

PALL Food and Beverage

SUPRApak SW series depth filter modules set a new standard for enclosed sheet filtration, providing exceptional throughput and removal performance.

Description

Developed from traditional depth filtration technology, SUPRApak modules efficiently combine the filtration mechanisms of surface filtration, depth filtration and adsorption. Highly unique to their design is an entirely new flow configuration, based on the “edge flow” principle.

Seitz® filter sheet material is wrapped around a central, permeable core. Feed and filtrate channels provide a fluid flow path resulting in maximum utilization of the sheet material, to provide highly efficient contaminant removal and a cost-effective closed system alternative to flat sheet filtration.

Features	Benefits
Flow configuration based on “edge flow” principle	<ul style="list-style-type: none"> Up to 6 times higher throughput compared to classical sheet filtration, resulting in longer process uptimes¹ Increased adsorption capability and excellent filtrate quality
Closed filtration system	<ul style="list-style-type: none"> Increased process safety and product quality; no drip losses; minimal operator exposure to process fluids
Drainable, low hold-up volume assembly	<ul style="list-style-type: none"> Higher product yield; lower cleaning costs
Available in multiple grades and sizes	<ul style="list-style-type: none"> Suitable for a variety of applications
High filtration capacity in compact design	<ul style="list-style-type: none"> Small footprint
Simple, quick installation and servicing	<ul style="list-style-type: none"> Reduced labor and maintenance costs

¹Depending on application and product selection

Quality

- Filter sheets produced in a controlled environment
- Manufactured according to ISO 9001:2008 certified Quality Management System

Food Contact Compliance

Please refer to the Pall website www.pall.com/foodandbev for a Declaration of Compliance to specific National Legislation and/or Regional Regulatory requirements for food contact use.

SUPRApak™ SW Series Modules For High Throughput Depth Filtration in Closed Systems



SUPRApak SW Series Modules

Main Components²

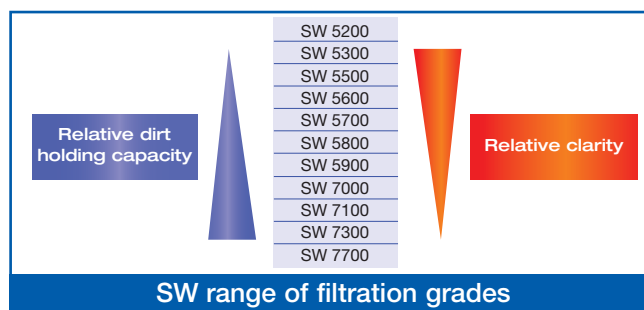
Sheet Material	Cellulose, diatomaceous earth (DE, Kieselguhr) perlites
SW 5200, SW 5300, SW 5500, SW 5600, SW 5700, SW 5800, SW 5900, SW 7000, SW 7100, SW 7300	
SW 7700	Cellulose
Center Core	Polypropylene (20% talc-filled)
Straps	Polyester

²For more information on materials of construction, please see the Declaration of Compliance at www.pall.com/foodandbev.

Applications

Typical applications are found in many fluids in the food and beverage industry.

Final Filtration	enzyme solutions, sweeteners
Polishing filtration	sweeteners, beer, wine, flavors, distilled spirits, thin liquor gelatin, yeast extract
Clarifying filtration	beer, wine, enzymes, distilled spirits, flavors, thin liquor gelatin, polyols, edible oils
Coarse filtration	general particle removal, wax removal in edible oils



Technical Information

Operating Characteristics in Compatible Fluids³

Module Size	Grade	Max. Operating Temperature
SUPRApak S, M, L	SW 5200–SW 7300	75 °C (167 °F)/8 hours ⁴
SUPRApak S, M, L	SW 7700	ambient

³ Compatible fluids are those which do not adversely affect the filter materials of construction.

⁴ Laboratory tests up to 8 hours exposure. Actual field experience shows substantially longer resistance to high temperatures. For continuous hot fluid applications over 40° C (104° F), a stainless steel support core is required. Please see SUPRApak housing data sheet for information.

Operating Guidelines

Field experience shows that maximum achievable differential pressures vary with the applications and product selection. They are determined by monitoring filtrate quality, and are influenced by several factors. Please contact Pall for details, and refer to SUPRApak module instructions for use.

Nominal Weight and Typical Ash Content

Module	Dry Weight	Wet Weight	Ash Content ⁵
SUPRApak S (SW 5200–SW 7300)	1.6–1.8 kg (3.5–4 lbs)	3.5–4.5 kg (7.7–9.9 lbs)	35–49%
SUPRApak S (SW 7700)	1.2 kg (2.6 lbs)	3.1–3.8 kg (6.8–8.4 lbs)	< 2%
SUPRApak M (SW 5200–SW 7300)	5.1–5.6 kg (11.2–12.3 lbs)	15.5–16.5 kg (34.1–36.3 lbs)	40–54%
SUPRApak M (SW 7700)	3.8 kg (8.4 lbs)	13–15 kg (28.6–33 lbs)	< 2%
SUPRApak L (SW 5200–SW 7300)	11–12 kg (24.2–26.4 lbs)	25–30 kg (55–66 lbs)	40–54%
SUPRApak L (SW 7700)	7.5 kg (16.5 lbs)	25–30 kg (55–66 lbs)	< 2%

⁵ These figures are determined on typical finished articles. Values differ for individual SW grades. Ash values for the filter sheets in individual batches are available on request.

Sanitization⁶

Method	Temperature	Max. Differential Pressure (forward)	Time/Cycles ⁷
Hot Water	85 °C (185 °F)	1.5 bard (21.7 psid)	10 cycles @ 20 min each

⁶ SW 7700 is not designed for sanitization with hot water.

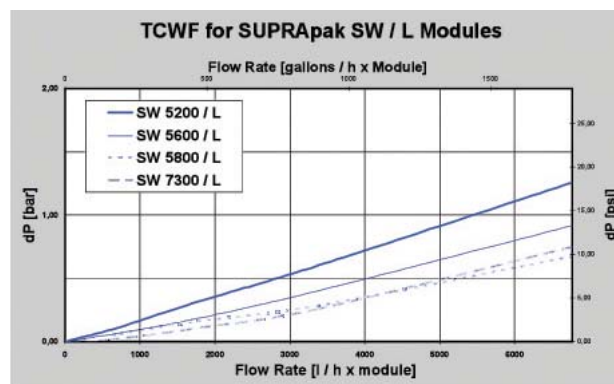
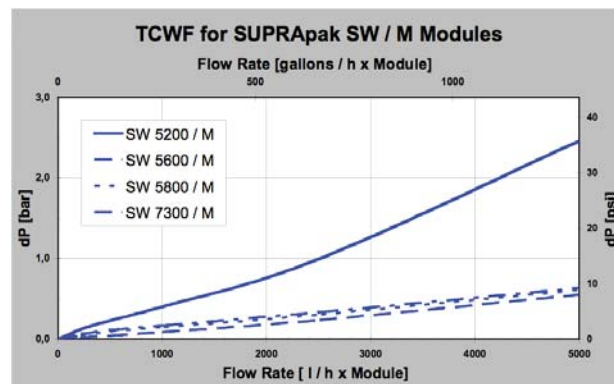
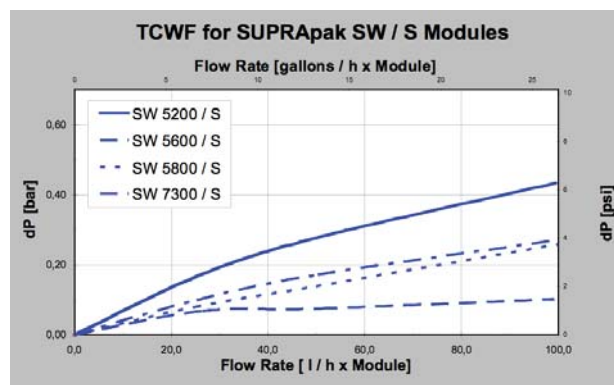
⁷ The actual time required may vary as a function of the process conditions. Laboratory tests were carried out up to 10 cycles. Actual field experience shows more cycles are achievable, coupled with proper filtrate quality monitoring.

Rinsing⁸

Module Size	Rising Volume/Module	Recommended Flow Rate
SUPRApak S	20 liters (5.3 gal)	1.5 times filtration flow rate
SUPRApak M	140 liters (37 gal)	1.5 times filtration flow rate
SUPRApak L	340 liters (90 gal)	1.5 times filtration flow rate

⁸ Depending on the application, rinsing with cold or warm water in a forward flow direction is recommended prior to filtration.

Typical Flow Rates⁹



TCWF for SW 7700 Modules

Due to the high permeability of SUPRApak SW7700 modules, initial clean water differential pressures at the typical flux rates used for these modules are negligibly low and influenced by measurement accuracy.

Module	Flow Rate/Module	Initial Differential Pressure ⁹
SUPRApak S, M, L (SW 7700)	≤ 5000 liters/hour (22 gal/min)	≤ 400 mbar (5.8 psid)

⁹ TCWF: Total Clean Water Flow. Typical initial clean delta p per module, water at 20° C (68° F), viscosity 1 cP. For assistance with filter sizing, please contact Pall.

Ordering Information

This information is a guide to the part number structure and possible options. For availability of specific options and housing details, please contact Pall.

Part Number: SUPRApak SW

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 W

Table 1 Table 2

Example Part Number: SUPRApak SW 5200 LW

See bold reference code in tables.

Table 1: Grade

Code
5200
5300
5500
5600
5700
5800
5900
7000
7100
7300
7700

Table 2: Nominal Dimensions

Code	Height	External Diameter
S	250 mm (9.8")	183 mm (7.2")
M	250 mm (9.8")	285 mm (11.2")
L	250 mm (9.8")	415 mm (16.3")

Each SUPRApak M and L module is supplied with a separate polypropylene ring for use in between adjacent modules.

Figure 2: At one installation at a brewery, the use of SUPRApak technology saves 68% on operating costs, compared to classical sheet filtration.



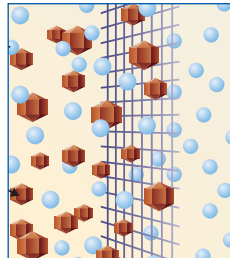
Figure 1: Many applications in the food and beverage industry are ideally suited to the use of SUPRApak technology, resulting in significant commercial and technical advantages.



Sweeteners



Gelatin



Enzyme Solutions



Spirits



Beer



Wine



Pall Corporation

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Please contact Pall Corporation to verify that the product conforms to your national legislation and/or regional regulatory requirements for water and food contact use.

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