ARGO HYTOS

Oil Diagnostic Systems

PODS *Pro*
PORTABLE OIL DIAGNOSTIC SYSTEM

- Online and bottle measurement
- Mobile and stationary operation
- Lab quality accuracy

100.90-1e

Mobile and stationary operation:
Compressed air connection for laboratory measurement and gas bottle for field measurement

Online and bottle measurement:
Bottle adapter for batch sampling and minimess connector for online measurement

PODS *Pro*

PORTABLE OIL DIAGNOSTIC SYSTEM

PODS *Pro* is the new generation of portable oil-diagnostic instruments for simple, quick and reliable monitoring of oil cleanliness.
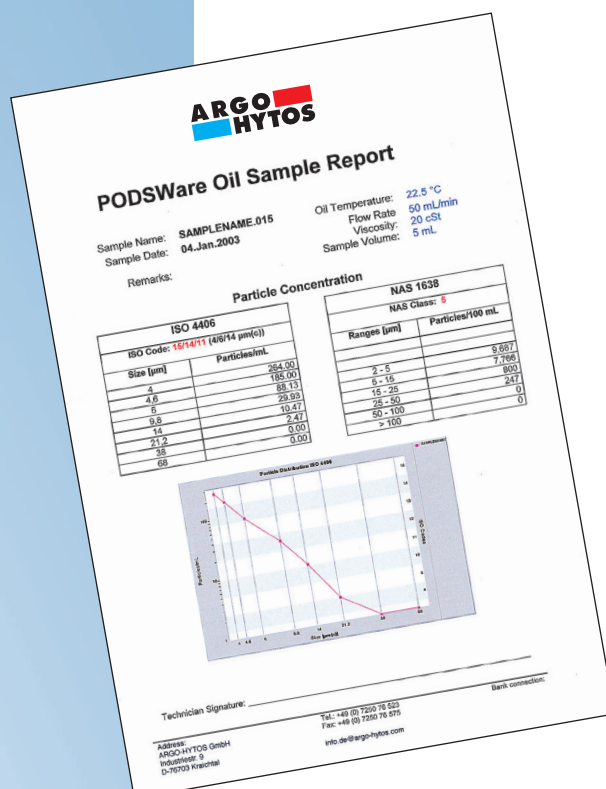
PODS *Pro* is based on many years of Know-how and represents the advanced version of PODS with newest technology. Many features were improved, thus PODS *Pro* is not only lighter than its predecessor, but also offers the classification according to SAE AS 4059.

Productive – Online & Bottle sample analysis by one instrument.
As before you can rely on PODS *Pro* even under severest operating conditions. The measurement results are reported simply, quickly and reliably. With PODS *Pro* you have the option to run online or bottle sample analysis with the same instrument.

Profitable – the PODS *Pro* Special:
The all-inclusive delivery program includes a robust rollerbox with all necessary accessories.
The ARGO-HYTOS software PODSWare sets new standards for service statistics and allows, for example, a detailed mapping of the machine life.

Proving – PODS *Pro* „live"
We would be happy to show you PODS *Pro* „live". Simply ask for a noncommittal demonstration.

Rely on hightech oil diagnostic systems from ARGO-HYTOS.

Certificate for measurements according to the different standards. These certificates can be issued with individual labels.

PODS *Pro*
PORTABLE OIL DIAGNOSTIC SYSTEM

1. Online and bottle sample analysis

With two turns of your hand, using the two fluid adapters in the all-inclusive delivery, PODS *Pro* is converted from a "Monitor" to a "Lab analyzer". In the online mode PODS *Pro* is connected directly to the hydraulic circuit via Minimess™ tubing and allows specific and continuous monitoring of the oil cleanliness.

2. Flexibility

Due to its lower weight PODS *Pro* can be easily carried to each location. For longer distance transport the rollerbox is used.

3. All-included delivery

PODS *Pro* is supplied with a very robust rollerbox, which is air- and water tight and contains all necessary accessories such as gas cartridges, power adapter, fluid adapters for online and bottle mode, handpump for oil sampling as well as clean sample bottles. The box is lockable and can be used for safe shipping to the ARGO-HYTOS Service Center, for instance for calibration.

4. Pressure range up to 420 bar

By direct measurement at system pressures up to 420 bar without bypassing, the risk of outgasing and bubble counting is drastically reduced.

5. High viscosity and high contamination

PODS *Pro* can measure particle contamination up to code 24 according to ISO 4406:1999. This is achieved by a sensor with a limit concentration of 90.000 particles/ml at 10 % optical coincidence and avoids time consuming and complicated dilution procedures. Another important advantage is its ability to measure oils with a viscosity up to 850 mm²/s.

6. Variable flow rate

PODS *Pro* automatically regulates the flow rate to an appropriate value between 15 and 50 ml/min, depending on the oil pressure and the viscosity. This feature makes it insensitive to variations in the hydraulic system during the measurement.

7. Controlled cleaning with ECOLINE

The oil service filter unit ECOLINE cleans oils up to a selected cleanliness class with PODS *Pro*. For this purpose ECOLINE pumps the oil over a filter. At the same time PODS *Pro* measures the cleanliness of the oil in front of the filter online and turns off ECOLINE when the target cleanliness class is reached. The cleanliness class is documented on a printout.
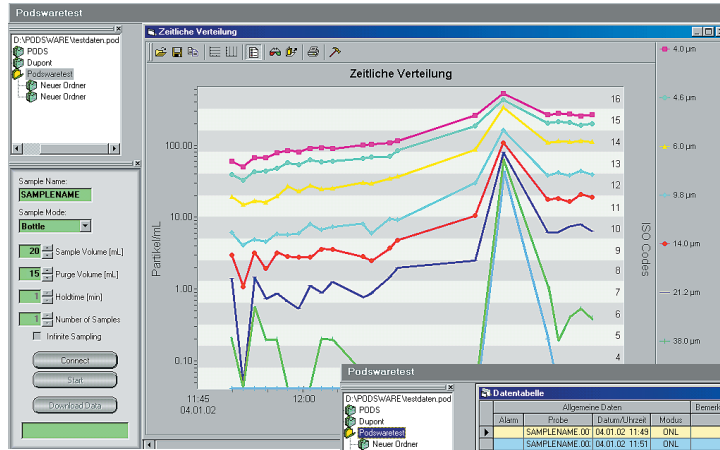
Software

PODSWare – A powerful software!

PODSWare as supplement to PODS *Pro* is a tool to record and evaluate the measured data in a comfortable manner.
Apart from this PODS *Pro* may be completely controlled from the control window of the software.
The PODSWare includes the following languages: German, English, French, Italian.

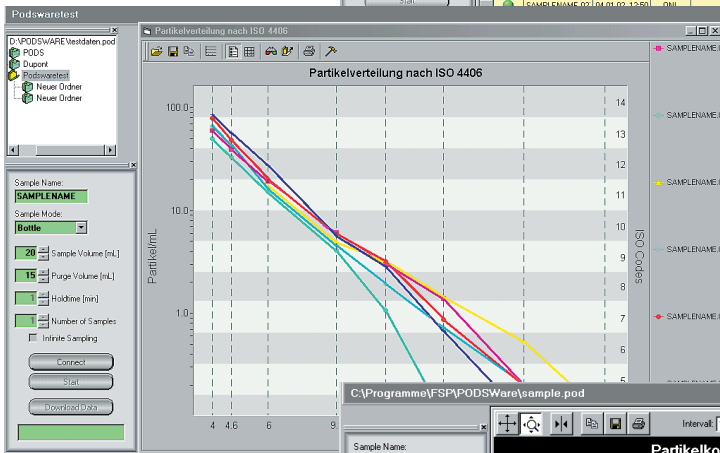Starting and stopping measurements. Setting parameters and downloading stored data.

Graphical tracking of online measurements by time graphics.

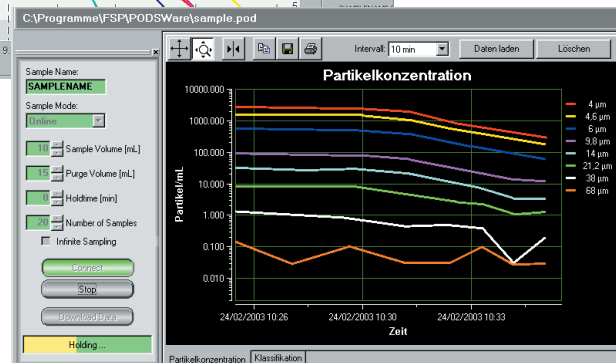Build-up of a data bank and linking of measurements to machines.

Historic review of the oil cleanliness.

Particle concentration-size distribution.

Chronological review of the particle concentration.

Detection	Light extinction
Sensitivity	complies with Japanese Industry Standard (JIS-B-9925:1997)
Size ranges	4 - 100 µm(c) (ISO-MTD)
Size channels	4 - 100 µm(c) (ISO-MTD)

	1	2	3	4	5	6	7	8
8 channels								
ISO-MTD sizes [µm (c)]	4	4,6	6	9,8	14	21,2	38	68
ACFTD sizes [µm]	~1	2	~5	10	~15	25	~50	100

Flow rate	15 - 50 ml/min automatic regulation
Calibration	ISO-MTD in oil (ISO 11171:1999)
Cleanliness classification	ISO 4406; NAS 1638; MIL-STD-1246C; NAVAIR 01-1A17, SAE AS 4059
Cleanliness classes	ISO 4406 code 1 to 24
Concentration limit	90.000 particles/ml at 10 % optical coincidence
Measurement results	Oil cleanliness classes (according to standard), concentration (particles/ml), viscosity (mm^2/s, cSt or SUS), temperature
Light source	Laser diode
Counting efficiency	By JIS-B-9925:1997
Wetted materials	Stainless steel, sapphire, aluminium, Aflaz™, PTFE
Fluid pressure	0,5 - 420 bar
Temperature	0 - 90°C oil at 25°C ambient; 0 - 50° C ambient; 5 - 40° C housing
Relative humidity	20 - 85 % non-condensing, up to 98 % when stored
Viscosity	2 - 424 mm^2/s particle counting with viscosity measurement
Material compatibility	Mineral oils, Skydrol™, environmentally compatible pressure fluids and phosphate esters
Pressure medium	CO_2 liquid (1 cartridge for about 60 oil samples), or pressurized shop air
Sample bottles	100 ml
System properties	Metal housing / Carry handle and shoulder strap / Universal power adapter/charger (90 - 240 VAC)
	Built-in thermal printer / LCD-display and keyboard / Memory for 500 samples / RS232C-interface
	Tube connector for filtered and dry pressurized shop air / Exchangeable CO_2-gas cartridges, refillable, 100 g filling
	NiMH-battery, computer controlled recharging for extended battery life
	Digitaloutput 0-5VDC / < 20 mA, potential-free output 0-5VDC / Online-adapter with Minimess™ tubing M16x2
Operating modes	Bottle sample analysis (4 - 7 bar); online-analysis (0,5 - 420 bar); Monitoring of ECOLINE UMP-045 by ARGO-HYTOS
Software (optional)	PODSWare for download, storage and management of PODS Pro data under Windows 9X/Me/2000 and XP
Weight	8,5 kg
Dimensions	(B x H x T) 330 x 350 x 200 mm

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