PFS
Primary Flow Signal

HVT-FI Halmi Fabricated Insert

Performance Under Pressure:
Insert Meter for Accuracy and Long Service-Life

Primary Flow Signal, Inc. is a leader in the design and manufacture of Venturi differential flow meters. Field-proven in hundreds of thousands of installations worldwide, differential metering ensures the most accurate and reliable metering available anywhere. Through innovation, coupled with peerless engineering and technical expertise, PFS delivers customers versatile, ultra-long lasting liquid and gas metering solutions for a variety of applications and industries.

The **HVT-FI Halmi Fabricated Insert Venturi** delivers the best high-pressure performance for the greatest value. This insert type meter is composed of a mix of rugged materials for minimal cost, weight, permanent pressure loss, and laying length; while delivering maximum accuracy, repeatability, reliability and performance substantiation (with 2 Sigma supported accuracy).

The Halmi Insert Venturi product line offers maximum design flexibility because any Beta ratio is available (Beta ratio is the meter throat size divided by the line size) to increase the flow rate range of the meter and manage energy consumption.

Designed to be inserted within system pipes, HVT-FI can be custom fabricated with almost any available machinable material. Secured by flanges between abutting pipe ends, this meter insert has no pressure limit, and delivers high accuracy metering (+/- 0.25% or better). It is ideal for measuring full pipe, clean or solids-bearing gases or liquids over extreme temperature ranges.

Static inlet taps and grouted-in taps are available for larger line sizes, as well as special HVT-DG models fitted with high and low pressure tap vent cleaners to allow the clearing of buildup on the piezometer taps.

HVT-FI Halmi Fabricated Insert Features

Accuracy:
+/- 0.50% of actual reading (2 Sigma)

+/- 0.25% of actual reading or better based on hydraulic calibration

Beta ratios: custom sized and designed for Beta ratio from 0.30 to 0.75

Line size: range is unlimited, with examples from 3" to 144" in service

Materials include, but are not limited to: carbon steel, 316 stainless steel, 304 stainless steel, Duplex stainless steel, Chrome Molybdenum, aluminum, Hastelloy® B&C, Monel®, Inconel®, zirconium, titanium, tantalum

Temperature: -400°F to 1250°F (as limited by secondary devices)

Line pressure capacity: from full vacuum to the limits of materials

Line fluid capabilities:
Gas or liquid pipe flow

Clean, or with minimal particulate

Contaminated flow with the HVT-SM sealed system

ISO 9001-2008 | ASME S | U | NB R | PED module H | IBR | GOST

HVT-FI Halmi Fabricated Insert Features

Pipe Reynolds number (R_D capability): discharge coefficient is constant above 75,000 R_D

Discharge coefficient: bias and random error between 12,000 and 75,000 R_D is empirically established and highly repeatable
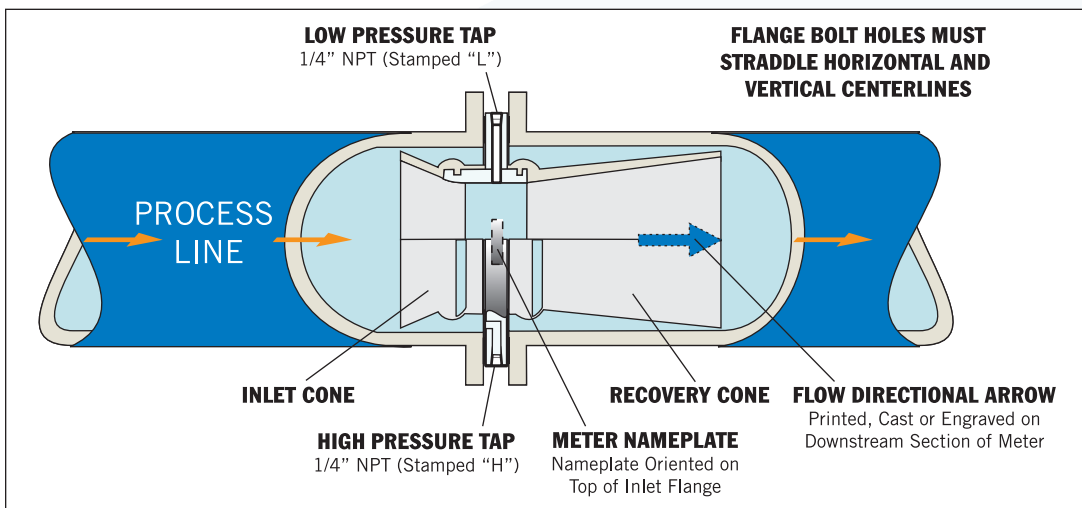
Permanent pressure loss:

Varies from 3% of differential and up depending on Beta ratio and application conditions

Ratios including Beta and exit cone truncation can be engineered to meet requirements

Flanges: designed for use between raised face, flat faced, ring joint or van stone flanges of any rating of either U.S. or foreign standards

HVT-FI Halmi Fabricated Insert

LOW PRESSURE TAP 1/4" NPT (Stamped "L")

FLANGE BOLT HOLES MUST STRADDLE HORIZONTAL AND VERTICAL CENTERLINES

PROCESS LINE

INLET CONE

HIGH PRESSURE TAP 1/4" NPT (Stamped "H")

METER NAMEPLATE Nameplate Oriented on Top of Inlet Flange

RECOVERY CONE

FLOW DIRECTIONAL ARROW Printed, Cast or Engraved on Downstream Section of Meter

When installing: 1) orient pressure taps horizontally; 2) provide adequate clearances; 3) tighten flange bolts to industry flange assembly standards to avoid leakage; 4) ensure tolerances are within industry standards.

Support Services

In addition to a wide range of differential producing Venturi flow meters, orifice plates, WedgeType™ flow meters, and open channel flow elements, PFS provides comprehensive, specialized services for new and existing flow meters, including rehabilitation, hydraulic analysis, and full engineering support.

Certifications

ISO 9001, ASME S, U, R; European PED Module H; and other internationally recognized certifications, such as GOST, IBR, and CRN.

Contact a Field Application Engineer for assistance.

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Primary Flow Signal, Inc. products and operations are certified to industry standards for safety and performance. Visit our web site for details.

All PFS products are proudly made in the U.S.A.