



FLOW METERING EQUIPMENT

Model AF Ellipse® Pitot Tube Annular Flanged Flow Meter

Preso's patented elliptical design outperforms and provides greater accuracy than traditional differential pressure flow measurement devices. This differential pressure flow meter is designed with a series of ports facing the upstream velocity pressures, as well as flow sensing ports strategically located ahead of the trailing edge flow separation.

Features

- Patented elliptical design outperforms traditional devices
- Single point pipe entry for DP, temperature and static pressure
- No dampening software required
- Lowest pressure loss in industry (typically 3% of DP in a 12" line) due to its patented aerodynamic profile
- NIST traceable calibration: Optional independent labs

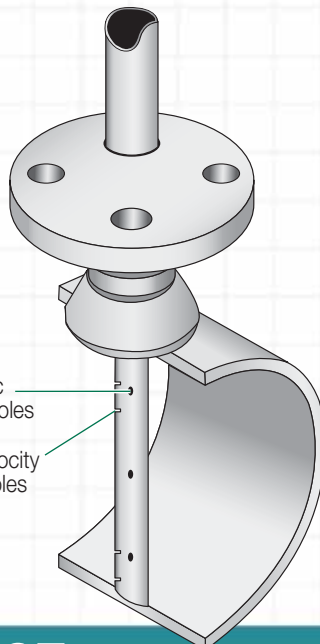
Benefits

- Accuracy: $\pm 0.75\%$ of reading, repeatability: $\pm 0.1\%$ of reading
- Turndown Ratio: 17:1; no vacuum effects
- No moving parts equals long, trouble-free service life
- True static pressure measurement rather than a calculated value
- Overcomes loss of accuracy caused by fluid separation at the sensor body

The multi-ported, self averaging flow element consists of an elliptical shape with two independent flow sensing chambers. The impact velocity sensing holes (high pressure) are located along the leading edge and the true static sensing holes (low pressure) are on the exterior probe side. Model AF comes with instrument shut-off valves with connections to accept a transmitter or direct indicating meter.

True static
sensing holes

Impact velocity
sensing holes



Specifications

Applications:	Air, Liquids and Gases
Pipe Sizes:	2 to 72 inches (50 to 1830 mm)
Pressure:	Vary per flange ratings
Temperature:	Vary per flange ratings
Accuracy:	$\pm 0.75\%$ of reading
Turndown Ratio:	17:1 with no vacuum effect
Standard Components:	T-type head, 316 SS $\frac{1}{4}$ " or $\frac{1}{2}$ " FNPT connection CS 3000 lb. weld fitting – ASTM A105 316/316L SS Ellipse sensor Instrument valves (2 per sensor) – $\frac{1}{2}$ ", CS 316 SS ID tag with wire 150 lbs. 316/316L SS sensor flange CS gasket with SS spiral wound ring CS mounting flange, 150 lbs. ASTM A 105 with nuts and bolts
Reynolds Number:	Greater than 75,000 maintains most accurate flow measurements Less than 75,000 consult factory for estimated results
Resonance:	If greater than 0.8, use double support per ASME PTC 19.3

1-800-632-7337

www.preso.com

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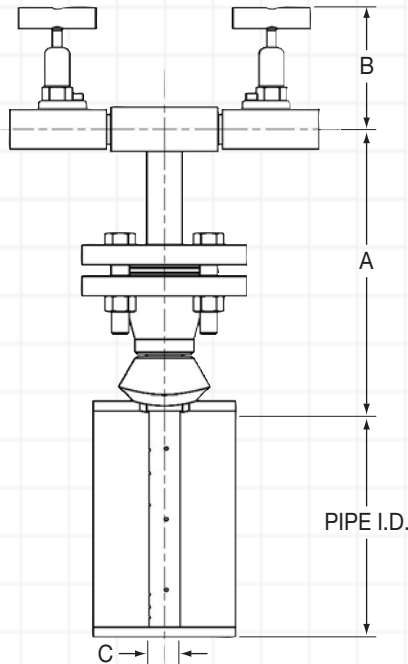
Part Number Construction: PAF0(1/2") PAF (7/8") PAF1 (1-1/4") PAF2 (2-1/4")

Pipe Size (PAF/PAF0)	Pipe Size (PAF1/PAF2)	Pipe Orientation A) Horizontal B) Vertical	Probe Material 1) 316/316L-SS 2) Monel® 3) Inconel® 4) Hastelloy® X) Other (consult factory to review application)	Instrument Connection (PAF/PAF1/PAF2) A) 1/2" NPT B) 1/2" Socket C) TT3 (Integral 3 Valve Trans-Mount) D) TT5 (Integral 5 Valve Trans-Mount) E) Transmitter Flange Connection	Pipe Mounting 1) A105 CS 3000# 2) 316/316L SS 3000# 3) A105 CS 3000# w/DbI Support (see below) 4) 316/316L SS 3000# w/DbI Support Z) Not required	Instrument Valve* (PAF/PAF1/PAF2) A) 1/2" Needle CS B) 1/2" Needle SS C) 1/2" Gate CS D) 1/2" Gate SS Z) Not required
A) 2 inch B) 2-1/2 inch C) 3 inch D) 3-1/2 inch E) 4 inch F) 5 inch G) 6 inch H) 8 inch I) 10 inch J) 12 inch K) 14 inch L) 16 inch M) 18 inch N) 20 inch O) 24 inch P) 30 inch Q) 36 inch	A) 12 inch B) 14 inch C) 16 inch D) 18 inch E) 20 inch F) 24 inch G) 30 inch H) 36 inch I) 42 inch J) 48 inch K) 60 inch L) 72 inch					
		Schedule (PAF0) A) Std/40/40S B) 80/80S/XS C) 160 D) XXH E) 5S F) 10S	Schedule (PAF/PAF1/PAF2) A) Std B) 20 C) 30 D) 40 E) 60 F) 80	G) 100 H) 120 I) 140 J) 160 K) XH	L) XXH M) 5S N) 10S O) 40S P) 80S	
				Instrument Connection (PAF0) A) 1/4" NPT		
				Connection		
				PAF0 PAF PAF1 PAF2		
				A) 3/4" 1-1/4" 1-1/2" 3" RF Flange 150# CS		
				B) 3/4" 1-1/4" 1-1/2" 3" RF Flange 300# CS		
				C) 3/4" 1-1/4" 1-1/2" 3" RF Flange 600# CS		
				D) 3/4" 1-1/4" 1-1/2" 3" RF Flange 900/1500# CS		
				E) 3/4" 1-1/4" 1-1/2" 3" RF Flange 150# SS		
				F) 3/4" 1-1/4" 1-1/2" 3" RF Flange 300# SS		
				G) 3/4" 1-1/4" 1-1/2" 3" RF Flange 600# SS		
				H) 3/4" 1-1/4" 1-1/2" 3" RF Flange 900/1500# SS		
						RTD
						1) 100 Ohm RTD 3 wire w/ Explosion Proof Head
						2) 100 Ohm RTD 3 wire, Integral w/Aluminum Head
						Z) Not required

NOTE:
PAF0 installs
on pipe sizes 2"
through 5" only
(A through F
options)

Dimensions (inches)

Probe Length		
	A	B
AF0	6.62	3.13
AF	8.00	3.13
AF1	8.75	3.13
*AF2	13.92	N/A
Probe Width		
	C	
AF0	.5	
AF	.875	
AF1	1.25	
*AF2	2.25	



*AF2 probe design not pictured
contact factory for more information

Maximum Allowable DP (Inches of Water Column)

Pipe Size (inches)	Single Support Probe Size			Double Support Probe Size		
	7/8	1-1/4	2-1/4	7/8	1-1/4	2-1/4
2	880	—	—	2380	—	—
2-1/2	525	—	—	1568	—	—
3	396	—	—	1283	—	—
3-1/2	283	—	—	1117	—	—
4	197	—	—	980	—	—
5	153	—	—	757	—	—
6	126	—	—	689	—	—
8	114	360	—	512	—	—
10	100	240	779	315	960	—
12	87	175	660	250	700	—
14	53	147	610	195	585	—
16	—	113	495	—	450	—
18	—	90	410	—	360	—
20	—	74	346	—	295	—
24	—	68	315	—	270	952
26	—	50	218	—	215	878
30	—	34	187	—	155	780
32	—	—	136	—	—	550
36	—	—	105	—	—	410
42	—	—	85	—	—	350



FLOW METERING EQUIPMENT

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