

# WPM Series Flow Monitor with Flow Rate Alarm

## ● Hydraulic or pneumatic models available

The WPM series in-line flow rate alarms are ideal for protecting hydraulic or pneumatic systems by sounding an alarm if flow passes a preset level. Typical applications include monitoring the minimum flow in lubrication systems and protecting against high flows. A flow rate alarm will rapidly pay for itself by reducing down time and avoiding damage to critical equipment.

All WPM flow rate alarms include all the features of a standard WP flow rate monitor in addition to having an easily adjustable dry contact switch. The switch connects via a standard Hirschmann plug and only an allen key is required for set-up. The unit is fully sealed for weather tight or wash down applications.

The WPM series flow monitors do not require straight inlet or outlet piping and can be installed in any orientation. The advanced design of the sharp edged orifice ensures good reliability over a wide viscosity range and minimises the effect of contamination. Accuracy is 2.5% over the centre third of the scale and 4% over the entire flow range.



Manufacturers of hydraulic components and test equipment  
for the Mobile, Industrial and Agricultural industries



1290 E. Waterford Ave.

Milwaukee, WI 53235

Tel: (414) 769-6400

Fax: (414) 769-6591

www.webster-inst.com

E-mail: sales@webster-inst.com

### Features

- Economic early warning solution
- Easily adjustable, dry contact alarm settings
- Available for fluids or air
- Wide variety of flow ranges
- Choice of aluminium, brass & stainless steel
- Port sizes from 3/8" to 2"
- Direct reading
- Accurate within 2.5% over mid-scale, 4% FSD
- Advanced stainless steel sharp edge orifice
- Unrestricted mounting in any orientation
- Double break switches available on request



WPM-BU-USA-2014.pdf  
(Issue 3)

09/11

## Specifications

### Measuring accuracy

±2.5% of full-scale in the centre third of the measuring range  
±4% of full-scale over the entire scale range

### Repeatability

± 1% of full scale

### Flow measuring range

Hydraulic: 0.5 - 550 lpm (0.05 - 150 US gpm),  
Pneumatic: 1.5 - 1300 SCFM

### Maximum operating pressure

Hydraulic: Aluminium & brass monitors 240 bar, (3000 psi) stainless steel 420 bar (6000 psi)  
Pneumatic: Aluminium & brass monitors 40 bar, (580 psi) stainless steel 70 bar (1000 psi).

### Maximum operating temperature

115° C (240° F)

### Pressure differential

See graphs below

### Standard calibration fluids

Hydraulic: DTE 25 @ 43°C (40 cSt), 0.873 sg  
Pneumatic: Air @ 21°C, 1.0 sg and 6.9 bar (100 psi)

### Alarm switch dead-band

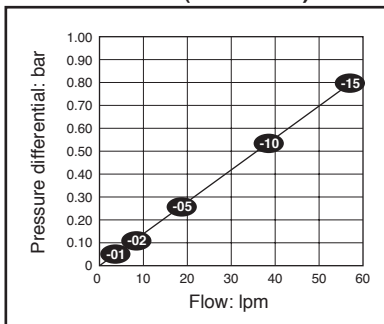
4% of full scale

### Alarm switch contacts

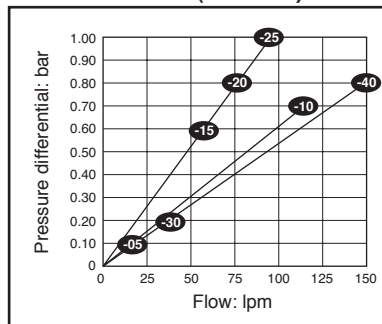
SPDT (dry contact), rating 10 amps and 1/4 hp, 125 or 250 V AC, 1/2 amp, 125 V DC, 1/4 amp, 250 V DC; 3 amps, 125 V AC (Lamp load).

## Pressure differential graphs categorised by size code

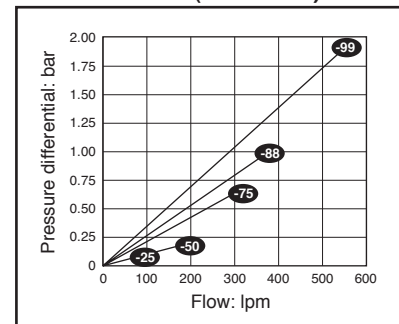
Series 3 (3/8" - 1/2")



Series 4 (3/4" - 1")



Series 5 (1 1/4" - 2")



-15 = Model number (see Sales Brochure)

14.5 psi = 1 bar, 1 US gpm = 3.785 lpm

## Construction

### Wetted components:

High pressure casing, end ports and tapered shafts: *Aluminium, Brass & Stainless Steel*

Seals: *Buna-N (STD), EPR, Viton® or Kalrez®*

Transfer magnet: *Teflon® coated Alnico*

Floating Orifice disc: *Stainless Steel*

All other internal parts: *Stainless Steel*

### Non-wetted components:

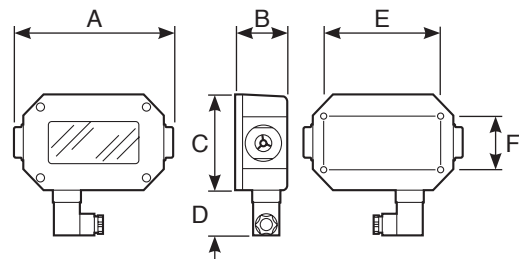
Window tube: Polycarbonate (STD), Pyrex

Window seals: Buna-N (STD), Teflon®

(Teflon® is a registered trademark of DuPont)  
(Viton® & Kalrez® are registered trademarks of Dow DuPont Elastomers)

## Dimensions

| Size code          | 3         | 4         | 5          | 5 (2" Ports) |
|--------------------|-----------|-----------|------------|--------------|
| Dim. A mm (inches) | 167 (6.6) | 182 (7.2) | 258 (10.2) | 322 (12.7)   |
| Dim. B mm (inches) | 56 (2.2)  | 75 (3)    | 97 (3.8)   | 97 (3.8)     |
| Dim. C mm (inches) | 101 (4)   | 114 (4.5) | 135 (5.3)  | 135 (5.3)    |
| Dim. D mm (inches) | 47 (1.9)  | 47 (1.9)  | 47 (1.9)   | 47 (1.9)     |
| Dim. E mm (inches) | 128 (5)   | 127 (5)   | 172 (6.8)  | 172 (6.8)    |
| Dim. F mm (inches) | 57 (2.2)  | 73 (2.9)  | 95 (3.7)   | 95 (3.7)     |



# Product Selector

Standard Flow Meter Part Number (For custom units, consult the Sales Office)

Series # WP    -    -   Webtec Part Number

| Step 1 - Style            |     |
|---------------------------|-----|
| BASIC in line for liquid  | = B |
| Pneumatic for air and gas | = G |
| High Temp 200 °C (400 °F) | = H |
| Flow alarm, 1 switch      | = M |
| Flow alarm, 2 switches    | = N |
| Flow transmitter          | = R |
| Phosphate esters          | = P |

| Step 2 - Port / Line Size |     |
|---------------------------|-----|
| 1/4" - 1/2"               | = 3 |
| 3/4" - 1"                 | = 4 |
| 1 1/4" - 2"               | = 5 |

| Step 3 - Material |     |
|-------------------|-----|
| Aluminium         | = A |
| Brass             | = B |
| Stainless Steel   | = S |

| Step 4 - Pressure rating maximum                        |     |
|---|-----|
| 42 bar (600 psi)<br>(Air and gas / Aluminium and brass) | = 4 |
| 69 bar (1000 psi)<br>(Air and gas / Stainless steel)    | = 5 |
| 240 bar (3500 psi)<br>(Liquids / Aluminium and brass)   | = 6 |
| 420 bar (6000 psi)<br>(Liquids / Stainless steel)       | = 7 |

| Step 5 - Fluid:                |     |
|--------------------------------|-----|
| Air and Gases                  | = A |
| Oil and 0.873 specific gravity | = H |
| Water and 1.0 specific gravity | = W |

| Step 6 - Thread porting         |     |
|---------------------------------|-----|
| <b>Size 3 available threads</b> |     |
| 1/4" NPTF                       | = S |
| 1/8" NPTF                       | = A |
| 1/2" NPTF                       | = B |
| 9/16" -18UN #6 SAE ORB          | = E |
| 3/4" -16UN #8 SAE ORB           | = F |
| 7/8" -14UN #10 SAE ORB          | = G |
| 3/8" BSPP                       | = R |
| 1/2" BSPP                       | = T |
| <b>Size 4 available threads</b> |     |
| 3/4" NPTF                       | = C |
| 1" NPTF                         | = D |
| 1-1/16" -12UN #12 SAE ORB       | = H |
| 1-5/16" -12UN #16 SAE ORB       | = J |
| 3/4" BSPP                       | = U |
| 1" BSPP                         | = V |
| <b>Size 5 available threads</b> |     |
| 1-1/4" NPTF                     | = K |
| 1-1/2" NPTF                     | = L |
| 2" NPTF                         | = M |
| 1-5/8" -12UN #20 SAE ORB        | = N |
| 1-7/8" -12UN #24 SAE ORB        | = P |
| 2" -12UN #32 SAE ORB            | = Q |
| 1-1/4" BSPP                     | = W |
| 1-1/2" BSPP                     | = Y |
| 2" BSPP                         | = X |

Please note - SAE porting not available in brass

| Step 7 - Flow ranges  |           |      |        |
|-----------------------|-----------|------|--------|
| Oil and Water         | @100 PSIG |      |        |
| LPM (USgpm)           | SCFM      |      | Size   |
| 0.5-4 (0.05 - 1)      | 1.5 -12   | = 01 | 3 only |
| 0.5-4 (0.1 - 1) water |           |      |        |
| 1-8 (0.2-2)           | 4-23      | = 02 | 3 & 4  |
| 2-19 (0.5-5)          | 5-50      | = 05 | 3 & 4  |
| 4-38 (1-10)           | 10-100    | = 10 | 3 & 4  |
| 4-56 (1-15)           | 25-150    | = 15 | 3 & 4  |
| 10-75 (2-20)          | 20-215    | = 20 | 4 only |
| 10-100 (2-25)         | 20-250    | = 25 | 4 & 5  |
| 10-115 (3-30)         | 30-330    | = 30 | 4 only |
| 15-150 (4-40)         | 30-400    | = 40 | 4 only |
| 15-190 (5-50)         | 40-500    | = 50 | 4 only |
| 15-190 (5-50)         | 30-470    | = 50 | 5 only |
| 30-280 (8-75)         | 30-750    | = 75 | 5 only |
| 40-375 (10-100)       | 150-900   | = 88 | 5 only |
| 75-550 (20-150)       | 150-1300  | = 99 | 5 only |

| Step 8 - Optional flow directions |      |
|-----------------------------------|------|
| Uni-directional                   | =    |
| Bi directional                    | = BI |
| Reverse flow                      | = RF |

Not all flow ranges are available with Bi and reverse directional options, please consult the sales office.

## Case Drain Monitor

Series # WPC    -    -   Webtec Part Number

| Port / Line Size |     |
|------------------|-----|
| 1/2"             | = 3 |
| 3/4" - 1"        | = 4 |

| Material  |     |
|-----------|-----|
| Aluminium | = A |

| Pressure Rating Max. |     |
|----------------------|-----|
| 70 bar (1000 psi)    | = 5 |

| Fluid Media                    |     |
|--------------------------------|-----|
| Oil and 0.873 specific gravity | = H |
| Water and 1.0 specific gravity | = W |

| Flow ranges (oil and water) |      |        |  |
|-----------------------------|------|--------|--|
| LPM (USgpm)                 | Size |        |  |
| 0.5-4 (0.05 - 1)            | = 01 | 3 only |  |
| 0.5-4 (0.1 - 1) water       |      |        |  |
| 1-8 (0.2-2)                 | = 02 | 3 & 4  |  |
| 2-19 (0.5-5)                | = 05 | 3 & 4  |  |
| 4-38 (1-10)                 | = 10 | 3 & 4  |  |
| 4-56 (1-15)                 | = 15 | 3 & 4  |  |
| 10-75 (2-20)                | = 20 | 4 only |  |
| 10-100 (2-25)               | = 25 | 4 & 5  |  |
| 10-115 (3-30)               | = 30 | 4 only |  |

| Thread Type                 |     |        |
|-----------------------------|-----|--------|
| <b>Porting (All Female)</b> |     |        |
| 1/2" BSPP                   | = T | 3 only |
| 3/4" BSPP                   | = U | 4 only |
| 1" BSPP                     | = V | 4 only |
| 1/2" NPTF, dry seal         | = B | 3 only |
| 3/4" NPTF, dry seal         | = C | 4 only |
| 1" NPTF, dry seal           | = D | 4 only |