



FLOW METERING EQUIPMENT

# PFA Ellipse® Fire Pump Systems 2" to 16" Pitot Tube

The Model PFA FM approved Fire Pump System features the Preso Ellipse. The Ellipse is a primary flow sensor designed to produce a differential pressure that is proportional to the 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 the Ellipse is capable of highly accurate, precise flow measurements that are proportional to the actual flow rate.

### Construction & Specifications

Material: 316 SS Sensor / Brass Head  
 Valves: 1/4" MSAE Flare Brass Ball  
 Weld Fitting: CS-A105, 3000#  
 Compression Fitting: 2" to 5" - Brass  
 6" to 16" - CS w/ SS Ferrule  
 Identification Tag: Polycarbonate

### Type of Pipe Installation

Schedule 40 Carbon Steel

The gage is a Direct-Readout meter with a dial featuring a 270° arc for fast and accurate reading. A precision engineered, dust-tight case ensures trouble-free operation. Preso gages are protected against overload by a unique diaphragm housing design. When the pressure difference exceeds the range, the gage will accept the accidental application of up to 60 PSIG without damage. Under normal conditions the differential pressure should not exceed the range of the gage.



## MODEL SELECTOR: P P F A □ □ □ □ □ □ □ □

### 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"

### DOUBLE SUPPORT

- A - REQUIRED
- Z - STD, NONE

### DIAL SIZE

- 1 - 4" (100 mm)
- 2 - 6" (150 mm)

### TYPE

- A - STANDARD DIAPHRAGM
- B - DOUBLE BELLOWS

### GAGE MATERIAL

- A - BRASS/BRONZE
- B - 316 SS

### HOSES

- 1 - POLY TUBING
- 2 - NYLON
- 3 - SS BRAIDED

### NOTE - ONLY SELECT FM APPROVED PUMP RATINGS (GPM) FOR

	PIPE SIZES
(50)	- 2"
(100)	- 2-1/2"
(150/200)	- 3"
(250)	- 3-1/2"
(250/300/400/450)	- 4"
(450/500/750)	- 5"
(500/750/1000/1250)	- 6"
(1000/1250/1500/2000/2500/3000)	- 8"
(1500/2000/2500/3000/3500/4000/4500)	- 10"
(2000/2500/3000/3500/4000/4500/5000)	- 12"
(3500/4000/4500/5000)	- 14"
(4500/5000)	- 16"

### RATING (Please see note)

GPM	(RANGE)
A - 50	(25-100)
B - 100	(50-200)
C - 150	(75-300)
D - 200	(100-400)
E - 250	(125-500)
F - 300	(150-600)
G - 400	(200-800)
H - 450	(225-900)
I - 500	(250-1000)
J - 750	(375-1500)
K - 1000	(500-2000)
L - 1250	(625-2500)
M - 1500	(750-3000)
N - 2000	(1000-4000)
O - 2500	(1250-5000)
P - 3000	(1500-6000)
Q - 3500	(1750-7000)
R - 4000	(2000-8000)
S - 4500	(2250-9000)
T - 5000	(2500-10000)

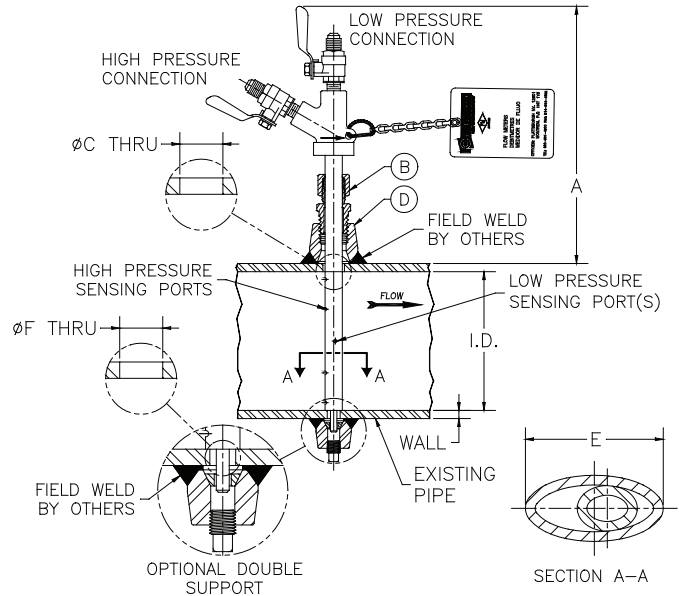
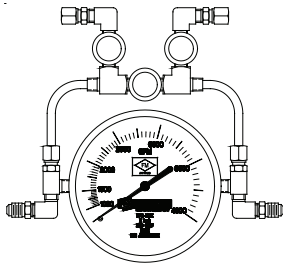
# SPECIFICATIONS AND SUBMITTAL DATA

## Model PFA - Ellipse Pitot Tube

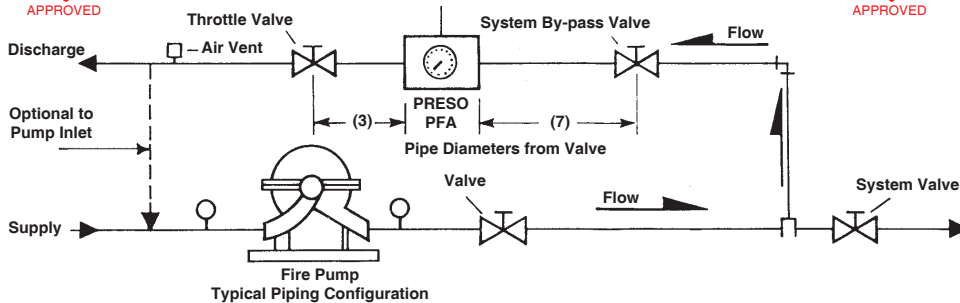
SIZE	MODEL	A	B	C	D	E	F	APP WEIGHT lbs (kg)
		inch (mm)	inch (mm)	inch (mm)	inch (mm)	inch (mm)	inch (mm)	
2"	PPFAAXXXXXX	7.5 (190.5)	0.5 (12.7)	0.625 (15.80)	0.5 (12.7)	0.5 (12.7)	0.375 (9.5)	2 (0.9)
2-1/2"	PPFABXXXXXX	7.5 (190.5)	0.5 (12.7)	0.625 (15.80)	0.5 (12.7)	0.5 (12.7)	0.375 (9.5)	3 (1.3)
3"	PPFACXXXXXX	7.5 (190.5)	0.5 (12.7)	0.625 (15.80)	0.5 (12.7)	0.5 (12.7)	0.375 (9.5)	3 (1.3)
3-1/2"	PPFADXXXXXX	7.5 (190.5)	0.5 (12.7)	0.625 (15.80)	0.5 (12.7)	0.5 (12.7)	0.375 (9.5)	3 (1.3)
4"	PPFAEXXXXXX	7.5 (190.5)	0.5 (12.7)	0.625 (15.80)	0.5 (12.7)	0.5 (12.7)	0.375 (9.5)	3.5 (1.5)
5"	PPFAFXXXXXX	7.5 (190.5)	0.5 (12.7)	0.625 (15.80)	0.5 (12.7)	0.5 (12.7)	0.375 (9.5)	4 (1.8)
6"	PPFAGXXXXXX	9.63 (245)	1 (25.4)	1.125 (28.5)	1.0 (25.4)	0.875 (22.2)	0.5 (12.7)	4.5 (2)
8"	PPFAHXXXXXX	9.63 (245)	1 (25.4)	1.125 (28.5)	1.0 (25.4)	0.875 (22.2)	0.5 (12.7)	4.5 (2)
10"	PPFAIXXXXXX	9.63 (245)	1 (25.4)	1.125 (28.5)	1.0 (25.4)	0.875 (22.2)	0.5 (12.7)	5 (2.3)
12"	PPFAJXXXXXX	9.63 (245)	1 (25.4)	1.125 (28.5)	1.0 (25.4)	0.875 (22.2)	0.5 (12.7)	5.5 (2.5)
14"	PPFAKXXXXXX	9.88 (251)	1.25 (31.7)	1.375 (34.9)	1.25 (31.7)	1.25 (31.7)	0.875 (22.2)	6.5 (2.9)
16"	PPFALXXXXXX	9.88 (251)	1.25 (31.7)	1.375 (34.9)	1.25 (31.7)	1.25 (31.7)	0.875 (22.2)	7 (3.1)

### Gage Data

**Construction:** Brass Body  
**Operation:** Diaphragm (Beryllium Copper)  
**Dial:** 4" or 6" / 270° Arc  
**Accuracy:** ±1.75% Full Scale  
**Temperature:** 180 °F (80 °C)  
**Pressure:** 500 PSIG (3450 kPa)  
**Approx. Wt.:** 6" = 4.25 lbs (1.9 kgs)  
 4" = 3.75 lbs (1.7 kgs)



### PRESO FIRE PUMP SYSTEM



### OPERATING INSTRUCTIONS:

1. CLOSE SYSTEM VALVE.
2. OPEN SYSTEM BY-PASS VALVE AND THROTTLE VALVE.
3. PURGE GAGE LOCATED ON PFA AS FOLLOWS: OPEN GAGE BY-PASS VALVE ( BLUE ), PFA SHUT-OFF VALVES ( RED & YELLOW ) AND VENT VALVES ( ABOVE GAGE ). WHEN A STEADY STREAM OF WATER IS PASSING THROUGH EACH PLASTIC HOSE, GAGE IS PURGED OF AIR. CLOSE VENT VALVES AFTER PURGING IS COMPLETE.
4. START FIRE PUMP, CLOSE GAGE BY-PASS VALVE ( BLUE ) AND READ GAGE IN GPM.
5. REFER TO PUMP GPM REQUIREMENT AND ADJUST THROTTLE VALVE FOR THIS REQUIREMENT.
6. AFTER TEST OPEN SYSTEM VALVE AND CLOSE SYSTEM BY-PASS AND THROTTLE VALVES.



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