

## Introduction and Description

In response to the growing demands of our customers, Stauff is proud to introduce the LasPaC II products as the latest additions to the growing line of laser particle counters and monitors.

The LasPaC II features 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 420 bar (6000 PSI).



### The STAUFF LasPaC II is available in three different versions:

- **LasPaC II Inline**      The LasPaC II-I is an inline laser particle counter for applications where continuous monitoring is required.
- **LasPaC II Mobile**      The LasPaC II-M is a highly accurate portable laser particle counter. With a competitive price the LasPaC II-M is the best compromise between lower cost and brilliant accuracy / reliability.
- **LasPaC II Portable**      The LasPaC II-P is a fully equipped portable laser particle counter. The LasPaC II-P features a complete QWERTY keyboard, an integrated thermal printer, an internal rechargeable battery, and a large LCD display.

All devices have an internal data memory and are available within the accompanying Windows® based software package for reports and data downloads.

## Device Overview



Designation	LasPaC II-P	LasPaC II-M	LasPaC II-I
Version	Portable	Mobile	Inline
Laser type	Twin-laser	Twin-laser	Twin-laser
Analysis range	8-channels (4,6,14,21,25,38,50,68 µm)	8-channels (4,6,14,21,25,38,50,68 µm)	8-channels (4,6,14,21,25,38,50,68 µm)
Power Supply	External	External	External
Battery Option	Internal	External (optional)	n/a
Display	Integrated (large)	Integrated (small)	External (optional)
Keyboard	Integrated	n/a	n/a
Printer	Integrated	n/a	n/a
Data Storage (Sufficient for 600 tests)	Internal	Internal	Internal
Computer Interface	RS232	RS232	RS232 RS485 on request

## LasPaC II – Shared Features and Options

### Mobile → Compact and Convenient

The LasPaC II - Portable, the LasPaC II - Mobile and all its accessories are supplied in a light-weight rugged industrial case.

This user-friendly portable case is waterproof and resistant against all common fluids.

### Accuracy → Twin-laser, 100% coverage

In all laser particle counting devices, the fluid passes through the measuring cell and through a laser beam. The light from the laser is evaluated by a photo diode after it has passed through the sample fluid. As the fluid passes through the laser beam the amount of light changes. These changes are directly proportional to size of the particles, and the total volume of particles. In many other particle counters only part of the measuring cell is lighted by the laser, thus only a part of the total amount of particles are registered, and the result is projected.

In contrast, the measuring cell of the LasPaC II is completely examined, and all particles are registered. In addition to this, a second laser is used to analyze all particles sizes smaller than 6 µm.

Additionally the integrated booster cylinder allows very precisely dosage of the test fluids. This ensures a very high accuracy with excellent repeatability.

### Functional → Calibration ISO 11 171

The LasPaC II devices are calibrated with ISO Medium Test Dust (MTD) based on the ISO 11 171:1999 calibration standard.

The STAUFF particle counter meets the new ISO 4406 cleanliness classification codes and provide results in the NAS 1638 and the SAE 4059 codes.

### For any type of application → The large pressure range

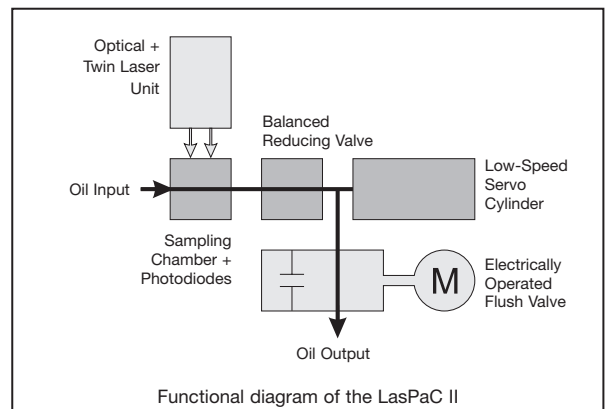
A big advantage of the LasPaC II devices is the large pressure range. Low pressure measurements starting with 2 bar (29 PSI) and high pressure tests up to 420 bar (6000 PSI) result in reliable readings. Many other products available today require special add-on devices or pressure cartridges which need to be recharged for this.

The test hoses, which are provided with the device, allow an easy connection to common test couplings M16x2 (STAUFF TEST 20 or comparable).

These units are available for use with phosphate ester and skydrol fluids. Contact STAUFF for details.



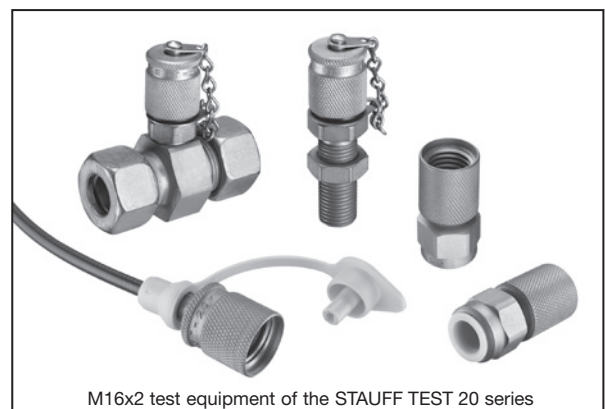
Front view of the STAUFF LasPaC II-P



Functional diagram of the LasPaC II



Easy connection to common test couplings



M16x2 test equipment of the STAUFF TEST 20 series

## Global Use → Variable Voltage Supply

The external power supply unit provides most variable voltage ranges of 110 V ... 240 V AC.

US, UK and European plug adaptors ensure a worldwide applicability of the LasPaC II.

## Always secure → The external alarms

The LasPaC II offers the opportunity to define different alarm levels.

It is possible to configurate two separate contamination alarm levels (e.g. clean alarm level and dirt alarm level). When set, an alarm indicator is sent to an external device (e.g. indicator light, offline-filter) if the alarm level is reached.

## Making the connection → Downloading with RS232 interface and USB adaptor

The measured data can be downloaded onto any PC via the RS232 interface or alternatively via a USB adaptor.

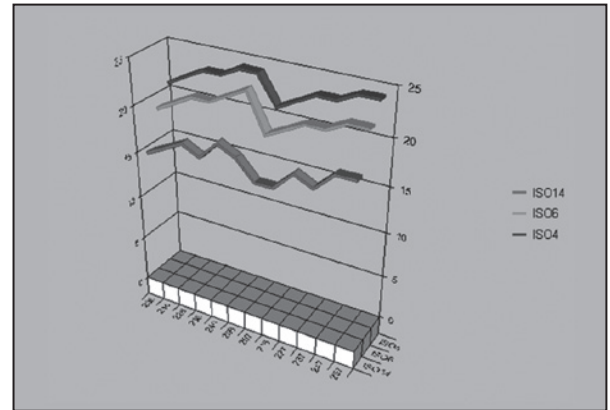
The LasPaC II software supports an easy download for data processing of the recorded measurements. Several diagrams are available and are automatically generated to offer a very clear arrangement of all data for analysis. Data can also be easily exported to Microsoft Excel®.

## Always up-to-date → Integrated clock

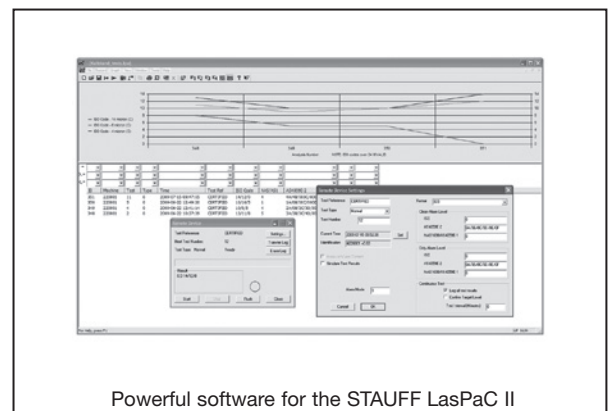
An integrated rechargeable battery-operated clock provides the exact date and time which are shown on every printout. In addition, every download of measured data is marked with date and time as well. The precise time of measurement is documented on all printouts and for all data stored.

## Adaptable → Software updates

The RS232 or USB-interface ensures flexibility for future developments in terms of calibration, evaluation and output. Software updates can easily be installed onto the LasPaC II.



Computer interfaces of the LasPaC II-M

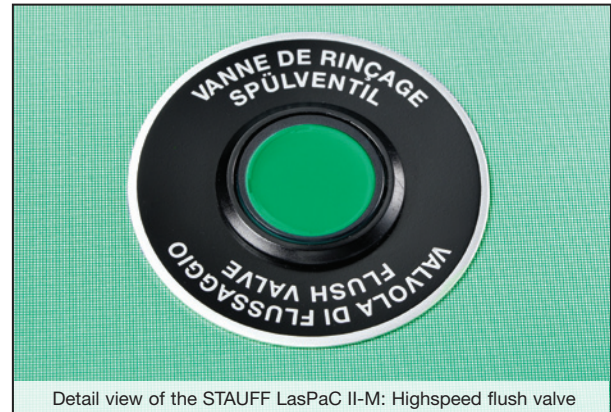


Powerful software for the STAUFF LasPaC II

## Cleanliness → The high speed flush valve

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

The LasPaC II achieves this by means of an electric flush valve. The 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.

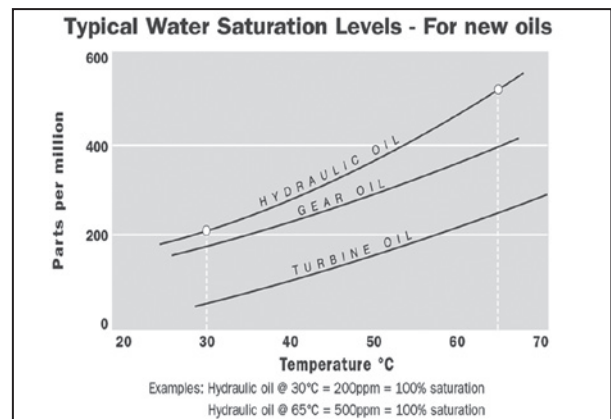


Detail view of the STAUFF LasPaC II-M: Highspeed flush valve

## For all Applications → The high compatibility

The LasPaC II units are compatible with all mineral oil based fluids.

Phosphate Ester and water glycol devices are available upon request.



## More oil information → The moisture / temperature sensor

The LasPaC II 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 indicates also the current fluid temperature (in °C).

Please note that the moisture / temperature sensor is not compatible with phosphate ester fluids.



Case including 110 ml bottle sampling unit and accessories

## Optional → The bottle samplers

Highly aerated fluids may lead to inaccurate results.

Therefore a de-aeration facility has been incorporated into the optional bottle sampling units.

Both sizes (110 ml and 250 ml) are delivered with an external power supply, and allow the user to properly condition the sample fluid prior to any measurements taken.

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



250 ml bottle sampling unit