CONTAMINATION MONITORING PRODUCTS

INSTALLATION, SERVICE AND MAINTENANCE MANUAL

BS110-BS500

BOTTLE SAMPLERS

EN

PASSION TO PERFORM

MPFILTRI®

Scope of Supply BS110

- 1 x 110ml Bottle Sampling unit
- 1 x Pressure cap
- 1 x Vacuum cap
- 1 x M16x2 microbore pressure hose, 600mm long
- 1 x 1L waste receptacle
- 1 x 12V, 2A power adapter c/w UK/EU/US/AUS/CN heads
- 1 x pack of disposable dip tubes
- 1 x Digital copy of user guides/software/drivers
- 1 x length of hose for hand pump
- 3 x 100ml clear plastic bottles
- 1 x Carry case

Scope of Supply BS500

- 1 x 500ml Bottle Sampling base unit (*)
- 1 x Top cap, pressure/vacuum chamber (*)
- 1 x M16x2 microbore pressure hose, 600mm long
- 1 x Power adaptor
- 1 x UK/EU/US/AUS/CN power lead*
- 3 x 210ml clear glass bottles
- 2 x 500ml clear glass bottles (N/A for S version)
- 1 x Digital copy of user guides/software/drivers

(*) Specific model will be as per ordered item

Do not use the contamination monitoring product power supply with the 500ml bottle sampling unit, as it has an inadequate power rating.

PRODUCT OVERVIEW

BS110 / BS500 - Offline Bottle sampling products

MP Filtri bottle samplers are suitable for offline and laboratory applications where fluid sampling at point of use is inaccessible or impractical. A fluid de-aeration facility comes as standard.

Features & Benefits

- Compatible with all portable MP Filtri Contaminaton Monitoring Products
- Strong laboratory aesthetic
- Transparent bottle chamber for visual indication
- BS110: Designed specifically for portable onsite testing - supplied with hand pump for reservoir sampling
- BS500: Designed for laboratory applications - able to sample large volumes and/or low viscosity fluids, including diesel fuel
- Full accessories kit included
- Carry case included (BS110)

BS500 BS110

DECLARATION OF CONFORMITY

CE Declaration of Conformity

The products included in this Declaration are all variants of the following:

- The products included in this Declaration are all variants of the following:
- Standard (2.5bar) or High Pressure (4.5bar)
- Compatible with mineral oil/ synthetic fluids, offshore fluids, phosphate esters (inc. aerospace versions)
- Glass* or Acrylic Chamber
- All power supply options

* S Version only

Product Manufacturer:
MP Filtri UK Ltd
Keep House
Vale Park
Evesham
Worcestershire
WR11 1LB
01386 258500
sales-uk@mpfiltri.com

The products described are in conformity with the following directives:

2014/30/EU Electromagnetic Conformity

Certification Testing that has been carried out is in accordance with:

- DEF STAN 00-35 Part 3 issue 4 Environmental Test Methods
- BS EN 60068 range of standards covering environmental conditions
- BS EN 60529: 1992 + A2:2013 Degrees of Protection provided by enclosures (IP Code)
- BS EN 62262:2002 Degrees of Protection Provided for Electrical Equipment against External Mechanical Impacts (IK Code)
- BS EN 60721-3-4: 1995 Part 3: Classification of Groups of Environmental Parameters and their severities, Section 3.4

Date: September 2024

Signed:
Kris Perks (Engineering Director) on behalf of MP Filtri UK Ltd

ENGLISH

TABLE OF CONTENTS

1. General warnings and information for the operator

1.1 General safety warnings

Do not operate, maintain or carry out any procedure before reading this manual. Any individual operating the unit shall wear the following Personal Protective Equipment:

- Protective eyewear
- Safety shoes
- Gloves
- Overalls (or other suitable protective clothing)

Before carrying out any machine installation procedures and/or before use, one should scrupulously follow the instructions listed in this manual. Moreover, it is necessary to comply with the current regulations related to occupational accident prevention and safety in the workplace.

Notices aimed at the prevention of health hazards for personnel operating the machine are highlighted in this document with signs having the following meaning:

It relates to important information concerning the product, its use or part of this documentation to which special attention must be paid

NOTE

It means that failure to comply with the relevant safety regulations may result in mild injury or property damage.

CAUTION

It means that failure to comply with the relevant safety regulations may result in death, serious injury or serious property damage.

DANGER

Failure to comply with the relevant safety regulations may result in death, serious injury or serious property damage.

GENERAL WARNINGS

To allow rapid identification of the employees who must read this manual, definitions have been used with the following meaning:

OPERATOR	This is any individual whose task is to use the machine for production purposes. The operator is aware of all the measures taken by the machine manufacturer in order to eliminate any source of injury risk in the workplace and takes into account the operational constraints.
PERSONNEL INVOLVED IN SLINGING AND HOISTING OPERATIONS	This is any individual whose task is to handle the machine or parts of it. Personnel involved in slinging and hoisting operations are aware of the issues regarding the safe transfer of machinery or parts of it and, therefore, uses appropriate lifting equipment, following the instructions provided by the product manufacturer.
MACHINE SETTER	This is any individual whose task is to set up the machine for its operation. The machine setter is aware of the measures taken to eliminate all sources of injury risks in the workplace and takes into account the operational constraints. The machine setter takes all the appropriate precautions in order to operate in utmost safety conditions.
MAINTENANCE TECHNICIAN	This is any individual whose task is to carry out maintenance activities on the machine. The maintenance technician is aware of the possible danger situations that may arise and takes the appropriate precautions in order to eliminate the risks of accidents in the workplace.
ELECTRICIAN	This is any individual whose task is to carry out maintenance activities on the electrical wiring of the machine. The electrician is aware of the possible danger situations that may arise and takes the appropriate precautions in order to eliminate the risks of accidents in the workplace.

The unit shall be taken out of service and/or dismantled in accordance with the current regulations in force in the country where the machinery is installed

CAUTION

1.2 Dangers and hazards that cannot be eliminated

- Risk of hydraulic injection injury
- Burn risk because of high temperatures
- Accidental oil leaks with consequent risk of slipping
- Hose breakage and resulting lubricant loss
- With oil temperatures exceeding 40/45 °C (100/115 °F), it is vital to be extremely careful when handling the unit. Avoid direct contact with hot oil.

AFTER USE - ALL EQUIPMENT SHOULD BE ALLOWED TO COOL PRIOR TO HANDLING

1.3 Personal protective equipment

When operating the unit, personnel must be wearing safety shoes, gloves and goggles/safety glasses. In general, the PPEs to be used according to the activities on the machinery are listed in the following table:

ACTIVITY	PPE
Ordinary operation	Shoes, gloves, goggles, overall
Planned maintenance	Shoes, gloves, goggles, overall

1.4 Precautions related to product handling of the Liquid Crystal Touchscreen display

- If the LCD panel breaks, be careful not to get the liquid crystal to touch your skin.
- If the liquid crystal touches your skin or clothes, please wash it off immediately by using soap and water
- Avoid any strong mechanical shock which can break the glass.

2. Transportation and Storage

2.1 Transportation and handling conditions

The unit is shipped in a cardboard box with appropriate protective packaging and these should be recycled accordingly where possible. The unit is shipped in a cardboard box, encased in polyurethane foam.
The packed weight of the BS110 unit and accessories is 10 kg; The packed weight of the BS500 unit and accessories is 13 kg.

2.2 Storage

The unit should be stored in a suitable location away from the production area when not in use. The unit should be stored with the caps provided on the ports. This location should not impede any other production or personnel.

3. Warranty, Limitations and Disclaimers

MP Filtri warrants that the products that it manufactures and sells will be free from defects in material, workmanship & performance for a period of 12 months from the date of shipment.

Hardware/Firmware

Should the hardware prove defective during the warranty period, MP Filtri, at its discretion, will either repair the defective product or replace it with an equivalent product in exchange for the defective unit without charge for parts, labour, carriage and insurance.

Software

MP Filtri warrants that software will operate substantially in accordance with its functional specification for 12 months from date of shipment provided that the integrity of the operating environment has not been compromised through misuse, inappropriate handling, abnormal operating conditions, neglect or damage (unintentional or otherwise) or the introduction of third party product (software or hardware) that in any way conflicts with the MP Filtri product.

Eligibility

This warranty extends to the original purchaser only or to the end-user client of a MP Filtri authorised affiliate.

How to obtain service?

To obtain service under the terms of this warranty, the customer is required to notify MP Filtri before the expiration of the warranty period and to return the item in accordance with MP Filtri product return policy. Any product returned for warranty repair must be accompanied by a full fault report specifying the symptoms and the conditions under which the fault occurs. Should MP Filtri incur additional cost as a result of a failure to complete the appropriate paperwork, an administrative charge may be levied.

Exclusions

This warranty shall not apply to any defect, failure or damage caused by improper use or improper or inadequate care. MP Filtri shall not be obligated to provide service under this warranty if:

a) Damage has been caused by a failure to make a full and proper inspection of the product (as described by the documentation enclosed with the product at the time of shipment) on initial receipt of the product following shipment;

b) Damage has been caused by the attempts of individuals, other than MP Filtri staff to repair or service the product;

c) Damage has been caused by the improper use or a connection with incompatible equipment or product including software applications.

Charges

Under cover of this warranty, MP Filtri will pay the carriage and insurance charges for the shipment of defective product back to site of manufacture and for its return to the client's original site of despatch except when:
a) MP Filtri product return policy has not been followed.

b) Product failure is caused by any of the exclusions described above, when the customer will be liable for the full cost of the repair (parts and labour) plus all carriage and insurance costs to and from MP Filtri premises.

c) The product is damaged in transit and a contributory cause is inadequate packaging. It is the customer's responsibility to ensure that the packaging used to return equipment to MP Filtri is the same, or has equivalent protective qualities, to that used to ship the product to the customer in the first instance. Any damage resulting from the use of inadequate packaging will nullify MP Filtri

obligations under this warranty. Should the customer's product be damaged in transit following a repair at MP Filtri site, a full photographic record of the damage must be obtained (packaging and the product) to support any claim for recompense. Failure to present this evidence may limit MP Filtri obligations under this warranty.

THIS WARRANTY IS GIVEN BY MP FILTRI IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY, NON INFRINGEMENT OR FITNESS FOR A PARTICULAR PURPOSE. MP FILTRI LTD SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES (INCLUDING LOSS OF DATA), WE SPECIFICALLY DISCLAIM ANY AND ALL WARRANTIES TO CUSTOMERS OF THE CUSTOMER. THE CUSTOMER'S SOLE REMEDY FOR ANY BREACH OF WARRANTY IS THE REPAIR OR REPLACEMENT, AT MP FILTRI DISCRETION, OF THE FAILED PRODUCT.

MP Filtri Ltd maintains a policy of product improvement and reserves the right to modify the specifications without prior notice.

3.1 Download Area

Please scan the QR codes below to get updated electronic version of the related document.

CONTAMINATION MONITORING PRODUCTS General catalogue

Download PDF

Scan or click me!

CMP View Software Quick Guide

Select your language and download PDF

Scan or click me!

CMP View Software Software multilingual

Download Software

Scan or click me!

4.Technical Specification

4.1 Performance

Indicator	Visiwink pressure indicator (BS500 only)
Pressure Output	Standard Version 2.5bar High Pressure Version 4.5bar (BS500 only)
Vacuum Output	18inHg minimum

4.2 Electrical interface

Supply Voltage	12V DC
Supply	BS110: 2.5bar (36 PSI) version: 5.0A maximum current BS500: 2.5bar (36 PSI)version: 5.0A maximum current; 4.5bar (65 PSI) version: 8.5A maximum current

4.3 Physical attributes

Dimensions - BS110	212mm (8.3 inches) (H) x 130mm (5.1 inches) (W) x 163mm (6.4 inches) (D)
Dimensions - BS500	340mm (13.4 inches) (H) x 264mm (10.4 inches) (W) x 350mm (13.8 inches) (D)
Net Weight	BS110: 7 kg (15.4 lbs) BS500: 9 kg (19.8 lbs)
Hydraulic connection	M16x2 hydraulic connection
Seal Material	M/N Version Viton® (contact MP Filtri for any fluids that are incompatible with Viton seals S Version - Perflouroelastomer (BS500 only) E Version - EPDM (BS500 Only)

TECHNICAL SPECIFICATION

4.4 Fluid characteristics

Fluid compatibility	V version - mineral oils, synthetic fluids and diesels E version – Aerospace phosphate esters, Skydrol® S version – Aerospace phosphate esters, Skydrol® and V version fluids.
Viscosity	≤ 400 cSt
Fluid temperature	From 0°C to +40°C (+32° F to +104°F)

4.5 Environment

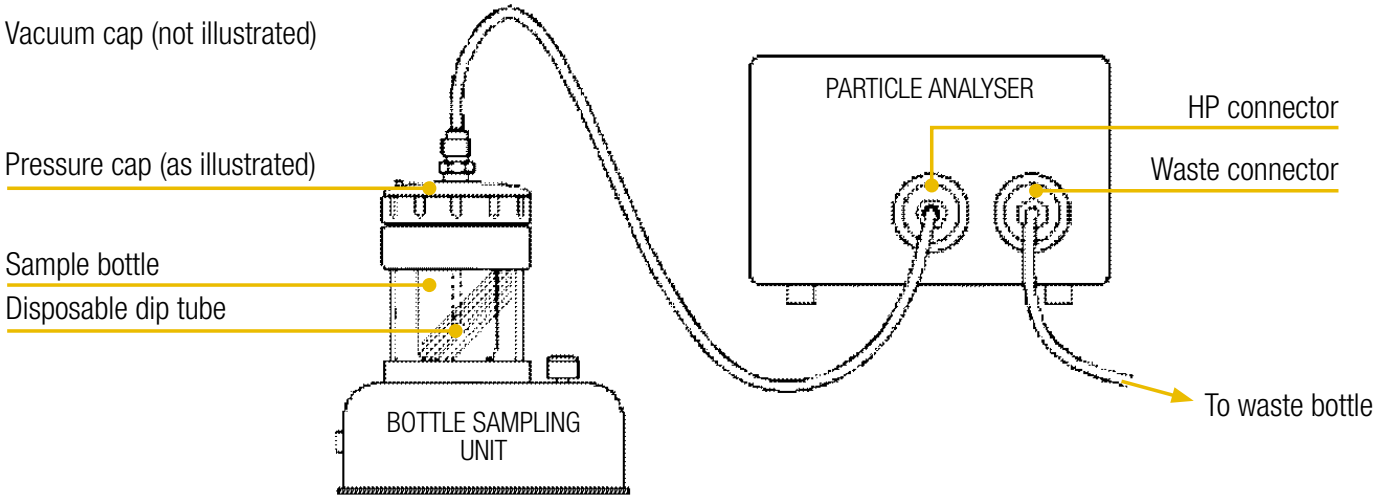
Ambient working temperature	From -10°C to +80°C (+14°F to +176°F)

4.6 Wetted parts

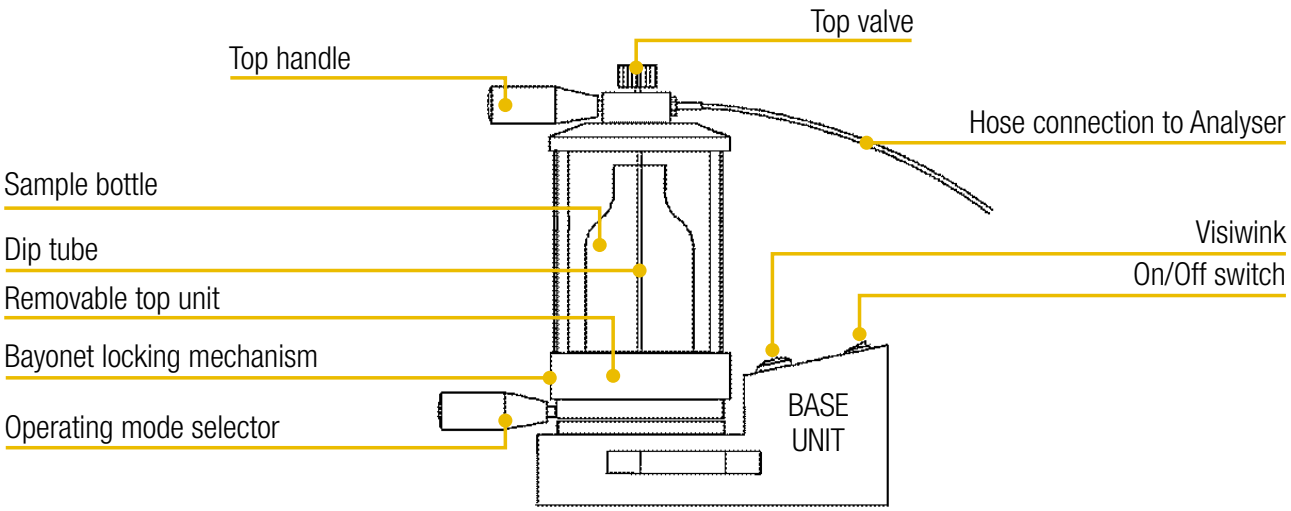
Aluminium 6082 T6
303 Stainless Steel
316 Stainless Steel
Seal & Cylinder material optional

4.7 Connection to use with Particle Analyser

BS110

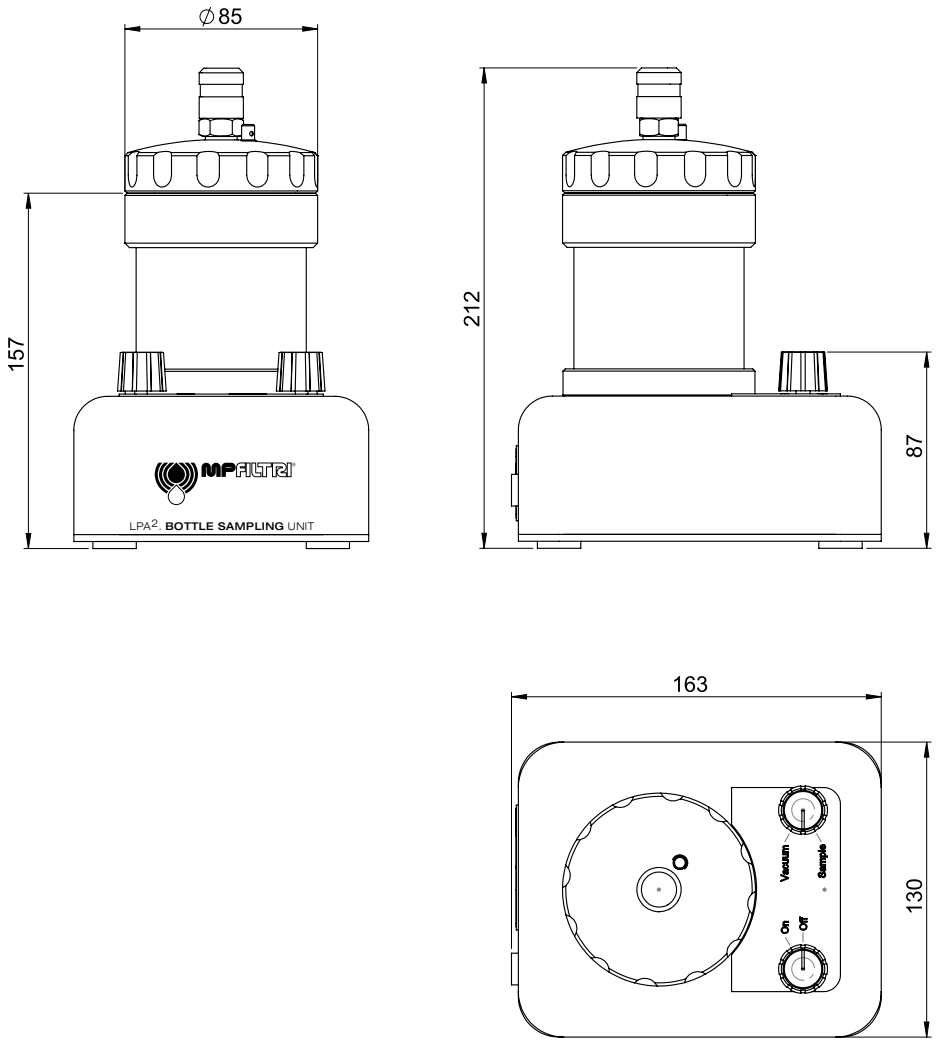


BS500



TECHNICAL SPECIFICATION

4.8 Dimensions & Ordering code - BS110



BOTTLE SAMPLER BS110

Configuration example: BS110 | M | 0 | 0

Series

BS110 110 ml fluid volume

Fluid compatibility

M Mineral oil and synthetic fluids

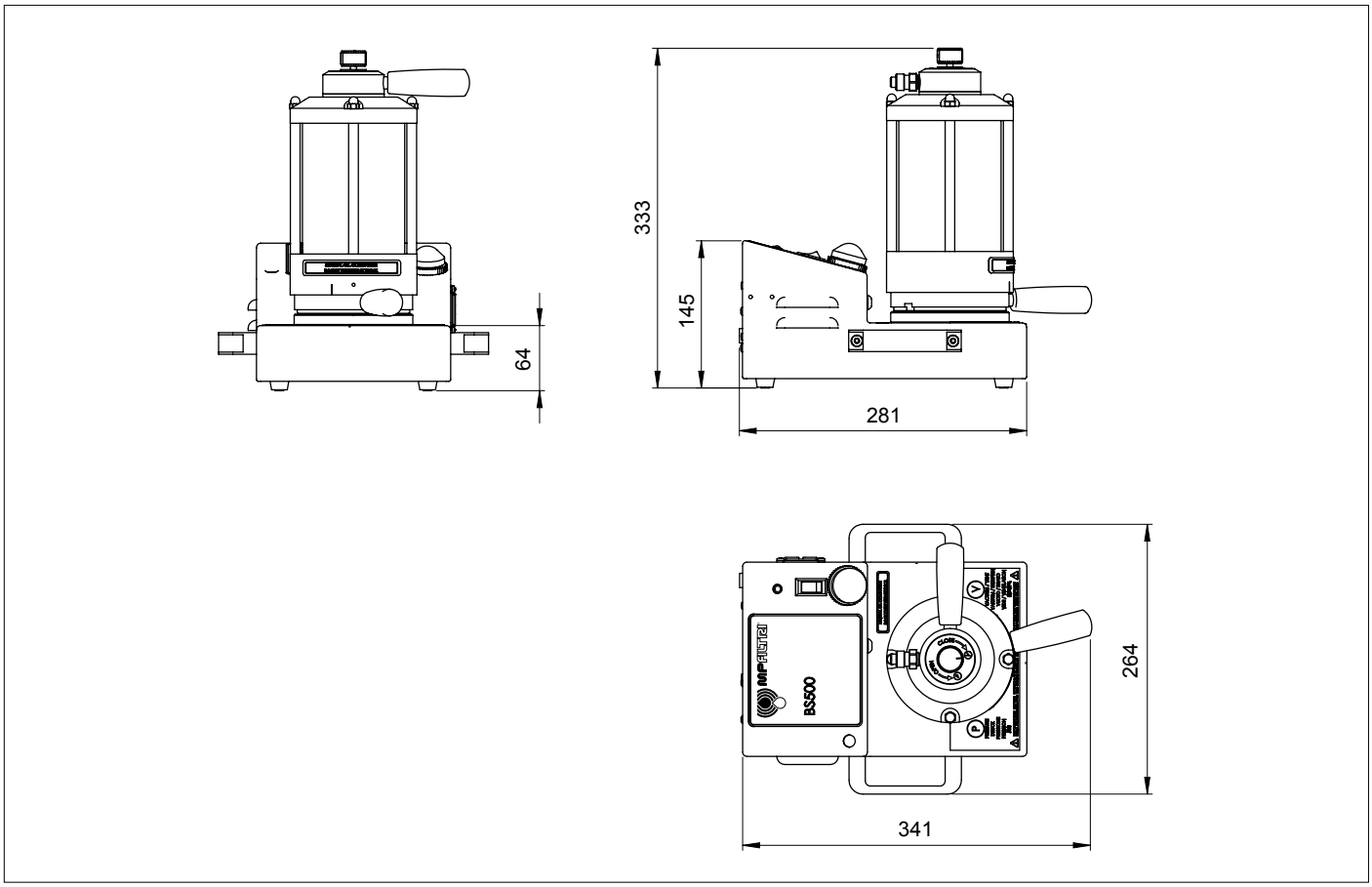
Pressure rating

0 2.0 bar

Pressure cylinder option

0 Acrylic cylinder assembly

5.9 Dimensions & Ordering code - BS500



BOTTLE SAMPLER BS500

Configuration example: BS500 | V | 0 | 0 | UK

Series

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 assenbly (**)

Power adapter options

UK UK power adaptor

EU US power adaptor

US EU power adaptor

AUS/CN AUS/CN Australasia power adaptor

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

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

5. Product Installation and General Operation

5.1 Preliminary Operations

5.1.1 Internal Cleaning

Take care when cleaning the transparent cylinder, areas around the seals and surrounding metal work.
DO NOT clean the Bottle Sampler with Acetone or similar solvents that are not compatible with the seals.
The recommended cleaning fluid for internal flushing is listed on the website.

5.1.2 Pressurisation and Opening

Always make sure that the top chamber is fully engaged before switching on the product.
Always make sure to vent the product of pressure prior to opening or restarting the pump (check that the Visiwink is green)

Turning on the pump with the unit pressurized can reduce the performance of the product and/or cause irreparable damage

CAUTION

5.1.3 Bottle Cleanliness and Verification

To reduce the risk of your sample container affecting the contamination reading of your fluid sample, where possible try to use bottles which have been cleaned and verified to the relevant ISO standards, these include but are not limited to:

DIN ISO 3722	Hydraulic Fluid Power, fluid sample containers, qualifying & controlling cleaning methods
DIN ISO 5884	Fluid systems and components, methods for system sampling and measuring the solid particle contamination of hydraulic fluids
US FED STD 209E	Cleanroom standards, Class 100.000 minimum
ISO 14644-1	Cleanroom standards, ISO 8 minimum

5.1.4 How to clean and re-use your own bottles

For definitive guidance on the cleaning and verification of glassware refer to ISO3722 and ISO5884. Below are some steps based on the above standards. For use with Hydrocarbon/ Synthetic/Ester Fluid sampling:

1. Fill the container with 50ml acetone, replace the cap, shake vigorously and drain to a waste container.
2. Fill to 50% of the container volume with 0.4µm filtered Iso-propyl alcohol. Replace cap, shake vigorously and drain to a waste container.
3. Fill to 50% of the container volume with 0.4µm filtered Petroleum Ether. Replace cap, shake vigorously and drain to a waste container.
4. Loosely replace the cap and do not remove until you are ready to take your next sample. (This allows any trace amounts of Petroleum Ether to evaporate from the bottle and reduces the risk of any air-borne particles entering the container.)
5. Once complete, the fluid sample should be disposed of correctly and responsibly in line with local and international regulations.

For use with Water Based/Off-shore Fluid sampling:

1. Fill the container with 50ml Iso-propyl alcohol, replace the cap, shake vigorously and drain to a waste container.
2. Fill to 50% of the container volume with 0.4µm filtered De-ionised water. Replace cap, shake vigorously and drain to a waste container.
3. Fill to 50% of the container volume with 0.4µm filtered De-ionised water. Replace cap, shake vigorously and drain to a waste container.
4. Loosely replace the cap and do not remove until you are ready to take your next sample. (This reduces the risk of any airborne particles entering the container.)
5. Once complete, the fluid sample should be disposed of correctly and responsibly in line with local and international regulations.

5.1.5 Fluid Sampling/ Hand Pump

We always recommend using our hand pump, clean bottle and hose method which limits ingress of contamination. Using the hand pump means that the sample hose can be cleaned or replaced between samples, and the bottle always remains isolated from the surrounding environment.

Hand pump and hose are available as spares via MP Filtri UK. Please note, this is only currently available for 100ml or 200ml size bottles.

5.2 General Operation

Optional Equipment:
Course Screen Filter to protect the contamination monitoring product from fluids that have particularly high contamination that could block the flow path

5.2.1 Physical Checks

- Oil leaks on and around the unit
- Fatigue in hoses that might then leak when under system pressure
- There is no damage to any of the components
- All accessories are present and correct
- The operator has read through the manual

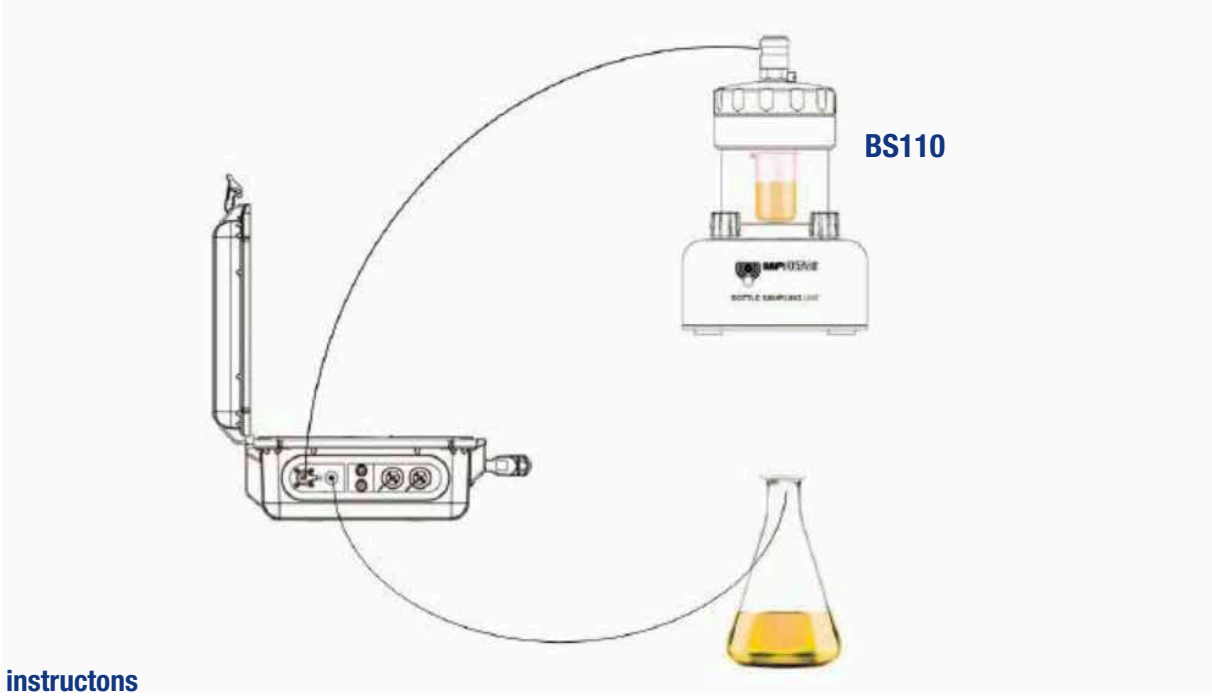
5.2.2 Flushing and Flushing Fluids

Prior to performing a test on the contamination monitoring product with a bottle sampler both units should be flushed in series with a suitable fluid to remove any traces of previous samples.
For guidance on flushing fluids see the document on the CD supplied with the contamination monitoring product.

Do not clean the Bottle Samper with ACETONE or similar solvents that are not compatible with seals.
The recommended cleaning fluid for internal flushing is listed on mpfiltri.com

⚠ *CAUTION*

PRODUCT INSTALLATION

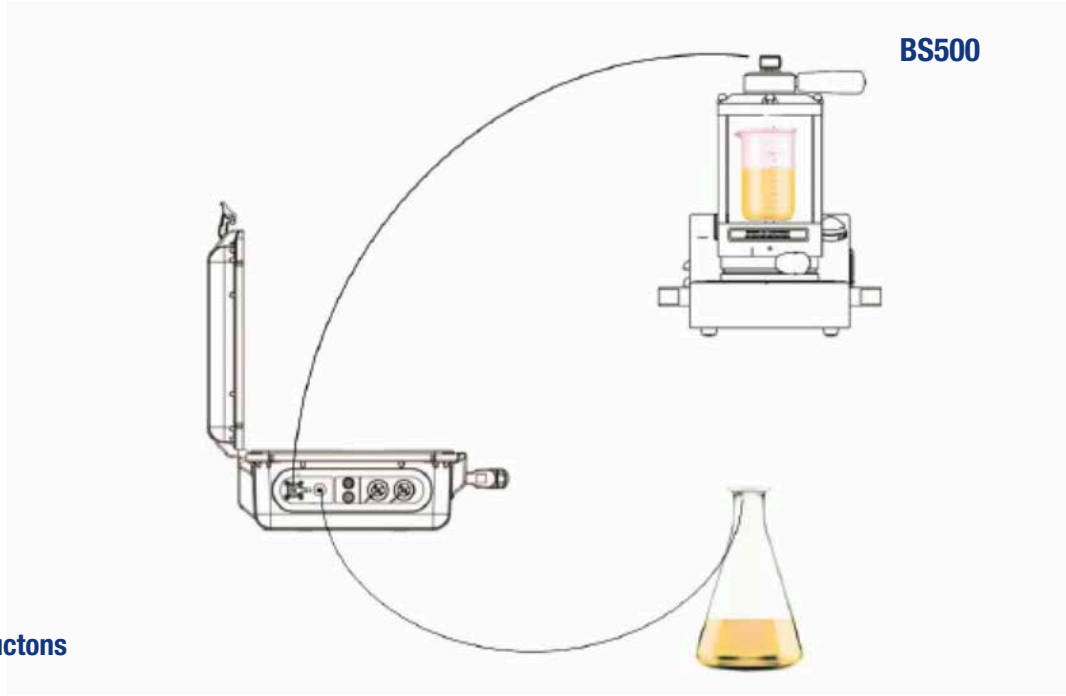


BS110 - instructons

1. Insert waste fluid hose into the waste bottle provided.
2. Connect waste fluid hose to contamination monitoring product (waste connector).
3. Connect microbore pressure hose (600mm) to the contamination monitoring product.
4. Connect microbore pressure hose (600mm) to the bottle sampler connection.
5. Connect the power supply to bottle sampler, using power adaptor supplied.
6. Switch ON the contamination monitoring product.
7. Select Short Test Sampling option.
8. Enter test details, for more information refer to the contamination monitoring product user guide.
9. Remove the top chamber by rotating anti clockwise, until it disengages and then lift to remove.
10. Place a bottle with minimum 80ml of flushing fluid onto the base unit.
11. Replace the pressure cap
12. Turn the selector handle to Pressure (sample)
13. Switch on the BS110.
14. The pressure inside the chamber will slowly increase to around 2.5 bar (36 PSI)
15. Once the BS110 stabilises, this takes about 30 seconds, press flush button on the contamination monitoring product. This is approximately 30 seconds after the unit is switched on.
16. Press the start button on the contamination monitoring product once about half the fluid has flushed from the bottle. This will start a short test which will purge the contamination monitoring product.
17. Once the test is complete press the flush button until all the fluid has flushed through, if the fluid coming from the waste is clear the contamination monitoring product and bottle sampler are ready for testing. If the fluid is not clear repeat the flushing process.
18. Turn off the bottle sampler.
19. Select Triple or Bottle Test Sampling option on the contamination monitoring product.
20. Draw off a sample of oil (80 ml. minimum) from the system into the bottle provided. If this is impractical then use the hand pump, clean bottle and hose provided to draw off a sample of fluid.

Please ensure that the pump and hose are cleaned with an appropriate filtered solvent (i.e. Iso-propyl alcohol) prior to the sample being taken. Sample bottles and associated products are to be cleaned in accordance with the instructions in section 6

NOTE



BS500 - instructons

1. Insert waste fluid hose into the waste bottle provided.
2. Connect waste fluid hose to contamination monitoring product (waste connector).
3. Connect microbore pressure hose (600mm) to the contamination monitoring product.
4. Connect microbore pressure hose (600mm) to the bottle sampler connection.
5. Connect the power supply to bottle sampler, using power adaptor supplied.
6. Switch ON the contamination monitoring product.
7. Select Short Test Sampling option.
8. Enter test details, for more information refer to the contamination monitoring product user guide.
9. Remove the top chamber by rotating anti clockwise, until it disengages and then lift to remove.
10. Place a bottle with minimum 200ml of flushing fluid onto the base unit.
11. Replace the top chamber. The silver spot on the top chamber should be aligned with the centre of the smallest groove. The top chamber can then be lowered and reengaged. Holding both handles, turn the chamber in a clockwise direction to engage the locking mechanism (buttress thread). Note: the silver spot should be in line with the centre line of the handle of the base unit at a minimum.
12. Turn the selector handle to Pressure, towards the red disc P.
13. Turn the top valve anti-clockwise to the open position, towards the P.
14. Switch on the BS500.
15. The pressure inside the chamber will slowly increase and the Visiwink will turn red.
16. Once the BS500 stabilises, this takes about 30 seconds, press flush button on the contamination monitoring product. This is approximately 30 seconds after the unit is switched on.
17. Press the start button on the contamination monitoring product once about half the fluid has flushed from the bottle. This will start a short test which will purge the contamination monitoring product.
18. Once the test is complete press the flush button until all the fluid has flushed through, if the fluid coming from the waste is clear the contamination monitoring product and bottle sampler are ready for testing. If the fluid is not clear repeat the flushing process.
19. Turn off the bottle sampler.
20. Turn the selector handle to Vacuum, towards the yellow disc with V. This will release the pressure in the chamber.
21. Select Triple or Bottle Test Sampling option on the contamination monitoring product.
22. Draw off a sample of oil (150 ml. minimum) from the system into the bottle provided. If this is impractical then use the hand pump, clean bottle and hose provided to draw off a sample of fluid.

PRODUCT INSTALLATION

Please ensure that the pump and hose are cleaned with an appropriate filtered solvent (i.e. Iso-propyl alcohol) prior to the sample being taken. Sample bottles and associated products are to be cleaned in accordance with the instructions in section 6

NOTE

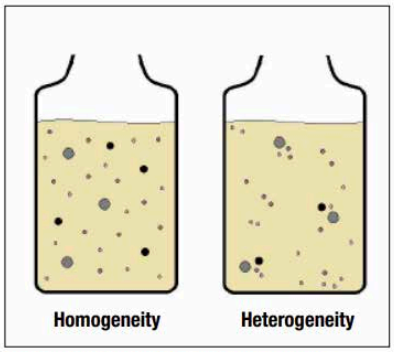
5.2.3 De-aeration

It is important when analysing samples for the particles to be evenly distributed within the sample volume. This is achieved by agitating the sample.

This improves the accuracy of readings from the contamination monitoring products as particles do not settle in the bottom of the bottle due to gravity.

This also causes aeration in the sample which can interfere with the sensitivity of the monitor.

The bottle sampler creates a small vacuum within the chamber. Over a short period of time, depending on the viscosity, the air bubbles work their way out of the sample.



Contamination distribution in a sample

BS110 Deaeration process

1. Agitate sample for minimum of one minute, we would always recommend using a paint shaker, on the highest frequency, to agitate the sample. If a paint shaker is not available, we would recommend 2-3 minutes by hand with random direction movements.
2. Remove the pressure cap from the bottle sampler
3. Place the sample bottle into the bottle sampler.

DO NOT pour fluid sample directly into the chamber.

CAUTION

4. Fit the vacuum cap onto the bottle sampler
5. Turn the right-hand dial so that the vacuum is selected

Note: The intermediate position between vacuum and sample performs no function

6. Switch on the bottle campling unit by turning the dial to ON
7. Leave running for several minutes, until all air bubbles have been removed from the fluid sample.

Note: visual checks should be made to prevent overflow of the fluid from the sample bottle. Release the vacuum (turn unit off or right hand actuator to intermediate position). Damage to unit may occur should this not be carried out.

8. Switch off the Bottle Sampler - this will automatically vent the chamber to atmosphere

Always switch the Bottle Sampler to off before turning the vacuum / sampling button

BS500 Deaeration process

1. Agitate sample for minimum 3 minutes, we would always recommend using a paint shaker, on the highest frequency, to agitate the sample.
If a paint shaker is not available, we would recommend 4 to 5 minutes by hand with random direction movements.
2. Remove the top chamber from the base of the bottle sampler.
3. Place the sample bottle into the bottle sampler.

DO NOT pour fluid sample directly into the chamber.

⚠ CAUTION

4. Replace the top chamber. The silver spot on the top chamber should be aligned with the centre of the smallest groove. The top chamber can then be lowered, and the top should be lined up with the silver line between the two lines on the base.
5. Screw top valve clockwise until slight resistance is felt, to close valve.
6. Turn the selector handle to Vacuum, the position nearest the yellow disc marked V.
7. Switch ON the bottle sampling unit and leave running for several minutes,until all air bubbles have been removed from the fluid sample.

It may be necessary to vent the chamber on occasion to stop spill over due to foaming.

⚠ CAUTION

This is done by turning the selector handle to Pressure, the position nearest the red disc marked P.

5.2.4 Operating with Contamination Monitoring Product

BS110 sampling method

1. Fit a disposal dip tube into the pressure cap and for the cap on the Bottle Sampler
2. Connect the test hose to the bottle sampler connection
3. Connect the other end of the test hose to the contamination monitor
4. Switch on the contamination monitor and select ‘Triple’ or the ‘Bottle Sampler’ option
5. Enter test details. For more information please refer to the contamination monitor user manual
6. Rotate the function dial to the sample position
7. Switch on the bottle sampler
8. Flush the contamination monitor for a minimum of 10 seconds (or as per the CMP on-screen instruction)
9. Start the test
10. The bottle sampling test is a three-test analysis as described in the contamination monitor user guide
11. Upon test completion (after the emptying cycle is completed) switch off the bottle sampler this will automatically vent the pressurised chamber to atmosphere.

PRODUCT INSTALLATION

BS500 sampling method

1. Switch OFF the bottle sampler and turn the operating mode selector to the position nearest the red disc marked P.

The top valve must not be opened BEFORE the operating mode selector has been changed to the position P. To do so, could allow fluid to reverse flow back into the sample bottle and contaminate the sample.

CAUTION

2. Screw the top valve on the bottle sampler anticlockwise to open the valve.
3. Switch ON the bottle sampler.
4. The pressure inside the chamber will slowly increase as indicated on the Visiwink.
4a. Wait until change of tone can be heard (this is when the pressure reaches the regulator setting of 2.5 bar (36 PSI)) approximately 45 seconds.
5. Flush the CMP approximately 50 per cent of the sampler fluid
6. Using the desired test setup method as mentioned in the Contamination Monitor user manual
7. The Bottle Sampling Test is a three-test analysis, as described in the contamination monitoring product user guide.
8. Upon test completion (after the emptying cycle is completed) switch OFF the bottle sampler.
9. Turn the operating mode selector slowly to Vacuum (the position nearest the yellow disc marked - V). This vents the pressurised chamber to atmosphere. Ensure that the Visiwink indicator is green before removing the top chamber.
10. Remove the top chamber and remove the sample bottle.

Do not allow fluid to drip from the dip tube onto the pressure/vacuum port. The pressure/vacuum port is the small vertical hole that can be seen in the base unit after the top chamber has been removed.

CAUTION

11. If you have other samples to analyse, as long as the specification of the fluid is the same, you can repeat the steps above without carrying out the flushing procedure.
If, however the fluid specification is different, then it is recommended that the flushing procedure is followed before performing further testing.
12. Switch OFF the contamination monitoring product.

5.2.5 Disposal

All Bottle Sampler products are sent in a cardboard box with foam inside and these should be recycled accordingly.
Fluids used with the Bottle Sampler should be fully drained and disposed of according to EU waste framework directive and ISO44001 Environmental Management.

6 Related Products

6.1 Pressure hose

M16x2 Micro bore pressure hose by length (various available) long Plated steel (alternative material options available) Pressure hoses are able to connect MP Filtri products directly to your hydraulic systems.

6.2 Hand pump device

For systems where there is no practical access to a test point, a sample may need to be taken from an un-pressurised 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 adaptors to suit our various bottle sizes.

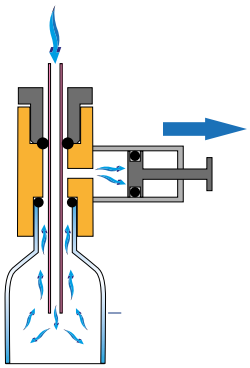
The pump can be fully dismantled for cleaning and the sample hose plus main seal can be replaced to further improve clean practise.

- 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 Class00 and Class0.

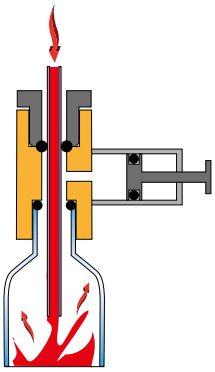
Hand pump - only compatible with M-Version products

DESCRIPTION	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 Clear Glass Bottle	8.054	Ø 65x122
500 ml - Standard Clear Glass Bottle	8.328	Ø 82x152

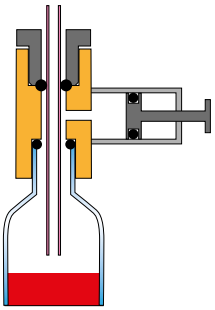
PRODUCT INSTALLATION



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.

7 Troubleshooting / FAQ

7.1 Misuse of Product

- The product should be connected to a power supply within the rating of the product and not wired directly to the mains.
- Ensure that the correct version of the product is being used with the correct fluids, not all versions are compatible with all fluids.
- The operator should follow all standard operating procedures previously set at the operating location as well as the procedures
- required by the manufacturer.
- The Bottle Sampler is not suitable for use in an explosive environment or an ATEX zone.

7.2 Fault Checklist

FAULT	CHECK
Unexpected results obtained from sample	Ensure that the microbore pressure hose has been fully connected at both the bottle sampler and the CMP. Confirm that there is a free flow of fluid to the CMP, by operating the flush valve and observing fluid passing to waste. Check that the BS500 is reaching sufficient pressure, 2-2.5 bar (29-36 PSI)
Bottle Sampler not reaching required pressure	Regrease O-ring in the base of bottle sampler using a suitable grease, silicone grease is recommended.
Sporadic results - especially when using triple and bottle testing	Ensure that the bottle sampler has reached pressure before starting the test. Also that the bottle sampler is powered for the full duration of the test.
Fluid level is not changing during the flush/test	Ensure that the bottle sampler has reached full pressure before starting the test/ flush. Check for blockages.

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