

EPSEA

SUPER GREAT FACTORY | AIR DRYER, N₂ & O₂, SPARE PARTS



LINE FILTER



SUPER GREAT FACTORY | AIR DRYER, N₂ & O₂, SPARE PARTS

EPSEA integrates manufacture, sales, R&D and service, covering air dryers, nitrogen and oxygen generators, pressure vessels, filters, separators and so on. Our products are applicable to all industries that require safe and reliable compressed air.

2,000⁺ m²

Headquarters of Guangdong
Provincial Technology Center

100,000⁺ m²

Full Chain Manufacturing Center
of Fujian

800⁺

Headquarters, Manufacturing Center,
and 43 factory warehouse & service
center worldwide



Factory I: 32,829m²

Refrigerated Air Dryers

Factory II: 51,328m²

Desiccant Air Dryers, Nitrogen/Oxygen Generators,
and Pressure Vessels

Factory III: 20,000m²

Air Compressor Filters and Separators, Line Filters,
Waste Oil Collectors

WHY DO WE NEED HIGH QUALITY COMPRESSED AIR?

Compressed air is an important power source widely used in industrial fields, and is the second largest power source after electricity.

Compressed air comes from the atmosphere, which contains a lot of dust, water vapor, impurities and so on. Unpurified compressed air will seriously wear pneumatic equipment, and cause blockage and corrosion of valves, pipelines, etc. It causes damage to production equipment and scrap of products, affecting normal production. Therefore, it is necessary to purify the compressed air it is essential.

With many years of professional experience, Epsa not only focus on the research and development and equipment manufacturing in the field of compressed air purification, but also through our understanding and summary of the manufacturing industry, we can provide users in various industries with more economical and efficient comprehensive compressed air purification solutions.

HOW TO CHOOSE THE RIGHT COMPRESSED AIR PURIFICATION EQUIPMENT?

The requirements of modern industry for compressed air:

1. Pressure and flow;
2. Dryness (i.e. water content or dew point temperature);
3. Cleanliness (relatively complex, including: solids, oil mist, microorganisms, harmful gases, etc)

THE FUNCTION AND IMPORTANCE OF PRECISION FILTERS

Precision filters play a crucial role in the compressed air drying and purification system. Different types of filters can be used to remove contaminants from compressed air, such as oil(including liquid and gas), solid impurities, microorganisms, and harmful gases. Filters are ubiquitous in the compressed air drying and purification system. In industrial production, the filters used in the compressed air system are often classified according to their applications into the following categories: oil removal filters, dust removal filters, bacteria removal filters, and specific filters.

KEY PERFORMANCE INDICATOR

- Filtration Accuracy: The filter's maximum allowable particle size.
- Filtration Efficiency: The ratio of filtered particles to those before filtration.
- Pressure Drop: The upstream-downstream pressure difference of the filter in use.
- Service Life: The time from filter use to failure.

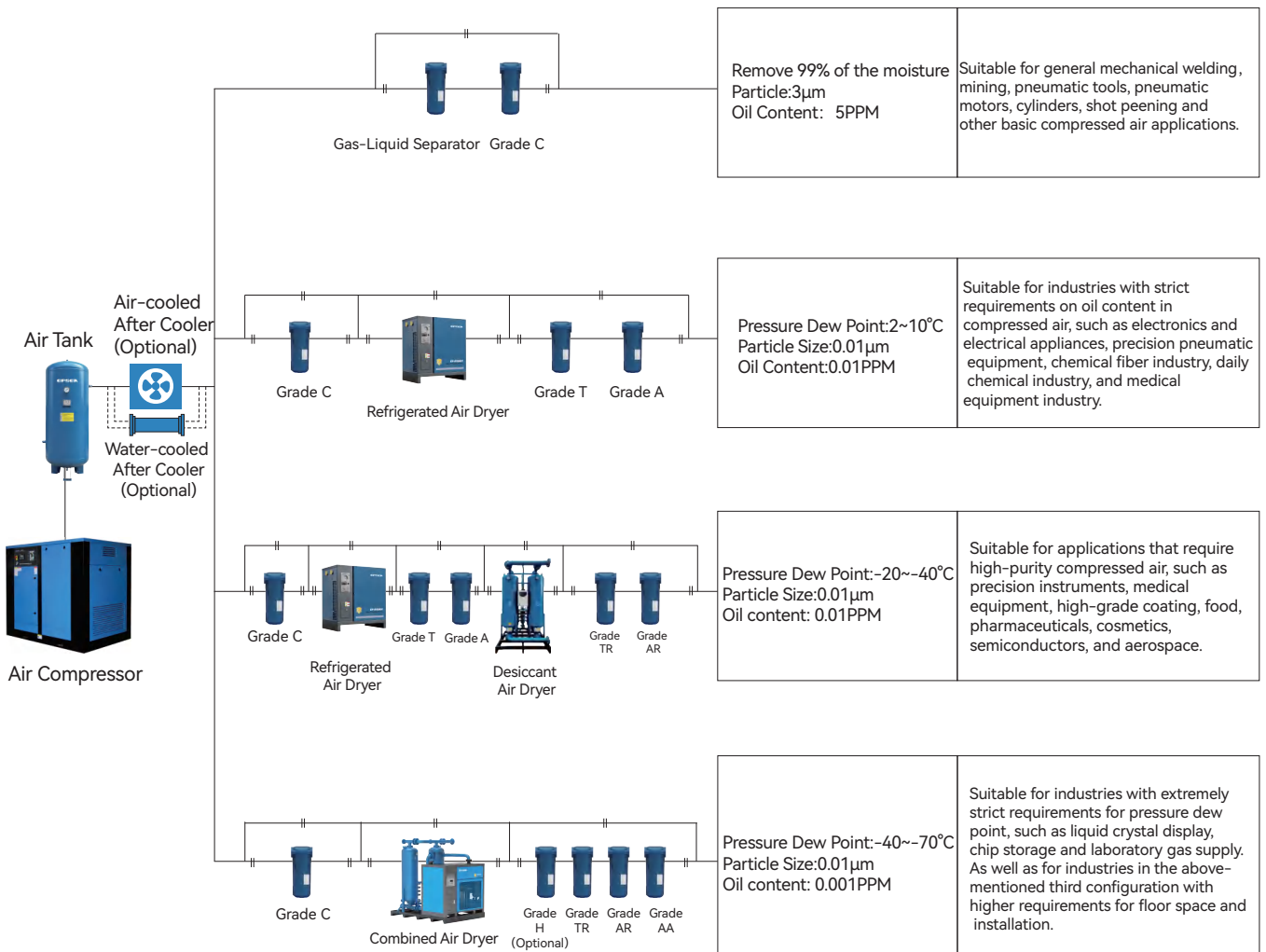


CONTAMINANTS AND PURITY CLASSES

According to ISO 8573-1:2010

Level	Solid Impurities The max number of solid particles in air per m ³			Moisture Content Pressure Dew Point °C	Total Oil Content (including oil vapor) mg/m ³
	0.1µm < d ≤ 0.5µm	0.5µm < d ≤ 1.0µm	1µm < d ≤ 5.0µm		
0	As specified by the equipment user or supplier, a higher grade than the first class is required				
1	≤20000	≤400	≤10	≤-70°C	≤0.01mg/m ³
2	≤400000	≤6000	≤100	≤-40°C	≤0.1mg/m ³
3	—	≤90000	≤1000	≤-20°C	≤1mg/m ³
4	—	—	≤10000	≤+3°C	≤5mg/m ³
5	—	—	≤100000	≤+7°C	—
6	—	—	—	≤+10°C	—

COMPRESSED AIR PURIFICATION SYSTEM FLOW CHART



Note:

Grade H: Filters using activated carbon for odor removal are chosen as users require. Grade AR: Ultra - high - efficiency oilremoving filters can be chosen as users require. Grade AA: Ultra - high - efficiency oilremoving filters can be chosen as users require. After-cooler: For high inlet temperatures (usually above 60°C), optional selection is recommended.

FILTER ELEMENTS

Effect

The filter element is an important part of the precision line filter, which can filter the liquid, oil mist, solid particles, oil vapor, hydrocarbons in the gas.

Product Characteristics

- Multistage and multiorder filtration, high filtration accuracy, to achieve the best cost performance.
- Excellent structural performance, small size, corrosion resistance, long service life.
- Large dust capacity, small pressure loss, can effectively reduce the cost of compressed air.
- Complete range of products to meet different needs.



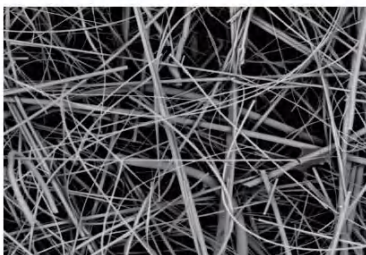
Selection of Filtration Media and Production Process

The precision filter element is made by winding type and folding type according to different needs. The winding filter element is made by borosilicate glass fiber through automatic winding process.

The folding filter element is made by borosilicate glass fiber through deep folding process, which reduces the speed of compressed air in the filter medium, improves the filtration performance of the filter element, and effectively increases the filtration area. Reduced pressure loss.



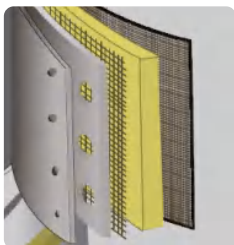
Oleophobicity - Oil droplets can adhere to the fibers without causing the fibers to expand.
Low binder content - Larger fiber contact area, stronger impurity capture and coalescence separation ability.
Excellent product uniformity.
A series of standard products with different performance parameters can meet a variety of application requirements.



- Average pore size <math>< 12\mu\text{m}</math>
- Lower initial flow resistance
- Excellent chemical resistance
- Single layer grammage: 50 - 150g/m²
- Excellent water resistance
- Long service life

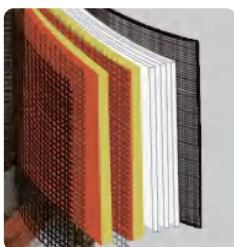
Technical Parameter

It is of great importance to protect the downstream equipment and processes. Only by replacing the filter element annually or earlier when the pressure differential indicator/gauge points to the red area can the filter play its protective role fully. Failure to replace the filter element in a timely manner will lead to a decrease in product quality, a deterioration in air quality and an increase in operating costs.



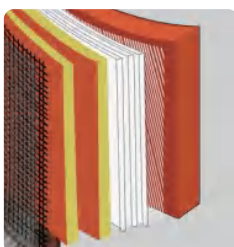
GRADE C FILTER ELEMENT

The first stage two stainless steel perforated tubes are mechanically separated by 10µm
The second stage deep fiber medium filters out 3µm of solid and liquid particles



GRADE T FILTER ELEMENT

The first stage fiber medium and media filter take over the lamination to filter out larger particles
A second layer of epoxy resin binds the mixed fiber medium to gather oil mist and filter solid particles

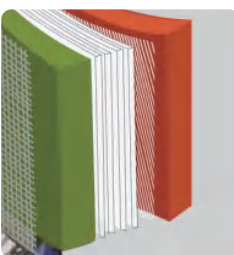


GRADE A FILTER ELEMENT

The first stage multi-layer fiber media and media filter filter, filter the larger particles, before the air enters the second stage filtration for pre-filtration

The second stage multi-layer bonding mixed fiber medium filters out fine agglomerates

- ◆ Coated closed foam sleeve



GRADE AA FILTER ELEMENT

The first stage is coated with a closed foam sleeve for pre-filtration and air dispersion

The second stage multilayer matrix is mixed with fiber media to filter out fine condensates

- ◆ Coated closed sleeve



GRADE H FILTER ELEMENT

The first stage is an extremely fine activated carbon stabilization layer, which can filter out most of the oil vapor

The second level multi-layer fiber medium, bonding micro-fine activated carbon powder, can filter the residual oil vapor a multi-layer fine medium, prevent Pollutant transport

- ◆ The coated closed foam sleeve prevents the fiber from wandering - a design life of up to 1000 hours under rated conditions

COMPRESSED AIR PRECISION FILTER

Effect

- The compressed air precision filter plays a key role in the compressed air drying and purification system. It is mainly used to remove contaminants in the compressed air such as water, oil, solid particles and microorganisms, and is characterized by high efficiency, convenient use and low operating cost.
- When the compressed air to be processed enters the filter, the flow rate slows down and large droplets fall down under the action of gravity. Some droplets and solid particles are directly intercepted when passing through the glass fiber filter layer. When smaller droplets and solid particles pass through the filter element along with the gas, they are caught by the filter material due to inertial collision and gradually condense into larger droplets and flow down. Smaller solid and droplet particles do not change direction with the airflow. Once they approach the filter material through Brownian motion, they are affected by the electrostatic attraction of the glass fiber and are adsorbed on the filter material. The filtered oil and water gather at the bottom of the filter and are discharged through the drainer.

Product Characteristics

- The filter elements made of filter paper from German HV Company ensure high quality and efficient filtration. There are filter elements of various grades and functions available, featuring high filtration accuracy to meet different customer requirements.
- Scientific calculations are adopted to control the gas flow velocities at all key components. It not only reduces pressure drop but also ensures excellent filtration performance. The product features an exquisite appearance, a reasonable structure and fine processing, and it has been granted multiple national patents.
- The epoxy resin powder can be sprayed to improve the corrosion resistance and service life. And a variety of practical accessories such as differential pressure gauges, liquid level sight glass and drainers can be installed.
- The housing features an enlarged flow path design, which significantly minimizes system pressure loss and enhances energy efficiency.
- The filter element is crafted from multi-layer epoxy-bonded borosilicate glass fibers, and does not contain silicone resin.
- We have certification for pressure vessel manufacturing, each production process of the housing undergoes stringent control, guaranteeing absolute product safety and reliability.



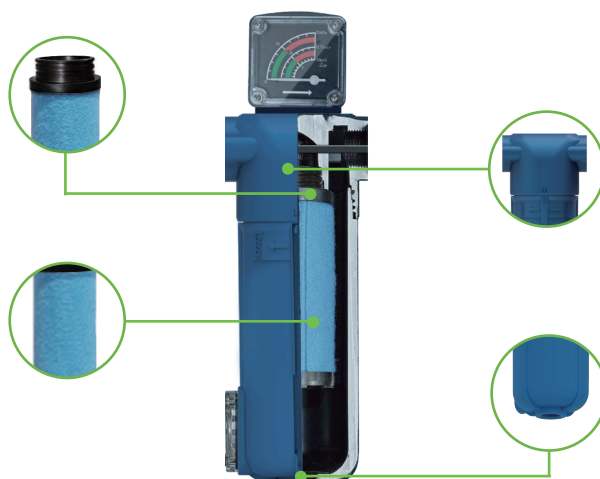
Note: Differential pressure gauge and liquid level sight glass are optional accessories.

Filter element interface

Easy disassembly and installation of the filter element, reducing maintenance time.

Filter element

Utilizes original German HV filter media, boasting internationally leading processing precision. It is crafted such as multi-layer epoxy-bonded borosilicate glass fibers, and does not contain silicone resin.



Housing

Features an enlarged flow path design, effectively minimizing system pressure loss and enhancing energy efficiency. Each production process undergoes stringent control, guaranteeing absolute product safety and reliability.

Drain valve port

Fitted with an industrial drain valve (manual operation) for drainage and pressure relief. The valve is easy to disassemble and assemble, saving time and effort; operates stably with a long service life; and resists clogging due to its impurity-filtering capability.

Note: Differential pressure gauges and liquid level sight glasses are optional accessories.

Filtration Grade

Filtration Grade	Filter Name	Filter Type	Solid Removal (including water and Pregradeoil mist)	Maximum Oil Content (21°C)	Filtration Efficiency	Initial Dry Pressure Drop	Pre-grade
C	Prefilter	Coalescing	3μm	5mg/m ³ 5ppm	99.9%	≤0.007MPa	-
T	Universal oil removal filter	Coalescing	1μm	0.5mg/m ³ 0.5ppm	99.9%	≤0.007MPa	C
A	High efficiency oil removal filter	Coalescing	0.01μm	0.01mg/m ³ 0.01ppm	99.99%	≤0.01MPa	T
AA	Super efficiency oil removal filter	Coalescing	0.01μm	0.001mg/m ³ 0.001ppm	99.999%	≤0.01MPa	A
H	Activated carbon filter	Oil vapor removal	N/A	0.003mg/m ³ 0.003ppm	N/A	≤0.01MPa	A
TR	Universal dust filter	Solid dry particle	1μm	N/A	99.9%	≤0.007MPa	-
AR	High efficiency dust filter	Solid dry particle	0.01μm	N/A	99.99%	≤0.01MPa	TR

Correction Factor

Working Pressure	barg	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	MPa	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6
Correction Factor		0.38	0.53	0.65	0.76	0.85	0.93	1.00	1.07	1.13	1.19	1.25	1.31	1.36	1.41	1.46	1.51

Technical Parameters

Die-casting	Maximum working pressure	Filter grade	Maximum working temperature	Minimum working temperature
Filter type Precision Filter	1.6MPa	C/T/A/AA/TR/AR	80°C	1.5°C
Welded Precision Filter	1.0MPa	H	50°C	1.5°C

Note: Other special standards can be customized. Please contact us for more information.

Parameter of Line Filter

Model	Flow Rate (m ³ /min)	Inlet/Outlet	Dimensions(mm)		Filter Element		Weight (kg)
			Height	Width	Type	QTY	
EP-001G-IV	1.5	Rc1/2	251	100	001-IV-*	1	1.2
EP-001G-IV	1.5	Rc3/4	251	100	001-IV-*	1	1.1
EP-002G-IV	2	Rc3/4	301	100	002-IV-*	1	1.5
EP-003G-IV	3	Rc1	320	132	003-IV-*	1	2.6
EP-004G-IV	4	Rc1-1/2	320	132	004-IV-*	1	2.5
EP-007G-IV	7	Rc1-1/2	420	132	007-IV-*	1	2.8
EP-010G-IV	11	Rc2	536	165	010-IV-*	1	5.1
EP-014G-IV	14	Rc2-1/2	536	165	014-IV-*	1	4.8
EP-018G-IV	18	Rc2-1/2	531	215	018-IV-*	1	8.1
EP-022G-IV	22	Rc3	531	215	022-IV-*	1	8
EP-028G-IV	28	Rc3	696	215	028-IV-*	1	8.8
EP-033G-IV	33	Rc3	696	215	033-IV-*	1	9.2
EP-033F	33	DN80	1055	513	EP20+EP15	1+1	75
EP-038F	38	DN100	1120	513	EP20	2	75.5
EP-046F	46	DN100	1270	513	EP24	2	81.5
EP-055F	55	DN125	1100	565	EP20+EP15	2+1	105
EP-067F	67	DN125	1225	565	EP24+EP20	2+1	110
EP-075F	75	DN125	1263	657	EP24+EP20	1+3	136
EP-085F	85	DN150	1412	657	EP24	4	150
EP-095F	95	DN150	1288	706	EP24+EP20	2+3	165
EP-110F	110	DN150	1459	706	EP24	5	190
EP-130F	130	DN200	1355	780	EP24+EP20	3+4	220
EP-160F	160	DN200	1535	780	EP24	7	240
EP-180F	180	DN200	1438	830	EP24+EP20	6+3	360
EP-200F	200	DN200	1600	830	EP24	9	375
EP-250F	250	DN250	1580	930	EP24+EP20	8+4	400

Note: EP-001G to EP-033G are die-casting models, the materials are aluminum; all other models are welded and made of carbon steel. For more details, please contact us.

STAINLESS STEEL PRECISION FILTER

The shell of the stainless steel precision filter is made of high-grade stainless steel, featuring a bright and clean appearance. Compared with the carbon steel precision filter, its aesthetics and corrosion resistance have been greatly improved. Meanwhile, the stainless steel shell prevents the compressed air from being secondarily polluted.



EPSS Series-Parameter of Stainless Steel Precision Filter

Model	Flow Rate (m ³ /min)	Inlet/Outlet	Dimensions(mm)		Filter Element		Weight (kg)
			Height	Width	Type	QTY	
EPSS-033F	33	DN80	1055	513	EP20+EP15	1+1	55
EPSS-038F	38	DN100	1120	513	EP20	2	60
EPSS-046F	46	DN100	1270	513	EP24	2	62
EPSS-055F	55	DN125	1100	565	EP20+EP15	2+1	70
EPSS-067F	67	DN125	1225	565	EP24+EP20	2+1	74
EPSS-075F	75	DN125	1260	657	EP24+EP20	1+3	100
EPSS-085F	85	DN150	1410	657	EP24	4	110
EPSS-095F	95	DN150	1290	706	EP24+EP20	2+3	122
EPSS-110F	110	DN150	1460	706	EP24	5	128
EPSS-130F	130	DN200	1355	780	EP24+EP20	3+4	154
EPSS-160F	160	DN200	1535	780	EP24	7	165
EPSS-180F	180	DN200	1440	830	EP24+EP20	6+3	182
EPSS-200F	200	DN200	1600	830	EP24	9	192
EPSS-250F	250	DN250	1520	930	EP24+EP20	8+4	250

Note: For more filter information, please contact us. The above technical parameters and specifications are subject to change without prior notice, please subject to the actual product.

Technical Parameter

Maximun working pressure	Filtration Grade	Maximun Temperature	Minimun Temperature
1.0MPa	C/T/A/AA/TR/AR	80°C	1.5°C
	H	50°C	1.5°C

EJS Series-Parameter of Stainless Steel Precision Filter

Model	Flow Rate (Nm ³ /min)	Inlet/Outlet	Dimensions		Filter Element		Weight (kg)
			Height	Width	Type	QTY	
EJS-001G	1	Rc1	245	97	E-16	1	2.2
EJS-001F	1	DN25	350	230	E-16	1	7.7
EJS-002G	2	Rc1	245	97	E-20	1	2.3
EJS-002F	2	DN25	350	230	E-20	1	8
EJS-004G	4	Rc1-1/2	380	116	E-24	1	3.6
EJS-004F	4	DN40	460	230	E-24	1	12
EJS-007G	7	Rc1-1/2	460	116	E-32	1	4.1
EJS-007F	7	DN40	520	230	E-32	1	13
EJS-010G	11	Rc2	565	147	E-36	1	5.7
EJS-010F	11	DN50	680	300	E-36	1	14.6
EJS-014G	14	Rc2.5	695	180	E-40	1	10
EJS-014F	14	DN65	780	335	E-40	1	25
EJS-018G	18	Rc2.5	795	180	E-44	1	10.7
EJS-018F	18	DN65	930	335	E-44	1	26.5
EJS-022G	22	Rc3	595	226	K430	1	11.2
EJS-022F	22	DN80	790	340	K430	1	26
EJS-028G	28	Rc3	845	226	K620	1	13.8
EJS-028F	28	DN80	990	340	K620	1	28
EJS-033F	33	DN80	1165	459	EA-19	2	37
EJS-038F	38	DN100	1212	459	EA-19	2	39
EJS-046F	46	DN100	1362	459	EA-23	2	40
EJS-055F	55	DN125	1272	513	EA-19	3	50
EJS-067F	67	DN125	1422	513	EA-23	3	52
EJS-075F	75	DN125	1272	513	EA-19	4	50
EJS-085F	85	DN150	1486	605	EA-23	4	64
EJS-095F	95	DN150	1335	605	EA-19	5	62
EJS-110F	110	DN150	1335	605	EA-19	6	62
EJS-130F	130	DN200	1494	726	EA-19	7	98
EJS-160F	160	DN200	1494	726	EA-19	9	98
EJS-180F	180	DN200	1670	780	EA-23	8	113
EJS-200F	200	DN200	1670	780	EA-23	9	113
EJS-250F	250	DN250	1784	830	EA-23	11	140

Note: For more filter information, please contact us. The above technical parameters and specifications are subject to change without prior notice, please subject to the actual product.

BACTERIA REMOVAL FILTER

In high-end industries such as pharmaceutical biology, food and beverage, and electronics and chemistry, the basic requirements for compressed air filtration are to adopt aseptic filtration or high-purity filtration to meet the process needs. The bacteria removal filter adopts a sanitary production process, and the inner and outer surfaces of the stainless-steel shell are mirror-polished to ensure no dead corners and no residues. High-precision imported PTFE membrane sterilization filter elements are used for absolute filtration to achieve 100% aseptic filtration. Each PTFE filter element has passed the integrity test, is resistant to steam sterilization, has a good filtration effect, a long service life, and good safety performance.

Technical Parameter

Working Pressure	0.6MPa
Intake Temperature	≤90℃
Filtration Accuracy	0.01μm
Filtration Efficiency	100%
Filter Element Material	Imported PTFE
Filter Element Specification	5" 、 10" 、 20"



Specification Sheet of Bacteria Removal Filter

Model	Flow Rate (Nm ³ /min)	Inlet/Outlet	Dimensions(mm)			Filter Element	
			Tube Diameter	Height	Width	Type	QTY
EPSS-001D	1.5	Rc1	102	390	182	5inch	1
EPSS-002D	2	Rc1	102	390	182	5inch	1
EPSS-003D	3	Rc1	102	528	182	10inch	1
EPSS-004D	4	Rc1	102	528	182	10inch	1
EPSS-007D	7	Rc2	102	840	182	20inch	1
EPSS-010D	11	DN50	180	1016	330	20inch	2
EPSS-014D	14	DN50	180	1016	330	20inch	2
EPSS-018D	18	DN50	180	1016	330	20inch	2
EPSS-022D	22	DN65	219	1068	366	20inch	3
EPSS-028D	28	DN65	219	1068	366	20inch	3
EPSS-033D	33	DN80	255	1130	406	20inch	4
EPSS-038D	38	DN80	255	1130	406	20inch	5
EPSS-046D	46	DN80	255	1130	406	20inch	6
EPSS-055D	55	DN80	255	1130	406	20inch	7
EPSS-067D	67	DN100	325	1178	486	20inch	8
EPSS-075D	75	DN100	325	1178	486	20inch	9
EPSS-085D	85	DN125	377	1245	548	20inch	10
EPSS-095D	95	DN125	377	1245	548	20inch	11
EPSS-110D	110	DN125	377	1245	548	20inch	13
EPSS-130D	130	DN150	426	1312	598	20inch	15

Note: For more filter information, please contact us. The above technical parameters and specifications are subject to change without prior notice, please subject to the actual product.

EPSMART LINE FILTER



Product Characteristics

- **Eco-friendly & High-efficiency**

Crafted with HV epoxy-bonded borosilicate glass fiber, silicone-free. Delivers superior filtration efficiency, long service life, high temperature resistance, and excellent oil removal performance.

- **Material Protection**

Anodized aluminum finish ensures corrosion and rust resistance. Stainless steel support screens combine corrosion resistance, high temperature tolerance and high strength to prevent filter element deformation and prolong service life.

- **Ultra-low Pressure Drop**

Enlarged flow path design reduces system pressure loss and saves energy.

- **Multi-stage Options**

Multi-grade Options: 7 filtration grades enabling customers to select the optimal solution.

- **Airflow Adaptation**

Compact airflow range, tailor-made for low-airflow scenarios, perfectly matching low-flow working conditions.

- **Configuration Notes**

No optional pressure gauges and level sight glasses. The standard configuration fully meets core operational requirements.

Technical Parameters

Filter type	Maximum working pressure	Filter grade	Maximum working temperature	Minimum working temperature
Die-casting line filter	1.6MPa	C/T/A/AA/TR/AR	80°C	1.5°C
		H	50°C	1.5°C

Note: Other special standards can be customized. Please contact us for more information.

Parameter of ES Line Filter

Model	Flow Rate (m ³ /min)	Inlet/Outlet	Dimensions(mm)		Filter Element		Weight (kg)
			Height	Width	Type	QTY	
ES-0016G	1.6	Rc1	287.5	91	ES-0016-*	1	1.2
ES-0025G	2.5	Rc1	354	110	ES-0025-*	1	2.1
ES-0036G	3.6	Rc1-1/2	354	110	ES-0036-*	1	2
ES-0065G	6.5	Rc1-1/2	437	110	ES-0065-*	1	2.4

Note: For larger specifications, please select the EP Series.

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Factory

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2026.04 VERSION