

# A Wafer Style HVT for Tight Installation Conditions, Economy, and Wide Range of Materials of Construction

## Introduction

A traditional design option for the highly regarded HVT-Halme Venturi flow element design is offered by the HVT-WA Wafer style flow element. This configuration combines all of the benefits of the superb HVT performance envelope including accuracy, reliability, range-ability, and stable coefficient characteristics, with economy and value of a wafer type design.

Figure 1



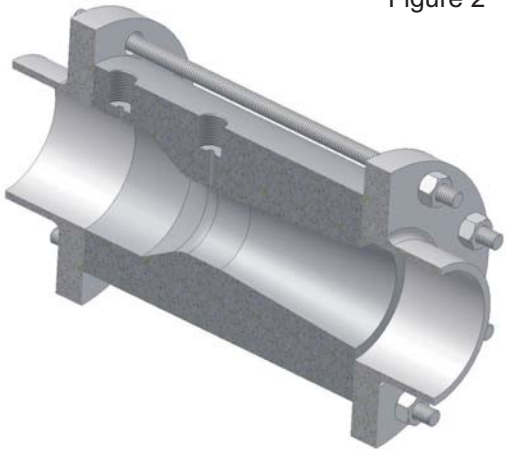
The wafer design simply means that the flow element itself includes only the critical geometry of the meter in a compact pipe section. The ends do not have flanges but rather the meter section is compressed between the process piping flanges already available. The ends of the wafer style are prepared to accept standard flat faced gaskets to secure the seal between the meter and the process piping, with the only additional requirement being longer threaded rod to span the flanges.

Primary Flow Signal, Inc. offers three standard beta ratios in two, three or four line size(s) and can provide PVC, Acrylic, Kynar, Teflon, Glass Reinforced Resin, or Stainless Steel in its standard design configurations, but can customize laying length, beta, materials of construction and/or line size to suit, upon request.

Because the HVT-WA is a true static tap Venturi device, optional clean-out rods are readily available to combat plating or sedimentary deposits in the piezometer taps.

These units are designed, engineered and manufactured in our ISO 9001-2000 certified manufacturing facility located in Rhode Island, and is available for standard or expedited delivery service.

Figure 2



## General Information

The HVT-WA design solves such problems because the flow element installs between the existing process piping flanges. Especially in instances of expensive materials, avoiding the duplication of flanges has an enormous beneficial impact.

### TYPES OF SERVICE

Primary Flow Signal, Inc., offers the HVT-WA design in standard 125/150 ANSI design, in three common beta ratios covering a broad range of likely application flow conditions.

The HVT-WA can be readily provided in glass reinforced resin, kynar, teflon, Acrylic, or stainless steel. Special or exotic materials are available on request.

The HVT-WA is ideal for clear, non-solids bearing process with full pipe flow.

By properly matching the materials of construction with the process line and process fluid, the HVT-WA can meter nearly any line fluid.

The HVT-WA provide full static pressure sensation at both inlet and throat taps, thereby assuring the full integrity of the HVT Halme

### PROBLEMS SOLVED

Often, smaller line size meters can become expensive in relation to the intended service. Similarly, special line fluids that may be corrosive and/or hazardous demand the use of special materials. It can become costly to produce such units especially considering the added component of cost represented by incorporating mating flanges in the body of the flow element.

# PFS HVT-WA Wafer Venturi

HVT-WA Wafer Type  
Halmi Venturi Flow Element  
**PRODUCT BULLETIN**



DOCUMENT NUMBER: 2006-1550-REV01

## General Information (cont.)

Venturi performance characteristics including:  
**+/- 0.50% standard accuracy** (uncalibrated +/- 0.25% calibrated.)

**Stable and linear Coefficient of Discharge**

throughout the application flow range.

**Low permanent pressure loss** (6% or less in most cases.)

**High Reliability.**

Figure 3. HVT-WA Flow Element Key Dimensions

Designed for 125/150 ANSI Flanges or Equivalent

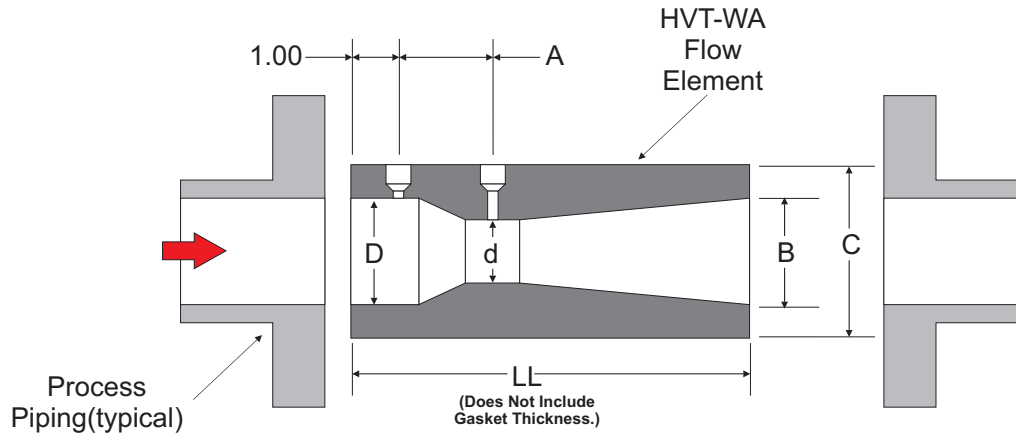


Table 1. HVT-WA Flow Element Key Dimensions(inches)

Nominal Pipe Inside Diameter	Beta Ratio d/D	C Meter Body Outside Dia.	d Throat Diameter	A Tap Separation	B Outlet Diameter	LL Laying Length	Nomenclature								
							2	3	4	5	6				
2	0.500	4.000	1.000	1.795	1.510	6.085	2	-	HVT	-	WA	-	1.00	-	-
	0.600	4.000	1.200	1.819	1.637	5.769	2	-	HVT	-	WA	-	1.20	-	-
	0.700	4.000	1.400	1.827	1.756	5.387	2	-	HVT	-	WA	-	1.40	-	-
3	0.500	5.250	1.500	2.506	2.265	8.252	3	-	HVT	-	WA	-	1.50	-	-
	0.600	5.250	1.800	2.504	2.456	7.704	3	-	HVT	-	WA	-	1.80	-	-
	0.700	5.250	2.100	2.478	2.634	7.055	3	-	HVT	-	WA	-	2.10	-	-
4	0.500	6.750	2.100	3.344	3.083	10.488	4	-	HVT	-	WA	-	2.10	-	-
	0.600	6.750	2.400	3.338	3.275	9.938	4	-	HVT	-	WA	-	2.40	-	-
	0.700	6.750	2.800	3.304	3.512	9.073	4	-	HVT	-	WA	-	2.80	-	-

**Material Code:**  
RF - Glass Reinforced Resin  
KY - Kynar  
PV - PVC  
TF - Teflon  
AC - Acrylic  
SS - 304 Stainless Steel

Nominal Line Size	Meter Design Type	Meter Configuration	Throat Dia. inches	Material Code
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