PAMAS
Partikelmess- und Analysesysteme



PAMAS S50
Online particle counter for oil condition monitoring

Permanently installed high resolution online particle counter for oil condition monitoring

Application:

- **Hydraulic oil**
- **Lubricating oil**
- **Test rigs**
- **Parts cleaning**

- cost effective, high performance, laser based online particle counting system with eight size channels
- flexible integration into industrial monitoring facilities
- LED display showing the contamination class code according ISO 4406 in the size classes > 4 µm(c), > 6 µm(c) and > 14 µm(c)
- The volumetric cell design of PAMAS sensors measures 100% of the sample flow and guarantees highest accuracy and reproducibility.
- The particle number and size distribution of all 8 size channels is reported in real time to the PC or PLC (programmable logic controller). The optional analysing software saves the measuring results and shows them in tables and graphs. This makes trends and events easily visible.
- Due to its measuring accuracy and its trend monitoring and alarm features, PAMAS S50 reduces the risk of failures and ensures the reliability of the controlled operating system.

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IN THE WORLD OF PARTICLES PAMAS COUNTS

PAMAS S50
Recognise failures at an early stage

The **PAMAS S50** measures the cleanliness of mineral and synthetic oils in different industrial environments. Its rugged construction makes it resistant against mechanical, environmental and electrical threats.

Early alert in case of abrasion:
Beginning failures in hydraulic and lubricating oil systems result in the early appearance of big particles. Due to its eight size channels, the online particle counter **PAMAS S50** is able to detect bigger particles and instantaneously alerts in case of abrasion or machine failure. Production breakdown can therefore be prevented in an early stage.

Software:
PAMAS provides two different software tools for the analysis of the measuring results:

- **PAMAS POV (PAMAS Online Visualisation):**
  Software for online visualisation of measuring results and for long-term trend monitoring
- **PAMAS PCT (PAMAS Component Test):**
  Software for online monitoring of parts cleanliness and for roll off cleanliness testing



Size µm (c)	Particles / 100 ml
> 4	29497
> 6	7090
> 10	2393
> 14	960
> 21	383
> 25	190
> 38	133
> 70	12

More than just providing the standard ISO code, PAMAS S50 measures the particle number in eight different size channels and gives an early alert in case of machine failure caused by bigger particle sizes (e.g. wear and abrasion).

Pressurised and pressureless sampling:
If the application supplies pressure, the unit can be operated without internal pump.

PAMAS S50 continuously determines the flow rate through the sensor to achieve precise measuring results independent of the input pressure. The variable flow rate ranges between 5 and 50 ml/min. For pressureless applications, **PAMAS S50** can be equipped with an additional pump (**PAMAS S50 P**). The wear resistant ceramic piston pump
controls the flow rate to 25 ml/min at a pressure range from 0 to 6 bar.



PAMAS S50P with integrated pump for pressureless applications

Technical data:

Counter:
Particle measurement in eight size channels:
> 4 µm(c), > 6 µm(c),
> 10 µm(c), >14 µm(c),
> 21 µm(c), > 25 µm(c),
> 38 µm(c) and > 70 µm(c)

Viscosity:
up to 1000 cSt
(depending on system pressure)

Maximum fluid temperature:
60°C at an ambient temperature of 20°C

Pressure range:
- without pump: 0,2 - 15 bar
- with additional pump: 0 - 6 bar

Data transfer:
- standard equipment:
  RS 485 interface
- optional equipment:
  analogue 4-20 mA interface. Parallel data transmission for the size channels 4, 6, 14 and 70 µm(c) or serial data transmission for all eight size channels.

Volumetric sensor:
PAMAS HX
Calibration range:
4-70 µm(c) according to ISO 11171

Maximum particle concentration: 24,000 p/ml at a flow rate of 25 ml/min and a coincidence rate of 7.8%. The sensor measures triple codes from 0/0/0 to 22/22/22 according to ISO 4406.

Size:
- without pump:
  220 mm x 120 mm x 120 mm
- with additional pump:
  230 mm x 200 mm x 180 mm

- **Weight:**
- without pump: 3,7 kg
- with additional pump: 5,0 kg

TÜVRheinland ZERTIFIZIERT
Management System
ISO 9001:2015
www.tuv.com
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