

STAINLESS STEEL MEMBRANE HOUSING



EDITION FOR
ABCO CATALOG

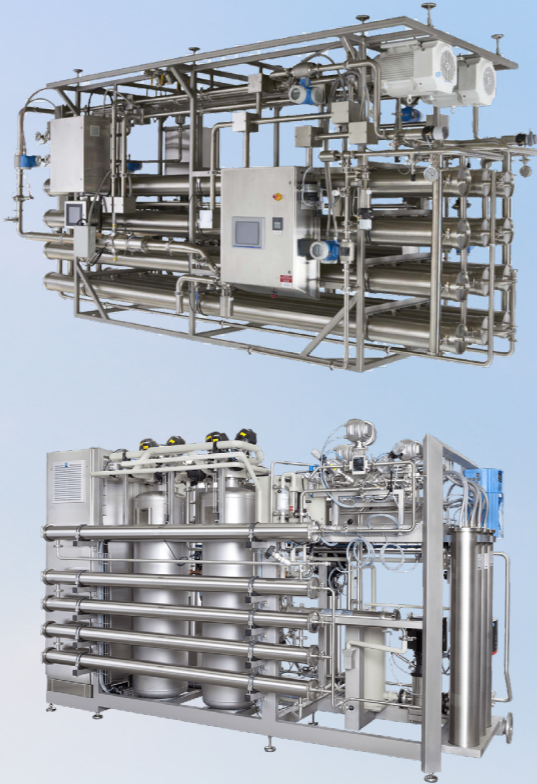


Description

Stainless steel membrane housing is mainly used to house membrane elements to effectively prevent membrane leakage. It is widely used in RO (reverse osmosis), NF (nanofiltration) and UF (ultrafiltration) water treatment systems. It has good quality and great pressure resistance. Besides, it also has anti-aging advantages compared with FRP membrane housing. Its inner and outer polish surface makes it practical and beautiful. It is not subject to UV lights and not easy to deform. Our sanitary grade membrane housing can also meet the requirements of special industrial applications such as pharmaceutical and food industries.

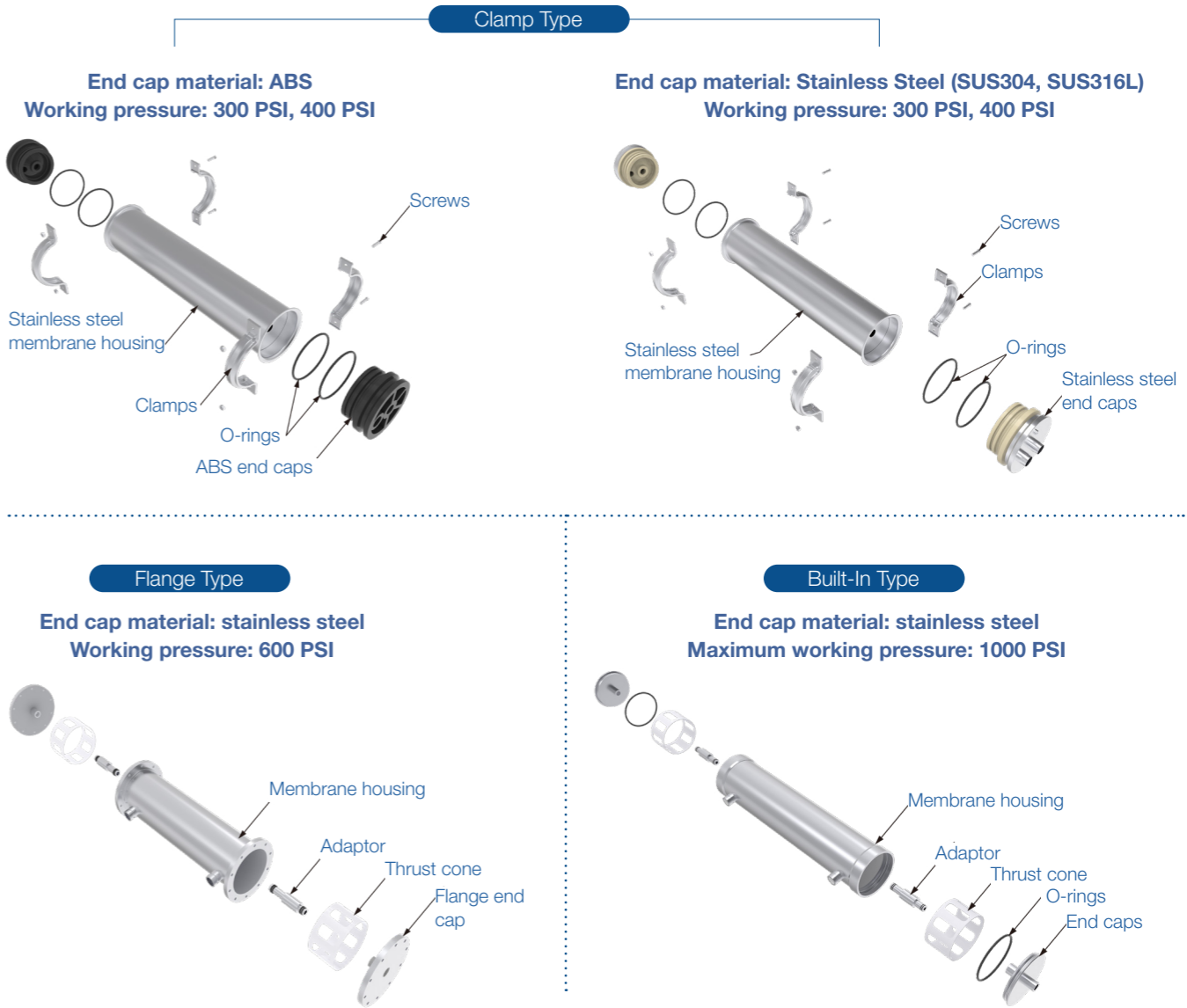
Features

- ✓ It is not affected by UV or sunlight;
- ✓ Unlike glass fiber, it will not warp or weep;
- ✓ Can withstand up to 93.3 °C (200 °F) high temperature, anti-aging;
- ✓ It is lighter and easier to handle than FRP and PVC membrane housings;
- ✓ It has a wide range of chemical compatibility and a corrosion-resistant structure;
- ✓ Stainless steel is a preferred and universally accepted material for water systems, easy to install and maintain;
- ✓ Inner and out bright finish surface, beautiful and practical;
- ✓ Capable of supporting process piping;
- ✓ Quality inspection
 - 100% quality assurance testing, maintain 1.1 times of working pressure for at least 5 minutes and ensure the membrane housing is safe and leakage-free;
 - Burst test with 6 times of its design pressure;
 - 100,000 times of cycle testing;
- ✓ Warranty: 2-year warranty for the main body and one year warranty for accessories.



2.By End Cap Seal Type

It is divided into clamp type, flange type and built-in type by end cap seal type.

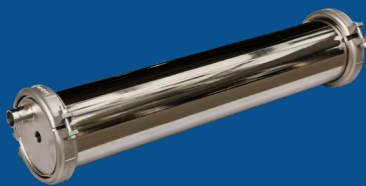


Category

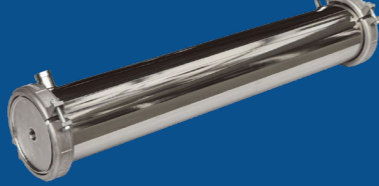
1.By Port Type

It is divided into end port type and side port type by port type.

End port type refers to the inlet is located at both ends of the membrane housing.



Side port type refers to the inlet is located at both sides of the membrane housing.

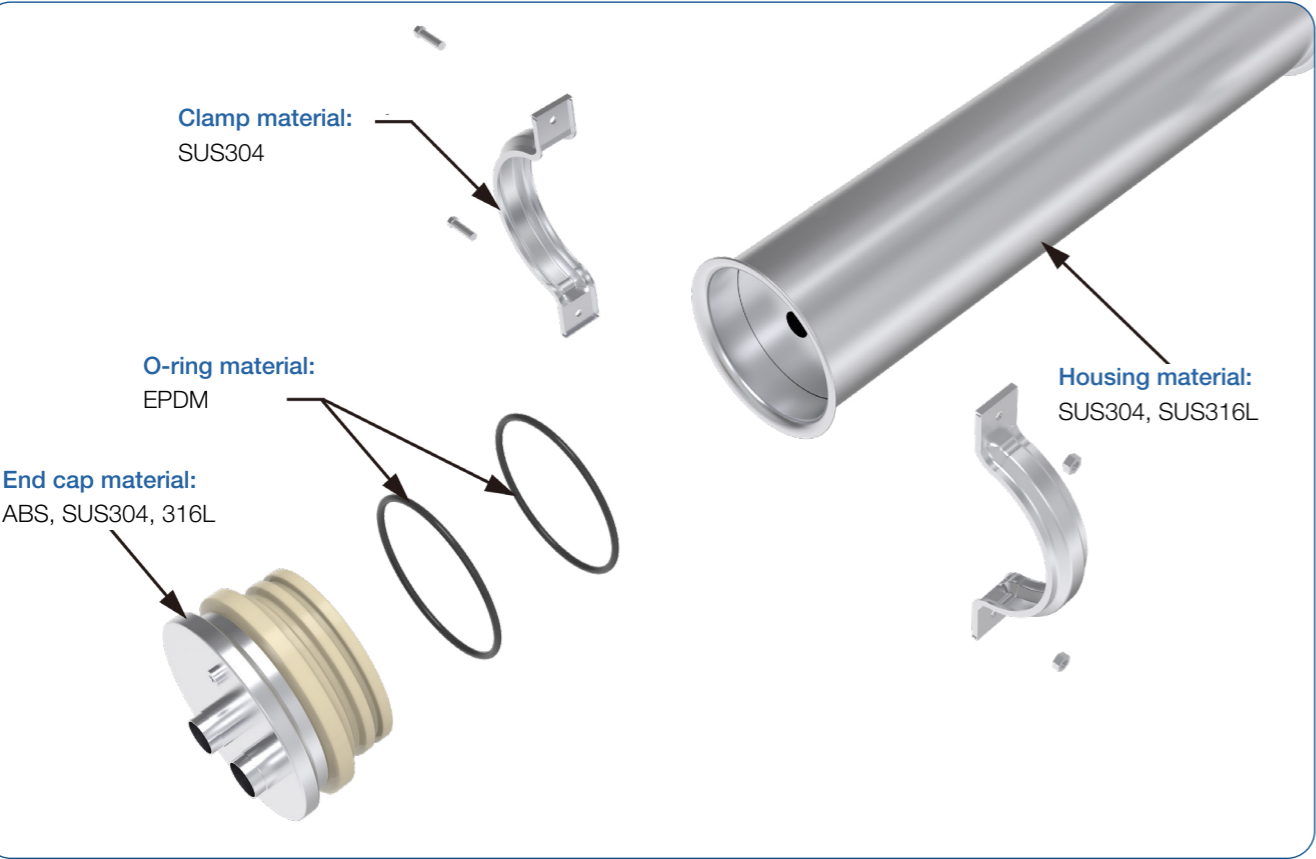


3.By Seam Type

It is divided into seam housing and seamless housing by seam type.

- Seamless housing
Steel ingots or solid tube blanks are used to make hollow billets after hot rolling, cold rolling and cold drawing process. It features not easy to leak and excellent resistant to corrosion, high temperature and high pressure.
- Seam housing
It is also known as welding seam housing that is made of steel plate or steel strip after bending, forming and welding. It has uniform thickness and flat weld joints. In addition, its pressure resistant capacity is not that high as seamless housing.

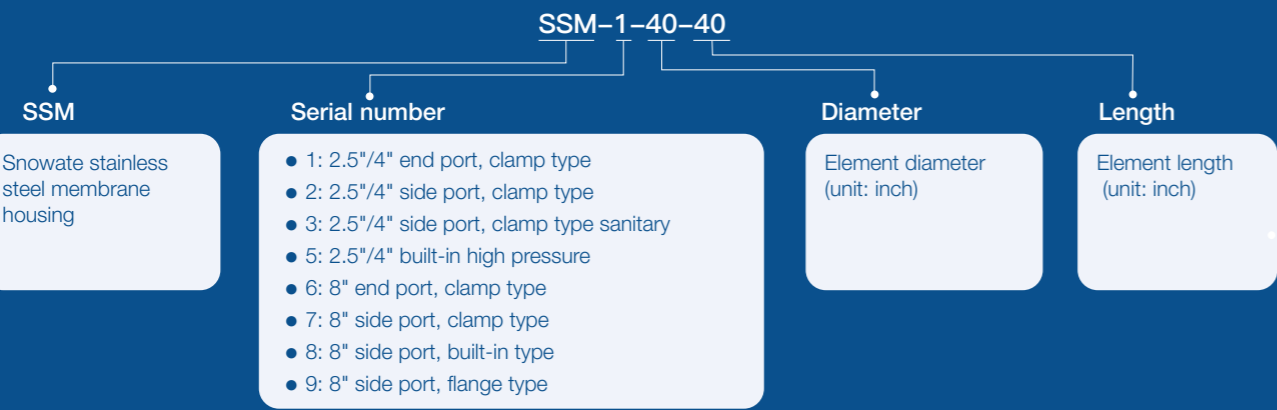
Component Material



Technical Data

Housing thickness	1-3 mm
Operating pressure	300 PSI, 400 PSI, 600 PSI, 1000 PSI
Housing diameter	2.5", 4", 8"
Filter element diameter	40", 80", 120", 160", 200", 240", 280" or customized
Surface treatment	Mechanical polishing, sandblasting, brushing

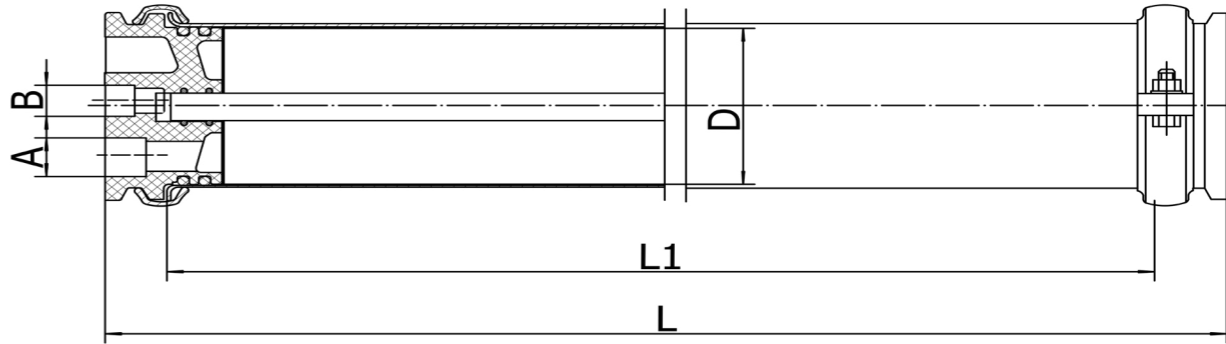
Coding Rules



Model Size (By port type & end cap seal type)

SSM1 Series

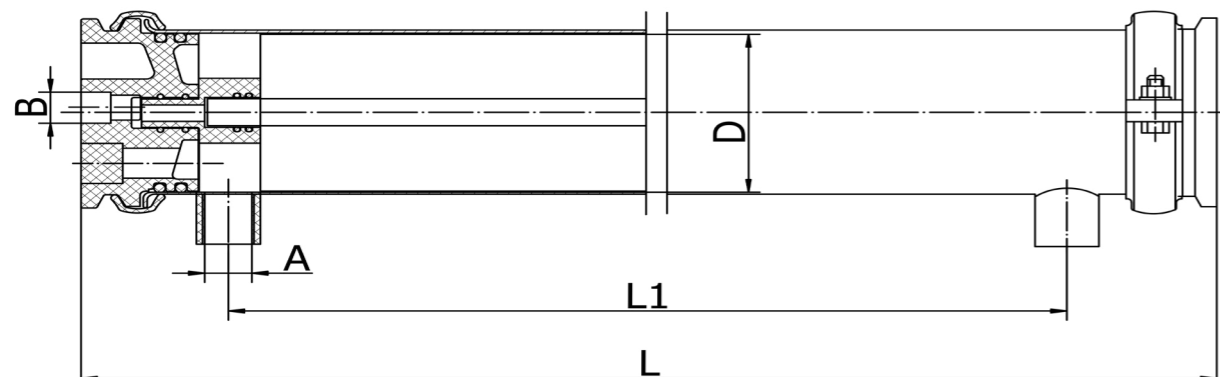
- Housing material: SUS304, SUS316L
- End cap seal: clamp type
- End cap material: ABS, stainless steel
- Port type: end port
- Housing seam type: seam, seamless
- Surface treatment: mechanical polishing or brushing
- Maximum operating pressure: 300 PSI
- Model: 2514, 2521, 2540, 4014, 4021, 4040, 4080, 40120, 40160



Model	L (mm)	L1 (mm)	D (mm)	A (in)	B (out)
SSM1-2514	417	363	Φ62	3/8"	1/4"
SSM1-2521	594	540	Φ62	3/8"	1/4"
SSM1-2540	1082	1024	Φ62	3/8"	3/8"
SSM1-4014	427	367	Φ102	1/2"	1/2"
SSM1-4021	605	545	Φ102	1/2"-3/4"	1/2"
SSM1-4040	1088	1028	Φ102	1/2"-3/4"	1/2"
SSM1-4080	2104	2044	Φ102	3/4"	1/2"
SSM1-40120	3120	3060	Φ102	3/4"	1/2"
SSM1-40160	4136	4076	Φ102	3/4"	1/2"

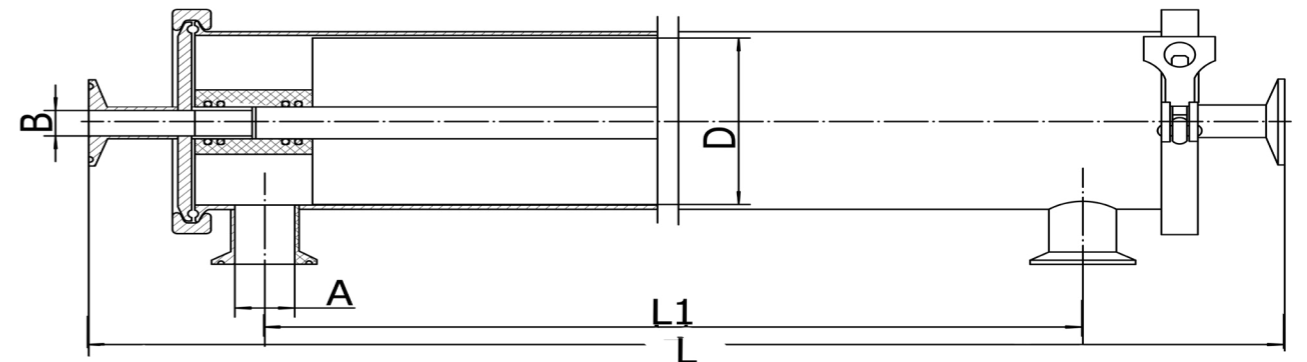
SSM2 Series

- Housing material: SUS304, SUS316L
- End cap seal: clamp type
- End cap material: ABS, stainless steel
- Port type: side port
- Housing seam type: seam, seamless
- Surface treatment: mechanical polishing or brushing
- Maximum operating pressure: 300 PSI
- Model: 2521, 2540, 4021, 4040, 4080, 40120, 40160



SSM3 Series

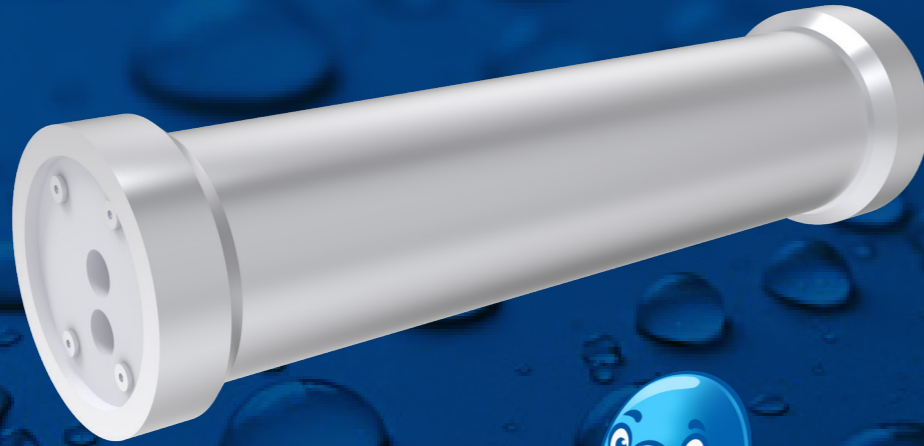
- Housing material: SUS304, SUS316L
- End cap seal: clamp type
- End cap material: ABS, stainless steel
- Port type: side port
- Housing seam type: seam, seamless
- Surface treatment: mechanical polishing or brushing
- Maximum operating pressure: 400 PSI
- Model: 2521, 2540, 4021, 4040, 4080, 40120, 40160



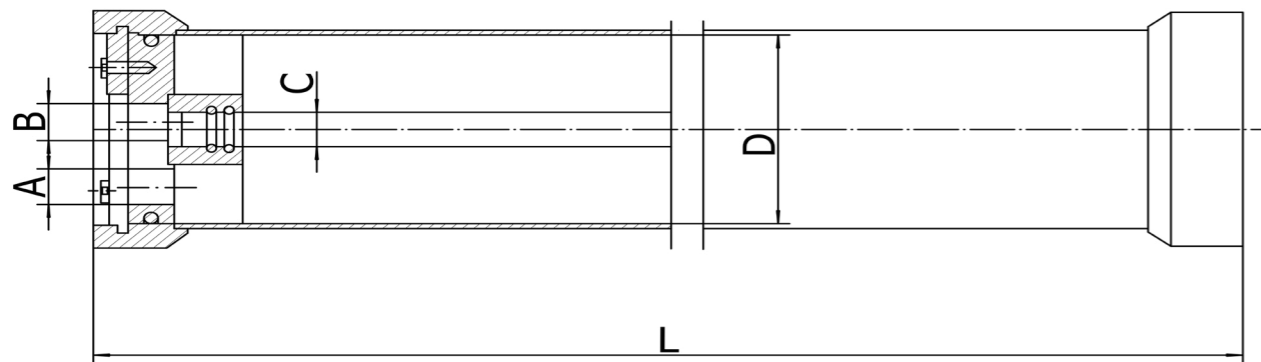
Model	L (mm)	L1 (mm)	D (mm)	A (in)	B (out)
SSM2-2521	655	511	Φ62	1/2"	1/4"
SSM2-2540	1136	994	Φ62	1/2"	3/8"
SSM2-4021	668	515	Φ102	3/4"	1/2"
SSM2-4040	1148	998	Φ102	3/4"	1/2"
SSM2-4080	2164	2014	Φ102	3/4"	1/2"
SSM2-40120	3180	3030	Φ102	3/4"	1/2"
SSM2-40160	4196	4046	Φ102	3/4"	1/2"

Model	L (mm)	L1 (mm)	D (mm)	A (in)	B (out)
SSM3-2521	693	527	Φ62	3/4"	3/4"
SSM3-2540	1176	1010	Φ62	3/4"	3/4"
SSM3-4021	693	527	Φ102	1"	3/4"
SSM3-4040	1176	1010	Φ102	1"	3/4"
SSM3-4080	2192	2026	Φ102	1"	3/4"
SSM3-40120	3208	3042	Φ102	1"-1-1/4"	3/4"
SSM3-40160	4224	4058	Φ102	1"-1-1/4"	3/4"

SSM5-E Series

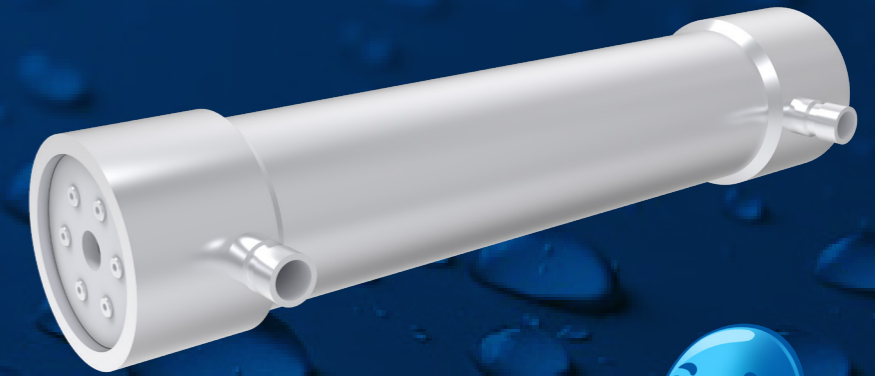


- Housing material: SUS304, SUS316L
- End cap seal: built-in type
- End cap material: stainless steel
- Port type: end port
- Housing seam type: seamless
- Surface treatment: mechanical polishing or brushing
- Maximum operating pressure: 1000 PSI
- Model: 4021, 4040, 4080, 40120, 40160

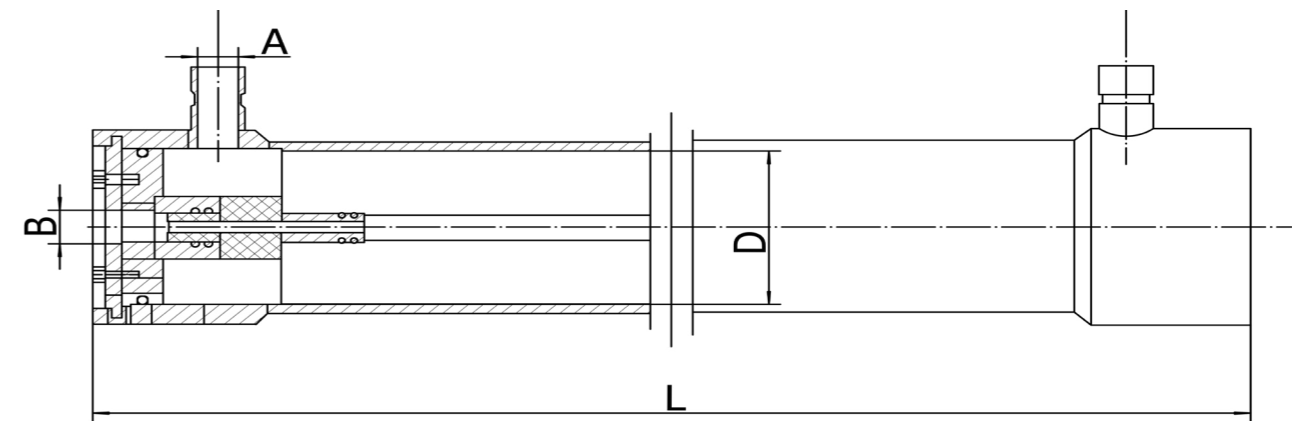


Model	L (mm)	L1 (mm)	D (mm)	A (in)	B (out)
SSM5-4021-E	612	Φ19.5	Φ102	1/2"-3/4"	1/2"
SSM5-4040-E	1094	Φ19.5	Φ102	1/2"-3/4"	1/2"
SSM5-4080-E	2110	Φ19.5	Φ102	3/4"	1/2"
SSM5-40120-E	3126	Φ19.5	Φ102	3/4"	1/2"
SSM5-40160-E	4142	Φ19.5	Φ102	3/4"	1/2"

SSM5-S Series



- Housing material: SUS304, SUS316L
- End cap seal: built-in type
- End cap material: stainless steel
- Port type: side port
- Housing seam type: seamless
- Surface treatment: mechanical polishing or brushing
- Maximum operating pressure: 1000 PSI
- Model: 4021, 4040, 4080, 40120, 40160

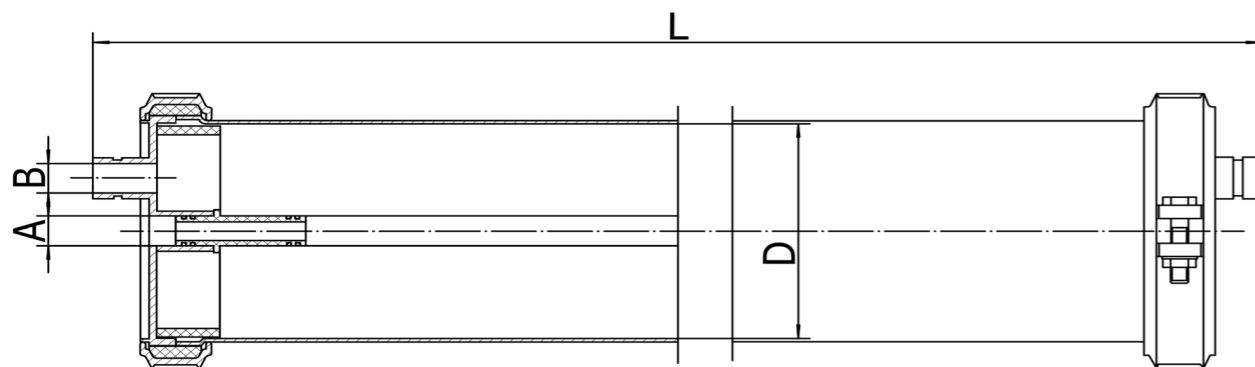


Model	L (mm)	L1 (mm)	D (mm)	A (in)	B (out)
SSM5-2540-S	1162	1034	Φ62	1/2"-3/4"	1/2"
SSM5-4021-S	730	602	Φ102	3/4"-1"	1/2"
SSM5-4040-S	1212	1084	Φ102	3/4"-1"	1/2"
SSM5-4080-S	2228	2100	Φ102	3/4"-1"	1/2"
SSM5-40120-S	3244	3116	Φ102	3/4"-1"	1/2"
SSM5-40160-S	4260	4132	Φ102	3/4"-1"	1/2"

SSM6 Series



- Housing material: SUS304, SUS316L
- End cap seal: clamp type
- End cap material: stainless steel
- Port type: end port
- Housing seam type: seamless
- Surface treatment: mechanical polishing or brushing
- Maximum operating pressure: 300 PSI
- Model: 8040, 8080, 80120, 80160, 80200, 80240

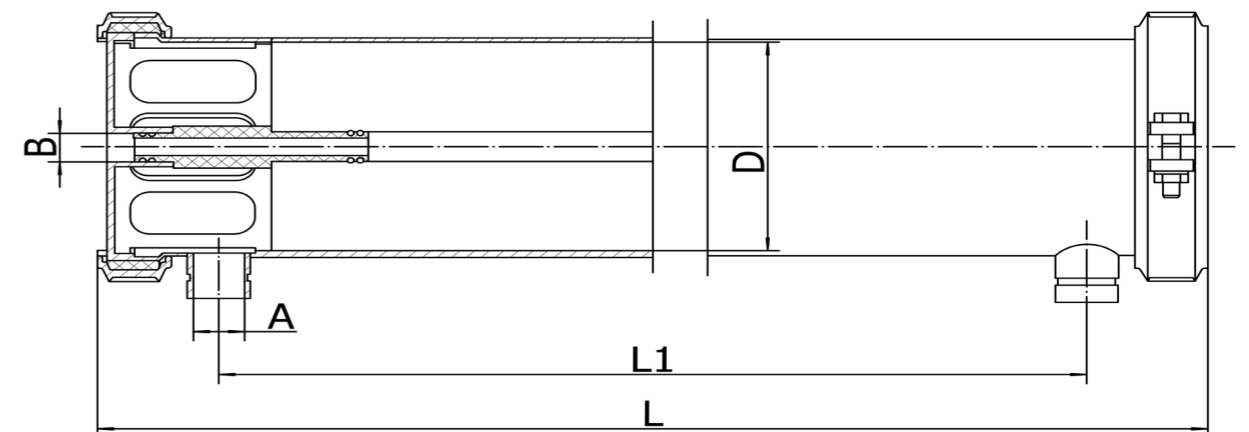


Model	L (mm)	D (mm)	A (in)	B (out)
SSM6-8040	1214	Φ203	1"-1/2"	1"
SSM6-8080	2230	Φ203	1"-1/2"	1"
SSM6-80120	3246	Φ203	1"-1/2"	1"
SSM6-80160	4262	Φ203	1"-1/2"	1"
SSM6-80200	5278	Φ203	1"-1/2"	1"
SSM6-80240	6294	Φ203	1"-1/2"	1"

SSM7 Series



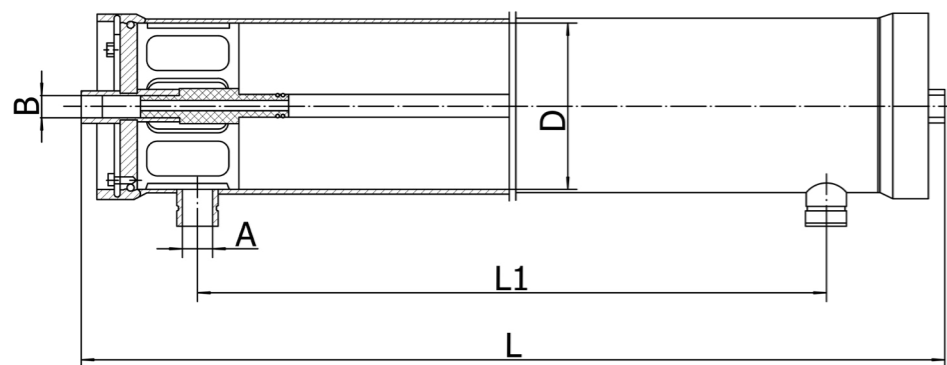
- Housing material: SUS304, SUS316L
- End cap seal: clamp type
- End cap material: stainless steel
- Port type: side port
- Housing seam type: seamless
- Surface treatment: mechanical polishing or brushing
- Maximum operating pressure: 300 PSI
- Model: 8040, 8080, 80120, 80160, 80200, 80240



Model	L (mm)	L1 (mm)	D (mm)	A (in)	B (out)
SSM7-8040	1288	1101	Φ203	1"-1/2"	1"
SSM7-8080	2304	2117	Φ203	1"-1/2"	1"
SSM7-80120	3320	3133	Φ203	1"-1/2"	1"
SSM7-80160	4336	4149	Φ203	1"-1/2"	1"
SSM7-80200	5352	5165	Φ203	1"-1/2"	1"
SSM7-80240	6368	6181	Φ203	1"-1/2"	1"

SSM8 Series

- Housing material: SUS304, SUS316L
- End cap seal: built-in type
- End cap material: stainless steel
- Port type: side port
- Housing seam type: seamless
- Surface treatment: mechanical polishing or brushing
- Maximum operating pressure: 1000 PSI
- Model: 8040, 8080, 80120, 80160, 80200, 80240

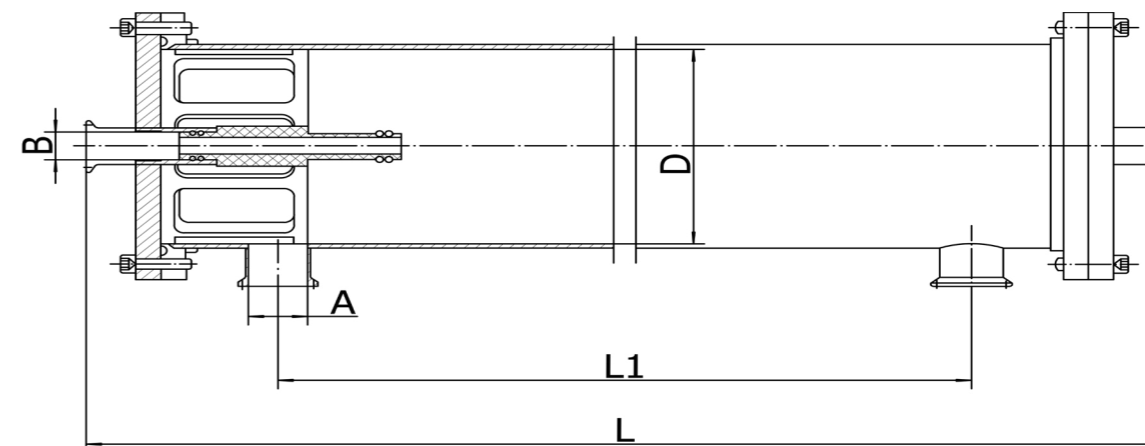


Notes: V stands for Victaulic port construction; T represents Tri-clover port construction.

Model	L (mm)	L1 (mm)	D (mm)	A (in)	B (out)	Model	L (mm)	L1 (mm)	D (mm)	A (in)	B (out)
SSM8-8040-V	1359	1119	Φ203	1-1/2"-3"	1"	SSM8-8040-T	1359	1119	Φ203	1-1/2"-3"	1"-1/2"
SSM8-8080-V	2375	2135	Φ203	1-1/2"-3"	1"	SSM8-8080-T	2375	2135	Φ203	1-1/2"-3"	1"-1/2"
SSM8-80120-V	3391	3151	Φ203	1-1/2"-3"	1"	SSM8-80120-T	3391	3151	Φ203	1-1/2"-3"	1"-1/2"
SSM8-80160-V	4407	4167	Φ203	1-1/2"-3"	1"	SSM8-80160-T	4407	4167	Φ203	1-1/2"-3"	1"-1/2"
SSM8-80200-V	5423	5183	Φ203	1-1/2"-3"	1"	SSM8-80200-T	5423	5183	Φ203	1-1/2"-3"	1"-1/2"
SSM8-80240-V	6439	6199	Φ203	1-1/2"-3"	1"	SSM8-80240-T	6439	6199	Φ203	1 1/2"-3"	1"-1/2"

SSM9 Series

- Housing material: SUS304, SUS316L
- End cap seal: flange type
- End cap material: stainless steel
- Port type: side port
- Housing seam type: seamless
- Surface treatment: mechanical polishing or brushing
- Maximum operating pressure: 600 PSI
- Model: 8040, 8080, 80120, 80160, 80200, 80240



Model	L (mm)	L1 (mm)	D (mm)	A (in)	B (out)	Model	L (mm)	L1 (mm)	D (mm)	A (in)	B (out)
SSM9-8040-V	1301	1071	Φ203	1-1/2"-2"	1"	SSM9-8040-T	1301	1071	Φ203	1-1/2"-2"	1.5"
SSM9-8080-V	2317	2087	Φ203	1-1/2"-2"	1"	SSM9-8080-T	2317	2087	Φ203	1-1/2"-2"	1.5"
SSM9-80120-V	3333	3103	Φ203	1-1/2"-2"	1"	SSM9-80120-T	3333	3103	Φ203	1-1/2"-2"	1.5"
SSM9-80160-V	4349	4119	Φ203	1-1/2"-2"	1"	SSM9-80160-T	4349	4119	Φ203	1-1/2"-2"	1.5"
SSM9-80200-V	5365	5135	Φ203	1-1/2"-2"	1"	SSM9-80200-T	5365	5135	Φ203	1-1/2"-2"	1.5"
SSM9-80240-V	6381	6151	Φ203	1-1/2"-2"	1"	SSM9-80240-T	6381	6151	Φ203	1-1/2"-2"	1.5"

Related Products



Nanofiltration membrane



Ultrafiltration membrane



Reverse osmosis (RO) membrane



High pressure pump



Precision filter



FRP membrane housing

Application



Food Industry

Reverse osmosis technology is applied in the beer dealcoholization process. In this process, beer is pumped to RO membrane components. Water and alcohol molecules overcome the natural osmotic pressure and are removed by passing through the membrane under the pressure drive while color, fragrance and taste remain in the beer. The alcohol content drops down to 0.5% to 0.05% ABV.



Ultrafiltration and nanofiltration membranes are used in the fruit juice preparation process. Ultrafiltration system clarifies the raw fruit juice and improves the transparency and stability of the fruit juice. Nanofiltration system can effectively retain the active ingredients and make concentrated juice.



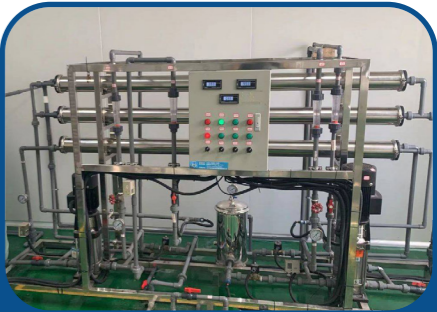
Dyeing & Printing Industry

Ultrafiltration and RO membrane processes are used in the dyeing and printing mill wastewater discharge. Ultrafiltration system separates particle substance from fluid and dissolved components and RO system achieves secondary filtration and purification, thus realizing wastewater treatment and recycling.



Pharmaceutical Industry

RO technology is widely used in the pharmaceutical industry ionic water, purified water, water for injection and biotechnology water and other water treatment systems.



Purified Water Industry

Reverse osmosis is currently the most precise liquid membrane separation technology. The membrane aperture is very small, and can effectively remove dissolved salts, colloid, microorganisms and organic matters in water, so it is widely used in water purification systems.

Installation Steps

(taking clamp type membrane housing as an example)

1

Take out all installation parts. Lubricate the end plate seals and the inner surface of the housing to ensure the plug can be pushed into the housing smoothly.



2

Install the membrane element. Attach the inflow head to the end of the membrane element and push it all the way. Lubricate the membrane element seals and put the water purification connector in the middle of the membrane element. If the gap between the other end cap and the membrane element is too large, eliminate the gap with gasket and then fix the end cap.



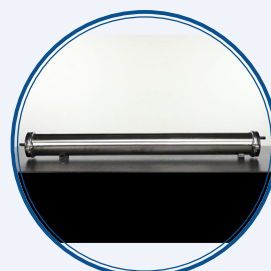
3

Put the crescent fixing rings into the housing grooves and fix them with fastening screws.



4

Secure the membrane housing to the equipment racks horizontally with saddles and strips. Check if all fasteners are tightened.



Notes

- Lubricate seals properly to prevent the seals being damaged when pushing the end cap into the housing;
- When all installation steps are completed, pressurize the membrane components with a high pressure pump to empty the air in the housing. Stop the pump when the air is completely discharged. Repeated the step for several times to make the seals stretch properly.



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Abco-Manufacturer of water and sewage treatment devices