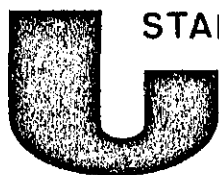




Department of consumer and corporate affairs / Ministère de la consommation et des corporations



STANDARDS BRANCH - DIRECTION DES NORMES

NOTICE OF APPROVAL

G - 59

OTTAWA January 2, 1971

KINGMAN-WHITE, NOLTE MODEL 515A
DIFFERENTIAL AND STATIC PRESSURE RECORDER

Apparatus

Differential Pressure Element:-

Nolte Bellows Meter Body Model 509-A
Materials: Body - Forged carbon steel
Bellows - Stainless steel Type 347
Standard Range Springs - Beryllium copper
Differential Pressure Ranges: 0-10, 0-20, 0-50, 0-100, 0-200,
0-300 and 0-400 " WC.
Safe Working Pressures: 1500, 3600 and 6500 psig.

Static Pressure Elements:-

Standard Ranges: 0-50, 0-100, 0-150, 0-500, 0-1000,
0-1500, 0-2000, 0-3000 and 0-5000 psig.
Material: Stainless steel.

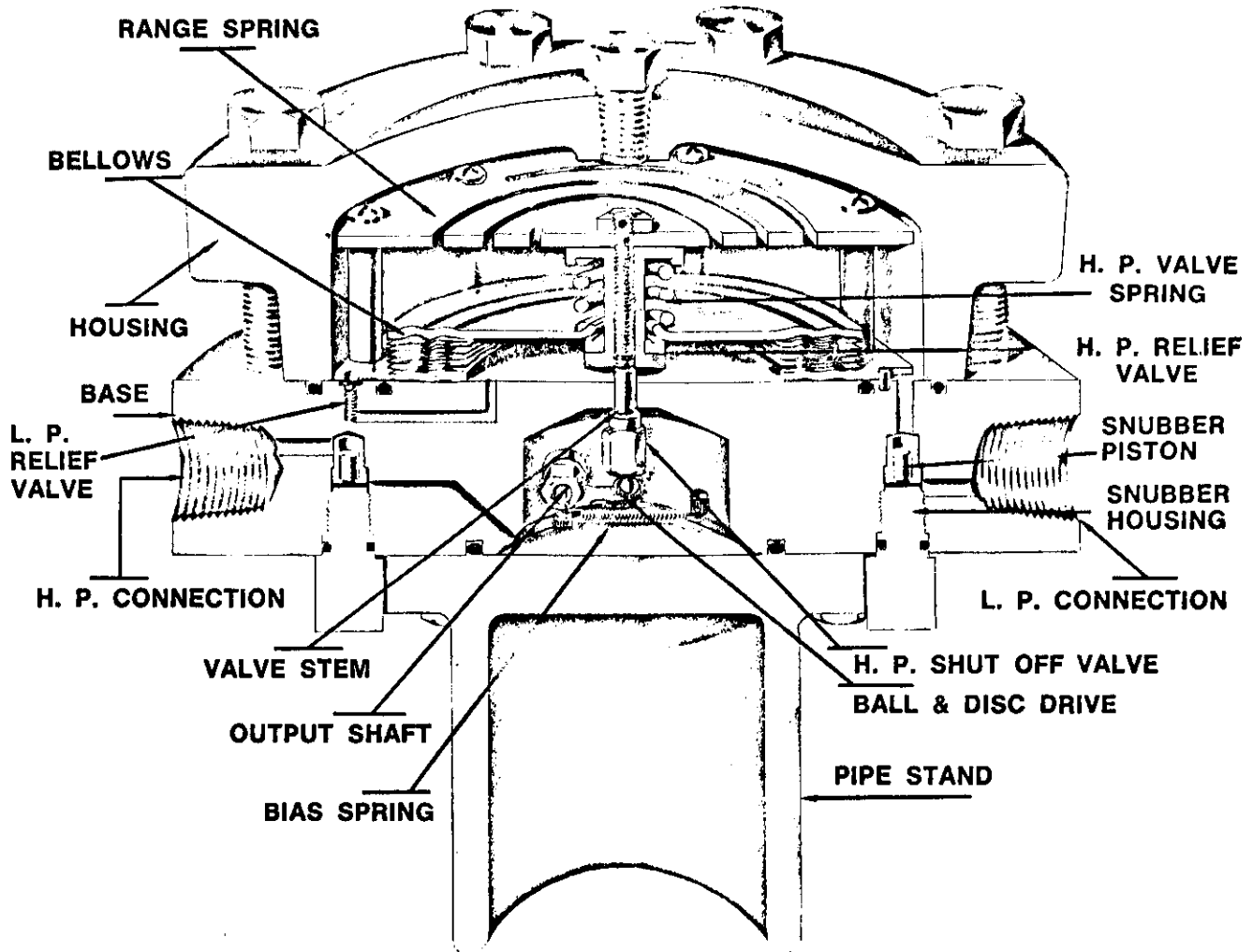
Description

The Kingman-White Nolte Model 515A, two-pen recorder is housed in a standard weather proof case. It records the differential and static pressures associated with gas flow measurements through an orifice meter.

The dry-type, Nolte Model 509A, differential pressure unit is mounted at the rear of the recorder's case. The measuring element consists of a single, stainless steel bellows which is attached via a valve stem to an opposing heavy range spring. The other end of valve stem is positioned over a ball and disc assembly that connects to a spring loaded, Teflon sealed, output shaft.

KINGMAN-WHITE, NOLTE MODEL 515A DIFFERENTIAL AND STATIC PRESSURE RECORDER

NOLTE MODEL 509-A DIFFERENTIAL PRESSURE UNIT



In operation, the differential pressure actuates the bellows, whose travel is transferred through the valve stem to the ball and disc assembly. This lever assembly converts the vertical motion of the valve stem to a rotary motion of the output shaft which in turn connects to the pen-linkage system for recording.

Provisions are incorporated in this Nolte d/p unit for pressure over-range protection and adjustment for pulsation dampening. The dampening is accomplished through the use of a floating piston within a cylinder, located inside the Snubber housing at each pressure connection. Two sets of five pistons are supplied to provide a range of effective dampening.

The static pressure element, mounted inside the recorder's case is suitably connected to a second pen-linkage system for recording.

These recorders are equipped with the Cannon capillary type, ink supply and Fiberite pen nibs. The manufacturer provides special instructions for installation and adjustment of this Fiberite pen system.

This Nolte Model 515A recorder is approved for billing purposes only when used in conjunction with an approved temperature recorder. This requirement is made to ensure that sufficient information is available to properly take account of the temperature variations of the flowing gas and the supercompressibility factor F_{pv} .

The selection of weighted average supercompressibility factor, F_{pv} , shall be based on a record of the flowing gas volumes, pressures and temperatures.

These recorders may be used with any suitable and approved 12 inch size circular charts. Approved chart drives used with this recorder shall bear the following information:

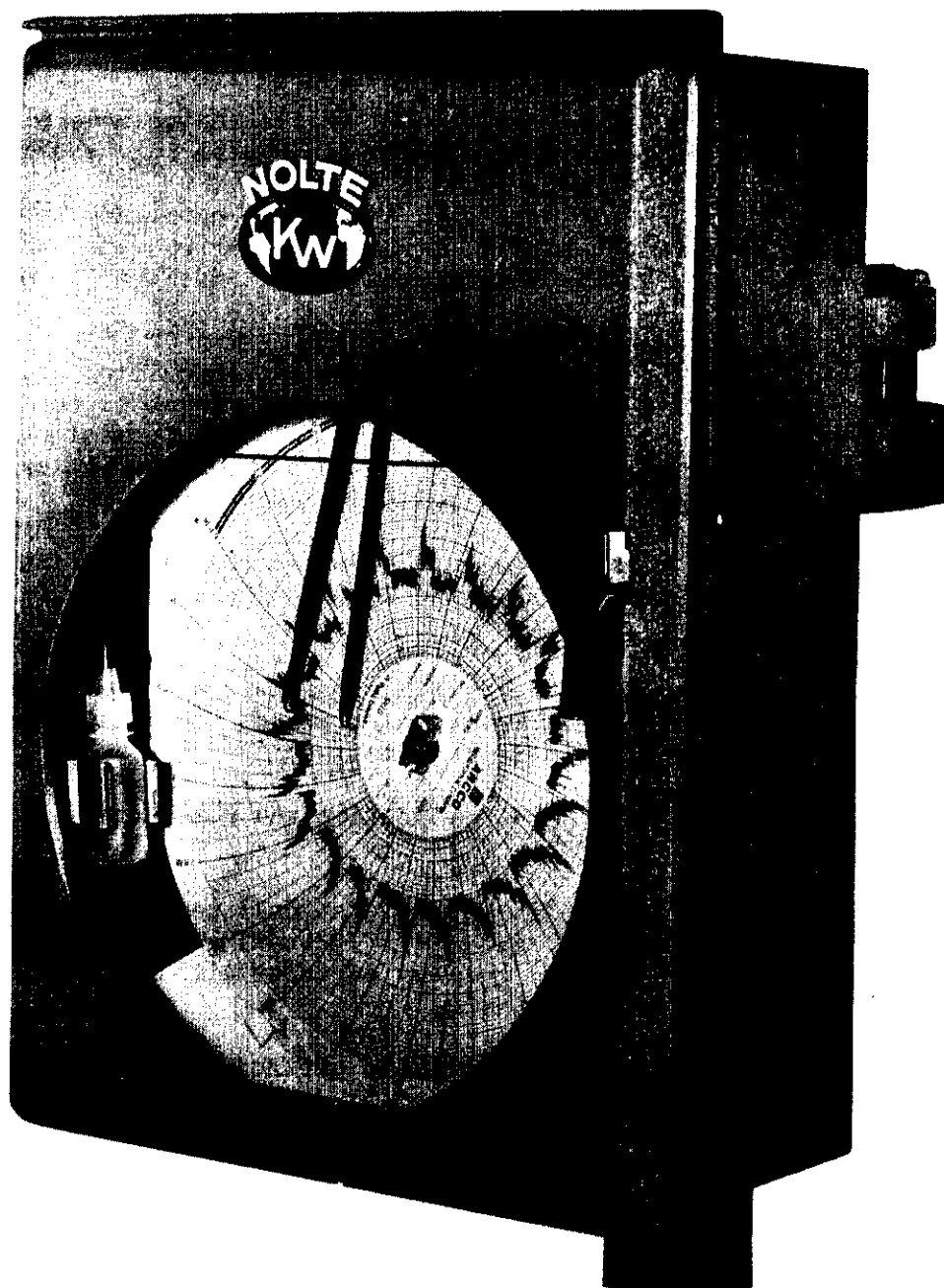
Maker's name, model or type designation and rotational period

It should be emphasized that long rotational periods of 7, 8 and 31 days may produce "painted" charts on fluctuating load applications and hence adversely affect the accuracy of calculation of gas flow measurement.

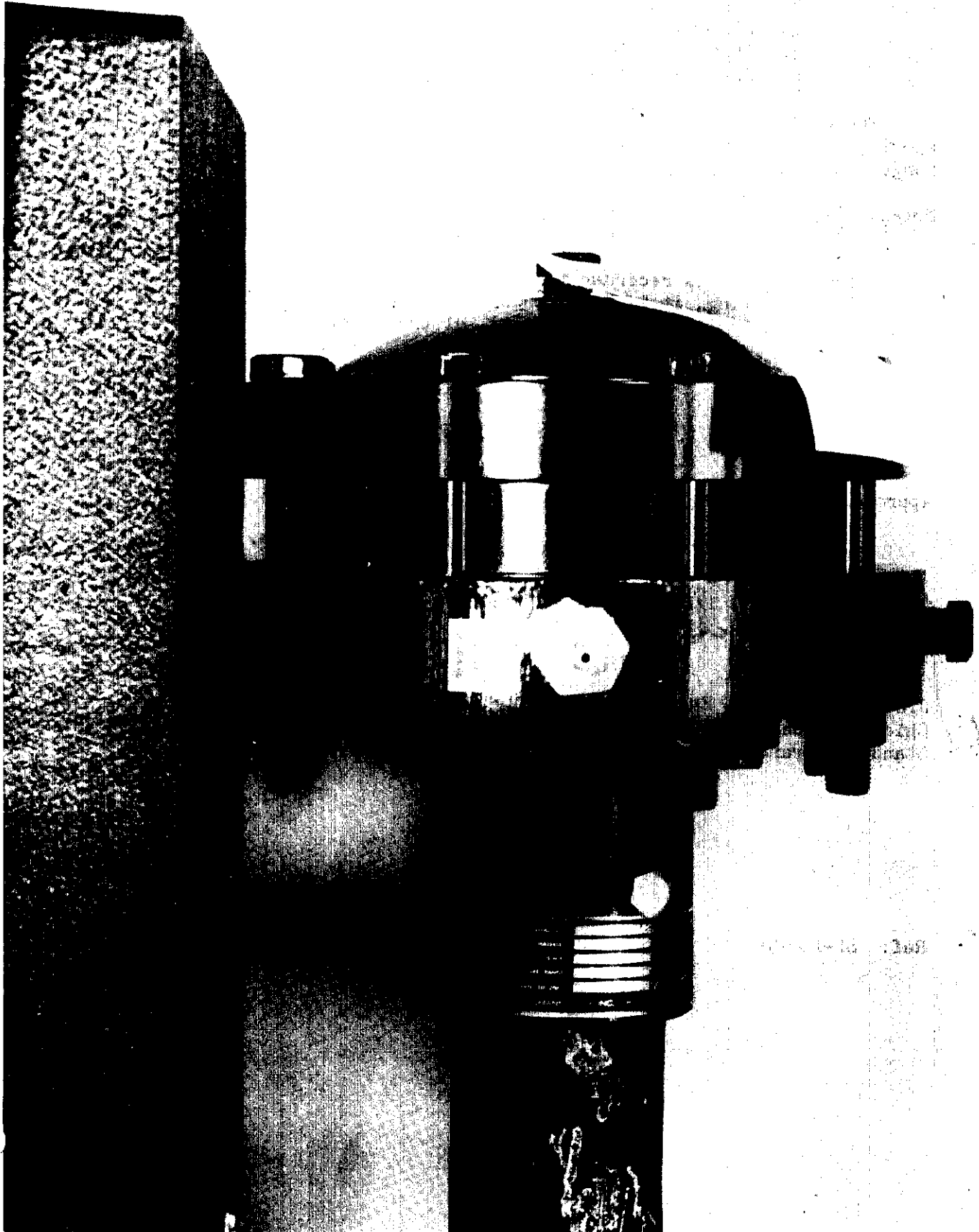
Each recorder shall have a nameplate affixed to the inside of the case showing the following information:-

1. Manufacturer's name or trade mark
2. Model designation.

KINGMAN-WHITE, NOLTE MODEL 515A DIFFERENTIAL AND STATIC PRESSURE RECORDER



KINGMAN-WHITE, NOLTE MODEL 515A DIFFERENTIAL AND STATIC PRESSURE RECORDER



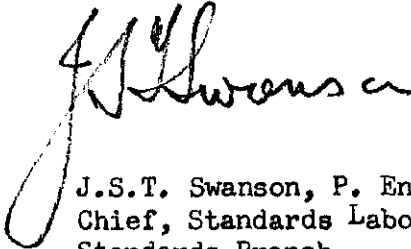
3. Serial number
4. Differential pressure range in inches w.c.
5. Static pressure range in psig.
6. Safe working pressure in psig.

The differential pressure element also bears a name plate showing manufacturer's name, serial number, differential pressure range and safe working pressure.

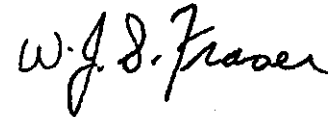
- Notes: (i) It is recommended that this recorder be sheltered from the extremes of Canadian weather conditions.
- (ii) When this recorder is likely to be exposed to solar heating, it is recommended that a reflective paint be applied to the exterior of the case.

Approval granted to:

Accurate Oil Tool Limited,
P.O. Box 4503,
Edmonton, Alberta.



J.S.T. Swanson, P. Eng.,
Chief, Standards Laboratory,
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Ref: SL-100-9B