

Stainless Steel Pressure Filter Holders

Sterlitech Large Pressure Filter Holders are ideal for filtering gases or liquids. These stainless steel holders allow you to seal the membrane by hand with tightening and locking wing nuts. They are non-threaded and can be completely disassembled for thorough cleaning.

For batch processing, combine one of our large stainless steel pressure filter holders, reservoir pressure filter holders or multi media pressure sealing filter holders with a pressure pump or with one of our pressure filtration vessels.



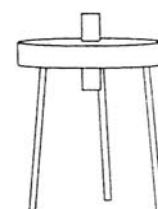
Catalog Numbers	Standard			Sanitary (inlet and outlet connections disassemble completely for thorough cleaning)		
	KS 90	KS 142	KS 293	KS 90 ST	KS 142 ST	KS 293 ST
304 SS	300800	301900	302500	-	302100	302700
316 SS	300900	302000	302600	351800	302200	302800

SPECIFICATIONS

Materials Body Support screen O-rings, gaskets	Type 304 or 316 stainless steel PTFE-coated photoetched stainless steel PTFE, silicone rubber
Connectors: Standard inlet Standard outlet Sanitary (inlet/outlet)	¾" NPTF to 11mm (3/8") hose barb (293: 16mm (5/8") hose barb) ¾" NPTM to 11mm (3/8") hose barb (293: 16mm (5/8") hose barb) 1 ½" sanitary fitting to 11mm (3/8") hose barb
Pressure:	Maximum differential pressure: 7 kg/cm ² (100 psi)

Supplied with aluminum wrench (spanner) and 6mm allen wrench (hex key).

Filter Holder Size	90	142	293
Membrane Filter Size (mm)	90	142	293
Prefiter Size (mm) (if used with membrane)	75	124	257
Filtration Area (cm ²)	45	113	530



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TYPICAL INITIAL FLOW RATES*

Membrane pore size (um)	Standard			Sanitary		
	KS 90	KS 142	KS 293	KS 90 ST	KS 142 ST	KS 293 ST
0.1	0.2	0.5	2.0	0.2	0.3	1.7
0.2	0.8	1.9	6.1	0.8	2.0	7.0
0.45	1.6	4.9	17.0	1.6	4.6	18.0
0.65	4.3	8.1	30.0	4.3	10.0	34.0
0.8	5.8	10.6	32.0	5.8	18.0	43.0
1.2	7.0	11.0	34.0	7.0	21.0	50.0
3.0	8.2	13.9	38.0	8.2	28.0	55.0
5.0	9.5	13.9	NA	9.5	33.0	NA

*Units: L/min. Conditions: 0.7 kg/cm² (10psi) differential pressure, 20°C, nitrocellulose membrane.

CLEANING AND MAINTENANCE

- Disassemble the entire unit:
 - Inspect screens for nicks or rough edges and check O-rings and gaskets for cracking and loss of elasticity.
 - Carefully remove O-rings with blunt-tipped forceps.
 - Rotate (flip over) PTFE gasket (this minimizes flattening on the side in contact with the membrane).
- Clean all components with a standard, non-abrasive laboratory detergent:
 - Threaded connections may be cleaned with a stiff-bristled brush.
 - Sanitary connections, PTFE support screens, and interior surfaces may be cleaned with a sponge or non-abrasive cloth.
- Rinse with hot tap water followed by a final rinse with distilled or deionized water.
- To sterilize:
 - Assemble a completely dry filter with membrane. Attach hoses and clamps to holders. Tubing/hoses should be less than or equal to 3 feet long (1 meter) and must be completely dry. Sealing clamps should only be finger tight during assembly.
 - Wrap both inlet and outlet hoses with steam permeable paper.
 - Autoclave the holder at 121 C (250 F) for the time listed in the table below. Slow exhaust only.

Filter holder size:	90	142	293
Time in minutes:	35	45	55

- After the holder has cooled to room temperature, securely tighten clamps.

FILTRATION TIPS

- Prefilters can prolong a membrane filter's life by trapping particles which might otherwise clog the membrane's pores.
- PTFE O-rings and gaskets may become flattened with use under pressure. Boil them in water for a few minutes to restore shape and thickness.
- The pressure relief valve must be replaced as a unit. Disassembly affects pressure calibration.

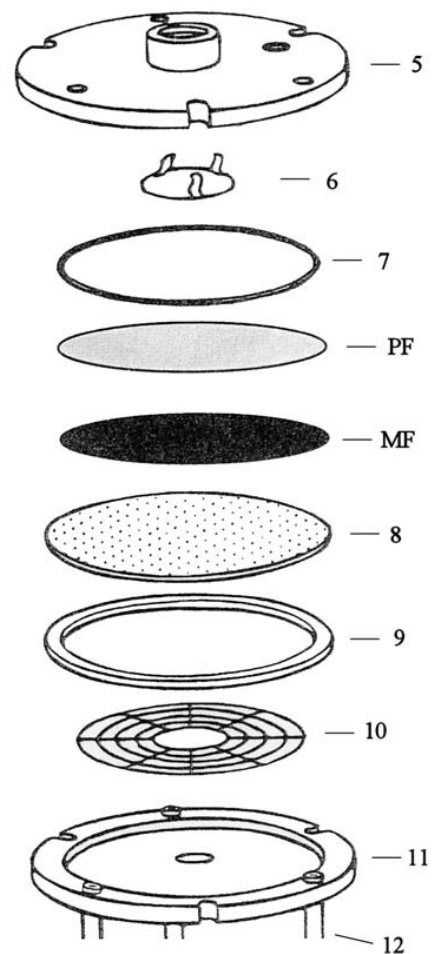
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ASSEMBLY

1. Attach legs (12) to outlet plate (11).
2. Inlet/outlet assembly:
 - Standard
 - a. Wrap all male threaded
 - b. Attach threaded inlet and outlet connectors to the appropriate plates.
 - c. Tighten securely with the supplied aluminum wrench.
3. Filter support system:
 - a. Center the underdrain support (10) on the outlet plate.
 - b. Place PTFE gasket (9) outside the underdrain support on the outlet plate.
 - c. Place the PTFE-coated support screen (8) on top of the Teflon gasket and underdrain support.
 - d. Center the membrane filter (MF) on top of the support screen.

Note: Use blunt forceps to handle the membrane.
 - e. Center a prefilter (PF, if used) on top of the membrane.
 - f. An optional back pressure support screen can be used on top of membrane filter or prefilter.
4. Place the sealing O-ring (7) in the channel in the inlet plate. Check to be sure the flow deflector (6) is clipped in place and the vent relief valve has been securely attached to the inlet plate (5), wrapping threads with PTFE tape.
5. Lower inlet plate (5) onto filter, centering holes over leg bolts.
6. Slide on wing-type clamps, finger tighten. You may autoclave the holder at this point. See Sterilization instructions.
7. Tighten clamps by one quarter turns, working around the perimeter of the holder until clamps are securely tightened. Use the wrench supplied for tightening, the groove is designed to fit the wing nut.

- Sanitary
- a. Align gasket with flange on inlet (outlet) plate.
 - b. Place inlet (outlet) adapter on top of gasket.
 - c. Seal with Tri-Clamp.



OPERATION

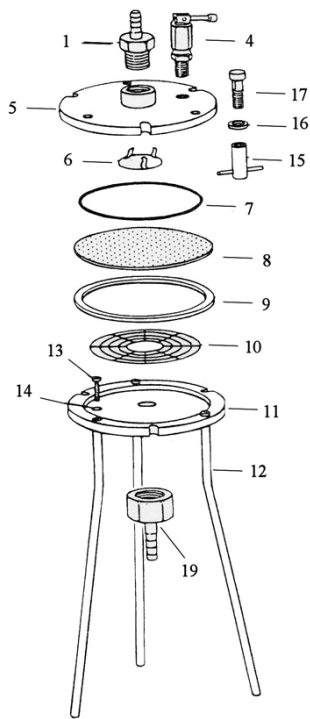
1. Attach tubing between holder and pressure dispensing reservoir.
2. Open the relief valve on the filter holder.
3. Close off tubing to holder and slowly pressurize reservoir. After reservoir is pressurized slowly begin flow of liquid to the filter holder.
4. When liquid starts to come out of the filter holder relief valve, close the valve.
5. Filtrations generally should begin at 2-5 psi. When pressure exceeds 20 psi across the membrane holder, a filter change may be needed.

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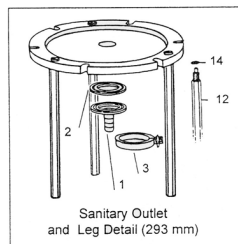
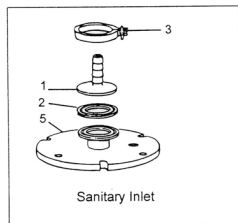
ORDERING GUIDE

	#	Description	304	316
Standard	1	Inlet adapter (90, 142mm)	300813	300913
	1	Inlet adapter (293mm)	302513	302613
	4	Vent relief valve	301825	
	5	Inlet plate (90mm)	300809	300909
	5	Inlet plate (142mm)	301909	302009
	5	Inlet plate (293mm)	302509	302609
Sanitary	#	Description	304	316
	1	Inlet/outlet adapter	306203	306204
	2	Gasket (silicone)	306108	
	3	Clamp, 1.5 Tri-Clamp	306000	
	4	Vent relief valve	301825	
	5	Inlet plate (90mm)	-	351809
	5	Inlet plate (142mm)	302109	302209
	5	Inlet plate (293mm)	302709	302809

#	Description	304	316
11	Outlet plate (90mm)	300801	300901
11	Outlet plate (142mm)	301901	302001
11	Outlet plate (293mm)	302501	302601
19	Outlet adapter (90, 142mm)	300817	300917
19	Outlet adapter (293mm)	302517	302617
#	Description	304	316
11	Outlet plate (90mm)	-	351801
11	Outlet plate (142mm)	302101	302201
11	Outlet plate (293mm)	302701	302801
1	Inlet/outlet adapter	306203	306204
2	Gasket (silicone)	306108	
3	Clamp, 1.5 Tri-Clamp	306000	



Standard 90, 142mm



#	Part	90	142	293
7	O-ring FEP-encapsulated silicone	301706	301906	302506
7	O-ring Viton	301707	301907	302507
8	Support Screen (316 SS)	301835	302035	302635
-	Back pressure support screen (304 SS)	301726	301926	302530
-	Back pressure support screen (316 SS)	301728	301928	302532
-	Back pressure support screen (PTFE-coated 304 SS)	301727	301927	302531
-	Back pressure support screen (PTFE-coated 316 SS)	301729	301929	302533
2	Gasket (sanitary inlet/outlet) PTFE	306109		
2	Gasket (sanitary inlet/outlet) Viton	306110		
-	Allen wrench (hex key), 6mm	301721		-
-	Spanner (wrench) 142mm	301922		

Assemblies are available with PTFE coating by special order

#	Description	90	142	293
6	Flow deflector 316 SS (standard)	301808		
6	Flow deflector 316 SS (sanitary)	302208		302808
7	O-ring, silicone	301705	301905	302505
8	Support screen, PTFE coated SS	301804	302004	302604
9	Gasket, PTFE	301703	301903	302503
10	Underdrain support, 316 SS	301802	302002	302602

#	Description	90	142	293
12	Leg (standard)	301719	301919	302519
12	Leg (sanitary)	301919		302519
13	Leg bolt	301718	-	
14	Leg washer	301720	302518	
15	Sealing wing nut	301914	302514	
16	Sealing washer	301916	302516	
17	Sealing bolt	301915	302515	
18	Handle	-	-	302520