EPSEA

SUPER GREAT FACTORY | AIR DRYER, N_2 & O_2, SPARE PARTS

GEN 6 SUPER COLD AIR DRYER

2 YEAR WARRANTY

SUPER COLD | SUPER GOOD

EPSEA

SUPER GREAT FACTORY | AIR DRYER, N_2 & O_2, SPARE PARTS

EPSEA integrate manufacture, sales, R&D and service together, covering **air dryer, nitrogen and oxygen generator, pressure vessel, filter, separator** and so on, we are applicable to any industry that needs safe and reliable compressed air.

2,000+ m^2

R&D Lab

80,000+ m^2

Full-chain Specialized Manufacture Center

800+

Worldwide Employees & Worldwide Factory Warehouse & Service Center

● Factory I

● Factory II

www.epsea.com

Factory : FUJIAN EPSEA INDUSTRIAL CO., LTD.

Headquarters : GUANGDONG EPSEA INDUSTRIAL CO., LTD.

EPSEAGROUP

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, Epsea 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 can be divided into the following aspects:

1) Pressure and flow requirements;

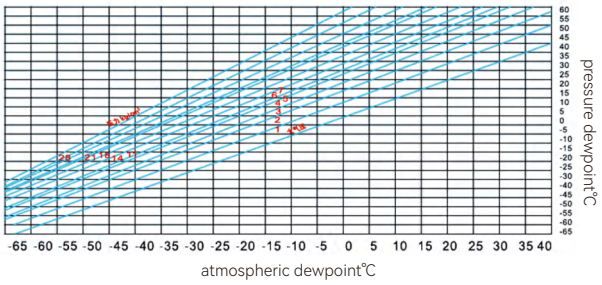
2) Requirements for dryness (i.e. water content or dew point temperature);

3) Cleanliness requirements (relatively complex, including: solids, oil mist, microorganisms, harmful gases, etc).

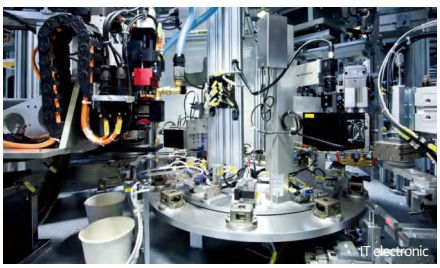
HOW CAN CLEANLINESS REQUIREMENTS BE ACHIEVED THROUGH FILTERS?

The filter plays a key role in the compressed air drying and purification system. The use of different filters can remove oil (including liquid, gas), solid impurities, microorganisms, harmful gases and other pollutants in the compressed air. In the compressed air drying and purification system, filters exist everywhere. In industrial production, the filter used by the compressed air system is often divided into several categories according to its use: oil removal filter, dust removal filter, sterilization filter and special filter.

PRESSURE DEW POINT ATMOSPHERIC DEW POINT CONVERSION CHART




Machinery manufacturing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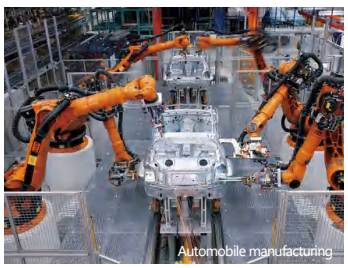

Automobile manufacturing


Textile industry


Steel manufacturing

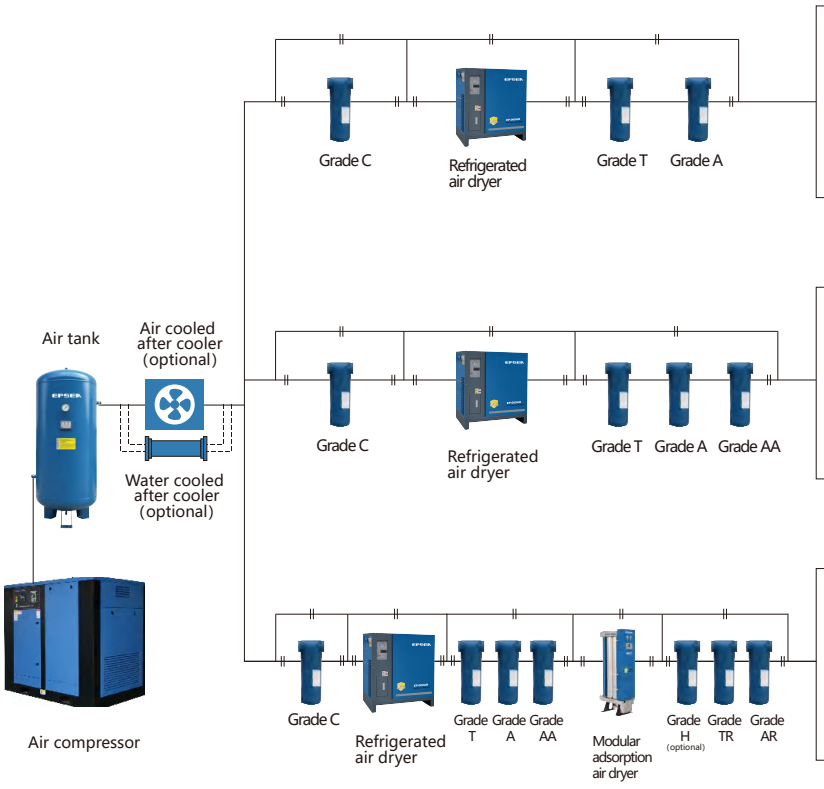

Advanced coating


Medical and pharmaceutical

CONTAMINANTS AND PURITY CLASSES ACCORDING TO ISO 8573:1-2010

Level	Compressed air purity level of particles Maximum particle size per cubic meter as a function of particle size, db			Moisture content Pressure dew point	Total oil content Including oil vapor mg/m³
	0.1μm<d≤0.5μm	0.5μm<d≤1.0μm	1μm<d≤5.0μm		
0	In accordance with the requirements specified by the equipment user or supplier, the requirements are higher than the first				
1	≤20000	≤400	≤10	≤-70℃	≤0.01mg/m³
2	≤400000	≤6000	≤100	≤-40℃	≤0.1mg/m³
3	—	≤90000	≤1000	≤-20℃	≤1mg/m³
4	—	—	≤10000	≤+3℃	≤5mg/m³
5	—	—	≤100000	≤+7℃	—
6	—	—	—	≤+10℃	—

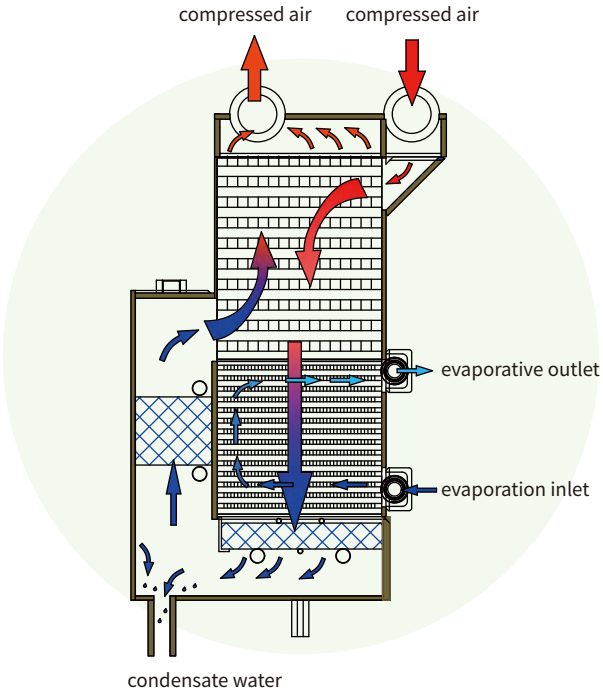
COMPRESSED AIR PURIFICATION SYSTEM FLOWCHART



Pressure dew point: 2~7℃ Particle size:0.01μm Oil content:0.01ppm	Suitable for pneumatic tools, hardware manufacturing, machinery manufacturing, plastic products, construction materials, textiles, printing, packaging, sandblasting and other general compressed air purposes.
Pressure dew point: 2~7℃ Particle size:0.01μm Oil content: 0.001ppm	Suitable for electronics appliances, precision pneumatic equipment, chemical fiber industry, daily chemical industry, device industry and other industries that require strict oil content of compressed air.
Pressure dew point: -20~-40℃ Particle size:0.01μm Oil content: 0.001ppm	Suitable for precision instruments, advanced painting of medical equipment, food, pharmaceuticals, cosmetic, semiconductor, aerospace industry and other applications that require high purity compressed air.

R410a (R513a optional)

Patent Technology 3 in 1 • Heat Exchanger System



Extreme Speed Pre-cooling System

The unique structural design of the precooling channel ensures that the compressed air at the entrance is fully and quickly cooled. Ultra-low pressure loss makes the refrigeration system cycle run more efficiently.

High-efficiency Evaporation System

The improved evaporation channel is developed so that the heat of the compressed air is fully absorbed by the liquid refrigerant. Absorbed, the refrigerant is completely "vaporized" back to the compressor suction port for the refrigeration system. In a cycle, the gaseous water in the compressed air is cooled and a large amount of liquid water is precipitated.

Dual Stage Water Seperation System

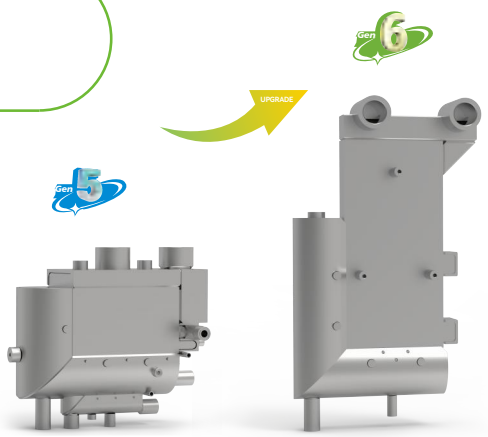
Efficient gas-water separation contains crude. The two-channel structure is compressed into the water distributor. The air flow rate is reduced, the coarse water separation structure will completely separate a large number of liquid water, and the fine water separation. The structure will again separate some of the liquid water droplets carried by the airflow fluid drag force, ensuring that. Maximum separation efficiency, thus achieving a more stable dew point.

Technical Indicators

Intake Temperature	Cooling	Ambient Temp.	Pressure Dew Point	Working Pressure Range
10~60℃	Air Cooled	2~45℃	2~7℃	0.6~1.6MPa

Note: Other special standards can be customized; more details please contact us.

6 advantages and 6 guarantees



01 Eco-friendly refrigerant · Double efficiency

R410a（R513a optional） refrigerant is used, which is more efficient than R22 and does not damage the ozone layer.

02 System optimization · Reject ice jams

The smart energy hot gas bypass control system can maximize the cooling capacity of the combination, and accurately control the excess cooling capacity at the same time, that is, to ensure the dew point and not to block the ice.

03 Larger channel · Lower pressure drop

The specially designed vertical reverse flow heat exchanger can effectively control the pressure drop, so that the pressure drop is less than 0.15Bar, which can save the power consumption of the system for the user's direct connection.

04 New material · Professional corrosion resistance

Aluminum alloy materials used in the heat exchange system have good corrosion resistance, and the surface volume of aluminum is easy to produce A layer of dense and solid $AL_2 0_3$ protective film, which can be very good.
Protect the substrate from corrosion, effectively protect the compressed air into the heat exchange system will not produce secondary contamination.

05 Upgrade configuration · More stable dew point

Three-in-one high efficiency heat exchange system is equipped with a reverse flow heat exchanger with larger surface volume, which should be relaxed for various high temperature working conditions and more stable dew point.

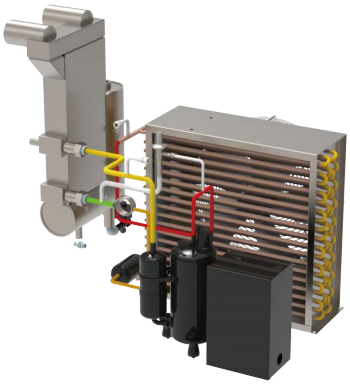
06 Selected parts · Quality worry free

a. Self-developed refrigerated air dryer specially used micro-computer control device, which can control the start and stop of dryer and high temperature protection according to the change of system load;

b. Self-designed cooling condenser, thickened copper tube and hydrophilic aluminum foil, combined with famous brand high air volume external rotary blower, better heat dissipation effect and more durable;

c. The whole series adopts the joint venture brand refrigerant compressor, based on the various machine types, choose the most suitable high efficiency rotary or vortex compressor.

Core component



According to the general compressed air dryer selection guide, the design of the cold dryer is based on the following parameters, the working pressure of 7bar, the intake temperature of 45 ° C, and the ambient temperature of 38 ° C. For different working pressures and temperatures, the following correction factors should be considered.

Table 1: Compressed air inlet temperature correction factor (C_1)

Intake temperature (℃)	32	35	38	40	42	45	50	55	60
Correction factor	1.53	1.39	1.25	1.2	1.06	1.00	0.83	0.68	0.58

Table 2: Intake pressure correction factor (C_2)

Intake pressure MPa	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.6
Correction factor	0.76	0.86	0.93	1.00	1.04	1.07	1.12	1.2

Table 3: Pressure dew point correction factor (C_3)

Pressure dew point (℃)	3	7	10
Correction factor	0.81	1	1.17

Table 4: Ambient temperature correction coefficient (C_4)

Ambient temperature(℃)	25	32	35	38	40	45
Correction factor	1.1	1.06	1.03	1	0.96	0.71

The air flow under different working conditions can be obtained by multiplying the nominal flow in the specification parameter table with the correction coefficient, and the actual dryer capacity = nominal flow ×(coefficient C_1× coefficient C_2× coefficient C_3× coefficient C_4). When the actual correction factor is greater than 1, the intake flow selection shall prevail.

Gen 6 Super Cold Air Refrigerated Dryer (Air-cooled)

MODEL	AIR CAPACITY m^3/min *	REFRIGERATION COMPRESSOR POWER(kW)	POWER SUPPLY (V/Hz)	INLET/OUTLET	DIM ENSIONS(mm)			MATCHED AIR COMPRESSOR POWER (kW)	WEIGHT(kg)
					LENGTH	WIDTH	HEIGHT		
EP-003AH	0.3	0.14	220/50Hz	Rp1/2	380	300	555	2.2	29
EP-006AH	0.6	0.20	220/50Hz	Rp1/2	430	300	555	4	34
EP-010AH	1.0	0.29	220/50Hz	Rp3/4	480	350	650	5.5	41
EP-015AH	1.5	0.46	220/50Hz	Rp1	650	420	780	7.5	52
EP-026AH	2.6	0.60	220/50Hz	Rp1	680	450	850	15	61
EP-038AH	3.8	0.84	220/50Hz	Rp1-1/2	760	500	890	22	77
EP-069AH	6.9	1.10	220/50Hz	Rp1-1/2	870	560	970	37	96
EP-110AH	11	2.16	220/50Hz	Rp2	1000	620	1035	55	136
EP-140AH	14	2.31	380/50Hz	Rp2-1/2	1050	650	1090	75	155
EP-180AH	18	3.15	380/50Hz	Rp2-1/2	1100	750	1160	90	186
EP-220AH	22	4.31	380/50Hz	Rp3	1250	800	1240	110	220
EP-280AH	28	4.56	380/50Hz	Rp3	1320	800	1250	150	256
EP-320AH	32	5.52	380/50Hz	Rp3	1650	850	1300	160	277
EP-380AH	38	6.34	380/50Hz	DN100	1700	950	1535	200	400
EP-460AH	46	8.26	380/50Hz	DN100	1700	1100	1535	250	545
EP-550AH	55	9.50	380/50Hz	DN125	1700	1200	1590	315	609
EP-670AH	67	10.46	380/50Hz	DN125	2000	1200	1610	355	663
EP-750AH	75	11.33	380/50Hz	DN125	2250	1300	2150	400	770
EP-900AH	90	13.06	380/50Hz	DN150	2250	1400	2150	450	820
EP-1100AH	110	9.5*2	380/50Hz	DN150	2300	1500	2240	630	1120

The specific type of refrigerant of the gen 6 super cold air dryer of EPSEA is subject to the nameplate of the machine and equipment, and the specific data is subject to actuality.

*Related to 1bar abs and 20℃ according to ISO 7183

According to the general compressed air dryer selection guide, the design of the cold dryer is based on the following parameters, the working pressure of 7bar, the intake temperature of 45 ° C, and the ambient temperature of 38 ° C. For different working pressures and temperatures, the following correction factors should be considered.

Table 1: Compressed air inlet temperature correction factor (C_1)

Intake temperature (℃)	32	35	38	40	42	45	50	55	60
Correction factor	1.53	1.39	1.25	1.2	1.06	1.00	0.83	0.68	0.58

Table 2: Intake pressure correction factor (C_2)

Intake pressure MPa	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.6
Correction factor	0.76	0.86	0.93	1.00	1.04	1.07	1.12	1.2

Table 3: Pressure dew point correction factor (C_3)

Pressure dew point (℃)	3	7	10
Correction factor	0.81	1	1.17

Table 3: Cooling water temperature correction factor(C_4)

Cooling water temperature (℃)	25	32	35
Correction factor	1.02	1	0.94

The air flow under different working conditions can be obtained by multiplying the nominal flow in the specification parameter table with the correction coefficient, and the actual dryer capacity = nominal flow ×(coefficient C_1× coefficient C_2× coefficient C_3× coefficient C_4). When the actual correction factor is greater than 1, the intake flow selection shall prevail.

Gen 6 Super Cold Refrigerated Air Dryer (Water-cooled)

MODEL	AIR CAPACITY m³/min	REFRIGERATION COMPRESSOR POWER(kW)	POWER SUPPLY (V/Hz)	INLET/ OUTLET	COOLING WATER FLOW (t/h)	WATER INLET/ OUTLET	DIM ENSIONS(mm)			MATCHED AIR COMPRESSOR POWER (kW)	WEIGHT(kg)
							LENGTH	WIDTH	HEIGHT		
EP-140WH	14	2.31	380	Rp2-1/2	2.2	R1	1150	650	1090	75	156
EP-180WH	18	3.15	380	Rp2-1/2	2.9	R1	1150	750	1160	90	189
EP-220WH	22	4.31	380	Rp3	3.5	R1	1250	800	1240	110	210
EP-280WH	28	4.45	380	Rp3	4.4	R1	1180	800	1250	150	234
EP-320WH	32	5.52	380	Rp3	5.1	R1	1200	830	1250	160	242
EP-380WH	38	6.34	380	DN100	6.1	R1-1/2	1700	950	1535	200	390
EP-460WH	46	8.26	380	DN100	7.3	R1-1/2	1700	1100	1535	250	528
EP-550WH	55	9.50	380	DN125	8.7	R1-1/2	1700	1200	1590	315	594
EP-670WH	67	10.46	380	DN125	10.7	R2	2000	1200	1610	355	645
EP-750WH	75	11.33	380	DN125	11.9	R2	1900	1300	2150	400	720
EP-900WH	90	13.06	380	DN150	14.3	R2	1900	1400	2150	450	737
EP-1100WH	110	9.5*2	380	DN150	17.5	R2-1/2	2150	1500	2210	630	990

Specifications Table

Gen 6 Super Cold Refrigerated Air Dryer (Air-cooled) with 2 filters

MODEL	AIR CAPACITY m^3/min *	REFRIGERATION COMPRESSOR POWER(kW)	POWER SUPPLY (V/Hz)	INLET/OUTLET	DIM ENSIONS(mm)			MATCHED AIR COMPRESSOR POWER (kW)	WEIGHT(kg)
					LENGTH	WIDTH	HEIGHT		
EP-015AH-2F	1.5	0.46	220/50Hz	R2/3	650	420	930	7.5	64
EP-026AH-2F	2.6	0.60	220/50Hz	R1	680	450	1000	15	75
EP-038AH-2F	3.8	0.84	220/50Hz	R1-1/2	760	500	1090	22	94
EP-069AH-2F	6.9	1.10	220/50Hz	R1-1/2	870	560	1200	37	118
EP-110AH-2F	11	2.16	220/50Hz	R2	1000	620	1405	55	180
EP-140AH-2F	14	2.31	380/50Hz	R2-1/2	1050	650	1470	75	200
EP-180AH-2F	18	3.15	380/50Hz	R2-1/2	1100	750	1540	90	234
EP-220AH-2F	22	4.31	380/50Hz	DN80	1250	800	1590	110	288
EP-280AH-2F	28	4.56	380/50Hz	DN80	1320	800	1830	150	318
EP-320AH-2F	32	5.52	380/50Hz	DN80	1450	950	1760	160	356
EP-380AH-2F	38	6.34	380/50Hz	DN100	1700	1300	2163	200	820
EP-460AH-2F	46	8.26	380/50Hz	DN100	1700	1400	2163	250	890

Gen 6 Super Cold Refrigerated Air Dryer (Air-cooled) with 3 filters

MODEL	AIR CAPACITY m^3/min *	REFRIGERATION COMPRESSOR POWER(kW)	POWER SUPPLY (V/Hz)	INLET/OUTLET	DIM ENSIONS(mm)			MATCHED AIR COMPRESSOR POWER (kW)	WEIGHT(kg)
					LENGTH	WIDTH	HEIGHT		
EP-015AH-3F	1.5	0.46	220/50Hz	R2/3	650	420	930	7.5	65
EP-026AH-3F	2.6	0.60	220/50Hz	R1	680	450	1000	15	78
EP-038AH-3F	3.8	0.84	220/50Hz	R1-1/2	760	500	1090	22	98
EP-069AH-3F	6.9	1.10	220/50Hz	R1-1/2	870	560	1200	37	122

Compressed air 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.

Line filter elements

EFFECT

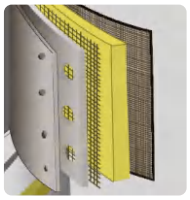
The filter element is an important part of the precision line filter, which can filter the liquid, oil mist, solid particles, oil vapor, hydrocarbons in the gas.

PRODUCT CHARACTERISTICS

- Multi-stage multi-stage 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.

FILTRATION GRADE	NAME	FILTER TYPE	SOLID REMOVAL (INCLUDING WATER AND OIL MIST)	MAXIMUM OIL CONTENT (21°C)	FILTRATION EFFICIENCY	INITIAL DRY PRESSURE DROP	PREGRADE
C	prefilter	Coalescing	3um	5mg/m³ 5ppm	99.9%	≤0.007MPa	/
T	Universal oil removal filter	Coalescing	1um	0.5mg/m³ 0.5ppm	99.9%	≤0.007MPa	C
A	High efficiency oil removal filter	Coalescing	0.01um	0.01mg/m³ 0.01ppm	99.99%	≤0.01MPa	T
AA	Super efficient oil removal filter	Coalescing	0.01um	0.001mg/m³ 0.001ppm	99.999%	≤0.01MPa	A
H	Activated carbon filter	Oil vapor removal	N/A	0.003mg/m³ 0.003ppm	N/A	≤0.01MPa	A
TR	Universal dust filter	Solid dry particle	1um	N/A	99.9%	≤0.007MPa	/
AR	High efficiency dust filter	Solid dry particle	0.01um	N/A	99.99%	≤0.01MPa	TR

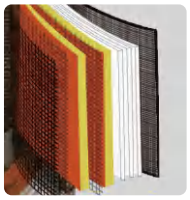
The precision filter element is made by winding type and folding type according to different needs. The winding filter element is made by borosilicate glass fiber through automatic winding process. The folding filter element uses boron.Silicate glass fiber is made by deep folding process, which reduces 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.



GRADE C FILTER ELEMENT

The first stage two stainless steel perforated tubes are mechanically separated by 10μm

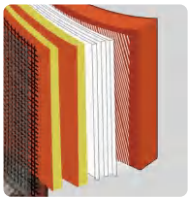
The second stage deep fiber medium filters out 3um of solid and liquid particles



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

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info@epseagroup.com

Factory : FUJIAN EPSEA INDUSTRIAL CO., LTD.
Headquarters : GUANGDONG EPSEA INDUSTRIAL CO., LTD.

2025.12 VERSION