



# HIAC PODS+

PORTABLE LIQUID PARTICLE COUNTER



CHARACTERIZED  
*by ingenuity.*





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PORTABLE LIQUID PARTICLE COUNTER

**Maximize** production uptime

**Extend** the life of your equipment with liquid particle counting analysis

**Identify** equipment problems before costly breakdowns occur

**Fast** liquid contamination analysis in under 60 seconds

**One-button sampling** for all global reporting cleanliness standards

**Calibrations:**

ISO-MTD, ACFTD, ISO-11171, PSL, Glycol

**Reporting Standards:**

ISO, SAE, NAS, ASTM, GOST, DEF STAN, NAVAIR, User Defined



## Features

- Self-diagnostic Alerts
- Paperless Workflow
- Moisture Detector
- Digital Exports
- Bubble Optimizer
- Bottle Sampling
- Sample Recipe Wizard
- Online Sampling
- Cleaning Routines
- 6-Hour Battery

## Benefits

- Save time with custom sample recipes and <60 sec. sample test runs
- Easily move from one sample point to another
- 1-Button sampling, no training or instrument expertise required
- Onsite instant reports that eliminate lab wait times and lab fees
- Multi-liquid sampling capability (fuels, petroleums, water & glycols)
- Ability to report out to multiple standards from the same sample
- Detects moisture in petroleum based fluids

## In-Depth Features



### Moisture Detector

Extend system uptime by reducing oxidation in your system. Detect moisture before degradation sets in.



### Bubble Optimizer

Get the right particle counts with an internal airtight pressurizing chamber that compresses bubbles so they are not mistaken for particles.



### Sample Recipe Wizard

Speed up sample times. Easily navigate through the setup wizard to create custom test recipes that can be used over and over again.



### Cleaning Routines

Speed up sample-to-sample times with intelligent self cleaning routines that remove unwanted particles.



### Self-Diagnostic Alerts

Continuous self-diagnostic system that instantly notifies the operator of sensor contamination, sensor blockage and need for service.



### Paperless Workflow

Save operator time with built in data storage. Samples and reports are instantly backed up and can be exported to a computer and/or LIMS.



### Bottle Sampling

This 100% portable instrument allows test operators to analyze liquid contamination wherever the system is located.



### Online Sampling

Connect the PODS+ to an operating online system that instantly communicates system cleanliness.

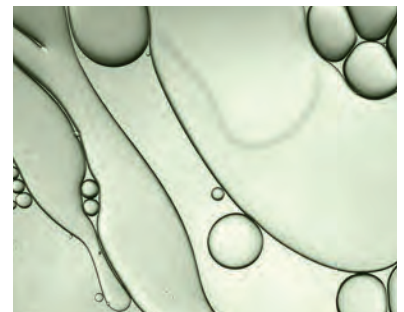


### 6 Hour Battery

Test more samples on one charge with our Military grade lithium battery.

## Liquid Compatibility

Monsanto Skydrol™ version Akso Fyrquel™	Ethers	MIL-H-5606
Marston Bentley HW 540 Monsanto Coolanol™	Alcohols	MIL-H-83282
Jet Fuel (JP4, JP5) Monsanto Coolanol™	Aldehydes Ketones	Shell Tellis™
Jet Fuel (JP4, JP5) Kerosene	Esters	Diesel Fuel
Mobile Zerol™ 150	AromaWcs	Mineral Oil
Stoddard Solvent	Water	





# Specifications



<b>Number of Channels</b>	9
<b>Size Channel</b>	ISO-MTD: 4, 6, 10, 14, 21, 25, 30, 50, and 70 $\mu\text{m}$ ACFTD: 5, 10, 15, 20, 25, 30, 40, 50, and 100 $\mu\text{m}$
<b>Flow Rate</b>	15, 30 and 50 mL/min fixed flow rates
<b>Light Source</b>	Class 3B laser, 775 to 810 nm, 5 mW maximum
<b>Calibration Types Available</b>	<ul style="list-style-type: none"> <li>• ISO-MTD in 5606</li> <li>• ISO-MTD in 5606 with ISO-11171:2010</li> <li>• ISO-MTD in Glycol</li> <li>• PSL Spheres in Water</li> <li>• ACFTD in 5606</li> </ul>
<b>Counting Efficiency</b>	JIS B9925: 1997
<b>Coincidence Loss Error</b>	5% coincidence loss at 40,000 particles/mL (per ISO-11171:2010)
<b>Sample Volume</b>	5 mL to 50 mL programmable
<b>Fluid Temp Range</b>	0° C and 90° C (32° F to 194° F) when ambient temperature is 25° C (77° F)
<b>Viscosity Range</b>	<ul style="list-style-type: none"> <li>• 1 to 425 cSt with shop air pressure at 100 psig</li> <li>• 1 to 150 cSt with internal pump</li> </ul>
<b>Wetted Materials</b>	Stainless steel, chrome plated brass and stainless steel, sapphire, PEEK, PTFE, FFKM and LDPE PODS+ Moisture Sensor
<b>Reporting Standards</b>	<ul style="list-style-type: none"> <li>• ISO 4406: 1999</li> <li>• NAS 1638 (translated from ISO-MTD calibration when no ACFTD calibration is available)</li> <li>• SAE AS4059</li> <li>• NAVAIR 01-1A-17 (translated from ISO-MTD calibration when no ACFTD calibration is available)</li> <li>• DEFSTAN 91-91</li> <li>• GOST 17216-2001</li> <li>• ASTM D7619-12</li> <li>• User-specified</li> <li>• Counts/mL</li> <li>• Raw counts</li> </ul>
<b>Data Storage</b>	3,000 records
<b>Dimensions (D x W x H)</b>	20.3 x 32.0 x 42.5 cm (8.0 x 12.62 x 16.75 in)
<b>Weight</b>	PODS+: 9.2 kg (20.1 lb) PODS+ with moisture sensor: 9.6 kg (21.0 lb)
<b>Input/Output</b>	<ul style="list-style-type: none"> <li>• Input: Ethernet 10/100M-Bit, client and host USB ports (USB 2.0), RS232 and I/O port for pump control and alarms</li> <li>• Output: pdf, tsv over USB, custom modbus protocol over Ethernet and RS232</li> </ul>
<b>Bottle Operation</b>	<ul style="list-style-type: none"> <li>• Sample Delivery Method: Pneumatically pressurized sample chamber</li> <li>• Internal Air Source: Internal compressor up to 40 psig (for up to 150 cSt viscosity liquids)</li> <li>• External Air Source: Clean Dry Air (CDA) source up to 110 psig (required for fluids with viscosity above 150 cSt viscosity)</li> <li>• Tare Volume: 5 mL to 50 mL in 1 mL increments</li> </ul>
<b>Online Operation</b>	<ul style="list-style-type: none"> <li>• Sample Delivery Method: Online pressure adaptor</li> <li>• Fluid Pressure: 40 to 5000 psig</li> <li>• Tare Volume: 5 mL to 999 mL in 1 mL increments</li> <li>• Number of Samples: 0 to 500 programmable with 0 being continuous</li> <li>• Filter Mode: Run until dirty or clean contamination level is reached with alarm triggers</li> </ul>
<b>Power</b>	<ul style="list-style-type: none"> <li>• Rechargeable Battery: Lithium-ion</li> <li>• Operating Time: 6 hours of continuous sampling on a 3 minute interval, including printing with each sample and running 50 mL samples at 50 mL/min, 100 mL/min drain and with 5606</li> <li>• Recharge Time: 4 hours</li> <li>• DC Input: 24 VDC, 2.5 A maximum</li> <li>• AC Adaptor: Universal 100-240 VAC, 50-60 Hz, 90 W</li> </ul>
<b>Environment</b>	<ul style="list-style-type: none"> <li>• Operating Temperature Range: 0° C to 50° C ambient temperature Operation on the external power supply (charging the battery) limited to 40° C</li> <li>• Storage Temperature Range: -40° C to +70° C ambient temperature</li> <li>• Relative Humidity: 20% to 95%, non-condensing</li> <li>• Max Altitude: 3000 m (9842 ft)</li> </ul>
<b>Dynamic Range in Water</b>	<ul style="list-style-type: none"> <li>• 1.3 <math>\mu\text{m}</math> - 100 <math>\mu\text{m}</math></li> <li>• With this range the user can assign particle sizes to the nine available sizes. The minimum size increment between channels is 0.1 <math>\mu\text{m}</math>.</li> </ul>



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