

### DESCRIPTION

The Preso ELLIPSE<sup>®</sup> Model BAR (Annular Commercial) is a multi-ported, self averaging differential pressure type ELLIPSE flow element.

### CONFIGURATION

The flow element has a two-piece construction: an elliptical shape and two 100% independent flow sensing chambers. This construction prevents signal degradation and mixing, and does not require dampening hardware or software. The impact velocity sensing holes are located along the leading edge and the true static sensing holes are on the exterior probe side. This does not generate any vortices or vacuum effects that impinge on the static pressure measurement sensing area and has a drag coefficient of 0.32 or less. Each flow sensor is complete with instrument shutoff valves with provisions to accept a transmitter or direct indicating meter. An identification tag is supplied with specific flow station measurement information, as required.

### ACCURACY AND REPEATABILITY

The accuracy of the flow element is within  $\pm 0.75\%$  with a repeatability of  $\pm 0.1\%$  and turndown ratio of 17:1 in the corresponding and appropriate range of Reynolds' Numbers. Certified, independent test data is available from NIST laboratories in similar line sizes as well as in liquids and gases.

### APPLICABLE FLUIDS

Liquids and gases.

### COMPONENTS

All sensors are furnished with 1/4 in. instrument ball valves, threaded weld fitting, threaded ball valve, threaded cage nipple, threaded compression fitting, and ID tag as standard equipment. Integral 3-valve or 5 valve transmitter mound manifold and integral RTD temperature sensor are available as options.



### 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  $\pm 0.75\%$  uncalibrated
- Low drag coefficient

## METER SPECIFICATIONS

Name	Specification
Probe Construction	316 Stainless steel
Head	"Y" type, brass 1/8 in. FNPT
Instrument Valves	1/4 in. SAE flare brass ball type
Retract Assembly	Wet tap
ID Tag	Polycarbonate
Temperature Maximum *	120° F (49° C)
Pressure Maximum *	75 PSIG (517 kPa)

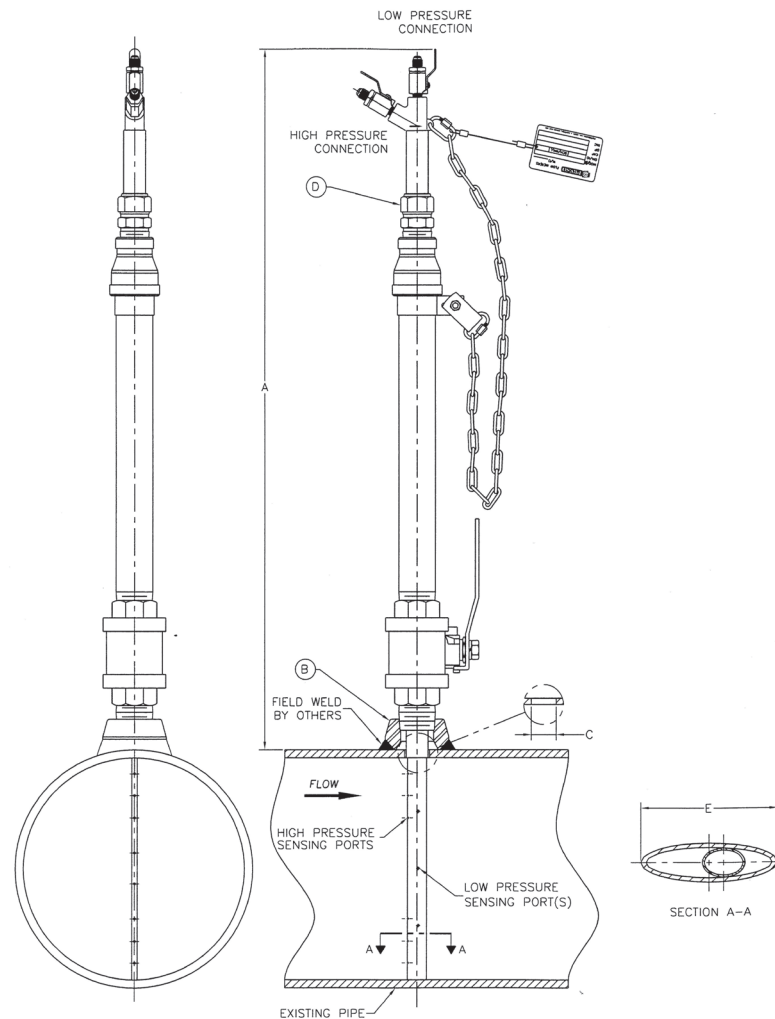
\* For higher pressure and temperature application please consult factory

## PIPE SIZE SPECIFICATIONS

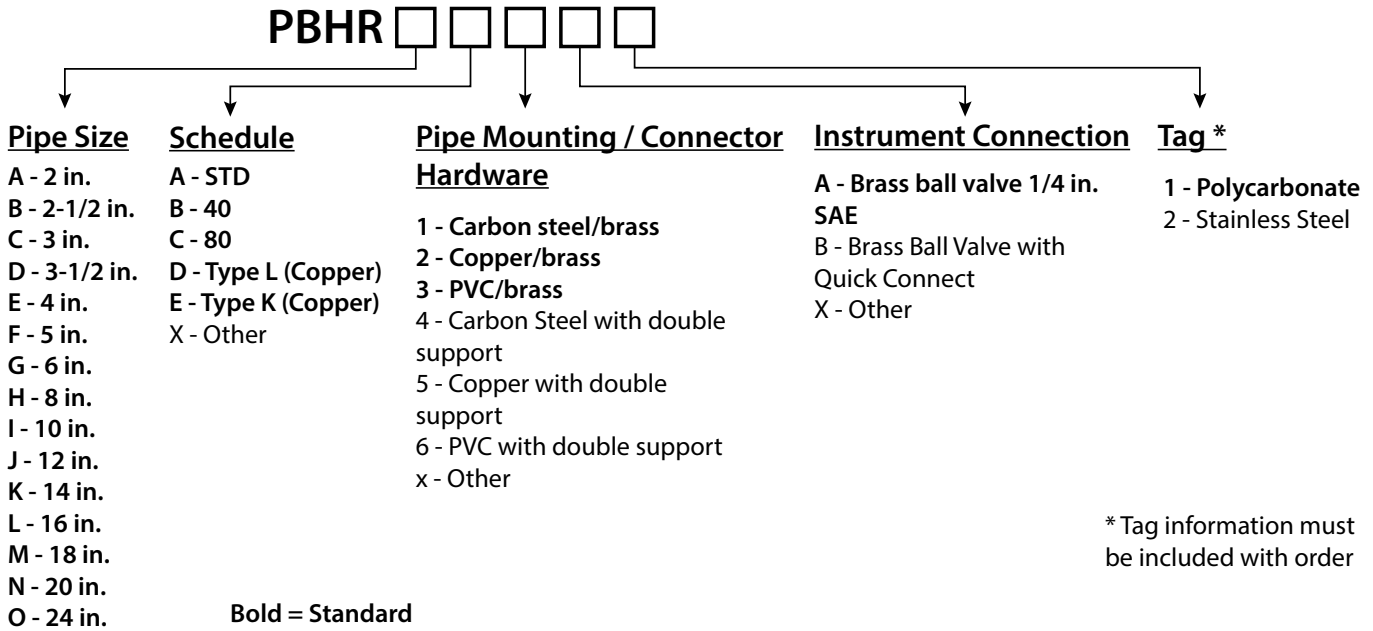
BHR Pipe Size	ELLIPSE size	Sensor Connection	Pipe Mounting	Isolating Valve
2...5 in.	1/2 in.	1/2 in. Brass compression with SS ferrule	3/4 in. 3000# CS thread-o-let	3/4 in. Bronze ball valve
6...12 in.	7/8 in.	1 in. CS compression with SS ferrule	1-1/4 in. 3000# CS thread-o-let	1-1/4 in. Bronze ball valve
14...24 in.	1-1/4 in.	1-1/4 in. Brass compression with SS ferrule	1-1/2 in. 3000# CS thread-o-let	1-1/2 in. Bronze ball valve

**DIMENSIONS**

Size	Model	A Height in. (mm)	B NPT in. (mm)	C DIA in. (mm)	D DIA in. (mm)	E Ellipse in. (mm)
2 in.	PBHRAXXX	12 (304.80)	0.75 (19.05)	0.625 (15.875)	0.5 (12.70)	0.5 (12.70)
2-1/2 in.	PBHRBXXX	12.5 (317.50)	0.75 (19.05)	0.625 (15.875)	0.5 (12.70)	0.5 (12.70)
3 in.	PBHRCXXX	13 (330.20)	0.75 (19.05)	0.625 (15.875)	0.5 (12.70)	0.5 (12.70)
3-1/2 in.	PBHRDXXX	13.5 (342.90)	0.75 (19.05)	0.625 (15.875)	0.5 (12.70)	0.5 (12.70)
4 in.	PBHREXXX	14 (355.60)	0.75 (19.05)	0.625 (15.875)	0.5 (12.70)	0.5 (12.70)
5 in.	PBHRFXXX	15 (381.00)	0.75 (19.05)	0.625 (15.875)	0.5 (12.70)	0.5 (12.70)
6 in.	PBHRGXXX	23.5 (596.90)	1.25 (31.75)	1.125 (28.575)	1.0 (25.4)	0.875 (22.225)
8 in.	PBHRHXXX	25.5 (647.70)	1.25 (31.75)	1.125 (28.575)	1.0 (25.4)	0.875 (22.225)
10 in.	PBHRIXXX	27.375 (695.325)	1.25 (31.75)	1.125 (28.575)	1.0 (25.4)	0.875 (22.225)
12 in.	PBHRJXXX	27.375 (695.325)	1.25 (31.75)	1.125 (28.575)	1.0 (25.4)	0.875 (22.225)
14 in.	PBHRKXXX	31.625 (803.275)	1.5 (38.10)	1.375 (34.925)	1.25 (31.75)	1.25 (31.75)
16 in.	PBHLRXXX	33.625 (854.075)	1.5 (38.10)	1.375 (34.925)	1.25 (31.75)	1.25 (31.75)
18 in.	PBHRMXXX	35.625 (904.875)	1.5 (38.10)	1.375 (34.925)	1.25 (31.75)	1.25 (31.75)
20 in.	PBHRNXXX	37.625 (955.675)	1.5 (38.10)	1.375 (34.925)	1.25 (31.75)	1.25 (31.75)
24 in.	PBHROXXX	41.625 (1057.28)	1.5 (38.10)	1.375 (34.925)	1.25 (31.75)	1.25 (31.75)



**PART NUMBER MATRIX**



**Control. Manage. Optimize.**

Presso and Ellipse are registered trademarks of Badger Meter, Inc. Other trademarks appearing in this document are the property of their respective entities. Due to continuous research, product improvements and enhancements, Badger Meter reserves the right to change product or system specifications without notice, except to the extent an outstanding contractual obligation exists. © 2017 Badger Meter, Inc. All rights reserved.

[www.badgermeter.com](http://www.badgermeter.com)

The Americas | Badger Meter | 4545 West Brown Deer Rd | PO Box 245036 | Milwaukee, WI 53224-9536 | 800-876-3837 | 414-355-0400  
 México | Badger Meter de las Americas, S.A. de C.V. | Pedro Luis Ogazón N°32 | Esq. Angelina N°24 | Colonia Guadalupe Inn | CP 01050 | México, DF | México | +52-55-5662-0882  
 Europe, Eastern Europe Branch Office (for Poland, Latvia, Lithuania, Estonia, Ukraine, Belarus) | Badger Meter Europe | ul. Korfantego 6 | 44-193 Knurów | Poland | +48-32-236-8787  
 Europe, Middle East and Africa | Badger Meter Europa GmbH | Nurtinger Str 76 | 72639 Neuffen | Germany | +49-7025-9208-0  
 Europe, Middle East Branch Office | Badger Meter Europe | PO Box 341442 | Dubai Silicon Oasis, Head Quarter Building, Wing C, Office #C209 | Dubai | UAE | +971-4-371 2503  
 Slovakia | Badger Meter Slovakia s.r.o. | Racianska 109/B | 831 02 Bratislava, Slovakia | +421-2-44 63 83 01  
 Asia Pacific | Badger Meter | 80 Marine Parade Rd | 21-06 Parkway Parade | Singapore 449269 | +65-63464836  
 China | Badger Meter | 7-1202 | 99 Hangzhong Road | Minhang District | Shanghai | China 201101 | +86-21-5763 5412  
 Switzerland | Badger Meter Swiss AG | Mittelholzerstrasse 8 | 3006 Bern | Switzerland | +41-31-932 01 11