SUPRAdisc™

HP DEPTH FILTER MODULES

SUPRAdisc™ HP modules, include two full-thickness, graded, high-efficiency, depth filter layers in combination. This technology enhances process clarification steps such as whole cell and cell lysate separations.

Difficult to filter processes such as centrifuge supernatants and culture media can also benefit from SUPRAdisc HP technology. HP depth filters are comprised of two distinct layers of Seitz P-series depth filter sheets, a more permeable layer followed by a less permeable layer. These performance-enhanced depth filters have been designed for low viability and applications containing high solids. With many processes containing higher debris loads and with the wider distribution of particle sizes in biotech applications, conventional depth filter technology may no longer achieve the desired performance. SUPRAdisc HP depth filters provide the robustness and performance to meet current process demands.

Fig 1. SUPRAdisc II module.

Features and benefits

- Designed to provide maximum throughput for biological, bioprocess and pharmaceutical filtration.
- High-purity pharmaceutical-grade depth filters, optimized for low endotoxins and low extractables levels.
- High dirt holding capacity combined with low protein adsorption and long service life.
- Excellent removal of a wide range of suspended particles down to sub-micron size in a range of cell culture applications. SUPRAdisc HP modules facilitate high protection for subsequent sterile filters.
- Compress clarification processing steps to save time and resources as well as reducing operating costs.
- All components meet the specifications for the biological test listed in the US Pharmacopeia (USP) Class VI 121°C.
- SUPRAdisc HP modules and all their components are fully traceable.
- Available in Supracap™ 100 and 200 encapsulated formats for applications that require disposable formats.

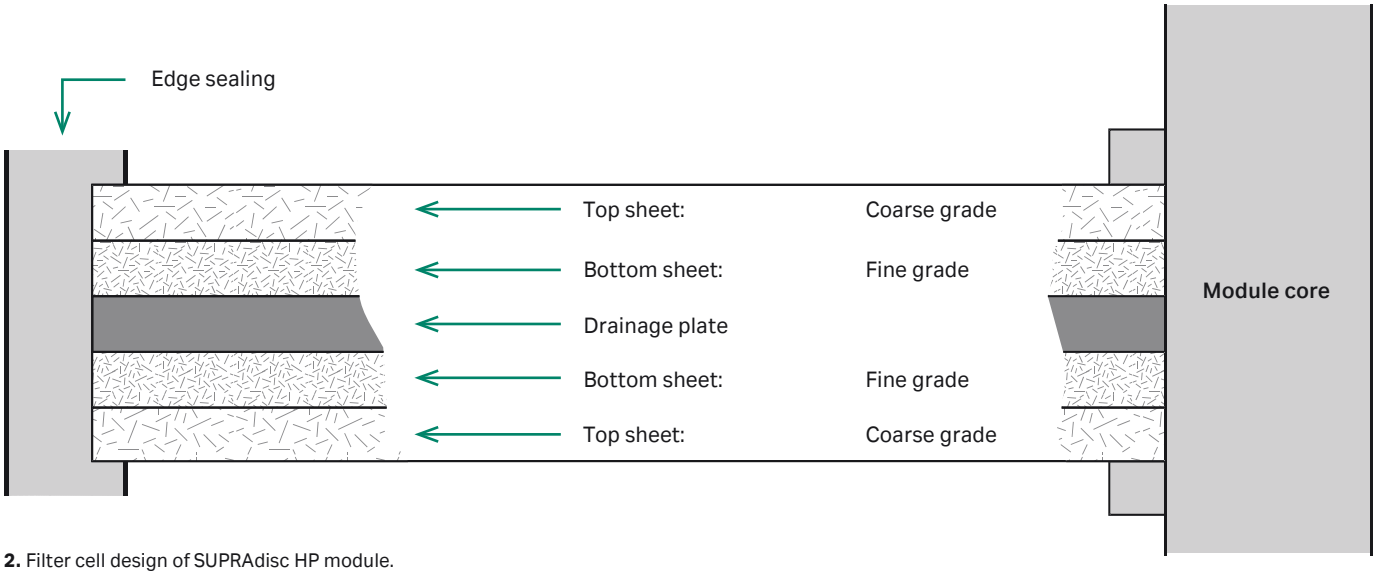

Fig 2. Filter cell design of SUPRAdisc HP module.

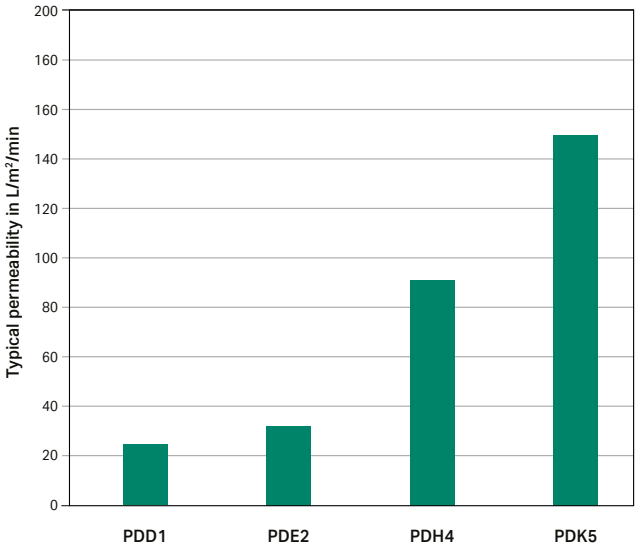

Fig 3. Permeability – SUPRAdisc HP filters.
Test performed with water at 20°C (68°F) and a differential pressure of 1 bard (14.5 psid)

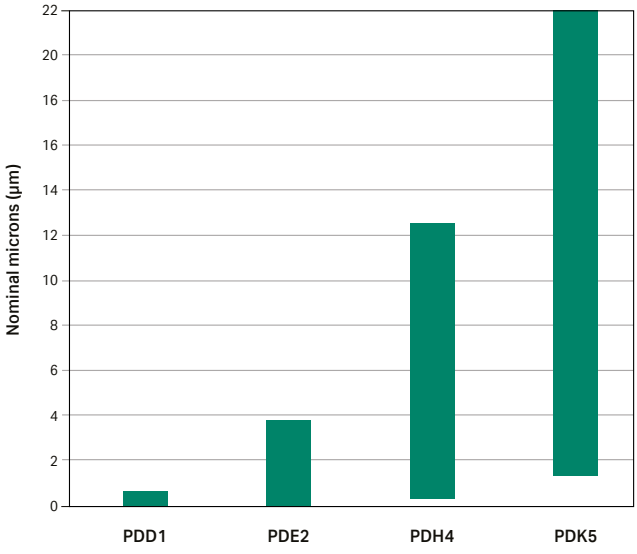

Fig 4. Micron range – SUPRAdisc HP filters.

Selection of SUPRAdisc HP filters

Media type	Description	Application
PDK5	Highest dirt-holding capacity	Post fermentation
PDH4	High dirt-holding capacity and good membrane protection	Post fermentation
PDE2	Excellent membrane protection	Post centrifuge
PDD1	Tightest combination, exceptional membrane protection	Post centrifuge/post tangential flow filtration (TFF)

The filter sheets meet the specifications set forth in the US Code of Federal Regulations Title 21, parts 177.2260 e,f,g,h,i,j,k,l. The materials for all plastic components are listed in US Code of Federal Regulations Title 21, part 177.1520. With regard to food law conformity, the manufacture of depth filter sheets is also subject to ongoing analysis by the German ISEGA Forschungsund Untersuchungsgesellschaft mbH, Aschaffenburg.

Technical specifications

Typical values for ions after rinsing with 100 L/m² WFI

Ca	Mg	Fe	Cu	Al	Ni
< 0.5 ppm	< 0.1 ppm	< 0.1 ppm	< 0.1 ppm	< 0.05 ppm	< 0.01 ppm

Operating characterisitcs [1]

Maximum operating temperature	80°C (176°F)
Maximum differential pressure	2.4 bard (35 psid)

[1] With compatible fluids that do not soften, swell or adversely affect the products or its material of construction.

Plastic parts of construction

Molded parts	Polypropylene
O-rings	Platinum-cured silicone elastomer

Sterilization

Steam in place	125°C (257°F) for 30 minutes at 0.3 bard (4.3 psid) maximum

Nominal dimensions

Diameter	284 mm (12 in.) in 210 configuration
	410 mm (16 in.) in 410 and 420 configuration
Filter area	1.0 m² (11 ft²) in 210 configuration
	2.5 m² (27 ft²) in 410 and 420 configuration

Total length

Double O-ring style	332 mm (13 in.)
Flat gasket style	272 mm (11 in.)

The following documents are also available:

- Certificate of analysis available on request
- EU safety data sheet

Filter media specifications

Product code	Depth filter type	Typical water in permeability L/min/m² @ Δp 1 bar (14.5 psid)	Nominal retention rating in µm	Ash content in %	Endotoxin level in EU/mL before rinsing
PDD1	PDD1	25	0.1 to 0.85	52	< 0.06
PDE2	PDE2	35	0.2 to 3.5	47	< 0.06
PDH4	PDH4	93	0.5 to 15.0	45	< 0.06
PDK5	PDK5	151	1.5 to 20.0	45	< 0.06

Ordering information

Product code ☐ ☐ ☐ ☐ ☐ ☐ ☐

Code	Design
200	SUPRAdisc II HP
300	SUPRAdisc I HP

Filter type
Insert code from depth filter type table above

Code	Adapter
S	Double O-ring
C	Flat gasket

Code	Filter area
210 [2]	1.0 m² (10.6 ft²)
410 [2]	2.5 m² (26.5 ft²)
420 [3]	2.5 m² (26.5 ft²)

[2] SUPRAdisc I HP only
[3] SUPRAdisc II HP only

Code	Gasket material
S	Platinum cured silicone elastomer

Other gaskets available on request.

Code	Plastic parts
P	Polypropylene

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