

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 $\pm 2\%$
- Unit will pass greater flows

Corrections 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.*



ChemTec

CALIBRATION RANGE

| 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

FM Recognized File E75356

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| SWITCH DATA | SPST | SPDT |
|-------------|------|------|
|-------------|------|------|

Maximum Switching Voltage

| | | |
|--------|-----|-----|
| DC (V) | 200 | 175 |
| AC (V) | 150 | 120 |

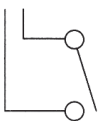
Contact Rating

| | | |
|---------|----|---|
| DC (W) | 50 | 5 |
| AC (VA) | 70 | 5 |

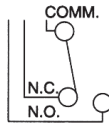
Maximum Switching Current (A)

| | | |
|--------|-----|-----|
| DC (A) | 1.0 | .25 |
| AC (A) | 0.7 | .25 |

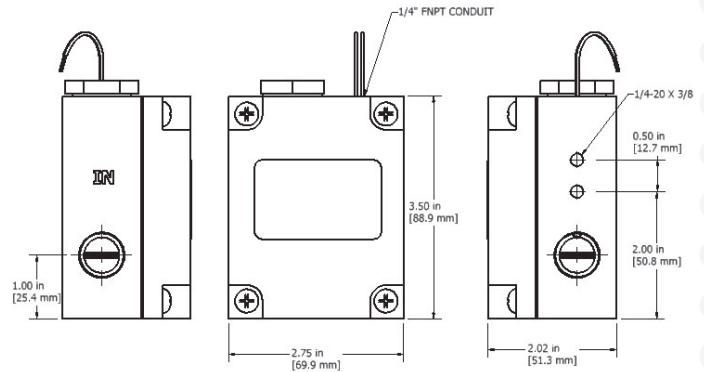
| LEADS | SPST | SPDT (optional) |
|-------|------|-----------------|
|-------|------|-----------------|



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



INSTALLATION

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

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).

HOW TO ORDER (Sales@ChemTec.com | (800) 222-2177)

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



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 **Standard with Teflon® unit
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