Medical–Biological
Research & Technologies

FTA-1

Aspirator with trap flask

Operating Manual
Certificate

for version:
V.4AW

Contents

1. Safety Precautions

The following symbol means:

Caution! Make sure you have fully read and understood the present Manual before using the equipment. Please pay special attention to sections marked by this symbol.

GENERAL SAFETY

- Use only as specified in the Operating Manual provided.
- The unit should be saved from shocks and falling.
- After transportation or storage keep the unit under room temperature for 2–3 hrs before connecting it to the electric circuit.
- Use only cleaning and decontamination methods recommended by the manufacturer.
- Do not make modifications in design of the unit.

ELECTRICAL SAFETY

- Connect only to an external power supply unit with voltage corresponding to that on the serial number label.
- Use only the external power supply unit provided with this product.
- Ensure that the external power supply unit and the power switch are easily accessible during use.
- Disconnect the external power supply unit from power socket before moving the unit.
- If liquid penetrates into the unit, disconnect it from the external power supply unit and have it checked by a repair and maintenance technician.
- Do not operate the unit in premises where condensation can form. Operating conditions of the unit are defined in the Specifications section.

DURING OPERATION

- Do not operate the unit in premises with aggressive or explosive chemical mixtures. Please contact manufacturer for possible operation of the unit in specific atmospheres.
- It is not allowed to use aggressive organic compounds, chlorinated solvents, strong conjugated acids for operation with the unit.
- Do not operate the unit outside the laboratory premises.
- Do not operate the unit if it is faulty or has been installed incorrectly.
- Do not leave the operating unit unattended.

BIOLOGICAL SAFETY

- It is the user's responsibility to carry out appropriate decontamination if hazardous material is spilt on or penetrates into the equipment.
- Do not allow the collected buffer level to exceed the max. level (see Figure 1/5). Empty the trap flask when the liquid level reaches maximum. Take necessary precautions utilizing waste liquid in accordance with general laboratory standards.

2. General Information

FTA-1 aspirator with trap flask has been designed alcohol (or buffer) trace quantities aspiration (removal) from microtest tube walls during DNA (RNA) purification and other macromolecule reprecipitation techniques.

FTA-1 can also be used for routine operations of cells washing from cells culture medium and resuspension in buffer. The aspirator operation principle is based on creating negative pressure in a trap flask using a built-in by microcompressor. The trap flask is connected with a collecting tip by a silicone pipe. Liquid is removed from the microtest tube when the tip touches the solution surface. Holder for 2 tubes (e.g. for hydrochloric acid solution and distillate) necessary for collecting tip washing and storing for re-use is conveniently situated at FTA-1 right hand side.

Microbiologic suction filter eliminates risks of contamination caused by bacteria, viruses, and infected particles from patient. Such contamination can be distributed by suction pump or central vacuum units. Microbiological suction filter is hydrophobic and has very high bacterial efficiency – up to 99,99% of particles bigger than 0,027 microns (which are smaller than Hepatitis A, B and C).

In order to prolong serviceability and efficiency of device it is not allowed to use aggressive organic compounds like phenol and strong conjugated acids like guanidine for aspiration. Please, contact manufacturer to confirm appliance of any liquids which are not mentioned here.

3. Getting started

3.1. Unpacking

Remove packing materials carefully and retain them for future shipment or storage of the unit. Examine the unit carefully for any damage incurred during transit. The warranty does not cover in-transit damage.

3.2. Complete set. Package contents:

Standard set:

- FTA-1 aspirator .....1 pce.
- trap flask .....1 pce.
- aspiration tubes with fittings and filter .....1 set
- aspiration tip .....1 pce.
- storing tube for aspiration tip .....1 pce.
- filter.....1 set.
- external power supply unit.....1 pce.
- Operating Manual, Certificate.....1 copy

Optional accessories:

- MA-8 8-channel aspiration tip with holder .....1 pce.

3.3. Set up

- place unit on the even working horizontal surface;
- install the trap flask on the unit;
- screw the lid with the filter, inlet and outlet silicone pipes on the trap flask;

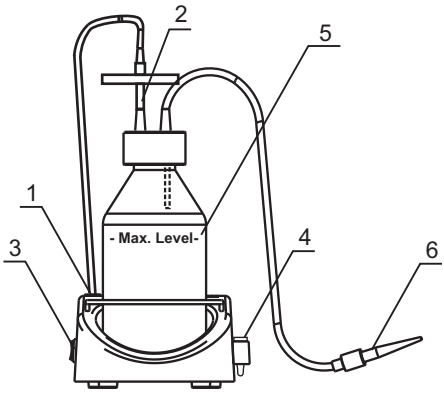

Fig.1 Assembled unit

Note! Filter is located behind the jar output, in front of the vacuum source. The filter should be put on so that the side of the filter with the marking “IN“ points towards the trap flask, and the side with no markings points towards the vacuum source.

- screw the outlet pipe to the socket connector of the pump (Fig.1/1) located on top of the unit (turning clockwise);
- ensure that the filter is tightly inserted in the socket (Fig.1/2);
- place the tube into a holder (fig.1/4) situated at FTA-1 right hand side.
- plug the external power supply unit into the socket at the rear side of the unit and position the unit so that there is easy access to the external power supply and the power switch.

3.4. Optional MA-8 aspiration tip installation

- remove tubes from the holder situated at FTA-1 right hand side (fig.1/4);
- place MA-8 storing holder (fig.1/1) into the holder (fig.2/ ⬇);
- remove standard aspiration tip from the inlet pipe (fig.1/6) and connect the MA-8 aspiration tip (fig.2/2);

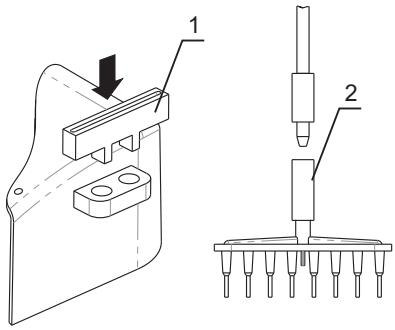

Fig.2 Optional MA-8 aspiration tip installation

4. Operating

4.1. Connect external power supply unit to electric circuit.

4.2. Switch ON the unit using the **Power** switch on the side surface (fig.1/3).

4.3. Touch the solution surface with the aspiration tip to remove liquid from a test tube.

4.4. Use the mini-holder (Fig. 1/4) situated at the right side of the unit for washing and storing the aspiratiob tip. Two tubes can be placed in the holder (e.g. for hydrochloric acid solution and distillate).

Caution! During operation do not allow the collected buffer level to exceed the max. level (see Figure 1/5). Empty the tarp flask when the liquid level reaches maximum (according to p. 4.6).

4.5. After finishing the operation switch OFF the **Power** switch (fig. 1/3) and disconnect the external power supply unit from electric circuit.

4.6. Take necessary precautions utilizing waste liquid in accordance with general laboratory standards.

5. Specifications

The unit is designed for operation in cold rooms, incubators and closed laboratory rooms at ambient temperature from +4ºC to +40ºC in a non-condensing atmosphere and maximum relative humidity 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 40°C.

5.1. Vacuum .....-500 mbar

5.2. Filtration.....hydrophobic microbiologic filter 2200/02
eliminates risk of contamination from the trap flask with bacteria, viruses and infected particles

5.3. Diameter of filter pores..... 0.027 micron

5.4. Dimensions .....160x210x340 mm

5.5. Input current/power consumption.....12V, 0.3A / 3.6W

5.6. External power supply unit.....input AC 100-240V 50/60Hz, output DC 12V

5.7. Weight* .....1.7 kg

* Accurate within ±10%.

Optional accessories		Description	Catalogue number
⓮	see. fig.3	MA-8 8-channel aspiration tip with holder	BS-040108-BK

Replacement parts		Description	Catalogue number
❶		Outlet filter pipe adapter (90°)	BS-040108-S16
❷		Microbiologic filter	BS-040108-S25
❸		Adapter between cap and filter	BS-040108-S15
❹		Small 90° elbow	BS-040108-S20
❺		Trap flask 1 l with lid, cup insert and sealer	BS-040108-S11
❻		UNF male threaded adapter	BS-040108-S08
❼		Aspiration tip 200 mkl	BS-040108-S13

Replacement parts	Description	Catalogue number
❽ 	Adapter between pipe and aspiration tip	BS-040108-S21
❾ 	Female luer bulkhead - hose barb adapter	BS-040108-S06
❿ 	Male luer lock - hose barb adapter	BS-040108-S07
⓫ see. fig.3	Silicone pipe set 6 pcs. (outer x inner diam. x lenght mm: 8x5x300, 8x5x25, 8x5x16, 5x3x850, 5x3x50, 5x3x15)	BS-040108-S12
⓬ see. fig.3	Piping set (all pipes with fittings except filter, aspiration tips, adapters for 8-channel manifold)	BS-040108-S22
⓭ 	8-channel aspiration tip for MA-8	BS-040108-S24

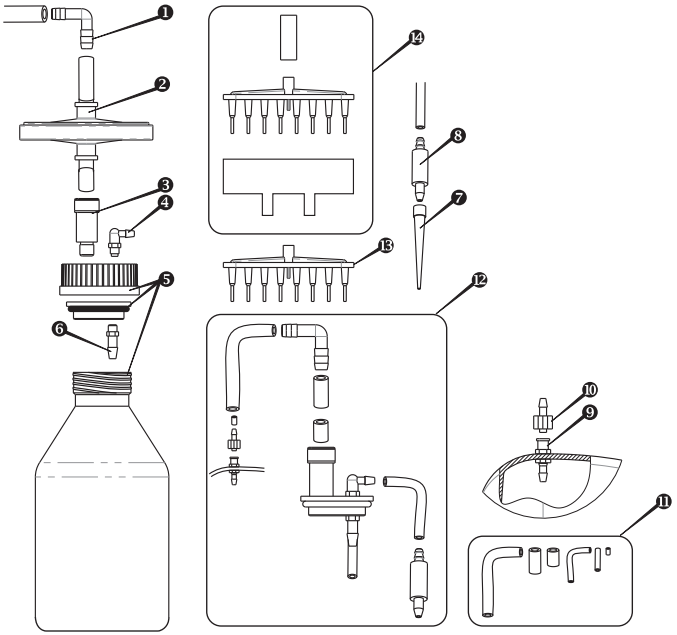

Fig.3 Replacement parts

Biosan is committed to a continuous programe of improvement and reserves the right to alter design and specifications of the equipment without additional notice.

6. Maintenance

6.1. If the unit requires maintenance, disconnect the unit from the electric circuit and contact Biosan or your local Biosan representative.

6.2. All maintenance and repair operations must be performed only by qualified and specially trained personnel.

6.3. Standard ethanol (75%) or other cleaning agents recommended for cleaning of laboratory equipment can be used for casing cleaning and decontamination of the unit.

It is recommended to perform internal washing of pipes, adapters and tips with distilled water (volume 0.5 l or more).

6.4. It is recommended to change the pipes every six months (see the table in Specifications section for article number of Tubing set).

6.5. The filter should be replaced, when it becomes glazed with dirt or by sucked liquid. Maximum time of use is 30 days. We recommend replacing the filter immediately after completing suction of infected particles, preventing spread of infection.

To order the filter you have to know a product identification number, see p. Specifications table for article number.

Filter replacement. Disconnect the filter from the adapter between cap and filter, remove the filter (fig.4/1) with the inlet pipe. Disconnect the inlet pipe and pipe adapter (90°) (fig.4/2) from the filter. Insert a new filter into the socket and tighten it.

Attention! Observe orientation of the filter according to fig. 4/3.: "**IN**" marking should be located on the side of the inlet pipe (closer to the trap flask)!

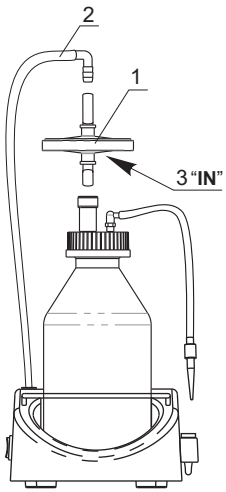

Fig.4 Filter replacement

7. Warranty

7.1. The Manufacturer guarantees the compliance of unit with the requirements of Specifications, provided the Customer follows the operation, storage and transportation instructions.

7.2. The warranted service life of unit from date of delivery to the Customer is 12 months (exclude parts mentioned in Tables, p. Specification). Contact local distributor to check availability of extended warranty.

7.3. If any manufacturing defects are discovered by the Customer, an unsatisfactory equipment claim shall be compiled, certified and sent to the local distributor address. Please visit www.biosan.lv, Technical support section to obtain the claim form.

7.4. The following information will be required in the event that warranty or post-warranty service comes necessary. Complete the table below and retain for your records.

Model	FTA-1 Aspirator with trap flask
Serial number	
Date of sale	

8. Declaration of Conformity

Declaration of Conformity

Equipment name:	**FTA-1**
Type of equipment:	Aspirator with trap flask
Directive:	EMC Directive 2004/108/EC Low Voltage Directive 2006/95/EC RoHS 2011/65/EC WEEE 2002/96/EC & 2012/19/EU
Manufacturer:	SIA BIOSAN Ratsupites 7, build.2, Riga, LV-1067, Latvia
Applied Standards:	**EN 61326-1:** Electrical equipment for measurement, control and laboratory use EMC requirements. General requirements **EN 61010-1:** Safety requirements for electrical equipment for measurement, control and laboratory use. General requirements

We declare that this product conforms to the requirements of the above Directive(s)

Signature

Svetlana Bankovska
Managing director

12.06.2013
Date

Signature

Aleksandr Shevchik
Engineer of R&D

12.06.2013
Date

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Version 4.06 - December 2014