

SUPRApak SH series depth filter modules set a new standard for enclosed sheet filtration, providing exceptional throughput and quality in distilled spirits applications.

## 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.

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.

SH series SUPRApak modules are constructed from Seitz® IR series filter sheets which undergo a proprietary treatment that results in extremely low levels of extractable ions. This makes them ideal for spirits applications since ions like calcium and magnesium can result in precipitation and haze formation.

Features	Benefits
Flow configuration based on "edge flow" principle	<ul style="list-style-type: none"> <li>Higher throughput compared to classical sheet filtration<sup>1</sup></li> <li>Increased adsorption capability and excellent filtrate quality</li> </ul>
Closed filtration system	<ul style="list-style-type: none"> <li>Increased process safety and product quality; no drip losses; reduction in volatile organic compounds</li> </ul>
Drainable, low hold-up volume assembly	<ul style="list-style-type: none"> <li>Higher product yield; lower cleaning costs</li> </ul>
Constructed from ion reduced filter sheets (calcium, iron, magnesium and aluminium)	<ul style="list-style-type: none"> <li>Reduced risk of precipitation in distilled spirits</li> </ul>
High filtration capacity in compact design	<ul style="list-style-type: none"> <li>Small footprint</li> </ul>
Simple, quick installation and servicing	<ul style="list-style-type: none"> <li>Reduced labor and maintenance costs</li> </ul>
Available in 3 module sizes (S, M, and L)	<ul style="list-style-type: none"> <li>Suitable for a variety of applications</li> </ul>

<sup>1</sup>Depending on application and product selection

## Quality

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

## SUPRApak™ SH Series Modules For High Throughput Depth Filtration of Distilled Spirits in Closed Systems



SUPRApak SH Series Modules

## Main Components<sup>2</sup>

<b>Sheet Material</b> (SH 5700, SH 5900, SH 7200)	Cellulose, diatomaceous earth (DE, Kieselguhr) perlites
<b>Center Core</b>	Polypropylene (20% talc-filled)
<b>Straps</b>	Polyester

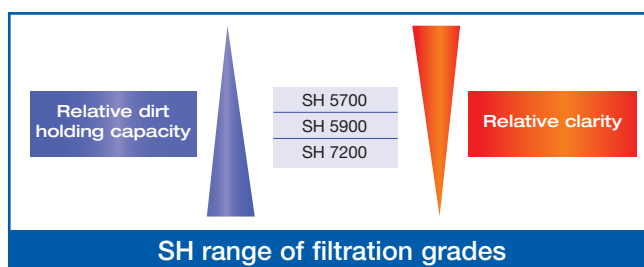
<sup>2</sup>For more information on materials of construction, please see the Declaration of Compliance at [www.pall.com/foodandbev](http://www.pall.com/foodandbev).

## Applications

Grade	Typical Application
SH 5700	Chill/polishing filtration of spirits
SH 5900	Chill filtration of brown spirits or white spirits high in fatty acids
SH 7200	Particle removal

## Food Contact Compliance

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



## Technical Information

### Nominal Weight and Typical Ash Content

Module Size	Dry Weight	Wet Weight	Ash Content <sup>3</sup>
SUPRApak S	1.2–1.5 kg (2.6–3.3 lbs)	3.1–4 kg (6.8–8.8 lbs)	34–38%
SUPRApak M	4.2–5.4 kg (9.3–11.9 lbs)	14–15.6 kg (30.9–34.4 lbs)	40–45%
SUPRApak L	11.5–12 kg (25.4–26.5 lbs)	25–30 kg (55–66 lbs)	41–47%

<sup>3</sup>These figures are determined on typical finished articles. Values differ for individual SH grades. Ash values for the filter sheets in individual batches are available on request.

### Operating Guidelines

Field experience shows that maximum achievable differential pressures vary with the application 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.

### Rinsing

The use of ion-reduced water is highly recommended for the reconstitution of distillates to final strength.

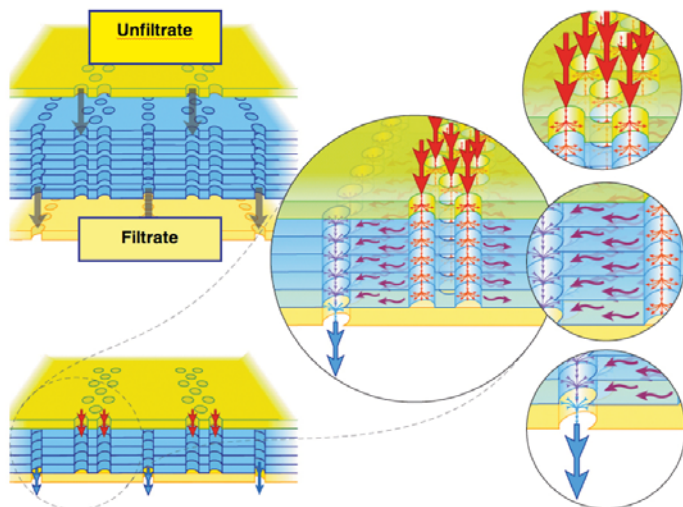
To prevent dilution upon installation, a water rinse is not typical for SUPRApak modules used in the spirits industry. Product circulation for 10 to 15 minutes back to the feed tank helps to distribute ions extracted at the beginning of filtration to the entire batch reducing the overall risk of precipitation.

### Filtration Guidelines<sup>4</sup>

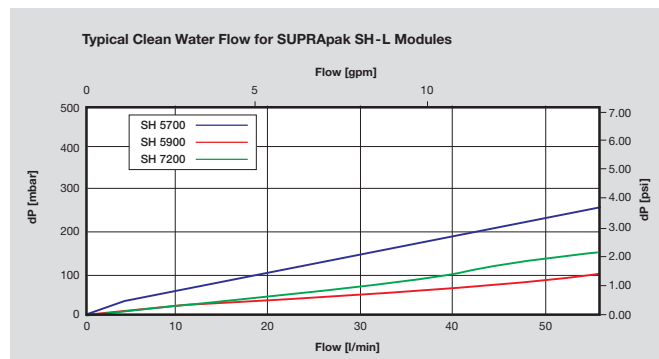
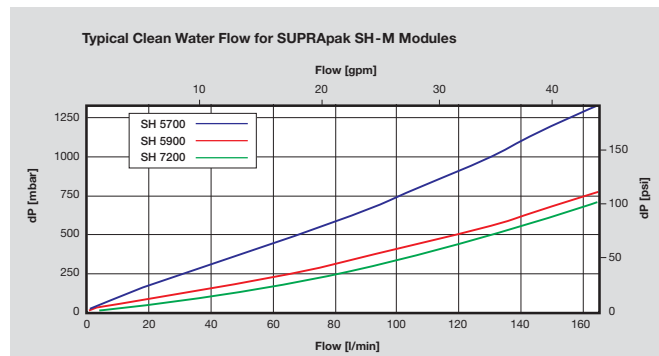
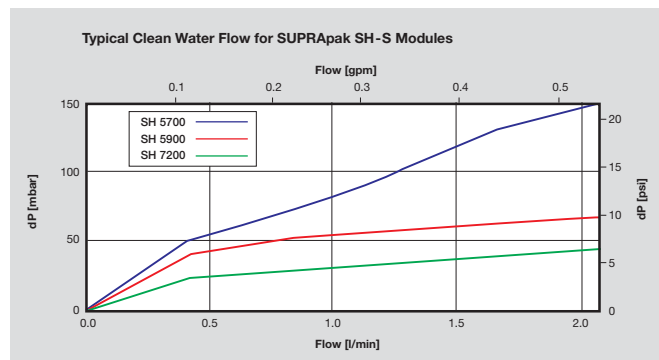
Module Size	Recommended Flow Rate
SUPRApak S	150 – 240 L/h (0.7 – 1.1 gal/min)
SUPRApak M	900 – 1650 L/h (4 – 7.3 gal/min)
SUPRApak L	2500 – 4500 L/h (11 – 20 gal/min)

<sup>4</sup>Please contact Pall for recommendations on your specific filtration process as results may vary by product, pre-filtration and filtration conditions.

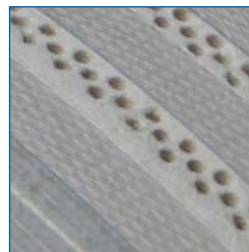
Figure 1: SUPRApak flow configuration



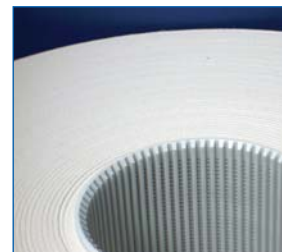
### Typical Flow Rates<sup>5</sup>



<sup>5</sup>Typical initial clean  $\Delta P$  per module, water at 20 °C (68 °F), viscosity 1 cP. For assistance with filter sizing, please contact Pall.



Perforated channels allow maximum usage of filter area



Densely packed sheet material is wrapped around a permeable core

## 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 SH   W  
Table 1 Table 2

**Example Part Number:** SUPRApak SH 5700 LW

See bold reference code in tables.

**Table 1: Grade**

Code
<b>SH 5700</b>
SH 5900
SH 7200

**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")
<b>L</b>	250 mm (9.8")	415 mm (16.3")



SUPRApak SH module and housing



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