

## HVT-FIW

### Performance Under High Pressure

**P**rimary 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 in design and manufacturing, coupled with peerless engineering and technical expertise, PFS delivers customers versatile, ultra-long lasting liquid and gas metering solutions for a broad range of applications and industries.

The **HVT-FIW fabricated insert weld-in meter** delivers accurate results for installations where the use of mounting flanges (i.e., gasketed flange joints)

are prohibited due to potential leak paths. The Halmi Insert Venturi product line offers design flexibility as any Beta ratio is available. This insert type weld-in meter delivers maximum performance substantiation (with 2 Sigma supported accuracy).

Designed to be inserted within system pipes, the HVT-FIW can be custom fabricated with almost any available machinable material and has no pressure limit while delivering high accuracy metering (+/- 0.25% or better). It is ideal for measuring high temperature, high pressure applications, such as oxygen or nitrogen measurement for air separation plants, as well as petrochemical plant and chemical plant process measurement and control.

#### PFS-FIW 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:** unlimited range, with examples from 3" to 144" in service

**Temperature:** -400°F to +1,250°F (as limited by secondary devices)

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

**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

**Line fluid capabilities:**

Gas or liquid pipe flow

Clean, or with minimal particulate

Contaminated flow with the HVT-SM sealed system

**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:**

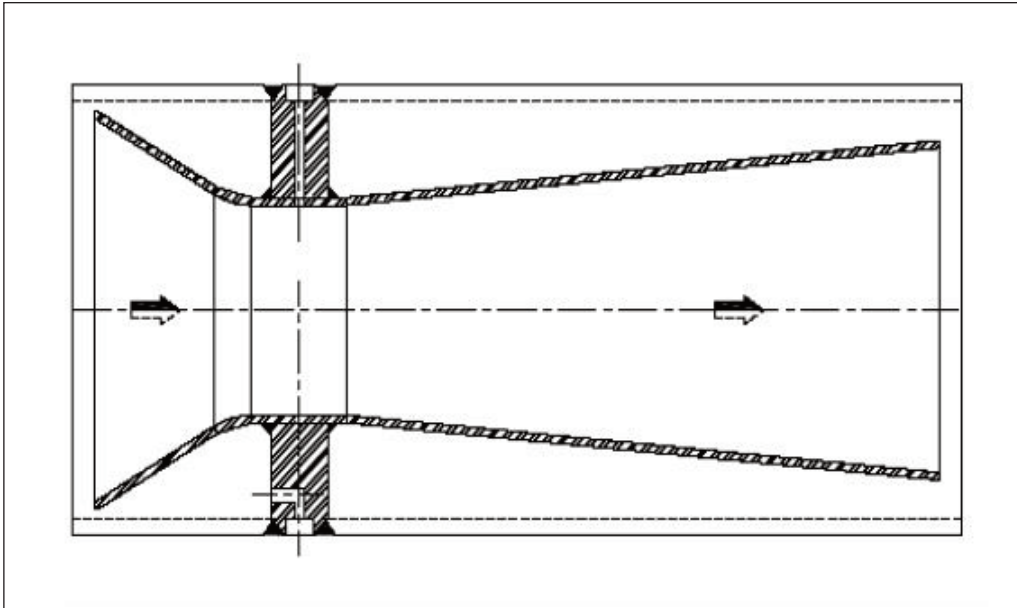
Varies from 3% of differential and up depending on Beta ratio application conditions

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

# Data Sheet

## HVT-FIW

### HVT-FIW Insert



**Liquid Applications:** All impulse piping must have minimum 8 cm per foot, DOWN to the flow transmitter(s). Transmitter should ideally be located below the center line of the meter.

**Gas Applications:** All impulse piping must have minimum 8 cm per foot, UPWARDS to the flow transmitter(s).

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 and Service

Our full-time, dedicated service group offers 100% trustworthy support and recertification for flow meters — whether our own or a competitor's brand. Our meter proving services are performed by our trained technicians and the latest testing equipment. Custom meters and instrumentation options for your application are readily available. Many of our products are in stock and ready for immediate shipment.

### Certifications

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

### Worldwide Support

We serve customers worldwide delivering proven differential and turbine meters, and fire suppression solutions. Our U.S. offices are located in Rhode Island (headquarters); Houston and Odessa-Midland, TX; Tulsa and Altus, OK; Seneca, SC. We also have offices in Edmonton, Alberta, Canada; Beijing, China; and Dubai, United Arab Emirates.

**Contact your PFS, Inc. Field Application Engineer for assistance.**



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



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