



Life Sciences

USD3245

Stax™ mAx Clarification Platform



Robust, high performance cell culture clarification

The Stax mAx clarification platform is a single-use, robust, depth filtration solution for the economic clarification of monoclonal antibody cell cultures without the need for centrifugation or process additives. The filtration stages are optimized to maintain performance as cell density and viability change. This robust performance minimizes the impact of process variability between batches and delivers a platform that works across a wide range of cell cultures.

The platform scales directly with a range of formats and sizes suitable for bench-top testing up to large-scale clinical production. Whatever your process volume the Stax mAx platform assures high throughput and filtrate quality and delivers mAximum flexibility, performance and simplicity in a small footprint to meet all your clarification needs.

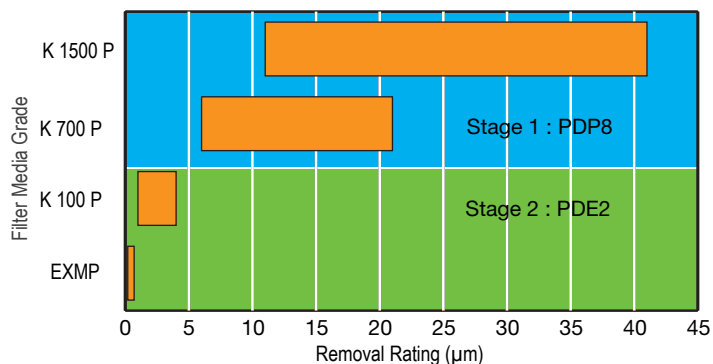
Filtration. Separation. Solution.SM

What is the Stax mAx platform?

The platform consists of two double-layer HP-series depth filtration grades, PDP8 plus PDE2, that combine to create a 4-layer filter system. The coarse primary clarification filter grades (stage 1) and the finer second stage deliver high throughput and high filtrate clarity.

Figure 1

Removal Ratings of the Platform Filter Grades



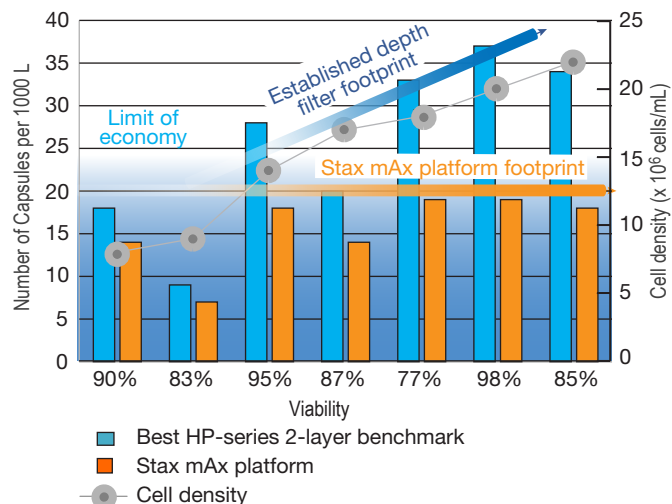
Optimized for cell densities of up to 35×10^6 cells/mL and for cell culture turbidity of up to around 3000 NTU this robust performance makes the Stax mAx platform the ideal solution delivering economy, scalability and simplicity across a broad range of cell cultures.

How does the platform perform?

The combination of filter sheets maintains a high throughput even as the cell density increases and viability decreases. This results in a reduction in the number of capsules required per batch by 25 to 50% when compared to HP-series, double-layer, single stage depth filtration systems.

Figure 2

Robust Performance of Stax mAx Platform



This robust throughput ensures an economic depth filtration solution can be achieved even with large process volumes. When selected the platform performance is resilient against natural batch-to-batch variations in cell culture characteristics which would traditionally lead to a risk of incomplete harvesting due to premature filter blockage.

What formats are available?

The Stax mAx platform depth filter grades, PDP8 and PDE2, are available in a range of formats to support process development through to scale-up and full-scale systems. The high throughput maintains a small footprint as your process scales.

Typical Volume	Format	Filtration Area
100 – 300 mL	Supracap™ 50 capsules 	22 cm ²
1 – 10 L	Supracap 100 capsules 	0.025 - 0.1 m ²
25 – 300 L	Stax system capsules 	0.25 - 3 m ²
50 – 500 L		0.5 - 5 m ²
100 – 1000 L		1 - 10 m ²

Capsule Specifications

	Supracap 50 Capsules*	Supracap 100 Capsules*	Stax Capsules**
Materials of Construction			
Capsule shell	Polypropylene	Polypropylene	Glass filled polypropylene
Manifold assemblies	--	--	Glass filled polypropylene
Internal module	Polypropylene	Polypropylene	Polypropylene
Gasket	Silicone	Silicone	Silicone
Depth filter media	Cellulose	Cellulose	Cellulose
Maximum Operating Pressure	3 bar (44 psi) at 40 °C	3 bar (44 psi) at 40 °C	3.5 bar (50 psi) at 25 °C 1.0 bar (14.3 psi) at 60 °C
Maximum Differential Pressure	1.5 bar (22 psi)	1.5 bar (22 psi)	2.4 bar (35 psi) at 25 °C
Maximum Operating Temperature	40 °C	40 °C	60 °C
Sterilization			
Autoclaving	1 x 30 minute at 125 °C	1 x 60 minute at 125 °C	2 x 60 minute at 125 °C
Inlet / Outlet Connections	Luer	13 mm (½ in.) hose barb***	25 – 38 mm (1 – 1½ in.) sanitary flange
Filtration Area	22 cm²	127 mm (5 in.) 0.025 m² 254 mm (10 in.) 0.05 m² 508 mm (20 in.) 0.10 m²	Small 0.25 m² Medium 0.5 m² Large 1.0 m²

* Further information Pall document reference USD2463f

** Further information Pall document reference USD2590b and for extractables data and certifications please reference USTR 2528

*** Other configurations available. Contact Pall for details.

Capsule Ordering Information

Supracap 50 Capsules

Platform Stage	Description	Details	Part Number	Surface Area
1	Media grade PDP8	6 – 30 µm, PDP8 media (1/pkg)	SC050PDP8	22 cm² (3.41 in²)
2	Media grade PDE2	0.2 – 3.5 µm, PDE2 media (1/pkg)	SC050PDE2	22 cm² (3.41 in²)

Luer-lock inlet, outlet and vent connections

Supracap 100 Capsules

Platform Stage	Description	Details	Part Number	Surface Area
1	127 mm (5 in.) Media grade PDP8	6 – 30 µm, PDP8 media (1/pkg)	NP5LPDP86	0.025 m² (0.27 ft²)
2	127 mm (5 in.) Media grade PDE2	0.2 – 3.5 µm, PDE2 media (1/pkg)	NP5LPDE26	0.025 m² (0.27 ft²)
1	254 mm (10 in.) Media grade PDP8	6 – 30 µm, PDP8 media (1/pkg)	NP6LPDP86	0.05 m² (0.54 ft²)
2	254 mm (10 in.) Media grade PDE2	0.2 – 3.5 µm, PDE2 media (1/pkg)	NP6LPDE26	0.05 m² (0.54 ft²)
1	508 mm (20 in.) Media grade PDP8	6 – 30 µm, PDP8 media (1/pkg)	NP7LPDP86	0.10 m² (1.08 ft²)
2	508 mm (20 in.) Media grade PDE2	0.2 – 3.5 µm, PDE2 media (1/pkg)	NP7LPDE26	0.10 m² (1.08 ft²)

6 to 13 mm (½ in.) single hosebarb inlet and outlet connections

Stax Capsules

Platform Stage	Description	Details	Part Number	Surface Area
1	Small : Media grade PDP8	6 – 30 µm, PDP8 media (1/pkg)	SXSPDP402SP	0.25 m² (2.70 ft²)
2	Small : Media grade PDE2	0.2 – 3.5 µm, PDE2 media (1/pkg)	SXSPDE402SP	0.25 m² (2.70 ft²)
1	Medium : Media grade PDP8	6 – 30 µm, PDP8 media (1/pkg)	SXMPDP404SP	0.5 m² (5.38 ft²)
2	Medium : Media grade PDE2	0.2 – 3.5 µm, PDE2 media (1/pkg)	SXMPDE404SP	0.5 m² (5.38 ft²)
1	Large : Media grade PDP8	6 – 30 µm, PDP8 media (1/pkg)	SXLPDP408SP	1.0 m² (10.8 ft²)
2	Large : Media grade PDE2	0.2 – 3.5 µm, PDE2 media (1/pkg)	SXLPDE408SP	1.0 m² (10.8 ft²)

* For Stax manifold and chassis ordering information, please refer to Pall document reference USD2590b



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