

## THE PFS-HBX-2\* HALMI-BRIGGS ELBOW TYPE FLOW METER FOR LOW COST, WIDE-RANGE FLOW METERING APPLICATIONS\*\*

\*Patent Pending; \*\*Particularly well suited for Flare Gas applications.

### Introduction

When special field application requirements demand effective, cost efficient and accurate solutions, Primary Flow Signal, Inc. is ready to provide innovative solutions that exceed the expectations of the marketplace.

The PFS-HBX-2 *Halmi-Briggs* Elbow Type flow meter is an example of innovation that integrates prior art with modern, state-of-the-art Primary Flow Signal, Inc. technology that yields exceptional performance.

Elbow type flow meters have been in use since the 1940's based on traditional designs which provided nominal accuracy in the +/- 4.0% range, repeatability in the range of +/-0.75%, low cost and long service life. Typically, this meter type has been utilized in applications where cost and available space have been controlling determinants of equipment selection.

Primary Flow Signal, Inc. has extensively researched this meter technology, and based on investigation and conclusive laboratory testing, a significantly more accurate and repeatable device has been developed that still retains the singular cost and piping benefit.

Coupled with the further advantages of modern secondary instrumentation, the PFS-HBX-2 offers an unparalleled performance envelope at prices well below competing technologies such as magnetic or ultrasonic meters, or Venturi type meters .

The PFS-HBX-2 is ideally suited to liquid and gas service applications and is highly recommended when the accuracy requirement is not as demanding as that provided by Venturi type meters, and low cost is mandatory.

Flare gas flow measurement is an excellent example of such an ideal application.



### General Information

Features and Specifications:

**Basic Accuracy:** +/- 2.0% of rate;

**Repeatability:** +/- 0.25%;

**Piping Requirement(s):** No minimum downstream straight piping; Minimum 1 pipe diameter upstream of meter; Contact PFS, Inc. for specific application guidance;

**Headloss:** Standard Elbow permanent pressure loss;

**Size Range:** standard from 1/4" and up;

**Body Material:** Any machinable material compatible with line

fluid and application conditions;

**End Configuration:** Plain, flanged, mechanical, threaded, weld end;

**Performance Range:** Independent laboratory calibrations confirm stable and linear coefficient of discharge from as low as 5200 Pipe Reynolds Number;

**Service Capability:** process line fluids may include clear liquid(s), solids bearing liquid(s), wet or dry gas, steam, abrasive or harsh liquids (or gases);

**Design Options:** include reduced bore, opposed or offset impulse taps, sealed diaphragms, vent cleaner(s);

# PFS-HBX-2

## THE Halmi-Briggs Elbow Type Flow Meter

### PRODUCT BULLETIN

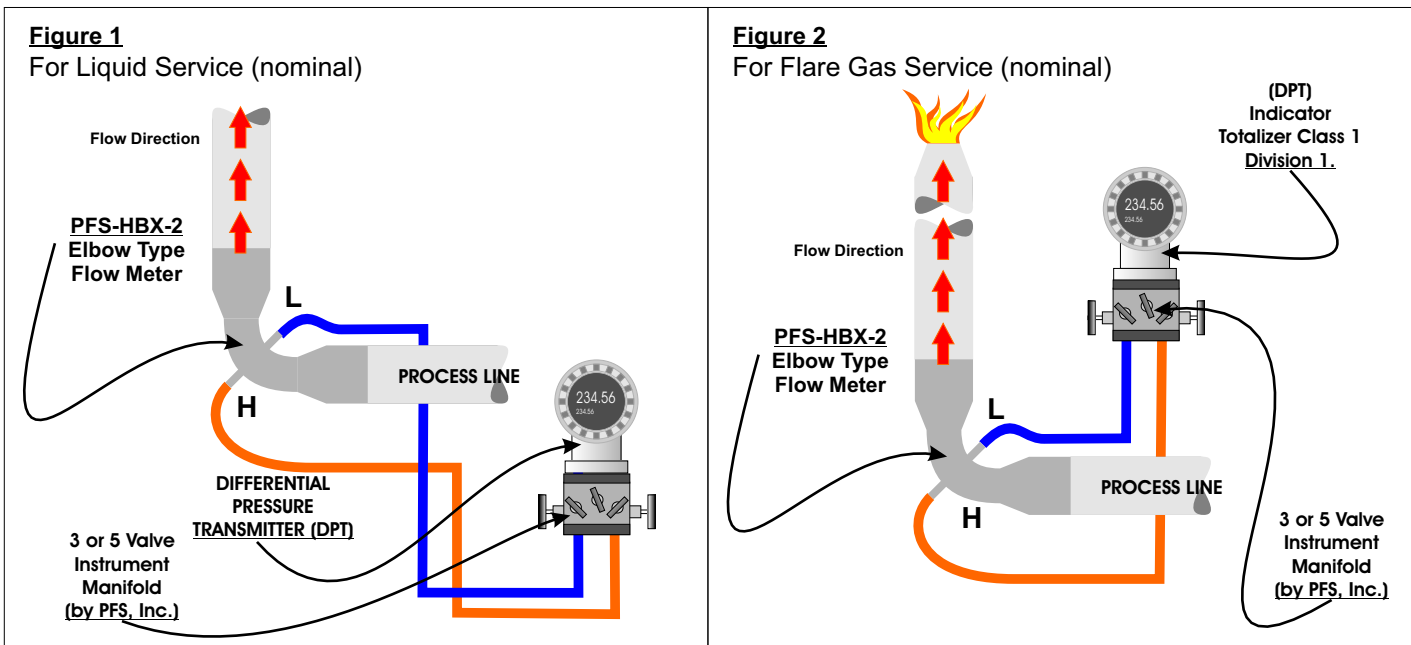
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## General Information (cont.)

**Secondary Instrumentation:** standard PFS, Inc. secondary instrumentation systems are available; DP Transmitter with integral indicator/totalizer in Class 1, Div 1 enclosure; special instrumentation group and capability set based on application requirements;

## Typical Arrangement Schematic(s)



## Additional Notes

Nominal arrangement scenarios include process line with 90 degree elbow meter connected via impulse piping to Differential Pressure Transmitter (DPT) to infer flow rate from differential produced by the elbow meter.

For Flare Gas measurement applications, additional features of the secondary instrumentation system typically include indicator/totalizer with Class 1, Division 1 rating.

Additional instrumentation options, line arrangement options, and special solutions to non-standard applications are readily available by contacting Primary Flow Signal, Inc.