

# WPG Series

## Pneumatic Flow Monitor

Up to

- Flow rates from 1.5 to 1300 SCFM

The WPG series in-line flow monitors are ideal for checking air compressor outputs, pneumatic tools air consumption and industrial gas flows

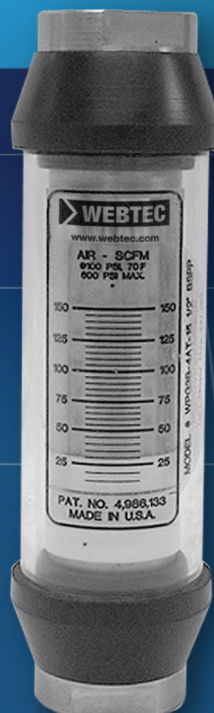
All monitors are calibrated at 21°C and 6.9 bar (100 psi) as standard, so eliminating the need for look-up tables for most applications.

The flow rate is easily read from the laser engraved scale.

A varied choice of materials make it suitable for a wide range of pressures.

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



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

- **IDEAL** for measuring compressor output
- **FLOW:** 1.5 - 1300 SCFM
- **PRESSURE** rating up to 70 bar (1000 psi)
- **CHOICE** of BSPP, NPTF or SAE Port threads
- **DIRECT** reading
- **CALIBRATED** in SCFM at 21°C and 6.9 bar (100 psi)
- **ACCURACY:** 2.5% over mid-scale, 4% FSD
- **ADVANCED** stainless steel sharp edge orifice
- **UNRESTRICTED** mounting in any orientation



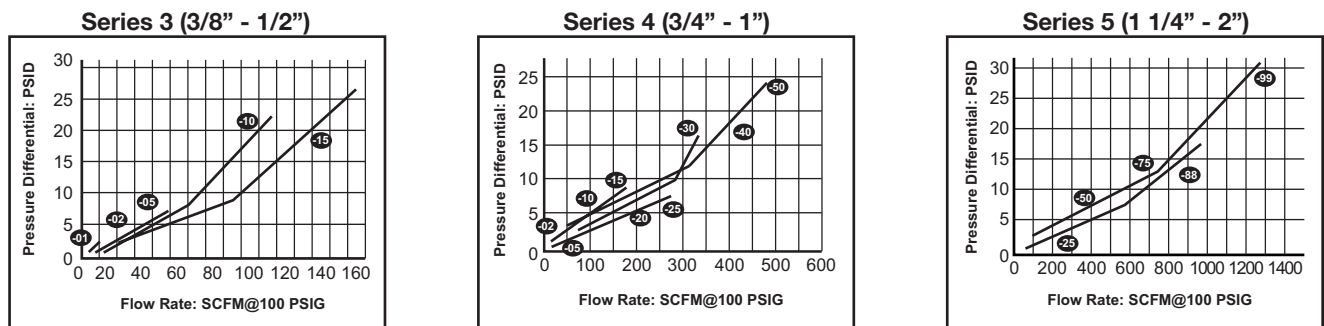
WPG-BU-ENG-1938.pdf 04/16  
(Issue 6)

## Specifications

<b>Measuring accuracy</b>	± 2.5% of full-scale in the centre third of the measuring range ± 4% of full-scale in upper & lower thirds
<b>Repeatability</b>	± 1% of full scale
<b>Flow measuring range</b>	1.5 - 1300 SCFM (Standard cubic feet per minute)
<b>Max. operating pressure</b>	Aluminium & brass 40 bar (580 psi), stainless steel 70 bar (1,000 psi)
<b>Max. operating temperature</b>	115° C (240° F)
<b>Pressure differential</b>	See graphs below

**Calibration** Air @ 21°C, 1.0 sg and 6.9 bar (100 psi)  
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



15 Flow Size (see Product Selector)

## Construction

### Wetted components:

High-pressure casing, end ports and tapered shafts: 2014 Aluminium, CA360 Brass & 304 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)

## Operation

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

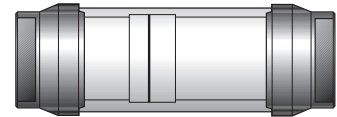
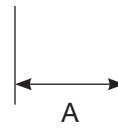
As flow moves through the monitor, a pressure differential occurs across the floating orifice disk, forcing the disk & transfer magnet against the return spring. As flow increases, the pressure differential increases, forcing the disk & transfer magnet along the tapered shaft. As flow decreases, the 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 # WPG  -   -   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	
42 bar (600 psi) (Air and gas / Aluminium and brass)	= 4
69 bar (1000 psi) (Air and gas / Stainless steel)	= 5

Fluid Media:	
Air and Gases	= A

Thread porting	
<b>Size 3 available threads</b>	
1/4" NPTF	= S
3/8" 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

Flow ranges		
@100 PSIG SCFM Size		
1.5 -12	= 01	3 only
4-23= 02		3 & 4
5-50= 05		3 & 4
10-100	= 10	3 & 4
25-150	= 15	3 & 4
20-215	= 20	4 only
20-250	= 25	4 & 5
30-330	= 30	4 only
30-400	= 40	4 only
40-500	= 50	4 only
30-470	= 50	5 only
30-750	= 75	5 only
150-900	= 88	5 only
150-1300	= 99	5 only

Optional flow directions	
Uni-directional	=
Reverse flow	= RF

Please note - SAE porting not available in brass

## Other Series available

WPB Series Hydraulic 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