

# Gasfender Ultra-pure Gas Cartridge Filter

Gasfender is constructed of electronic- grade stainless steel. It is specially designed for the inline gas filtration in the semiconductor process at high temperatures and pressures.

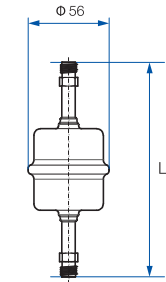


- Cleanest 316L stainless steel with internal electro-polished
- High efficiency PTFE membrane
- Precise fine filtration @0.003µm
- A wide range of size to meet all customer requirement
- High flow rates & low pressure drops
- 100% helium leak test
- 100% integrity tested
- Easy to installation
- Cleanroom manufactured and packaged

## Product Specification

Filter Membrane	PTFE
Filter Core	PFA / PP / PVDF
Filter Housing	Stainless 316L
Removal Rating	0.003µm / 0.01µm
Fitting Spec	SW (Swagelok Compatible) / Gasket Seal (VCR Compatible) / NPT / Rc
Fitting Size	1/4" / 3/8" / 1/2" / 3/4"
Max Operating Pressure	5.2 MPa @ 80°C
Max Forward Differential Pressure	0.69 MPa @ 21°C
Max Reverse Differential Pressure	0.34 MPa @ 21°C

## Ordering Information<sup>®</sup>



Normal Type

### GSFNF (PFA)

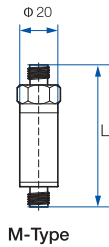
Part Numbers	Accessory	Fitting Option	Inlet	Outlet	Overall Length: L(mm)
GSFNFNM03SMM4L42	/	1/4 SW(Swagelok Compatible)	Male	Male	142.0±1.0
GSFNFNM03SMM4L42-N	With nuts	1/4 SW(Swagelok Compatible)	Male	Male	142.0±1.0
GSFNFNM03SMM4L06	/	1/4 SW(Swagelok Compatible)	Male	Male	106.0±1.0
GSFNFNM03SMM6L49	/	3/8 SW(Swagelok Compatible)	Male	Male	149.0±1.0
GSFNFNM03SMM6L49-N	With nuts	3/8 SW(Swagelok Compatible)	Male	Male	149.0±1.0
GSFNFNM03SMM6L28-N	With nuts	3/8 SW(Swagelok Compatible)	Male	Male	128.0±1.0
GSFNFNM03SMM8L49	/	1/2 SW(Swagelok Compatible)	Male	Male	149.0±1.0
GSFNFNM03SMM8L49-N	With nuts	1/2 SW(Swagelok Compatible)	Male	Male	149.0±1.0
GSFNFNM03SMM8L28-N	With nuts	1/2 SW(Swagelok Compatible)	Male	Male	128.0±1.0
GSFNFNM03SMM810MML28	/	SW10MM(Swagelok Compatible)	Male	Male	149.0±1.0
GSFNFNM03VMF4L42	/	1/4 Gasket Sea(VCR Compatible)	Male	Female	142.0±1.0
GSFNFNM03DTVMF4L42					
GSFNFNM03VMM4L41	/	1/4 Gasket Seal(VCR Compatible)	Male	Male	141.0±1.0
GSFNFNM03VMM4L28	/	1/4 Gasket Seal(VCR Compatible)	Male	Male	128.0±1.0
GSFNFNM03VMM6L49	/	1/2 Gasket Seal(VCR Compatible)	Male	Male	149.0±1.0
GSFNFNM03VMM8L49					
GSFNFNM03VMM6L28	/	1/2 Gasket Seal(VCR Compatible)	Male	Male	128.0±1.0
GSFNFNM03VMM8L28					
GSFNFNM03VMF8L29N	With nuts	1/2 Gasket Seal(VCR Compatible)	Male	Female	129.0±1.0
GSFNFNM03NMF4L42	/	1/4 NPT	Male	Female	142.0±1.0
GSFNFNM03NFF4L33	/	1/4 NPT	Female	Female	133.0±1.0
GSFNFNM03NFF4L42	/	1/4 NPT	Female	Female	142.0±1.0
GSFNFNM03NMM4L42	/	1/4 NPT	Male	Male	142.0±1.0

### GSFNP (PP)

Part Numbers	Accessory	Fitting Option	Inlet	Outlet	Overall Length: L(mm)
GSFNPNM03NFF4L33	/	1/4 NPT	Female	Female	133.0±1.0
GSFNPNM03NFF4L42	/	1/4 NPT	Female	Female	142.0±1.0
GSFNPNM03VMM4L41	/	1/4 Gasket Seal(VCR Compatible)	Male	Male	141.0±1.0
GSFNPNM03VMM4L28	/	1/4 Gasket Seal(VCR Compatible)	Male	Male	128.0±1.0
GSFNPNM03VMF4L48	/	1/4 Gasket Seal(VCR Compatible)	Female	Male	148.0±1.0
GSFNPNM03VMM6L49	/	1/2 Gasket Seal(VCR Compatible)	Male	Male	149.0±1.0
GSFNPNM03VMM8L49					
GSFNPNM03VMM6L28	/	1/2 Gasket Seal(VCR Compatible)	Male	Male	128.0±1.0
GSFNPNM03VMM8L28					
GSFNPNM03SMM4L42	/	1/4 SW (Swagelok Compatible)	Male	Male	142.0±1.0
GSFNPNM03SMM4L06	/	1/4 SW (Swagelok Compatible)	Male	Male	106.0±1.0
GSFNPNM03SMM6L49	/	3/8 SW (Swagelok Compatible)	Male	Male	149.0±1.0
GSFNPNM03SMM6L28	/	3/8 SW (Swagelok Compatible)	Male	Male	128.0±1.0
GSFNPNM03SMM6L17	/	3/8 SW (Swagelok Compatible)	Male	Male	117.9±1.0
GSFNPNM03SMM8L49	/	1/2 SW (Swagelok Compatible)	Male	Male	149.0±1.0
GSFNPNM03SMM8L28	/	1/2 SW (Swagelok Compatible)	Male	Male	128.0±1.0
GSFNPNM03SMM8L11	/	1/2 SW (Swagelok Compatible)	Male	Male	111.0±1.0

① For Semiconductor grade, add S to the end of the part number.  
For Electronic grade, add E to the end of the part number.

## Ordering Information<sup>®</sup>



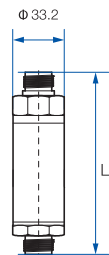
M-Type

### GSFMF (single membrane)

Part Numbers	Accessory	Fitting Option	Inlet	Outlet	Overall Length: L(mm)
GSFMFNM03VMM4S85	/	1/4 Gasket Seal (VCR Compatible)	Male	Male	85.0±1
GSFMFNM03VFM4S88	/	1/4 Gasket Seal (VCR Compatible)	Female	Male	88.0±1
GSFMFNM03SMM4S74	/	1/4 SW (Swagelok Compatible)	Male	Male	74.0±1
GSFMFNM03VMF4L00-N	With nuts	1/4 Gasket Seal (VCR Compatible)	Male	Female	100±1.0
GSFMFNM03SMM4S74-N	With nuts	1/4 SW (Swagelok Compatible)	Male	Male	74.0±1
GSFMFNM03SMM6S74-N	With nuts	3/8 SW (Swagelok Compatible)	Male	Male	74.0±1
GSFMFNM03VMM8S85	/	1/2 Gasket Seal (VCR Compatible)	Male	Male	85.0±1
GSFMFNM03RFF4S67	/	1/4Rc	Female	Female	67.0±1.0
GSFMFNM03SMM4S87-N	With nuts	1/4SW (Swagelok Compatible)	Male	Male	74.0±1.0

### GSFMF-D (double membranes)

Part Numbers	Accessory	Fitting Option	Inlet	Outlet	Overall Length: L(mm)
GSFMFNM03DVMM4S85	/	1/4 Gasket Seal (VCR Compatible)	Male	Male	85.0±1
GSFMFNM03DVFM4S88	/	1/4 Gasket Seal (VCR Compatible)	Female	Male	88.0±1
GSFMFNM03DSMM4S74	/	1/4 SW (Swagelok Compatible)	Male	Male	74.0±1
GSFMFNM03DVMF4L00-N	With nuts	1/4 Gasket Seal (VCR Compatible)	Male	Female	100±1.0
GSFMFNM03DSMM4S74-N	With nuts	1/4 SW (Swagelok Compatible)	Male	Male	74.0±1
GSFMFNM03DSMM6S74-N	With nuts	3/8 SW (Swagelok Compatible)	Male	Male	74.0±1
GSFMFNM03DVMM8S85	/	1/2 Gasket Seal (VCR Compatible)	Male	Male	85.0±1
GSFMFNM03DRFF4S67	/	1/4Rc	Female	Female	67.0±1.0
GSFMFNM03DSMM4S74-N	With nuts	1/4SW (Swagelok Compatible)	Male	Male	74.0±1.0



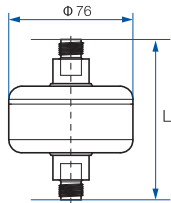
W-Type

### GSFWF

Part Numbers	Accessory	Fitting Option	Inlet	Outlet	Overall Length: L(mm)
GSFWFNM03VMF4L41	/	1/4 Gasket Seal (VCR Compatible)	Male	Female	141.0±1.0
GSFWFNM03VMM4L27	/	1/4 Gasket Seal (VCR Compatible)	Male	Male	127.0±1.0
GSFWFNM03VMM8L27	/	1/2 Gasket Seal (VCR Compatible)	Male	Male	127.0±1.0
GSFWFNM03VMM6L27	/	3/8 Gasket Seal (VCR Compatible)			
GSFWFNM03VMM8L34	/	1/2 Gasket Seal (VCR Compatible)	Male	Male	134.0±1.0
GSFWFNM03SMM4L13	/	1/4 SW (Swagelok Compatible)	Male	Male	113.0±1.0
GSFWFNM03SMM4L41	/	1/4 SW (Swagelok Compatible)	Male	Male	141.0±1.0
GSFWFNM03SMM6L18	/	3/8 SW (Swagelok Compatible)	Male	Male	118.0±1.0
GSFWFNM03SMM6L48	/	3/8 SW (Swagelok Compatible)	Male	Male	148.0±1.0
GSFWFNM03SMM8L18	/	1/2 SW (Swagelok Compatible)	Male	Male	118.0±1.0
GSFWFNM03SMM8L48	/	1/2 SW (Swagelok Compatible)	Male	Male	148±1.0

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For Electronic grade, add E to the end of the part number.

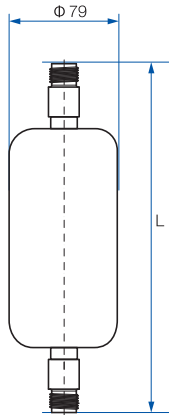
## Ordering Information<sup>①</sup>



V-Type

### GSFVV

Part Numbers	Accessory	Fitting Option	Inlet	Outlet	Overall Length: L(mm)
GSFVVNM10RFF4S68	/	1/4 Rc	Female	Female	68.0±1.5
GSFVVNM10RFF6S68	/	3/8 Rc	Female	Female	68.0±1.5
GSFVVNM10VMM4L27	/	1/4 Gasket Seal (VCR Compatible)	Male	Male	127.0±1.5
GSFVVNM10VMM6L27	/	3/8 Gasket Seal (VCR Compatible)	Male	Male	127.0±1.5
GSFVVNM10VMM8S98	/	1/2 Gasket Seal (VCR Compatible)	Male	Male	98.0±1.5
GSFVVNM10SMM4S98	/	1/4 SW (Swagelok Compatible)	Male	Male	98.0±1.5
GSFVVNM10SMM6S99	/	3/8 SW (Swagelok Compatible)	Male	Male	99.0±1.5



P-Type

### GSFPP/GSFPF

Part Numbers	Accessory	Fitting Option	Inlet	Outlet	Overall Length: L(mm)
GSFPPNM03SMM8L60	/	1/2 SW (Swagelok Compatible)	Male	Male	160.0±1.0
GSFPPNM03SMM12H43	/	3/4 SW (Swagelok Compatible)	Male	Male	243.0±1.0
GSFPPNM03SMM12H21	With nuts	3/4 SW (Swagelok Compatible)	Male	Male	221.2±1.0
GSFPPNM03SMM12H43	/	3/4 SW (Swagelok Compatible)	Male	Male	243.0±1.0
GSFPPNM03SMM12H63	/	3/4 SW (Swagelok Compatible)	Male	Male	263.0±1.0
GSFPPNM03SOO12H36	/	Ø19.1mm Butt weld	/	/	236.6±1.0
GSFPPNM03K55H20	/	K55	/	/	200.0±1.0

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# 高效率氣體過濾濾芯

## GTF 系列

GTF系列濾芯採用超高密度折疊技術，提供超高過濾面積；特有的疏水性材料，確保高通量，低壓損，延長使用壽命，精度可達0.003 $\mu$ m，滿足更高要求。

### 特性優點

#### 超大過濾面積

採用高密度折疊技術，提供了超高的過濾面積。

#### 超高過濾精度

PTFE濾膜，確保絕對攔截效率，精度可達0.003 $\mu$ m，滿足更高要求。

#### 高通量 低壓損

PTFE濾膜的天然疏水性，過濾氣體時，提供了超大的過濾通量和極低的初始壓差。

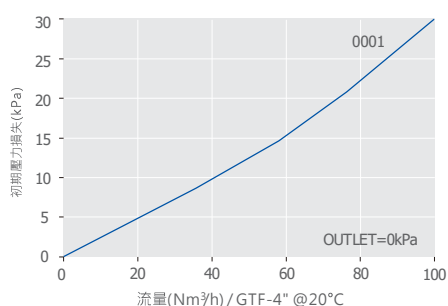
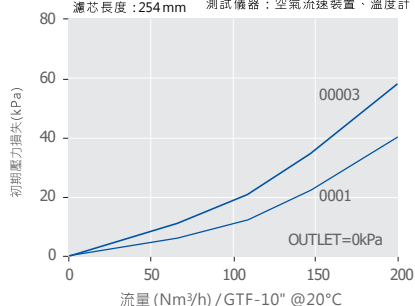
#### 100%出廠前完整性檢測

### 工作特性

濾材	PTFE
端蓋/中心杆/外殼	PP
直徑	68mm/83mm
最高工作溫度	80°C
最大工作壓差	0.55 MPa / 21°C 0.24 MPa / 80°C

### 流量特性

流體：壓縮空氣 溫度：20°C  
濾芯長度：254mm 測試儀器：空氣流速裝置、溫度計



壓縮空氣過濾  
製程空氣過濾  
特氣供應系統

### 訂購信息

GTF 1 2 3 4

#### Block1

Code	過濾精度
00003	0.003 $\mu$ m
0001	0.01 $\mu$ m
0010	0.1 $\mu$ m
0020	0.2 $\mu$ m

#### Block2

Code	接口
TC	222/平頭式
SC	226/平頭式
TF	222/尖頭式
SF	226/尖頭式
DOE	平壓
HTC	222內襯/平頭式
HSC	226內襯/平頭式

#### Block3

Code	長度
04	4inch
10	10inch
20	20inch

#### Block4

Code	密封圈
E	EPDM
P	FEP

# 製程特殊氣體過濾濾芯

## GTP 系列

GTP系列濾芯是專為特殊氣體過濾而設計。濾材選用PTFE，成型材料選用高PFA，可耐高溫，耐氧化，高密度折疊設計保證了高通量和低壓損。

### 特性優點

#### 耐高溫和耐氧化

濾材選用PTFE，成型材料選用高純PFA，耐製程特殊氣體。

#### 高通量 低壓損

PTFE濾膜的自然疏水性和高孔隙率，對氣體的過濾時，提供了超大的過濾通量和極低的初始壓差。

#### 超大過濾面積

採用高密度折疊技術，提供了超高的過濾面積。

#### 超高過濾精度

PTFE濾膜，確保絕對攔截效率，精度可達0.003 $\mu$ m，滿足更高要求。

#### 100%出廠前完整性檢測

大宗氣體過濾  
氧化性氣體過濾  
腐蝕性氣體過濾

### 工作特性

濾材	PTFE
端蓋/中心杆/外殼	PFA
直徑	68mm/83mm
最高工作溫度	180°C
最大工作壓差	0.55 MPa / 21°C 0.24 MPa / 80°C

### 訂購信息

GTP 1 2 3 4

#### Block1

Code	過濾精度
0003	0.003 $\mu$ m
0001	0.01 $\mu$ m
0010	0.1 $\mu$ m
0020	0.2 $\mu$ m

#### Block2

Code	接口
TC	222/平頭式

#### Block3

Code	長度
04	4 inch
10	10 inch

#### Block4

Code	密封圈
P	FEP