

TRADE AND COMMERCE
CANADA

STANDARDS BRANCH

S-GA.219

OTTAWA January 23, 1962.

TYPE APPROVALUGC INSTRUMENTS - RECORDING GAS GRAVITOMETER MODEL G1

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: Model G1 Recording Gas Gravitometer, manufactured by UGC Instruments, a division of United Gas Corporation, Shreveport, Louisiana, U.S.A.

Application: Used in connection with the determination of the specific gravity in the measurement of manufactured, natural and petroleum gases.

Range of Apparatus:

Specific Gravity 0.5 to 1.0

Rate of Flow of Gas 10 to 12 cubic feet per hour.

Description: The recording gravitometer is an automatic recorder producing a continuous and permanent specific gravity record. A mechanical beam balance holds on its ends two identical tanks suspended equal distances from the pivotal axis, and through a suitable linkage system the movement of the beam is transferred to the recording pen. The left tank is filled with a gas of any specific gravity and the right tank is a sample float through which the sample of measured gas is flowing. The pressure-loaded regulator in the supply system ensures that the pressure of both tanks is equal under all temperature conditions, so the mass of gas in the sample tank remains constant except as the specific gravity changes. The flow rate is regulated by a valve in the flowmeter in combination with a pressure regulator. Due to a relative high positive exit pressure, the sample gas may be exhausted to the atmosphere. The combined weight of the two calibration discs is equal to the weight difference of a sample tank of gas of "full scale" gravity and a sample tank of gas of "minimum scale" gravity. Calibration of the span of the instrument is made simply by adjusting the horizontal and pendulum weight of the instrument to positions that will provide full scale deflection of the recording pen when the calibration discs are placed on or removed from the calibration disc holder. The horizontal weights are then readjusted to cause the pen to indicate the correct specific gravity of a standard gas sample. A spring-driven Rockwell clock provides an 8-day chart drive.

In field testing a Standards Branch specific gravity balance shall be used to determine the specific gravity of the gas passing through the recorder.

OR USE OF Gas of Known S.G., as determined by

Stds. Bt.!

*R.D.
98/1/31*

S.F. Power

E. F. Power,
Chief, Electricity & Gas Division,
Standards Branch.

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Ref: A-932

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