Seta AvCount Lube

Pressurised Light Extinction Particle Counter

ASTM D7647*; ISO 4406*; ISO 60970*; ASTM D6786; NAS 1638; AS 4059F; IP 565; ISO 11171; ISO 11500; SAE A6D; SAE 749D; GOST 17216; GB 5930; GJB 420-A-1996; GJB 4208-2006; JIS B 9932:2012; JIS B 9933:2021; JIS B 9934:2012

*Does not require connection to a computer

- Cumulative Particles/ml
- ISO Cleanliness Codes
- Up to 200 mm²/s viscosity
- 4μm(b) to >100μm(b)
- Simple operation
- High visibility screen
- Integral compressor
- 250ml sample bottles
- PC controlled or stand-alone
- Programmable via PC

AvCount Lube is a pressurised laser based particle counter used for determining the particle concentration in oils with a viscosity up to 200 mm²/s. It can be used throughout the distribution network and in the laboratory. In fact anywhere that requires accurate determination of particle distribution in a liquid sample. Whether checking the quality of in service lubricants, hydraulic fluids or, insulating oils, AvCount Lube provides fast and precise results.

Integral Compressor

AvCount Lube comprises a light extinction automatic particle counter and a pressure delivery unit. Designed to handle samples with a viscosity up to 200 mm²/s, the AvCount Lube has an integral compressor that pressurises the sample chamber to 3 barG. Safety features include a mechanical interlock that releases the pressure before the sample chamber can be opened, a compressor stop button that automatically releases the pressure and a mechanical pressure relief valve.

Computer or Stand-alone Operation

AvCount Lube is operated via a personal computer using the supplied ProTrend software. It supports multiple test methods and cleanliness code systems, including ISO 4406 and NAS 1638. It also allows the creation of custom test methods. The graphical interface displays results for up to 15 size bands and can plot trend analysis for each size band over time. Data can be exported into spreadsheets.

In stand-alone mode, AvCount Lube supports ISO 4406 based test methods. Operation is via a turn and push control and simple menu system. Test progress and results for up to 6 size bands are displayed on the high visibility screen. Results are saved and indexed by date and time. For tests that require repeat measurements (i.e. ASTM D7647), the results for each size band are automatically averaged.

Programmable

The operator can create or edit test methods on a PC or laptop. Particle sizes, flushing volume, number of measurements, number of repeats and alarm threshold levels can all be programmed. Up to three ISO 4406 based test methods can be uploaded into the AvCount Lube memory via the USB port. The factory default methods are ASTM D7647 (lubricants), ISO 60970 (insulating oils) and a basic ISO 4406 (hydraulic oils and general purpose).

Calibration & Verification

AvCount Lube utilises 16 point calibration. Calibration can be carried out either using NIST traceable standard solutions or by interfacing with a primary calibrated 'Master' AvCount Lube. 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 Lube when required.

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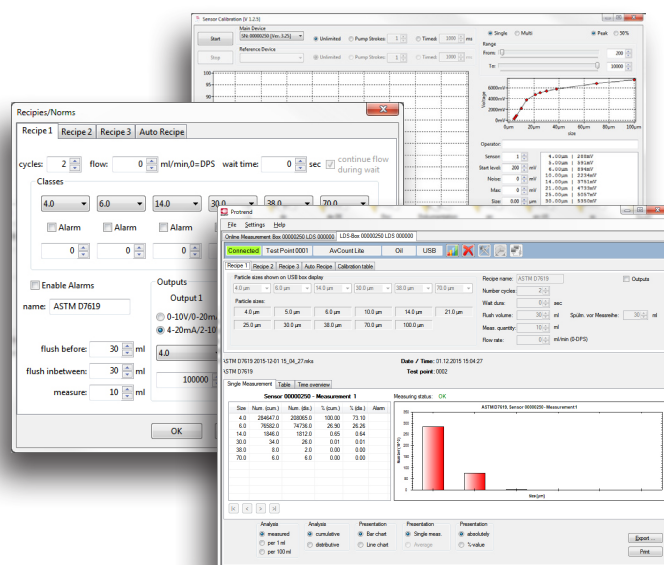
Software

There are two programmes that can be used with AvCount Lube.

ProTrend - Allows an operator to control an AvCount Lube from a personal computer or laptop. It allows the operator to create new or edit existing test methods, run tests or display results. The progress of tests and their results are displayed on the computer screen. Results saved in the AvCount Lube memory can be viewed directly or downloaded to the computer.

ProTrend can be used to upload up to three ISO 4406 based test methods to the AvCount Lube for stand-alone operation.

Calibration - For the calibration of AvCount Lube. 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

	PC Operation (with ProTrend software)	Stand-Alone Operation
Test Methods:	Programmable	3 embedded test methods
		Supplied with ASTM D7647, ISO 60970, ISO 4406
Particle Size Range:	ISO 4402: 2µm to >100µm	ISO 11171: 4µm(b) to >70µm(b)
Measuring Channels:	15 programmable size channels	6 size channels
		ASTM D7647: 4µm(b) 6µm(b) 14µm(b) 21µm(b) 38µm(b) 70µm(b)
		ISO 60970: 4µm(b) 6µm(b) 10µm(b) 14µm(b) 21µm(b) 30µm(b)
		ISO 4406: 4µm(b) 6µm(b) 14µm(b) 21µm(b) 38µm(b) 70µm(b)
Results:	Particles/ml Cumulative and Distributive	Particles/ml Cumulative
	ISO 4406, NAS 1638 and AS4059 cleanliness codes	ISO 4406 cleanliness codes
	Averaging and trending for multi-measurement tests	Automatic averaging for multi-measurement tests
	Save to PC; Test Point; Date/Time indexed	600 result memory; Date/Time indexed
	Connectivity via USB port and ProTrend software	Downloaded via USB port and ProTrend software
Test Duration (ASTM D7647):	3 minutes	
Max concentration (max):	600 000 particles	
Coincidence Error Limit:	<5% @ 50.000	
Sample Viscosity (max):	200mm²/s	
Sample Temperature Range:	0 to 70°C	
Sample Volume (typ):	50ml for ASTM D7647, 20ml other methods (includes flush cycles)	
Flush Volume:	User programmable in 10ml steps via PC	
Measurement Volume:	User programmable in 10ml steps via PC	
Repeats per Test:	User programmable via PC	
Sample Delivery and Metering:	Integral Dual Piston Pump (DPS)	
Pump Volume & Flow Rate:	10ml aliquots @ 30ml/min or timed	
Voltage / Power:	Automatic Particle Counter: 12 Vdc, 1A (mains adaptor supplied 100 to 240 Vac, 50/60Hz, 650mA)	
	Sample Delivery System: 24 Vdc, 2A (mains adaptor supplied 100 to 240 Vac, 50/60Hz, 1A)	
Size (HxWxD) / Weight:	50 x 32 x 22cm / 16kg	

Ordering Information

SA1900-0	AvCount Lube