



## Bühler Particle Monitor BPM

### Continuous particle monitor for lubricating and hydraulic oils

Particles are undesired parameters in hydraulic and lubricating systems and can cause considerable system damage.

The Bühler BPM-100 particle monitor was designed specifically for monitoring particles in oil. Continuously monitoring the fluid for solid particles can extend oil change intervals, thus significantly reduce maintenance costs. This makes the Bühler BPM-100 particle monitor an essential part of your condition monitoring system.

The BPM-100 visually detects particles and uses the principle of light obscuration to properly sort the particles in the respective fluid. Meaning a laser inside the measuring cell rates the particles based on size and quantity. It has the classifications according to common purity classes and features a large range of output signals sent by the switching output, 4-20 mA all the way to digital communication.

### BPM-100

Switching output, 4...20mA, RS232, CAN and IO-Link

High pressure resistance, primarily used in bypass

Continuous particle monitoring for detailed analysis of machine conditions

Compact, tough housing also suitable for demanding applications

Purity classes according to ISO 4406:99, SAE AS 4059, NAS 1638 & GOST 17216

Quick and accurate detection of particles or particle changes

Easy menu navigation

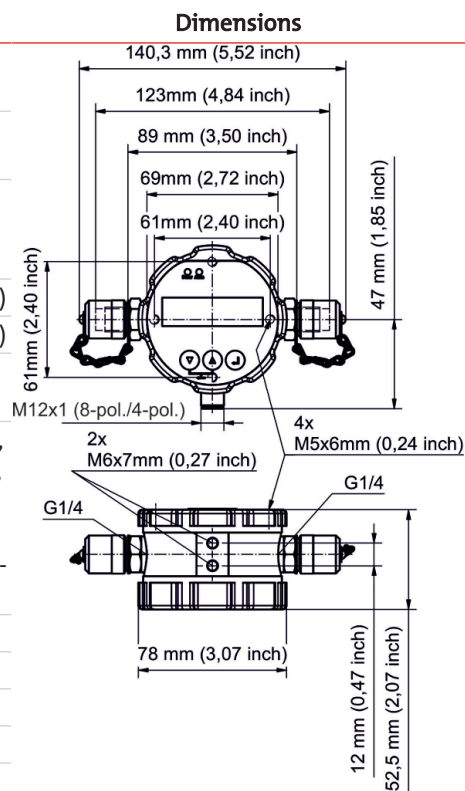
Easy system connection via Minimes or G1/4"

LC display


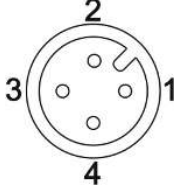


Technical Data

BPM-100-	1DC2S1A	1D1S
Version:	Compact unit with Minimes adapter	Compact unit with Minimes adapter
Process connection:	G 1/4" and M16x2 Minimes adapter	G 1/4" and M16x2 Minimes adapter
Material in contact with media:	stainless steel, sapphire, chromium, NBR, Minimes coupling: zinc/nickel	stainless steel, sapphire, chromium, NBR, Minimes coupling: zinc/nickel
Medium temperature:	-4 °F to 185 °F (-20 °C to +85 °C)	-4 °F to 185 °F (-20 °C to +85 °C)
Ambient temperature:	-4 °F to 185 °F (-20 °C to +85 °C)	-4 °F to 185 °F (-20 °C to +85 °C)
Pressure resistance:	6091 psi (420 bar) dynamic 8702 psi (600 bar) static	6091 psi (420 bar) dynamic 8702 psi (600 bar) static
Compatible fluids:	mineral oils (H, HL, HLP, HLPD, HVLP), synthetic esters (HETG, HEPG, HEES, HEPR), polyalkylene glycol (PAG), zinc- and ash-free oils (ZAF), poly-alpha-olefins (PAO)	mineral oils (H, HL, HLP, HLPD, HVLP), synthetic esters (HETG, HEPG, HEES, HEPR), polyalkylene glycol (PAG), zinc- and ash-free oils (ZAF), poly-alpha-olefins (PAO)
Weight:	1.59 lb (720 g)	1.59 lb (720 g)
<b>Input value</b>		
Flow range:	50...400 ml/min	50...400 ml/min
Operating voltage (U <sub>B</sub> ):	9 - 33 V DC	18 - 30 V DC
Power input:	max. 0.3 A	max. 0.3 A
<b>Measuring range</b>		
	[Ordinal number]	[Ordinal number]
ISO 4406:99	0...28 display 10...22 calibrated	0...28 display 10...22 calibrated
SAE AS 4059E:	0...12 display	0...12 display
Following NAS 1638:	0...12 display	0...12 display
Following GOST 17216:	0...17 display	0...17 display
Size channels:	4, 6, 14, 21 µm	4, 6, 14, 21 µm
Measuring accuracy in calibrated measuring range	±1 Ordinal number	±1 Ordinal number
Additional secondary measurands:	temperature, volume flow, operating hours	temperature, volume flow, operating hours
Output signals:	RS232 CAN-Open SAE J1939 high-low open collector 4...20mA clocked	IO-Link



Standard pin assignment

Plug connection	M12 (base)	M12 (base)
Number of pins	8-pin	4-pin
Voltage	max. 33 V DC	max. 30 V DC
IP rating with IP67 cable box attached	IP67	IP67
Version	1DC2S1A	1D1S
Connection schematic		
1	L+	+24 V DC
2	L-	S2
3	TxD, CAN low [OUT]	GND
4	RxD, CAN high [IN]	C/Q (IO Link)
5	Switching input [high/low]	-
6	Analog output 4...20 mA	-
7	Switching output [high/low]	-
8	Signal earth	-
Shield	-	-

Pressure loss

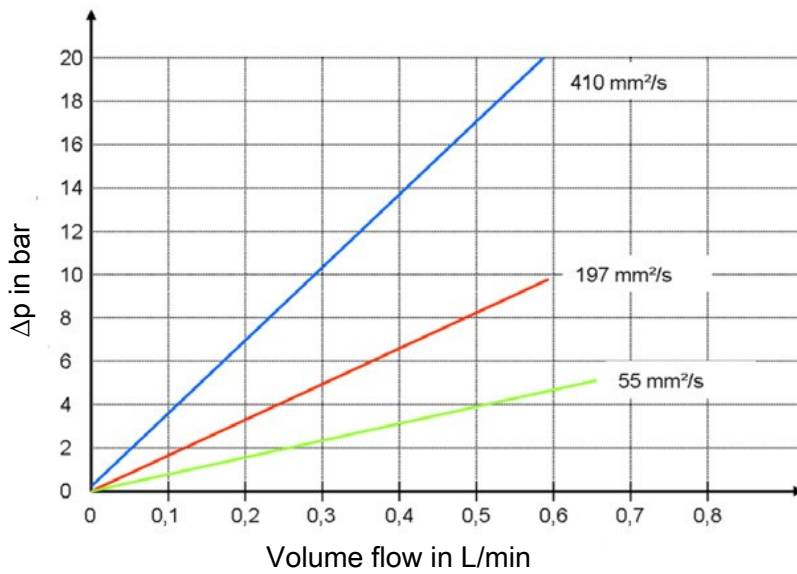


Fig. 1: Flow curve for various viscosities without Minimes connections

**Model key**

**BPM - 100 -** □□□ - □□□□□□□□

<b>Type designation</b>			<b>Outputs</b>	
BPM	Bühler Particle Monitor		1DC2S1A	1x RS232/CAN 2x Switching signal input output 1x analogue signal 4...20 mA
<b>Version</b>			1D1S	1x IO-Link 1x switching signal
100	Standard compact unit			
<b>Display</b>				
000	Unit with display			
010	Unit without display			

Item no.	Model
1530001000	BPM-100-000-1DC2S1A
1530001010	BPM-100-010-1DC2S1A
1530001001	BPM-100-000-1D1S
1530001011	BPM-100-010-1D1S

**Accessories**

Item no.	Description
1590001006	Recalibration
1590001001	RS232 data cable
1590001002	USB/RS232 adapter
1590001003	Power supply
1590001004	Minimess connection with flow regulator
1590001011	CM terminal (see separate data sheet no. 150107)