

# PAMAS SBSS WG

## Particle Counting System for Water Based Hydraulic Fluids



### PAMAS SBSS WG

#### Syringe Bottle Sampling System

Dedicated Water/Glycol  
particle counting system

#### Applications

- Water/Glycol hydraulic fluids
- Subsea Christmas trees and wellhead assemblies
- Hydraulic Power Units
- Hydraulic Accumulators
- Subsea Umbilicals
- Hydraulic valves and control systems

The particle counter PAMAS SBSS WG analyses water/glycol hydraulic fluids. It is compatible with the following fluids:

- MacDermid Oceanic HW540,443,443R etc.
- Castrol Transaqua
- Pelagic 100
- Aqualink 325-F Houghton
- Aqualink HT804F
- Aqualink 300-F

Volumetric cell design of PAMAS sensors guarantees highest accuracy and resolution for best statistical information.

- 1  $\mu\text{m}$  sensitivity according to ISO 4402
- 4  $\mu\text{m(c)}$  sensitivity according to ISO 11171
- 1  $\mu\text{m}$  sensitivity according to ISO 21501-3

# PAMAS SBSS WG

## Constant sample flow and exact volume control



The **PAMAS SBSS WG** is designed to test water/glycol hydraulic fluids for the off shore oil and gas industry. It is a workshop/ laboratory instrument and simple and easy to use producing accurate and precise results quickly. For applications where the frequency of testing is high such as engineering workshops with multiple flushing rigs.

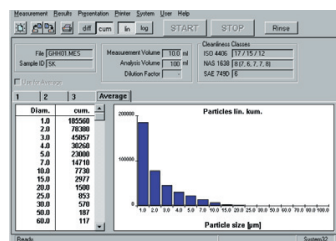
The **PAMAS SBSS WG** laser light blockage particle counting system is tried and tested in the demanding off shore oil and gas engineering area. Pressure and vacuum can be selected during the testing procedure and applied to the sample chamber to remove the effect of air bubbles common to water/glycol fluids straight from the flushing equipment.

The **PAMAS SBSS WG** is compatible with water/glycol fluids of all types and can be easily used to test alternating samples of different fluids without time consuming adjustments. Known for its ruggedness and reliability the **PAMAS SBSS WG** is a standalone test station with a integrated printer to produce results where they are needed. With its simple and intuitive user interface results can be toggled quickly and easily between standards such as NAS 1638 and SAE AS 4059 and ISO 4406.

PAMAS PMA Software for operation and recording of results is supplied with the **PAMAS SBSS WG** for those applications where results are required in a digital format.

### Remote control with PAMAS PMA programme

- Automatic storage and documentation in readable format
- highest flexibility
- Printout including all sample parameters, numerical and graphical presentation and all main cleanliness classes.



Complete remote control using PAMAS PMA programme with data storage in ASCII code.

### Classification according to any standard

Classification of particle number and size within the sensors size range is according to any national and international standard. Printouts according to ISO 4406, SAE AS 4059, NAS 1638, GOST 17216, GJB 420.

### Calibration of sensors

The Automatic Particle Counter is calibrated according to International Calibration Standards which are retraceable to the NIST (National Institute of Standards and Technology).

### PAMAS SBSS WG

- Preadjustable and automated sample degassing
- 16 free adjustable channels for particle size determination (32 channels on request)
- Threshold adjustment with D/A converter
- Pneumatic sampling with pressure up to 10 bar
- Size of sample bottle: maximum diameter: 7 cm maximum height: 18 cm
- Analysis volume: 1 ml up to 1,000 ml
- Constant sample flow and exact volume control by pressure balance via stepper-motor-driven syringe

### Technical data

#### Counter:

- Free adjustable 8, 16 or 32 channel D/A-converter system
- Backlit graphical LC-display with 320 x 240 pixel resolution.
- 32 column integrated thermoprinter
- Data transfer: 8 Bit ASCII code, RS-232 port
- Power supply: 100 V, 120 V, 220 V, 240 V AC (50-60 Hz)

#### Sensors:

##### • PAMAS HCB-LD-50/50

Size ranges:  
1-200 µm (ISO 21501-3),  
1-400 µm: option on request  
1-100 µm (ISO 4402)  
4-70 µm(c) (ISO 11171)  
Max. particle concentration:  
24.000 P/ml\* at 25 ml/min\*\*

##### • PAMAS HCB-LD-25/25

Size ranges:  
1-200 µm (ISO 21501-3)  
1-100 µm (ISO 4402)  
4-70 µm(c) (ISO 11171)  
Max. particle concentration:  
120.000 P/ml\* at 25 ml/min\*\*

#### Size:

400 mm x 300 mm x 600 mm  
(W x D x H)

#### Pressure

Standard accessory pump: up to 5 bar  
High pressure pump or external pressure supply: up to 10 bar

- \* Coincidence error of 7.8 %
- \*\* Various flow-rates can be selected



Management System  
ISO 9001:2008

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