



# Rectangular HVT Venturi

## RFV Series

### Description

The HVT designed Rectangular Venturi Meters offers substantial design and engineering flexibility with end arrangements (flanged, mechanical joint, weld end, etc.) combined with various body materials and coatings to achieve pressure, temperature, flow range, line fluid, line size, laying length and cost objectives as dictated by the specific applications. The Rectangular Venturi Meter design provides similar performance as the circular design (accuracy and head loss) without the need to transition from rectangular duct to circular for the purpose of achieving high accuracy flow measurement. There are no specific size limitations with a rectangular venturi. The meter profile can be fully fabricated or cast in place with a fabricated inlet and throat section. A wide variety of secondary instrumentation is available including direct interface taps, annular pipe chambers, multi-taps and sealed diaphragm sensors. A design corresponding to ASME MFC / ISO 5167 is also available.

### Common Materials

• Carbon Steel • 304 / 316SS

### Other Available Materials

• Aluminum • Tantalum • Duplex S/S • Hastelloy B & C  
• Monel • Zirconium • 321 SS • Titanium  
• Chrome Moly

### Applications

- Duct air and gases
- Combustion air
- Refineries
- Steel Mills
- Heater Applications

### Special Features

- Extended product life with no moving parts
- Lower susceptibility to erosion
- No downstream installation effect; minimal upstream effect
- Useful for flow measurement at high velocities
- Turndown ratio of 10:1, 20:1, 50:1 and greater can be achieved depending on the specific model and design of the meter as well as the type of secondary instrumentation system utilized
- Repeatability of  $\pm 0.1\%$
- Mounts in any position

### Model Types

- RFVF - Fabricated Venturi Flanged
- RFVW - Fabricated Venturi Butt Weld Ends

### Specifications

**Line Size:** 2 to 144 inches. Larger sizes available.

**Head loss % of Differential:** 5.0 to 12.0 percent

**Basic Accuracy (% of Total):** +/- 0.50 (Calibrated) +/- 0.75% (Uncalibrated)

**Minimum pipe Reynolds number:** Must be greater than 75,000

**Required Straight Piping:** Consult PFS datasheet

**Beta Range:** 0.30 through 0.75

**Useful Service Life:** Very Long

**Service Functional Limits:** Gas