



PHARMA DEVILS

MICROBIOLOGY DEPARTMENT

STANDARD OPERATING PROCEDURE

Title: Cleaning, Operation and Maintenance of Microfil Unit

SOP No.:		Department:	Microbiology
		Effective Date:	
Revision No.:	00	Revision Date:	
Supersede Revision No.:	Nil	Page No.:	1 of 3

1.0 OBJECTIVE

To lay down procedure for cleaning, operation and maintenance of Micro fill unit.

2.0 SCOPE

This SOP is applicable for use of micro fill unit, Make - Millipore in microbiology laboratory.

3.0 RESPONSIBILITY

Prepared by - Executive Microbiology

Checked by - Assistant Manager Microbiology / QC

Approved by - Head QA, QC

4.0 PROCEDURE

4.1 Assembling the Microfil filtration System

- 4.1.1 Assemble the Microfil filtration system in the Laminar airflow bench in the following manner as given below.
- 4.1.2 Connect silicone tubing from outlet of Microfil support to a filtration flask, from the filtration flask outlet connect silicone tubing to Vacuum pump inlet.
- 4.1.3 Open a S- Pak membrane envelope by peeling back one of the two “ easy to open “ corners.
- 4.1.4 Alternatively, press the lever of EZ- pack dispenser to unwrap and dispense a sterile membrane filter.
- 4.1.5 Alternatively presterilized membrane can be used in place of S- Pak membrane or EZ- pack dispenser.
- 4.1.6 Using flamed and cooled forceps, remove the membrane and place it girded side up on to the center of SS support.
- 4.1.7 Open a pack of disposable funnels (100 ml or 250 ml according to the volume of sample to be filtered) from the bottom (V shaped sealing).
- 4.1.8 Remove a funnel, base first, from the pack. Grasp the funnel from the middle and position it carefully on to the support.
- 4.1.9 Press on the upper rim until the funnel snaps into the position. Do not touch the interior of the funnel.
- 4.1.10 Fold the packaging over the remaining funnels to close and prevent entry of air borne contamination.
- 4.1.11 Pour the sample into the funnel, aligning the bottom of the meniscus with the desired graduation.
- 4.1.12 Filter the sample under vacuum until the sample has passed entirely through the membrane.
- 4.1.13 Microfil funnels are designed to prevent sample retention and do not normally require rinsing.
- 4.1.14 Close the valve.
- 4.1.15 Grasp the funnel under the rim and tilt it gently to remove it from the support.



PHARMA DEVILS

MICROBIOLOGY DEPARTMENT

STANDARD OPERATING PROCEDURE

Title: Cleaning, Operation and Maintenance of Microfil Unit

SOP No.:		Department:	Microbiology
		Effective Date:	
Revision No.:	00	Revision Date:	
Supersede Revision No.:	Nil	Page No.:	2 of 3

4.1.16 Then lower your hand holding the funnel to the lever and press it using the side of your hand, simultaneously venting the vacuum and lifting the membrane.

4.1.17 Pick up the membrane using flamed forceps held in your other hand.

4.1.18 Transfer the membrane to either a Petri dish filled with solid media or a suitable liquid media.

4.1.19 Discard the funnels after testing.

4.1.20 Transfer the Petri dishes to an incubator.

4.2 Cleaning and Sanitization

4.2.1 Microfil 316 SS funnel support is autoclavable.

4.2.2 To save autoclave space the supports may be easily be disassembled from the manifold as follows.

4.2.3 Tip the manifold backwards.

4.2.4 Pull on the olive shape connections between the tubing and the supports.

4.2.5 Unscrew the support bolts.

4.2.6 Put the manifold back in upright position and remove the supports.

4.2.7 Cover the top of the supports with aluminum foil before autoclaving.

4.2.8 After autoclaving, perform these steps in reverse order.

4.2.9 A catch on the support and manifold will assure the valve is correctly positioned for the operator.

5.0 SAFETY & PRECAUTIONS

5.1 Do not touch the interior surface of the funnel during operation.

5.2 Always use flamed and cooled forceps for transferring membrane.

5.3 If the filtering beverages, sample residues should be rinsed from the support with hot water or a mild neutral detergent prior to autoclaving. Do not use oxidizing agents.

5.4 Proper flaming of the support head after 25 samples is sufficient to prevent cross contamination from sample to sample.

5.5 The "O" ring should be replaced on a yearly basis.

5.6 To replace these rings of the integrated two-way valve, disassemble the valve by removing the retaining clip and pulling on the handle.

5.7 Change the Microfil frits every two years or change of color to dark brown (due to oxidizing) whichever is earlier.



PHARMA DEVILS

MICROBIOLOGY DEPARTMENT

STANDARD OPERATING PROCEDURE

Title: Cleaning, Operation and Maintenance of Microfil Unit

SOP No.:		Department:	Microbiology
		Effective Date:	
Revision No.:	00	Revision Date:	
Supersede Revision No.:	Nil	Page No.:	3 of 3

5.8 Remove protective cap from Microfil supports and cover it with aluminum foil before autoclaving. The cap is used only during shipping to hold the frit in place.

5.9 All steps should be conducted using aseptic technique.

5.10 Connect Vaccusheid between filtration flask and vacuum pump to avoid contamination in pump due to beverage and water.

6.0 REVISION HISTORY

Revision No.	Reason for Revision	Superseded from & date
00	First Issue	-----

7.0 REFERENCES

Not applicable.

8.0 ABBREVIATIONS

SOP : Standard Operating Procedure

ml : Milliliter

S.S : Stainless Steel

9.0 ANNEXURES

Not applicable.