WPP Series
Phosphate Ester Flow Monitor

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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.

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

BFPA The British Fluid Power Association
nqa. ISO 9001 Registered
UKAS QUALITY MANAGEMENT 015
Certificate No.8242

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

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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)

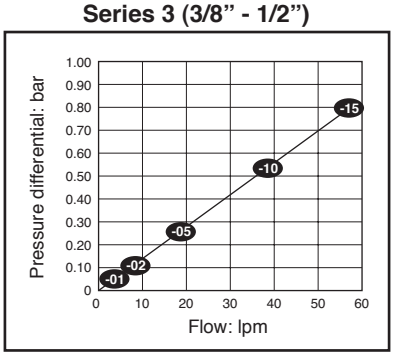
Maximum operating temperature
115° C (240° F)

Pressure differential
See graphs below

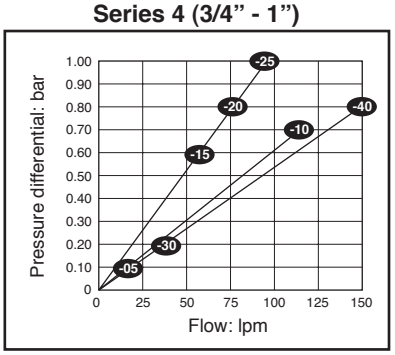
Standard calibration fluids
DTE 25 @ 43°C, 0.873 sg. Density corrected to 1.16 sg.

Pressure differential graphs categorised by size code

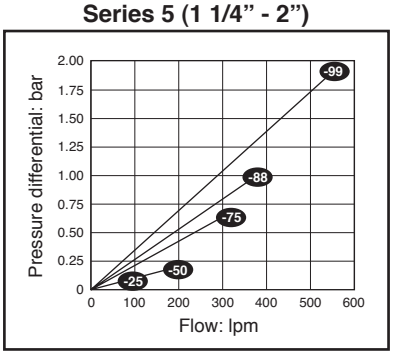
Series 3 (3/8" - 1/2")



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*

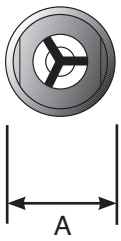
Non-wetted components:

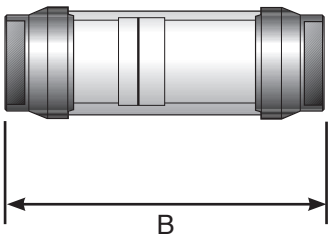
Window tube:	Pyrex
Window seals:	Teflon®

(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	
¼" NPTF	= S
1/8" NPTF	= A
½" 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
½" 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
¾" 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

Webtec Products Limited reserve the right to make improvements and changes to the specification without notice