PAMAS
PARTIKELMESS- UND ANALYSESYSTEME GMBH

PAMAS S40 AVTUR
Portable Particle Counting System for Aviation Turbine fuel

PAMAS S40 AVTUR

The PAMAS S40 AVTUR is a special version of the very successful S40 Automatic particle counting system that helps the aviation fuel industry to gather very accurate and reliable contamination analysis results.

The PAMAS S40 AVTUR has its own IP method (IP577), that was drafted, validated and published from the Energy Institute in London.

This guarantees highest quality of the method and best compatibility with other methods for contamination control. This standard will be listed in the next revision of the UK Ministry of Defense DEFSTAN 91-91.

Applications

Special AVTUR mode according to EI-IP577 standard. Online measurements at live systems up to 7bar.

- Online measurements at pressureless systems
- Offline measurement using sample bottles (Laboratory mode)
- Long term analysis
- Bypass filtration monitoring
- Filter verification

The system features are:

- **8 channel high resolution digital system for analysis**
- **According to EI-IP577 standard**
- **According to DEFSTAN 91-91**
- **According to ISO 4406: 1999 4µm(c), 6µm(c), 14µm(c) based on ISO 11171**
- **According to ISO 4406: 1987 2µm, 5µm, 15µm based on ISO 4402**
- **sampling from bottles as well as pressurized up to 7bar**
- **User friendly operation using touch screen with graphic display**

Easy documentation of contamination, cleaning process, and filtration performance

PAMAS
PARTIKELMESS- UND ANALYSESYSTEME GMBH

- The volumetric cell design of PAMAS sensors guarantees the highest accuracy, resolution and best statistical information
- Result expressed in compliance with IP577, ISO 4406:1999, SAE AS 4059D, ISO 4406:1987, NAS 1638, GJB 420A, GOST 17216
- Real portability with lab system accuracy
- User can configure the system to their needs in profiles
- Pressurized sensor avoids degassing
- Display and printout provide triple ISO codes, NAS- and SAE cleanliness classes, measurement volumes, and particle numbers
- Highest repeatability and accuracy
- Password protected user levels
- Storage of more than 2000 measurement data sets
- Built-in battery for data backup
- User-friendly download software
- Viscosity independent up to 200 cSt
- connectors (DIN ISO 2353) or user specific
- Operates on 90 - 230 V AC (50/60 Hz), or 12 - 30 V DC, or internal battery

The **PAMAS S40 AVTUR** is a portable system designed to count and size particles in fuels, oil and hydraulic fluids. A backlit touch screen for menu guided user access, and an additional membrane keypad give easy operation. A built-in printer provides instant hardcopies of measurement results.

Highly versatile due to a powerful 32-bit microprocessor allowing multiple automated sampling and data storage. User-friendly Download software for transfer of stored measurement data to a PC as a basic feature.

Data files are compatible with most spreadsheet software. Standard languages are English and German, Finnish, Dutch, French. The system can be programmed to any other language (optional).

9001: 2000

TÜV CERT

DIN EN ISO 9001:2000

Zertifikat: 01 100 061898

Single particle counting system using the light blockage principle

A highly sophisticated sensor cell and optics guarantees best resolution and accuracy even under high pressure conditions.

Particle counting can be achieved using many methods, but only the use of volumetric cells, like those used in PAMAS sensors, can guarantee that all particles passing through the sensor are counted.

This results in better statistical analysis and prevents the loss of information compared to in-situ cells that detect only a small portion of the whole sample flow, especially as the samples are getting cleaner.

Calibration

- According to ISO 11171:1999 with ISO MTD (NIST) in oil.
- According to ISO 4402:1991 with ACFTD in oil (optional).

More than one calibration possible in a single system.

Standards

Display shows particle numbers, cleanliness classes, and size. Printout according to many international standards (e.g. EI-IP577, ISO 4406:1987, NAS 1638, ISO 4406:1999, SAE AS 4059D, others on request).

Technical data

Sampling system:
- Wear resistant ceramic piston pump with controlled constant flow.
- Viscosity range up to 100 cSt

Pressure range:
- From pressureless up to 7 bar (100 psi)

PAMAS Volumetric Sensor: HCB-LD-50/50
Size range:
- 4 - 70 µm(c) (ISO 11171:1999)
- 1 - 100 µm (ISO 4402:1991)
- 1 - 400 µm (ANSI/NFPA)

Max. particle concentration:
- 20,000 p/ml at flow rate 25 ml/min at 5% coincidence

Counter:
- 8-channel particle counter, standard calibration 4µm(c), 6µm(c), 10µm(c), 14µm(c), 21µm(c), 25µm(c), 38µm(c), 70µm(c) (ISO 11171:1999) and: 2µm, 5µm, 10µm, 15µm, 20µm, 25µm, 50µm, 100µm (ISO 4402:1991)

Controller:
- 32-bit high performance CPU with sophisticated programmable digital domain signal conditioning and 4096 internal channels
- Data printout: 32 column thermo printer
- Data transfer: 8 bit ASCII code through USB port (57600 baud)
- Power supply: 90 - 230 V AC (50 - 60 Hz) 12 - 30 V DC, internal battery (for up to 2h operation) LiCl battery for memory backup
- Weight and Size: Approx. 9 kg 300mm x 140mm x 300mm

Options:
- Alarm
- Lube-oil
- Skydrol compatible
- Water hydraulic

PAMAS HEAD OFFICE, Dieselstraße 10, D-71277 Rutesheim, Phone: +49 7152 99 63 0, Fax: +49 7152 54 86 2, E-mail: info@pamas.de
PAMAS USA, 1408 South Denver Avenue, Tulsa, OK 74119 USA, Phone: +1 918 743 6762, Fax: +1 918 743 6917, E-mail: ClayBielo@earthlink.net
PAMAS FINLAND, Arwidssonintie 25, FIN-41340 Laukaa, Phone: +358 14 252 210, Fax: +358 14 252 212, E-mail: esko.niiranen@pamas.fi
PAMAS BENELUX, Battelsesteenweg 455 A, B-2800 Mechelen, Phone: +32 15 28 2010, Fax: +32 15 28 2009, E-mail: paul.pollmann@pamas.de
PAMAS FRANCE, Tour Crédit Lyonnais, 129 rue Servient, F-69326 Lyon Cedex 03, Phone: +33 4 78 63 79 40, Fax: +33 4 78 63 79 83, E-Mail: eric.colon@pamas.fr
PAMAS INDIA, P51, 7th Main, Sector X, Jeevan Bhima Nagar, Bangalore 560075, India, Phone: +91 80 51150039, Fax: +91 80 25201370, E-Mail: pamasindia@touchtelindia.net
PAMAS HISPANIA, Plaza Celestino Mª del Arenal nº 3 1º B; ES-48014 Bilbao; Mobile: + 34 6 77 539 699; E-mail. Julian.Malaina@pamas.de

Please visit our website at www.pamas.de