CERTYFIKACJA SYSTEMU JAKOŚCI
DNV·GL
ISO 9001

POMIAR PRZEPŁYWU CIECZY

Przepływomierze Webtec typ WPB

HYDROPRESS®
hydraulika siłowa

WPB Series
Hydraulic Flow Monitor

Up to
- 550 lpm, 150 US gpm
- 420 bar, 6000 psi

The WPB series in-line flow meters are ideal for monitoring pump performance and media flows through hydraulic circuits and cooling systems.

The flow rate is easily read in either US GPM or LPM from the laser engraved scale.

A varied choice of materials and seals can make it suitable for a wide range of fluids.

Due to the sharp edge orifice technology the units have excellent viscosity stability which means it is suitable for a wide operating temperature range.

Installation is made easy with a choice of threaded ports, no need for straight lengths of pipe on inlet or outlet and no restriction to orientation. This combined with the unit being sealed means that it can nearly be installed anywhere.

Symbol

Hydraulic measurement and control

WEBTEC

Milwaukee, WI 53235, USA
Tel: +1 (414) 769-6400
sales-us@webtec.com

St. Ives, Cambs. PE27 3LZ, UK
Tel: +44 (0) 1480 397 400
sales-uk@webtec.com

www.webtec.com

Features

- **FLOW:** 0.5 - 550 lpm, 0.1 - 150 US gpm
- **PRESSURE** rating up to 420 bar (6000 psi)
- **ACCURACY** ±2% of full scale
- **DIRECT** reading,
- **DUAL SCALE** lpm & US gpm
- **EXCELLENT** viscosity stability to a min of 95 cSt
- **CHOICE** of BSPP, NPTF or SAE Port threads
- **CHOICE** of Aluminium, Brass or Stainless Steel Construction
- **ADVANCED** stainless steel sharp edge orifice
- **UNRESTRICTED** mounting in any orientation

nqa. ISO 9001 Registered
UKAS QUALITY MANAGEMENT 015
Certificate No.8242

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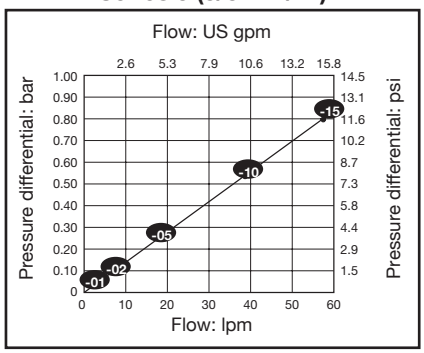
(Issue 6)

Specifications

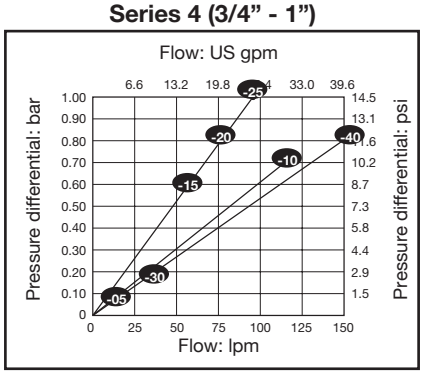
Measuring accuracy	± 2.0 % of full scale
Repeatability	± 1% of full scale
Max. operating pressure	Aluminium and Brass monitors 240 bar (3500 psi), stainless steel 420 bar (6000 psi).
Max. operating temperature	115° C (240° F) Note: For operation to 315° C (600° F), a high temperature range is available
Pressure differential	See graphs below
Calibration	Oil monitors: DTE 25 @ 43°C (40 cSt), 0.873 sg Water monitors: Tap water @ 21°C (1 cSt), 1.0 sg Flow calibration certificates are available on request, this is a chargeable option. Note: Must be requested at time of order & cannot be retrospectively requested.

Pressure differential graphs categorised by size code

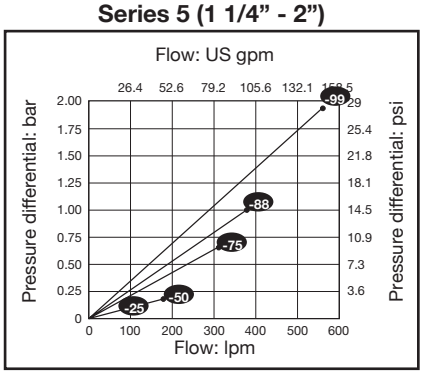
Series 3 (3/8" - 1/2")



Series 4 (3/4" - 1")



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



-15 = *Flow size (see Product Selector)*

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

Construction

Wetted components:

High pressure casing, end ports and tapered shafts:	*2014 Aluminium, CA360 Brass and 304 Stainless Steel*
Seals:	*Buna-N (as standard)* *Optional: 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 (as standard), Pyrex*
Window seals:	*Buna-N (as standard), Teflon®*

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

Operation

The flow monitor consists of tapered center shaft, encircled by a sharp edged floating orifice disk, transfer magnet and return spring.

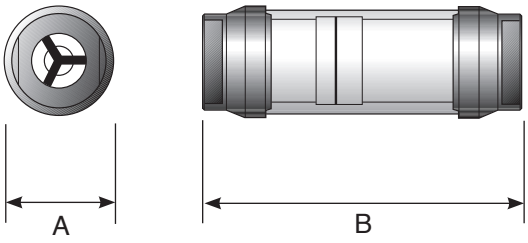
As flow moves through the monitor, a pressure differential occurs across the floating orifice disk, forcing the disk & transfer magnet against the return spring. As flow increases, the pressure differential increases, forcing the disk transfer magnet along the tapered shaft. As flow decreases, the biased spring forces the disk & transfer magnet down the tapered shaft, returning to the "no flow" position.

In metal casing monitors, where the disk & transfer magnet are sealed in the body casing, there is a magnetically coupled magnet follower which displays the reading on the outside scale.

The flow monitor has a linear relationship between flow rate, pressure differential and piston displacement which is displayed on the calibrated scale.

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 # WPB ☐☐–☐ ☐ ☐–☐ ☐ Webtec Part Number

Port / Line Size

1/4” - 1/2”	= 3
3/4” - 1”	= 4
1 1/4” - 2”	= 5

Material

Aluminium	= A
Brass	= B
Stainless Steel	= S

Pressure rating maximum

240 bar (3500 psi) (Liquids / Aluminium and brass)	= 6
420 bar (6000 psi) (Liquids / Stainless steel)	= 7

Fluid Media

Oil and 0.873 specific gravity	= H
Water and 1.0 specific gravity	= W

Thread porting

Size 3 available threads	
¼” NPTF	= S
3/8” 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

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
15-150 (4-40)	= 40	4 only
15-190 (5-50)	= 50	4 only
15-190 (5-50)	= 50	5 only
30-280 (8-75)	= 75	5 only
40-375 (10-100)	= 88	5 only
75-550 (20-150)	= 99	5 only

Optional flow directions

Uni-directional	=
Bi directional *	= BI
Reverse flow	= RF

* Bi-directional option only available in the following flow ranges:
Size code 3 - flow range 5,10 and 15 gpm only
Size code 4 - flow range 10,15, 20 and 30 gpm only
Size code 5 - flow range 50, 75 and 100 gpm only

Other Series available

WPG Series Pneumatic Flow Monitor
WPH Series High Temperature Flow Monitor
WPP Series Phosphate Ester Flow Monitor
WPR Series Flow Monitor with Flow Rate Transmitters
WPM Series Flow Monitor with Flow Rate Alarm
WPC Series Hydraulic Case Drain Monitor

HYDROPRESS®
hydraulika siłowa

CENTRALA ELBLĄG

ul. Rawska 19B
82-300 Elbląg

tel. /+48/ 55 625 51 00

fax /+48/ 55 625 51 01

Dział Handlowy

tel. /+48/ 55 625 51 51

elblag@hydropress.pl

www.hydropress.pl

ODDZIAŁ GDAŃSK
tel. /+48/ 55 625 51 21
fax /+48/ 55 625 51 22

ODDZIAŁ RUMIA
tel. /+48/ 58 679 34 15
fax /+48/ 55 625 51 25

ODDZIAŁ TYCHY
tel. /+48/ 32 787 52 88
fax /+48/ 55 625 51 38

ODDZIAŁ OLSZTYN
tel. /+48/ 89 532 01 05
fax /+48/ 89 715 21 42

ODDZIAŁ WARSZAWA
tel. /+48/ 22 468 86 97
fax /+48/ 55 625 51 32

BIURO WE WROCŁAWIU
tel. /+48/ 782 838 000
fax /+48/ 55 625 51 35

BIURO W KIELCACH
tel. /+48/ 885 995 501
fax /+48/ 55 625 51 01

BIURO W KRAKOWIE
tel. /+48/ 885 995 019
fax /+48/ 55 625 51 01

BIURO W OPOLU
tel. /+48/ 885 995 011
fax /+48/ 55 625 51 01

BIURO W BYDGOSZCZY
tel. /+48/ 790 222 771
fax /+48/ 55 625 51 01

BIURO W BIAŁYMSTOKU
tel. /+48/ 89 532 01 05
fax /+48/ 89 715 21 42

BIURO W ŁODZI
tel. /+48/ 609 221 421
fax /+48/ 89 715 21 42