

PAMAS AS3

Automatic Sampling Particle Counting System for Liquids

Fully automated laboratory particle counter for the unattended measurement of up to 600 samples per day. Fluid samples including but not limited to:

- Hydraulic Oil
- Turbine and insulation oil
- Water based hydraulic fluid
- Phosphate ester based hydraulic fluid
- Diesel
- Jet fuel



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Product features

- Customizable footprint size due to modular structure
- Enclosed sample area to prevent contamination via airborne particulate
- Customizable measurement settings including agitation, pre-run and sample volume
- Unattended measurement of up to 600 samples per day
- Undiluted measurement of samples with up to VG 100/SAE 30.
- Use of customized sample vessels with a max. height of 180 mm
- Integrated sample preparation by ultrasonication
- Automatic Sample dilution function
- Automatic cleaning of sampling probe and flowpath
- Automatic refilling and cleaning of the Dilution fluid
- Data transfer in universal format (.xml)
- LIMS integration possible
- PDF measurement reports

Accurate single particle counting technique

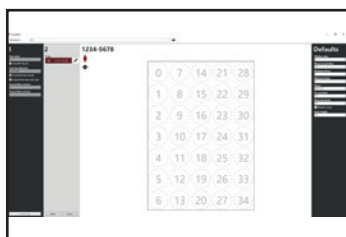
The volumetric sensor cell and sophisticated optical components guarantee high resolution and accuracy. Every particle passing the sensor is detected. This design ensures the true measurement of the fluid sample including ultra clean fluids.

Calibration

The system is calibrated according to the international standard ISO 11171. This calibration is traceable to NIST standards.

Software

The AS3 is delivered with the Autosampler3 software for system set up, system operation and data transfer. Using the AutoEdit3 software, also included, the sample trays can be configured individually or set-up and stored for repeatable tray analyses. The measurement results can be exported as PDF as well as in .xml format. Integration to an existing customer LIMS is easily achieved.



Software AutoEdit3

Sample preparation

The integrated sample preparation via ultrasound ensures a dissolution of particle agglomerates and a mixing of the sample immediately before the measurement. This stage of the sample preparation also assists in removing aeration from the sample. During the measurement of one sample the subsequent sample is being prepared, reducing overall operational time. The sampling tube and ultrasonic probe are cleaned automatically after each operational step to prevent cross-contamination. This is achieved by returning the sample tube and ultrasonic probe to the pre-filtered cleaning fluid reservoir.



sample tube and ultrasonic probe

Dilution system

Samples with high particle concentrations, additives or water content and small sample volumes may require dilution. The AS3 has an integrated additional circuit complete with pump for the diluent to be introduced, if required. The samples are diluted directly before the measurement along the sample path, so the remaining sample can be used for further analysis in an undiluted condition. A static mixer ensures an optimal combination of sample and diluent. The dilution ratio can be defined individually for each sample.

Reporting of measurement results

According to the following standards:
ISO 4406, SAE AS4059
as well as raw data.

Modularity

The width of the device can be individually adapted according to the requirements of the available space in the laboratory and the number of samples. In addition, the sample trays are customised to the number and size of the sample bottles.

Technical data

Specifications

- 8 size channels
- Data transfer: ASCII Code, Interface via USB, PCs or Ethernet
- Power supply: 100/240 V, 50–60 Hz

Volumetric sensor

PAMAS HCB-LD-50/50

Size range:

4–70 µm(c) (ISO 11171)

Max. particle concentration:

24,000 P/ml* at 25 ml/min*

Size

140–185 cm x 195 cm x 114 cm
(W x H x D)

Weight

from 286 kg

* Coincidence error of 7.8 %



Management
System
ISO 9001:2015

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