



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



STANDARDS BRANCH - DIRECTION DES NORMES

NOTICE OF APPROVAL

G-55

OTTAWA October 23, 1969.

MERCURY INSTRUMENTS, INC. PRESSURE-VOLUME AND
PRESSURE-VOLUME-TEMPERATURE RECORDERS

Apparatus

Approved Models

- (1) Full scallop chart, Models 837, 838, 1237 and 1238
- (11) Chart outer edge scallop, Models 831, 832, 1231 and 1232

Static pressure ranges, psig:

- (1) Diaphragm elements from 0-0.25 to 0-30
- (11) Helical elements from 0-31 to 0-3,000

Temperature ranges, °F

0 to +100; 0 to +150
-20 to +130; -30 to +120

Volume measurement:

Index test hand volume per rev., cu. ft.	Volume per chart scallop, cu. ft.
5	1,000 or 10,000
10	10,000 or 100,000
100	100,000 or 1,000,000*

* Available only with full scallop chart models.

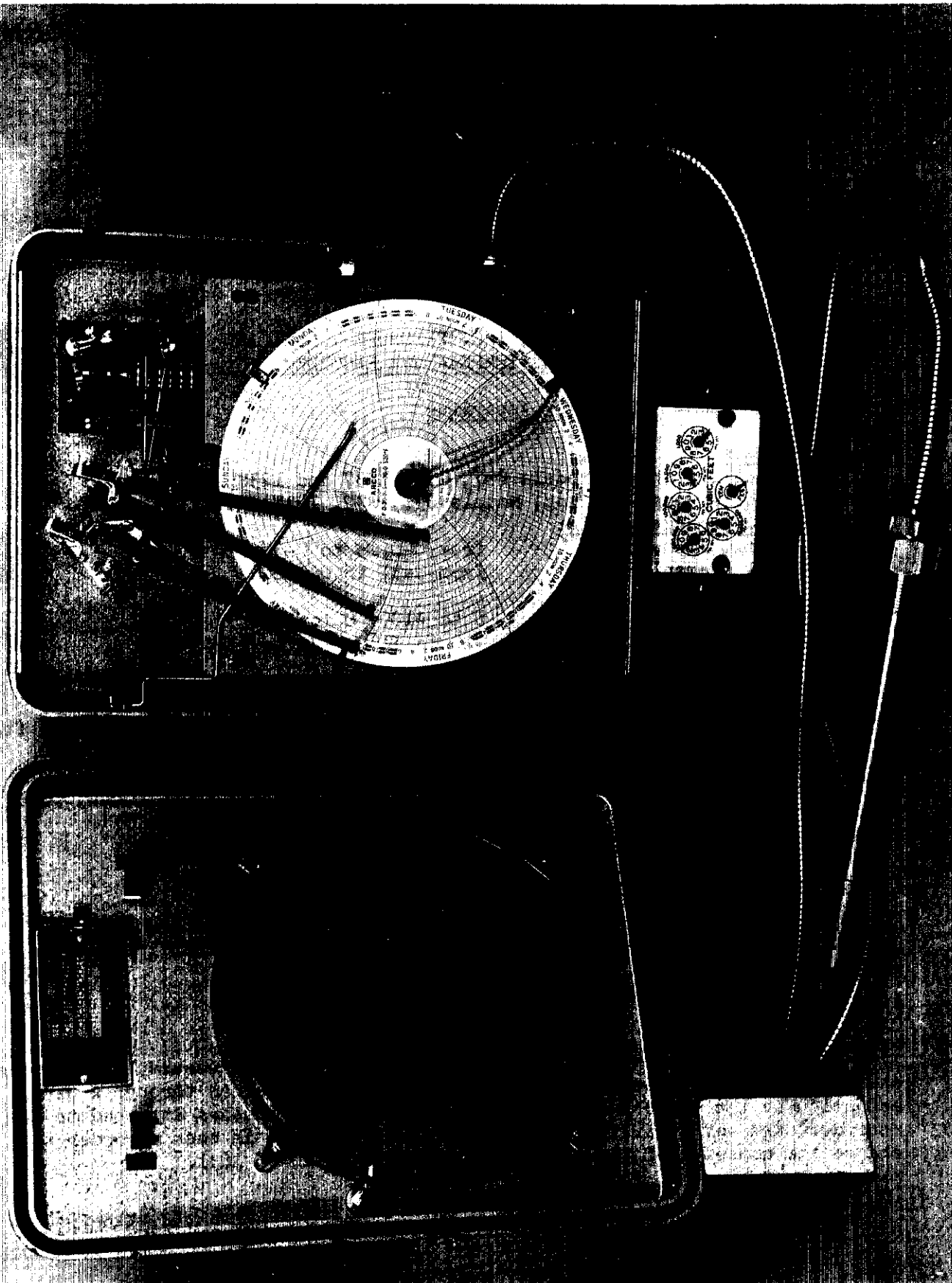
Chart rotational periods: 24 hours; 7 day; 31* days

* This rotational period may produce a "painted" chart record when the capacity per full scallop is improperly chosen for the anticipated rate of flow.

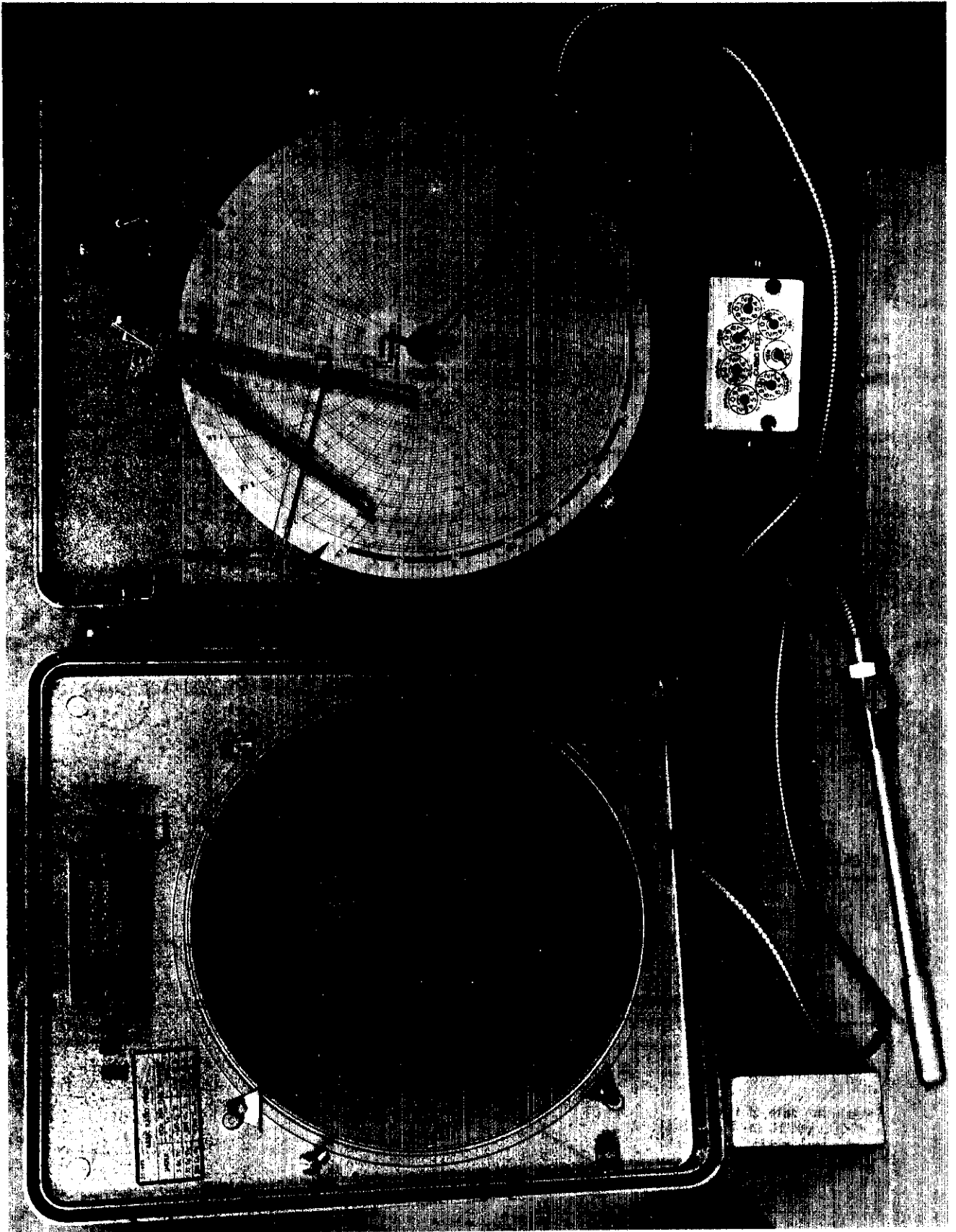
Description

The models approved herein combine a conventional pressure, or pressure and temperature recorders with a volume pen record obtained through a direct actuation by the meter's index. All models have the indexes attached to the recorder case and a suitable provision is incorporated in each recorder to change the capacity of the scallop volume by a ratio of 10:1.

MERCURY INSTRUMENTS INC. MODEL 832 PRESSURE, VOLUME, TEMPERATURE RECORDER



MERCURY INSTRUMENTS INC. MODEL 1238 PRESSURE, VOLUME, TEMPERATURE RECORDER



MERCURY INSTRUMENTS, INC. P-V and P-V-T RECORDERS
FACSIMILE OF THE FULL SCALLOP CHART

Every Graduation Represents Volume .

Red Ink: PRESSURE
Green Ink: TEMPERATURE
Black Ink: VOLUME

Chart "on" 8 AM Monday

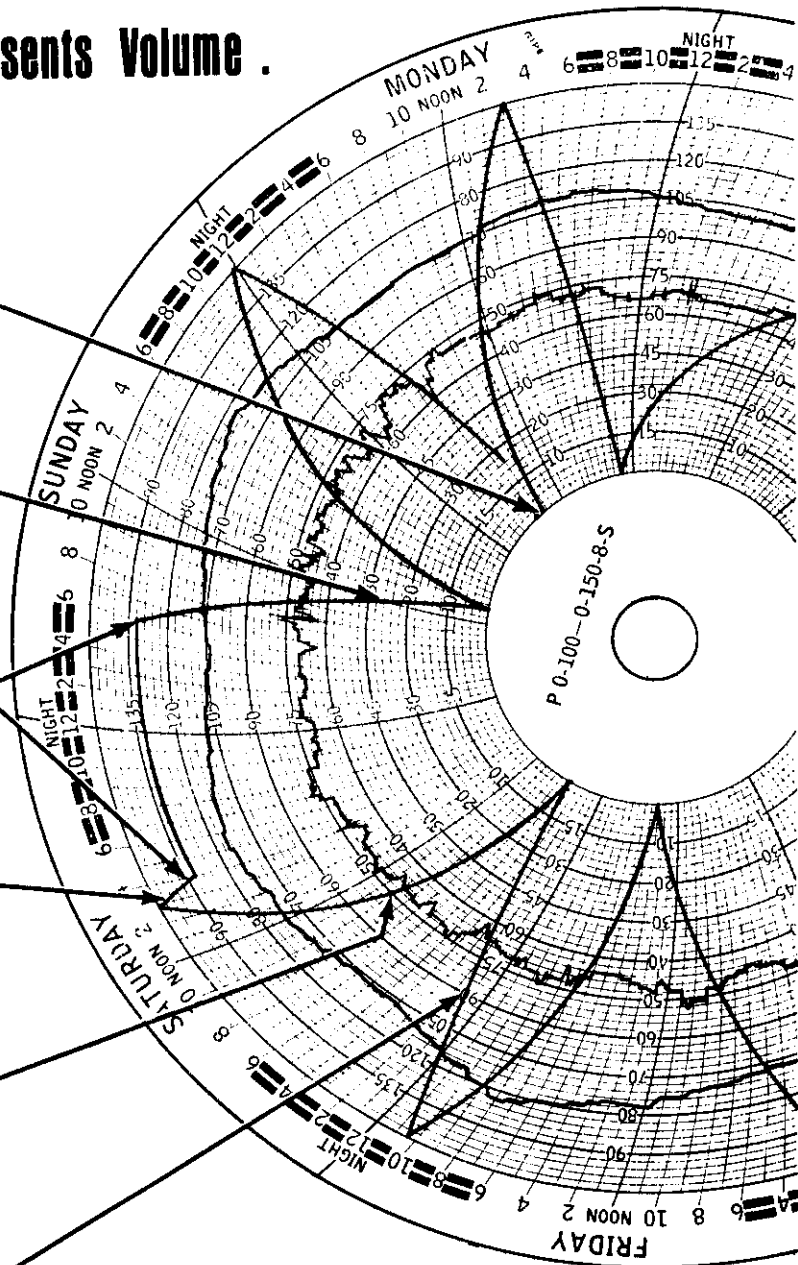
44 chart graduations = 4,400 cu. ft.

Shut-down time: 4 PM to 6 AM

6 Chart graduations = 600 cu. ft.

50 Chart graduations = 5000 cu. ft.

Maximum rate of flow
(5000 cu. ft. in 7½ hours)
Average pressure 64 PSIG



The conventional outer edge scallop models and the full scallop chart recorders perform basically the same function, but the volume record in the latter is presented across the full span of the chart and thus can provide an easy to read record of the metered volume. (see attached facsimile)

Each recorder is equipped with a Mercury, Model 99, battery operated chart drive, approved under circular G-35. Other, suitable, approved chart drives may be used, if required.

For the three-pen recorders, Models 832, 838, 1232 and 1238, the temperature is measured by a mercury filled thermal system incorporating a five foot length flexible, armoured capillary and a chrome-molybdenum steel spiral element which connects to the temperature pen through a suitable linkage system.

The Mercury recorders are intended for use on larger capacity diaphragm meters, rotary positive displacement meters or turbine meters and they mount directly on the meters in place of a conventional register.

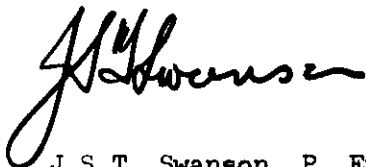
The chart record is used to establish required, weighted correction factors for temperature and/or pressure in order to express the volume registered by the meter index at designated base conditions for billing.

All recorders of 800 series are equipped with 8 inch charts, while the 1200 series carry 12 inch size charts. Although both series are approved for use in gas measurement, it must be emphasized that the 800 series offers lower precision due to its smaller size and the overall accuracy of measurement may be affected, particularly when the chart record is not very clear.

Each recorder shall have a nameplate which includes maker's name, model and serial number of the instrument, pressure and/or temperature range and volume per full scallop.

Approval granted to:

Parkinson Cowan (Canada) Limited,
Chatham, Ontario.



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



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

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