

# PM-1

## On-Line ISO Code Particle Monitor

Get fast and accurate ISO cleanliness code readings from your hydraulic and lube oils in real time with the PM-1 Particle Monitor.



[hyprofiltration.com/PM1](http://hyprofiltration.com/PM1)



# PM-1 Specifications

Display	The device is calibrated to ISO 11943. It calculates and displays results according to ISO 4406:99, SAE AS 4059, NAS 1638 und GOST 17216.		
Voltage	9-33 V dc		
Operating Pressure	Up to 6,090 psi (420 bar) dynamic		
Protection Class	IP67		
Flow Rate	50-400 ml/min (required for operation)		
Fluid Connection	M16 x 2.0 (Minimess®)		
Electric Connection	M12 x 1 (8 Pole)		
Data Memory	On-board 4MB storage capacity		
Fluid Compatibility	Mineral oils, phosphate esters and specified synthetics (Skydrol by special option only). Not for use with water glycol or other water based fluids. Water levels above saturation in any fluids will cause the PM-1 to malfunction.		
Temperature Range	<b>Oil</b> 14°F to 176°F (-10°C to 80°C)	<b>Air</b> 14°F to 176°F (-10°C to 80°C)	<b>Storage</b> -4°F to 176°F (-20°C to 80°C)
Interface	RS-232, analog output 4-20 mA configurable, digital alarm output, digital input to start and stop readings		
Ordering Information	<b>PM-1</b>	PM-1 Particle Monitor	
	<b>PM-1-PWRSUP-60<sup>1</sup></b>	PM-1 electrical power supply for portable use (120V AC, 1P, 60 Hz to 24 V dc)	
	<b>PM-1-PWRSUP-50<sup>1</sup></b>	PM-1 electrical power supply for portable use (220V AC, 1P, 50 Hz to 24 V dc)	
	<b>PM-1-PWRCAB</b>	PM-1 9-33 V power cable with M-12 x 1 (8 pole) connection 15' (5 m) power cable plus 1 x 8 pole connection for PM-1	
	<b>PM-1-HKIT-60</b>	Portability kit for PM-1. Includes: Pelican™ case, sampling hoses for high pressure Minimess® & low pressure lube application adapters, outlet line flow control attachment, PM-1-PWRSUP-60 power supply (60 Hz) and PM-1-DAT data/power adapter.	
	<b>PM-1-HKIT-50</b>	Portability kit for PM-1. Includes: Pelican™ case, sampling hoses for high pressure Minimess® & low pressure lube application adapters, outlet line flow control attachment, PM-1-PWRSUP-50 power supply (50 Hz) and PM-1-DAT data/power adapter.	
	<b>PM-1-BR</b>	PM-1 back mounting bracket with rubber vibration suppression	
	<b>PM-1-USB</b>	USB adapter – RS-232 serial	
	<b>PM-1-DAT<sup>1</sup></b>	15' (5 m) data cable with open ends	
	<b>PM-1-FITLOW</b>	Low pressure lube system fittings to replace standard Minimess® inlet & outlet connections. <sup>2</sup> Suitable for low pressure systems < 29 psi (2 bar) where achieving minimum flow index 50,000 reading (50 ml/min) is not possible.	
	<b>PM-1-SC<sup>3</sup></b>	PM-1 Soft Calibration	
	<b>PM-1-HC<sup>3</sup></b>	PM-1 Hard Calibration	

<sup>1</sup>For PM-1 portable counting you must purchase the PM-1-DAT AND either the PM-1-PWRSUP-60 (for 60 Hz) or the PM-1-PWRSUP-50 (50 Hz) to power the unit. The unit cannot be powered with just the PM-1-PWRSUP-60 or -50. The PM-1-DAT allows for connection to RS232 data port for data acquisition and download.

<sup>2</sup>Minimess® is a registered trademark of Hydrotechnik GMBH.

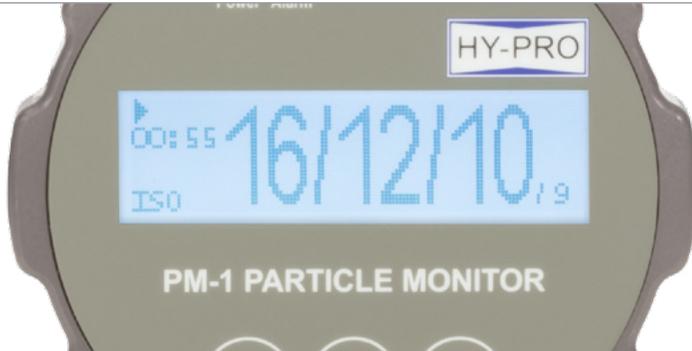
<sup>3</sup>It is recommended that the unit receives a soft calibration every 2 years of service to ensure the unit is still operating as intended.

If soft calibration indicates the unit is not functioning properly, a hard calibration should be performed.



## Eliminate the guesswork.

Dedicating PM-1 to hydraulic and lube systems can eliminate the need for bottle sampling and let's you know how clean your oil is at all times. PM-1 can be integrated into operating software for constant monitoring and can also be set up to trigger alarms if a system gets too dirty, giving you complete control of your fluids and your systems.



## Unmistakably easy.

As the PM-1 analyzes your fluids, the on-screen counts update in real time to show you the ISO cleanliness codes for the 4 $\mu$ , 6 $\mu$ , 14 $\mu$  and 21 $\mu$  channels in incredible clear and easy to read figures.

## Perfectly integrated.

Add the PM-1 to almost any Hy-Pro Filtration System with Special Option code "O" (where applicable) to get real time ISO Codes integrated directly on your filtration and always know exactly how clean your hydraulic and lube oils are.



## Want to find out more? Get in touch.

hyprofiltration.com  
info@hyprofiltration.com  
+1 317 849 3535

© 2016 Hy-Pro Corporation. All rights reserved.



MKTLITACC-PM1-063016-NI