

Seta AvCount Lite for Skydrol Portable Light Extinction Particle Counter

ASTM D7619; ASTM D975; Defence Standard 91-86; Defence Standard 91-91;
IP 565; ISO 4406:1999

The following test methods require connection to a computer running the optional ProTrend software: ASTM D7647; ASTM D6786; NAS 1638; AS 4059F; SAE A6D; SAE 749D; GOST 17216; GB 5930; GJB 420-A-1996; GJB 4208-2006



- Cumulative Particles/ml
- ISO Cleanliness Codes
- Simple operation
- High visibility screen
- Portable
- Integral battery option
- Bottle samples or On-Line
- Stand-alone or PC controlled
- Programmable via PC
- Integrated printer

The AvCount Light SA1805-2 has been specifically designed to measure the particulate of Skydrol hydraulic fluid. Skydrol is an advanced fire resistant aviation hydraulic fluid which inhibits corrosion and prevents erosion damage to servo valves. It has been approved by most airframe manufacturers including Airbus, Boeing and BAE Systems and has been used in their products for over 40 years. Due to the highly corrosive nature of Skydrol material this special version of the AvCount is fitted with Isolast seals and a protective inner case.

Stand-alone or Computer Operation

When used as a stand-alone instrument, AvCount Lite is operated via a simple menu system using the turn and push control. Test progress and results for up to 6 size bands are displayed as cumulative particles/ml and ISO 4406 cleanliness codes on the high visibility yellow and black screen. Results are saved in memory indexed by date and time. AvCount Lite will automatically average each size band for tests with repeat measurements (i.e. ASTM D7619).

AvCount Lite can also be connected to a personal computer to control the instrument and view the test in real time. The graphical interface displays cumulative or distributive results for up to 15 size bands, as well as plotting trend analysis for each size band over time. Data can be downloaded from the AvCount Lite and exported into spreadsheets.

Bottle or On-Line Samples

AvCount Lite is fitted with a precision dual piston pump. When measuring samples from a bottle, the pump draws an aliquot of sample through the measurement cell at a consistent flow rate. When connected to a pressurised line, the pump provides accurate metering and control. A pressure reduction system is available for applications above 10 barG.

Programmable

AvCount Lite can hold up to 3 test methods in the on-board memory. The factory default methods are ASTM D7619, IP 565 and a basic ISO 4406.

The operator can create custom test methods on a PC or laptop and upload them into the memory via the USB port. Particle sizes, flushing volume, number of measurements, number of repeats and alarm threshold levels can all be programmed.

Calibration & Verification

AvCount Lite utilises 16 point calibration. Calibration can be carried out either using NIST traceable standard solutions or by interfacing with a primary calibrated 'Master' AvCount Lite. The calibration can be carried out at a user site or at our authorised regional laboratories.

A number of calibration curves, based on different standards, can be saved onto a PC and uploaded to the AvCount Lite when required.

Operators are able to verify their AvCount Lite using the AvCount Verification Fluid (SA1006-0). The material is a suspension of a NIST traceable medium test dust in a super-clean clear, mineral based, hydraulic oil.

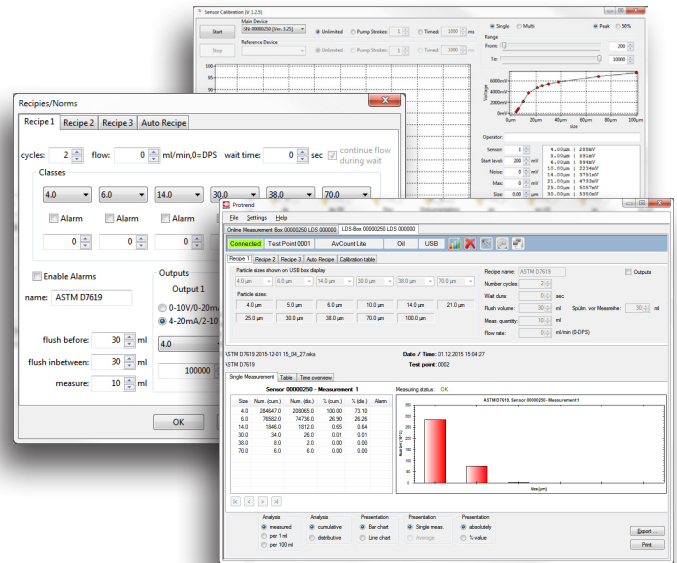
Software

There are three programmes that can be used with AvCount Lite.

ProTrend - Allows an operator to control an AvCount Lite from a personal computer or laptop. It allows the operator to temporarily create custom test methods, run tests and download data.

Partikel - Used to create and upload test methods into the memory of the AvCount Lite. Intended for supervisors, it allows the AvCount Lite to be configured with up to 3 test methods. Once uploaded, the AvCount Lite can be used as a stand-alone instrument.

Calibration - For the calibration of AvCount Lite. Two separate methods are supported; from a bottle of a reference standard that is traceable to NIST or by correlation with a master instrument that has a primary calibration traceable to NIST.



Technical Specification

	Stand-Alone Operation	PC Operation (with ProTrend software)
Test Methods:	3 embedded test methods, user programmable via PC Supplied with ASTM D7619, IP 565, ISO 4406 pre-installed	Unlimited user programmable
Particle Size Range:	ISO 4402: 2µm to >100µm	ISO 11171: 4µm(b) to >100µm(b)
Measuring Channels:	6 size channels, programmable via PC ASTM D7619: 4µm(b) 6µm(b) 14µm(b) 30µm(b) IP 565: 4µm(b) 6µm(b) 14µm(b) 21µm(b) 25µm(b) 30µm(b) ISO 4406: 4µm(b) 6µm(b) 14µm(b) 25µm(b) 38µm(b) 70µm(b)	15 Programmable size channels
Results:	Particles/ml Cumulative ISO 4406 cleanliness codes Automatic averaging for multi-measurement tests 900 result memory; Date/Time indexed (last 20 tests can be viewed on screen) Download via USB port and ProTrend software	Particles/ml Cumulative and Distributive ISO 4406 cleanliness codes Averaging and trending for multi-measurement tests Save to PC; Test Point, Date/Time indexed Connectivity via USB port and ProTrend software
Test Duration (ASTM D7619, IP 565):	Less than 4 minutes	
Coincidence Error Limit:	60,000 particles/ml $\geq 4\mu\text{m}(c)$ with $\leq 5\%$ co-incidence error (ISO 11171)	
Sample Viscosity (max):	68mm ² /s (from sample bottle), 250mm ² /s (pressure feed @ 10 BarG)	
Sample Temperature Range:	0 to 70°C	
Sample volume (typ):	80ml for ASTM D7619 & IP 565, from 20ml for other methods (includes flush cycles)	
Flush Volume:	User programmable in 10 ml steps via PC	
Measurement Volume:	User programmable in 10 ml steps via PC	
Repeats per Test:	User programmable via PC	
Sample Delivery and Metering:	Integral Dual Piston Pump (DPS)	
Pump Volume & Flow Rate:	10 ml aliquots @ 30ml/min or timed	
Voltage / Power:	12 Vdc, 1A Optional Integral 3000mAh Battery (2.5 hours operational time typ) Charger/Mains Adaptor 100 to 230 Vac, 50/60Hz, 1000mA	
Size (HxWxD) / Weight:	25 x 33 x 15 cm / 7.5 kg	