Consistent quality
Technical innovation
Premier customer service

Parker’s technical resources provide the correct filtration technologies that conform to your requirements. That’s why thousands of manufacturers and equipment users around the world rely on Parker Filtration products and people.

Worldwide Sales and Service

Parker Filtration’s global reputation as a reliable supplier of superior filtration products is the result of a focused and integrated development and manufacturing system.

Parker Filtration consolidates quality filtration products, manufactured by process filtration, air and gas filtration and separation, fuel conditioning and filtration, fluid power products and hydraulic filter products into one broad-based range that covers many markets and most applications, as detailed here.
There are many reasons why the LaserCM, portable particle counter, is a world-beater. Users are attracted to its proven performance in the field, on the production line or in the laboratory. Others recognise the manufacturing quality, reliability and the potential for reducing machine downtime and effective predictive maintenance programmes. Then there are those who find originality and innovation irresistible qualities that when combined provide a fluid condition monitor that will out-perform the rest.

With 12 years experience in manufacturing the world’s best selling ‘white light’ portable particle counter – CM20, the progression to the LaserCM with its opto-mechanical, continuous wave single point source laser (SPSL) is both a natural and customer driven development.

Accredited to US Standards and achieving full ISO certification and calibration to the latest ISO Medium Test Dust Standards, LaserCM offers users advanced laser technology and a fast, dynamic on-line 2 minute test cycle. A LaserCM Aggressive Fluids model is also available, suitable for monitoring corrosive fluids such as phosphate ester based lubricants used in commercial aviation.

There’s an integral 16-column printer for hard copy data. A feature of the LaserCM is the on-board printout graphing option developed to support predictive maintenance procedures.

For specifications and ordering information see page 11
The message to industry remains the same. As does the core technology of the Parker range of 6 Channel 'CM' portable, automatic particle counters (APC's).

As an oil sample is drawn through the LCM, once it is connected dynamically in-line, particles are measured by a Single Point Source Laser (SPSL) in the case of the LaserCM or an incandescent source with the white light CM20 as they pass in front of the Sampling Viewing Cell (window). A resultant capacitance value is then counted and stored in the on-board computer in one of the 6 micronic channels, according to particle size and the result displayed on the hand-held LCD display in the accepted ISO or NAS standards.

Features:
- Instant, accurate results achieved with a 2-minute test cycle.
- Data entry allows individual equipment footprint record.
- Data graphing selectable via the integral printer.
- Datµm data download software upgrade to LaserCM.
- Auto (handsfree) 300-test cycle logging via LCD handset input.
- RS232 serial port computer interface.
- Limited level output to control peripheral equipment such as off-line filtration via internal relay limit switches.
- LaserCM options now include a barcode swipe wand to allow handset data loading.
- Worldwide service and technical support.

The latest and improved portable particle counter hand set now includes:
- 50mm back light selection LCD display with contrast control.
- Highly re-programmed and engineered design.
- Colour coded.
- IP55 rated with weather protective cover.
- Special features accessed through single touch key operations.

LaserCM provides an ISO Standard 3 part contamination number or a NAS1638.0-12 Standard.
With at least 80% of hydraulic system failures resulting from oil contamination, equipment downtime due to unplanned maintenance is always expensive and equipment efficiency and personnel safety become issues for consideration.

With the range of CM20 6 Channel portable particle counters, further consideration becomes unnecessary.

6 Channel CM20
The proven technology

The CM209022 monitor has the 32-character two-line LCD with full alpha numeric facility and, at the touch of a button, a data retrieval facility to select up to 30 pre-identified test results from the 300 scrolling test memory. Standard features also include analysis in a range from ISO 7 to ISO 24 (NAS 0 to 12 inclusive), on-board printer and an RS232 download serial port.

Manufactured to the same comprehensive standards as the 9021 model, the CM209062 Aggressive Fluid monitor with its red valve and handset buttons has been developed for use with aggressive or corrosive fluids such as phosphate ester based lubricants. Requiring re-specification of the CM20 internals such as perfluorooelastomer seals, Parylene coated mouldings and stainless steel hydraulic components, this addition to the CM20 range further increases the flexibility within the market. Note: Perfluorooelastomer has the flexibility to be used on mineral based fluids – a first for Parker.
Permanent contamination monitoring of your system

**MCM20**

The method of particle counting is now available to users where continuous, permanent installed monitoring is a must.

The MCM20 is enclosed in a metal casing, with internal workings on a removable chassis for ease of service and calibration.

Operating protocols with full instructions for user defined PC/PLC controlled programmes are available in applications where pre-set tests operate. This provides instant system condition checks as well as trend analysis from a simple data formatting programme.

Here’s what the MCM20 can do...

- Continuous on-line particle counting ensures constant system monitoring within defined parameters.
- Pre-set to carry out contamination tests at specific intervals.
- Simple data formatting programme for trend analysis.

Software for Datum data management

**DATµm**

Daτµm is dedicated software providing the link between a CM20, LaserCM, EM20 or the H2Oil – water in oil monitor and a computer management system.

- Windows based, icon driven program.
- Full graphic output.
- Tables/results download and hard copy.
- Trend analysis and predictive maintenance.
- Auto test communication allows Daτµm to control particle counter testing and water in oil monitoring.

Labview for MCM20

- Customised demonstration software for MCM operation.
- Full graphic display.
- Visual Indication of limit parameters.

For more information: Contact Parker Hannifin’s Condition Monitoring Centre Tel: +44 (0) 1842 763299 Fax: +44 (0) 1842 756300 Email: commoninfo@parker.com
3 industrial System 20 sensors have been developed by Parker for simultaneous measurement of flow, pressure and temperature, using hand-held monitors.

Covering a wide range of flow rates, fluid types and applications, System 20 sensors are designed to be used with both types of System 20 Monitor, all Contamination Monitors and the water in oil monitor. Specially developed System 20 sensors are available for use with the 'Aggressive Fluids' contamination monitor.

An operator can monitor a system without having to shut it down first or during a test.

**Predictive maintenance by connecting to an analogue or electronic monitor**

**Analogue**
System 20 Analogue Monitors are designed to connect directly to a System 20 Inline Sensor. Featuring 3 dayglo dial gauges to monitor flow, pressure and temperature of oil or water systems.

**EM 20**
The System 20 Electronic Monitor is also available to provide effective system condition monitoring with test data storage and data management download features.

Both monitors are available for system pressures up to a maximum 420 bar.
The lightweight Single Point Sampler (SPS) has been developed to provide monitor users with greater particle or water counting flexibility. Designed with an easy-to-use, fingertip operated flow control valve, the SPS enables compensated flow systems to be tested for contamination where flow ranges are outside System 20 Sensor specifications or where pipe diameters do not allow a System 20 Sensor to be installed.

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The UBS now provides the dynamic link to all portable particle and water counters

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Universal Bottle Sampler

The UBS Offline, already the proven efficient answer to oil bottle sampling via a CM monitor, has been upgraded with the incorporation of microprocessor technology to recognise and adjust to the connecting monitor including the LaserCM and water in oil monitor.

The oil sample is drawn into the UBS Offline where it is secured, free from further contamination, in a bottle together with a clean waste bottle by a peristaltic, self-priming pump. Simple operation and efficient testing are assured once the UBS Offline is connected to any of the monitors and powered up using it’s own power source.

- Lightweight design for portability.
- Fast/slow running speeds for varying viscosity oils.
- Viscosities range 2 to 250 cSt.
Water in oil monitoring from one on-line monitor

H₂Oil is a 2 channel non-dispersive absorption spectrometer, designed to measure the level of absorbed water content polluting the oil in a sample bottle or by dynamically connecting to an in-line System 20 Sensor or Single Point Sampler. The H₂Oil features a re-chargeable 12 Vdc power-pack, on-board diagnostic computer and printer for effective logging and data retrieval.

- Accurate measurement of 0-3000ppm absorbed water contamination in oil.
- On-line operation upto 420 bar.
- Results displayed as percentage water content or parts per million.
- RS232 download facility.

Moisture sensor

With continuous moisture indication the Parker MS100 moisture sensor is designed to produce accurate, real time moisture indication in petroleum-based and synthetic oils, below fluid saturation levels.

- Pressure rating: Up to 420 bar (6,000 psi).
- Results reported as a ‘% saturation’ of water.
- Local green and red LED’s for simple water saturation indication.
- Optional panel meter (DDU) or graph indicator (PBG) are also available, for easy and remote identification.
- Temperature compensated results.
- Various thread forms and hand held option.

Moisture sensor

Dynamic moisture monitoring for todays demaning mobile hydraulic systems. The new lightweight MS150 moisture sensor is designed to produce accurate, real time moisture indications in petroleum - based, synthetic oils and phosphate ester (aggressive fluids) below fluid saturation levels.

- Return line low pressure rating: Up to 10 bar (145 PSI).
- Variable signal output options (+1 to +5 Vdc) (+4 to +20A) RH%
  (0 to +5 Vdc) Temperature
- Compatible with Parker Digital Display Units.
- Simple dynamic installation into a flow path.
- Temperature compensated results.
- Two thread forms (½” BSPT & ½” NPT).
Oilcheck combines the technology to detect and analyse the dielectric constant of oil, all in a completely portable hand-held monitor.

- Advises when to change your oil
- Warns of impending engine failure
- Cost effective solution to save money and increase engine life
- Completely portable, battery powered
- Ideal for fleet owners, garages and DIY mechanics

The Parker Guardian® Portable Filtration Systems.
Guardian is a portable filtration system with two main functions: to ensure that new ‘dirty fluid’ often contaminated during handling is delivered into a system at a specific cleanliness level, and to permit periodic clean up of existing fluid to its original condition.

Typical Applications
- Injection moulding M/cs
- Royal Navy surface fleet systems
- Paper Mills
- Steel Mills
- Industrial & mobile equipment
- Marine support systems

PFS - Portable Filtration Systems
The Parker Model IOMF Portable Filtration System.
Parker's portable filtration units are designed for on-site preventive maintenance of fluid systems. An integral pump draws fluid through a primary clean-up filter and then through a high quality polishing filter to remove particulate contamination down to 4µ (c) absolute.

Typical Applications
- Paper Mills
- Injection & Blow Moulding Equipment
- Shipboard Systems
- Industrial & Mobile Equipment

PVS - Portable Purification Systems
The Parker PVS oil purification system is designed to remove water, dirt and air from petroleum and synthetic fluids. The water removal principle used is simple, reliable and will dependably remove water well below the oil saturation point, even when tightly bound in an emulsion.

Typical Applications
- Paper Mills
- Hydraulic
- Compressor Lubrication
- Steel Mills
- Bearing Lubrication

For more information: Contact Parker Hannifin’s Condition Monitoring Centre Tel: +44 (0) 1842 763299 Fax: +44 (0) 1842 756300 Email: commoninfo@parker.com
Specification and Ordering

**See below for part numbers**

<table>
<thead>
<tr>
<th>Specification and Ordering</th>
<th>See below for part numbers</th>
<th>Single Point</th>
<th>VPS Offline</th>
<th>System 20 Analogue</th>
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<tbody>
<tr>
<td>Fluorocarbon Seals</td>
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<tr>
<td>EPDM seals</td>
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<tr>
<td>Hose - Nylon (Kevlar graded microphone)</td>
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<td>Up to 380 l/min (100 US GPM) with System 20 sensor</td>
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<td>Up to 420 Bar (600 psi) System 20</td>
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<td>Viscosity range 2 - 250 cst</td>
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<tr>
<td>Bottle pack</td>
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<tr>
<td>Sample Tube pack</td>
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<tr>
<td>Interface cable to LCM 20, H2Oil etc</td>
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<tr>
<td>Hose coupling</td>
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<tr>
<td>Extension hose</td>
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</tbody>
</table>

**Part Number**

L0M200201 Laser 6 Channel data entry handset (incl. aluminium case and kit
L0M200202 Laser 6 Channel (MTD Calibration)
L0M200203 Laser 6 Channel + Bar Code Pen
L0M200204 Laser 6 Channel (MTD Calibration + Bar Code Pen)
L0M200601 Laser 6 Channel as above for use with Aggressive Fluids
L0M200602 Laser 6 Channel (Aggressive fluids - MTD Calibration)
L0M200603 Laser 6 Channel (Aggressive fluids + Bar Code Pen)
L0M200604 Laser 6 Channel (Aggressive fluids - MTD Calibration + Bar Code)
L0M200201 Laser 6 Channel (MTD Calibration)
C092001 Laser 6 Channel Data Entry Handset (incl. case and kit)
C092002 Laser 6 Channel (MTD Calibration)
C092003 Laser 6 Channel as above for use with Aggressive Fluids
C092004 Laser 6 Channel White Light 6 Chnl Data Entry Handset (incl. case and kit)
C092005 Laser 6 Channel (Aggressive fluids - MTD Calibration)
C092006 Laser 6 Channel (Aggressive fluids + Bar Code Pen)
C092007 Laser 6 Channel (Aggressive fluids - MTD Calibration + Bar Code)
C092008 Laser 6 Channel (Aggressive fluids + Bar Code Pen)
C092009 Laser 6 Channel (Aggressive fluids - MTD Calibration + Bar Code + Case)
C092010 Laser 6 Channel as above for use with Aggressive Fluids
C092011 Laser 6 Channel White Light 6 Chnl Data Entry Handset (incl. case and kit)
C092012 Laser 6 Channel (MTD Calibration + Bar Code)
C092013 Laser 6 Channel (Aggressive fluids + Bar Code Pen)
C092014 Laser 6 Channel (Aggressive fluids - MTD Calibration + Bar Code + Case)
C092015 Laser 6 Channel as above for use with Aggressive Fluids
C092016 Laser 6 Channel White Light 6 Chnl Data Entry Handset (incl. case and kit)

**Commissioning kit includes:**

- 6 batteries
- 2 spare paper rolls
- Spare printer ribbon
- Spare light source
- Fuse
- Screwdriver
- 12Vdc pack for dc supply
- Spare battery
- Battery charger
- Re-chargeable battery pack
- Calibration certificate
- Handset cover
- Operation manual

*Note: In compliance with international standards, all Parker portable particle counters can meet the ISO Medium test standards.

The LaserCM, in addition to the complete range of Condition Monitoring products, are capable of achieving certification to ISO 14406:1999, and with traceability to ISO 11171 for 59006, via ISO 11194. Note: A CM20 trace heating option for cold climate testing can be specified.

For more information: Contact Parker Hannifin’s Condition Monitoring Centre Tel: +44 (0) 1842 763299 Fax: +44 (0) 1842 763000 Email: commoninfo@parker.com
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Hydraulic Filter Division Europe
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