

# ATS

Air  
Treatment  
Solutions

## 压缩空气过滤器及分离器 COMPRESSED AIR FILTER & SEPARATOR



2021



ITALIAN  
TECHNOLOGY

## Why use compressed air filter

### 为什么要用压缩空气过滤器

大气中含有水蒸气, 碳氢化合物及固体颗粒(每立方米的空气中含有大约1亿4千万个固体颗粒), 这些杂质随着空气被吸入空压机中, 然后和残留的润滑油一起进入压缩空气管网。这些污染物如果不能及时得到处理将会导致管道腐蚀, 危害到生产设备及工具的灵敏度和寿命, 并对制造产品的质量造成影响。

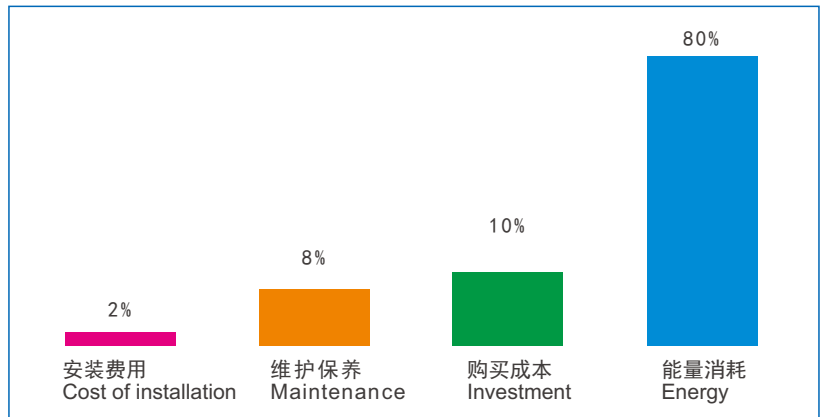
The atmosphere contains water vapour, hydrocarbons and solid particles (about 140 million solid particles per cubic metre of air found in the atmosphere). These impurities are inhaled into the air compressor and then entered to the compressed air network together with residual lubricant. Failure to treat these contaminants in a timely manner, it will lead to corrosion of pipelines, endangering production equipment, harming tool sensitivity and lifespan, which will eventually affect the products quality.

## Energy consumption

### 关于能量消耗

对于压缩空气系统管网而言, 过滤器的阻力往往是系统管网压降的重要构成部分。一支过滤器在常规使用条件下, 能耗产生的成本占总运行成本的80%, 通常1bar的压降约等于7%-10%的压缩机功率损失。

For compressed air system, filter resistance is often the key factor of air pressure drop. Under normal operating conditions, the energy consumption of a filter contributes 80 % of the total operating cost, and the air pressure drop of 1 bar is usually equal to 7 %-10 % of air compressor's energy loss.

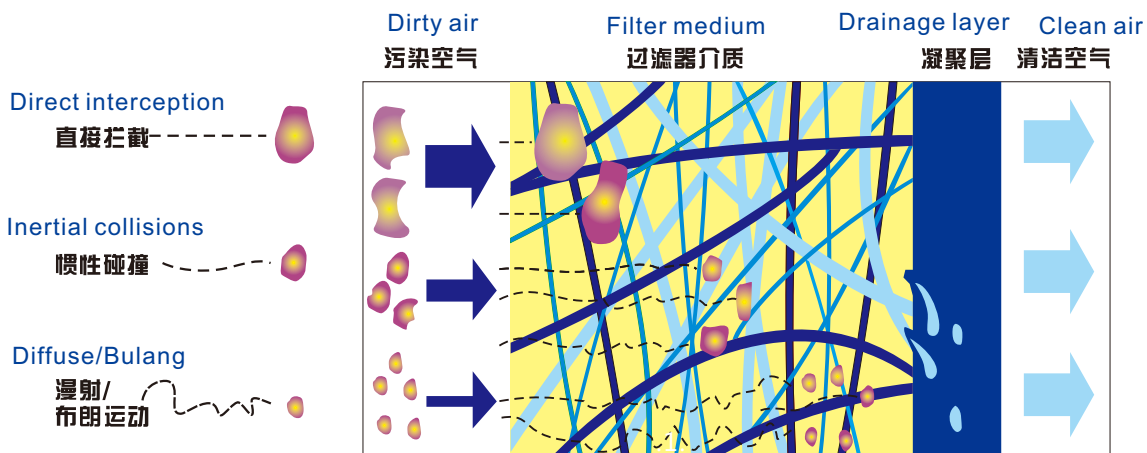


## The principle

### 压缩空气过滤器的工作原理

当待处理的压缩空气进入过滤器时, 流速放缓, 大颗粒的液滴在重力作用下掉落下来, 还有一些液滴和固体颗粒在通过玻纤滤料层时被直接拦截下来。较小直径的液滴和固体颗粒随气流通过滤芯时, 因惯性碰撞被滤料捕捉并逐渐凝聚成更大的液滴流下来, 更小的固体和液体颗粒不随气流改变方向, 只是在做布朗运动, 一旦接近滤料时, 受玻纤的静电引力影响而被吸附在滤料上。过滤出来的油水聚集在过滤器的底部, 经排水器排出。为了保护环境, 排出的油水必须要有专门的容器收集, 切勿直接排放到公共污水管。

When compressed air enters the filter, flow speed reduce, droplets, large and solid particles will be intercepted directly as they pass through the glass fiber filter. As the smaller diameter droplets and solids particles pass through the filter core, they are captured by inertia collisions and gradually condensed into larger droplets. Once they are close to the filter media, they are adsorbed by the electrostatic force of the glass fiber. The oil and water will then be collected at the bottom of the filter and is discharged through the auto drain. In order to protect the environment, the oil and water discharged must be collected in a special container.



## ATS filter structure diagram

### ATS过滤器结构分解图



Differential Pressure Gauge (DPG) : Precise indicator shows the level of element saturation and prompt or element replacement

压差表:准确指示滤芯压差状况,提醒及时更换滤芯

O-ring:Better sealing and strength

O型密封圈:有更好的密封性和强度

Stainless steel mesh:High filtration surface area with low differential pressure loss

不锈钢内网:菱形设计气流通过面积更大,阻力更小

Pleated Filter Media:Small pressure drop plus able to trapped large amount of particles.

过滤层采取折叠式工艺,压差小,容尘量大

Stainless steel mesh

不锈钢外网

Aluminum Alloy Cylinder: High strength hardness material with electrophoretic treatment

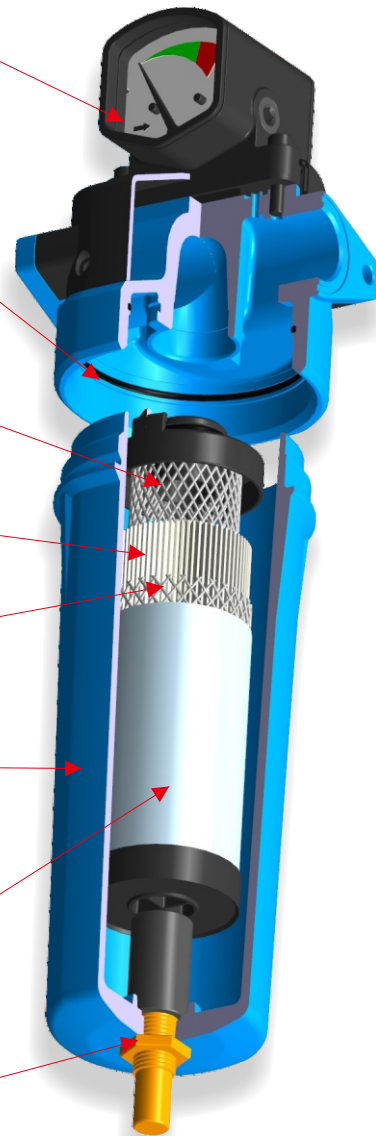
铝合金筒体,高强度高硬度材质,电泳处理

High temperature resistance and strong corrosion resistance of condensed layer

凝聚层耐高温,耐腐蚀性强



Drain: European best automatic drain valve with manual drain function, high stability and long life span

排水器:欧洲最好的带手动检测功能的自动排水器,高稳定性,寿命长



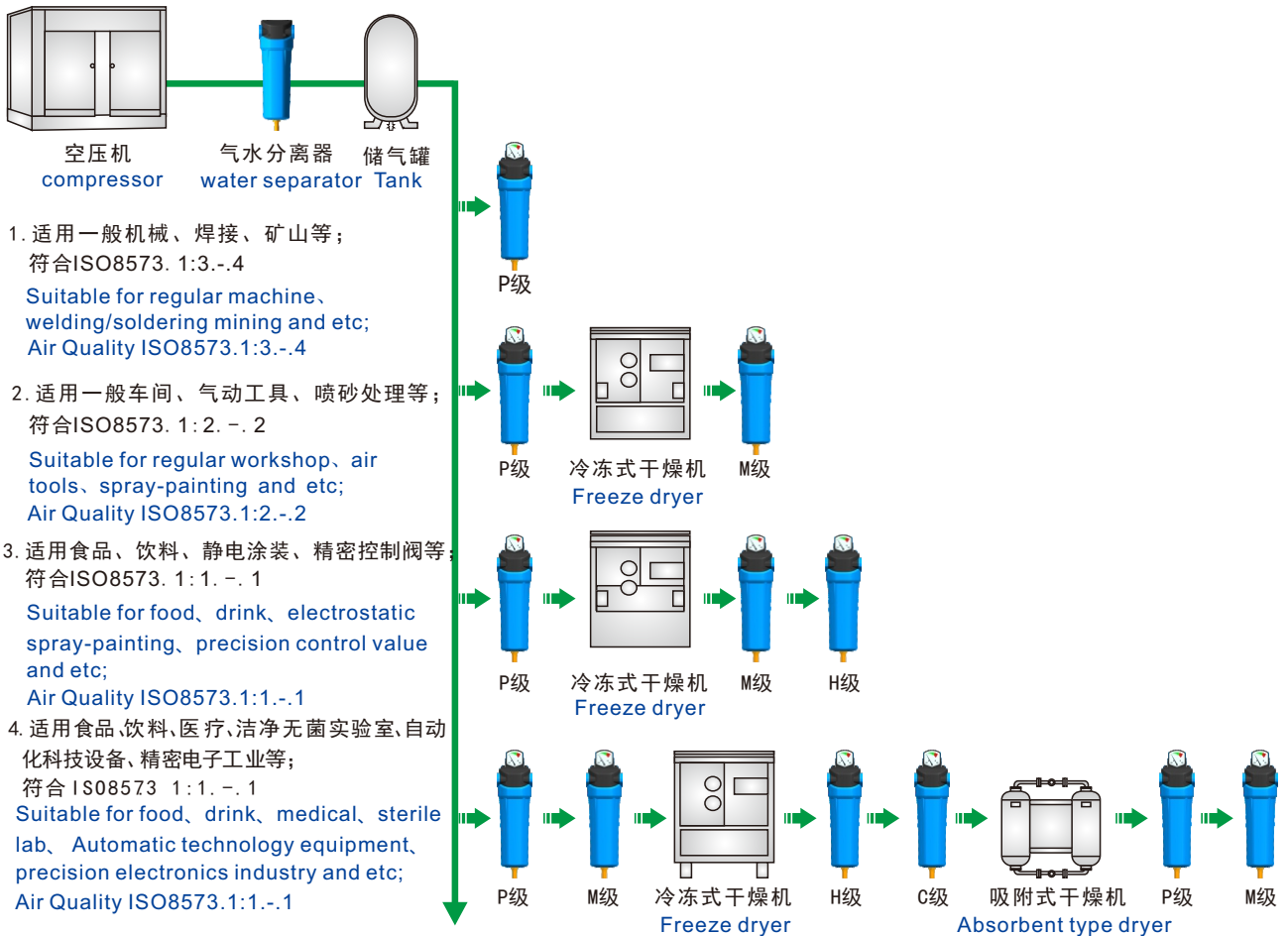
## Technical Data

### 技术参数表

产品图 Product Chart	过滤级别 Filter level	除尘 Dust removal	除油 Oil removal	初始压差 Initial pressure difference	最高使用温度 Max. Working temperature
	除尘过滤 Dust filter	3μm	—	0.05bar	100℃
	除油过滤 Coalescing Filter	1μm	0.1ppm	0.08bar	100℃
	高精过滤 High precision filter	0.01μm	0.01ppm	0.10bar	100℃
	活性炭过滤 Activated carbon filter	—	0.003ppm	0.07bar	60℃
	超高精过滤 Superfine filter	0.01μm	0.005ppm	0.15bar	100℃
	除油过滤 Coalescing Filter	0.1μm	0.05ppm	0.25bar	100℃



## Applications 不同配置应用说明图



## Reasons to Selecting ATS Filters

### 选择ATS过滤器的几大理由



■ ATS过滤器配备压差表，能够准确指示滤芯压差的情况，提醒及时更换滤芯，一般不安装压差表的过滤器则无法准确提示腔体内压差情况，在压差达到一定值后会增加能耗，额外耗能在短时间内的累积就会超出更换滤芯的价值。



■ ATS Filters installed with a differential pressure gauge (DPG) can exactly indicate the pressure differences of element for timely replacement. When the pressure difference reach to a certain value, that will increase energy consumption and hence energy expense will exceed the value of element.



■ ATS产品采用欧洲最好的带手动检测功能的自动排水器，高稳定性，寿命长，未安装自动排水器的过滤器需要耗费人工定时排放冷凝液，一旦没有及时排放冷凝液，在累计到一定程度时，过滤出来的油和水又会被气流带到下游管道，造成再次污染。(AD-01操作须知：排水阀底端铜质旋钮垂直状态下左向拧到底为手动排水状态，右向拧到底为自动排水状态。)

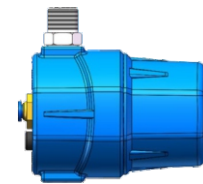
■ Reliable and durable automatic drain from Europe is used with manual drain built-in function to ensure higher stability and long life span .Without auto drain, customer will need to incur additional manpower to drain condensate water manually. Otherwise, filtered oil and water will be enter to the downstream pipe and cause compressed air polluted again. (AD-01 Operation Guide: vertical anti-clockwise for manual , vertical clockwise for automatic .)



AD-01内置自动排污阀  
AD-01 inner automatic drain



AD-05外置电子排污阀  
AD-05 electrical timed drain



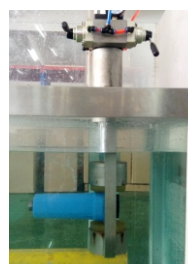
AD-14外置机械式排污阀  
AD-14 external mechanical automatic drain

■ 压缩空气测试实验室：ATS实验室是参照ISO-8573压缩空气标准设计的，可对压缩空气过滤器相关指标进行检验和分析，例如过滤精度（除尘和除油）和过滤器的压差，可对气水分离器的分离效果进行检验和分析、露点的测试，这是企业具有研发能力和保证产品质量的重要手段。

■ Compressed air test laboratory: The ATS laboratory is designed with reference to the ISO-8573 compressed air standard to test and analyze compressed air filter related indicators, such as filter accuracy (dust removal and oil removal) and filter pressure difference. The separation effect of water separator can be tested and analyzed, and the dew point can be tested. This is the enterprise has the research and development ability and guarantees the product quality the important method.



■ 检漏设备:过滤器漏气是能源的损失,许多轻微的漏气现象是不容易被发现的。ATS过滤器100%经过严格的检漏测试，充分保障用户的利益。



■ leak test equipment : filter leakage is a big energy loss,many micro leakage is not easy to detect. ATS filters are 100% strictly leak tested to ensure customer benefit.

■ ATS高效滤芯与其他一般滤芯相比如下：

1、滤纸：我们采用折叠式滤芯，相比一般缠绕式多出约3倍的过滤面积和更高的容尘量，同时也意味着拥有更小的压差和更长的使用寿命。



■ High efficiency elements features :

1、Filter paper: deep-pleated filter element has 3 times of filtration area than rapped type and higher space to hold the dust,it also has lower pressure drop and longer life span.

2、采用不锈钢菱形网，相比于圆孔网有更大的有效过滤面积，和更小的阻力；



2、Rhombic shaped stainless steel mesh has larger effective filtration area and smaller pressure drop compare to round-hole type

3、滤芯外部的凝聚层采用喷胶棉，与一般传统的海绵相比，有耐高温和耐腐蚀的优点，海绵在使用一段时间后容易腐烂，腐烂的海绵被气流吹到下游管道后如未被拦截会对生产设备造成一定损坏；



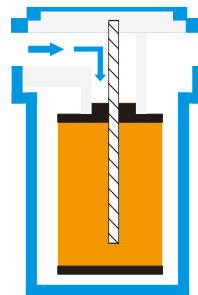
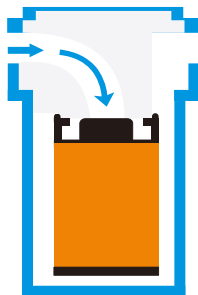
3、ATS uses polyester wadding for the external coalescing layer, compared to traditional foams, it has high resistance to high temperature and corrosion. Traditional foams is easily damaged after a period of time, ragged forms can be blown into down stream pipeline and possibly damage the production equipment.

4、采用无拉杆的设计方式，滤芯顶部的卡口设计，与一般拉杆的设计相比节省更多的安装空间，且非常便于拆卸；



4、No pull rod design to save installation space and easy to disassemble

■ 过滤器的空气入口到滤芯之间采用弯管设计，相比于直角设计的过滤器有更小的压降，筒体采用防锈抗氧化和喷涂双重处理，耐腐蚀性强。



■ Elbow design between air inlet and element,less pressure drop compared to vertical type. The housing is double treated with antioxidation and painting to resist corrosion.

弯角进气口和滤芯顶部卡口设计  
Design of angle inlet and top clamp of filter

直角进气口和滤芯带拉杆式设计  
Design of rectangular inlet and Lxindai

# Separator

## 分离器

### Water separator

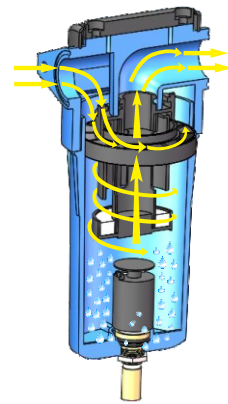
#### 气水分离器

在压缩空气过滤器和干燥设备之前安装气水分离器可以去除95%的液态水，使下游净化设备发挥更好的效能。ATS气水分离器独特的双段旋风分离设计，使之比传统的气水分离器除水效果更高。气水分离器可选择的安装位置在空气压缩机后，在后部冷却器后，在储气罐后。

Installing water separator before compressed air filter and drying equipment can remove 95 % of liquid water, making downstream purification more efficient. The unique two-stage cyclone separation design makes it more effective than traditional type of water separator. The air and water separator can be installed in various position such as after the air compressor, after the rear cooler or after the air receiver tank.

技术参数：  
工作压力：0.7-1.6MPa  
工作温度：100°C Max.

Technical parameters:  
Working pressure: 0.7-1.6MPa.  
Operating temperature: 100°C Max.



### Specification/ Flange water separation filter scale

#### 气水分离器(W)/法兰气水分离过滤器规格尺寸表

型号 Model	接口尺寸 Conn. size	流量 Flow rate		外形尺寸(mm) Interface Size				示意图 Diagram
	inch	m <sup>3</sup> /min	cfm	A	B	C	D	
F0045W	1/2"	1.3	45	95	207	174	—	
F0046W	3/4"	1.3	45	95	207	174	—	
F0100W	3/4"	2.8	100	95	267	235	—	
F0180W	1"	5.1	180	125	301	261	—	
F0181W	1-1/2"	5.1	180	125	301	261	—	
F0370W	1-1/2"	10.5	370	125	385	345	—	
F0515W	2"	14.6	515	170	504	455	—	
F0745W	2"	21.1	745	170	684	634	—	
F1060W	2-1/2"	30	1060	200	820	752	—	
F1061W	3"	30	1060	200	820	752	—	
F1650W	3"	46.7	1650	200	981	915	—	
FL2100W	DN125	63	2224	535	1274	995	273	
FL2800W	DN150	84	2965	577	1484	1175	325	
FL3500W	DN150	105	3707	577	1584	1275	325	
FL4448W	DN200	126	3448	650	1785	1410	380	
FL5189W	DN200	147	5189	650	1885	1510	380	
FL5930W	DN200	168	5930	650	1985	1610	380	
FL6672W	DN200	189	6672	650	2085	1710	380	
FL7350W	DN250	210	6672	785	2245	1795	480	
FL8542W	DN250	242	8543	785	2345	1896	480	
FL10096W	DN300	286	10096	875	2535	2048	530	
FL11649W	DN300	330	11649	900	2635	2148	530	

### Pressure correction factors

#### 压力修正系数

工作压力(bar) Working pressure	3	4	5	6	7	8	9	10	11	12	13	14	15	16
修正系数 Correction factors	0.5	0.63	0.75	0.88	1	1.13	1.25	1.38	1.5	1.63	1.75	1.88	2	2.13

以上数据均居于在7bar,21°C时测得，过滤器最高工作压力16bar。

The above data are measured at 7 bar, 21°C, max. working pressure is 16 bar.

选型举例:处理量10m<sup>3</sup>/min,工作压力5bar。  
V=10/0.75=13m<sup>3</sup>/min应该选型过滤器F0515PW。

Example: You could choose the F0515PW when processing air rate is 10m<sup>3</sup>/min.working pressure 5 bar.

## Filter separator 分离过滤器

ATS独特的分离过滤器是旋风分离与过滤两个功能的组合产品，具有节省安装空间，减轻滤芯负荷的优点。旋风分离组件可以去除大部分的液态油水及大的固体颗粒，滤芯再进一步除油除尘，分离器滤芯一般选用P级或M级。产品可以安装在紧凑空间的机器内部，冷冻式干燥机前，空分设备后以及其他应用场合。

ATS unique separation filter is a combination of cyclone separation and filtration, with the advantages of saving installation space and reduce filter load. Cyclonic separation component can remove most of the liquid oil and water as well as large solid particles, as for filter element, it will further remove dust. Separator filter element has two grades to choose from, mainly P(3.00 micron) or M(1.00 micron). Separator can be installed in a compact space inside a machine, before refrigerated dryer, after air compressor and other applications.

技术参数：  
工作压力：0.7-1.6MPa  
工作温度：100°C Max.

Technical parameters:  
Working pressure: 0.7-1.6MPa.  
Operating temperature: 100°C Max.



型号 Model	流量		接口尺寸 Interface Size inch	外形尺寸(mm) Shape size			示意图 Diagram
	m <sup>3</sup> /min	cfm		A	B	C	
F0045PW	1.3	45	1/2"	95	207	174	
F0046PW	1.3	45	3/4"	95	207	174	
F0100PW	2.8	100	3/4"	95	267	235	
F0180PW	5.1	180	1"	125	301	261	
F0181PW	5.1	180	1-1/2"	125	301	261	
F0370PW	10.5	370	1-1/2"	125	385	345	
F0515PW	14.6	515	2"	170	504	455	
F0745PW	21.1	745	2"	170	684	634	
F1060PW	30	1060	2-1/2"	200	820	752	
F1061PW	30	1060	3"	200	820	752	
F1650PW	46.7	1650	3"	200	981	915	

## Depth Oil removal filters 深度除油过滤器

ATS CP系列深度除油过滤器的滤芯由一个活性炭管及一段除尘滤芯组成，双功能组合，具有节省空间，节省成本等优点。

广泛用于对含油量要求高的应用场合，如：喷涂行业、激光切割行业、医药行业、精密电子行业等。

The filter element of ATS CP series deep degreasing filter consists of an activated carbon tube and a dust-removing filter element. Double function combination, with the advantages of saving space and cost.

It is widely used in applications requiring high oil content, such as spraying industry, laser cutting industry, pharmaceutical industry, precision electronics industry, etc.

技术参数：  
工作压力：1.6MPa Max.  
过滤精度：0.003ppm  
工作温度：60°C Max.

Technical parameters:  
Working pressure: 1.6mpa Max.  
Filtration precision: 0.003ppm  
Operating temperature: 60°C Max.



过滤器型号 Filter model	接口尺寸 Conn. size	流量 Flow rate		尺寸(mm) Dimensions				滤芯型号 element model	示意图 Diagram
	inch	m <sup>3</sup> /min	cfm	A	B	C	D		
F0045CP	1"	1.30	45	125	207	174	185	0045ECP	
F0070CP	1"	2.00	70	125	267	235	185	0070ECP	
F0100CP	1"	2.80	100	125	267	235	185	0100ECP	
F0125CP	1"	3.50	125	125	301	261	185	0125ECP	

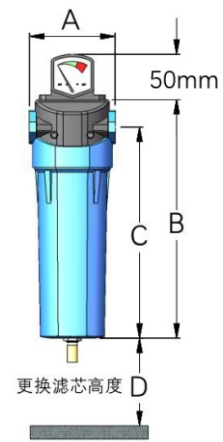


## Tube thread filter

### 管螺纹过滤器



过滤器型号 Filter model	接口尺寸 Conn. size	流量 Flow rate		尺寸(mm) Dimensions				滤芯型号 Element model	示意图 Diagram
	inch	m <sup>3</sup> /min	cfm	A	B	C	D		
F0020	1/2"	0.57	20	95	207	174	95	0020E*	
F0021	3/4"	0.57	21	95	207	174	95	0020E*	
F0045	1/2"	1.3	45	95	207	174	110	0045E*	
F0046	3/4"	1.3	46	95	207	174	110	0045E*	
F0070	3/4"	2.0	70	95	267	235	145	0070E*	
F0100	3/4"	2.8	100	95	267	235	175	0100E*	
F0125	1"	3.5	125	125	301	261	185	0125E*	
F0126	1-1/2"	3.5	126	125	301	261	185	0125E*	
F0180	1"	5.1	180	125	301	261	185	0180E*	
F0181	1-1/2"	5.1	181	125	301	261	185	0180E*	
F0265	1-1/2"	7.5	265	125	385	345	230	0265E*	
F0370	1-1/2"	10.5	370	125	385	345	270	0370E*	
F0515	2"	14.6	515	170	504	455	390	0515E*	
F0745	2"	21.1	745	170	684	634	570	0745E*	
F0900	2-1/2"	25.5	900	200	820	752	570	0900E*	
F0901	3"	25.5	901	200	820	752	570	0900E*	
F1060	2-1/2"	30	1060	200	820	752	630	1060E*	
F1061	3"	30	1061	200	820	752	630	1060E*	
F1280	3"	36.3	1280	200	820	752	700	1280E*	
F1281	3"	36.3	1280	200	981	915	700	1280E*	
F1650	3"	46.7	1650	200	981	915	700	1650E*	



## Pressure correction factors

### 压力修正系数

工作压力 (bar) Working pressure	3	4	5	6	7	8	9	10	11	12	13	14	15	16
修正系数 Correction factors	0.5	0.63	0.75	0.88	1	1.13	1.25	1.38	1.5	1.63	1.75	1.88	2	2.13

以上数据均居于7bar,21°C时测得, 过滤器最高工作压力16bar。

The above data are measured at 7 bar, 21°C, max. working pressure is 16 bar.

选型举例: 处理量3.5m<sup>3</sup>/min, 工作压力5bar, 除油精度0.01mg/m<sup>3</sup>。  
V=3.5/0.75=4.7m<sup>3</sup>/min应该选型过滤器F0180H, 同时还应该配前置过滤器F0180P或者F0180M。

Example: You could choose the F0180H filter then install F0180P or F0180M Filters primarily when processing air rate is 3.5m<sup>3</sup>/min. working pressure 5 bar, residual oil 0.01mg/m<sup>3</sup>.

## Flange filter

### 法兰过滤器



外接法兰 External flange									
过滤器型号 Filter model	接口尺寸 Conn. size	流量 Flow rate		尺寸(mm) Dimensions				滤芯支数 Element number	滤芯型号 Element model
	DN(mm)	m <sup>3</sup> /min	cfm	A	B	C	D		
FL0745	DN65	21.1	745	330	684	634	500	1	0745E*
FL0900	DN80	25.5	900	364	820	752	500	1	0900E*
FL1060	DN80	30	1060	364	820	752	500	1	1060E*
FL1280	DN80	36.3	1280	364	820	752	500	1	1280E*
FL1650	DN100	46.8	1650	364	981	915	500	1	1650E*
法兰连接 Flange connection									
FL1400	DN100	42	1400	525	980	782	500	2	0745FE*
FL2100	DN125	63	2100	525	1003	794	500	3	0745FE*
FL2800	DN150	84	2800	577	1064	857	600	4	0745FE*
FL3500	DN150	105	3500	651	1123	862	700	5	0745FE*
FL4448	DN200	126	4448	651	1180	891	700	6	0745FE*
FL5189	DN200	147	5189	718	1246	944	750	7	0745FE*
FL5930	DN200	168	5930	718	1246	944	800	8	0745FE*
FL6672	DN200	189	6672	784	1262	936	800	9	0745FE*
FL7350	DN250	210	7350	784	1317	964	800	10	0745FE*
FL8542	DN250	242	8542	834	1483	1122	850	11	0755FE*
FL10096	DN300	286	10096	876	1540	1132	850	13	0755FE*
FL11649	DN300	330	11649	998	1586	1146	950	15	0755FE*

示意图  
Diagram

## Pressure correction factors

### 压力修正系数

工作压力 (bar) Working pressure	3	4	5	6	7	8	9	10	11	12	13	14	15	16
修正系数 Correction factors	0.5	0.63	0.75	0.88	1	1.13	1.25	1.38	1.5	1.63	1.75	1.88	2	2.13

以上数据均居于在7bar,21°C时测得，过滤器最高工作压力16bar。

The above data are measured at 7 bar, 21°C, max. working pressure is 16 bar.

选型举例:处理量30m<sup>3</sup>/min, 工作压力5bar, 除油精度0.01mg/m<sup>3</sup>。  
V=30/0.75=40m<sup>3</sup>/min应该选型过滤器FL1650H, 同时还应该配前置过滤器FL1650P或者FL1650M。

Example: You could choose the FL1650H lthair filter then install FL1650P or FL1650M Filters primarily when processing air rate is 30m<sup>3</sup>/min.working pressure 5 bar, residual oil 0.01mg/m<sup>3</sup>.

## Stainless steel filter

### 不锈钢过滤器

当对压缩空气质量高的时候，系统要采用不锈钢管道和不锈钢过滤器。

ATS提供不锈钢过滤器，采用高精度制造工艺，壳体采用304或316L不锈钢制造，内外表面层镜面抛光处理，防腐蚀，结构符合空气动力学原理，确保将过滤介质压降降到最低。

核心是我们的高效滤芯，可以满足不同行业的需求，可提供高的过滤效率和非常低的压降，最终保证了纯净的压缩空气和低的运营成本。

广泛应用于各种对气体要求高的行业，例如：半导体制造、医疗、制药及食品加工等。

When the quality of compressed air is high, the system should use stainless steel pipes and stainless steel filters.

ATS provides stainless steel filter with high precision manufacturing process, the housing is made of 304 or 316L stainless steel, the internal and external surface layer is mirror polished, anti-corrosion, the structure conforms to the aerodynamic principle, to ensure that the pressure drop of filter media is minimized.

The core is our highly efficient filter element, which can meet the needs of different industries, can provide high filtration efficiency and very low pressure drop, and finally ensure clean compressed air and low operating costs.

It is widely used in a variety of industries with high gas requirements, such as semiconductor manufacturing, medical, pharmaceutical and food processing.



过滤器型号 Filter model	接口尺寸 Conn. size	流量 Flow rate		尺寸(mm) Dimensions				示意图 Diagram	
	BSP-F	m <sup>3</sup> /min	cfm	A	B	C	D		
ST0021	3/4"	0.6	21	159	258	186	—		
ST0053	3/4"	1.5	53	159	258	186	—		
ST0078	1"	2.2	78	159	323	251	—		
ST0102	1"	2.9	102	159	323	251	—		
ST0130	1-1/2"	4.9	130	194	380	293	—		
ST0200	1-1/2"	5.7	200	194	380	293	—		
ST0270	2"	7.7	270	194	460	373	—		
ST0380	2"	10.8	380	194	460	373	—		
ST0520	2-1/2"	14.8	520	250	622	522	—		
ST0770	2-1/2"	22	770	250	802	700	—		
ST1400	DN100	42	1483	525	980	782	500		
ST2100	DN125	63	2224	525	1003	794	500		
ST2800	DN150	84	2965	577	1064	857	600		
ST3500	DN150	105	3707	651	1123	862	700		
ST4448	DN200	126	4448	651	1180	891	700		
ST5189	DN200	147	5189	718	1246	944	750		
ST5930	DN200	168	5930	718	1246	944	800		
ST7350	DN250	210	7413	784	1317	964	800		

## Stainless steel aseptic air filter(can pass through gas) 不锈钢除菌类过滤器(可以通蒸汽)

在生物制药、食品饮料、电子化工等行业中，压缩空气过滤都需要使用无菌或者高纯度过滤，以满足工艺需要，达到FDA、GMP等标准。

ATS提供不锈钢除菌过滤器，壳体采用304或316卫生级不锈钢制造，内外表面层镜面抛光处理，防腐蚀，无死角、无残留，配上快装卡盘，便于维护。

滤芯采用超大面积的聚四氟乙烯（PTFE）除菌滤纸，快装式结构，便于安装，根据实际情况每周或每月1~2次，每次30分钟，使用120~140℃洁净蒸汽定期灭菌。

In the industries of bio-pharmacy, food and beverage, electronics and chemical industry, compressed air filtration needs to be sterile or high-purity filtration to meet the process requirements and meet the standards of FDA and GMP.

ATS provides stainless steel sterilizing filter, the housing is made of 304 or 316 sanitary grade stainless steel, the internal and external surface layer mirror polishing treatment, anti-corrosion, no dead corner, no residue, equipped with quick installation chuck, easy to maintain.

The filter element is made of polytetrafluoroethylene (PTFE) sterilizing paper with super large filtration area. Quick-mounted structure, easy to install, according to the actual situation once a week or twice a month, 30 minutes each time, using 120°C-140°C clean steam sterilization regularly.

### 技术参数

压力范围：0.05-1.0MPa.  
过滤精度：0.01um  
过滤效率：99.99%  
进气温度：5-80℃  
环境温度：2-60℃

### Technical parameters:

Pressure range: 0.05-1.0MPa.  
Filtration precision: 0.01um  
Filtration efficiency: 99.99%  
Inlet temperature: 5-80℃  
Environment temperature: 2-60℃



过滤器型号 Filter model	接口尺寸 Conn. size	流量 Flow rate		尺寸(mm) Dimensions			滤芯支数 Element number	示意图 Diagram
	BSP-F	m³/min	cfm	筒体直径	B	L		
ST0021AF	DN 25	0.6	21	101	250	363	1	
ST0053AF	DN 25	1.5	53	101	250	363	1	
ST0078AF	DN 25	2.2	78	101	250	570	1	
ST0102AF	DN 25	2.9	102	101	250	570	1	
ST0125AF	DN 25	3.5	125	101	250	570	1	
ST0130AF	DN 25	4	130	101	250	570	1	
ST0140AF	DN 25	4.9	140	101	250	570	1	
ST0200AF	DN 40	5.7	200	101	250	850	1	
ST0270AF	DN 40	7.7	270	101	250	850	1	
ST0380AF	DN 40	10	380	101	250	850	1	
ST0381AF	DN 50	10	381	200	300	780	3	
ST0515AF	DN 50	15	515	200	300	780	3	

注：以上不锈钢除菌类过滤器进出接口为标配(快开),若需其它接口,请另注明!

## Installation in series 串联式组合

This compact assembly design will meet most customers demand .It is suitable for end of point usage and without installation of threaded connector.

为了满足更多的使用要求，我们设计了这样的快捷组合方式，适用各种实验或检测等用气终端。可以直接连在一起串联使用，无需加装螺纹连接。



## Medical vacuum filter

### 医用真空除菌过滤器

医用真空除菌过滤器主要用于医院无菌病房的负压系统。

医院的真空吸引系统是现代化医院必备的系统设备。真空吸引系统从手术室吸引的带有细菌的气体排放到大气中，会对周围的环境造成污染，是细菌传播的途径之一。

ATS提供的真空除菌过滤器可以有效拦截细菌并收集起来，避免细菌的污染。

除菌过滤器同样适用于无尘无菌的试验室和车间。

医用真空过滤器壳体采用铝合金制造，内表层电泳外理，防腐性能强；外表面喷粉处理，涂层质量好、耐腐蚀、机械性能强。

Medical vacuum sterilizing filter is mainly used in the negative pressure system of sterile hospital wards.

The vacuum suction system is an essential equipment in modern hospitals. The vacuum suction system attracts bacteria-bearing gases from the operating room and discharges them into the atmosphere, which pollutes the surrounding environment and is one of the ways of bacterial transmission.

The vacuum sterilizing filter provided by ATS can effectively catch and collect bacteria to avoid bacterial contamination.

The sterilizing filter is also suitable for clean and sterile laboratory and workshop.

The medical vacuum filter housing is made of aluminum alloy, the inner surface layer is electrophoretic, and the corrosion resistance is strong. External surface powder spraying treatment, coating quality, corrosion resistance, mechanical properties.

过滤器型号 Filter model	接口尺寸 Conn. size	真空流量500mm Vacuum flow	空气流量 Air flow	尺寸(mm) Dimensions				滤芯型号 Element model	示意图 Diagram
	inch	Hg@m <sup>3</sup> /h	m <sup>3</sup> /h	A	B	C	D		
F0020MV	1/2"	12.9	4.3	95	207	174	160	0020MV	
F0045MV	1/2"	29.4	9.8	95	207	174	160	0045MV	
F0070MV	3/4"	45	15	95	267	235	160	0070MV	
F0100MV	3/4"	63	21	95	267	235	160	0100MV	
F0125MV	1"	78	26	125	301	261	160	0125MV	
F0180MV	1"	114	38	125	301	261	160	0180MV	
F0265MV	1-1/2"	168	56	125	385	345	160	0265MV	
F0370MV	1-1/2"	237	79	125	385	345	160	0370MV	
F0515MV	2"	330	110	170	504	455	160	0515MV	
F0745MV	2"	474	158	170	684	634	160	0745MV	
F1060MV	2-1/2"	675	225	200	820	752	160	1060MV	
F1280MV	3"	816	272	200	820	752	160	1280MV	
F1650MV	3"	1050	350	200	981	915	160	1650MV	

## Pressure correction factors

### 压力修正系数

工作压力 (bar) Working pressure	1	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02
修正系数 Correction factors	1	0.9	0.8	0.7	0.6	0.5	0.4	0.3	0.2	0.1	0.05	0.02

以上数据均居于在1bar,21°C时测得。

选型举例:处理量80m<sup>3</sup>/h,工作压力0.6bar,

V=80/0.6=133m<sup>3</sup>/h应该选型过滤器F0745MV。

The above data are measured at 1 bar, 21°C .

Example: You could choose the F0745MV when processing air rate is 80m<sup>3</sup>/h.working pressure 0.6 bar.

## High pressure filters

### 铝合金高压过滤器

ATS高压过滤器采用锻压工艺，充分考虑了高压领域的过滤要求，满足各种复杂过滤工况，应用空气动力学原理设计，降低压损。

ATS高压过滤器壳体采用热锻工艺成形，有较强耐压物理特性，内表面也采用防腐工艺处理，过滤层采用多层滤材复合，折叠工艺，压损小，过滤效果佳。

主要适用于在激光切割、吹瓶、吹塑等高压领域的应用。

ATS high pressure filter adopts forging process, fully considers filtration requirements in high pressure field, meets various complex filtration conditions, and applies aerodynamic principle to design and reduce pressure loss.

The housing of the ATS high pressure filter is formed by hot forging process, which has strong physical properties of pressure resistance, and the inner surface is also treated by corrosion resistance process. The filter layer is composed of multi-layer filter material, folding process, with small pressure loss and good filtering effect.

It is mainly used in laser cutting, blowing bottle, blowing molding and other high pressure applications.



技术参数：

最高工作压力：5.0Mpa

Technical parameters:

Max. working pressure: 5.0Mpa

过滤器型号 Filter model	接口尺寸 Conn. size	流量 Flow rate		尺寸(mm) Dimensions			示意图 Diagram
	BSP-F	m <sup>3</sup> /min	cfm	A	B	C	
FD035	1/2"	1	35	106	175	125	
FD063	1/2"	1.8	63	106	175	125	
FD088	3/4"	2.5	88	106	245	222	
FD123	3/4"	3.5	123	106	245	222	
FD177	3/4"	5	177	106	245	222	
FD140	1"	4	140	106	245	222	
FD194	1"	5.5	194	106	245	222	
FD247	1"	7	247	106	245	222	

## Pressure correction factors

### 压力修正系数

工作压力 (bar) Working pressure	20	25	30	35	40	50
修正系数 Correction factors	0.51	0.63	0.78	0.88	1	1.24

选型举例: 处理量2.5m<sup>3</sup>/min, 工作压力30bar,  
V=2.5/0.78=3.2m<sup>3</sup>/min, 应该选型过滤器FD123。

Example: You could choose the FD123 when processing air rate is 2.5m<sup>3</sup>/min. working pressure 30 bar.

## Energy efficiency of filters

### 过滤器的能效



压缩空气过滤器的压力损失由固有的压力损失和逐渐增大的压力损失组成。固有压力损失由过滤器壳体结构和壳体与滤芯之间的接口产生。增量的压力损失由过滤器滤芯工作过程中逐渐被污染物堵塞而产生。提供优化的压缩空气通道是降低系统运行费用的关键。

**过滤器接口:**同一个过滤器具有多种接口尺寸可供选择,能同时满足系统不同和流量的要求,增加了客户选择机会和减少安装费用。

**紧凑、轻巧:**先进的滤芯设计理念可使用过滤器更小,更紧凑。同时允许过滤器安装在狭窄的空间里。

**完全防腐:**ATS 过滤器壳体经过黑色电泳,优越的防腐性能提供10年的质量保证。

#### 按时更换滤芯的好处

- 确保高质量的压缩空气
- 保护吸附式干燥器吸附床
- 保护下游设备
- 减少运行费用
- 提高生产力和盈利能力

#### 不更换滤芯的后果有哪些

- 破坏吸附式干燥器的吸附床,导致非计划更换吸附剂
- 腐蚀储气罐和输送管网
- 堵塞和冻结阀门和空气马达
- 从阀门、气缸排放的污染物会形成一个不健康的工作环境,存在潜在的人员流失以及由于健康而造成的经济损失
- 损坏机器
- 生产流程效率低下
- 合格率低
- 增加制造成本,增加停机时间

过滤器配置了压差表,而且表上的指针位于绿色区域,却为什么还需要更换滤芯?

由于滤芯中的过滤纤维在使用过程中逐渐变脆,即使一个很小的孔也会导致过滤介质断裂,这时污染物未经过滤就进入下游压缩空气系统中。如果这种现象真的发生,由于过滤器前后压差不大,压差表上的指针会始终处于绿色区域,滤芯不会被及时更换直至用户在下游发现污染物,这种情况发生以后,即使更换了滤芯,在相当长的一段时间内下游管线中还是会有污染物存在。

The pressure loss of compressed air filter consists of inherent pressure loss and increasing pressure loss. The inherent pressure loss is caused by the filter housing structure and the interface between the housing and the filter core. The incremental pressure loss is caused by the clogging of the filter core. Providing the optimized compressed air channel is the key to reduce the system operating cost.

**Filter connection:** The same filter has a variety of interface sizes to choose from, and can meet both system and flowrate requirements, increasing customer selection opportunities and reducing installation costs.

**Compact and light:** ATS advanced filter core design concept Makes filter smaller and more compact, which allow filters to be installed even in narrow spaces.

**Complete anticorrosion:** ATS filter housing are all electrophoretic, this excellent anticorrosion performance provides 10 years of quality assurance.

#### Benefits of time elements replace of

- Ensure high quality compressed air
- Protection of adsorption dryer's adsorption bed
- Protection of downstream equipment
- Reduction in operating costs
- Improving productivity and profitability

#### What are the consequences of not replacing the filter

- Will cause damaging to the adsorption bed of adsorption dryer, resulting in unplanned replacement of the desiccant beads
- Corrosion of gas storage tanks and pipes in transmission networks
- Valves and air motors blocked and frozen
- Discharges from valves and cylinders create an unhealthy working environment, potential staffing attrition as well as financial compensation due to health issue
- Machine will be damaged
- Ineffective production processes
- Low eligibility rate
- Increase manufacturing cost and downtime.

The filter is equipped with a differential pressure gauge and the pointer is in the green area, but why do we still require to change the elements?

Reason being is that the filter fibers in the filter element become brittle over a period of time, even a small hole can cause the filter medium to break and thus the contaminants will enter the downstream of the compressed air system without filtering. If this happens, the pointer on the gauge will always be in the green area due to the small pressure difference between the front and back of the filter, the filter element will not be replaced in time until the user found contaminants downstream. Please note that even if the element is replaced, contamination will still be remained in the downstream pipeline for a considerable period of time.



ATS also specializing in manufacturing compatible and custom-made filters and elements  
专业制造压缩空气过滤器滤芯及非标替代滤芯定制

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