



Food and Beverage

# SUPRApak L Series Filter Housings

SUPRApak™ Filtration  
For Large Scale Depth Filtration



## SUPRApak L Series-WA Filter Housings Technical Information

SUPRApak L Series-WA housings are designed for use with SUPRApak L filter modules. They revolutionize depth filtration applications in the food and beverage industry, providing a cost-effective alternative to classical sheet filtration.

Features	Benefits
Closed filtration system	<ul style="list-style-type: none"> <li>Increased process safety and product quality; minimized product losses, product contamination risk and personnel exposure to process fluids</li> </ul>
Compact design with high filtration area	<ul style="list-style-type: none"> <li>Extremely high throughput at low investment cost</li> </ul>
Drainable, low hold-up volume assembly	<ul style="list-style-type: none"> <li>Higher product yield; minimized cleaning costs</li> </ul>
High quality internal surface finish, sanitary and crevice-free design	<ul style="list-style-type: none"> <li>Enhanced cleanability</li> </ul>
Flexible modular design	<ul style="list-style-type: none"> <li>Production volumes can be matched to equipment capacity; capability for future expansion</li> </ul>
External tensioning device with preset torque limit	<ul style="list-style-type: none"> <li>Provides secure operation without bypass</li> </ul>
Dual inlet connections on sizes exceeding 3 modules	<ul style="list-style-type: none"> <li>Minimizes product mixing zones</li> </ul>
Simple, quick installation and servicing	<ul style="list-style-type: none"> <li>Reduced labor, maintenance and downtime costs</li> </ul>
Filter module lifting device available on request	<ul style="list-style-type: none"> <li>Eases filter installation and removal</li> </ul>
European ATEX Directive, Group 2, Category III documentation (Zones 1/21 and 2/22)	<ul style="list-style-type: none"> <li>Suitable for use in potentially explosive environments</li> </ul>

### Description

SUPRApak L filtration units provide a closed system approach to high capacity depth filtration, maximizing product protection and minimizing product losses. Lower cost of ownership is achieved due to higher throughput, yield improvement, and reduced handling, cleaning, maintenance and downtime costs, when compared to sheet filtration.

SUPRApak L technology is ideal for use in distilled spirits, beer, sweetener, enzyme, gelatin, yeast extract, and other food and beverage applications.

SUPRApak L Series-WA units hold from one to six SUPRApak L modules, representing up to approximately 60 m<sup>2</sup> (646 ft<sup>2</sup>) of filtration area in a very compact and low hold-up volume design. They are available either in single dome or flexible modular design.

### Specifications

Minimum/Maximum Design Pressure <sup>1,2</sup>	Liquids: -1 to 8 barg (-14.5 to 116 psig) Gases: -1 to 3.5 barg (-14.5 to 50.8 psig)
Minimum/Maximum Operating Temperature <sup>1</sup>	-10 to 150 °C (14 to 302 °F)
Materials of Construction	Wetted parts 1.4404 (AISI 316L stainless steel)
Sealing Materials <sup>3</sup>	EPDM elastomer
Internal Surface Finish	≤ 0.8 micrometers Ra (≤ 32 Ra microinches), electropolished
Internal Welds	Dressed and blended to provide uniform ripple- and crevice-free surface to ≤ 0.8 micrometers Ra (≤ 32 Ra microinches), electropolished
Connections	Inlet/Outlet DN65 (DIN 11851) 2.5 inch ISO 2852 clamp coupling compatible adaptors available by specific order
	Filtrate Vent DN6 (8 mm / 0.31 inch OD) hose tail
Filter Module Compatibility <sup>4</sup>	SUPRApak L series modules

<sup>1</sup> Maximum design pressure and temperature ratings are vessel ratings only. Safe operation will also depend on filter module and housing gasket use. EPDM assembly seals restrict continuous operating temperature to 130 °C (266 °F). For details on module temperature limitations, please refer to SUPRApak module literature.

<sup>2</sup> Design satisfies EC Pressure Equipment Directive (PED Assessment) (Fluid Group 2, Category III, Module H). Pressure rating is suitable for non-hazardous liquids or gases. The PED category and fluid group classification indicates suitability of housing use on distilled spirits less than 70% by weight absolute alcohol. For such applications, the maximum allowable temperature must be below the flash point. For 70% by weight absolute alcohol the flashpoint is 21 °C (69.8 °F).

<sup>3</sup> Please contact Pall to ensure the products meet specific National Legislation and/or Regional Regulatory requirements for food contact use.

<sup>4</sup> Refer to Pall Food and Beverage SUPRApak module literature for additional guidelines on use.

# SUPRApak L Series-WA Filter Housings

## Technical Information

SUPRApak L Series-WA housings are supplied without standard accessories. A few optional accessories are available.

**Nominal Dimensions in mm (inches) —**  
For specific dimensions, please contact Pall<sup>5</sup>.

	L-100	L-200	L-300	L-421	L-520	L-630
		L-210	L-311	L-430	L-522	L-632
			L-320			
A <sup>6</sup>	1360 (53.5)	1874 (73.8)	2389 (94.1)	2870 (113)	3604 (141.9)	4113 (161.9)
B	1021 (40.2)	1280 (50.4)	1539 (60.6)	1797 (70.7)	2056 (80.9)	2316 (91.2)
C	877 (34.5)	1134 (44.6)	1392 (54.8)	1652 (65.0)	1912 (75.3)	2172 (85.5)
D <sup>7</sup>	320 (12.6)	320 (12.6)	320 (12.6)	320 (12.6)	320 (12.6)	320 (12.6)
E <sup>8</sup>	314 (12.4)	314 (12.4)	314 (12.4)	314 (12.4)	314 (12.4)	314 (12.4)
F <sup>8</sup>	160 (6.3)	160 (6.3)	160 (6.3)	160 (6.3)	160 (6.3)	160 (6.3)
G	457.2 (18)	457.2 (18)	457.2 (18)	457.2 (18)	457.2 (18)	457.2 (18)

<sup>5</sup> Pall Corporation reserves the right to make dimensional modifications at any time, maintaining the same fit, form, and function. Please request a general arrangement drawing if exact dimensions are required.

<sup>6</sup> Dimension 'A' is maximum height clearance required, for lifting entire dome. Lifting dome sections in parts reduces amount of clearance needed.

<sup>7</sup> Adjustable (leg height adjustment)

<sup>8</sup> Indicated dimensions are for installations requiring DIN connections. For installations requiring clamp coupling connections, an optional DIN to clamp coupling adaptor is additionally available. See Optional Accessories. If adaptors are added to the inlet and outlet connections, add 85.3 mm (3.4 in) for each adaptor to the pipeline length.

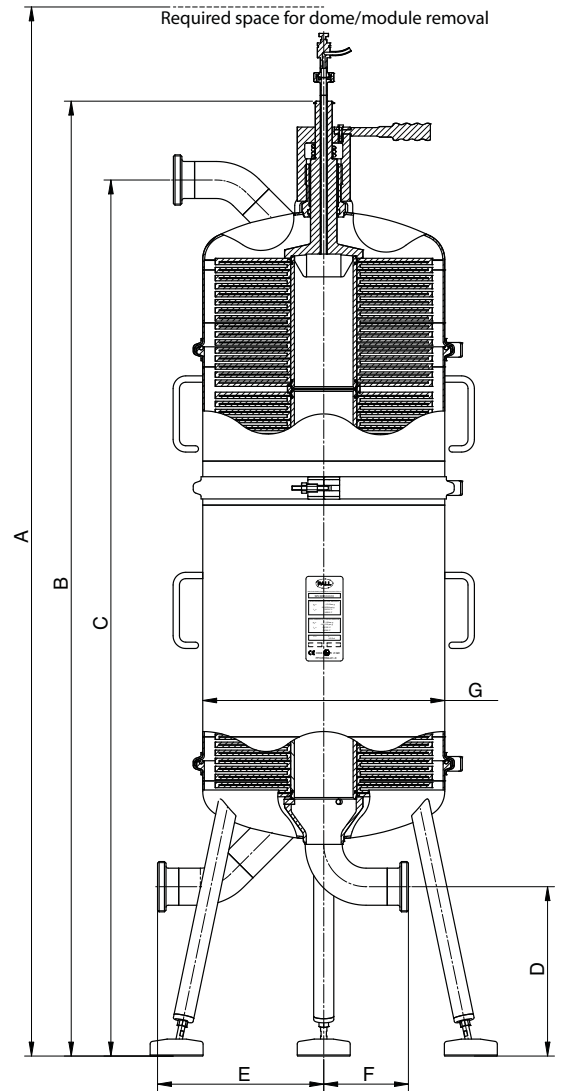


Figure 1: Dimensional information

### Volume and Weight

	L-100	L-200	L-210	L-300	L-311	L-320	L-421	L-430	L-520	L-522	L-630	L-632
Volume L (US gal)	53 (14)	95 (25)	95 (25)	138 (37)	138 (37)	138 (37)	181 (48)	181 (48)	224 (59)	224 (59)	267 (71)	267 (71)
Weight kg (lb)	31 (68)	61 (135)	68 (150)	70 (154)	84 (185)	77 (170)	94 (207)	87 (192)	97 (214)	103 (227)	106 (234)	112 (247)

### Standard Documentation<sup>9</sup>

- Certificate of Conformity to Quality Standards
- Final Inspection Certificate
- Installation/Operating Manual (IOM)

<sup>9</sup> Additional documentation packages can be ordered.

Please request PPD004BRONZ, PPD004SILVER, or PPD004GOLD.

This is a guide to the part numbering structure and possible options only.  
For availability of specific options, please contact Pall.

Part Number: **SPL WA**   **TVA**

Table 1

**Example Part Number: SPLWA300TVA**

**Note:** See bold reference codes in the tables.

**Table 1**

Code <sup>10</sup>	Bowl Height and Configuration	Number of SUPRApak Modules
100	1-High Bowl	1
200	2-High Bowl	2
210	2-High Split Bowl	1 or 2
<b>300</b>	3-High Bowl	3
311	3-High Split Bowl	1, 2, or 3
320	3-High Split Bowl	1 or 3
421	4-High Split Bowl	1, 2, 3, or 4
430	4-High Split Bowl	1 or 4
520	5-High Split Bowl	3 or 5
522	5-High Split Bowl	1, 3, or 5
630	6-High Split Bowl	3 or 6
632	6-High Split Bowl	1, 3, 4, or 6

<sup>10</sup> For shortest possible lead times, please choose preferred housing options 100, 210, 311, 421, 522, or 632.

### Optional Accessories

Part No.	Description	Details
ACS1035AA	Sight Glass DN65	For filtrate side piping
25590-0226 <sup>11</sup>	Hot Fluid Core	1.4404 (AISI 316L SS)
25590-0226-01 <sup>11</sup>	Hot Fluid Core Extension Z1	1.4404 (AISI 316L SS)
25590-0226-02 <sup>11</sup>	Hot Fluid Core Extension Z2	1.4404 (AISI 316L SS)
ACS1036AA	Hook Spanner DN10-20	Tool
ACS1037AA	Hook Spanner DN25-100	Tool
ACS1116AA	Maintenance Tool Kit	Hook spanners, adjustable torque wrench, torque unit tools
ACS1034GM	Inlet/Outlet Adaptor (DN65 – 2 ½ inch clamp coupling)	Adaptor for piping adaption from DN to ISO 2852 clamp coupling connection

<sup>11</sup> For hot fluid filtration (>40 °C/ >104 °F) select Hot Fluid Core for the top module in the stack and add Hot Fluid Core Extension Z1 (1-high section) and/or Hot Fluid Core Extension Z2 (2-high section) as required. A 1-high housing will only require the Hot Fluid Core.



Figure 2: Stainless steel core for hot fluid filtration



Figure 3: Cutaway view of SUPRApak housing with SUPRApak modules

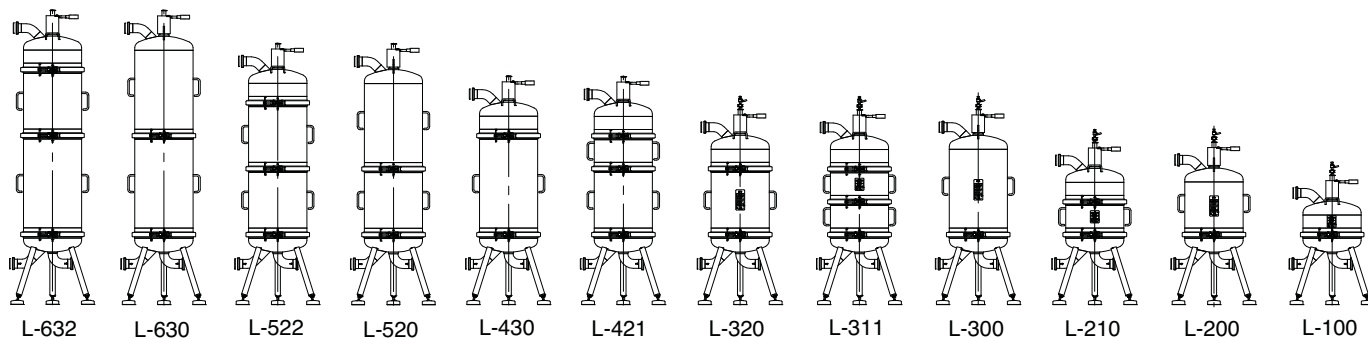


Figure 4: Single and split bowl designs offer flexibility. See Table 1.

### Spare Parts

Part No.	Description	Details
ACS1038AA <sup>12, 13</sup>	Housing Z1 Extension	Extension piece only
ACS1030AM <sup>12, 13</sup>	Housing Z1 Extension Kit	Extension piece, housing clamp, o-ring
ACS1031AM <sup>12, 13</sup>	Housing Z2 Extension Kit	Extension piece, housing clamp, o-ring
ACS1032AM <sup>12, 13</sup>	Housing Z3 Extension Kit	Extension piece, housing clamp, o-ring
ACS1033AM <sup>13</sup>	Housing Closure Clamp Kit	Housing closure clamp, 1.4301 (AISI 304 SS) and o-ring, EPDM elastomer
ACS1039EM <sup>13</sup>	Housing O-Ring	EPDM elastomer
ACS1050EA	DN65 Seal	EPDM elastomer, for piping
ACS1081EA	DN10 Seal	EPDM elastomer, for piping to filtrate vent
ACS1082EA	DN6 Seal Kit	EPDM elastomer kit, for filtrate vent valve
ACS1040AA	Torque Unit (vented)	Torque unit with filtrate vent
ACS1106EX	Torque Unit Rod Seal	EPDM elastomer
ACS1042AA	Torque Wrench	Torque unit spare part
ACS1043AA	Torque Unit Guide Bush	Torque unit spare part
ACS1044AA	Torque Unit Clamp Nut	Torque unit spare part
KCA69045	Torque Unit Circlip	Torque unit spare part

<sup>12</sup> The PED Category III Module H classification limits the maximum allowable housing height to 6-high. Please consult Pall regarding the required system installation for new extension additions, which result in 4 to 6-high housings.

<sup>13</sup> Please provide housing serial number when requesting these spare parts.

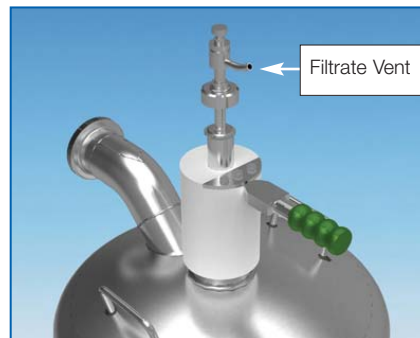


Figure 5: The filtrate vent, mounted on the torque unit, enables release of air from the filtrate inside the module core.

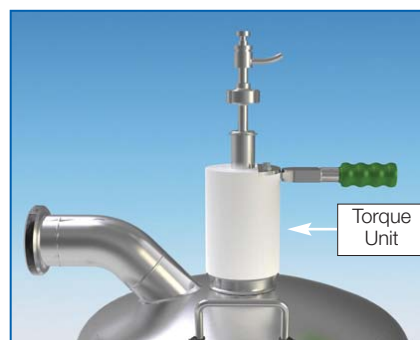


Figure 6: The torque unit is an external tensioning device with preset torque limit, which provides reliable and secure operation without bypass.



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