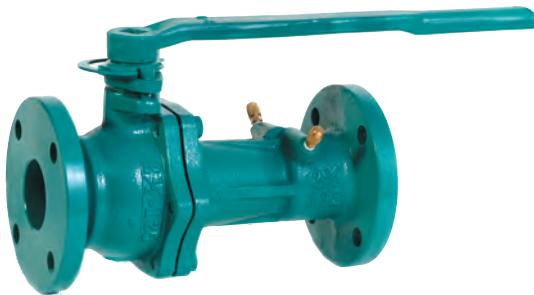
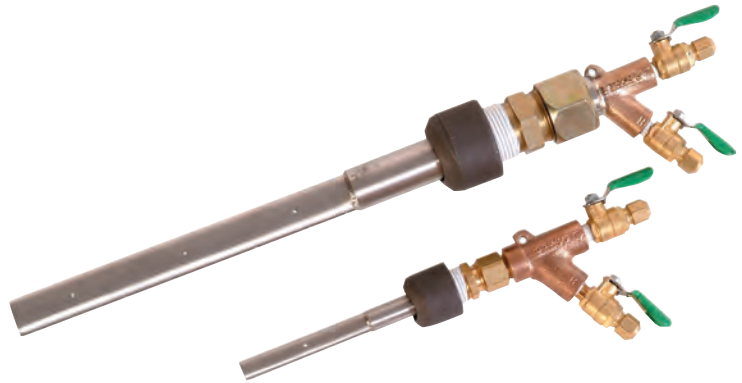




# F L O W M E T E R I N G E Q U I P M E N T

## Product Summary

An overview of Patterson products and intended applications.



(706) 886-2101 • Fax (706) 886-0023 • [www.pattersonpumps.com](http://www.pattersonpumps.com)

Mfg. by Presso for Patterson Pump Co.

# Product Summary

## B+ Balance Flow Control

Preso's B+ balancing valves are venture style, manual balancing valves offered in sizes 1/2" to 10". The B+ features Preso's "Low Loss" design venturi, unsurpassed in the industry for low permanent pressure loss and low energy consumption. The 1/2" to 2" models are constructed of brass with sweat or FNPT process connections. Larger size models ranging from 2-1/2" to 10" are constructed of cast iron and are available with flanged class 125# or grooved coupling ends. Class 250# flanged valves are available from 2-1/2" to 4".

### Features:

- Installs with minimal upstream and downstream piping requirements
- Mounts in any position
- Available in 15 sizes from 1/2" to 10"
- Memory lock mechanism handle for sizes 1/2" to 10"

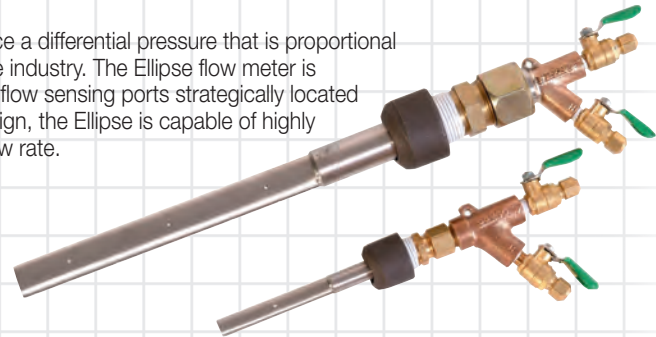


## BAR Ellipse® Annular Element

The Ellipse annular flow device is a primary flow sensor designed to produce a differential pressure that is proportional to flow. Its patented elliptical shape provides the lowest 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 is capable of highly accurate, precise flow measurements that are proportional to the actual flow rate.

### Features:

- Turndown ratio of 17:1; no vacuum effects
- No vortex generation
- Accuracy of 3/4% uncalibrated
- Fixed orifice – allows for quick and accurate balancing
- No moving parts equals long trouble-free service life

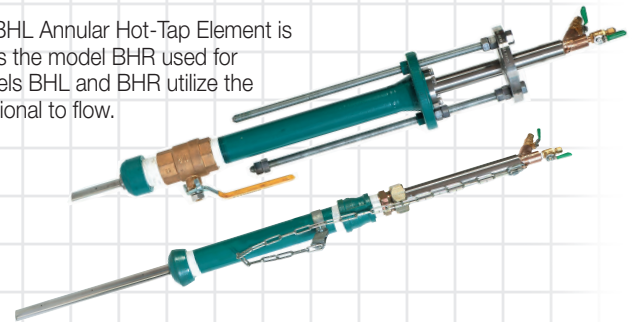


## BHL Ellipse Annular Hot-Tap Element & BHR Ellipse Annular Wet-Tap Element

The Ellipse annular flow device is also offered in a hot-tap or wet-tap version. The BHL Annular Hot-Tap Element is suitable for high pressure applications in pipe sizes from 2" to 24". Preso also offers the model BHR used for wet-tap low pressure installations in pipe sizes beginning at 2" up to 24". The models BHL and BHR utilize the same patented design as the BAR to produce a differential pressure that is proportional to flow.

### Features:

- Accuracy of 3/4% uncalibrated
- Repeatability of 0.1% of readings
- Hot-tap models can be installed without system shutdown
- Low installation cost
- Wet-Tap models can be installed without draining the system

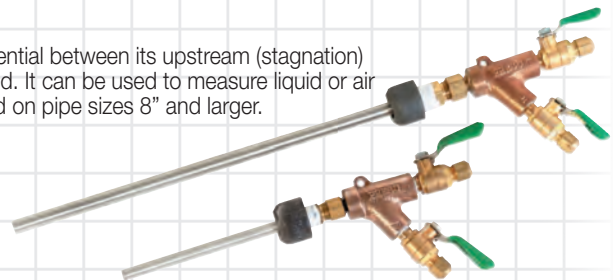


## BIN Pitot Tube

The BIN is a highly reliable averaging pitot tube which generates a pressure differential between its upstream (stagnation) ports and its downstream (static) ports that is proportional to the flow rate squared. It can be used to measure liquid or air in pipe sizes between 2" up to 24". An opposite side support is supplied standard on pipe sizes 8" and larger.

### Features:

- Accuracy of 3%
- Easy low-cost installation - great for retrofits
- Very low pressure drop
- Bi-directional flow measurement capability



## CV Venturi

The CV Venturi Flow Meter is a differential pressure element designed to accurately measure the flow of liquids, gases or steam by forcing the flow into a smaller diameter section of pipe, then measuring the pressure differences between the unrestricted flow and the restricted flow. It can easily be installed in any position with minimal straight pipe requirements (5 pipe diameters upstream and 2 pipe diameters downstream).

### Features:

- Accuracy of 2% of readings uncalibrated
- Repeatability: 0.1% of readings
- Turndown ratio: 10:1
- Low permanent pressure-loss design
- Available in sizes 1/2" to 48"



# Model V-Brass Series

## 1/2" to 2" Flow Meters

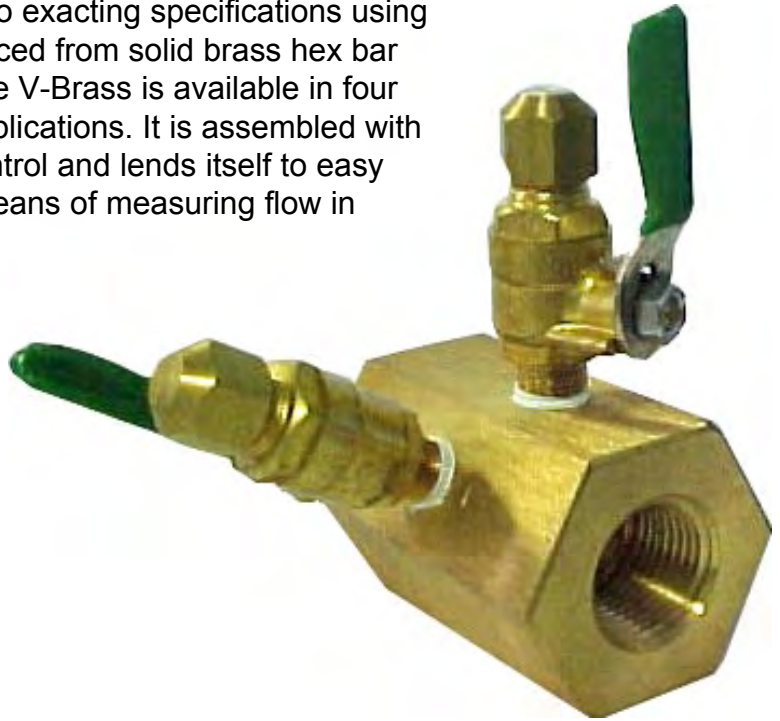
Model V-Brass Series is a venturi style flow meter of the "Low Pressure Loss" design. It is machined according to exacting specifications using high quality materials. This unit is produced from solid brass hex bar and comes with NPT or sweat ends. The V-Brass is available in four throat sizes to cover a wide range of applications. It is assembled with brass ball valves for instrumentation control and lends itself to easy installation to provide a cost effective means of measuring flow in commercial applications.

### Features:

- Solid Hex Bar (ASTM B16)
- 1/8" MNPT x 1/4" SAE Brass Ball
- NPT or Sweat Ends
- Polycarbonate ID Tag
- Max Temp. 250°F (120°C)
- Max Pressure 400 PSIG (2756 Kpa)

### Options:

- Quick Disconnect Fittings
- P/T Plugs
- Pressure Port Extensions
- Stainless Steel ID Tag



## MODEL SELECTOR: PVBR□□□□□□

### PIPE SIZE

- A - 1/2"
- B - 3/4"
- C - 1"
- D - 1-1/4"
- E - 1-1/2"
- F - 2"

### SCHEDULE

- A - STD
- B - 80
- C - COPPER L
- X - OTHER

### PROCESS CONNECTION

- A - FNPT
- B - SOCKET/SWEAT

### INSTRUMENT CONNECTION

- A - NPT - 1/8"

**BOLD** = Standard

### BETA

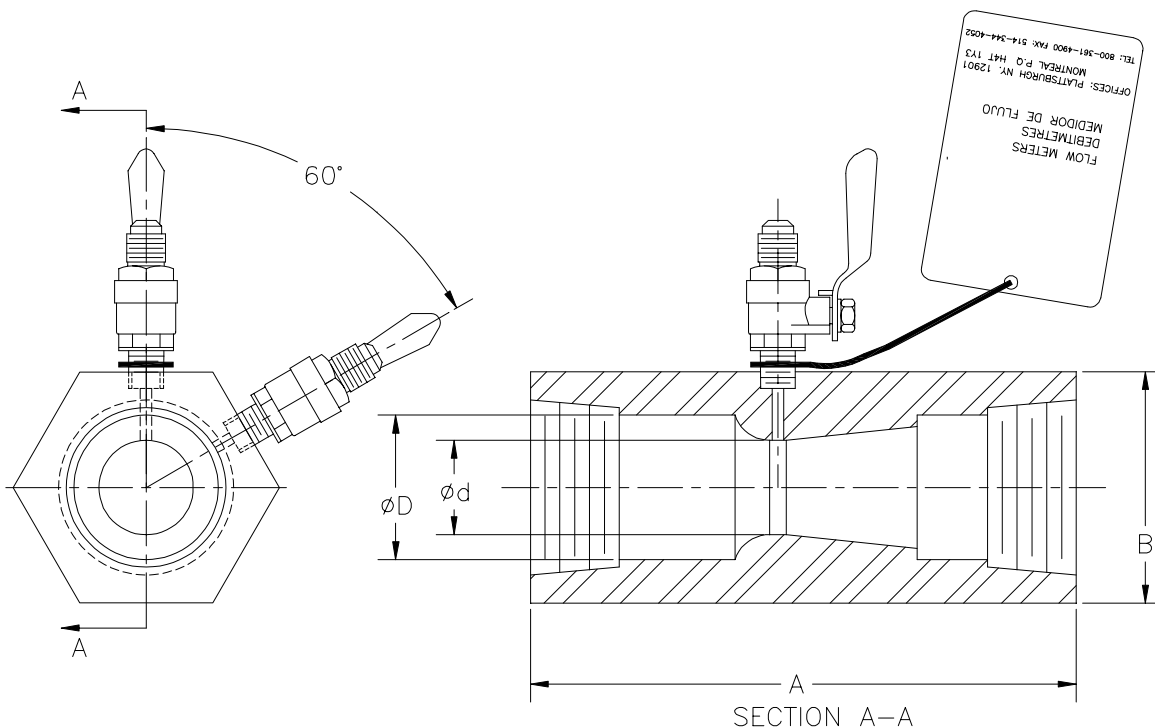
- 1 - (-10) (LOW FLOW)
- 2 - (-20) (MED/LOW FLOW)
- 3 - (-38) (NORMAL FLOW)
- 4 - (-65) (HIGH FLOW)

### INST VALVE

- A - SAE FLARE, BRASS BALL
- B - QDF FITTINGS
- C - P/T PLUGS
- D - EXTENDED P&T/ PLUGS
- E - EXTENDED QDF

# SPECIFICATIONS AND SUBMITTAL DATA

SIZE TROAT	MODEL	Ø		BETA	A	B	APP. WEIGHT lbs (kg)
		<i>inch (mm)</i>	<i>inch (mm)</i>				
1/2" -10	PVBRAXXA1X	0.228 (5.79)	0.622 (15.80)	0.367 (9.32)	3.25 (82.55)	1.50 (38.10)	1.8 (0.82)
1/2" -20	PVBRAXXA2X	0.307 (7.80)	0.622 (15.80)	0.494 (12.55)	3.00 (76.20)	1.50 (38.10)	1.6 (0.73)
1/2" -38	PVBRAXXA3X	0.375 (9.53)	0.622 (15.80)	0.603 (15.32)	2.75 (69.85)	1.50 (38.10)	1.5 (0.68)
1/2" -65	PVBRAXXA4X	0.500 (12.70)	0.622 (15.80)	0.804 (20.42)	2.25 (57.15)	1.50 (38.10)	1.1 (0.50)
3/4" -10	PVBRBXXA1X	0.313 (7.95)	0.824 (20.93)	0.380 (9.65)	4.00 (101.60)	1.75 (44.45)	2.9 (1.32)
3/4" -20	PVBRBXXA2X	0.407 (10.34)	0.824 (20.93)	0.494 (12.55)	3.75 (95.25)	1.75 (44.45)	2.7 (1.22)
3/4" -38	PVBRBXXA3X	0.438 (11.13)	0.824 (20.93)	0.532 (13.51)	3.50 (88.90)	1.75 (44.45)	2.5 (1.13)
3/4" -65	PVBRBXXA4X	0.625 (15.88)	0.824 (20.93)	0.759 (19.28)	2.75 (69.85)	1.75 (44.45)	1.8 (0.82)
1" -10	PVBRCXXA1X	0.375 (9.53)	1.049 (26.64)	0.358 (9.09)	4.88 (123.95)	2.00 (50.80)	4.6 (2.09)
1" -20	PVBRCXXA2X	0.500 (12.70)	1.049 (26.64)	0.477 (12.12)	4.88 (123.95)	2.00 (50.80)	4.5 (2.04)
1" -38	PVBRCXXA3X	0.625 (15.88)	1.049 (26.64)	0.596 (15.14)	3.88 (98.55)	2.00 (50.80)	3.4 (1.54)
1" -65	PVBRCXXA4X	0.859 (21.82)	1.049 (26.64)	0.819 (20.80)	3.00 (76.20)	2.00 (50.80)	2.4 (1.09)
1-1/4" -10	PVBRDXXA1X	0.500 (12.70)	1.380 (35.05)	0.362 (9.19)	6.13 (155.70)	2.25 (57.15)	7.2 (3.27)
1-1/4" -20	PVBRDXXA2X	0.688 (17.48)	1.380 (35.05)	0.499 (12.67)	5.13 (130.30)	2.25 (57.15)	5.8 (2.63)
1-1/4" -38	PVBRDXXA3X	0.875 (22.23)	1.380 (35.05)	0.634 (16.10)	4.50 (114.30)	2.25 (57.15)	4.7 (2.13)
1-1/4" -65	PVBRDXXA4X	1.125 (28.58)	1.380 (35.05)	0.815 (20.70)	3.50 (88.90)	2.25 (57.15)	3.2 (1.45)
1-1/2" -10	PVBREXXA1X	0.625 (15.88)	1.610 (40.89)	0.388 (9.86)	6.13 (155.70)	2.50 (63.50)	8.8 (3.99)
1-1/2" -20	PVBREXXA2X	0.799 (20.29)	1.610 (40.89)	0.496 (12.60)	6.13 (155.70)	2.50 (63.50)	8.4 (3.81)
1-1/2" -38	PVBREXXA3X	1.000 (25.40)	1.610 (40.89)	0.621 (15.77)	5.00 (127.00)	2.50 (63.50)	6.4 (2.90)
1-1/2" -65	PVBREXXA4X	1.313 (33.35)	1.610 (40.89)	0.816 (20.73)	3.88 (98.55)	2.50 (63.50)	4.3 (1.95)
2" -10	PVBRFXXA1X	0.750 (19.05)	2.067 (52.50)	0.363 (9.22)	7.88 (200.15)	3.00 (76.20)	16.2 (7.35)
2" -20	PVBRFXXA2X	1.021 (25.93)	2.067 (52.50)	0.494 (12.55)	7.63 (193.80)	3.00 (76.20)	14.8 (6.71)
2" -38	PVBRFXXA3X	1.375 (34.93)	2.067 (52.50)	0.665 (16.89)	5.38 (136.65)	3.00 (76.20)	9.3 (4.22)
2" -65	PVBRFXXA4X	1.688 (42.88)	2.067 (52.50)	0.817 (20.75)	4.25 (107.95)	3.00 (76.20)	6.4 (2.90)



# Ellipse® Series Model BAR

## 2" to 24" Pitot Tube Meter

Probe Construction	316-Stainless Steel
Head	"Y" Type, Brass 1/8 in FNPT
Pipe Mounting	3000# CS Thread-O-Let
Instrument Valves	1/4" SAE Flare Brass Ball Type
ID Tag	Polycarbonate
*Temperature MAX:	250°F (120°C)
*Pressure MAX:	400 PSIG (2760 kPa)



### BAR 2" - 5"

### ELLIPSE® (1/2")

Sensor Connection 1/2" Brass Compression Compression/SS Ferrule

### BAR 6" - 12"

### ELLIPSE® (7/8")

Sensor Connection 1" CS Compression Compression/SS Ferrule

### BAR 12" - 24"

### ELLIPSE® (1-1/4")

Sensor Connection 1-1/4" Brass Compression Compression/SS Ferrule

\* For higher pressure and temperature applications please consult factory

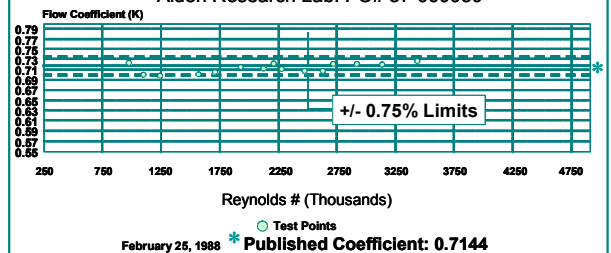
## Features

- No separation effects on the low (static) pressure
- Turndown ratio of 17:1;
- No vacuum effects.
- No vortex generation
- Very high repeatability.
- Accuracy of ± 3/4% uncalibrated
- Lowest drag coefficient (lowest pressure loss in the industry).

### NIST Traceable

#### Water Calibration

Model: BAR-1600 Ellipse  
Alden Research Lab. PO# 87-000930



## MODEL SELECTOR: PBAR□□□□□

### PIPE SIZE

- A - 2"
- B - 2-1/2"
- C - 3"
- D - 3-1/2"
- E - 4"
- F - 5"
- G - 6"
- H - 8"
- I - 10"
- J - 12"
- K - 14"
- L - 16"
- M - 18"
- N - 20"
- O - 24"
- X - OTHER

### SCHEDULE

- A - **STD**
- B - 40
- C - 80
- D - TYPE L (COPPER)
- E - TYPE K (COPPER)
- X - OTHER

### PIPE MOUNTING/CONNECTOR HARDWARE

- 1 - CARBON STEEL/BRASS
- 2 - COPPER/BRASS
- 3 - PVC/BRASS
- 4 - CS W/DOUBLE SUPPORT
- 5 - COPPER W/DOUBLE SUPPORT
- 6 - PVC W/DOUBLE SUPPORT
- X - OTHER

### INSTRUMENT CONNECTION

- A - BRASS BALL VALVE 1/4" SAE
- B - BRASS BALL VALVE W/QUICK CONNECT
- X - OTHER

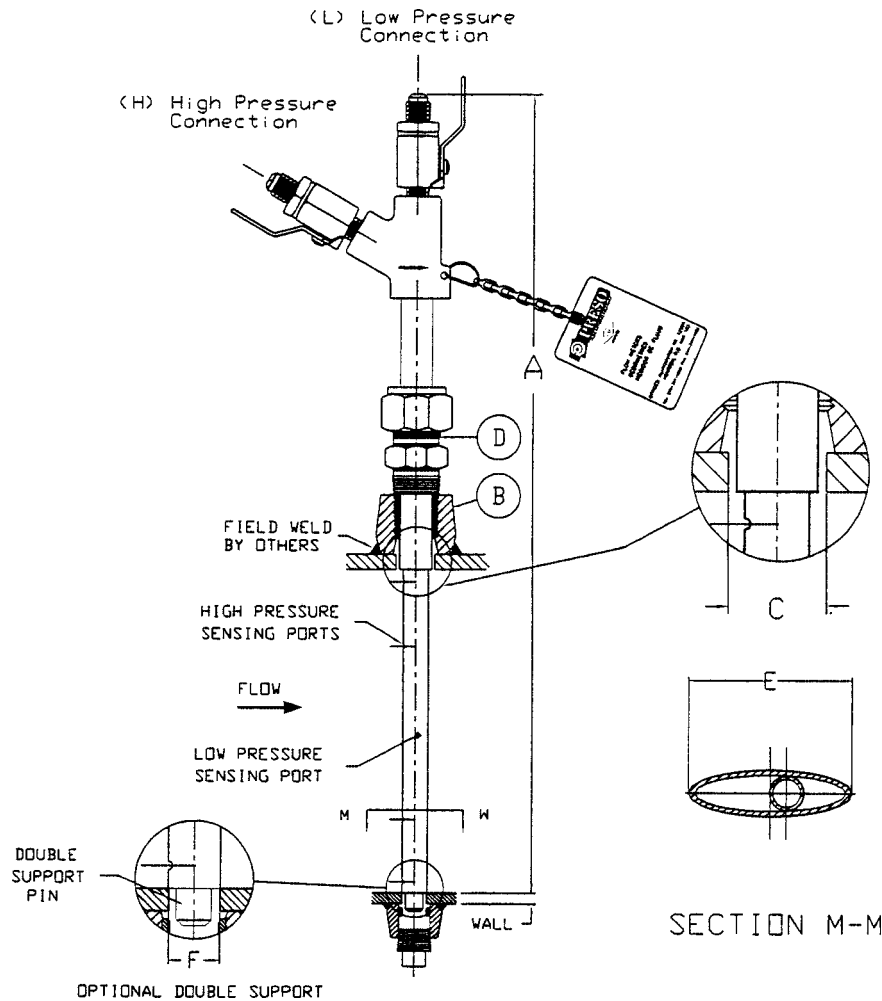
### TAG

- 1 - POLYCARBONATE
- 2 - STAINLESS STEEL

**BOLD** = Standard

# SPECIFICATIONS AND SUBMITTAL DATA

SIZE	MODEL	B		C		D		E		F		APP. WEIGHT lbs (kg)
		inch (mm)	mm	inch (mm)	mm	inch (mm)	mm	ELLIPSE inch (mm)	mm	inch (mm)	mm	
2"	PBARAXXX	0.5 (12.7)	12.7	0.625 (15.80)	15.80	0.5 (12.7)	12.7	0.5 (12.7)	12.7	0.375 (9.5)	9.5	2 (0.9)
2-1/2"	PBARBXXX	0.5 (12.7)	12.7	0.625 (15.80)	15.80	0.5 (12.7)	12.7	0.5 (12.7)	12.7	0.375 (9.5)	9.5	3 (1.3)
3"	PBARCXXX	0.5 (12.7)	12.7	0.625 (15.80)	15.80	0.5 (12.7)	12.7	0.5 (12.7)	12.7	0.375 (9.5)	9.5	3 (1.3)
3-1/2"	PBARDXXX	0.5 (12.7)	12.7	0.625 (15.80)	15.80	0.5 (12.7)	12.7	0.5 (12.7)	12.7	0.375 (9.5)	9.5	3.5 (1.5)
4"	PBAREXXX	0.5 (12.7)	12.7	0.625 (15.80)	15.80	0.5 (12.7)	12.7	0.5 (12.7)	12.7	0.375 (9.5)	9.5	3.5 (1.5)
5"	PBARFXXX	0.5 (12.7)	12.7	0.625 (15.80)	15.80	0.5 (12.7)	12.7	0.5 (12.7)	12.7	0.375 (9.5)	9.5	4 (1.8)
6"	PBARGXXX	1.0 (25.4)	25.4	1.125 (28.5)	28.5	1.0 (25.4)	25.4	0.875 (22.2)	22.2	0.5 (12.7)	12.7	4.5 (2)
8"	PBARHXXX	1.0 (25.4)	25.4	1.125 (28.5)	28.5	1.0 (25.4)	25.4	0.875 (22.2)	22.2	0.5 (12.7)	12.7	4.5 (2)
10"	PBARIXXX	1.0 (25.4)	25.4	1.125 (28.5)	28.5	1.0 (25.4)	25.4	0.875 (22.2)	22.2	0.5 (12.7)	12.7	5 (2.3)
12"	PBARJXXX	1.0 (25.4)	25.4	1.125 (28.5)	28.5	1.0 (25.4)	25.4	0.875 (22.2)	22.2	0.5 (12.7)	12.7	5.5 (2.5)
14"	PBARKXXX	1.25 (31.7)	31.7	1.375 (34.9)	34.9	1.25 (31.7)	31.7	1.25 (31.7)	31.7	0.875 (22.2)	22.2	6.5 (2.9)
16"	PBARLXXX	1.25 (31.7)	31.7	1.375 (34.9)	34.9	1.25 (31.7)	31.7	1.25 (31.7)	31.7	0.875 (22.2)	22.2	7 (3.1)
18"	PBARMXXX	1.25 (31.7)	31.7	1.375 (34.9)	34.9	1.25 (31.7)	31.7	1.25 (31.7)	31.7	0.875 (22.2)	22.2	7.5 (3.4)
20"	PBARNXXX	1.25 (31.7)	31.7	1.375 (34.9)	34.9	1.25 (31.7)	31.7	1.25 (31.7)	31.7	0.875 (22.2)	22.2	8 (3.6)
24"	PBAROXXX	1.25 (31.7)	31.7	1.375 (34.9)	34.9	1.25 (31.7)	31.7	1.25 (31.7)	31.7	0.875 (22.2)	22.2	9 (4)



# Ellipse® Series Model BHL

## 2" to 24" Pitot Tube Meter

Probe Construction	316-Stainless Steel
Head	"Y" Type, Brass 1/8 in FNPT
Instrument Valves	1/4" SAE Flare Brass Ball Type
Packing Gland	Molythane with CS Cage Nipple & Close Nipple
Retract Assembly	CS Rods, Nuts & Bolts
ID Tag	Polycarbonate
*Temperature MAX:	250°F (120°C)
*Pressure MAX:	400 PSIG (2760 kPa)

<b>BHL 2" - 5"</b>	<b>ELLIPSE® (1/2")</b>
Pipe Mounting	3/4" 3000# CS Thread-O-Let
Isolating Valve	3/4" Bronze Ball Valve

<b>BHL 6" - 12"</b>	<b>ELLIPSE® (7/8")</b>
Pipe Mounting	1-1/4" 3000# CS Thread-O-Let
Isolating Valve	1-1/4" Bronze Ball Valve

<b>BHL 12" - 24"</b>	<b>ELLIPSE® (1-1/4")</b>
Pipe Mounting	1-1/2" 3000# CS Thread-O-Let
Isolating Valve	1-1/2" Bronze Ball Valve

\* For higher pressure and temperature applications please consult factory



### Features

- No separation effects on the low (static) pressure
- Turndown ratio of 17:1;
- No vacuum effects.
- No vortex generation
- Very high repeatability.
- Accuracy of ± 3/4% uncalibrated
- Lowest drag coefficient (lowest pressure loss in the industry).

## MODEL SELECTOR: PBHL□□□□□

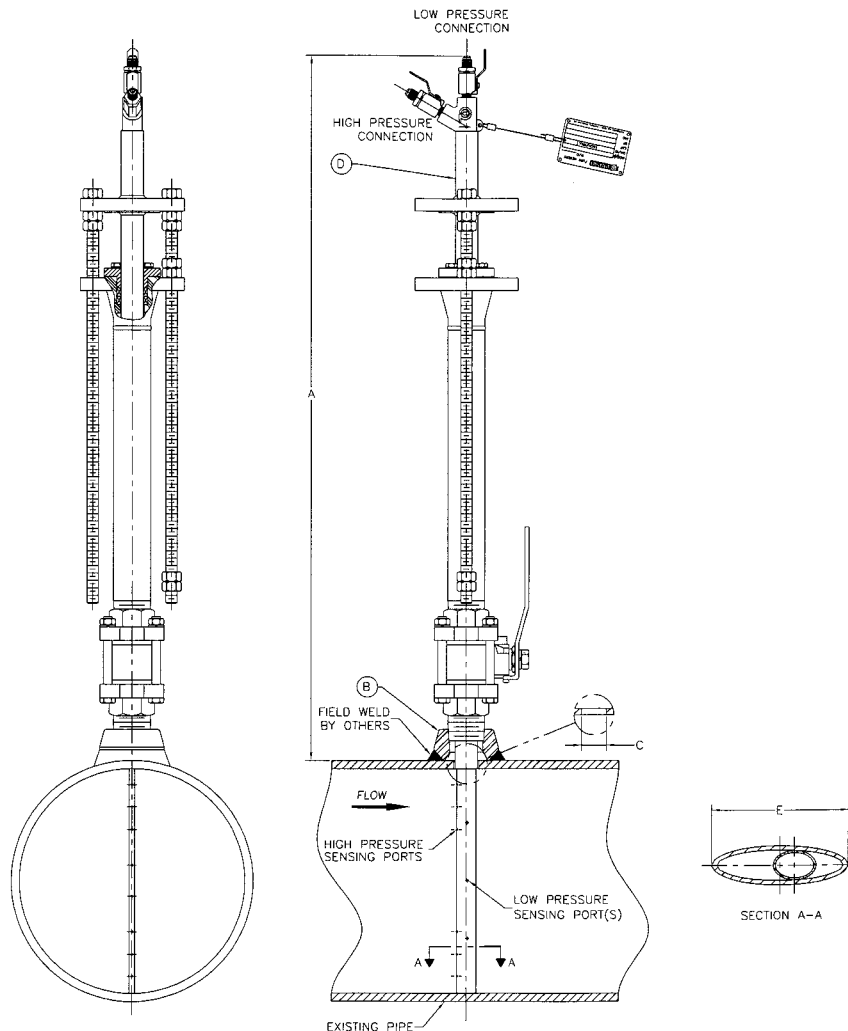
PIPE SIZE	SCHEDULE	PIPE MOUNTING/CONNECTOR HARDWARE	INSTRUMENT CONNECTION
A - 2"	A - STD	1 - CARBON STEEL/BRASS	A - BRASS BALL VALVE
B - 2-1/2"	B - 40	2 - COPPER/BRASS	1/4" SAE
C - 3"	C - 80	3 - PVC/BRASS	B - BRASS BALL VALVE
D - 3-1/2"	D - TYPE L (COPPER)	4 - CS	W/QUICK CONNECT
E - 4"	E - TYPE K (COPPER)	5 - COPPER	X - OTHER
F - 5"	X - OTHER	W/DOUBLE SUPPORT	
G - 6"		6 - PVC	
H - 8"		W/DOUBLE SUPPORT	
I - 10"		X - OTHER	
J - 12"			
K - 14"			
L - 16"			
M - 18"			
N - 20"			
O - 24"			
X - OTHER			

**TAG**  
**1 - POLYCARBONATE**  
**2 - STAINLESS STEEL**

**BOLD = Standard**

# SPECIFICATIONS AND SUBMITTAL DATA

SIZE	MODEL	A HIGHT <i>inch (mm)</i>	B NPT <i>inch (mm)</i>	C DIA <i>inch (mm)</i>	D DIA <i>inch (mm)</i>	E ELLIPSE <i>inch (mm)</i>
2"	PBHLAXXXX	22.75 (577.9)	0.75 (19)	0.625 (15.80)	0.5 (12.7)	0.5 (12.7)
2-1/2"	PBHLBXXX	24.25 (616)	0.75 (19)	0.625 (15.80)	0.5 (12.7)	0.5 (12.7)
3"	PBHLCXXX	23.75 (603.2)	0.75 (19)	0.625 (15.80)	0.5 (12.7)	0.5 (12.7)
3-1/2"	PBHLDXXX	24.25 (616)	0.75 (19)	0.625 (15.80)	0.5 (12.7)	0.5 (12.7)
4"	PBHLEXXXX	24.25 (616)	0.75 (19)	0.625 (15.80)	0.5 (12.7)	0.5 (12.7)
5"	PBHLFXXX	25.75 (654)	0.75 (19)	0.625 (15.80)	0.5 (12.7)	0.5 (12.7)
6"	PBHLGXXX	33 (838.2)	1.25 (31.7)	1.0 (25.4)	1.0 (25.4)	0.875 (22.2)
8"	PBHLHXXX	35 (889)	1.25 (31.7)	1.0 (25.4)	1.0 (25.4)	0.875 (22.2)
10"	PBHLIXXX	37 (939.8)	1.25 (31.7)	1.0 (25.4)	1.0 (25.4)	0.875 (22.2)
12"	PBHLJXXX	39 (990.6)	1.25 (31.7)	1.0 (25.4)	1.0 (25.4)	0.875 (22.2)
14"	PBHLKXXX	44 (1117.6)	1.5 (38.1)	1.25 (31.7)	1.25 (31.7)	1.25 (31.7)
16"	PBHLLXXX	46 (1168.4)	1.5 (38.1)	1.25 (31.7)	1.25 (31.7)	1.25 (31.7)
18"	PBHLMXXX	48 (1219.2)	1.5 (38.1)	1.25 (31.7)	1.25 (31.7)	1.25 (31.7)
20"	PBHLNXXX	50 (1270)	1.5 (38.1)	1.25 (31.7)	1.25 (31.7)	1.25 (31.7)
24"	PBHLOXXX	54 (1371.6)	1.5 (38.1)	1.25 (31.7)	1.25 (31.7)	1.25 (31.7)



# Ellipse® Series Model BHR

## 2" to 24" Pitot Tube Meter

Probe Construction 316-Stainless Steel  
 Head "Y" Type, Brass 1/8 in FNPT  
 Instrument Valves 1/4" SAE Flare Brass Ball Type  
 Retract Assembly Wet Tap

ID Tag Polycarbonate  
 \*Temperature MAX: 250°F (120°C)  
 \*Pressure MAX: 400 PSIG (2760 kPa)

**BHR 2" - 5"** **ELLIPSE® (1/2")**  
 Sensor Connection 3/4" Brass Compression w/SS Ferrule  
 Pipe Mounting 3/4" 3000# CS Thread-O-Let  
 Isolating Valve 3/4" Bronze Ball Valve

**BHR 6" - 12"** **ELLIPSE® (7/8")**  
 Sensor Connection 1" Brass Compression w/SS Ferrule  
 Pipe Mounting 1-1/4" 3000# CS Thread-O-Let  
 Isolating Valve 1-1/4" Bronze Ball Valve

**BHR 12" - 24"** **ELLIPSE® (1-1/4")**  
 Sensor Connection 1-1/4" Brass Compression w/SS Ferrule  
 Pipe Mounting 1-1/2" 3000# CS Thread-O-Let  
 Isolating Valve 1-1/2" Bronze Ball Valve

\* For higher pressure and temperature applications please consult factory



### Features

- No separation effects on the low (static) pressure
- Turndown ratio of 17:1;
- No vacuum effects.
- No vortex generation
- Very high repeatability.
- Accuracy of ± 3/4% uncalibrated
- Lowest drag coefficient (lowest pressure loss in the industry).

## MODEL SELECTOR: PBHR□□□□□

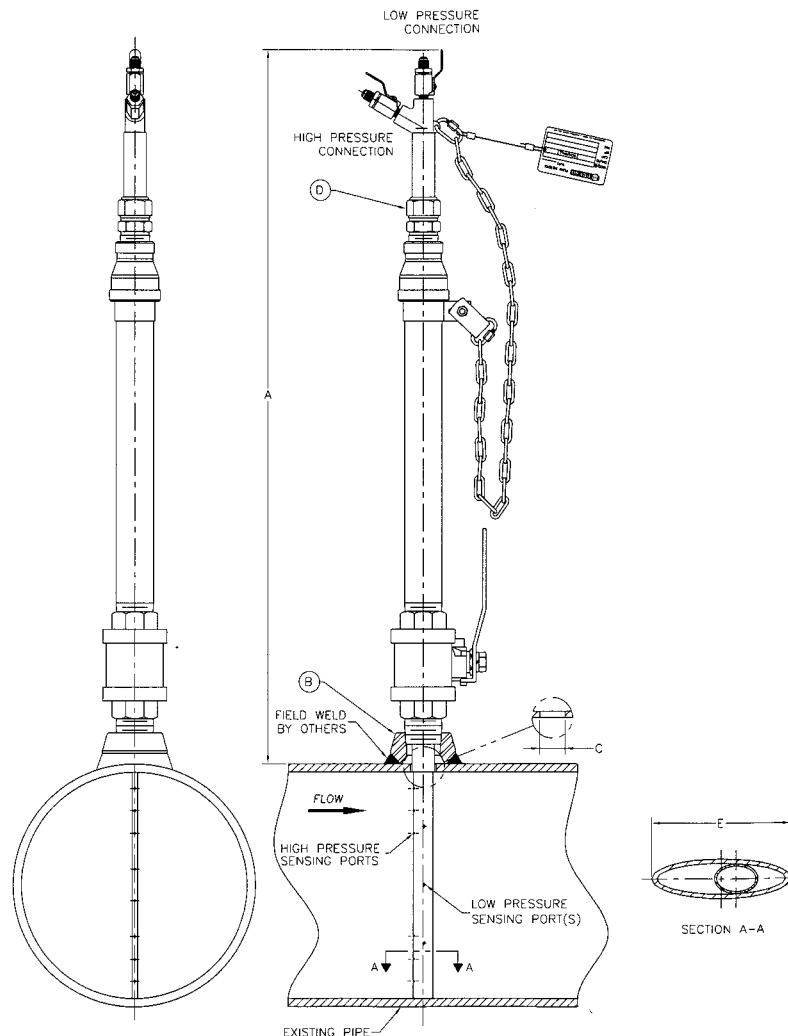
PIPE SIZE	SCHEDULE	PIPE MOUNTING/CONNECTOR HARDWARE	INSTRUMENT CONNECTION
A - 2"	A - STD	1 - CARBON STEEL/BRASS	A - BRASS BALL VALVE
B - 2-1/2"	B - 40	2 - COPPER/BRASS	1/4" SAE
C - 3"	C - 80	3 - PVC/BRASS	B - BRASS BALL VALVE
D - 3-1/2"	D - TYPE L (COPPER)	4 - CS W/DOUBLE SUPPORT	W/QUICK CONNECT
E - 4"	E - TYPE K (COPPER)	5 - COPPER W/DOUBLE SUPPORT	X - OTHER
F - 5"	X - OTHER	6 - PVC W/DOUBLE SUPPORT	
G - 6"		X - OTHER	
H - 8"			
I - 10"			
J - 12"			
K - 14"			
L - 16"			
M - 18"			
N - 20"			
O - 24"			
X - OTHER			

**TAG**  
 1 - POLYCARBONATE  
 2 - STAINLESS STEEL

**BOLD = Standard**

# SPECIFICATIONS AND SUBMITTAL DATA

SIZE	MODEL	A HIGHT inch (mm)	B NPT inch (mm)	C DIA inch (mm)	D DIA inch (mm)	E ELLIPSE inch (mm)
2"	PBHRAXXXX	12 (304.8)	0.75 (19)	0.625 (15.80)	0.5 (12.7)	0.5 (12.7)
2-1/2"	PBHRBXXXX	12.5 (317.5)	0.75 (19)	0.625 (15.80)	0.5 (12.7)	0.5 (12.7)
3"	PBHRCXXXX	13 (330.2)	0.75 (19)	0.625 (15.80)	0.5 (12.7)	0.5 (12.7)
3-1/2"	PBHRDXXXX	13.5 (342.9)	0.75 (19)	0.625 (15.80)	0.5 (12.7)	0.5 (12.7)
4"	PBHREXXXX	14 (355.6)	0.75 (19)	0.625 (15.80)	0.5 (12.7)	0.5 (12.7)
5"	PBHRFXXXX	15 (381)	0.75 (19)	0.625 (15.80)	0.5 (12.7)	0.5 (12.7)
6"	PBHRGXXXX	23.5 (596.9)	1.25 (31.7)	1.125 (28.6)	1.0 (25.4)	0.875 (22.2)
8"	PBHRHXXXX	25.5 (647.7)	1.25 (31.7)	1.125 (28.6)	1.0 (25.4)	0.875 (22.2)
10"	PBHRIXXXX	27.375 (695.3)	1.25 (31.7)	1.125 (28.6)	1.0 (25.4)	0.875 (22.2)
12"	PBHRJXXXX	27.375 (695.3)	1.25 (31.7)	1.125 (28.6)	1.0 (25.4)	0.875 (22.2)
14"	PBHRKXXXX	31.625 (803.3)	1.5 (38.1)	1.375 (34.9)	1.25 (31.7)	1.25 (31.7)
16"	PBHRLXXXX	33.625 (854)	1.5 (38.1)	1.375 (34.9)	1.25 (31.7)	1.25 (31.7)
18"	PBHRMXXXX	35.625 (904.9)	1.5 (38.1)	1.375 (34.9)	1.25 (31.7)	1.25 (31.7)
20"	PBHRNXXXX	37.625 (955.7)	1.5 (38.1)	1.375 (34.9)	1.25 (31.7)	1.25 (31.7)
24"	PBHROXXXX	41.625 (1057.3)	1.5 (38.1)	1.375 (34.9)	1.25 (31.7)	1.25 (31.7)



# Model BIN

## 2" to 24" Pitot Tube Meter

Probe Construction	316-Stainless Steel
Head	"Y" Type, Brass 1/8" FNPT
Pipe Mounting	3000# CS Thread-O-Let
Instrument Valves	1/4" SAE Flare Brass Ball Type
ID Tag	Polycarbonate
*Temperature MAX:	250°F (120°C)
*Pressure MAX:	400 PSIG (2760 kPa)

\* For higher pressure and temperature applications please consult factory

The BIN is a highly reliable averaging pitot tube which generates a pressure differential between its upstream (stagnation) ports and its downstream (static) ports that is proportional to the flow rate squared. It can be used to measure liquid or air in pipe sizes between 2" and 24". An opposite support is supplied standard on pipe sizes 8" and larger.

### Features

- Accuracy ±3%
- Easy low-cost installation - ideal for retrofits
- Very low pressure drop
- Bi-directional flow measurement capability



## MODEL SELECTOR: PBIN□□□□□

### PIPE SIZE

- A - 2"
- B - 2-1/2"
- C - 3"
- D - 3-1/2"
- E - 4"
- F - 5"
- G - 6"
- H - 8"
- I - 10"
- J - 12"
- K - 14"
- L - 16"
- M - 18"
- N - 20"
- O - 24"
- X - OTHER

### SCHEDULE

- A - **STD**
- B - 40
- C - 80
- D - TYPE L (COPPER)
- E - TYPE K (COPPER)
- X - OTHER

### PIPE MOUNTING/CONNECTOR HARDWARE

- 1 - CARBON STEEL/BRASS
- 2 - COPPER/BRASS
- 3 - PVC/BRASS
- X - OTHER

### INSTRUMENT CONNECTION

- A - BRASS BALL VALVE 1/4" SAE
- B - BRASS BALL VALVE W/QUICK CONNECT
- X - OTHER

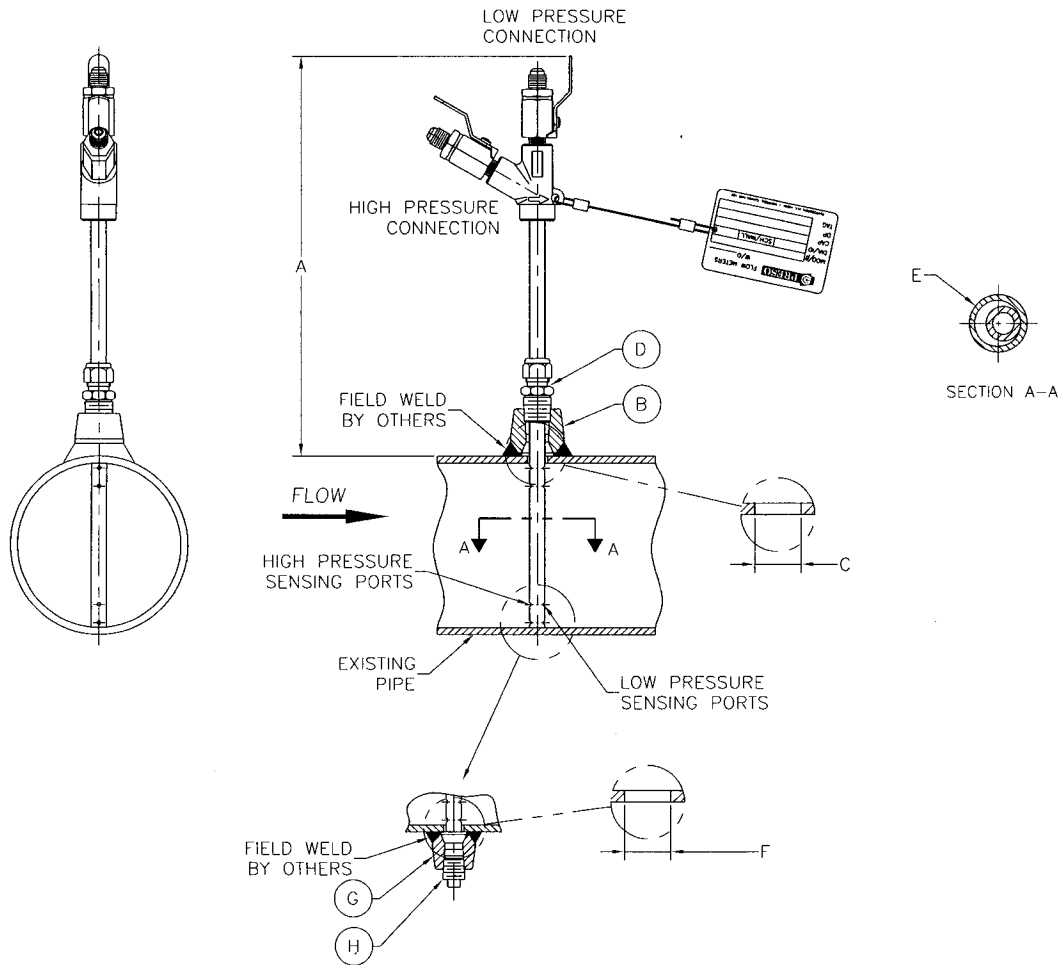
### TAG

- 1 - POLYCARBONATE
- 2 - STAINLESS STEEL

**BOLD** = Standard

# SPECIFICATIONS AND SUBMITTAL DATA

SIZE	MODEL	A HIGHT <i>inch (mm)</i>	B NPT <i>inch (mm)</i>	C DIM <i>inch (mm)</i>	D OD <i>inch (mm)</i>	E NPT <i>inch (mm)</i>	F NPT <i>inch (mm)</i>	APP. WEIGHT <i>lbs (kg)</i>
2"	PBINAXXXX	8.25 (209.55)	0.25 (6.35)	0.625 (15.80)	0.3125 (7.9)	N/A	N/A	1 (0.45)
2-1/2"	PBINBXXX	8.25 (209.55)	0.25 (6.35)	0.625 (15.80)	0.3125 (7.9)	N/A	N/A	1 (0.45)
3"	PBINCXXX	8 (203.2)	0.25 (6.35)	0.625 (15.80)	0.3125 (7.9)	N/A	N/A	1 (0.45)
3-1/2"	PBINDXXX	8.25 (209.55)	0.25 (6.35)	0.625 (15.80)	0.3125 (7.9)	N/A	N/A	1 (0.45)
4"	PBINEXXXX	8.25 (209.55)	0.25 (6.35)	0.625 (15.80)	0.3125 (7.9)	N/A	N/A	1 (0.45)
5"	PBINFXXXX	8.75 (222.25)	0.375 (9.5)	0.625 (15.80)	0.375 (9.5)	N/A	N/A	1.25 (0.57)
6"	PBINGXXX	8.75 (222.25)	0.375 (9.5)	1.125 (28.5)	0.375 (9.5)	N/A	N/A	1.25 (0.57)
8"	PBINHXXX	8.38 (212.9)	0.375 (9.5)	1.125 (28.5)	0.375 (9.5)	0.25 (6.35)	0.25 (6.35)	1.5 (0.68)
10"	PBINIXXX	8.38 (212.9)	0.375 (9.5)	1.125 (28.5)	0.375 (9.5)	0.25 (6.35)	0.25 (6.35)	1.5 (0.68)
12"	PBINJXXX	9.38 (238.3)	0.5 (12.7)	1.125 (28.5)	0.5 (12.7)	0.375 (9.5)	0.375 (9.5)	2 (0.91)
14"	PBINKXXX	10.25 (260.35)	1 (25.4)	1.375 (34.9)	1 (25.4)	1 (25.4)	1 (25.4)	4.25 (1.93)
16"	PBINLXXX	10.38 (263.65)	1 (25.4)	1.375 (34.9)	1 (25.4)	1 (25.4)	1 (25.4)	4.25 (1.93)
18"	PBINMXXX	10.38 (263.65)	1 (25.4)	1.375 (34.9)	1 (25.4)	1 (25.4)	1 (25.4)	4.5 (2.05)
20"	PBINNXXX	10.25 (260.35)	1 (25.4)	1.375 (34.9)	1 (25.4)	1 (25.4)	1 (25.4)	4.5 (2.05)
24"	PBINOXXX	10.25 (260.35)	1 (25.4)	1.375 (34.9)	1 (25.4)	1 (25.4)	1 (25.4)	4.5 (2.05)



# Model CV Series

## 2-1/2" to 16" Venturi Flow Meters

The CV venturi Flow Meter is a differential pressure element designed to accurately measure the flow of liquids, gases or steam by forcing the flow into a smaller diameter section of pipe, then measuring the pressure differences between the unrestricted flow and the restricted flow. It can be installed in any position with minimal straight pipe requirements (5 pipe diameters upstream and 2 pipe diameters downstream).

Patterson can relate the success of the CV venturi to the Low-Loss design which amounts to over 35 years of field performance in a wide variety of applications. The reduced operating costs inherent with the design will let the CV pay for itself in a very short time. Low installation costs due to short laying length make the CV the right choice for many applications.

### Features:

- Carbon Steel Construction
- 1/8" MNPT x 1/4" SAE Brass Ball Process Connections
- NPT, Butt weld or Flanged End Connections
- Polycarbonate ID Tag
- Max Temp. 250°F (120°C)
- Max Pressure 300 PSIG (2070 Kpa)

### Options:

- Quick Disconnect Fittings
- P/T Plugs
- Pressure Port Extensions
- Stainless Steel ID Tag

\* For higher pressure and temperature applications please consult factory



## MODEL SELECTOR: PCV□□□□□□

### PIPE SIZE

- G - 2-1/2"
- H - 3"
- I - 4"
- J - 5"
- K - 6"
- L - 8"
- M - 10"
- N - 12"
- O - 14"
- P - 16"

### MATERIAL

- 1 - CARBON STEEL
- X - OTHER

### END CONNECTION

- A - RF FLANGE - 150#
- B - RF FLANGE - 300#
- C - NPT (UP TO 3")
- D - GROOVED
- E - BUTTWELD
- X - OTHER

### BETA

- 1 - (-38) (NORMAL FLOW)
- 2 - (-65) (HIGH FLOW)

### INSTRUMENT CONNECTION

- A - BRASS BALL VALVE 1/4" SAE
- B - BRASS BALL VALVE W/QUICK CONNECT
- C - PRESSURE & TEMP PLUGS
- D - BRASS BALL VALVE W/EXTENSION
- E - BRASS BALL VALVE W/QUICK CONNECT & EXTENSION
- F - PRESSURE & TEMP PLUGS W/EXTENSION
- Z - NONE

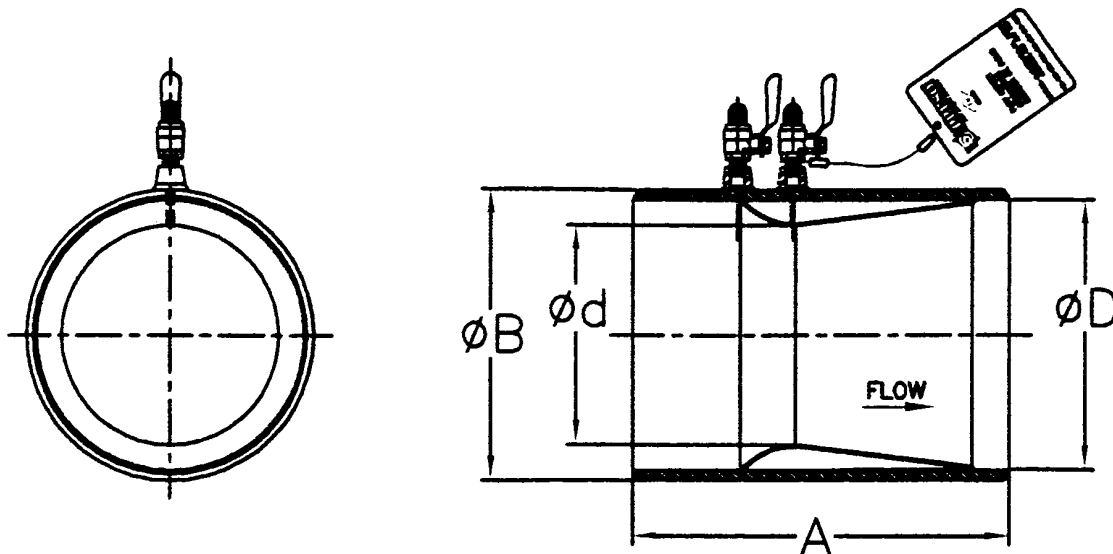
### TAG

- 1 - POLYCARBONATE
- 2 - STAINLESS STEEL

# SPECIFICATIONS AND SUBMITTAL DATA

## Butt Weld and Grooved Models

SIZE TROAT	MODEL	$\varnothing d$	$\varnothing D$	BETA	$\varnothing A$	$\varnothing B$	APP. WEIGHT
		<i>inch (mm)</i>	<i>inch (mm)</i>	<i>inch (mm)</i>	<i>inch (mm)</i>	<i>inch (mm)</i>	<i>lbs (kg)</i>
2-1/2" -38	PCVG1XX1X	1.625 (41.3)	2.469 (62.7)	0.658 (16.7)	6 (152.4)	2.88 (73.2)	3 (1.36)
2-1/2" -65	PCVG1XX2X	2 (50.8)	2.469 (62.7)	0.81 (20.6)	6 (152.4)	2.88 (73.2)	3 (1.36)
3" -38	PCVH1XX1X	2 (50.8)	3.068 (77.9)	0.652 (16.9)	6 (152.4)	3.5 (88.9)	5 (2.27)
3" -65	PCVH1XX2X	2.5 (63.5)	3.068 (77.9)	0.815 (20.1)	6 (152.4)	3.5 (88.9)	5 (2.27)
4" -38	PCVI1XX1X	2.625 (66.7)	4.026 (102.3)	0.652 (16.9)	7 (177.8)	4.5 (114.3)	7 (3.18)
4" -65	PCVI1XX2X	3.25 (82.6)	4.026 (102.3)	0.807 (20.5)	7 (177.8)	4.5 (114.3)	7 (3.18)
5" -38	PCVJ1XX1X	3.25 (82.6)	5.047 (128.2)	0.644 (16.4)	8.5 (215.9)	5.56 (141.2)	9 (4.1)
5" -65	PCVJ1XX2X	4.125 (104.8)	5.047 (128.2)	0.817 (20.8)	8.5 (215.9)	5.56 (141.2)	9 (4.1)
6" -38	PCVK1XX1X	3.875 (98.4)	6.065 (154.1)	0.639 (16.2)	9.5 (241.3)	6.63 (168.4)	17 (7.73)
6" -65	PCVK1XX2X	4.938 (125.4)	6.065 (154.1)	0.814 (20.7)	9.5 (241.3)	6.63 (168.4)	17 (7.73)
8" -38	PCVL1XX1X	4.875 (123.8)	7.981 (202.7)	0.611 (15.5)	13.5 (342.9)	8.63 (219.2)	35 (15.91)
8" -65	PCVL1XX2X	6.5 (165.1)	7.981 (202.7)	0.814 (20.7)	13.5 (342.9)	8.63 (219.2)	35 (15.91)
10" -38	PCVM1XX1X	6 (152.4)	10.0 (254)	0.599 (15.2)	16 (406.4)	10.75 (273)	59 (26.82)
10" -65	PCVM1XX2X	8.125 (206.4)	10.0 (254)	0.811 (20.6)	16 (406.4)	10.75 (273)	59 (26.82)
12" -38	PCVN1XX1X	8 (203.2)	12.0 (304.8)	0.667 (16.9)	17.25 (438.15)	12.75 (323.9)	106 (48.18)
12" -65	PCVN1XX2X	9.75 (247.65)	12.0 (304.8)	0.813 (20.70)	17.25 (438.15)	12.75 (323.9)	106 (48.18)
14" -38	PCVO1XX1X	8.5 (215.9)	13..25 (336.55)	0.642 (16.3)	19.25 (488.95)	14 (355.6)	130 (59.1)
14" -65	PCVO1XX2X	10.5 (266.7)	13..25 (336.55)	0.816 (20.7)	19.25 (488.95)	14 (355.6)	130 (59.1)
16" -38	PCVP1XX1X	10.5 (266.7)	15..25 (387.35)	0.689 (17.5)	19.25 (514.35)	16 (406.2)	160 (72.7)
16" -65	PCVP1XX2X	12.5 (317.5)	15..25 (387.35)	0.820 (20.8)	19.25 (514.35)	16 (406.2)	160 (72.7)



# SPECIFICATIONS AND SUBMITTAL DATA

## Fig. 150# Model

SIZE TROAT	MODEL	Ød <i>inch (mm)</i>	ØD <i>inch (mm)</i>	BETA <i>inch (mm)</i>	ØA <i>inch (mm)</i>	ØB <i>inch (mm)</i>	APP. WEIGHT <i>lbs (kg)</i>
2-1/2" -38	PCVG1AX1X	1.625 (41.3)	2.469 (62.7)	0.658 (16.7)	11.625 (295.3)	7 (177.8)	19 (1.36)
2-1/2" -65	PCVG1AX2X	2 (50.8)	2.469 (62.7)	0.81 (20.6)	11.625 (295.3)	7 (177.8)	19 (1.36)
3" -38	PCVH1AX1X	2 (50.8)	3.068 (77.9)	0.652 (16.9)	11.625 (295.3)	7.5 (190.5)	25 (2.27)
3" -65	PCVH1AX2X	2.5 (63.5)	3.068 (77.9)	0.815 (20.1)	11.625 (295.3)	7.5 (190.5)	25 (2.27)
4" -38	PCVI1AX1X	2.625 (66.7)	4.026 (102.3)	0.652 (16.9)	13.125 (333.4)	9 (228.6)	37 (3.18)
4" -65	PCVI1AX2X	3.25 (82.6)	4.026 (102.3)	0.807 (20.5)	13.125 (333.4)	9 (228.6)	37 (3.18)
5" -38	PCVJ1AX1X	3.25 (82.6)	5.047 (128.2)	0.644 (16.4)	15.625 (396.9)	10 (254)	47 (4.1)
5" -65	PCVJ1AX2X	4.125 (104.8)	5.047 (128.2)	0.817 (20.8)	15.625 (396.9)	10 (254)	47 (4.1)
6" -38	PCVK1AX1X	3.875 (98.4)	6.065 (154.1)	0.639 (16.2)	16.625 (422.3)	11 (279.4)	65 (7.73)
6" -65	PCVK1AX2X	4.938 (125.4)	6.065 (154.1)	0.814 (20.7)	21.625 (549.3)	11 (279.4)	65 (7.73)
8" -38	PCVL1AX1X	4.875 (123.8)	7.981 (202.7)	0.611 (15.5)	21.625 (549.3)	13.5 (342.9)	113 (15.91)
8" -65	PCVL1AX2X	6.5 (165.1)	7.981 (202.7)	0.814 (20.7)	24.125 (612.8)	13.5 (342.9)	113 (15.91)
10" -38	PCVM1AX1X	6 (152.4)	10.0 (254)	0.599 (15.2)	24.125 (612.8)	16 (406.4)	163 (26.82)
10" -65	PCVM1AX2X	8.125 (206.4)	10.0 (254)	0.811 (20.6)	24.125 (612.8)	16 (406.4)	163 (26.82)
12" -38	PCVN1AX1X	8 (203.2)	12.0 (304.8)	0.667 (16.9)	26.75 (679.5)	19 (482.6)	266 (48.18)
12" -65	PCVN1AX2X	9.75 (247.65)	12.0 (304.8)	0.813 (20.70)	26.75 (679.5)	19 (482.6)	266 (48.18)
14" -38	PCVO1AX1X	8.5 (215.9)	13.25 (336.55)	0.642 (16.3)	29.75 (755.7)	21 (533.4)	350 (59.1)
14" -65	PCVO1AX2X	10.5 (266.7)	13.25 (336.55)	0.816 (20.7)	29.75 (755.7)	21 (533.4)	350 (59.1)
16" -38	PCVP1AX1X	10.5 (266.7)	15.25 (387.35)	0.689 (17.5)	30.75 (781)	23.5 (596.9)	440 (72.7)
16" -65	PCVP1AX2X	12.5 (317.5)	15.25 (387.35)	0.820 (20.8)	30.75 (781)	23.5 (596.9)	440 (72.7)

