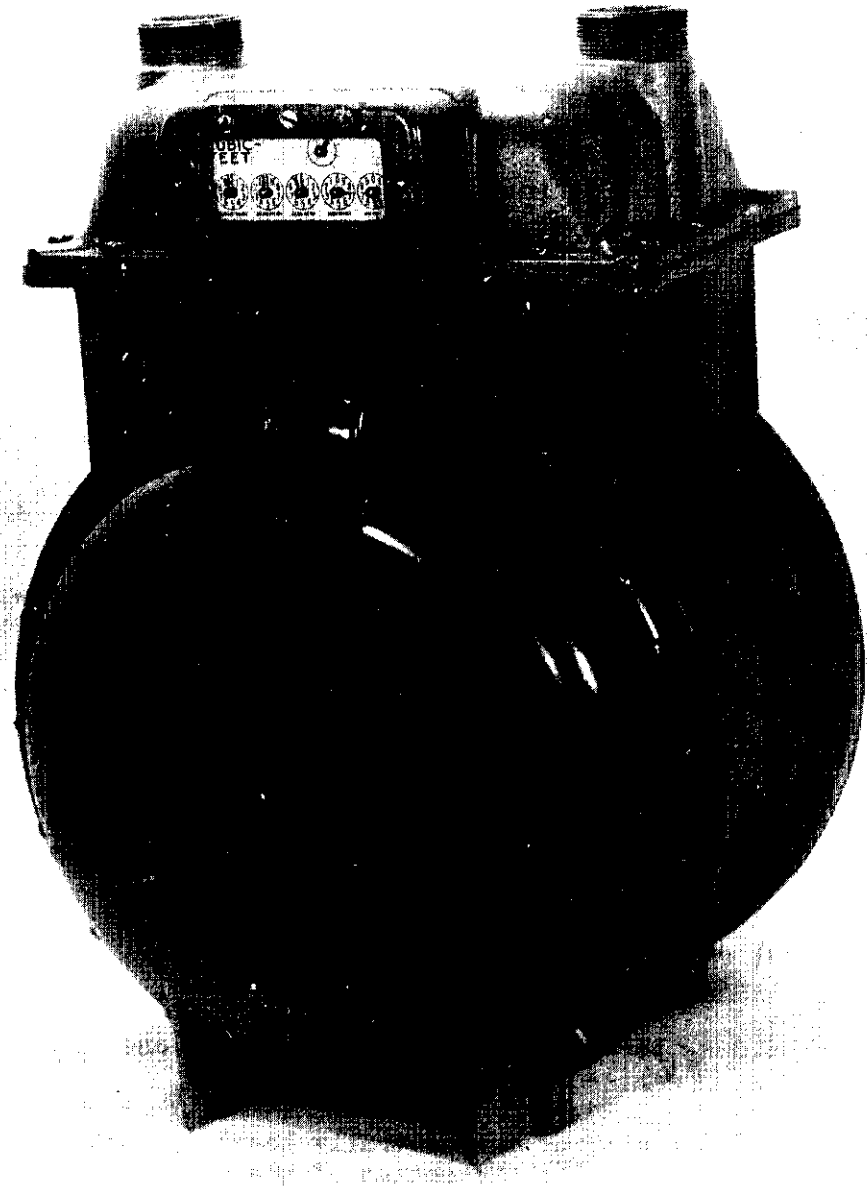
	Type 400	Type 675	Type 1,000
Badged capacity, cu. ft./hr (air)	320	540	800
Differential Pressure at badged capacity	0.5 w.g.	0.5 w.g.	0.5 w.g.
Capacity per revolution, cu. ft.	0.25	0.556	0.667
Maximum working pressure, psig	10, 25	25	25
Temperature compensator activity(T.C. Meters)	0.00395"/°F	0.0052"/°F	0.0052"/°F
Base Temperature (T.C. Meters)	60°F	60°F	60°F
Diaphragm designation	G-5	G-5	G-5
Tangent to 5 cu. ft. test dial rev. ratio	20:1	N.A.	N.A.
Tangent to 10 cu. ft. test dial rev. ratio	N.A.	18:1	15:1
Meter connections, top	male 1½" or 1¼"	male 1½"	female 2"

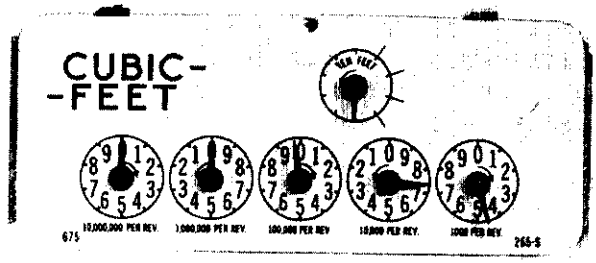
Description

The Sprague meters are of a unique, three-compartment design, with one circular valve cover rotating on a single, sectionalised valve seat.

The main centre casting of the meter carries one centrally located, vertically positioned main movement assembly which transmits the motion of the diaphragms to the tangent. The post of the tangent engages directly with the molded epoxy-resinated graphite valve cover and produces its rotating motion.

At the lower end of the main movement assembly two links connect to the diaphragm carrier brackets. The length of one diaphragm link is adjustable to correct meter displacement. Separate adjustment is provided for varying valve timing. The access to these adjustments is from the side of the meter and the manufacturer provides a special adjustment screw finder and wrench for use with these meters.

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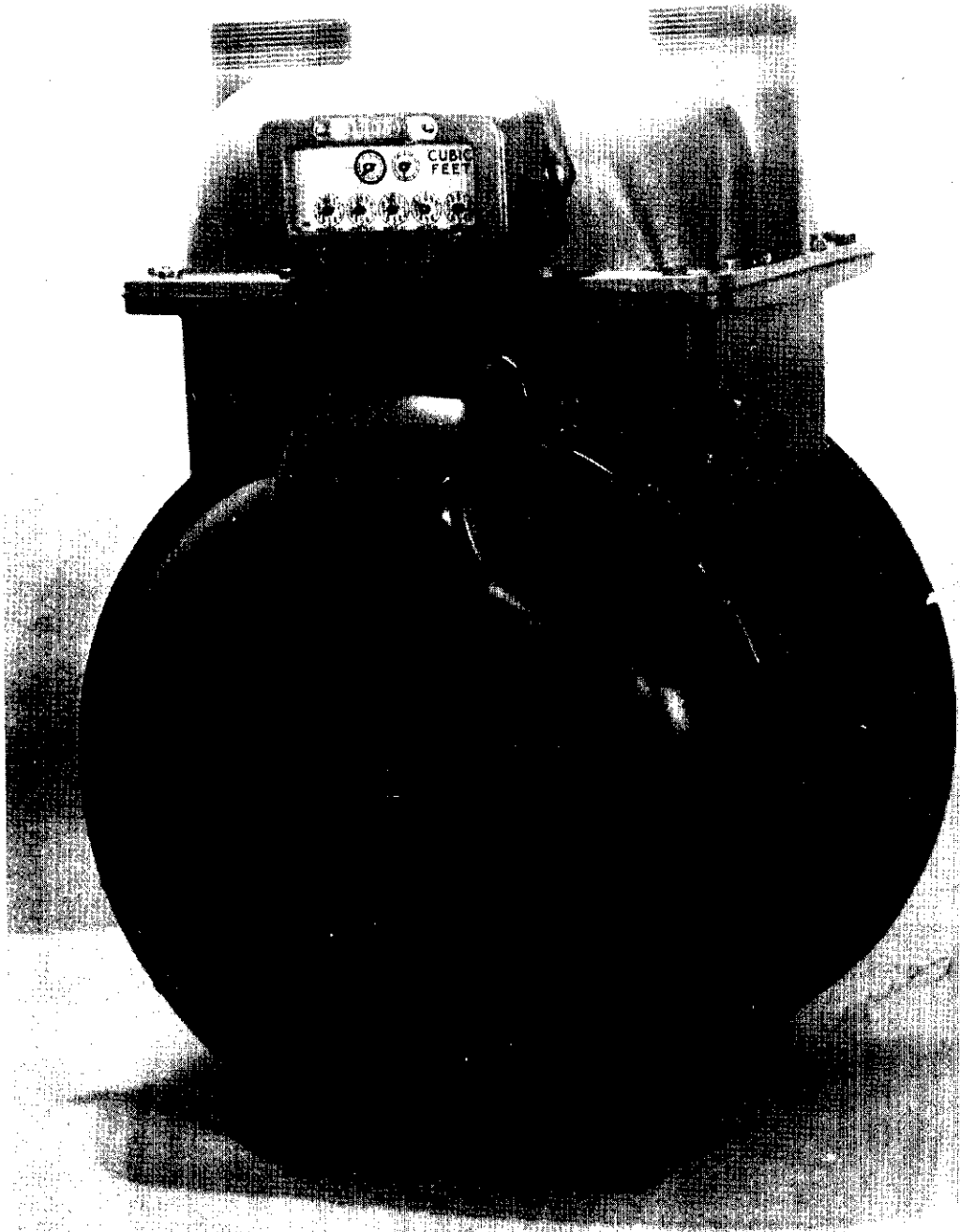
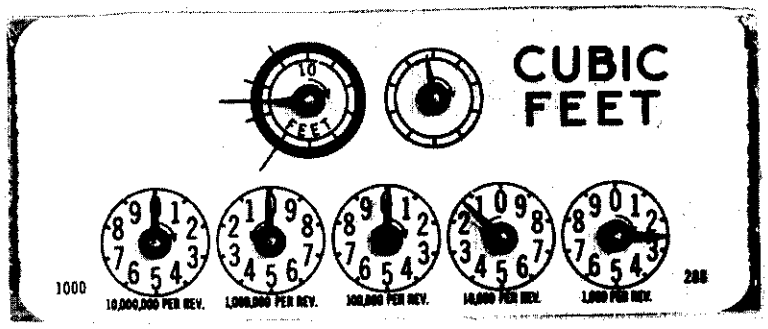
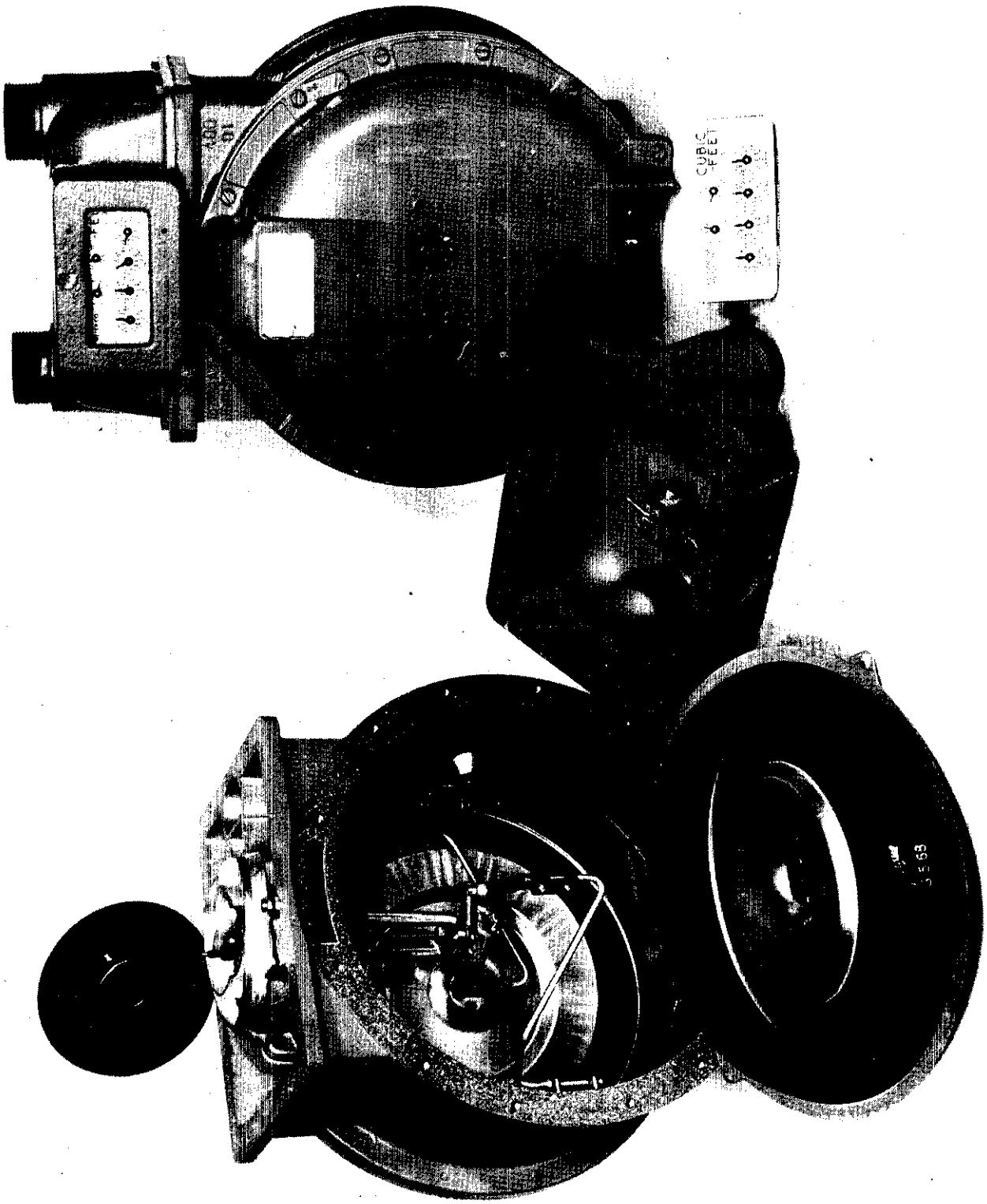
SPRAGUE METER DIVISION, TYPES 400, 675 and 1,000 METERS — POSITIVE DISPLACEMENT GAS






CUBIC FEET

The diaphragms are held between the centre casting and its two covers, and they are supported by two carrier wires which attach, through suitable brackets, to the centre casting at one end, and to the diaphragm plates at the other.

The top casting of the meter, carries an index box assembly and two meter connections. A nylon worm and gear index driving movement transfers rotational motion from the valve cover to the meter index.

The three types of Sprague meters approved herein are made of cast aluminum and have the same design features, but different dimensions.

In temperature compensated meters the lower end of the main movement assembly is replaced by a temperature compensator which employs a pair of co-operating bi-metals. As the gas temperature changes the bi-metals alter the stroke of the diaphragms so that regardless of the temperature of the flowing gas, meter registration indicates the equivalent volume passed at 60°F.

The temperature compensators employed in these meters are of similar design to those approved for Types 175, 240 and 250 meters and illustrated in Circular G-43.

Each meter shall have a nameplate which contains the name of the manufacturer, meter's type designation, its rated capacity in cubic feet per revolution and cubic feet per hour, air at ½" W.C., meter's working pressure in psi and serial number of the meter.

These higher capacity meters shall be sealed in the same manner as meters, types 175, 240 and 250 approved under Circular G-43.

Approval granted to:

Sprague Meter Division of
Textron Canada Ltd.,
Hamilton, Ontario.

J.S.T. Swanson, P. Eng.,
Chief, Standards Laboratory,
Standards Branch.

W. J. S. Fraser,
Chief, Electricity and Gas Division,
Standards Branch.

Ref: SL-100-597G, J, K and L
SE-85-25