



sartorius

BIOHIT

Prospenser

User Manual

Mode d'emploi

Bedienungsanleitung

Manual Usuario

For capacities of

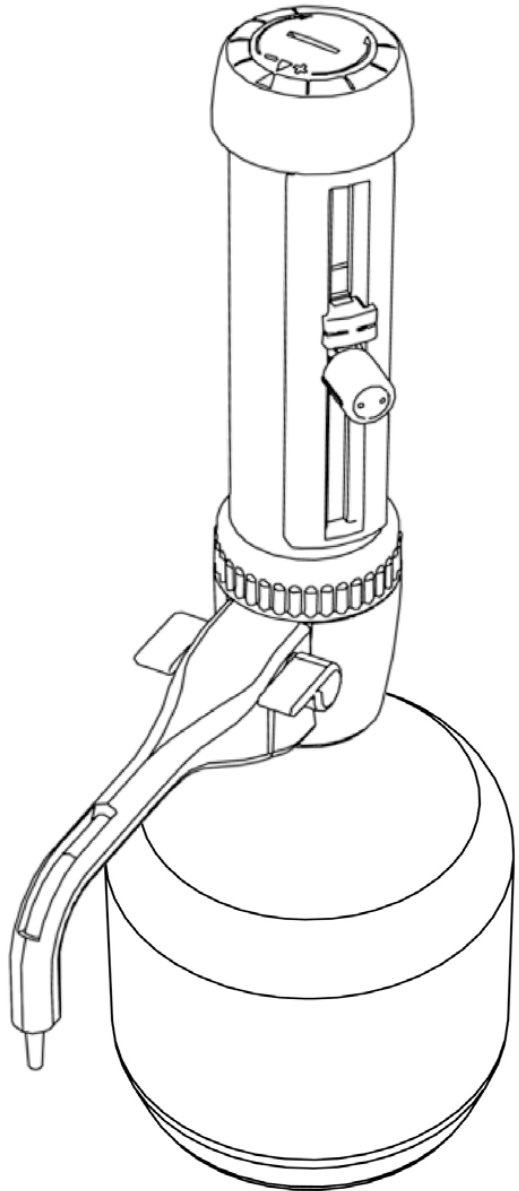
2.5 ml

5 ml

10 ml

30 ml and

50 ml





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Prospenser

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General Safety Instruction

- Never leave the Sartorius Biohit Prospenser on your work bench with the piston Barrel full of liquid without securing the dispense anti-drip tap into 'Closed' position.
- Always check that the dispense anti-drip tap is in the 'Open' position before attempting to dispense.

Restriction of Use

Never use the Prospenser with:

- Liquids which are not compatible with PTFE, PVDF, FEP, Borosilicate glass, Alumina ceramic or might attack Platinum-Iridium
 - Hydrofluoric acid
 - Liquids which contain solid particles
- Temperature limits of Biohit Prospenser and reagent are 15°C to 40°C

Before Using the Prospenser

check that the instrument has not been damaged in transit.

Assembly

The Prospenser is packed with the dispense tube attached and the inlet feed tube removed. The 300 mm length of PTFE inlet tube provided should be trimmed to fit your particular reservoir. The bottom end should be cut diagonally at a length that is close to the bottom of the container when the Prospenser is assembled to the container.

The assembled Prospenser is screwed to the reservoir using gentle hand torque applied to the Biohit Prospenser's threaded platform base only. Removal should also be by means of hand torque applied to this same base. Do not operate the piston until the unit is safely and fully mounted on the reservoir bottle.

Three adaptors are supplied to suit containers with a 33 mm, 38 mm or 45 mm screw neck.

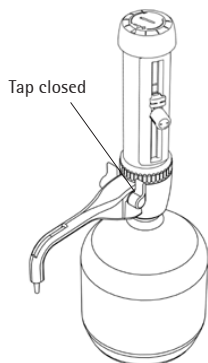
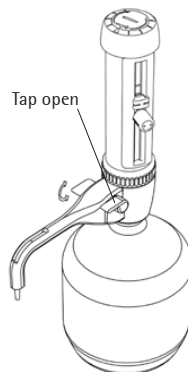
Operating Instructions

Priming Reservoir

Fill the reservoir to approximately 50 mm below side neck aperture. Place a container under the Prospenser dispense tube (14). Move the cursor (6) to the bottom of the scale to enable free movement of the piston. To move the cursor, simply press button (7) on the cursor sideways and slide up or down. The cursor will lock automatically into position as soon as you release the button. Prime the unit with a few gentle up and down strokes, taking the piston right down and lifting it up about 25 mm. Repeat until steady, bubble free flow is dispensed.

Dispensing

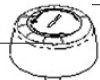
After priming, the piston (4) should be left in the fully down position. To dispense a precise volume of fluid, adjust the cursor (6) so that the cursor line aligns to the volume required. Draw in the required volume of fluid by lifting the piston slowly until the stop. To dispense, push the piston assembly down fully, slowly,



Items & Spares list

Sartorius Biohit Prospenser 2.5 ml/5 ml

Dispenser sleeve cap with fine adjustment (1)
& piston holder (2)



Top cap & piston assembly
721968 (2.5ml)
721969 (5ml)



721973
Assembly tool for outer sleeve (17)

PTFE piston (4)

721974
Stop ring (3)

Outer dispense sleeve (5)

Biohit Prospenser body
complete with cursor
721976 (2.5ml)
721977 (5ml)

Cursor (6)

Adjustment button (7)

721981 (2.5ml)

721982 (5ml)

Top barrel locating ring (8)

721949

Threaded ring (9)

721890 (2.5ml)

721891 (5ml)

'O' ring (12)

721983 (2.5ml)

721984 (5ml)

Borosilicate
glass barrel (10)

721988 (2.5ml)

721989 (5ml)

Bottom barrel
locating ring

721894

Polypropylene protection sleeve (11)

Platform base containing valve assembly (13)

721957

FEP Dispense
tube (14)

721958

Polypropylene dispense tube
protection cover (15)

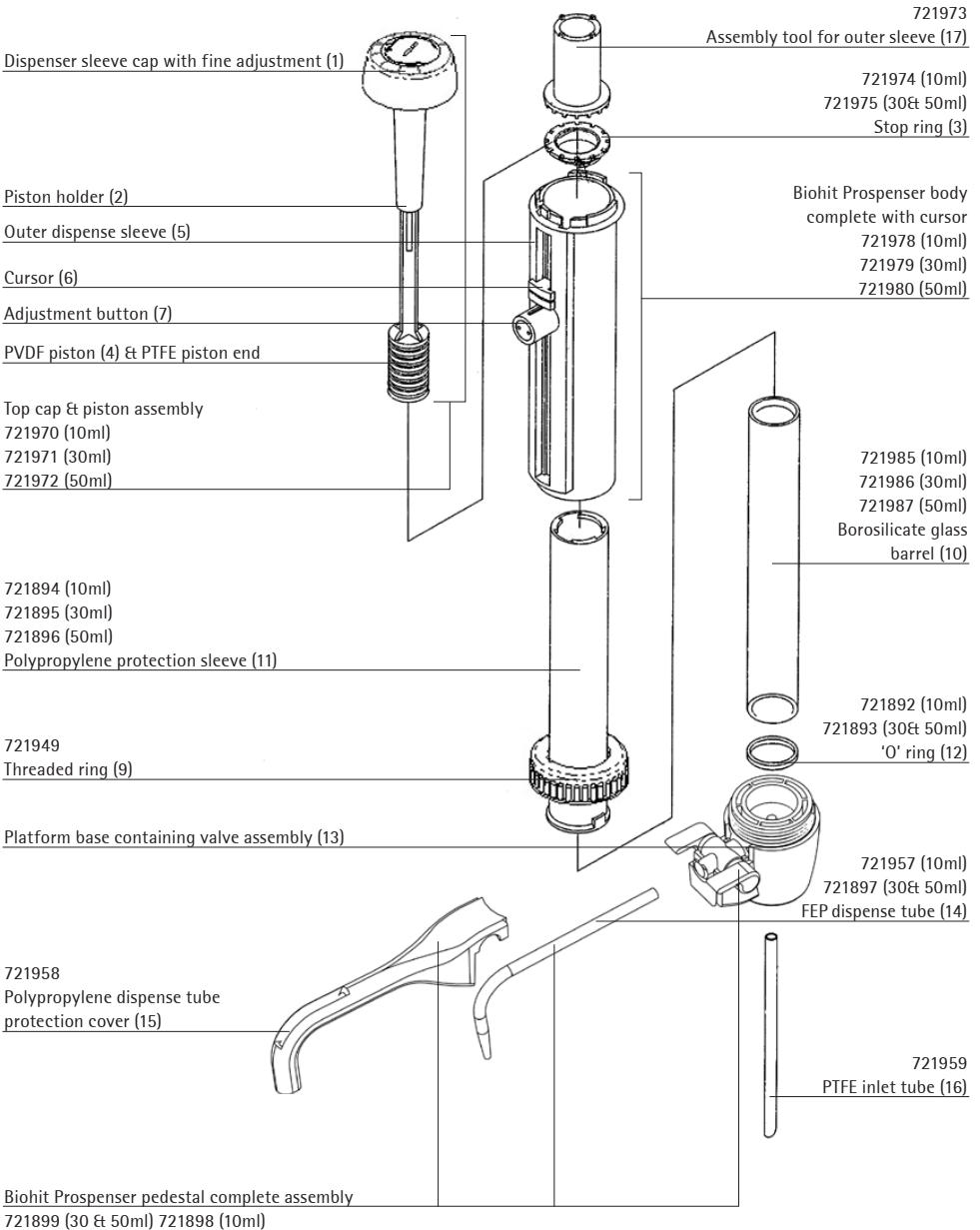
721959

PTFE inlet tube (16)

Biohit Prospenser pedestal complete assembly 721898

Items & Spares list

Sartorius Biohit Prospenser 10 ml/30 ml/50 ml



until it stops, allowing the liquid to be collected in an appropriate vessel. When the Prospenser is not in use it is recommended that the anti-drip tap is closed.

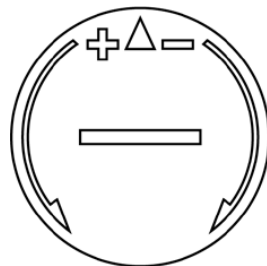
Fine Adjustment

The figures quoted on our Test Certificate apply to the calibration of the Biohit Prospenser at full volume. The Biohit Prospenser adjustment cap enables the user to fine calibrate for accuracy. Using the adjustment disc tool that is held on the rear of the Biohit Prospenser body, change the factory calibration by turning the slot on the printed top cap insert:-

Anti-clockwise to increase volume. Clockwise to decrease volume

The graduations on the adjustment ring increase or decrease by the following volumes:-

Prospenser 50 ml	0.1 ml per line
Prospenser 30 ml	0.1 ml per line
Prospenser 10 ml	33µl per line
Prospenser 5 ml	17µl per line
Prospenser 2.5 ml	8µl per line



Safety Precautions

Use the utmost caution when dispensing caustic, radioactive or hazardous chemicals.

- 1 Follow safety regulations (eg. protective clothing, goggles etc.)
If in doubt, consult your safety officer.
- 2 Follow the operating instructions.
- 3 Only use the instrument for its proper purpose and within the limits of its materials. If in doubt, please consult the manufacturer/distributor.
- 4 Regularly inspect the instrument for leakage. Before use it is sensible to check connections.
- 5 Do not use force. Damage to parts may cause leaks.
- 6 The temperature of the instrument and reagent to be dispensed must not exceed 40°C.
- 7 Please note,
 - (i) only the manufacturer's original parts must be used.
 - (ii) materials coming into contact with the liquid to be dispensed are, borosilicate glass, PTFE, Alumina ceramic, FEP, PVDF and Platinum Iridium.

Maintenance/Cleaning

NOTE: All maintenance should be carried out wearing suitable eye protection and protective clothing. If in doubt, consult your safety officer.

1. Make sure that the Biohit Prospenser is completely empty and turn the anti-drip tap to 'Open' position.
2. Place the instrument into an empty sink together with its reservoir. Unscrew the threaded platform base from the reservoir and lift the dispenser's intake tube carefully out of the reservoir, whilst tapping it against the reservoir's aperture to shake off any droplets from the intake tube.
3. Hold the dispense tube nozzle over the aperture of the reservoir and apply gentle piston strokes in order to return any syringe contents into the reservoir.

4. Flush out remaining syringe contents with distilled water or a suitable solvent. This will preserve the smooth action of the piston and free action of the inlet and outlet valves. If the inlet valve does stick and is not freed by flushing, it may be freed by gently inserting a thin rod into the inlet aperture and gently pushing the ball off its seating. Re-check unit for operation.
5. Empty the instrument completely after cleaning, and flush through with distilled water.

Autoclaving

Steam sterilization is permissible at 121°C 2 bar after the normal cleaning procedure is carried out. The cursor should be locked in the centre of the adjustment slot before autoclaving.

Place the instrument on a cloth in order to avoid contact with metal surface. Steam sterilize the unit in its assembled status but with the threaded ring completely loosened. Steam sterilization of the piston outside the glass barrel will damage it. Cool slowly back to ambient temperature before use.

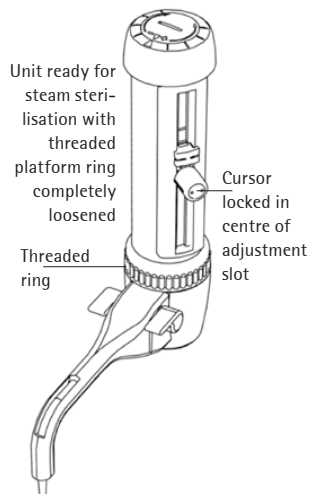
Chemical sterilisation

The fluid path components of the Prospenser can be soaked overnight in a dilute (1:1000) solution of Sodium Hypochloride. (See page 8 for disassembly procedure).

Disassembly Options/Cleaning

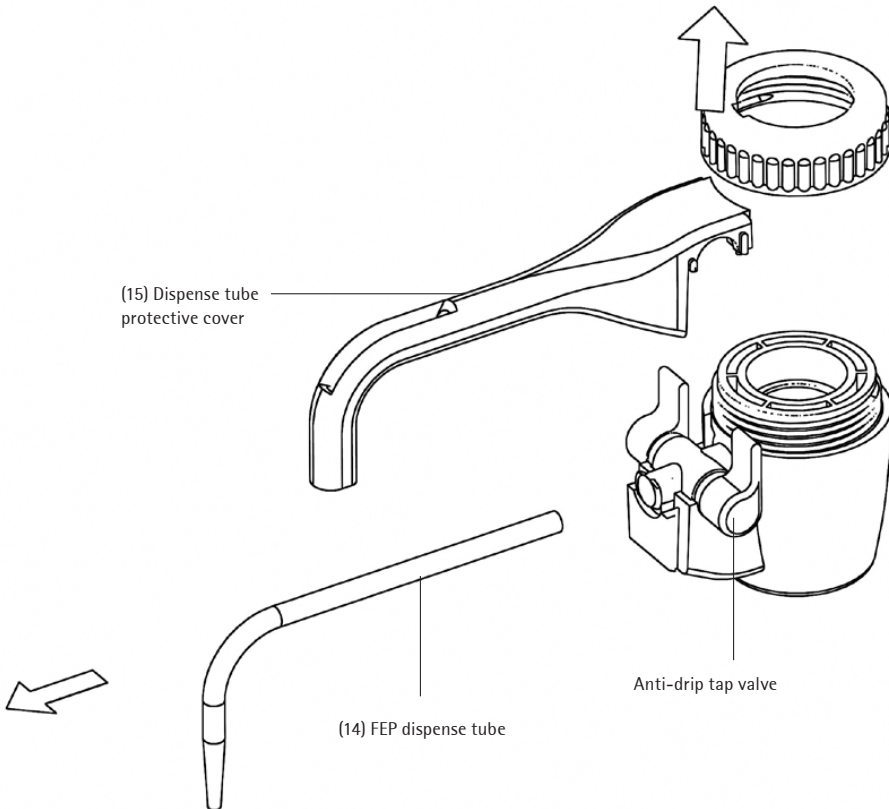
WARNING Do not use force in assembly or disassembly. Disassembly should only be undertaken **after** the unit has been cleaned using the recommended cleaning procedure. Wear protective clothing and goggles during disassembly.

- 1 Move the cursor (6) down the scale and undo the dispense sleeve cap (1) by turning anti-clockwise and lifting.
- 2 The piston holder (2) is now exposed and the piston (4) is ready for removal. Remove the piston assembly carefully.
- 3 Clean the piston's surface with a suitable cleaning solution. do not use hard tools to scrape off residue of reagent from the piston as this will damage the surface and will not seal with the glass barrel when reassembled
- 4 If it is necessary to clean or replace the graduated outer dispense sleeve (5) of your Biohit Prospenser, this is carried out with the help of the supplied assembly tool (17).
 - (a) Loosen the Polypropylene threaded ring (9) on the base by approximately one turn.
 - (b) Using the assembly tool (17) , undo the top stop ring (3) by turning clockwise and lifting it out. You can now lift off the dispense sleeve (5).
 - (c) To remove the Polypropylene protection sleeve (11) and borosilicate glass barrel (10), fully undo the threaded ring (9), remove the polypropylene protection sleeve (11) and gently lift out the glass barrel (10) for replacement or cleaning. **NOTE:** Bevelled inside edge of barrel must be at the top end when fitted.
 - (d) Removal of FEP dispense tube (14); Firstly turn the anti-drip tap to the closed position. Then remove dispense tube protection cover (15) as shown on page 9 in an upward direction allowing dispense tube (14) to be pulled



out of anti-drip shut-off valve assembly in direction indicated.

- (e) Reassemble in reverse, make sure the front end of the dispense tube is clipped into the dispense tube protection cover (15) from the underside.
- (f) Reassemble the remaining components following the above points in reverse order, making sure that the FEP 'O' ring (12) is well located into its platform recess. **NOTE:** Take special care not to damage the piston when inserting it into the glass barrel.
- (g) Before tightening the threaded ring (9) fully onto the threaded platform base (13), rotate the Polypropylene protection sleeve (11) so that the tooth on its base locates properly into the notch on the threaded ring (9).
- (h) After reassembling the instrument, prime with distilled water to ensure that assembly has been correctly followed and the piston is working smoothly. Check that no leaks occur.



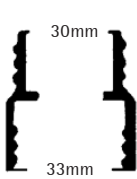
Troubleshooting

Problem	Possible Cause	Remedy
Air bubbles appear in discharge tube	Liquid reservoir is empty	Refill reservoir and prime unit
	Too fast filling action	Fill and dispense more slowly
	Glass barrel is not sealing against FEP 'O' ring	Unscrew the threaded platform ring and make sure that the FEP 'O' ring is properly fitted into its recess
	Leaking piston	Clean piston. If problem persists, replace piston
	Leaking discharge valve	Clean unit by flushing through - if problem persists, replace platform base
Barrel does not fill with liquid	Inlet tube not fitted correctly	Connect inlet tube correctly
	Inlet valve stuck	Free inlet valve by inserting a thin rod into the inlet aperture
	Glass barrel is not sealing against the FEP 'O' ring	Unscrew the threaded ring and make sure that the FEP 'O' ring is properly fitted into its recess
Dispensing not possible	Blocked dispense tube	Disassemble the dispense tube and flush through with cleaning fluid
	Discharge valve stuck	Clean unit by immersing platform in cleaning fluid (taking care to protect LCD) - if problem persists, replace platform base
Wrong dispense volume	Instrument not calibrated	See page 6 'User Calibration'
	Leaking valves	Clean platform base - if problem persists, replace
Liquid appears between glass barrel and Polypropylene protection sleeve	Glass barrel is not sealing against the FEP 'O' ring	Unscrew the threaded ring and make sure that the FEP 'O' ring is properly fitted into its recess
	Damaged FEP 'O' ring	Replace FEP 'O' ring

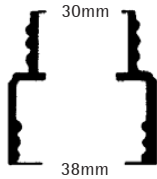
Accessories

Adaptors

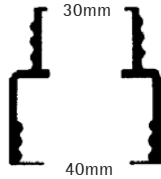
A range of five adaptors for fitting your dispenser to the reservoir are available.



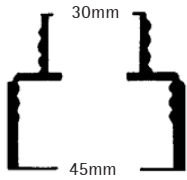
721940



721941



721942



721943



721944

B24/40



721945

Angled funnel

Specification

Accuracy $\leq \pm 0.3\%$ on maximum delivery and a precision $\leq \pm 0.1\%$ CV using distilled water at 20°C.

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