

## FUEL PARTICULATES



- SA1000-0 **avcount** PARTICLE COUNTER
- SA1200-0 **avcount** PARTICLE COUNTER (BATTERY POWERED)

**ASTM D7619 Standard Test Method for Counting and Sizing Particles in Light and Middle Distillate Fuels, and Liquid Bio Fuels, by Automatic Particle Counter; IP 565; DEF STAN 91-91; ISO 4406 (1999); prEN 60970:2006**

- Fully automatic operation
- Particle size 4µm to >70µm (ISO 11171)
- Cumulative & distributive particle numbers
- ISO 4406: 1999 codes
- Uses "Straight from the Bottle" samples
- Internal Double Pump System
- Built-in printer
- Precise and reliable results
- In-line side-stream tests up to 10bar (310 bar option)
- Rugged case for laboratory or portable field use
- On-Site calibration



BIO-FUEL TESTING



OPTIONAL SOFTWARE AVAILABLE



TECHNICAL DATASHEETS AVAILABLE



SA1000-0

The potential for particulate (dirt) contamination in the fuel supply and distribution systems is a major concern, particularly from:

- Refinery Processing Materials
- Corrosion & Rust in Pipes and Tanks
- Airborne Solids
- Degraded & Damaged Hoses and Filters
- Microbiological Growth

A rugged and portable laser based particle counter for checking and maintaining the quality of fuel throughout the distribution network. Optimised for measuring particulate content in the range of 4µm<sub>(c)</sub> to >70µm<sub>(c)</sub> diameter in Aviation Jet Turbine Fuels (AvTur), **avcount** is also suitable for testing biofuels and biofuel blends, heating oil, gas oil, diesel - automotive and marine, gasoline and kerosines.

The **avcount** uses the light obscuration principle, where the fluid under test is passed through a cell comprising a laser and a calibrated sensor. Particles in the fluid cast a shadow onto the sensor, which determines the area/diameter and number of particles in the sample.

Sampling and measurement is simple; fuel is drawn from a sample container or directly from the supply line. **avcount** has a 10 bar standard pressure rating or can sample up to 315 bar line pressure using the optional pressure reducing system. An integral pump automatically draws the sample through an internal measuring chamber, removing the need for an external sampling pump.

**avcount** is fully automatic once the test sequence is started. The instrument flushes the cell with sample prior to commencing the measurements. A precise volume of sample is then analysed. The flushing/sample analysing sequences are automatically repeated in accordance with the selected test method.

Results are displayed on the LCD screen in real time and printed out on the integral printer as the test progresses. The results are shown for 6 particle size bands in Particles/ml and ISO Code. Results can be saved to memory for trend analysis of samples, printed out on the integral printer or downloaded to a PC or external printer.

The "Log and Show" software option allows data to be downloaded from the instrument to a PC in different formats and allows the instrument to be fully controlled and configured from any Windows interface.

### ACCESSORIES - AvCOUNT PARTICLE COUNTERS

#### OPTIONAL

- SA1002-0 FLIGHT CASE (SA1000-0 & SA12000-0)
- SA1003-0 PC SOFTWARE (SA1000-0 & SA12000-0)
- SA1024-0 FLIGHT CASE (SA1000-2)
- SA1026-0 PC SOFTWARE (SA1000-2)

#### SAMPLE HANDLING

- SA1004-0 250ml BOTTLES AND CAPS (pack of 30).
- SA1005-0 CONTAINER SAMPLING KIT, 51mm bung.
- SA1008-0 HIGH PRESSURE ADAPTOR, for sampling at up to 315 bar (Factory option).
- SA1010-0 BOTTLE TUMBLER, fitted with holder for 250ml 'syrup' bottle.
- SA1014-0 500ml BOTTLE CARRIER, for SA1010-0.
- SA1016-0 ADJUSTABLE BOTTLE CARRIER, up to 1000ml 'syrup' bottle, fits SA1010-0.
- SA1020-0 IATA 5 litre TUMBLER
- SA1022-0 SAMPLING KIT, 32.5mm bung, 300mm tube length.

#### CALIBRATION, VERIFICATION & SERVICING

- SA1001-0 CALIBRATION FLUID, 250ml bottle, with certificate.
- SA1006-0 VERIFICATION FLUID, 250ml bottle, with certificate.
- 99320-2 SETA ULTRASONIC CLEANING BATH (for details see page 142).
- SA1030-0 AvCOUNT SERVICE KIT
- SA1035-0 AvCOUNT TOOL KIT
- SA1100-0 SERVICE AND CALIBRATION

### CONSUMABLES - AvCOUNT PARTICLE COUNTERS

100 Tests	Qty
SA1000-003 PRINTER PAPER (SA1000-0 & SA1200-0), pack of 10 rolls	2
SA1030-0 AvCOUNT SERVICE KIT	2



SA1000-2 avcount2 PARTICLE COUNTER

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- All the features of the original AvCount plus;
- Easy to use large colour touch screen display
- 15 fixed measuring channels
- Additional particle counting methods
- Save up to 2000 measurements across 60 memories
- Download to a USB memory stick
- 16 Point calibration
- Smaller case size
- English, Chinese or German language selection



BIO-FUEL TESTING



OPTIONAL SOFTWARE AVAILABLE



TECHNICAL DATASHEETS AVAILABLE



SA1000-2

avcount2 combines an improved user interface and re-packaged electronics with the accuracy and reliability of the pump and sensor from the original avcounti in a more compact case.

The avcount2 is controlled via icons or a virtual keyboard using the colour touch sensitive screen. Results are displayed in real time and are simultaneously printed out on the compact integral printer.

The test methods embedded in avcount2 cover a range of fuels, lubricating oils and hydraulic fluids. Test methods can be edited to create custom test profiles.

Improved connectivity and better memory management allows results to be accessed, printed out or downloaded to a memory stick via the USB port, or to a personal computer via the RS232 Port. The avcount2 can also be controlled via the RS232 port.

avcount2 utilises 16 point calibration and can be re-calibrated on-site by a Seta trained engineer.

SPECIFICATIONS

Seta Analytics part no:	SA1000-0 & SA1200-0	SA1000-2
Particle Size Range:	ISO 11171: 4µm to >70µm	ISO 11171: 4µm to >70µm ISO 4402: 2µm to >100µm GOST17216-71: 2µm to >200µm
Measuring Channels:	8	15
Counts per Measurement (max):	16.000.000	16.000.000
Sample Viscosity (max):	68mm <sup>2</sup> /s (from sample bottle) 500mm <sup>2</sup> /s (@10bar)	68mm <sup>2</sup> /s (from sample bottle) 500mm <sup>2</sup> /s (@10bar)
Sample Temperature Range:	0 to 80°C	0 to 80°C
Size Bands Reported During Test:	As specified in Test Method	As specified in Test Method
Size Bands Reported on Recall:	As specified in Test Method	All channels
Results:	Particles/ml (cumulative and distributive) ISO Codes to ISO 4406: 1999 (cumulative)	Particles/ml or Particles/10ml (Test Method dependant) Cumulative and Distributive Cleanliness Codes, Cumulative or Distributive (Test Method dependant)
Cell Volume @ Flow Rate:	10ml @ 30ml/min	10ml @ 30ml/min
Total Sample Volume used (typ):	80ml (includes rinse cycles) for IP 565	80ml (includes rinse cycles) for IP 565 & ASTM Multifuel 20ml other methods
Sample Pressure (max):	10 bar (310 bar with SA1008-0 option)	10 bar (310 bar with SA1008-0 option)
Display and Control:	LCD display, 4-key-operation	Touch sensitive screen
Measuring Mode:	Single or cyclic measurement (cycle period 1 - 99 min)	Single or cyclic measurement (cycle period 1 - 99 min)
Particle Count Alarm:	Low Limit/High Limit, User defined	Low Limit/High Limit, User defined
Printer:	Lid mounted integral thermal printer	Integral compact thermal printer
Computer interface:	RS232C (control and data download)	RS232C (control and data download) USB (data download) USB Memory Stick (data download)
Voltage:	100/230VAC, 50/60Hz, max 30W (12VDC for SA1200-0)	100/230VAC, 50/60Hz, max 30W or 24VDC
Size (HxWxD):	37 x 33 x 21cm	24 x 33 x 24cm
Weight:	11kg	12kg