



Laser Particle Counter - LasPaC 1

PRODUCT DESCRIPTION

The **new STAUFF Laser Particle Counter I** is a microprocessor-controlled 8-channel particle counter designed for monitoring the degree of contamination of mineral based hydraulic fluids. In contrast to other commercially available particle counters, the **LasPaC I** is characterized by a few special features. The readings from the **LasPaC I** will immediately indicate the condition of the hydraulic system, the data will be documented, and you will be able to intervene at an early stage in order to prevent wear and damage to the components in the hydraulic system. This does not only minimize repair costs, but also reduces overall equipment downtime.



1. Mobile ► Light weight and handy

With its comparatively low weight of 8.5 kg (18.7 lbs) – only 18 kg (40 lbs) with its rugged aluminum case – the device is well suited for use in the field, even in areas that are difficult to access.

2. Quick results ► ease of operation

Operator input is conducted via touch-screen and function keys. The control features of the particle counter have been designed so that measurements can be done quickly and easily. User defined measuring programs can be entered and stored with password protection.

3. Flexible ► multi-range calibration (optional) to ISO 11 171 and ISO 4402 (for NAS 1638)

The LasPaC offers several optional calibrations (see Ordering Code): “N” for New calibration ISO 11171, Cleanliness Levels according to ISO 4406 (1999) and SAE AS4059 Rev. D (2001) “O” for Old calibration ISO 4402, Cleanliness levels according to ISO 4406 (1991) and NAS 1638 (1964) “B” for New and Old Calibration. In this case, the LasPaC is set to the latest calibration per ISO 11 171 by default. However, if users wish, they can switch to the older ISO 4402 calibration for comparison. The device also evaluates readings based upon NAS 1638 classes.

4. For any type of application ► various pressure stages

The LasPaC features two integrated pressure ranges for 0 to 6 bar (0 to 87 PSI) low pressure and 5 to 420 bar (73 to 6000 PSI) high pressure. This allows oil samples to be taken from pressureless systems or reservoirs without any other equipment. Many other products available today require special add-ons or pressure cartridges which need to be recharged. The STAUFF TEST hose which are provided with the device, allow easy connection to common test couplings (M16 x 2).

5. Global use ► variable voltage supply

The integrated power supply unit provides a voltage range of 110 V ... 240 V.



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6. Independent use ➤ storage-type battery

The integrated rechargeable battery makes it possible to perform on-the-spot measurements, even in cases where a direct connection to an external power supply is not possible. The measured data are stored and can be transferred to a computer later on if necessary.

7. "In black and white" ➤ built-in printer

The integrated printer supports printouts in the field, thus providing immediate documentation.

8. Making the connection ➤ downloading via a serial interface

The measured data can be downloaded onto any PC or notebook via the device's serial interface, supported by a convenient downloading software. Further processing and storage of the data is done in Microsoft Excel® with the use of specially designed macros. The prepared forms provide for easy transfer of the data. The integrated diagrams represent the data graphically for more clarity. Likewise the data can be assembled to a trend analysis. With Microsoft Excel®, it is possible to edit the data as required, e.g. with the customer's logo.

9. Always up-to-date ➤ an integrated clock

An integrated and 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. The precise time of measurement is thus documented on all printouts and for all the data stored.

10. Adaptable ➤ software updates

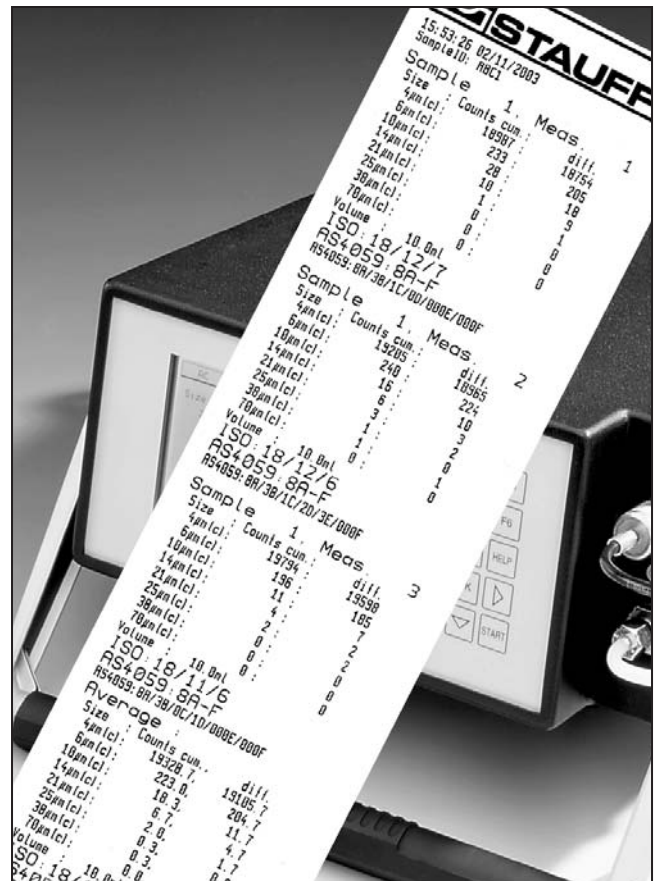
The serial interface ensures flexibility for future developments in terms of calibration, evaluation and output. Moreover, software updates can be installed on the particle counter, without any problems.


11. 100% Coverage

The fluid passes a vitreous measuring cell and is rayed by a laser beam. This laser beam is evaluated at the backside of the cell. Dimensions and the number of particles are calculated from electronic impulses transformed by the shadows. With many other particle counters only a part of the measuring cell is lit by the laser beam, the particles are only partially registered and the result is projected. In contrast the cell of the LasPaC is completely examined and all particles are registered. Inaccuracies are avoided as a result of the projections.

12. Robust ➤ Ceramic Piston Pump

The integrated piston pump works in both directions: it outputs the fluid in "low pressure" mode and controls the flow in "high pressure" mode. Due to the ceramic pump components this pump is very resistant and nearly indestructible against abrasive, solid contaminants and various fluids.





LasPaC I Report

according to ISO 11171

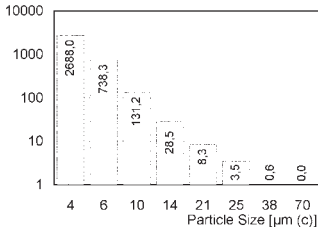
Sample ID / No. : ABC-1
 Service Hour : 23.581 h
 Oil Temperature : 41°C
 Notes : Control
 Test Date : 18. Nov 2002 13:40
 Report Date : 20. Nov 2002
 Profile Name : Std. High Press.

Meas. Volume : 10 ml
 Analysis Volume : 1 ml

ISO 4406 : 19 / 17 / 12 (Calibr. ISO 11 171: 1999)
 AS 4059 : 9 A-F (9A/8B/6C/7D/6E/6F) (Calibr. ISO 11 171: 1999)
 ISO 4406 : 19 / 17 / 13 (Calibr. ISO 4402: 1991)
 NAS 1638 : 9 (9/8/7/8) (Calibr. ISO 4402: 1991)

Analysis ISO 11 171

Particle Size	Particle / ml
> 4.0 µm (c)	2688.0
> 6.0 µm (c)	738.3
> 10.0 µm (c)	131.2
> 14.0 µm (c)	28.5
> 21.0 µm (c)	8.3
> 25.0 µm (c)	3.5
> 38.0 µm (c)	0.6
> 70.0 µm (c)	0.0



Analysis ISO 4402

Particle Size	Particle / ml
> 2.0 µm	2815.8
> 5.0 µm	875.1
> 10.0 µm	247.2
> 15.0 µm	78.4
> 20.0 µm	28.2
> 25.0 µm	13.4
> 50.0 µm	2.2
> 100.0 µm	0.6

