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

STANDARDS BRANCH – DIRECTION DES NORMES

NOTICE OF APPROVAL G-55-I

OTTAWA June 23, 1971

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

Apparatus

Approved Models

(I) Full scallop chart, Models 837, 838, 1237 and 1238

(II) Chart outer edge scallop, Models 831, 832, 1231 and 1232

Static pressure ranges, psig:

(I) Diaphragm elements — from 0–0.25 to 0–30

(II) 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

(1) Models 837, 838, 1237 and 1238

GEAR TRAIN RATIOS AND SCALLOP VOLUMES FOR RECORDERS WITH CLOCK DRIVEN CHARTS

Table shows volume per full scallop

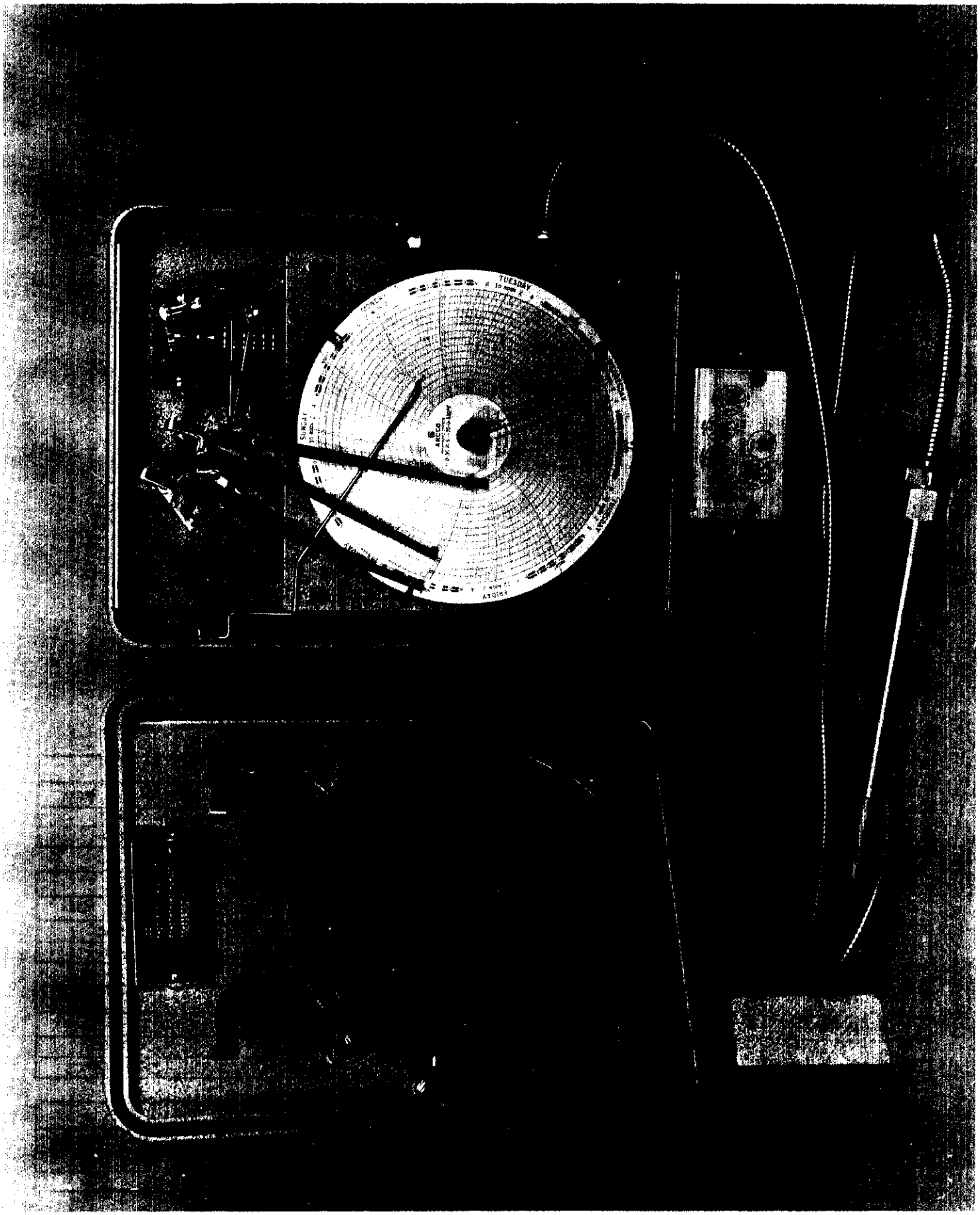
1/1 BASIC RATIO GEAR TRAIN				
Change Ratio	5 Cu. Ft. Index	10 Cu. Ft. Index	100 Cu. Ft. Index	1000 Cu. Ft. Index
1	5	10	100	1,000
10	50	100	1,000	10,000

10/1 BASIC RATIO GEAR TRAIN				
Change Ratio	5 Cu. Ft. Index	10 Cu. Ft. Index	100 Cu. Ft. Index	1,000 Cu. Ft. Index
1	50	100	1,000	10,000
10	500	1,000	10,000	100,000

100/1 BASIC RATIO GEAR TRAIN				
Change Ratio	5 Cu. Ft. Index	10 Cu. Ft. Index	100 Cu. Ft. Index	1,000 Cu. Ft. Index
1	500	1,000	10,000	100,000
10	5,000	10,000	100,000	1,000,000

1000/1 BASIC RATIO GEAR TRAIN				
Change Ratio	5 Cu. Ft. Index	10 Cu. Ft. Index	100 Cu. Ft. Index	1,000 Cu. Ft. Index
1	5,000	10,000	100,000	1,000,000
10	50,000	100,000	1,000,000	10,000,000

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



(11) Models 831, 832, 1231 and 1232

Index test hand volume per revolution, cu. ft.	Volume per outer edge scallop, cu. ft.
5	1,000 or 10,000
10	1,000 or 10,000
10	10,000 or 100,000
100	10,000 or 100,000
1,000	100,000 or 1,000,000

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.

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).

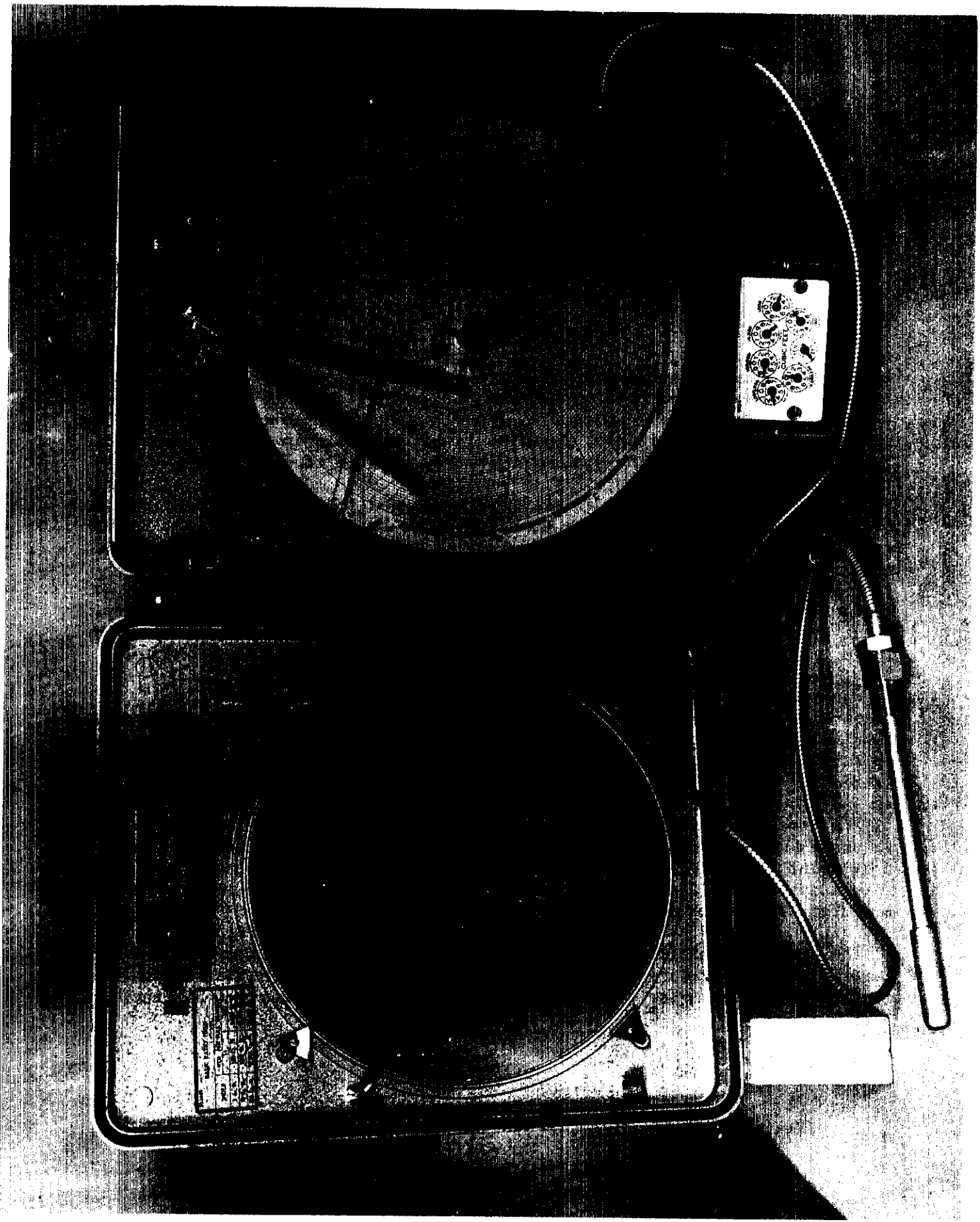
Each recorder is equipped with a Mercury, Model 99, battery operated chart drive, approved under circular G-35. Other, suitable, approved chart drives may be used, if required.

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 approved larger capacity diaphragm meters, rotary positive displacement meters or turbine meters and they mount directly on the meters in place of a conventional register. Suitable adapter plates may have to be used on some meters to ensure proper mounting of these recorders.

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.

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



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 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.

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Ref: SL-100-107
SE-85-96

MERCURY INSTRUMENTS, INC. P-V and P-V-T RECORDERS

FACSIMILE OF THE FULL SCALLOP CHART