

# 500 BP Series

## Bypass Adjustable Flow Monitor

**Boiswood**  
GAS AND LIQUID CONTROL TECHNOLOGIES

Pressure & Vacuum  
Flow  
Level & Temperature  
Tube & Fittings  
HVACR  
Custom Services

### Key Features

Best for applications where the ratio (Normal Flow/Set Point) is 10:1 or less.

### Features

- Low Minimum Operating Pressure
- Close On-Off Differential
- Ease of adjustability
- In Line 180 Degree Porting
- Monitors Gases or Liquids
- Confirms: Normal Flow Conditions
- Senses: High Flow and Low Flow Conditions
- Water or Explosion Proof Covers
- Materials: 316SS, Brass
- Output: Switch Contact

### Applications

- Vacuum Systems
- Wet Stations
- Shipboard Water Systems
- CVD Furnaces Cooling Water
- Biomedical Instruments
- Coolant Failure Alarm



### Operation

With no flow present, the magnetic piston rests on the bottom of the bypass bore. When flow is established the piston is forced upward by the bypass flow and actuates the reed switch. The magnetic piston actuates a hermetically sealed reed switch, which is encapsulated in the body of the unit, out of the air/water path. The bypass flow is controlled by manual adjustment of the flow control vane. When flow decreases the piston moves downward and the reed switch deactuates.

- Actuation Points for air at 68° F and 14.7 PSIA with increasing flow
- Deactuation (decreasing flow) averages 10% less than actuation (increasing flow)
- Repeatability  $\pm 2\%$
- Unit will pass greater flows

Correction must be made for other fluids, line pressure and temperatures. Please consult your representative or the factory.

### Temperature Operating Range

- 0° to 220°F (-17° to 104°C)
- For other temperature ranges consult factory.

Specifications				
Unit	Weight Lb (kg)	Max Working Pressure PSIG (barg)	Wetted Parts	Seals
Teflon®	1.5 (0.68)	80 (5.51)	Teflon®	Teflon®
Brass	4 (1.81)	1500 (103.42)	Brass, Epoxy	Viton®
316SS	4 (1.81)	3000 (206.84)	316SS, Epoxy	Viton®

### Calibration Table

Model		Air SLPM (SCFM)	Water LPM (GPM)	Ports FNPT
500 BP	Minimum	6 (0.20)	0.11 (0.03)	1/2"
	Maximum	991 (35)	15.14 (4)	
500 BPHF	Minimum	23 (0.80)	0.38 (0.10)	1/2"
	Maximum	2124 (75)	37.85 (10)	

### Pressure Loss

Air Flowrate SLPM (SCFM)	Water Flowrate LPM (GPM)	$\Delta P$ to Atmosphere MBARS (Inches of Water)
84.9 (3)	3.8 (1)	17.2 (0.25)
566 (20)	15.1 (4)	51.7 (0.75)
1,557 (55)	30.3 (8)	233 (3.38)
1925.5 (68)	37.9 (10)	362 (5.25)
2265.3 (80)	64.4 (17)	517 (7.50)





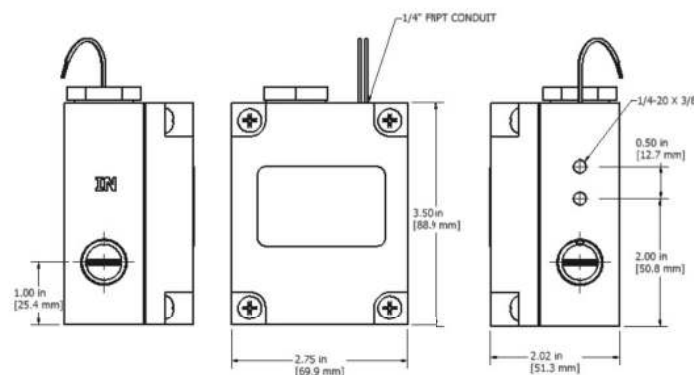
# 500 BP Series

Bypass Adjustable Flow Monitor

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Switch Data	SPST	SPDT
Maximum Switching Voltage		
DC (V)	200	175
AC (V)	150	120
Contact Rating		
DC (W)	50	5
DC (VA)	70	5
Maximum Switching Current (A)		
DC (A)	1.0	0.25
AC (A)	0.7	0.25

Leads	SPST UL File #E70063	SPDT UL File #E471070
 <p>leads 18 in. min. from body 22 AWG, TFE insulation</p>	 <p>leads 18 in. min. from body 22 AWG, TFE insulation</p>	<p>leads 18 in. min. from body 24 AWG, TFE insulation</p> <ul style="list-style-type: none"> <li>• green - N.C.</li> <li>• blue - N.O.</li> <li>• white - Common</li> </ul>



## Installation

Mount vertically (leads up) with horizontal piping. A 100 micron filter is recommended.

## How to Order

Sales@ChemTec.com | 800.222.2177

Model	Size	Materials	By Pass Design	Cover	Switch	Options
500	T B 316	Teflon®** Brass 316SS	BP Bypass BPHF Bypass High Flow	W NEMA 4 IP65 NEMA 7	N.O. Single Pole Single Throw Normally Open  SPDT Single Pole Double Throw	TFE Teflon® Encapsulated Piston **  O2 Oxygen Cleaned  HT High Temperature Options 340°F (171°C) metallic body only  KZ FFKM Perfluoroelastomer EPR EPR Seals BN Buna N Seals FP Factory Preset

\*Consult Factory \*\*Standard with Teflon unit | Viton® - E.I. Dupont & Co | Teflon® - E.I. Dupont & Co | Kalrez® - E.I. Dupont & Co  
All dimensions are subject to change for quality improvement. Not responsible for printing errors.