

CONDITION MONITORING

Portable Laser Particle Counter

Fluid analysis is a crucial component of any oil management program. Early detection of potential problems can prevent costly repairs and downtime. The Portable Laser Particle Counter (PLPC) is the most complete way to measure the contamination level of your system.





Portable Laser Particle Counter

FLUID ANALYSIS IS A CRUCIAL COMPONENT OF ANY OIL MANAGEMENT PROGRAM. EARLY DETECTION OF POTENTIAL PROBLEMS CAN PREVENT COSTLY REPAIRS AND DOWNTIME. THE PORTABLE LASER PARTICLE COUNTER (PLPC) IS THE MOST COMPLETE WAY TO MEASURE THE CONTAMINATION LEVEL OF YOUR SYSTEM. WITH THE PLPC YOU HAVE THE ABILITY TO MEASURE, ANALYZE AND DOCUMENT YOUR RESULTS IMMEDIATELY WITHOUT THE NEED OF ANY ADDITIONAL EQUIPMENT. THE PORTABLE LASER PARTICLE COUNTER MAKES IT POSSIBLE TO DETECT THE ISO

EACH PLPC INCLUDES:

- ▶ 1x Portable laser particle counter
- ▶ 1x 2m waste hose
- ▶ 1x 1,5 m pressure hose
- ▶ 1x waste bottle
- ▶ 1x external power supply including cable with European, UK and USA plug adaptors
- ▶ 1x usb cable (1m)
- ▶ 1x software/manual CD
- ▶ 3 x thermal printer paper

CLEANNESSE LEVELS OF THE HYDRAULIC MEDIA.

CHARACTERISTICS

The Portable Laser Particle Counter feature a twin laser system and eight channels for different particle sizes in order to guarantee high accuracy and repeatability. This compact unit is easy to handle for mobile and inline applications for systems with pressures up to 400 bar.

PORTABLE LASER PARTICLE COUNTER

The PLPC is a fully equipped portable laser particle counter. It features a complete QWERTY keyboard, an integrated thermal printer, an internal rechargeable battery and a large LCD display.

The unit has an internal data memory and is available with the included Windows® based software package for reports and data downloads.



INTEGRATED CLOCK

An integrated rechargeable battery-operated clock provides the exact date and time which are shown on every printout.

In addition, every download of measured data is marked with date and time as well. The precise time of measurement is documented on all printouts and for all data stored.

SOFTWARE UPDATES

The USB interface ensures flexibility for future developments in terms of calibration, evaluation and output. Software updates can easily be installed onto the PLPC.

HIGH SPEED FLUSH VALVE

To ensure an accurate measurement is taken, the sensor must be cleaned before each test.

The Portable Laser Particle Counter achieves this by means of an electric operated flush valve. This valve can be opened on demand and between tests by simply depressing the flushing valve push button. The optimized design of the flush valve reduces the rinsing process to the minimum requirement, and ensures a quick restart of the next measurement.

COMPATIBILITY

The PLPC units are compatible with all mineral and petroleum based fluids. Phosphate ester (e.g. Skydrol) and water glycol compatible unit is available upon request. Please contact your Distributor or RMF Systems for details.

MOISTURE / TEMPERATURE SENSOR

The PLPC also offers the option of adding an integral moisture/temperature sensor.

This sensor measures the moisture content of the test fluids (displayed as relative humidity in RH%) and also indicates the current fluid temperature (in °C).

Please note that the moisture / temperature sensor is not compatible with Phosphate Ester (e.g. Skydrol) and water Glycol fluids.

Please contact your Distributor or RMF Systems for details.

BOTTLE SAMPLING UNIT

Highly aerated fluids may lead to inaccurate results.

Therefore a de-aeration facility has been incorporated into the optional bottle sampling unit. You will find more information about bottle sampling unit on page 8.

Technical specification

POWER SUPPLY

- ▶ Voltage range: 110 ... 240 V, AC 12 ... 24 V DC
- ▶ European, UK and US power plug adaptors
- ▶ Pressure range: 2 ... 400 bar
- ▶ Viscosity range up to 400 cSt

CALIBRATION

- ▶ ISO Medium Test Dust (MTD) acc. to ISO 11171:1999
- ▶ Analysis range: ISO 8-24, ISO 4406 Code, NAS 1638 Code 2-12, SAE AS 4059 Code 2-12

LASER SENSORS

- ▶ High accuracy laser: 4 ... 6 $\mu\text{m(c)}$
- ▶ Standard accuracy laser: 6 ... 68 $\mu\text{m(c)}$
- ▶ Measured channels: 4, 6, 14, 21, 25, 38, 50, 68 $\mu\text{m(c)}$
- ▶ The maximum concentration is ISO 4406 Code 24 (160.000 p/ml)

HOSE CONNECTIONS

- ▶ Minimes M16x2

DATA OUTPUT

- ▶ Cumulative particle counts, as well as cleanliness classes acc. to ISO 4406 (1999) / SAE AS 4059 Rev.D (2001) and ISO 4406 (1191) / NAS 1638 (1964)

DATA STORAGE

- ▶ 600 tests

FLUID COMPATIBILITY

- ▶ Mineral Oil, Petroleum based fluids
- ▶ Phosphate Ester and Water Glycol compatible devices on request (see ordering code)

COMPUTER INTERFACE

- ▶ USB communication port

EXTERNAL ALARM

- ▶ External alarm socket with switching outputs max. 24 V DC/AC, 1 A

SOFTWARE

- ▶ Downloading and storage of the data with included "RMF View" software.

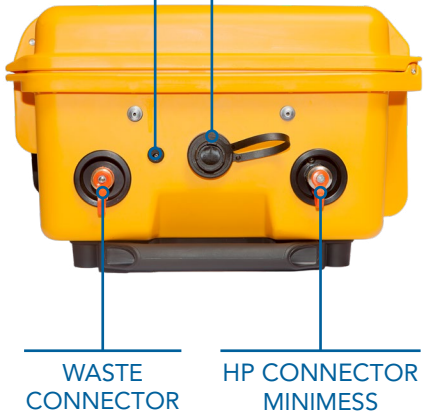
WEIGHT

- ▶ Approx. 13 kg

Dimensions



DC POWER INPUT SOCKET USB CONNECTOR





Bottle Sampling Unit

IF A DIRECT PARTICLE COUNT ON YOUR SYSTEM IS NOT POSSIBLE, THE PLPC BOTTLE SAMPLER UNIT ALLOWS YOU TO TAKE MEASUREMENT SAMPLES FOR ANALYSIS AT A

LETER TIME.

CONDITIONING THE DE-AERATION FACILITY

A highly aerated fluid may lead to inaccurate results; therefore a de-aeration process has been incorporated into the bottle sampling unit.

By evacuating the air from the sampling chamber, aeration within the fluid is removed, and the fluid is properly conditioned prior to sampling.

The bottle sampler is compatible with Mineral oil and Petroleum based fluids; a phosphate ester (e.g. Skydrol) compatible unit is available on request. Please



contact your Distributor or RMF Systems.

Please note that the moisture / temperature sensor does not work in combination with bottle sampler unit.

FEATURES

- Easy to use
- De-aeration facility
- Large sample volume

Ordering code

PORTABLE LASER PARTICLE COUNTER

YOUR PLPC ORDERING CODE				
TABLE 1	TABLE 2	TABLE 3	TABLE 4	TABLE 5
PLPC			C	

TABLE 1 - BASIC CONFIGURATION	CODE
Portable Laser Particle Counter	PLPC

TABLE 2 - SENSOR OPTIONS	CODE
Moisture and temperature sensor option*	W
No sensor option	0

* Only Suitable for Mineral / Synthetic fluids (see table 3)!

TABLE 3 - FLUID COMPATIBILITY	CODE
Mineral / Synthetic fluid compatibility	M
Offshore and selected water based fluids (Stainless steel with NBR seals)**	N
Phosphate ester and aggressive fluids (Stainless steel with FPM seals)**	S

** Not available with Moisture and Temperature sensor (see table 2)!

TABLE 4 - CASE OPTIONS	CODE
Standard Unit in Yellow Case	C

TABLE 5 - BOTTLE SAMPLING UNIT OPTIONS*	CODE
Without bottle sampling unit	0
110 ml Bottle Sampling Unit	A
500 ml Bottle Sampling Unit	B

*For complete ordering code see ordering code Bottle Sampling Units

WARRANTY AND RECALIBRATION

The PLPC is guaranteed for 12 months from date of receipt and is recommended to be recalibrated every 12 months. Return to RMF Systems for recalibration.