

WPP Series Phosphate Ester Flow Monitor

Up to

- 490 lpm, 140 US gpm
- 420 bar, 6000 psi

The WPP series in-line flow monitors are designed for continuous monitoring or intermittent use and ideal for checking power unit output or testing hydraulic machinery and tools for correct flow rates. The tubular scale is easily read through the clear Pyrex window and ensures checks can be made to determine pump performance and setting of flow control valves. The unit is fully sealed for weather tight or wash down applications. Wetted seals are available in EPR (standard), Viton® or Kalrez®, so compatibility with all hydraulic systems in mobile, industrial or other applications is not a problem. The WPP 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



Nuffield Road,
St. Ives, Cambs.,
PE27 3LZ, UK

Tel: +44(0)1480 397400

Fax: +44(0)1480 466555

www.webtec.co.uk

E-mail: sales@webtec.co.uk

Features

- Calibrated for use with phosphate esters
- Wide variety of flow ranges, 0.4 - 490 lpm (0.1 - 130 US gpm)
- Pressure rating up to 420 bar (6000 psi)
- Port sizes from 3/8" to 2"
- Direct reading dual calibration, lpm & US gpm
- Calibrated for phosphate ester
- Accurate within 2.5% over mid-scale, 4% FSD
- Advanced stainless steel sharp edge orifice
- Unrestricted mounting in any orientation



Certificate No.8242

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(Issue 3)

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

0.4 - 490 lpm (0.1 - 130 US gpm)
(Phosphate ester flow rate monitors have a scale range equivalent to 0.93 x standard hydraulic oil range). See oil graphs below.

Maximum operating pressure

Aluminium & brass monitors 240 bar (3000 psi),
stainless steel 420 bar (6000 psi)

Maximum operating temperature

115° C (240° F)

Pressure differential

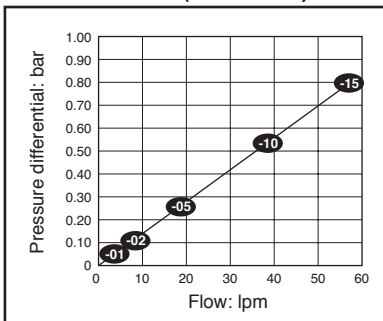
See graphs below

Standard calibration fluids

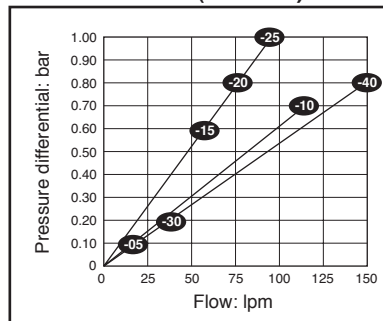
DTE 25 @ 43°C, 0.873 sg. Density corrected to 1.16 sg.

Pressure differential graphs categorised by size code

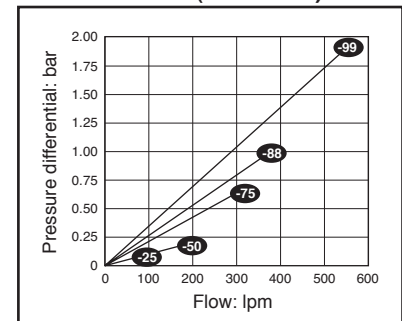
Series 3 (3/8" - 1/2")



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: *EPR w/Teflon® backup (STD), Viton® or Kalrez®*

Transfer magnet: *Teflon® coated Alnico*

Floating Orifice disc: *Stainless Steel*

All other internal parts: *Stainless Steel*

Non-wetted components:

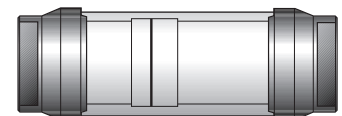
Window tube: *Pyrex*

Window seals: *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) | 48 (1.9) | 60 (2.4) | 90 (3.5) | 90 (3.50) |
| Dim. B mm (inches) | 167 (6.6) | 182 (7.2) | 258 (10.2) | 322 (12.7) |



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) | = 4 |
| (Air and gas / Aluminium and brass) | |
| 69 bar (1000 psi) | = 5 |
| (Air and gas / Stainless steel) | |
| 240 bar (3500 psi) | = 6 |
| (Liquids / Aluminium and brass) | |
| 420 bar (6000 psi) | = 7 |
| (Liquids / Stainless steel) | |

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

| | |
|---------------------------------|-----|
| Size 3 available threads | |
| 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 |

| | |
|---------------------------------|-----|
| Size 4 available threads | |
| 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 |

| | |
|---------------------------------|-----|
| Size 5 available threads | |
| 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 LPM (USgpm) | @100 PSIG 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

| Porting (All Female) | Size |
|----------------------|------------|
| 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 |