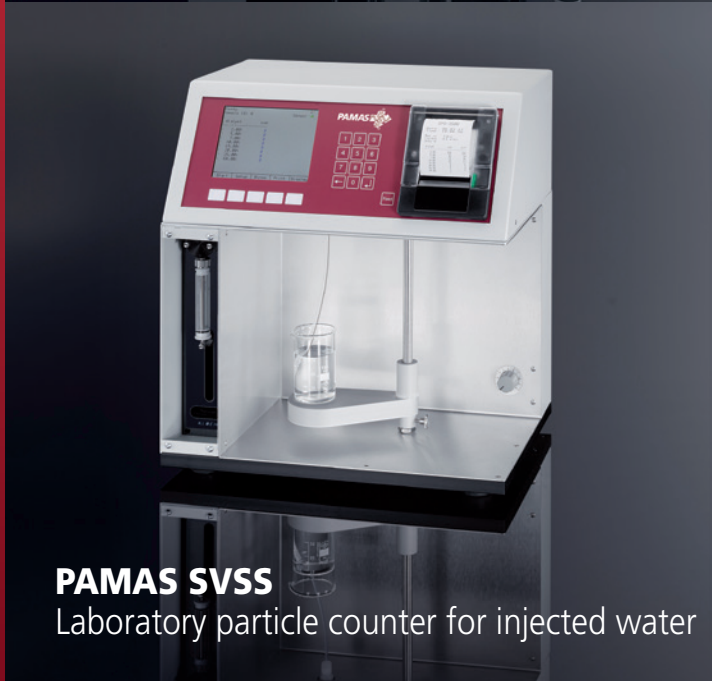




PAMAS SBSS WG
 Laboratory particle counter for
 water-based hydraulic fluids



PAMAS S4031 GO WG
 Portable particle counter in rugged case
 for water-based hydraulic fluids



PAMAS SVSS
 Laboratory particle counter for injected water



PAMAS WaterViewer
 Online particle counter for injected water

PAMAS Oil&Gas Products Particle Counters for injected water and for water-based hydraulic fluids

PAMAS Oil&Gas products

Flexible solutions for on-site and laboratory measurements



In Offshore Oil Recovery, automatic particle counters are mainly used for two applications:

- for the analysis of water based hydraulic fluids in valves and other subsea hydraulic systems (e.g. Subsea Christmas Trees and Wellhead Assemblies, Hydraulic Power Units, Hydraulic Accumulators, Subsea Umbilicals, Hydraulic Valves and Control Systems, etc.) and
- for the analysis of injected water used in Secondary Oil Recovery.

For these two application fields, there are automatic particle counters available for laboratory applications, for field measurements on-site and for long-term condition monitoring. Laboratory instruments are designed for easy-to-use batch sampling, portable instruments are ideal for field work in batch and online sampling, and online instruments are used as fixed installations for online condition monitoring. Typically, the following particle counter models are applied in the oil&gas sector:

PORTABLE PARTICLE COUNTERS:

The **PAMAS S4031 WG** and **PAMAS S4031 GO WG** portable units are designed for mobile analysis of water-glycol fluids and can be used directly on-site (e.g. at drilling rigs). In the offshore oil&gas sector, hydraulic systems are usually operating using biologically degradable hydraulic fluids, as these cause less harm than oil-based hydraulic fluids, if they accidentally flow into sea water. The further benefit of **PAMAS** portable particle counters is their ability to measure both offline and online.

LABORATORY PARTICLE COUNTERS:

PAMAS SBSS WG laboratory particle counter:

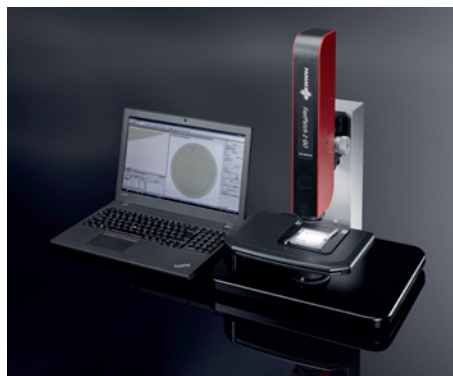
Within the oil&gas sector, hydraulic fluid cleanliness is reported in compliance with the cleanliness standards SAE AS 4059 and NAS 1638. Same as the portable units of the WG series, the **PAMAS SBSS WG** is also delivered with three pre-installed channels settings. With this feature, the user is able to select the required cleanliness standard for the report of measurement results. In the case of the SAE AS 4059 standard, the user has the choice between two options, allowing him or her to define whether size channel A (for particle sizes from 4 to 6 $\mu\text{m(c)}$) shall be considered or not.

PAMAS SVSS laboratory particle counter:

In the oil&gas sector, the **PAMAS SVSS** laboratory instrument is mainly used for water injection analysis and for measurement of chemical fluids. In Secondary Oil Refinery, water is injected in porous rock to extract subterranean oil which is lying there.

PAMAS FastPatch 2 GO image analysing system:

The **PAMAS FastPatch 2 GO** is used within the oil&gas sector when microscopic analysis according to ISO 4407 is requested. The microscope measures particles which were filtered in beforehand through a membrane patch.



PAMAS FastPatch2 GO

ONLINE PARTICLE COUNTERS:

Beyond the above mentioned particle counter models, online particle counters are also used for oil&gas applications, among these the **PAMAS OLS50P WG** (for water-glycol analysis) and the **PAMAS WaterViewer** (for water injection analysis).



PAMAS OLS50P WG



Management System
ISO 9001:2015

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