

*AstroPore* Fujifilm Micro Filter

# All-Fluororesin Gas Line Filter

PTFE Membrane Type



**For Semiconductor Industry**

## **Easy-to-handle, Light, All-Fluororesin Gas Line Filter with excellent corrosion resistance.**

A new all-fluororesin filter has been added to the Fujifilm Micro Filter AstroPore Gas Line Filter Series.

Fluororesin was adopted for all components, including membranes and housing.

The All-Fluororesin Gas Line Filter is out of concern over corrosion inside the housing caused with moisture in the gas or piping, which would not be likely with the stainless-steel housing type Gas Line Filter.

In addition, this lightweight Gas Line Filter reduce the overload on piping.

The All-Fluororesin Gas Line Filter contributes for increase in integration, capability and quality of semiconductor devices.

### **Specific Features**

#### **1. All made of fluororesin with highly corrosion-resistance**

Because all components-membrane, support, housing, etc. -are made of chemically stable fluororesin, the All-Fluororesin Gas Line Filter will be rust-free and has superior corrosion-resistance.

#### **2. Lightweight**

Weighing as little as 60 g, a only 1/3 of the stainless-steel housing Gas Line Filter, the load imposed on the piping is minimal.

#### **3. Maximum reliability in high retention performance and stable filtration operation with the laminate PTFE(polytetrafluorcethylene) membranes**

The microfiltration membrane of the All-Fluororesin Gas Line Filter consists of a two-layer PTFE laminate membranes that has excellent retention and does not stretch under high differential pressure or vibrations, guaranting maximum reliability for stable operations.

#### **4. High flow rate and reduced pressure drop**

Adoption of a two-layer laminate high porous membranes with a high flow rate has been achieved a reduced drop in pressure.

#### **5. Reliable quality control**

Integrity, pressure and gas-tightness tests are performed on each All-Fluororesin Gas Line Filter and provided a serial number.

### **Major Applications**

Purification of general-use gases for the semiconductor industry.

1. Bubbling N<sub>2</sub> or bubbling air to hydrogen fluoride bath or mixed acid bath for rising
2. N<sub>2</sub> for pressured on chemicals
3. Sealing N<sub>2</sub> for pure water tank

(Inlet Side)



(Outlet Side)

Picture of PTFE membrane cross section taken by using electron microscopy

## Table of Performance Characteristics

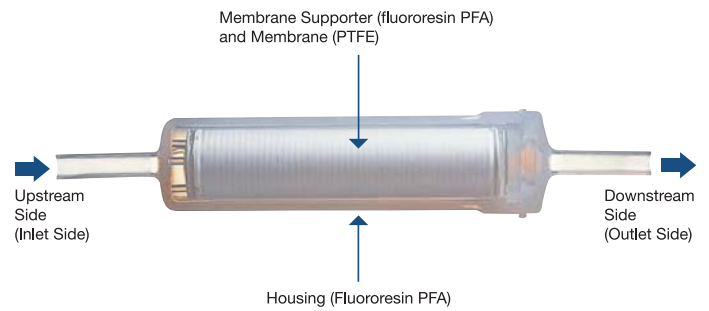
Item		Unit	Performance	Remarks	
Configuration	Filter Element		Cylindrical Type		
Object			General-use process gases for the semiconductor industry		
Connection	Type		Tube	(Note 1)	
	Size		1/4 (6.35 mm)	(Note 2)	
Membrane	Material		PTFE		
	Effective Membrane Surface Area	cm <sup>2</sup>	34		
Supporter	Material		PFA		
Housing	Material		PFA		
	Overall Length	mm	147	(Note 2)	
	Outer Diameter	mm	26	(Note 2)	
Retention Rate			99.999999% or higher for 0.01 μm fine particles	(Note 3)	
Max. differential pressure	Housing Design Pressure	MPa	0.39		
	Membrane	Forward Pressure	MPa	< 0.39	
		Backward Pressure	MPa	< 0.07	
Max. heat resistance		°C	120		

(Note 1) Gas Line Filters equipped with pillar connection may also be available on request.

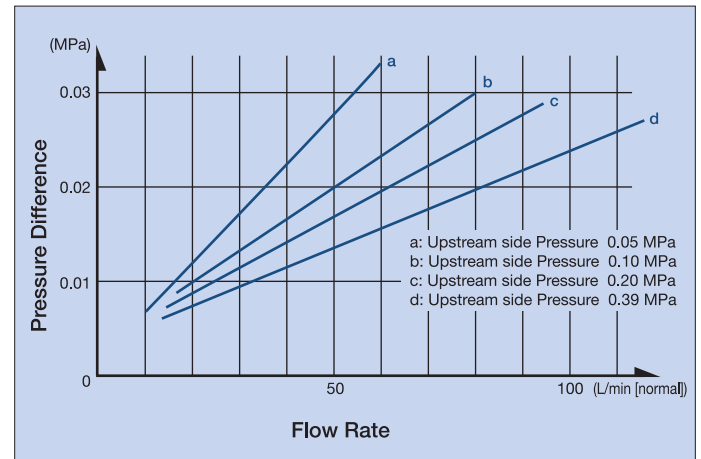
(Note 2) See the Outlook Dimensions diagram for external dimensions.

(Note 3) Testing method: Evaluation on removal performance of ultrafine particle with a condensed nuclear type particle counter.

## Construction



## Flow Rate Characteristics



## Product Codes

CY PF A 34 {  
 CY ..... Cylindrical Type Filter Element  
 PF ..... PFA Tube Type Connection  
 A ..... 1/4" of Connection Size  
 34 ..... 34 cm<sup>2</sup> of Effective Membrane surface Area

Note:

Gas Line Filters equipped with pillar connection will be coded "CY PF A 3 PJ."

## Outlook Dimensions (Unit: mm)

Schematic Drawing	Dimensions		
	Overall Length (A)	Outer Diameter (B)	Connection's Outer Diameter (C)
	147	26	6.35