

Seta AvCount3 SA1100-0

Laboratory Particle Counter for Fuel, Lubes and Hydraulic Oils

ASTM D7619; ASTM D7647; ASTM D975; IP 565; IP 630; Defence Standard 91-091; Defence Standard 91-86; GOST 17216; ISO 4406; ISO 60970; NAS 1638; SAE 4059; JIS B 9932:2012; JIS B 9933:2021; JIS B 9934:2012

- ISO 11171 calibration
- Cumulative counts/ml
- ISO 4406 cleanliness codes
- Colour touch screen
- Dilution ratio calculation
- Real time display of test progress
- User programmable
- LIMS, network and VNC connectivity
- Programmable alarm limits
- User and sample identification
- 14 embedded test methods
- Integral printer
- 500,000 test memory
- In-field verification and calibration



Fuels • Hydraulic Oil • Light Lubricants

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AvCount3 Particle Counter

The AvCount3 is a compact bench-top automatic particle counter, used to measure the size and distribution of particles and water droplets in light and middle distillate fuels, including aviation fuel and kerosine, biodiesel, low viscosity oils and hydraulic oils.

The test process is fully automated. Having prepared your sample in accordance with method instructions, simply insert the metal dip tube into the sample container, select a test method and initiate the test, the test proceeds without any further operator intervention.



Operator Interface

Start of Test

Operator:

Sample:

Method: ISO 4406

Dilution: 0% No multiplier Sample: 200 ml Diluent: None

Comment:

Press ▶ to start a test

Test in Progress

Flushing

Flush 10ml

Measure 1

4µm cumulative counts per ml (corrected): ---

Sample: FUEL A Method: ISO 4406

Operator: RAA Dilution: 0%

Result Display

21 Jun 2021 15:41

Operator: RAA

Sample: FUEL A

Method: ISO 4406

Dilution: 0% (No multiplier)

Comment:

Sizes µm (c)	Average Particles per ml	ISO codes
4.0	8298.6	20
6.0	1144.9	17
14.0	65.8	13
25.0	10.4	11
38.0	5.6	10
70.3	3.4	9

Test passed

20/17/13

> Enter operator and sample details, select method, press ▶

> Test begins, instrument sequences are detailed

> Final result displays either numerically or graphically

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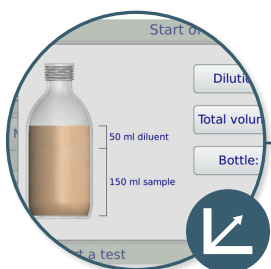
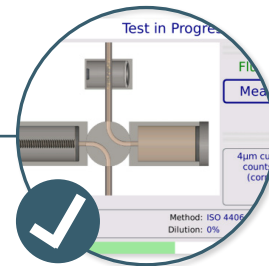


Cost Saving

- Low operator time due to simplicity of set up and automation, giving operators the option to work on something else and reduce labour costs
- Small test volume, 10 ml (without flush), can reduce cost and waste
- LIMS or network compatible for quick result interpretation, increasing productivity
- In-field calibration eliminates time and costs associated with sending the instrument to a service centre

Ease Of Use

- Features simple user interface with touchscreen display
- The fully-automated test means extensive operator training is not required before using the instrument
- User-defined test methods are easily programmed

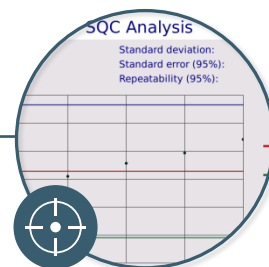


Enhanced Functionality

- Dilution protocol for testing of high viscosity samples
- Real-time display of test progress and ability to view previous results whilst running a sample
- Password-protected levels for security
- 14 embedded methods for fuel and oil testing
- User and sample identification - track and trace

Precision and Accuracy

- Fully automatic test sequence and consistent sample handling ensures test repeatability and reproducibility
- ISO 11171 calibration protocol
- Programmable alarm limits
- SQC analysis allows analysis of results in accordance with ASTM D6299



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Operation	
Principle of operation	Laser obscuration
Test methods	14 embedded test methods, user programmable including ASTM D7619; IP 565; ISO 4406; NAS 1638; SAE 4059; GOST 17216
Particle size range	ISO 11171: 4µm(c) to 70µm(c) (calibration for larger sizes available on request)
Test duration	Less than 3 minutes
Pressure (max)	Online pressure 10 bar gauge
Sample temperature range	Ambient 0 to 70 °C
Operating temperature range	Ambient 5 to 40 °C
Relative humidity (max)	80% @ 40 °C
Sampling method	Bottle sample and continuous
Programmable test method parameters (via PC)	Size Protocol (number of repeat measurements, flush volume before first measurement, flush volume between measurements, flush between measurements) Single or automated repeat tests, interval between repeat tests
Display and control system	Real time test progress and results, touchscreen
Measurement	
Measuring channels	16 size channels displayed on instrument, 4µm(c) to 70µm(c) and 2µm to 100µm (ISO 4402 sizes)
Counts per measurement (max)	60,000 per ml
Coincidence error limit	60,000 particles/ml $\geq 4\mu\text{m(c)}$ with $\leq 5\%$ co-incidence error (ISO 11171)
Sample viscosity (max)	68 mm ² /s (using internal pump), 200 mm ² /s (pressure fed @ 3 bar gauge) (SA1950-0 Sample Delivery System is available as an accessory)
Sample volume (typ)	80 ml for ASTM D7619 & IP 565, from 20 ml for other methods (includes flush cycles)
Sample delivery	Integral Dual Piston Pump (DPS) downstream of the cell
Sample flow rate	30 ml/min ± 5 ml/min
Data Management	
Results format	Cumulative, Particles/ml, ISO 4406 cleanliness codes/classes Numerical and graphical display
Memory	500,000 result memory Print via internal printer, export to LIMS, USB or QR code
Connectivity	RJ45 Ethernet or USB
Number of calibration points	16 (MTD)
Power requirements	
Voltage	100/240 V, 50/60 Hz, Auto-sensing universal power supply
Physical	