



F L O W M E T E R I N G E Q U I P M E N T

## **Product Summary** Industrial Products



Ellipse® Pitot Tube



Coin® Segmented Wedge Flow Meter



Venturi - Model SSL



**1-800-632-7337**

**[www.preso.com](http://www.preso.com)**

# Product Summary

## Ellipse® Pitot Tube

The Ellipse annular flow device is a primary flow meter designed to produce a differential pressure that is proportional to flow. Its patented elliptical shape provides the lowest permanent pressure loss in the industry. The Ellipse flow meter is designed with a series of ports facing the upstream velocity pressures and flow sensing ports strategically located ahead of the trailing edge flow separation. As a result of this innovative design, the Ellipse provides a true static pressure measurement rather than a calculated value producing accuracies of  $\pm 0.75\%$  of reading, repeatability of  $\pm 0.1\%$  of reading, and a 17:1 turndown ratio with no vacuum effect. All Preso Differential Pressure Flow Meters can be customized and built to meet the highest pressure and temperature specifications. All models can also be supplied with RTDs and transmitters to provide an economical mass flow measurement solution.

### AR – Annular Regular

This rugged general purpose flow meter can be utilized to measure air, gas, and liquid.

- Pipe Sizes: 2 to 115 inches (50 to 2921 mm)
- Pressure: 800 PSI (5515 kPa) maximum
- Temperature: 800 °F (426 °C) maximum
- Integral manifold valve option available



### AF – Annular Flanged

The AF flow meter offers flanged connections suitable to measure air, gas, and liquid.

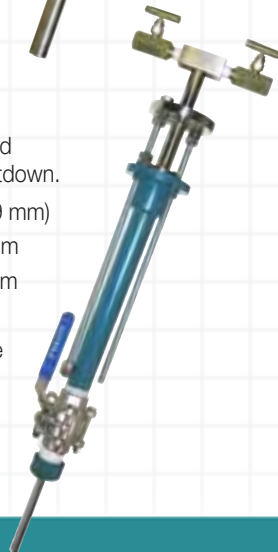
- Pipe Sizes: 2 to 115 inches (50 to 2921 mm)
- Pressure: Vary per flange rating
- Temperature: Vary per flange rating
- Integral manifold valve option available



### AHL – Annular Hot Tap

Hot tap model used on air, gas, and liquid and can be installed without system shutdown.

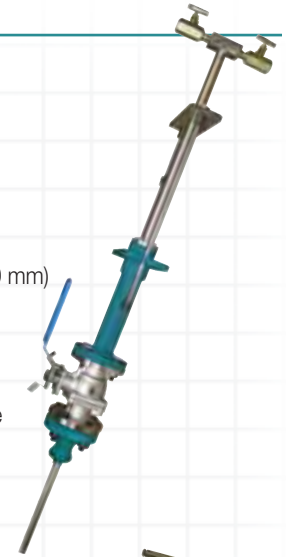
- Pipe Sizes: 2 to 72 inches (50 to 1829 mm)
- Pressure: 800 PSI (5515 kPa) maximum
- Temperature: 800 °F (426 °C) maximum
- Gear drive option available
- Integral manifold valve option available



### AHF – Annular Flanged Hot Tap

The AHF flow meter offers flanged connections suitable to measure air, gas, and liquid and can be installed without system shutdown.

- Pipe Sizes: 2 to 72 inches (50 to 1829 mm)
- Pressure: Vary per flange rating
- Temperature: Vary per flange rating
- Gear drive option available
- Integral manifold valve option available



### AHR – Annular Low Pressure Wet Tap

- Pipe Sizes: 2 to 72 inches (50 to 1829 mm)
- Insertion Pressure: 75 PSI (517 kPa) maximum
- Insertion Temperature: 120 °F (49 °C) maximum
- Pressure: 150 PSI (1034 kPa) maximum
- Temperature: 200 °F (49 °C) maximum
- Integral manifold valve option available



### AS – Annular Steam

Similar in design to the AR Ellipse; the AS flow meter is used exclusively for steam applications.

- Pipe Sizes: 2 to 115 inches (50 to 2921 mm)
- Pressure: 600 PSI (4100 kPa) maximum
- Temperature: 480 °F (250 °C) maximum
- Integral manifold valve option available



### ASF – Annular Steam Flanged

Similar in design to the AF Ellipse; the ASF flow meter is used exclusively for steam applications.

- Pipe Sizes: 2 to 115 inches (50 to 2921 mm)
- Pressure: Vary per flange rating
- Temperature: Vary per flange rating
- Integral manifold valve option available



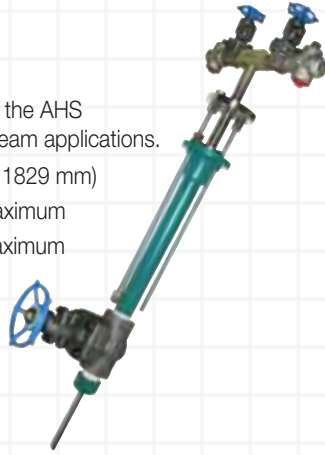
# Product Summary

## Ellipse (continued)

### AHS – Annular Hot Tap Steam

Similar in design to the AHL Ellipse; the AHS flow meter is used exclusively for steam applications.

- Pipe Sizes: 2 to 72 inches (50 to 1829 mm)
- Pressure: 800 PSI (5515 kPa) maximum
- Temperature: 800 °F (426 °C) maximum
- Gear drive option available
- Integral manifold valve option available



### AHZ – Annular Flanged Hot Tap Steam

Similar in design to the AHS; the AHZ offers flanged connections and is used exclusively for steam applications.

- Pipe Sizes: 2 to 72 inches (50 to 1829 mm)
- Pressure: Vary per flange rating
- Temperature: Vary per flange rating
- Gear drive option available
- Integral manifold valve option available



## COIN<sup>®</sup> (Segmented Wedge)

The Preso COIN flow meter accommodates most flows, even the most abrasive fluids. Accuracies of  $\pm 3\%$  off the shelf,  $\pm 1\%$  factory calibrated, or  $\pm 0.5\%$  independent lab calibrated and repeatability of  $\pm 0.2\%$  of reading are achieved by its rugged construction, practical design, and simple principle of operation. The COIN meter can be customized and built to meet the highest temperature and pressure specifications. All models can also be supplied with transmitters and RTDs to provide an economical mass flow measurement solution. It stands alone in its ability to maintain the necessary square root relationship between flow rate and differential pressure for almost any type of flow such as clean liquids, high viscosity fluids, steam, slurries, corrosive processes, gas/air. Even fluid viscosity up to 3,000 centipoise does not affect the accuracy of the COIN flow meter. The flow coefficient stays highly predictable down to the remarkably low Reynolds number of 300. This makes the series COIN flow meter ideal for such traditionally difficult-to-meter applications as fuel oil, waste water, coal tar, iron ores, black liquor, and others.

### Principle of Operation

The basic flow equation for the COIN series is derived from Bernoulli's Theorem (energy balance and the continuity equation). An engineered restriction creates a differential pressure that equates to a mass or volumetric rate of flow. Different height (H) over diameter (D) ratios are specified to handle different flow ranges. The COIN meter has a proven record of providing reliable and accurate flow measurement in the most abrasive and difficult applications.

### Flanged

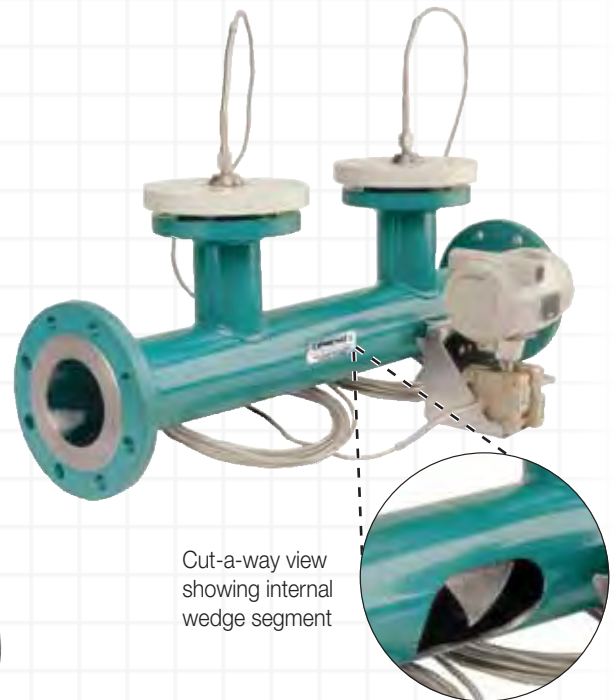
- Instrument Connection: NPT, Socket Weld, Flange, or Chem Tee
- Pipe Sizes:  $\frac{1}{2}$  to 48 inches (13 to 1219 mm)
- Materials: Carbon Steel or Stainless Steel

### NPT (not pictured)

- Instrument Connection: NPT, Socket Weld, Flange, or Chem Tee
- Pipe Sizes:  $\frac{1}{2}$  to 2 inches (13 to 50 mm)
- Materials: Carbon Steel or Stainless Steel

### Wafer

- Instrument Connection: NPT
- Pipe Sizes:  $\frac{1}{2}$  to 6 inches (13 to 152 mm)
- Material: Stainless Steel



Cut-a-way view showing internal wedge segment

### Butt Weld (not pictured)

- Instrument Connection: NPT, Socket Weld, Flange, or Chem Tee
- Pipe Sizes:  $\frac{1}{2}$  to 48 inches (13 to 1219 mm)
- Materials: Carbon Steel or Stainless Steel

### Socket Weld (not pictured)

- Instrument Connection: NPT, Socket Weld, Flange, or Chem Tee
- Pipe Sizes:  $\frac{1}{2}$  to 2 inches (13 to 50 mm)
- Materials: Carbon Steel or Stainless Steel

# Product Summary

## Venturi

Preso Venturi flow meters are differential pressure flow devices providing highly accurate (up to  $\pm 1\%$  of reading uncalibrated,  $\pm 0.5\%$  calibrated) and repeatable ( $\pm 0.1\%$  of reading) measurements of liquids, gases, and steam. The Venturi restricts the flow at its throat and measures the pressure difference of the unrestricted flow and restricted flow. The Venturi's throat can be designed to meet the flow measurement application optimizing the Venturi's accuracy and permanent pressure loss.

The Preso Venturi's design provides longer lasting accuracy and lower permanent pressure loss than orifice type meters, reducing maintenance and operating costs. The Preso Venturi can be built to meet the highest pressure and temperature specifications often limited in other flow meter technologies. All models can also be supplied with RTDs and transmitters to provide an economical mass flow measurement solution.

### SSL – Classical (Herschel) Design

The Classical Venturi Flow Meter is designed in accordance to ISO 5167.

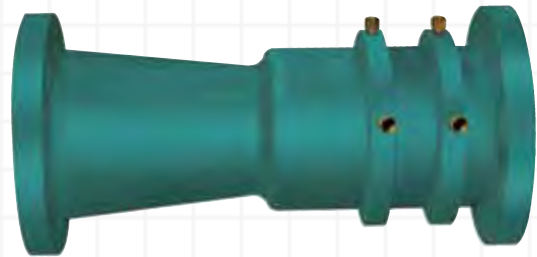
- Process Connections: NPT, Flanged, Butt Weld, Socket Weld, Grooved
- Instrument Connections: NPT, Socket Weld, Flanged
- Accuracy:  $\pm 1\%$  of reading uncalibrated
- Available as an insert design; model VISSL
- Standard beta ratios: 0.35, 0.49, 0.63 and 0.70; exact sizing available to provide custom beta ratios



### SSM – Hydraulic Shape Design (Nozzle Type)

The hydraulic pure static design utilizes the proven ASME-MFC-3M standard for the highest accuracy, predictability, and repeatability. The flow conditioning generated by the unique hydraulic shape will provide an extremely stable signal in a wide range of flows.

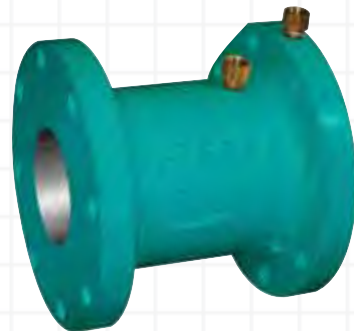
- Process Connections: NPT, Flanged, Butt Weld, Socket Weld, Grooved
- Instrument Connections: NPT, Socket Weld, Flanged
- Accuracy:  $\pm 1-2\%$  of reading uncalibrated
- Available as an insert design; model VISSM
- Standard beta ratios: 0.35, 0.49, 0.63 and 0.70; exact sizing available to provide custom beta ratios



### LPL – Low-Loss Design (Short Form)

The low permanent pressure loss design with over 35 years of proven field performance in a wide variety of applications provides reduced operating costs. Low installation costs due to short laying length and the wide range of sizes and material of construction make the LPL the right choice for many flow applications.

- Process Connections: NPT, Flanged, Butt Weld, Socket Weld, Grooved
- Instrument Connections: NPT, Socket Weld
- Accuracy:  $\pm 3-5\%$  of reading uncalibrated
- Available as an insert design; model VILP



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