

# Sterile Filter for Compressed Air

EIKOH AIR Filter

# EIKOH AIR FILTER

Authorized International Trader

翊傑國際貿易投資有限公司

YI JIE INTERNATIONAL TRADING CO., LTD

# EIKOH AIR FILTER

Air is an essential substance for all living things, including humans.

This air is also used in a variety of ways in various industries.

However, air contains all kinds of particles and microorganisms.

In recent years, the need for cleaner air has become increasingly important with advances in cleaning technology in manufacturing processes.

Due to microbial contamination of products in the pharmaceutical, food, and cosmetic industries, or particulates in the semiconductor and fine chemical industries, resulting in a decrease in yield, it is critical that sterile, dust-free air be used to prevent quality degradation.

The EIKOH UCM air filter provides safe and clean air with low operating costs due to its superior filtration features and durability.



# EIKOH FILTER

## Commercial Models

- EIKOH Filter
  - EIKOH Air Sterilization Device – barrel type  
(Steam sterilization type filter for compressed air)
  - Steam filter  
(Removal of steel dust and particles from steam)
- EIKOH VENT FILTER  
(Air filter for sterilization of air in the tank)  
(High- and medium-performance device type air filter for dust and bacteria removal)
- Mini-fold HEPA, ULPA, and water-repellent high-performance filters
  - Liquid filter  
(for sterilization and particle removal) Clean room  
(Prefab type clean room)



# Sterile and dust-free filters highlighting reliability and performance

## EIKOH VENT FILTER

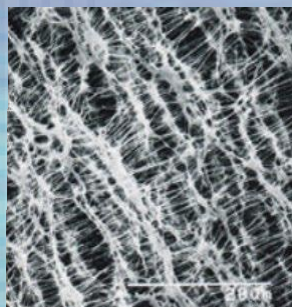
EIKOH VENT Filter is the barrel-shaped air filter that aseptically filters the air flowing into the barrel and removes dust from it, which cleans the air in semiconductor industry, food industry, pharmaceutical industry and cosmetics industry. Barrels are loaded with liquid materials, semi-products and final products, mainly water, which are necessary in storage and transportation. However, the sterile and dust-free management of the external air flowing into the barrels is often overlooked. In addition, in the food industry, pharmaceutical industry, etc., when vacuum exists, vacuum freeze drying and medical equipment sterilization may cause a large amount of air inflow in a short period of time. Therefore, like barrels, the inflow air has to be aseptically filtered and the dust has to be removed. EIKOH VENT FILTER has a variety of barrel types to fulfill various purposes and conditions, so please select the most suitable types of filter.

### 《TYPE》

- EIKOH VENT FILTER VCM Type, VCL Type, ..., Pressurized Steam Sterilization Type
- EIKOH VENT FILTER VET Type, ..., Water-repellent Ultra-high Performance Filter with High Airflow Type

### Features

1. Use the cylindrical structure and the installation base has the design that can be installed directly on the barrel (sanitary level screw, pipe screw, ferrule, flange).
2. The filter can be easily separated from the mounting base.
3. The autoclave can kill bacteria repeatedly.  
( at 121°C for 30 minutes, dust collection efficiency is maintained approximately 100 times )
4. The vapor can also pass through the barrel with the filter installed.



Surface of filter film and filter (2000x)

#### VCL Type

- Use polypropylene (PP) of ultra-fine fiber, providing a high efficiency in trapping common bacteria.

#### VCM Type

- Use fluorine resin filter membranes, providing high filtration performance for 0.2μm ultraparticles.
- Filters are qualified for the full integrity test (holding pressure test).
- Resin-made apparatus complies with the Food Sanitation Regulations Synthetic or products pass the container packaging specification test.

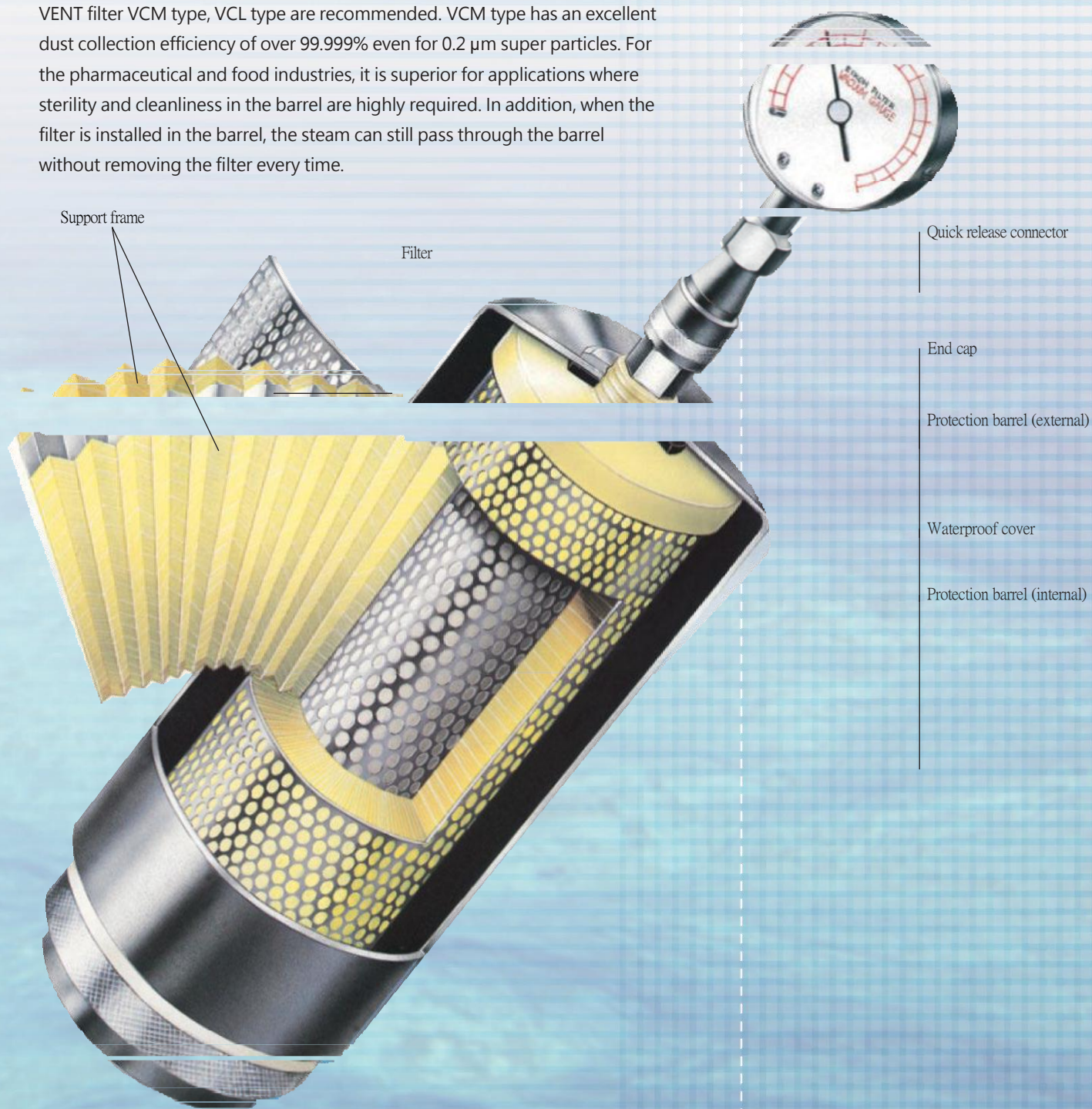


EIKOH VENT Filter ( Steam sterilization type )

VCM·VCL  
Type

# Filter 0.2 $\mu$ m( VCM Type )

If high precision sterility and dustlessness by steam sterilization is needed, VENT filter VCM type, VCL type are recommended. VCM type has an excellent dust collection efficiency of over 99.999% even for 0.2  $\mu$ m super particles. For the pharmaceutical and food industries, it is superior for applications where sterility and cleanliness in the barrel are highly required. In addition, when the filter is installed in the barrel, the steam can still pass through the barrel without removing the filter every time.





EIKOH VENT Filter ( Steam sterilization type )

VCM·VCL

配付

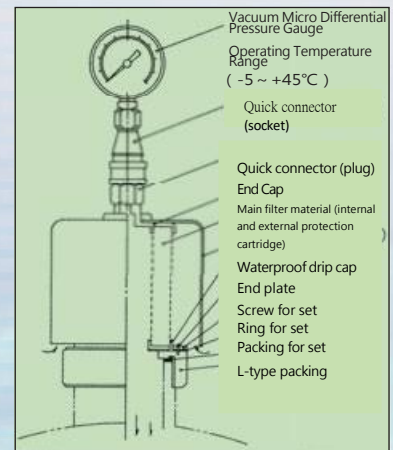
# 0.2 $\mu$ m ( VCM Type ) Ultra-particulate With Filter Installed

■ Basic Set ( 800 Type )

■ Full Set ( 400 Type )



■ Structure ( VCM-400 )



■ Safty Cage



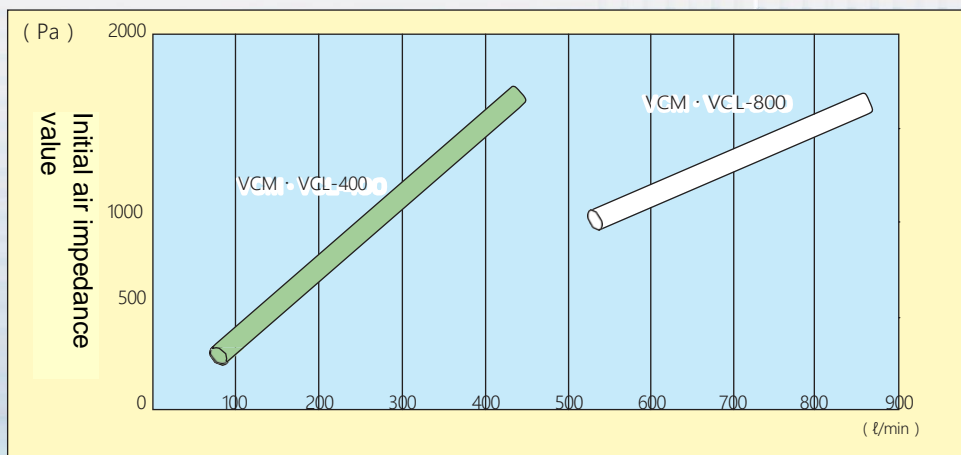
For safety measures, we also have safety cages (optional).  
For more information, please contact our technical sales  
department.tan



The filtration efficiency can reach over 99.999%.

Bacteria can also be killed in the barrel.

### ■ Relationship between ventilation volume and air impedance



### ■ Standard Specification

Type	VCM		VCL	
	VCM-400	VCM-800	VCL-400	VCL-800
Filtration efficiency ( % )	For 0.2μm particle 99.999 <		For Common Bacterial 99.999 <	
Ventilation volume ( ℓ/min )	400	800	400	800
Air resistance (Pa)	1470	1470	1470	1470
External dimensions (standard set) full height (mm)	164.5 ~ 172.5	271.5 ~ 279.5	164.5 ~ 172.5	271.5 ~ 279.5
Filter base B - S outer diameter ( mm )	115	115	115	115
Filter base K Full height (mm)	180.5	287.5	180.5	287.5
(Sanitary ferrules) Outer diameter (mm)	115	115	115	115
Filter mounting base screw size ( Sanitary Level )	All Types 1S、11/2S、2S、21/2S、3S ( We can also manufacture screwed or sanitary ferrule type, flange type for gas pipes of sizes other than the above. )			

### ■ Standard Material

Component and Part			Standard Material	
Type			VCM	VCL
Full Set	Gauge sets	Vacuum Micro Differential Pressure Gauge:	Only for SUS316	BS
		Quick Connector	SUS304	SSS Chrome Plated SUS304
		Socket Plug	SUS304	
	Standard Set	Waterproof drip cap	SUS304	SUS304
		Filtration Materials	PTFE (Fluorine resin)	Polypropylene (PP)
		Filter Membrane	Polypropylene (PP)	Ultra Fine Fiber—
		Support Frame	polyphenylsulfone	←
		End caps, end plates	SUS304	←
		Stainless steel cover	SUS304	←
		Protection barrel	Special Adhesives	←
		Sealing materials	SUS304	←
		rings and screws for set	Silicone Rubber	←
		Packing for set		
	Basic Set	Filter base for installation	SUS304	←
		L-shaped packing	NBR	←

# Steam filter

USP Type ※

The micron-grade stainless steel fiber removes the maximum amount of rust and particles contained in the steam.

## ■ Features

- ◇ Because stainless steel fiber is used in the filter material and the sealing part is welded at both ends, it has high resistance to heat, corrosion and pressure, and is very suitable for steam filters.
- ◇ The pleated design has a large filtration area and combined with the deep filter material, it has a long service life.
- ◇ The stainless steel fiber is sintered so that the filter material will not open or peel off even under high pressure difference.
- ◇ The outer shell and inner and outer connections are designed to be on the same level, so it is easy to install and does not take up much space.

## ■ Specification

Nominal filtration accuracy: 0.5μm 、 1μm 、 2μm 、 7μm 、 15μm 、 20μm

Maximum operating pressure

05 、 10 、 20 Type : 0.4MPa

1 T 、 2 T Type : 0.6MPa

Maximum operating temperature

05 、 10 、 20 Type : 150°C

1 T 、 2 T : 164°C

## ■ Material

Filter

Filtration Material : SUS 316L

Support COre : SUS 316

End Cap : SUS 316

Outer Case : SUS 304

Body : SUS 304

Screw : HBsB

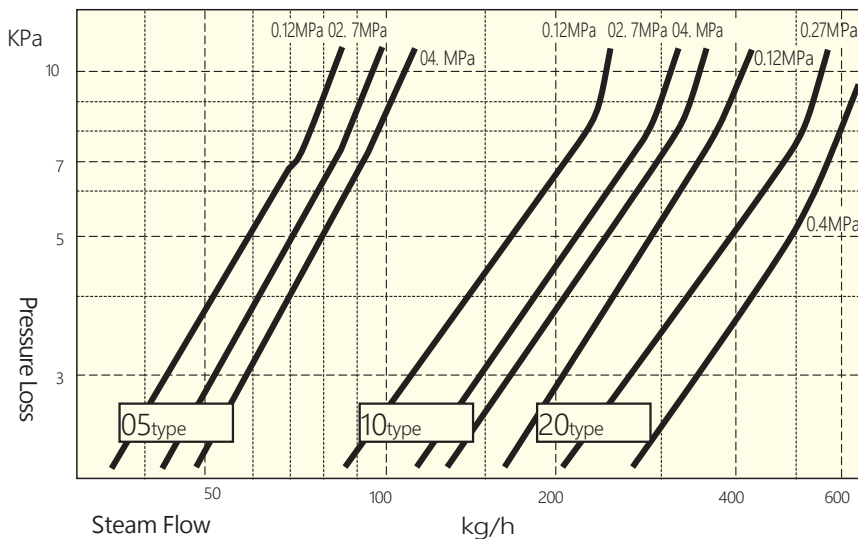
Gasket 05 ~ 20 Type : PTFE/non-asbestos sheet

1T、 2T Type : PTFE/SUS 304

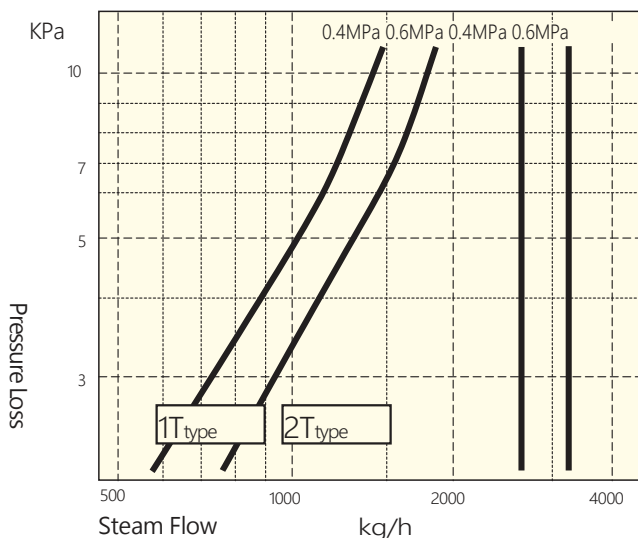




Flow



Note: 0.12MPa, 0.27MPa and 0.4MPa in the diagram indicate the inlet steam pressure of the filter respectively.



Note: 0.4MPa and 0.6MPa in the diagram indicate the inlet steam pressure of the filter respectively.

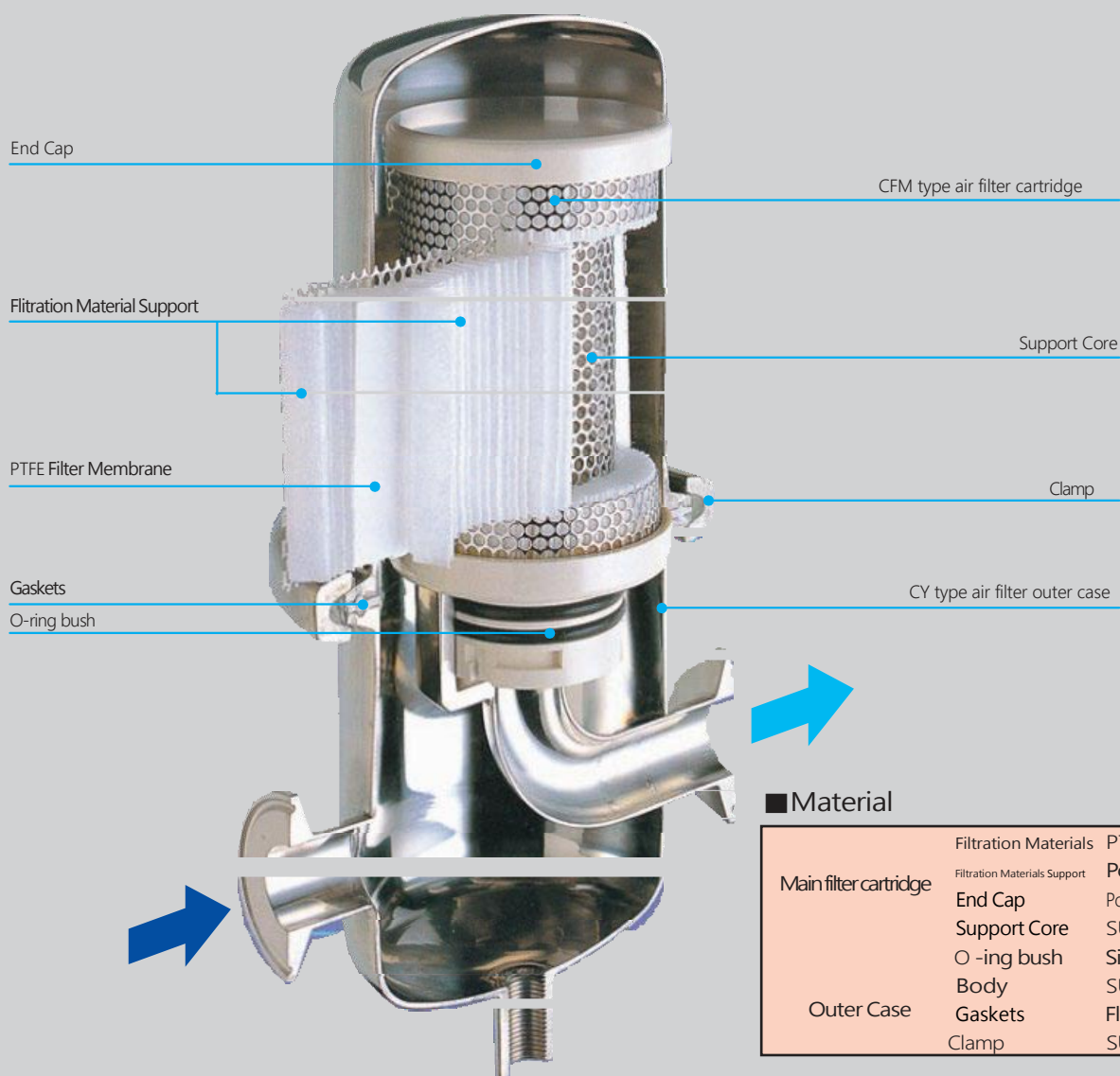


Type

Filter Type	Nominal filtration accuracy	Device Type
SPFT 05 ~ 2T	0.5μm	USPT 05 ~ 2T
SPFF "	1μm	USPF "
SPFK "	2μm	USPK "
SPFW "	7μm	USPW "
SPFD "	15μm	USPD "
SPFS "	20μm	USPS "

Outer Case Type	Connection	H	W (mm)	D*1	Weight (kg)
CYP 05	PT1	310	140	101.6	4.5
SCYP 10S	JIS10K40A	453	230	101.6	11.0
CYP 20S	JIS10K50A	725	250	114.3	15.0
CYP 1TS	JIS10K80A	860	340	165.2	38.0
CYP 2TS	JIS10K100A	993	560	318.5	90.0

\*1H : OuterCase height  
W : Surface dimension  
D : Outer Case barrel diameter



※The filter material of the front filter core is fibrous glass.

Capable of filtering particles and microorganisms of 0.2 microns.

0.2



Air is an essential substance for all living things, including humans.

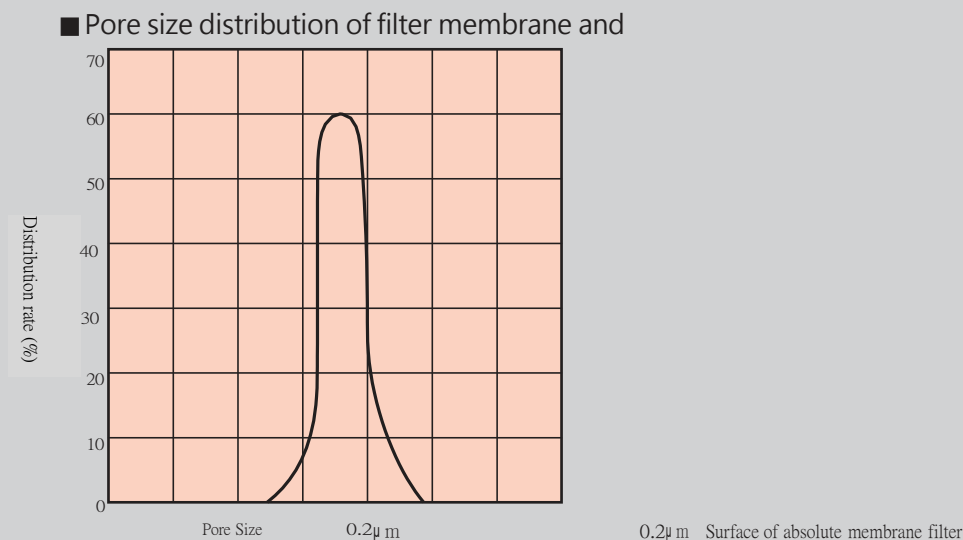
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The EIKOH UCM air filter provides safe and clean air with low operating costs due to its superior filtration features and durability.



Proud to provide clean air.

$\mu$ m

## ■ UCM Air filtration device type

Filtration device (main filter)		Filter Cartridge			Outer Case					Weight
Device Type	Standard Air Flow (Note 1)	Type (main)	Type (front)	Number of barrels	Type	Connector	Hmm	Wmm	Dmm	( Note 2 )
UCM01S	250 Nℓ/min	CFM-01	————	1	CY-	PT 3/8 PT	125	81	63.5	1.4kg
UCM02S	650 Nℓ/min	CFM-02	————	1	01SCY-	3/4 PT 1	205	92	76.3	2.1 kg
UCM05S	1000 Nℓ/min	CFM-05	— PCF-	1	02SCY-	JIS10K 40A	269	128	101.6	3.5 kg
UCM10S	3000 Nℓ/min	CFM-10	05	1	05SCY-	JIS10K 50A	418	230	101.6	9.4 kg
UCM20S	6000 Nℓ/min	CFM-20	PCF-10	1	10SCY-		700	230	114.3	13.0 kg
UCM04M	12 Nm <sup>3</sup> /min	CFM-20	PCF-20	2	CY-	JIS10K 80A	802	400	216.3	42.0 kg
UCM06M	18 Nm <sup>3</sup> /min	CFM-20	PCF-20	3	04MCY-	JIS10K 100A	832	400	216.3	44.0 kg
UCM10M	30 Nm <sup>3</sup> /min	CFM-20	PCF-20	5	06MCY-	JIS10K 125A	950	580	359.0	98.0 kg
UCM14M	42 Nm <sup>3</sup> /min	CFM-20	PCF-20	7	10MCY-	JIS10K 150A	1020	660	409.0	136.0 kg
UCM24M	72 Nm <sup>3</sup> /min	CFM-20	PCF-20	12	14MCY-	JIS10K 200A	1160	880	559.0	192.0 kg
UCM28M	84 Nm <sup>3</sup> /min	CFM-20	PCF-20	14	24MCY-	JIS10K 200A	1220	880	559.0	206.0 kg

※The above specifications are subject to change without notice. Sorry for inconvenience.

Maximum operating pressure: 0.686MPa (at25°C)

Maximum operating temperature: 80°C (at0.490MPa)

Steam sterilization 130°C (Note 3)

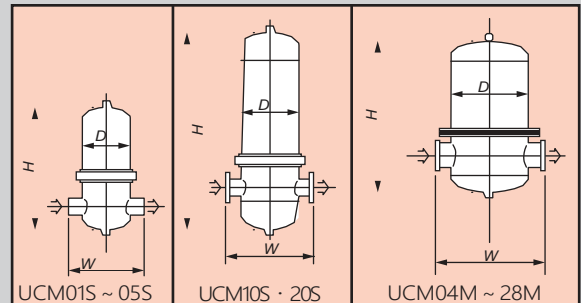
(Note 1) This is the conversion value of the high pressure at the secondary side (outlet) at the measured flow rate of 0.2MPa (at 4.9kpa differential pressure of the filter).

If the secondary pressure is not as described above, select the appropriate type according to the flow rate curve.

(Note 2) Include the dry weight of the filter.

(Note 3) PCF does not support steam sterilization.

- The form of pre-filtration device is UPF.
- PCF is a pre-filter with 0.5μm filtration accuracy. For coarse dust or oil mist, other types are recommended. Please feel free to contact us.
- For device type UCM10M or higher, a second pressure vessel is available depending on the operating pressure.
- We also produce CFM type filter cartridges which are interchangeable with the previous CFR type filter cartridges. Please contact us if you want to change from CFR type filter cartridge to CFM type filter cartridge.



**Increase the filtration area to achieve low pressure loss.**

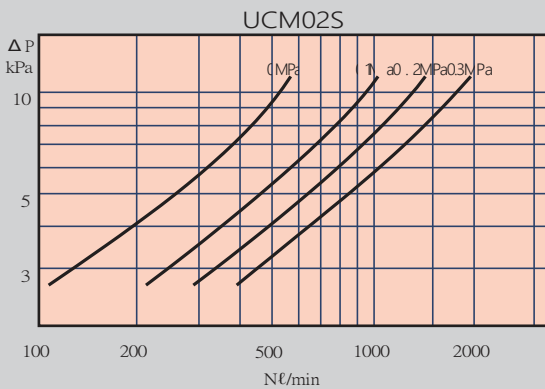
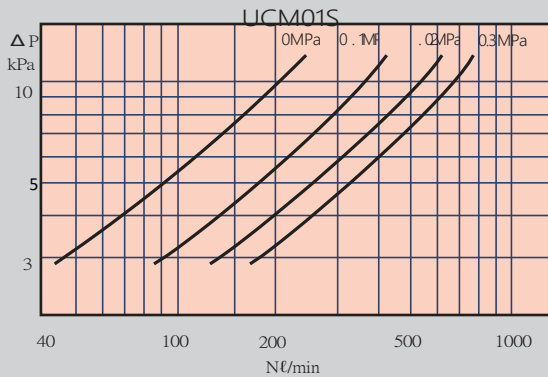
( $\Delta P$  4.0)



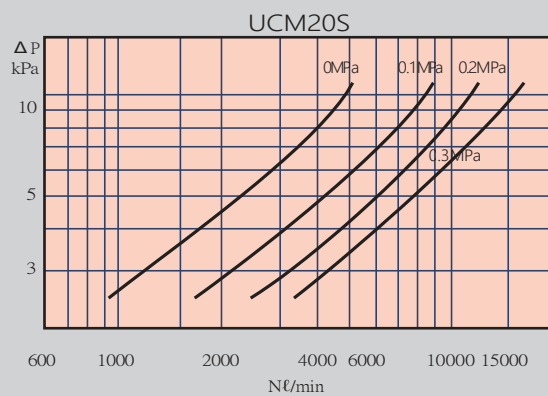
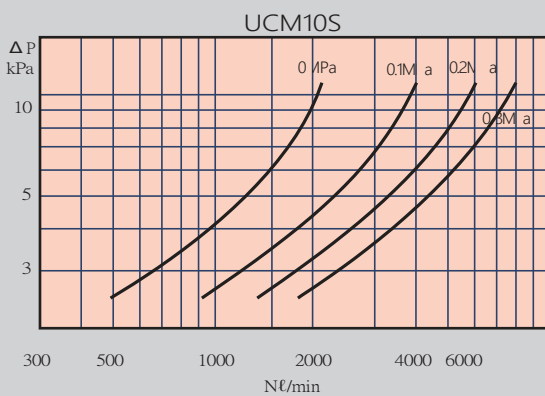
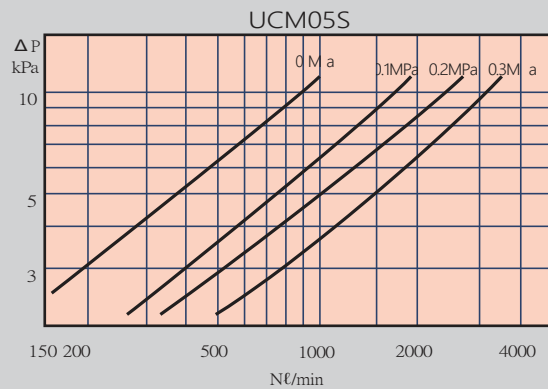
■ Structure

- The filter is compact and has excellent pressure resistance and sealing, high safety and functionality, and a structure with enough space at the bottom to allow complete drainage during steam sterilization without creating a temperature difference for sterilization.
- The filter has a larger cross-sectional area at the outlet of the filter than the conventional type, so that it can fully utilize the low pressure loss filtration characteristics.

■ Air Flow



- The 0MPa, 0.1MPa, 0.2MPa, and 0.3MPa are the pressure at the downstream side (outlet) of each filter unit.
- Nl/min is the conversion value of atmospheric pressure.
- For details of the UCM04M to UCM28M, please tell us the pressure and flow rate to be used. We will select the most suitable model for you.



Customized to meet  
customer needs.

9kPa)



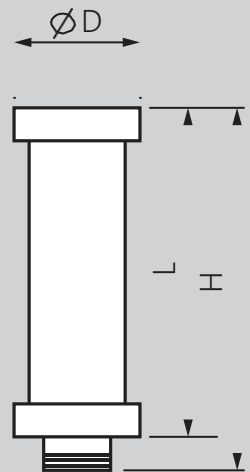
■ Air Filter Cartridge Specifications

Type	Dmm	Lmm	Hmm
CFM-01	54	56	73
CFM-02	54	120	137
CFM-05	76	120	147
CFM-10	76	249	276
CFM-20	76	503	530

Maximum allowable differential pressure:  
0.4MPa in the forward direction (at25°C)

Reverse direction 0.2MPa

Type	Dmm	Lmm	Hmm
PCF-05	76	120	147
PCF-10	76	249	276
PCF-20	76	503	530



**Demonstrates near-perfect  
filtration performance**

**(LRV**



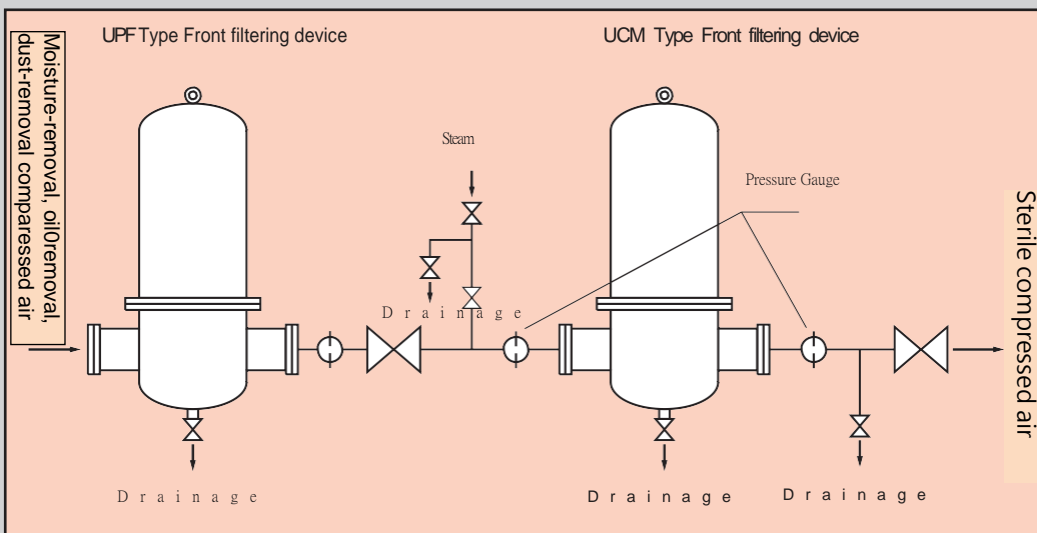


- Applications of UCM type air filter
  - Sterile filtration of compressed air in the pharmaceutical and food industries.
  - Dust-free filtration of compressed air in the field of semiconductor and precision machinery.
  - Dust-free and sterile filtration of compressed air in general industry.

■ Note

- 1 ) Install the filter as far away from the compressor and other air supply sources as possible, and as close to the actual place of use as possible to maximize its performance.
- 2 ) If the compressed air contains a lot of moisture, oil, and coarse dust, the filter will have a very short service life. Be sure to install a pre-filter in the front section of the filter.
- 3 ) Install a pressure reducing valve on the steam piping for sterilization and reduce the pressure to the required temperature.
- 4 ) Basically, install pressure setting gauges on the in and out sides of the filter unit. If the gauge base is not installed in a small housing, it is installed on the piping. In addition, this product does not come with a pressure gauge.

■ Examples of Standard Installation



**High precision sterile and dust-free effect.**

> 8)



Maximize space efficiency

Long life HEPA filter

## C Series EHC Type

Dust collection efficiency 99.97% (0.3 $\mu$ m PAO counting method)

### Standard Specification

- Filtration materials
- Separators
- Sealing materials
- Outer frame

Special Cellophane  
Paper(K), Aluminum(A)  
Polyurethane type special adhesives  
Plywood(W)Aluminum(A)Stainless steel(S)

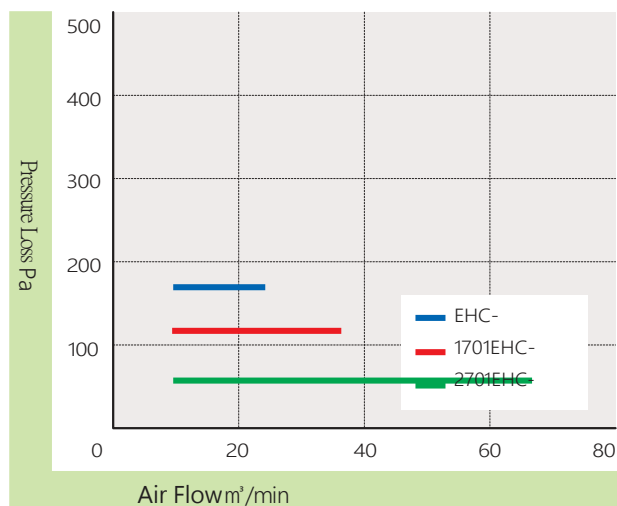
- Gasket
- Maximum continuous use temperature
- Maximum humidity during use
- Pressure loss

Neoprene sponge((one side sticky))  
60°C  
85 %RH(Separator K) 100%RH(A)  
(Non-condensing condition)  
Initial use: 300Pa or less / Replacement: 750P

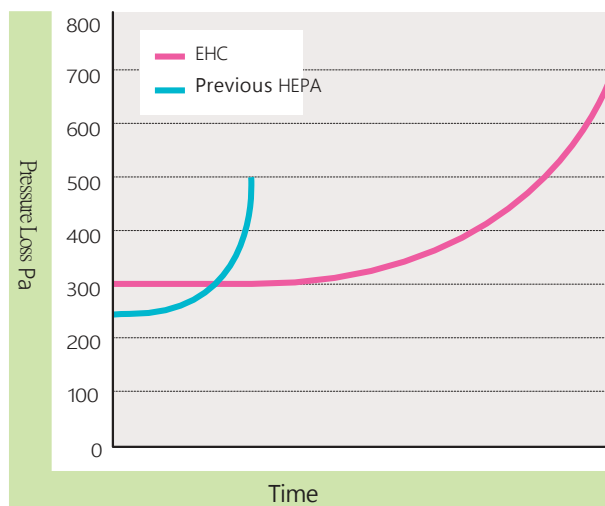
### Standard Specification

Type	Standard Air Flow ( m <sup>3</sup> /min )	Pressure Loss ( Pa )		Size ( mm )			Weight ( kg )
		Initial	Final	Height	Width	Thickness	
EHC-1701	17	300	750	610	610	80	5.2
EHC-2701	27	300	750	610	610	150	10
EHC-300MP	50	300	750	610	610	292	15

### Performance



### Compared to our HEPA



※The service life varies depending on the operating environment.



- Low pressure loss type
- Maximize space efficiency

Long life quasi-HEPA filter

## C Series ESC

Dust collection efficiency 97% (0.3 $\mu$ m PAO counting method)



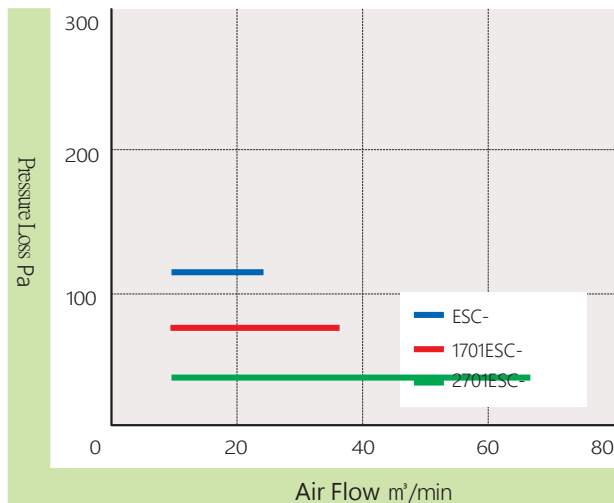
### Standard Specification

Filtration materials	Special Cellophane	Gasket	epoprene sponge((one side sticky))
Separators	Paper(K), Aluminum(A)	Maximum continuous use temperature	60°C
Sealing materials	Polyurethane type special adhesives	Maximum humidity during use	85%RH(Separator K) 100%RH(A)
Outer frame	Plywood(W)Aluminum(A)Stainless steel(S)	Pressure loss	(Non-condensing condition) Initial use: 200Pa or less / Replacement: 500P

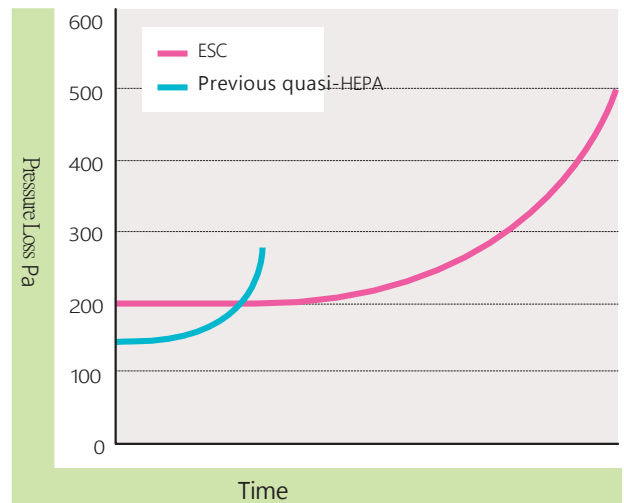
### Standard Specification

Type	Standard Air Flow ( m <sup>3</sup> /min )	Pressure Loss ( Pa )		Size ( mm )			Weight ( kg )
		Initial	Final	Height	Width	Thickness	
ESC-1701	17	200	500	610	610	80	5.2
ESC-2701	27	200	500	610	610	150	10
ESC-300MP	50	200	500	610	610	292	15

### Performance



### Compared to our quasi-HEPA



※The service life varies depending on the operating environment.



It is the utmost standard HEPA filter. It is an indispensable final filter for clean rooms and biotech clean rooms and related equipment in the technology industry, including semiconductors, food and other biological industries. (Scannable samples)

## High performance HEPA filter

# ECHOLTER NS Type

Efficiency over 99.97% (0.3μmPAO counting method)

### Standard Specification

Filter material: Water-repellent glass fiber paper  
Separator: paper (K) aluminum (A) stainless steel (S)  
Sealing material: polyurethane type special adhesives  
Frame: plywood (W) stainless steel (S) aluminum (A)

Gasket : Neoprene sponge (single-sided adhesive) Maximum temperature for continuous use : 80°C

Maximum operating humidity : 85% (separator —K), 100% (A) (non-condensing state)

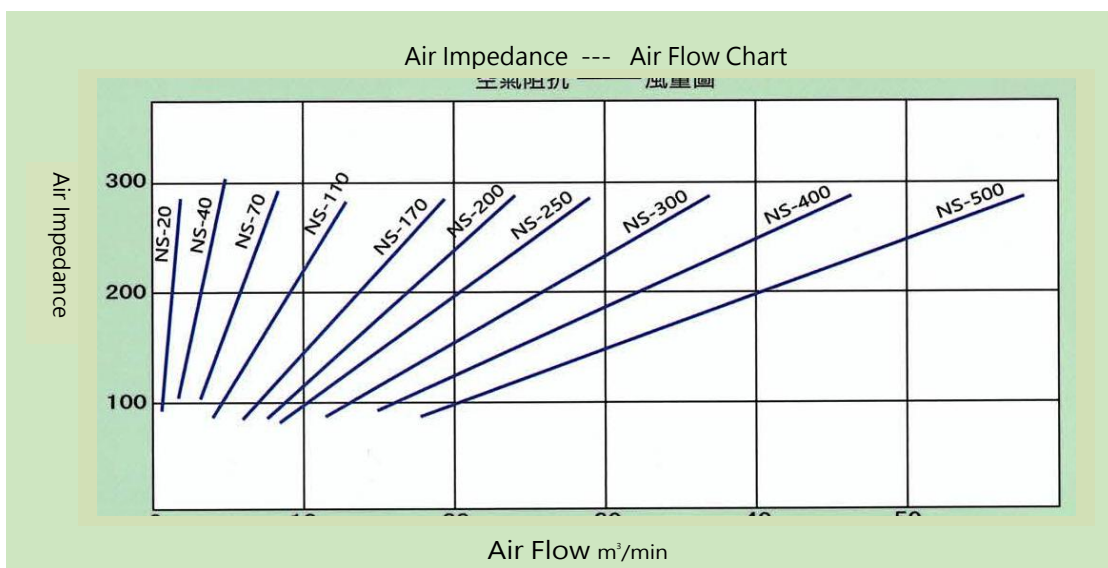
Air impedance : 249Pa or less at the beginning of use, 498Pa at the time of replacement

### Standard Specification

Type	Standard Air Flow m³/min	Size mm			Weight kg
		Height	Width	Thickness	
NS-20※	1.5	203	203	150	1.4
NS-40※	4	305	305	150	2.6
NS-70※	7	305	305	292	5.2
NS-110※	11	500	500	150	5.3
NS-170※	17	610	610	150	6.8
NS-200※	21	610	762	150	8.3
NS-250※	25	610	915	150	9.0
NS-150※	15	610	305	292	7.8
NS-300※	32	610	610	292	13.7
NS-400※	40	610	762	292	17.2
NS-500※	50	610	915	292	19.3

※	Outer Frame	Separator	Weight
N.A.	Plywood	Paper	Value
WA	Plywood	Aluminum	× 1.03
AK	Aluminum	Paper	× 0.85
AA	Aluminum	Aluminum	× 0.88
SA	Stainless Steel	Aluminum	
SS	Stainless Steel	Stainless Steel	

### Performance







- Highly water-repellent
- Because the filter material is made of PTFE, it has high humidity resistance and can be used in high humidity conditions.

Its reactive gases and pharmaceutical vapors is higher than that of the general type (glass fiber paper).

## Water-repellent ultra-high performance filter

### ECHOLTER—NPT

Efficiency over 99.9995% (0.15μmPAO counting method)

#### Standard Specification

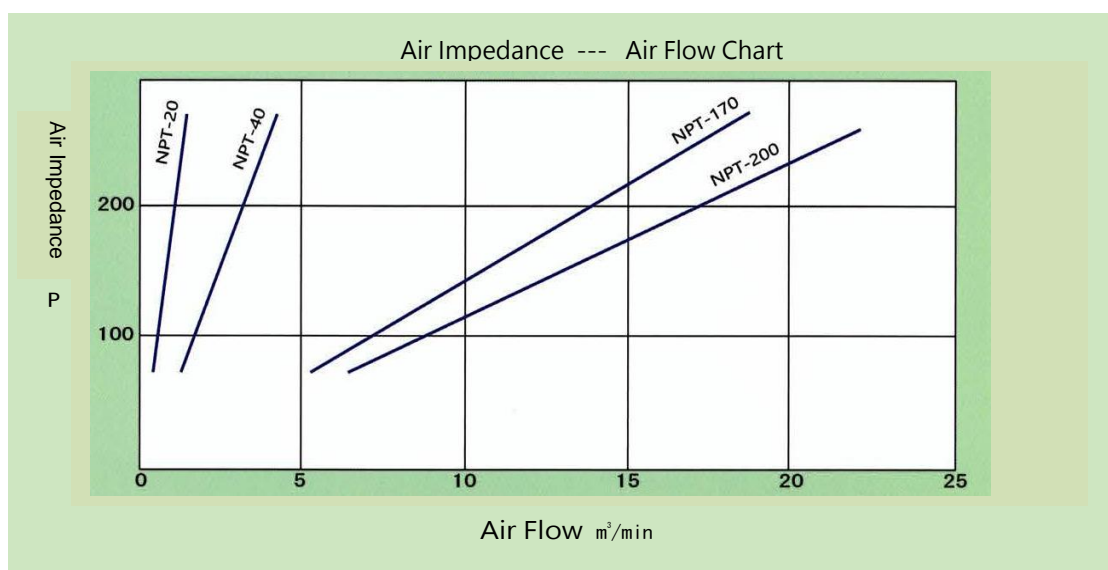
Filter material: PTFE film (polyester laminate)  
 Separator: Stainless steel  
 Sealing material : Silicon special adhesives  
 Frame : Stainless steel  
 Gasket : Silicon wool (one side sticky)

Maximum temperature for continuous use : 80°C  
 Maximum operating humidity : 100%RH (non-condensing state)  
 Air impedance : 249Pa or less at the beginning of use, 498Pa at the time of replacement

#### Standard Specification

Type	Standard Air Flow m <sup>3</sup> /min	Size mm			Weight kg
		Height	Width	Thickness	
NPT-20	1.5	203	203	150	2.2
NPT-40	4	305	305	150	4.3
NPT-170	17	610	610	150	12.5
NPT-200	21	610	762	150	15.0

#### Performance



授權進口貿易商 Authorized International Trader

翊傑國際貿易投資有限公司

YI JIE INTERNATIONAL TRADING CO., LTD

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