# 500 BP SERIES

## BYPASS ADJUSTABLE FLOW MONITOR

Monitor Flows of Corrosive and Non-Corrosive Liquids and Gases

## KEY FEATURES

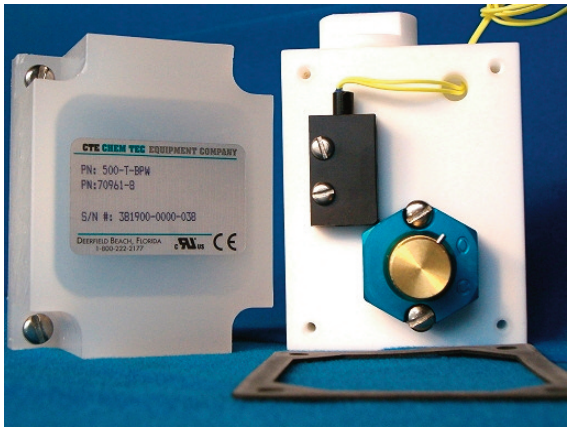
Best for applications where the normal flow to set point is 10:1 or less.

## 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 or Low Flow Conditions
- Water or Explosion Proof Covers
- Output: Switch Contact
- Materials: 316ss, Brass, Teflon

## APPLICATIONS

- Wet Stations
- Shipboard Water Systems
- CVD Furnaces Cooling Water
- Biomedical Instruments
- Vacuum Systems
- 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 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 ±2%
- Unit will pass greater flows

Corrections must be made for other gases, 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.

## CALIBRATION POINTS

| 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 TABLE

| AIR FLOW RATE SLPM (SCFM) | WATER FLOW RATE LPM (GPM) | ΔP TO ATMOSPHERE MBARS (PSID) |
|---|---|---|
| 84.9 (3) | 3.8 (1) | 17.2 (0.25) |
| 566.3 (20) | 15.1 (4) | 51.7 (0.75) |
| 1557.4 (55) | 30.3 (8) | 233.0 (3.38) |
| 1925.5 (68) | 37.9 (10) | 362.0 (5.25) |
| 2265.3 (80) | 64.4 (17) | 517.1 (7.50) |

## SPECIFICATIONS

| BODY MATERIAL | WEIGHT Lbs. (Kg.) | MAX WORKING PRESSURE PSIG (BARG) | WETTED PARTS | SEAL |
|---|---|---|---|---|
| Teflon® | 1.5 (0.68) | 80 (5.51) | Teflon® | TFE® |
| Brass | 4.0 (1.81) | 1500 (103.42) | Brass, Epoxy | Viton® |
| 316ss | 4.0 (1.81) | 3000 (206.84) | 316ss, Epoxy | Viton® |

CE Recognized 73/23/EEC/93/68/EEC
cULus Recognized File E75356

CTE CHEM TEC

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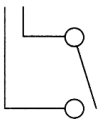
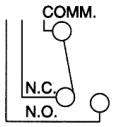
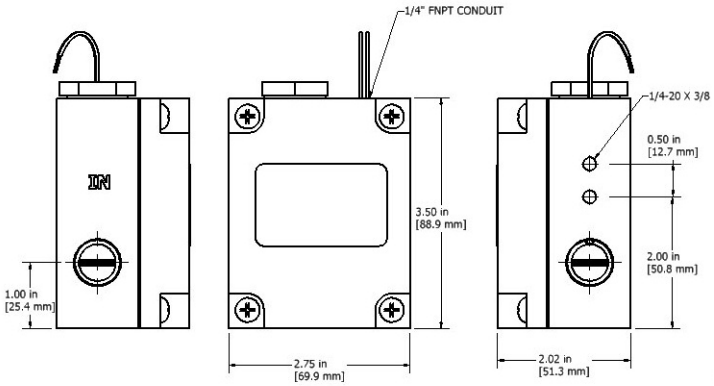
### Monitor Flows of Corrosive and Non-Corrosive Liquids and Gases

| SWITCH DATA | SPST | SPDT |
|---|---|---|
| **Maximum Switching Voltage** | | |
| DC (V) | 200 | 175 |
| AC (V) | 150 | 120 |
| **Contact Rating** | | |
| DC (W) | 50 | 5 |
| AC (VA) | 70 | 5 |
| **Maximum Switching Current (A)** | | |
| DC (A) | 1.0 | .25 |
| AC (A) | 0.7 | .25 |

| LEADS | SPST | SPDT (Optional) |
|---|---|---|
|  | leads 18 in. min. from body 22 AWG, TFE insulation |   leads 18 in. min. from body 24 AWG, TFE insulation • green - N.C. • blue - N.O. • white - Common |

*Above values for resistive loads only. For inductive loads, surge current and rush current - contact protection is required, consult your local representative. SPDT UL Recognized (E47258).*




## INSTALLATION

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

## HOW TO ORDER *(Please see Custom Page for Special Options.)*

| Model | Materials | Bypass Design | Cover Type | Switch Optional | Options |
|---|---|---|---|---|---|
| 500 | T Teflon® | BP Bypass | W NEMA IV Water Proof | N.O. Single Pole Single Throw Normally Open STD. | TFE Teflon® Encapsulated Piston** |
| | B Brass | BPHF Bypass High Flow | X NEMA VII Explosion Proof | SPDT Single Pole Double Throw | O2 Oxygen Cleaned |
| | 316 316ss | | | | HT High Temperature Option 340˚ F (171˚ C) metallic body only |
| | | | | | KZ Kalrez® Seals |
| | | | | | EPR EPR Seals |

*Consult factory
**Standard with TEflon® unit
®Viton - E.I. Dupont & Co
®Teflon - E.I. Dupont & Co
®Kalrez - E.I. Dupont & Co
Note: All dimensions and specifications are subject to change for quality improvement. Not responsible for printing errors.

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