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Web: www.scindustrialsales.com

Contamination Monitoring



Sales • Rentals • Calibration

Portable & Inline Lab Quality Fluid Particle Counters & Moisture Monitors



Particle Sizing: >4, >6, >14, >21, >25, >38, >50, >70 $\mu\text{m}(c)$

Reporting:

ISO 4406:2017

NAS 1638

AS4059/ISO11218 and more



SC INDUSTRIAL SALES

PUMPING & FILTRATION SOLUTIONS

LPA3 Portable Particle Counter



- Online or Bottle Sampling
- Mineral Oil & Synthetic Fluids
- Subsea, Glycols and Water Based Fluids
- Phosphate Esters and Aggressive Fluids
- Moisture Monitoring
- Temperature & Pressure Monitoring
- On Board Printer
- Touchscreen

CML4 Compact Portable Particle Counter



- Online, Bottle or Tank/Reservoir Sampling
- Included Internal Pump
- Mineral Oil & Synthetic Fluids
- Moisture & Temperature Monitoring
- Optional Bluetooth Printer
- Touchscreen

ICM In-Line Contamination Monitor / Particle Counter



- Mineral Oil & Synthetic Fluids
- Subsea, Glycols and Water Based Fluids
- Phosphate Esters and Aggressive Fluids
- Moisture & Temperature Monitoring
- Keypad & Display
- Relays & External Alarms
- USB Connection for Data Transfer
- Optional WiFi
- Customizable
- Explosion Proof Options



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PUMPING & FILTRATION SOLUTIONS

Bottle Samplers



BS500 Bottle Sampler

- 500 ml Fluid Volume
- Vacuum for De-Aeration
- Mineral Oils and Synthetic Fluids
- Subsea, Glycols and Water Based Fluids
- Phosphate Esters and Aggressive Fluids



BS110 Bottle Sampler

- 110 ml Fluid Volume
- Vacuum for De-Aeration
- Mineral Oils and Synthetic Fluids

ICM Accessories



Flow Control Valve

Pressure compensated flow control valve. Operates across a range of fluid types and viscosities.

Communication Devices



ICM-USBi

USB interface for allows for communication with PC/laptop computers.

ICM-ETHi

Ethernet interface enable remote access via network hub.



Software Included with all CMP Devices

ICM Install Filtration Equipment



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**TAKE THE LAB
WITH YOU
WHEREVER
YOU GO**

**PORTABLE
LIGHT EXTINCTION
PARTICLE ANALYSER**

LPA3



PASSION  PERFORM



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PUMPING & FILTRATION SOLUTIONS

LPA3

The world's most advanced and versatile mainstream portable light extinction particle analyser

Whether you are working in the lab or in the field, MP Filtri's next-gen LPA3 delivers a fast, accurate and comprehensive hydraulic health check in a robust yet portable package.

The LPA3 delivers particle counting to all international standards, as well as moisture and temperature measurement. Its real-time monitoring and proactive maintenance safeguards machinery, enhances performance and productivity, and reduces costs and unplanned downtime.

Featuring the latest breakthroughs in optical and photodiode technology, the new LPA3 enhances the reliability and longevity of complex hydraulic systems and is ideal for systems quality control in in-house manufacturing applications.

Robust and durable co-polymer body case

Greater storage capacity store up to 4000 tests

Increased programmable sample volumes (up to 100 ml)

Instant results download via USB

SIX REASONS

LPA3 SETS NEW STANDARDS



ACCURACY

Using the latest LED optical technology, the LPA3 is accurate to $\pm 1/2$ code for 4, 6, 14 μm (_C).



MOBILITY

Highly durable and yet perfectly portable-weighing in at just 10kg (22lb).



ANALYSIS

Real-time monitoring and proactive maintenance.



SPEED

High-speed sample times over 16 times quicker than the LPA2.



EFFICIENCY

Slashes costs and downtime, protects machinery and rapidly pays for itself.



EASE OF USE

Sophisticated yet simple to use, the LPA3 can be mastered without formal training.



“ Our new LPA3 has enabled our customers to be sure of the cleanliness of their hydraulic systems. Warranty claims can be resolved easier, customers are confident in our process and we can cut down on oil sampling lead times. ”

Ryan Langley

Managing Director, Hercules Hydraulics Ltd

Predictive maintenance technology
Identifying risks before they impact performance

Pressure monitoring
for greater accuracy and consistency

Fluid monitoring
Water control and temperature

Simple yet sophisticated software

Optional thermal printer
for instant hard copy of results

Online real-time monitoring
and super-fast sample times

Programmable
10.1" full colour
touch-screen display

Long-life
lithium ion battery



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ALL THE BENEFITS OF THE LABORATORY IN THE FIELD

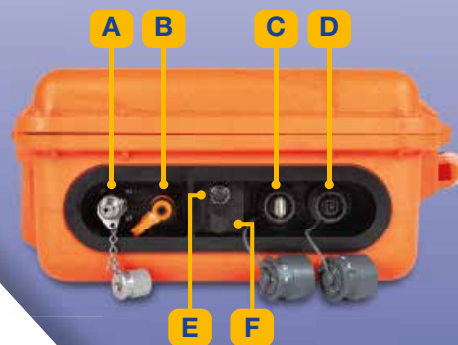
The LPA3 is robust and light - weighing in at just 10kg and its ergonomic space-efficient design enables operators to work effectively in a wide variety of challenging work environments - without having to make sacrifices to functionality.



RANGE OF DIFFERENT CONNECTIONS

Easy-fit standard hydraulic connections maintain high environmental protection ratings. USB data connection enables rapid download of results to a data stick.

- A: M16 x 2 Test point connection
- B: Quick-release waste capture
- C: USB data stick download port
- D: PC-USB connection
- E: Power on/off with built in bi-colour LED
- F: IP rated DC charging port



WIDE RANGE OF REPORTING FORMATS



Wherever you are working and whatever standards you are using we've got you covered. We've also added five* new reporting standards.

SIMPLE YET SOPHISTICATED SOFTWARE

The LPA3 is compatible with MP Filtri's innovative new CMP View software, which is both easy to master and delivers all the information, analysis and results you need at-a-glance on a single screen.



FAST, SMOOTH LEARNING CURVE

Designed for ease of use, the LPA3 enables first time operators to get up and running in minutes - without the need for a dedicated training programme.

The machine's sophisticated functionality sets new standards in the industry but is surprising easy to master, saving customers time and money.



WHY CHOOSE MP FILTRI AS YOUR PARTNER FOR CONTAMINATION CONTROL SOLUTIONS?

MP Filtri prides itself on being the original and the best when it comes to portable particle counters.

The celebrated LPA2 set new standards in the industry at launch - and this new incarnation enhances and improves the original machine's market-leading functionality - delivering faster results, greater accuracy, more storage, extensive customisation options, and a more robust and portable design.

MP Filtri has a proud heritage spanning more than 50 years as an innovator in the hydraulic filtration industry and has forged a growing reputation for the quality of its products and its customer service.

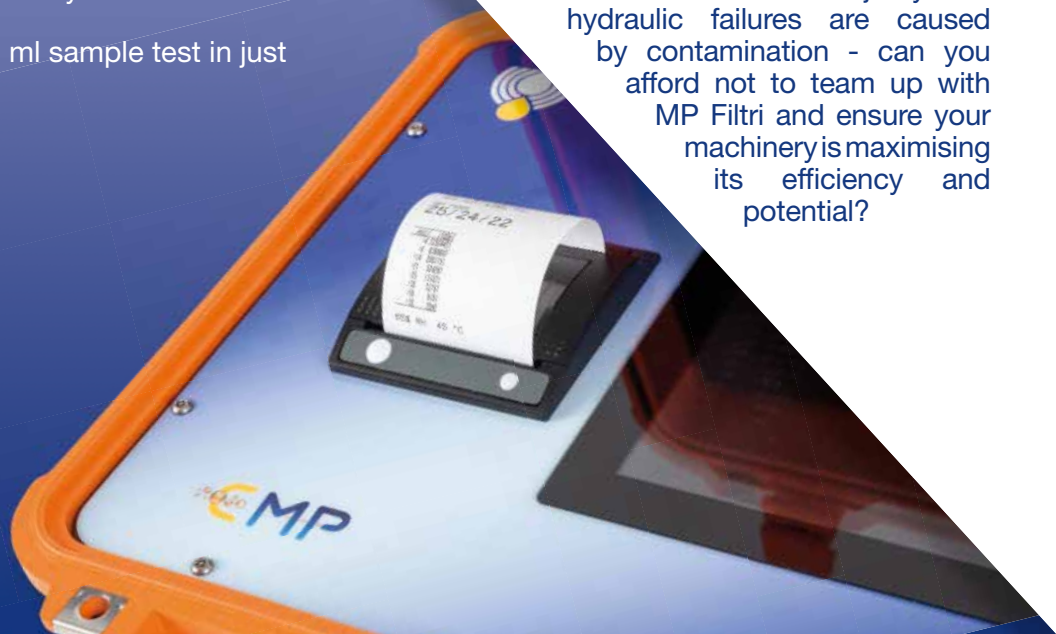
When the vast majority of hydraulic failures are caused by contamination - can you afford not to team up with MP Filtri and ensure your machinery is maximising its efficiency and potential?

MARKET-LEADING VERSATILITY

Not only is the LPA3 designed to thrive in a wide range of sectors and applications, the machine can also be personalised for peak performance with operators able to tailor sample volumes and flush sizes.

The amount of tests run concurrently.

Capable of completing the 100 ml sample test in just one minute.



FLEXIBILITY BUILT-IN AS STANDARD

The ultimate hydraulic health check for a wide range of different sectors.

Fast, accurate and easy to use, the LPA3 quickly identifies the levels of contamination in your systems at the touch of a button.

Offering both real-time monitoring and predictive maintenance technology it is an essential tool for anyone serious about maximising the efficiency and performance of hydraulic systems.

Reduced downtime, lower operating costs and longer lifespans of machinery are just some of the benefits the LPA3 will deliver.

KEY INDUSTRY SECTORS



Mobile

Portable and precise, the LPA3 is ideal for applications where accuracy is vital even in challenging and variable working conditions.



Offshore

Capable of handling aerospace phosphate ester, mineral and synthetic oil, subsea/offshore water based fluids and more....



Industrial

Keeps production lines working at full capacity – ensuring the best in performance and productivity.



Aviation

Minimises aircraft on ground downtime, dramatically reducing operational and maintenance costs.



Test rigs

Delivers accurate and reliable comprehensive hydraulic health checks to a host of international standards.



Machine tools

Ideal for precision tooling, injection moulding, presses and power packs - supports a wide range of industries.

OUR PRODUCT RANGES

Portable Particle Counters

Innovative products to suit a variety of sectors and budgets from the CML 2.0 to the Airbus approved Aviation edition LPA2.



Bottle Samplers

A choice of 110 ml and 500 ml models, ideal for use in laboratories where fluid sampling at point of use is inaccessible or impractical.



In-line Contamination Monitors

Our market-leading ICM 2.0 and ICU models deliver the ultimate hydraulic health checks and are also Industry 4.0 ready.



Off-line Filtration Units

A comprehensive range of offline filling and filtration units to help service and maintenance teams deliver outstanding oil and hydraulic fluid cleanliness.



LPA3 SPECIFICATIONS



Technology	High precision LED light extinction automatic optical particle counter
Particle Sizing	>4, >6, >14, >21, >25, >38, >50, >70 $\mu\text{m}_{(c)}$
Analysis Range	ISO 4406:2017 Code 0 - 24 NAS 1638 Class 00 - 12 AS4059/ISO11218 Rev E, Table 1 AS4059/ISO11218 Rev E, Table 2 AS4059 Rev F, Table 1 AS4059 Rev F, Table 2 GBT14039 GJB420B GOST 17216
Accuracy	$\pm 1/2$ code for 4, 6, 14 $\mu\text{m}_{(c)}$ ± 1 code for larger sizes
Calibration	Individually calibrated with ISO Medium Test Dust (MTD) based on ISO 11171, on equipment certified by I.F.T.S. ISO 11943
Viscosity Range	Up to 400cSt
Fluid Temperature	Minimum: -25°C / +41°F Maximum: +80°C / +176°F
Ambient Temperature	Minimum: -10°C / +14°F Maximum: +80°C / +176°F
Pressure	Minimum: 2.0 bar / 29 psi Maximum: 420 bar / 6091 psi
Sample Volume	Maximum 100ml / 3.5 fl oz per pump stroke Test Volumes programmable by end user Pre-set volumes also available
Moisture Sensing	% RH (Relative Humidity) $\pm 3\%$
Temperature Measurement	$\pm 3\%$
Data Storage	Up to 4000 tests
Environmental Protection	IP 66 (Lid closed) IP54 (Lid open)
Power	Lithium-Ion rechargeable battery 18-19V 2.1-3.0A
Weight / Dimensions	10 kg / 22lbs, Width: 470 mm / 18.5" Height: 350 mm / 13.8" (not including handle) Depth: 170 mm / 6.7"

Designation & Ordering code

PORTABLE LIGHT EXTINCTION PARTICLE ANALYSER LPA3	
Series	Configuration example: LPA3 W P M 1 0 1
LPA3 Portable Light Extinction Particle Analyser	
Moisture Sensor	
0 Without moisture and temperature sensor	
W With moisture and temperature sensor	
Pressure Sensor	
0 Without on-screen inlet pressure display	
P With on-screen inlet pressure display	
Fluid Compatibility	
M Mineral oil and synthetic fluids	
N M type fluids & Subsea fluids and water based fluids (*)	
S M & N type fluids & phosphate esters and aggressive fluids (*)	
External Result	
1 With on board printer	
Design Reference	
0 Std option with full accessory kit and carry bag	
Country Plug Type	
1 UK, EU, US, AUS/CN	

(*) **N** and **S** version, moisture sensor (W) not available Available with Screen Protector. Consult your local branch for further details

BS110 & BS500

Bottle Samplers - For use with MP Filtri's portable CMP



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BS110 GENERAL INFORMATION

Description

Contamination Monitoring Products

Bottle Samplers

The 110 ml bottle samplers are suitable for off-line and laboratory applications where fluid sampling at point of use is inaccessible or impractical.

A fluid de-aeration facility comes as standard.

Features & Benefits

- Vacuum feature for deaeration of fluids
- Compatible with all portable MP Filtri Contamination Monitoring Products
- Strong Laboratory aesthetic
- Transparent outer for visual indication
- Full accessories kit included
- Includes carry case (BS110)
- Contact MP Filtri for use with fluids other than those stated



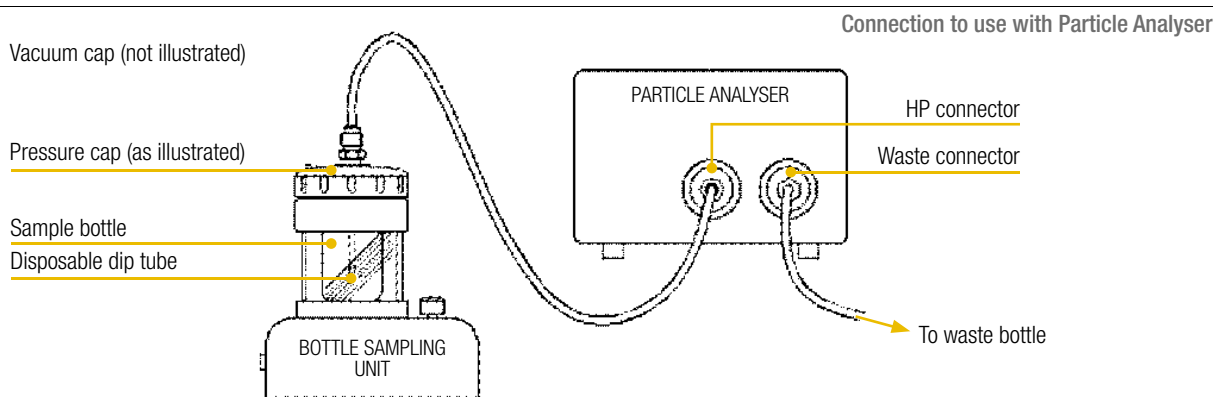
Front/right facing view



Open case
Front facing view



Front facing view



Technical data

Chamber Pressure

Minimum: from 0.61 bar to 0.81 bar / from 8.85 psi to 11.75 psi
 Maximum: 2.5 bar / 36.3 psi only

For use with....

These products can only be used with these portable Contamination Monitoring Products:
 LPA3 M versions
 CML4 M versions

Supply Voltage

12V, 2 amp

On/Off & Stop/Start signals

Switch (Manual Operation)

Hydraulic Hoses (External)

600x2 mm (23 5/8"x5/64") ID M16x2 microbore pressure hose

Flow Rate (ml/min)

Minimum: viscosity dependant
 Maximum: viscosity dependant

Visual Pressure Indicator

No

Viscosity

Minimum: 1 cSt
 Maximum: 400 cSt

Fluid Temperature

Minimum: viscosity dependant
 Maximum: 80 °C (176 °F) continuous

Ambient Temperature

From +10 °C to +55 °C (from 50 °F to +131 °F)

Pressure Gauge

No

Pressure Ranges

2.0 bar / 29 psi options

Outlet Pressure

Minimum: 1013 bar / 14.7 psi
 Maximum: 2.0 bar / 29 psi options

IP Rating

IP50

Fluid Compatibility / Corrosion Resistance

Industrial Hydrocarbon based fluids (typical)

Weight

7 kg (15.4 lb)

Dimensions

Width 130 mm (5 1/8")
 Height 212 mm (8 11/32")
 Depth 163 mm (6 27/64")

Power Consumption

24W

Wetted Parts (Internal)

Aluminium HE30, 303 Stainless Steel, Polyurethane, FPM, Acrylic

Installation

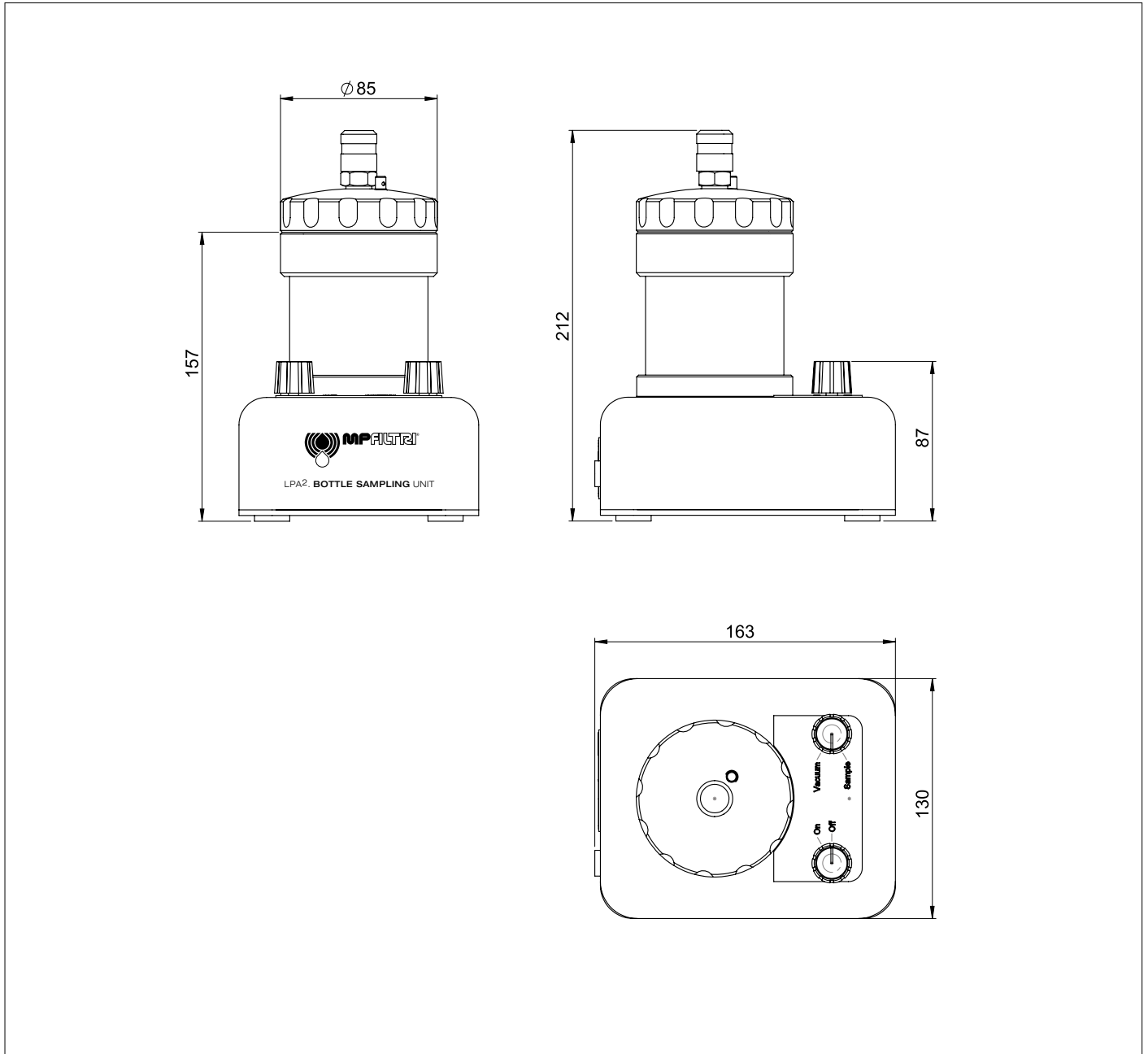
Indoor Use / Laboratory Use

Scope of Supply

- 1 x 110 ml Bottle Sampling unit
- 1 x Pressure cap
- 1 x Vacuum cap
- 1 x M16x2 microbore pressure hose, 600 mm (23 5/8") long
- 1 x 1L waste receptacle
- 1 x hand pump
- 1 x length of hose for hand pump
- 3 x 100 ml clear plastic bottles
- 1 x Digital copy of user guides/software/drivers
- 1 x Carry case

BS110 Bottle Samplers

Dimensions



Designation & Ordering code

BOTTLE SAMPLER BS110				
Series	BS110	110 ml fluid volume	Configuration example:	BS110 M 0 0
Fluid compatibility	M	Mineral oil and synthetic fluids		
Pressure rating	0	2.0 bar		
Pressure cylinder option	0	Acrylic cylinder assembly		

BS500 GENERAL INFORMATION

Description

Contamination Monitoring Products

Bottle Samplers

The 500 ml bottle samplers are suitable for off-line and laboratory applications where fluid sampling at point of use is inaccessible or impractical.

A fluid de-aeration facility comes as standard.

Features & Benefits

- Vacuum feature for de-aeration of fluids
- Compatible with all portable MP Filtri Contamination Monitoring Products
- Strong Laboratory aesthetic
- Transparent outer for visual indication
- Full accessories kit included
- Contact MP Filtri for use with fluids other than those stated



Front / Left facing view



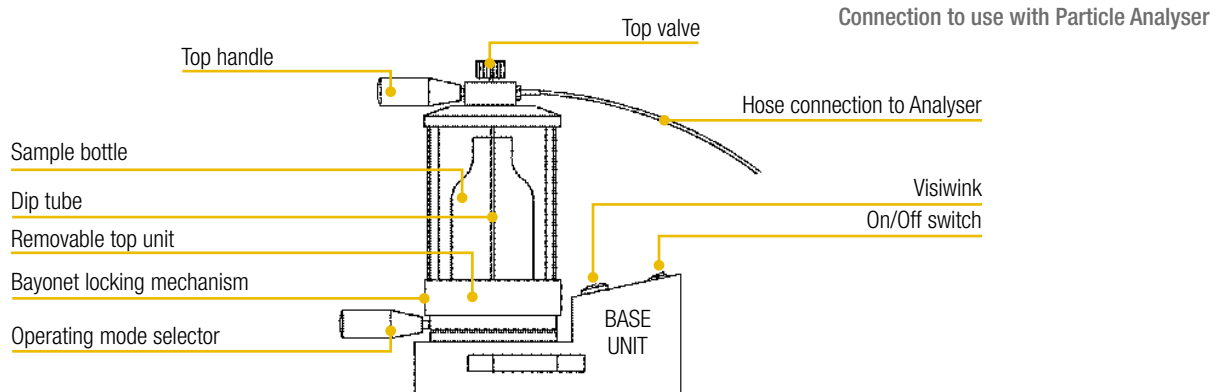
Front / Right facing view



Back / Right facing view



Back / Left facing view



Technical data

Chamber Pressure

Minimum: from 0.61 bar to 0.81 bar / from 8.85 psi to 11.75 psi
 Maximum: 2.5 bar / 36.3 psi (standard), 4.5 bar / 65.3 psi (high pressure)

For use with....

These products can only be used with these portable Contamination Monitoring Products:
 LPA3
 CML4

Supply Voltage

12V, 5 amp

On/Off & Stop/Start signals

Switch (Manual Operation)

Hydraulic Hoses (External)

600x2 mm (23 5/8"x5/64") ID M16x2 microbore pressure hose

Flow Rate (ml/min)

Minimum: viscosity dependant
 Maximum: viscosity dependant

Visual Pressure Indicator

Yes

Viscosity

Minimum: 1 cSt
 Maximum: Not greater than 400cSt (on 2.5 bar version)

Fluid Temperature

Viscosity dependant up to 80 °C (176 °F)

Ambient Temperature

From +10 °C to +55 °C (from 50 °F to +131 °F)

Pressure Gauge

Yes (only on 4.5 bar / 65.3 psi version)

Pressure Ranges

4.5 bar / 65.3 psi or 2.5 bar / 36.3 psi options

Outlet Pressure

Minimum: 1013 bar / 14.7 psi
 Maximum: Version dependant: 2.5 bar / 36.3 psi for O version
 4.5 bar / 65.3 psi for H version

IP Rating

IP50

Fluid Compatibility / Corrosion Resistance

Industrial, aerospace & off-shore control fluids (typical)

Weight

9 kg (19.8 lb)

Dimensions

Width 264 mm (10 25/64")
 Height 340 mm (13.4")
 Depth 350 mm (13.8")

Power Consumption

60W

Wetted Parts (Internal)

Aluminium 6082 T6, 303 Stainless Steel, 316 Stainless Steel.
 Seal & Cylinder material optional

Installation

Indoor Use / Laboratory Use

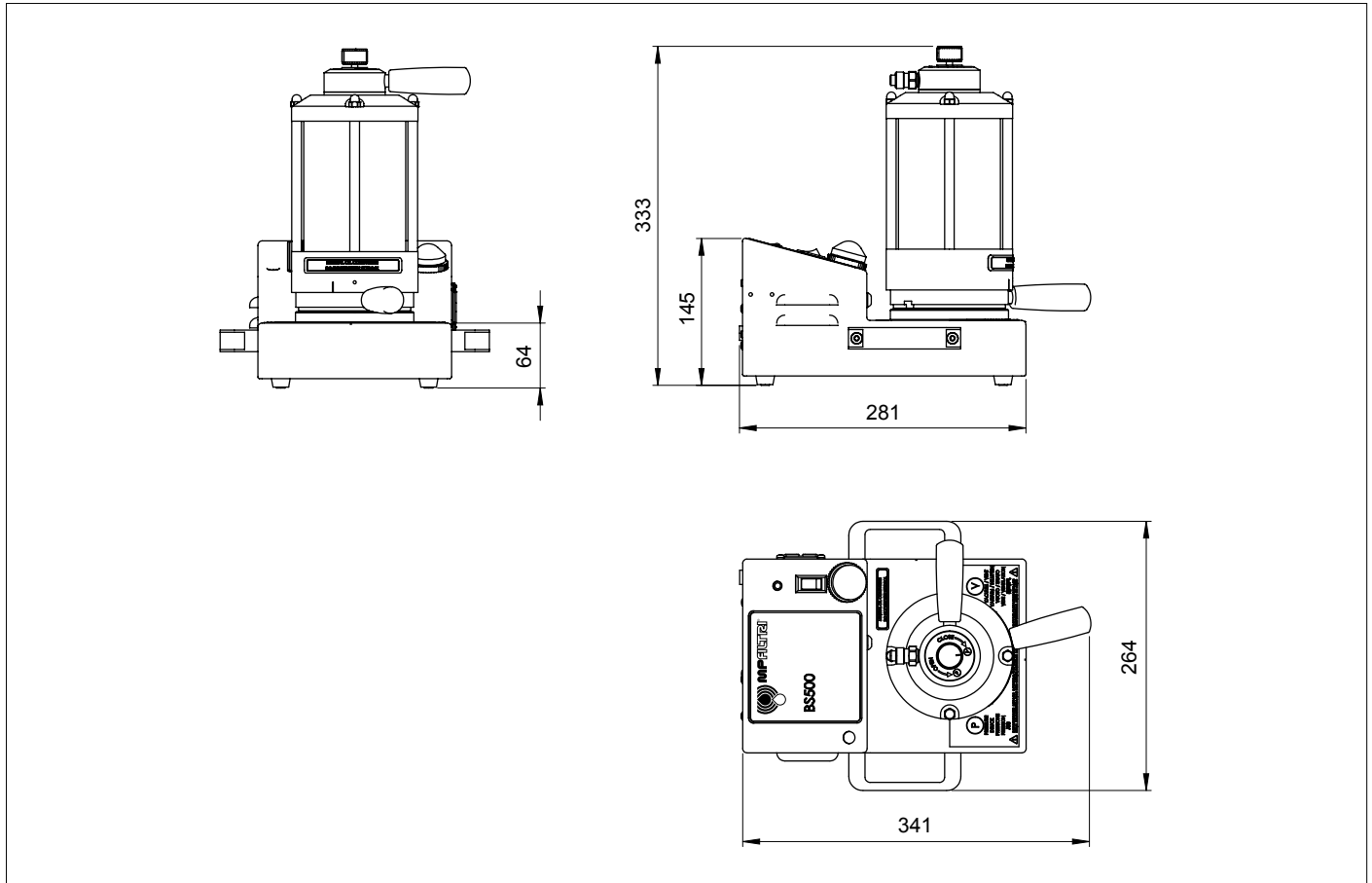
Scope of Supply

- 1 x 500 ml Bottle Sampling base unit (*)
- 1 x Top cap, pressure/vacuum chamber (*)
- 1 x M16x2 microbore pressure hose, 600 mm (23 5/8") long
- 1 x 19V power adapter; 1 x UK (Type G); 1 x US (Type B); 1 x EU (Type F); 1 x CN/AUS (Type I)
- 3 x 210 ml clear glass bottles
- 2 x 500 ml clear glass bottles (V version only)
- 1 x Digital copy of user guides/software/drivers

(*) Specific model will be as per ordered item

BS500 Bottle Samplers

Dimensions



Designation & Ordering code

BOTTLE SAMPLER BS500	
Series	Configuration example: BS500 V 0 0 UK
BS500	500 ml fluid volume
Fluid compatibility	
V	Mineral oil and synthetic fluids, Subsea and water based fluids
E	Phosphate ester and aggressive fluids
S	Phosphate ester and aggressive fluids, Mineral oil and synthetic fluids, Subsea and water based fluids
Pressure rating	
0	2.0 bar, standard option
H	4.0 bar, high pressure option (*)
Pressure cylinder option	
0	Acrylic cylinder assembly
S	Glass cylinder assembly (**)
Power adapter options	
1	UK (Type G)
2	EU (Type F)
3	US (Type A)
4	AUS/CN (Type I)

(*) = H version only available in BS500 V version

(**) = Glass version only available in BS500 E & S version



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FLUID SAMPLING

Bottles



At MP Filtri we offer a range of standard & ultra-clean glass bottles for your sampling needs:

100 ml, 210 ml & 500 ml Standard Bottles (not certified clean)

- 100 ml, available in amber glass or clear plastic varieties
- 210 ml, available in clear glass
- 500 ml, available in clear glass

100 ml & 210 ml Ultra Clean Glass Bottles

- Certified to ISO 3722 Hydraulic fluid power
- Fluid sample containers
- Qualifying and controlling cleaning methods
NAS 0 to NAS 00/ AS4059E Table 1 Class 0

Glass Colour

Clear glass provides better visibility of the sample, making de-aeration easier to monitor. Amber glass may reduce the effect of UV light on the sample, reducing the risk of microbial growth and FAME (fatty acid methyl esters) which can be significant in fuel analysis.

DEAERATION & CLEANLINESS

Samples should be shaken vigorously before use however this causes the sample to become aerated which means leaving it to settle.

The BS500 & BS110 de-aeration facility reduces this settling time, allowing more samples to be analysed thereby increasing productivity.



SAMPLING FACTORS

Below are some of the factors which should be considered when taking a sample. For guidance on sampling procedures refer to ISO 4021 & the product user guide.

- Location of the take-off point
- Homogeneity of the sample
- Local area cleanliness
- Bottle cleanliness
- Equipment cleanliness
- Flushing / Cleaning fluid cleanliness
- Operator clothing & cleanliness
- Air cleanliness

 100 µm Dust particle (dead skin)	 40 µm Pollen	 24 µm White blood cell	 10 µm Dust mite faeces	 8 µm Red blood cell	 3 µm E-coli bacteria
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FLUID SAMPLING

Sample pumps

Hand pump



For systems where there is no practical access to a test point, a sample may need to be taken from an un-pressurized reservoir.

For this occurrence we offer a simple **hand pump device** with both off-line sampling products which provides for clean and efficient sampling.

The design ensures that only the hose is in contact with the sample fluid, providing greater confidence in analysis, and we provide a range of adapters to suit our various bottle sizes.

The pump can be fully dismantled for cleaning and the sample hose plus main seal can be replaced to further improve clean practise.

Ultra clean bottles cleaned to and in accordance with DIN/ISO 5884.

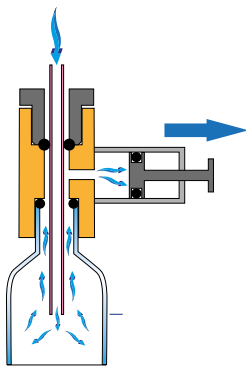
Ultra clean bottles cleanliness verified to ISO 3722.

NAS 1638 cleanliness certification of between Class 00 and Class 0.

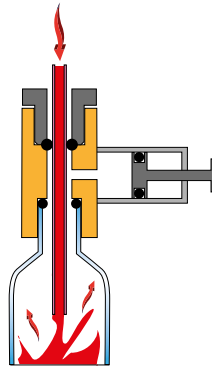
The pump and its associated parts are also available as a spares. See spares list page 88-89

Descriptions	Part Code	Dimensions (mm)
100 ml - Ultra Clean Bottle (Certified)	P.02	Ø 50x92
100 ml - Standard Bottle Brown Glass	BS0016	Ø 50x91
100 ml - Clear Plastic Bottle	7.111	Ø 51x92
100 ml - Standard Bottle Tray (72 bottles)	BS0072	N/A
210 ml - Ultra Clean Bottle (Certified)	P.03	Ø 65x130
210 ml - Standard Bottle	8.054	Ø 65x122
500 ml - Standard Bottle	8.328	Ø 82x152

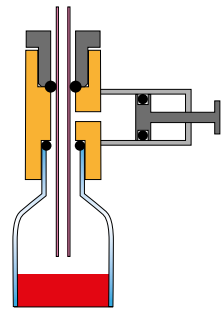
How it works



Priming the pump causes a vacuum inside the bottle, syphoning fluid from the reservoir.



The design of the pump means that only the hose is in contact with the fluid protecting the quality of the sample.



The sample level should always finish below the level of the hose. The bottle can now be removed and capped.

Electric vacuum pump



MP Filtri's Patch Imaging Kit is available with an optional electric pump (spares number: 444.053000). The pump is available with power options for the UK, EU, US, AUS/CN.



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