



Hydraulic Filtration & Contamination Control Products

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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*

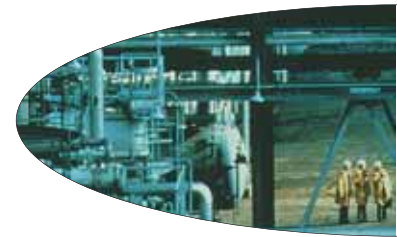
Parker Filtration's global reputation as a reliable supplier of superior filtration products is the result of a focused and integrated development and manufacturing system.

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.



Racor Fuel Conditioning & Filtration

Parker air, fuel and oil filtration systems provide quality protection for engines operating in any environment, anywhere in the world.



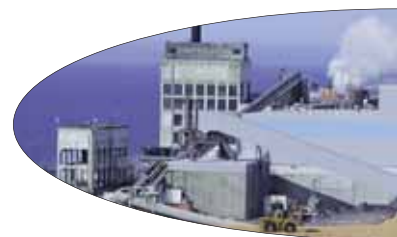
Process & Chemical Fluid Filtration

Liquid filtration systems for beverage, chemical and food processing; cosmetic, paint, water treatment; photo-processing; and micro-chip fabrication.



System Contamination Monitoring

On-line dynamic particle analysis, off-line bottle sampling and for fluid analysis and measurement of water content polluting the oil in a system. All important and achievable, cost-effective solutions available to equipment manufacturer's and end users alike with Parker Filtration's range of system contamination monitors.



Hydraulic, Lubrication & Coolant Filtration

High-performance filtration systems for production machinery in industrial, mobile and military/marine applications.



Compressed Air & Gas Filtration and Nitrogen Generation

Complete line of compressed air/gas filtration and separation products; coalescing, particulate and adsorption filters in many applications in many industries.



Laser technology promotes the global leader in portable particle counting to a new dimension

LaserCM

Making the difference in industry

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.

Laser technology cuts the test time in half!

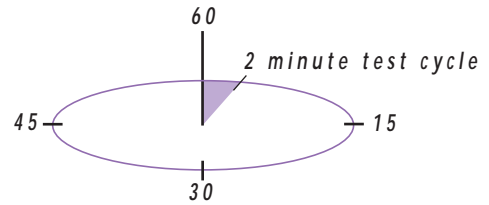
With 12 years experience in manufacturing the world's best selling 'white light' portable particle counter – CM20, the progression to the LaserCM with its opto-mechanical, continuous wave single point source laser (SPSL) is both a natural and customer driven development.

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.



LaserCM



Cut the cost of machine down-time caused through system contamination...

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.
- Datum 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

6 Channel CM20

The proven technology

An operator can choose from 2 'white light' 6 channel CM20's.

Connecting directly into a system via a proven System 20 Inline Sensor (See page 7) or Single Point Samplers (See page 8) a machine operator can carry out a unique and automatic test procedure, without having to shut down the machine before or during testing.

An operator can choose from 2 CM20 portable particle counters. Each providing the same high level of optimum accuracy and quality, built in at every stage of manufacture to ISO 9001, CE, RFI and EMC approval with each model offering the user some specific advantages on industry applications.

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 perfluoroelastomer seals, Parylene coated mouldings and stainless steel hydraulic components, this addition to the CM20 range further increases the flexibility within the market. *Note: Perfluoroelastomer has the flexibility to be used on mineral based fluids – a first for Parker.*

CM209022



CM209062 –
the Aggressive
Fluids model.



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

Datµm 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 Datµm 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.



Inline Dynamic connection into a system

System 20

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.

EM20

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.



EM20 Monitor

Analogue Monitor

Single Point Sampler

Making the connection

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.



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

Universal Bottle Sampler



- Lightweight design for portability.
- Fast/slow running speeds for varying viscosity oils.
- Viscosities range 2 to 250 cSt.

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.

Water in oil monitoring from one on-line monitor

H₂Oil

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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.



MS100

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.



MS150

Moisture sensor

Dynamic moisture monitoring for today's demanding 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 (1/4" BSPT & 1/4" NPT).

Other Fluid Condition Monitoring Parker Products

OILCHECK

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



GUARDIAN®

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 TROLLEY

PFS – Portable Filtration Systems

The Parker Model IOMF Portable Filtration System.

Parkers 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

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



Specification and Ordering

See below for part numbers	LaserCM (LCM202022)	LaserCM (LCM202062)	6 Channel CM (CM209022)	6 Channel CM (CM209062)	H2Oil (WOM9100)
Noryl, structural foam					
Lexan, structural foam and ABS case	*	*	*	*	
ABS handheld display	*	*	*	*	
Silicone rubber keypad					*
Fluorosilicone keypad	*	*	*	*	
Mechanical composition – Brass, plated steel, Stainless steel and aluminium	*	*	*	*	*
Fluorocarbon Seals	*	*	*	*	*
Perfluoroelastomer seals		*	*	*	
Nylon hoses (kevlar braided microbore)	*	*	*	*	*
Stainless steel armoured hose ends	*	*	*	*	*
1.2m fluid connection hose	*	*	*	*	*
1m extension hose	*	*	*	*	*
Up to 380 l/min (100 US GPM) with System 20 Sensors. Higher with Single Point Sampler	*	*	*	*	*
Rechargeable battery pack	*	*	*	*	*
12Vdc power supply	*	*	*	*	*
Fast blow fuse	*	*	*	*	*
Unique optical scanning system	*	*	*	*	*
Bonded glass optical window enclosed in stainless steel plate	*	*	*	*	*
Micron channels analysis (4+,6+,14+,21+,38+ & 70+µ(c)	*	*	*	*	*
PPM or % (0 to 3000)					*
Analysis range ISO 7 to 22 incl. (NAS 0 to 12)	*	*			
ISO 7 to 24 incl.			*	*	
32 character LCD.					*
Alpha numeric keypad	*	*	*	*	*
24 character					*
Data retrieval	*	*	*	*	*
Calibration to ISO standards*	*	*	*	*	*
Viscosity range 2 to 100 cst. 500 cst. with SPS	*	*	*	*	*
Operating temp. +5 to +80°C	*	*	*	*	*
Ambient temp. +5 to +40°C	*	*	*	*	*
4 min test completion time	*	*	*	*	*
2 minute test completion time	*	*	*	*	*
Memory store – 500 test memory	*	*	*	*	*
Memory store – 300 test memory	*	*	*	*	*
12Vdc regulated power supply input	*	*	*	*	*
Battery operated 6 x 1.5 D cells	*	*	*	*	*
Phosphate Ester group compatibility		*	*	*	*
Mineral oil & petroleum based fluid compatibility	*	*	*	*	*
Up to 420 bar (6000 psi)	*	*	*	*	*
Integral 16 column printer	*	*	*	*	*
RS232 computer interface	*	*	*	*	*
Astra board case weight – (Kg)	5	5	5	5	5
Unit weight – (Kg)	8	8	8	8	6
DATUM software and cable link pack	*	*	*	*	*
Weather protector cover	*	*	*	*	*
CE certified	*	*	*	*	*
Computer controlled		*	*	*	*
Auto logging	*	*	*	*	*
Commissioning kit includes:					
6 batteries	*	*	*	*	*
2 spare paper rolls	*	*	*	*	*
Spare printer ribbon	*	*	*	*	*
Spare light source			*	*	*
Fuse	*	*	*	*	*
Screwdriver	*	*	*	*	*
12v jack plug 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 dust standards. The LaserCMs, in addition to the complete range of Condition Monitoring products, are capable of achieving certification to ISO 4406:1999, and with tracability to ISO 11171 for SRM 2806, via ISO:11943. Note: A CM20 trace heating option for cold climate testing can be specified.

See below for part numbers	Single Point Sampler	UBS Offline	System 20 Analogue
Fluorocarbon Seals	*	*	*
EPDM seals	*	*	*
Hose - Nylon (Kevlar graded microbore)			*
Up to 380 l/min (100 US GPM) with System 20 sensor			*
Up to 420 Bar (6000 psi) System 20	*		*
Viscosity range 2 - 250 cst		*	*
Viscosity range 2 - 500 cst	*		*
Operating temp +5 to + 80°C	*	*	*
Operating temp -10 to + 110°C			*
Test time 2m15s / 4m15s (Flush 2m)		*	*
12Vdc power supply		*	*
ABS moulding			*
St. steel and aluminium construction	*		*
Extruded aluminium construction		*	*
Unit weight - (kg)	0.5	4	1.4
Mineral oil and petroleum based compatibility	*	Fluorocarbon Seal	*
Phosphate Ester group compatibility	*	EPDM Seals	*
CE certified	*	*	*
Military approved	*	*	*
Manual operation	*	*	*
Bottle pack	*	*	*
De-gassing chamber		*	*
Manual	*	*	*
Sample Tube pack		*	*
Interface cable to LCM20, H2Oil etc.		*	*
Hose coupling	*	*	*
Extension hose	*	*	*

	Part Number	Description
CM20s	LCM202021	Laser 6 Channel data entry handset (incl. aluminium case and kit)
	LCM202022	Laser 6 Channel (MTD Calibration)
	LCM202023	Laser 6 Channel + Bar Code Pen
	LCM202024	Laser 6 Channel (MTD Calibration + Bar Code Pen)
	LCM202061	Laser 6 Channel as above for use with Aggressive Fluids
	LCM202062	Laser 6 Channel (Aggressive fluids - MTD Calibration)
	LCM202063	Laser 6 Channel (Aggressive fluids + Bar Code Pen)
	LCM202064	Laser 6 Channel (Aggressive fluids - MTD Calibration + Bar Code)
	CM209021	White Light 6 Chnl Data Entry Handset (incl. case and kit)
	CM209022	White Light 6 Chnl (MTD Calibration)
	CM209061	White Light 6 Chnl as above for use with Aggressive Fluids
	CM209062	White Light 6 Chnl (Aggressive Fluids - MTD Calibration)
	MCM202021	Permanent 6 Channel Autoremote
	B84729	12V dc power supply
B84609	Re-chargeable battery pack	
B84702	Printer paper (5 rolls)	
P843702	Printer ribbon	
B84501	Spare replacement lamps (4 off – CM20 only)	
P849613	Weather protector cover	
H2 Oil	WOM9100	H2Oil (Incl. aluminium case and kit)
	B91701	Printer paper (5 rolls)
	S840134	Oil delivery unit
SPS	SPS2021	Single Point Sampler (standard)
	SPS2061	Single Point Sampler (aggressive and standard fluids)
UBS Offline	UBS9002	Universal bottle sampler (incl. aluminium case and kit)
	UBS9003	Universal bottle sampler (no kit)
	UBS9004	Aggressive universal bottle sampler (no kit)
	UBS9005	Aggressive universal bottle sampler (incl. aluminium case kit)
	S840054	Power supply and socket
	S890005	De-gassing kit and pump
	B89603	De-gassing chamber only
B89910	Sample bottle kit (100 bottle pack)	
System 20 Monitors	STIO144100	Industrial size 0 sensor 3/8 BSP 6-25 L/Min
	STI1144100	Industrial size 1 sensor 3/4 BSP 20-100 L/Min
	STI2144100	Industrial size 2 sensor 11/4 BSP 80-380 L/Min
	EM209000	Electronic Monitor
	STM6211110	l/min dual scale oil analogue monitor
	STM6611110	US GPM dual scale oil analogue monitor
MS100 & MS150	MS1001P	1/4" BSP (bonded seal) moisture sensor
	MS1005P	9/16" – 18UNF 2A (SAE J514)
	MS1503	1/4" BSPT Moisture Sensor
	MS1504	1/4" NPT Moisture Sensor
	PBG8341	Bar graph indicator
	DDU1001/2	Digital display unit (specify supply voltage)
Datum	B84779	Datum software pack
	B84708	Cable and adaptor



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Hydraulic Filter Division Europe

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