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

STANDARDS BRANCH - DIRECTION DES NORMES

NOTICE OF APPROVAL
AVIS D'APPROBATION

G-111

OTTAWA June 24, 1975

CANADIAN METER COMPANY PRESSURE REGULATORS, MODELS 1203B-90 and 1203B-180

Apparatus

Inlet Pressure Range:	
Maximum*	80 psig
Minimum	35 psig
Outlet Pressure	5 psig
Maximum Approved Flow of 0.6 sp.gr. gas	300 SCFH
Main Orifice Diameter	3/16"
Regulator Connections, screwed NPT, female	
(i) Inlet	3/4 inches
(ii) Outlet	1 inch

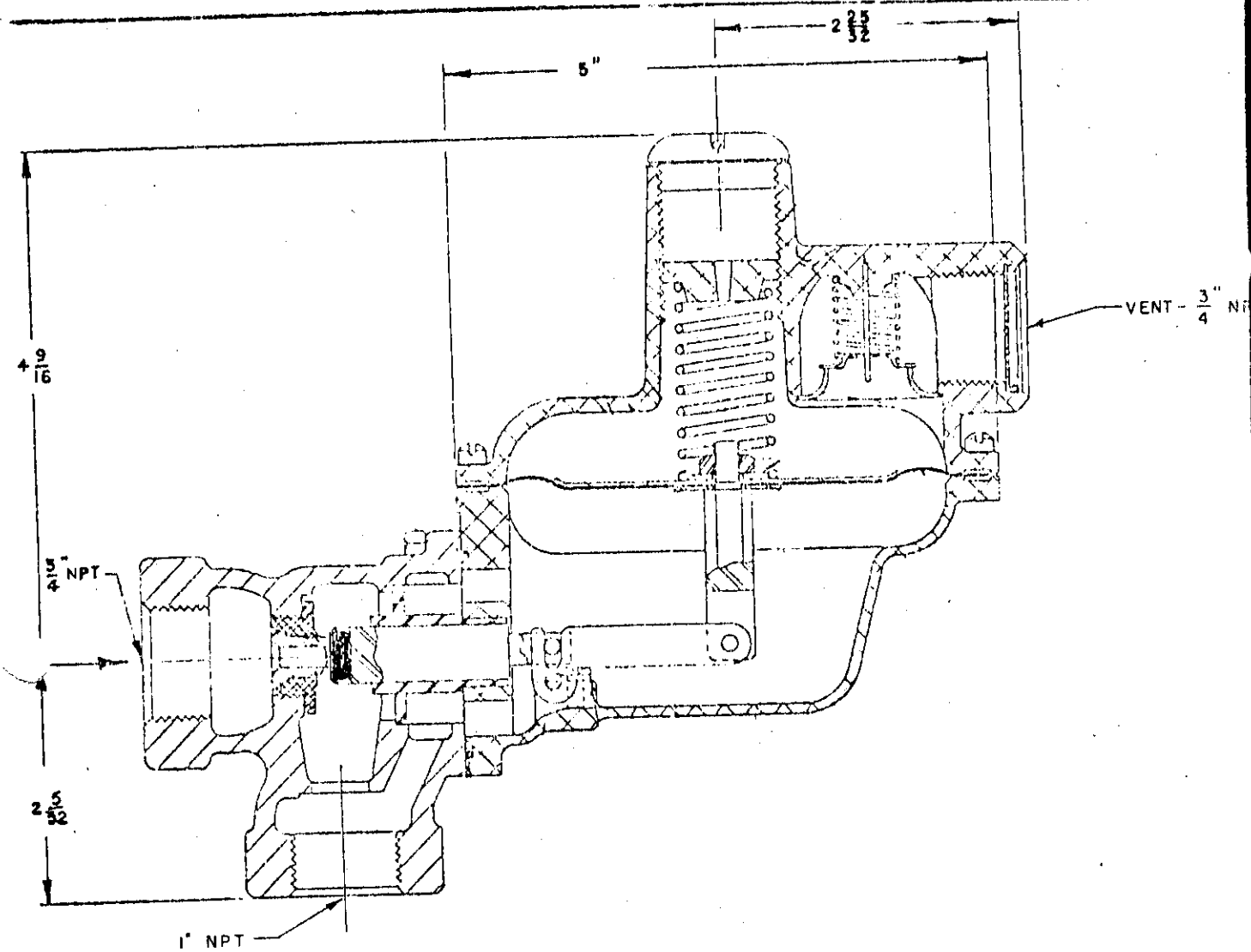
* The manufacturer states that both models are designed to withstand inlet pressures up to 125 psig.

Approval is hereby granted for the use of the above-named apparatus in Pressure Factor Measurement Installations.

This Approval is conditional upon the installation conforming strictly to "Rules for Pressure Factor Measurement Installations" which may be issued by the Branch.

Description

Both models are spring loaded type regulators. The 1203B-90 has a 90° angled valve body and the 1203B-180 has a straight through valve body. Both models use the same spring and diaphragm portion of the regulator. Figure 1 shows a cut-away view of model 1203B-90.



PRESSURE REGULATOR, MODEL 1203B-90

FIGURE 1

In operation, the diaphragm is acted on from below by the downstream pressure and from above by the main opening spring. As the load (i.e. flow demand) downstream varies, the diaphragm moves in response to the resulting change in downstream pressure which in turn changes the position of the main valve face with respect to the valve seat on the orifice. In this way the flow through the orifice will vary in order to return the downstream pressure to the regulated pressure level.

There is only one main opening spring for which models 1203B-90 and 1203B-180 are approved. This spring is designated as #70017P080.

The method of setting model 1203B-90 is included in Data Sheet 1. This data sheet applies equally to model 1203B-180. The manufacturer's descriptive bulletin for these models is not currently available. The information contained in this Notice of Approval should be sufficient to recognize the regulators approved herein.

For field test procedures, refer to Technical Gas Circular G-75-3.

Approval granted to:

Canadian Meter Company Ltd.,
Milton, Ontario and
Edmonton, Alberta.

J.L. Armstrong,
Chief, Standards Laboratory,

D.L. Smith,
Chief, Electricity & Gas Division,
Metrology and Laboratory Services

Ref: GL-1147-57/C6-176

DATA SHEET 1
Model 1203B-90

I. PROCEDURE FOR SELECTING REGULATOR

This regulator is intended for service conditions of 35.0 to 80.0 PSIG inlet pressure, outlet pressure of 5.00 ± .20 PSIG, and flow rates to 300 SCFH.* For this operating envelope, only one size (3/16") special Elevation Compensating (E.C.) orifice is required.

II. PROCEDURE FOR SETTING REGULATOR

To set the regulator, first unscrew the cap, thus exposing the adjusting screw. To increase the outlet pressure, turn the screw clockwise; to decrease the outlet pressure, turn the screw counterclockwise.

The regulator should be set at 5.20 +0.00/-0.04 PSIG, with an inlet pressure of 80.0 ± 2.0 PSIG and a flow rate of 50.0 ± 2.5 SCFH.* For gases of specific gravity different from 0.60, the flow rates may be calculated by

$$Q_n = Q_t \sqrt{\frac{S.G._t}{S.G._n}}$$

where

Q_n = Flow rate of gas considered, CFH
Q_t = Flow rate of base gas, SCFH
$S.G._n$ = Specific gravity of gas considered
$S.G._t$ = Specific gravity of base gas.

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*(Base Pressure: 14.73 PSIA; Base Temperature: +60°F; Specific Gravity: 0.60)