

WPC Series

Hydraulic Case Drain Monitor

The WPC series in-line case drain monitors are designed as a low cost alternative to using a high pressure flow meter for case drain applications.

It is ideal for monitoring pump performance and identifying required maintenance.

The flow rate is easily read in either US gpm or L/min from the laser engraved scale.

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

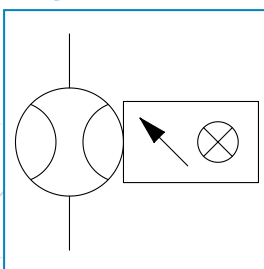
Due to the sharp edge orifice technology the units have excellent viscosity stability which means it is suitable for a wide operating temperature range.

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.

Specifications

Maximum Rated Pressure:	Up to 69 bar, 1000 psi
Maximum Rated Flow:	Up to 115 L/min, 30 US gpm
Maximum Rated Temperature:	116 °C, 240 °F
Ambient Temperature Range:	-30 to 50 °C, -22 to 122 °F
Accuracy:	±5% of full scale
Porting:	BSPP, NPTF or SAE
Material:	
Body Materials:	Aluminium
Internal Materials:	Stainless Steel
Seals:	NBR

ISO Symbol:



Make it **BLUE**

Features

- Direct reading with dual scale, L/min & US gpm.
- Excellent viscosity stability to a min 95 cSt.
- Unrestricted mounting in any orientation. Allows for horizontal, vertical or inverted installation and does not require straight pipe on inlet or outlet ports.
- Superior exterior design that's weather-tight for use outdoors and/or on systems where wash-downs are required.
- Other series available:
 - WPB Hydraulic Flow Monitor
 - WPG Pneumatic Flow Monitor
 - WPR Flow Monitor with Flow Rate Transmitters
 - WPM Flow Monitor with Flow Rate Alarm

Sales Order Code

Please contact our technical sales team to discuss any special order requirements

TYPICAL CODE	DESCRIPTION	SEE TABLE	YOUR CODE
WPC	Case Drain	-	WPC
4	Porting/Line Size	Table 1	
A	Material	Table 2	
5	Pressure Rating Maximum	Table 3	
H	Fluid Media	Table 4	
V	Thread Type	Table 5	
10	Flow Ranges	Table 6	

Flow calibration certificates are available on request, this is a chargeable option.
 Note: Must be requested at time of order & cannot be retrospectively requested.

Table 1:

PORT / LINE SIZE	CODE
1/2"	3
3/4" - 1"	4

Table 2:

MATERIAL	CODE
Aluminium	A

Table 5:

THREAD TYPE	CODE
Size 3 available threads	
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
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

NPTF porting threads are dry seal to ANSI B1.20.3

Table 3:

PRESSURE RATING	CODE
69 bar, 1000 psi	5

Table 4:

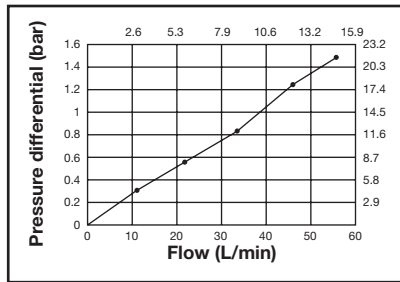
FLUID MEDIA	CODE
Oil at 0.873 specific gravity	H
Water at 1.0 specific gravity	W

Table 6: Oil and Water

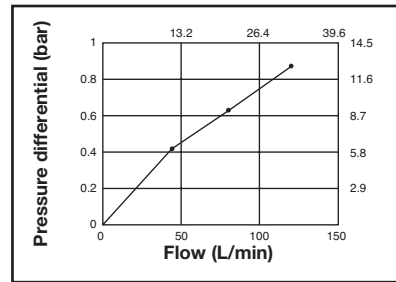
FLOW RANGES		SIZE	CODE
L/min	US gpm		
0.5-4	0.1-1.0	3 Only	01
1-8	0.2-2.0	3 & 4	02
2-19	0.5-5.0	3 & 4	05
5-37.5	1-10	3 & 4	10
5-55	1-15	3 & 4	15
10-75	2-20	4 Only	20
10-95	2-25	4 Only	25
15-115	4-30	4 Only	30

Pressure Differential Graphs Categorised by Sized Code

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



Series 4 Monitors (3/4" - 1")

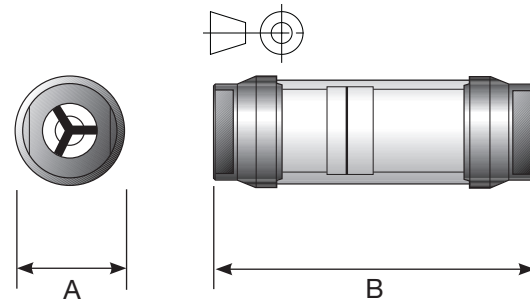


14.5 psi = 1 bar, 1 US gpm = 3.785 L/min

Installation Details

Table Dimensions

SIZE CODE	3		4	
	mm	inch	mm	inch
Dim. A	48	1-7/8	60	2-3/8
Dim. B	167	6-9/16	182	7-5/32



Product Information

- Measuring accuracy: $\pm 5.0\%$ of full scale
- Repeatability: $\pm 1\%$ of full scale
- Max. operating pressure: 69 bar, 1000 psi.
- Max. operating temperature: 116° C, 240° F
- Calibration: Oil monitors: DTE 25 @ 43°C, 110°F (40cSt), 0.873 sg (DTE 25 is a registered trademark of Exxon Mobil).
Water monitors: Tap water @21°C, 70°F (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.
- Filtration requirements: 74 micron filter or 200 mesh screen minimum

Construction

Wetted Components:

- Casing: Anodised Aluminium
- End Ports: Non-anodised Aluminium
- Seals: NBR
- Transfer Magnet: PTFE coated Alnico
- Floating Orifice Disc: Stainless Steel
- All other Internal Parts: Stainless Steel

Non-wetted Components:

- Window Tube: Polycarbonate
- Window Seal: NBR

Operation

The flow monitor consists of tapered centre 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.

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