Membrane Technologies

mdi *Harvester* Funnels

Cell Harvesting without Centrifuge

Patent applied for

DATA SHEET

MDI single use ***Harvester*** Funnels do away with the necessity of centrifugation for cell harvests in the lab.

These are designed to clarify up to 1 liter of mammalian cell culture harvests within few minutes as compared to hours by centrifugation.

Construction

MDI ***Harvester*** Funnels are easy to use vacuum filtration devices which house a large area pleated filter. The filter is made of multilayered progressively finer depth filter media. The special design provides high loading capacity for whole cells and high retention efficiencies for cell fragments, organelles, colloids and lipids to give effective protection to downstream 0.2µm sterilizing filters.

For 500 mL

For 1 Liter

Unique Advantage

- Cell harvest clarification of upto 1 liter within minutes
- Low hold-up volume

Specifications

Funnel Volume: 450 mL and 1 liter

Receiver Bottle Capacity: 500 mL and 1 liter

Funnel Adaptor: 45 mm neck

Effective Filtration Area:

400 cm^2 for 500 mL *Harvester* funnel

1200 cm^2 for 1 Liter *Harvester* funnel

Materials of Construction

Funnel: Polypropylene

Filter Media: Multilayered Microglassfiber

Filter Components: Polypropylene

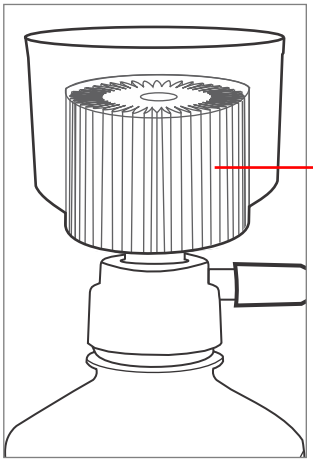


Fig. 1 Large Area Pleated Construction

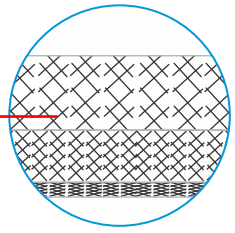
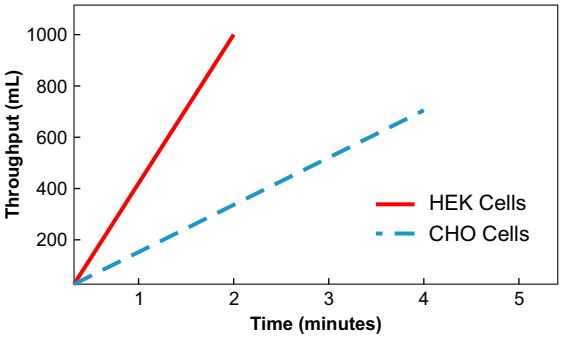


Fig.2 Multilayered Progressive Depth Filtration

Filtration of HEK and CHO Cell Culture

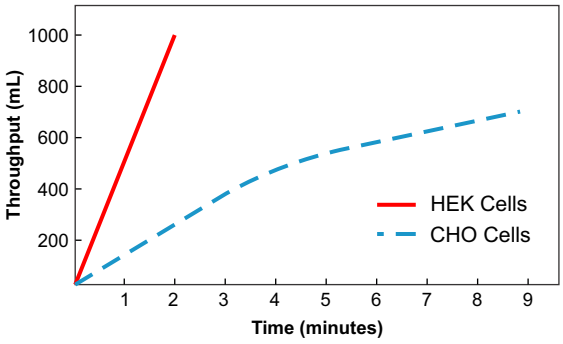
Harvester Funnels were used at customer site for clarification of Human Embryo Kidney (HEK) and Chinese Hamster Ovary (CHO) cell culture. The filtrates were subsequently filtered through 0.2 µm sterilizing grade *AseptiVac KS* vacuum filtration units. The data is shown below:

Cell	Cell Density	Cell Viability	Filtered Volume
HEK	5.2 X 10^6 cells/ml	90 %	1000 mL
CHO	6 X 10^6 cells/ml	80 %	700 mL



Primary clarification: MDI 500 mL Harvester Funnels (with 1 Liter receiver bottle)

HEK cell culture filtered through the ***Harvester*** Funnel in 2 minutes and it took 4 minutes to filter the CHO cell culture. The filtrate from HEK cell culture was quite clear. However some cell debris was observed in case of CHO cell culture after filtering 600mL.



Sterile Filtration (*AseptiVac KS*)

Sterile filtration of the HEK cell harvest filtrate (post primary clarification) through 0.2µm *AseptiVac KS* took only 2 minutes for 1000 mL and took 9 minutes in case of CHO cells for 700 mL.

The difference in filtration time was due to the contamination profile of the two cell culture. HEK cell culture with higher cell viability (90%) had much lower cell debris in comparison to CHO cell culture with 80% cell viability.

Ordering Information

Non Sterile *Harvester* Funnels

with 500 ml receiver bottle : FHXG5238X05X108
with 1 liter receiver bottle : FHXG5338X10X108

Gamma Sterile *Harvester* Funnels

with 500 ml receiver bottle : FHXG5238X05X308
with 1 liter receiver bottle : FHXG5338X10X308

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