



*We are one-stop total solution provider of
UHP gas delivering components*

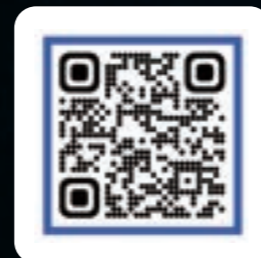
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FILTERS DIFFUSERS

Your One-stop Total Solution Provider for UHP Gas Delivery System

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YOUR ONE-STOP TOTAL SOLUTION PROVIDER FOR UHP GAS DELIVERY SYSTEM



Filters & Diffusers

ASFLOW Filters and Diffusers are designed to meet the stringent standards required in the industry



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Stainless Steel Gas Filter



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Diffusers



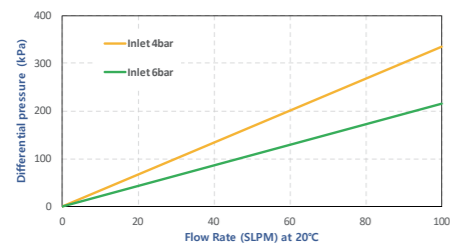
High Performance Stainless Steel Gas Filter



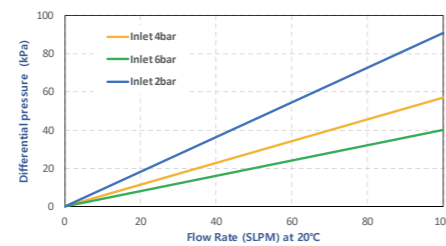
Specification

Retention	≥ LRV 9 of Particle down to 0.0025 μm	
Rated Flow	50 SLPM / 150 SLPM / 300 SLPM / 600 SLPM / 1300 SLPM	
Materials	Filter element	316L Stainless Steel
	Electro polished housing	
Element Operating Conditions	Max. inlet pressure	21 MPa (210 kfg/cm ²) at 20 °C
	Max. differential pressure	15 MPa (153 kfg/cm ²) at 20 °C
	Max. operating temperature	460 °C (Inert gas)
Helium Leak Rating	1 × 10 ⁻¹⁰ atm-cc/sec	
Surface Finish Interior	≤ Ra 5 μinch	

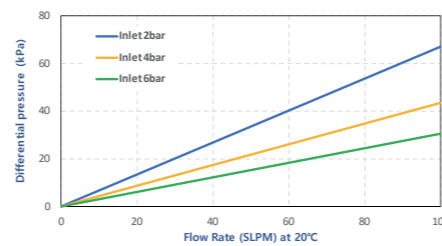
Performance Data



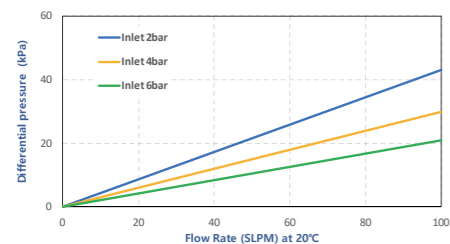
[HSF 50]



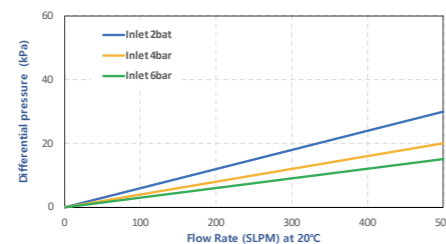
[HSF 150]



[HSF 300]



[HSF 600]

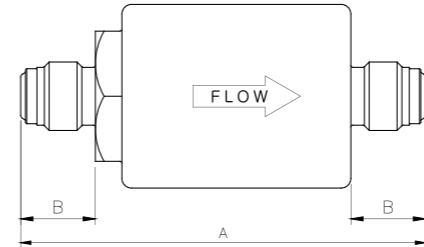
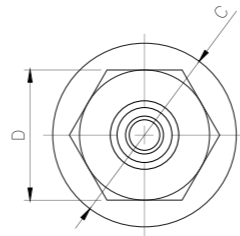


[HSF 1300]

Ordering Information

FLT		HSF		50		04		MV	
Product		Series		Rated Flow (SLPM)		Connection Size		Connection Type	
FLT	Filter	HSF	SUS316L Gas Filter	50	04	1/4"	MV	Male	
				150	06	3/8"	LOK	LOK	
				300	08	1/2"	MR	Rotatable Male	
				600	12	3/4"			
				1300	16	1"			

Dimension

Model	Ordering No.	A(mm)	B(mm)	C(mm)	D(mm)
	FLT-HSF50-04MV	84	15.5	19.05	18
	FLT-HSF150-04MV	84	15.5	38.1	27
	FLT-HSF150-08MV	84	15.5	38.1	27
	FLT-HSF300-04MV	127	15.5	38.1	27
	FLT-HSF300-08MV	127	15.5	38.1	27
	FLT-HSF600-04MV	127	15.5	38.1	27
	FLT-HSF600-08MV	127	15.5	38.1	27
	FLT-HSF1300-16MR	378	64	89.1	41.3

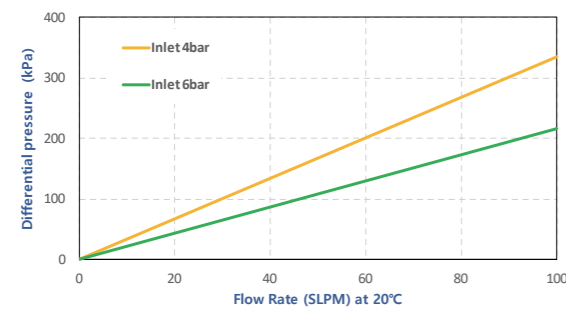
High Performance Hastelloy Gas Filter



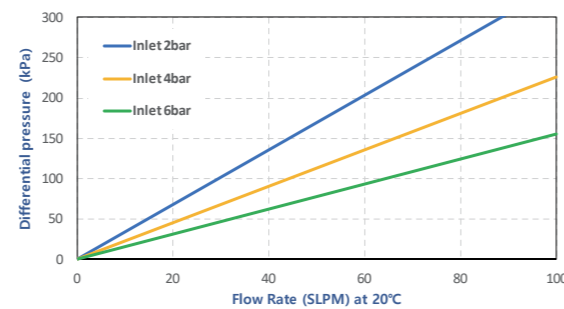
Specification

Retention	≥ LRV 9 of Particle down to 0.0025 μm	
Rated Flow	50 SLPM / 150 SLPM / 300 SLPM	
Materials	Filter element	Hastelloy C-22
	Electro polished housing	
Element Operating Conditions	Max. inlet pressure	21 MPa (210 kfg/cm ²) at 20 °C
	Max. differential pressure	15 MPa (153 kfg/cm ²) at 20 °C
	Max. operating temperature	460 °C (Inert gas)
Helium Leak Rating	1 × 10 ⁻¹⁰ atm-cc/sec	
Surface Finish Interior	≤ Ra 5 μinch	

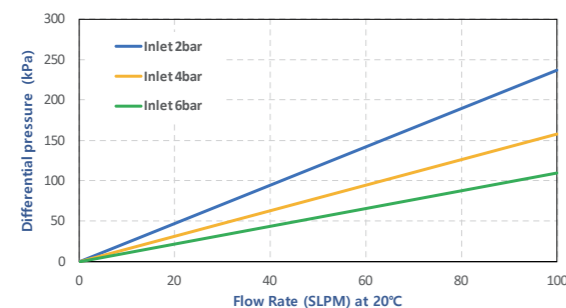
Performance Data



[HHF 50]



[HHF 150]

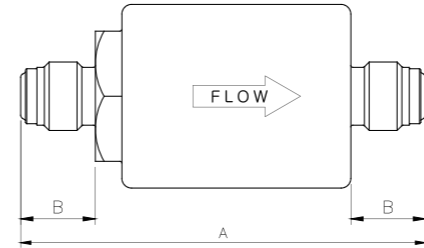
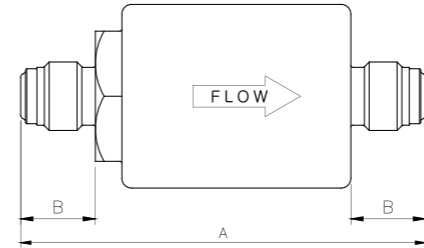
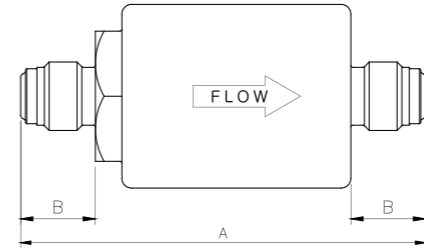
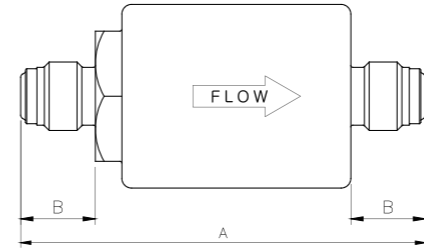
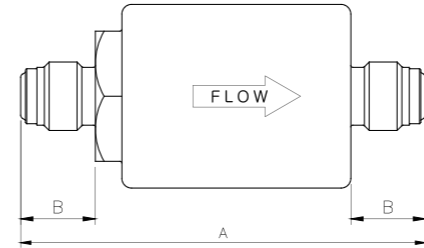


[HHF 300]

Ordering Information

Product		Series		Rated Flow (SLPM)	Connection Size		Connection Type	
FLT	Filter	HHF	Hastelloy Gas Filter	50	04	1/4"	MV	Male
				150	06	3/8"	LOK	LOK
				300	08	1/2"		
					12	3/4"		

Dimension

Model	Ordering No.	A(mm)	B(mm)	C(mm)	D(mm)
	FLT-HHF50-04MV	84	15.5	19.05	18
	FLT-HHF150-04MV	84	15.5	38.1	27
	FLT-HHF150-08MV	84	15.5	38.1	27
	FLT-HHF300-04MV	127	15.5	38.1	27
	FLT-HHF300-08MV	127	15.5	38.1	27

Gasket Filter

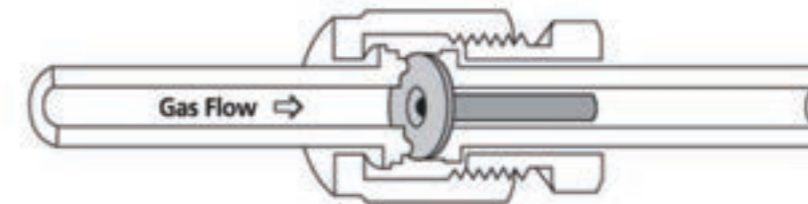


Specification

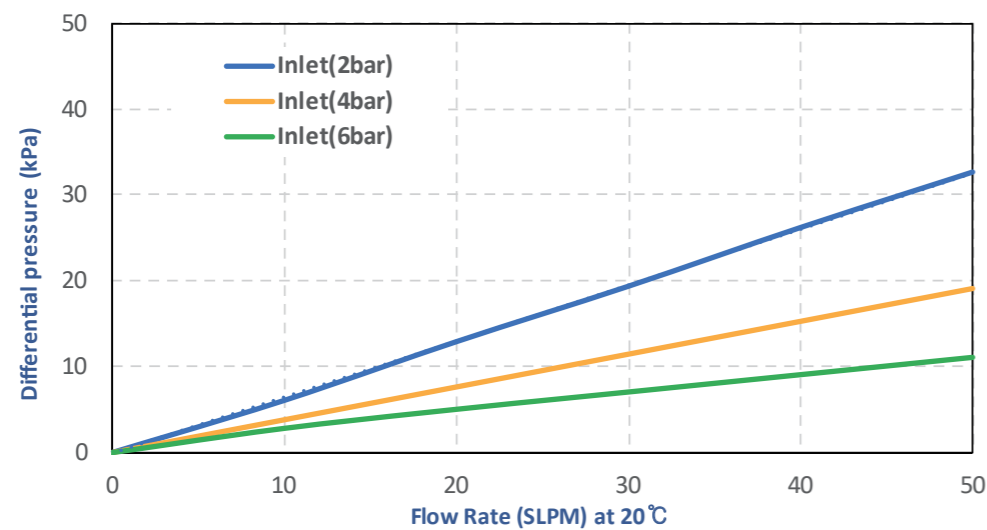
Retention	99.99 % of Particle down to 0.3 μ m
Rated Flow	20 SLPM
Materials	316L Stainless Steel
Face Seal Gasket Type	VCR
Face Seal Gasket Size	1/4"
Element Length (Nominal)	1"
Max. Differential Pressure	1000 psid (20 °C)
Max. Operating Temperature	460 °C (Inert gas)

Ordering Information

FLT		GF		20		04		R	
Product		Series		Rated Flow (SLPM)		Connection Size		Connection Type	
FLT	Filter	GF	Gasket Filter	20		04	1/4"	None	VCR
								R	VCR+Retainer



Performance Data



Dimension

FLT-GF20-04			FLT-GF20-04R				
Ordering No.	Face Seal		A(mm)	B(mm)	C(mm)	D(mm)	E(mm)
	Size	Type					
FLT-GF20-04	1/4"	VCR	11.9	24.8	3.2	0.8	3.2
FLT-GF20-04R		VCR+Retainer	12.5	25.1	3.2	1.2	3.2

Bulk Gas Filter



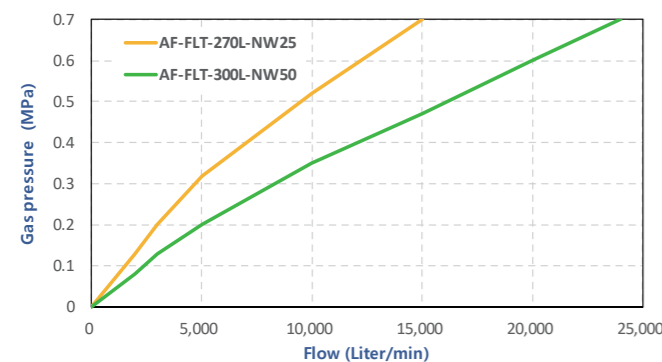
Specification

Retention	≥ 0.0025 μm	
Max. Rated Flow	20,000 LPM	
Materials	Housing	316L Stainless steel
	Media	
Operating Temperature	460 °C at 100 psi	
He Leak Rating	1 × 10 ⁻¹⁰ atm-cc/sec	
Surface Finish Interior	< Ra 0.25 μm	

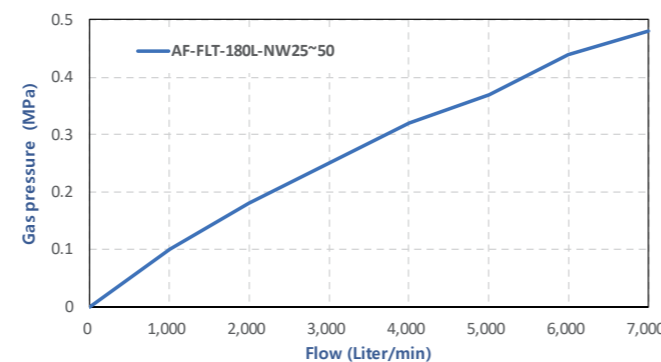
Ordering Information

FLT		180L	04	LOK	
Product	Length	Connection Size		Connection Type	
FLT	Filter	180L	04	1/4"	LOK
		270L	06	3/8"	NW25
		300L	08	1/2"	NW40
			12	3/4"	NW50

Performance Data



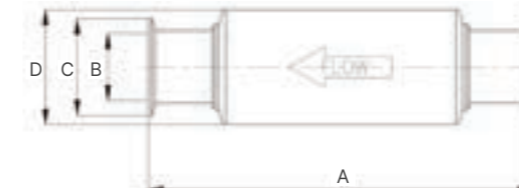
[FLT-270L-NW25]
[FLT-300L-NW50]



[FLT-180L-NW25~50]

Dimension

Model	Ordering No.	Media	A (Length)	B	C (Connection)		D (O.D)
		Size	(mm)	(mm)	(mm)	TYPE	(mm)
	FLT-180L-08LOK	Φ 30 100 L x 1	180	10.4	1/2"	LOK	60.5
	FLT-180L-12LOK		180	15.7	3/4"	LOK	60.5
	FLT-180L-NW25		180	26.2	NW25		60.5
	FLT-180L-NW40		180	41.2	NW40		60.5
	FLT-180L-NW50		180	52.2	NW50		75
	FLT-270L-NW25		Φ 30 120 L x 3	270	26.2	NW25	
	FLT-300L-NW50	300		52.2	NW50		89.1



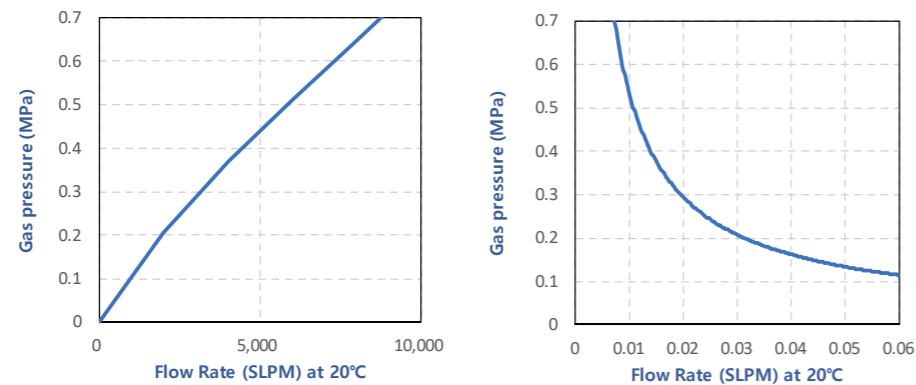
Diffusers



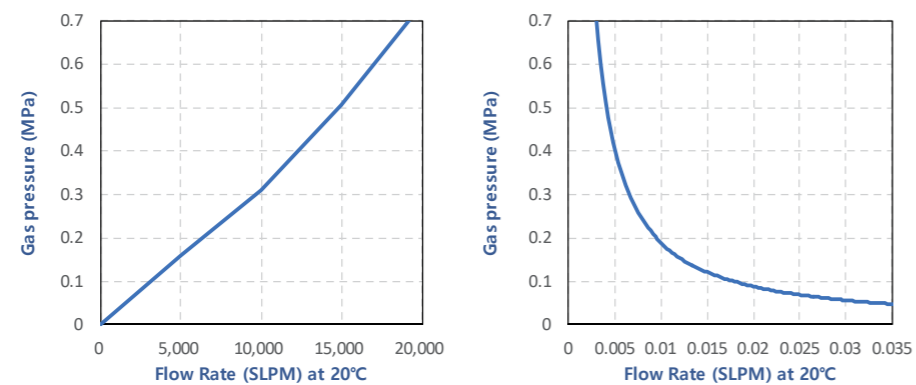
Specification

Retention	Greater than 99.99 % removal of all particles down to 0.0025 μm
Rated Flow	0 ~ 10,000 SLPM
Materials	316L Stainless Steel
Max Operating Temperature for Inert Gas	460 °C without O-ring
	100 °C with O-ring
Particle Shedding	Zero particle contribution above background (<1 particle/ft ³) per SEMI F70-0302 test method

Performance Data



[AF-DFS08MV-001]



[AF-DFS437]

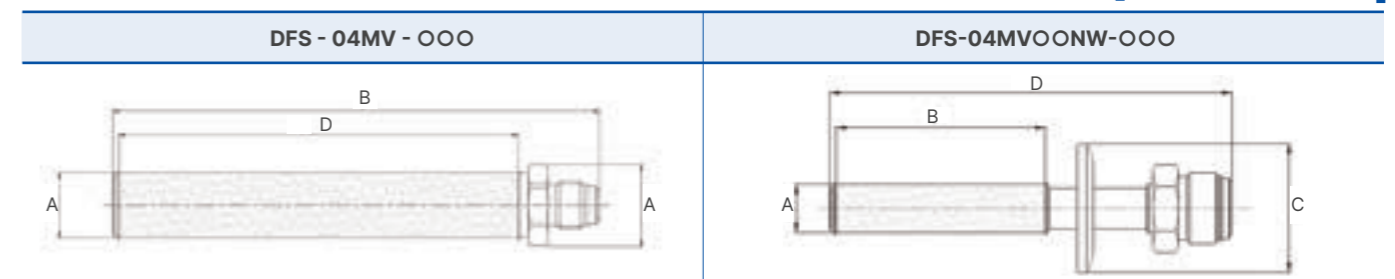
Ordering Information

		(Main) Gas Fitting				(2 nd) Chamber Fitting				
DFS		08		MV		25		MV		001
Product		(Main) Gas Fitting				(2 nd) Chamber Fitting				No.
		Connection Size		Connection Type		Connection Size		Connection Type		
DFS	Diffuser	04	1/4"	MV	Male	04	1/4"	MV	Male	001
		06	3/8"	LOK	Lok	06	3/8"	LOK	Lok	002
		08	1/2"	BW	Butt weld	08	1/2"	BW	Butt weld	003
		12	3/4"	NW	ISF Clamp	12	3/4"	NW	ISF Clamp	:
		25			ISO Clamp	25			ISO Clamp	:
		40	KF Clamp			40	KF Clamp			:
		50				50				:

* ASFLOW Diffusers can be tailored to customers' needs with a variety of end connections. Please contact us.

Dimension

[DFS-04-Series]

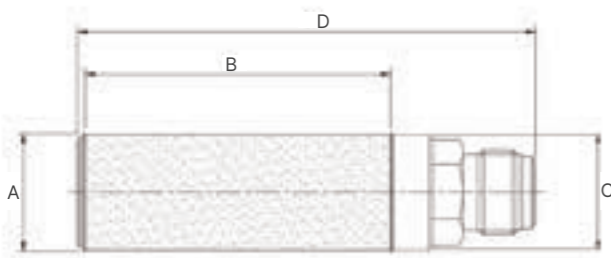
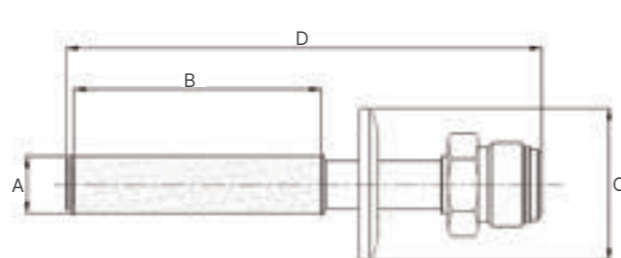


Ordering No.	Membrane Size		Total Size		Remarks
	A (Φ)	B (mm)	C (Φ)	D (mm)	
DFS-04MV-001	20	38	23.5	64.5	
DFS-04MV-002	20	53	23.5	79.5	
DFS-04MV-003	20	120	23.5	146.5	
DFS-04MV16NW-001	15	55	30	102.2	ISO Clamp
DFS-04MV16NW-002	15	85	30	132.2	ISO Clamp
DFS-04MV25NW-001	20	57	40	104	ISO Clamp
DFS-04MV25NW-002	15	57.5	40	104	ISO Clamp
DFS-04MV25NW-003	15	37	40	83.5	ISO Clamp

* ASFLOW Diffusers can be tailored to customers' needs with a variety of end connections. Please contact us.

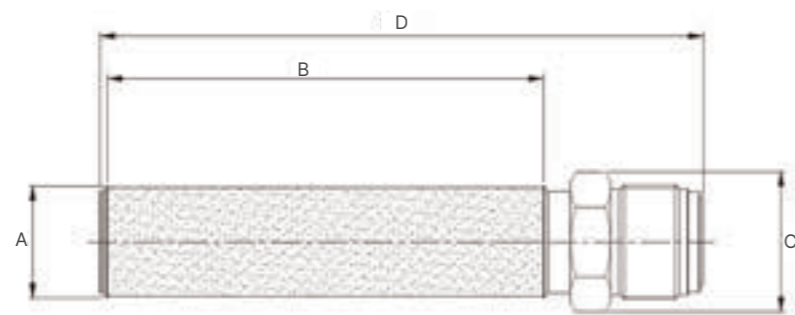
Dimension

[DFS-08-Series]

DFS - 08MV - 000		DFS - 08MVO0NW - 000			
					
Ordering No.	Membrane Size		Total Size		Remarks
	A (Φ)	B (mm)	C (Φ)	D (mm)	
DFS-08MV-001	30	120	30	170	
DFS-08MV-002	30	80	30	120	
DFS-08MV-003	30	40	30	80	
DFS-08MV-004	15	85	23.8	124	
DFS-08MV25NW-001	15	65	40	126	KF Clamp
DFS-08MV40NW-001	30	49	55	94	KF Clamp
DFS-08MV40NW-002	30	120	55	167	KF Clamp
DFS-08MV40NW-003	30	80	55	127	KF Clamp
DFS-08MV40NW-003	30	40	30	82.5	KF Clamp

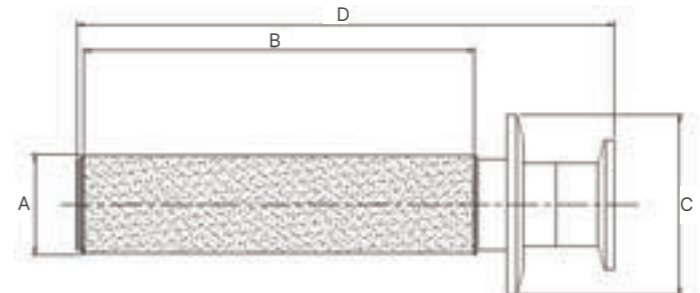
* ASFLOW Diffusers can be tailored to customers' needs with a variety of end connections. Please contact us.

[DFS-12-Series]

DFS - 12MV - 000					
					
Ordering No.	Membrane Size		Total Size		Remarks
	A (Φ)	B (mm)	C (Φ)	D (mm)	
DFS-12MV-001	30	120	33.3	166	
DFS-12MV-002	30	120	33.3	166	

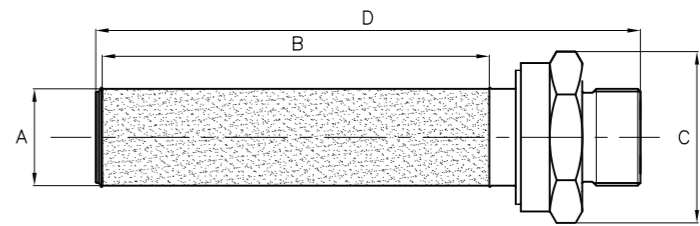
* ASFLOW Diffusers can be tailored to customers' needs with a variety of end connections. Please contact us.

[DFS-25-Series]

DFS - 25NW40NW - 000					
					
Ordering No.	Membrane Size		Total Size		Remarks
	A (Φ)	B (mm)	C (Φ)	D (mm)	
DFS-25NW40NW-001	30	120	55	165	
DFS-25NW40NW-002	30	120	55	255	

* ASFLOW Diffusers can be tailored to customers' needs with a variety of end connections. Please contact us.

[DFS-M28-Series / DFS-M30-Series]

DFS-M28-Series / DFS-M30-Series						
						
Ordering No.	Membrane Size		Total Size		Remarks	
	A (Φ)	B (mm)	C (Φ)	D (mm)		
DFS-M28-Series	DFS-M28-001	30	120	46	170	1 pic, with hole cover
	DFS-M28-002	30	120	46	161.8	1 pic
	DFS-M28-003	30	120	46	161.8	1 pic, without O-ring
	DFS 430	30	120	46	421.8	3 pic
DFS-M30-Series	DFS-M30-003	30	120	53.1	168.8	
	DFS 307	30	120	53	307	2 pic, with hole cover
	DFS 437	30	120	53	437	3 pic, with hole cover

* ASFLOW Diffusers can be tailored to customers' needs with a variety of end connections. Please contact us.

Fundamentals of Gas Filtration

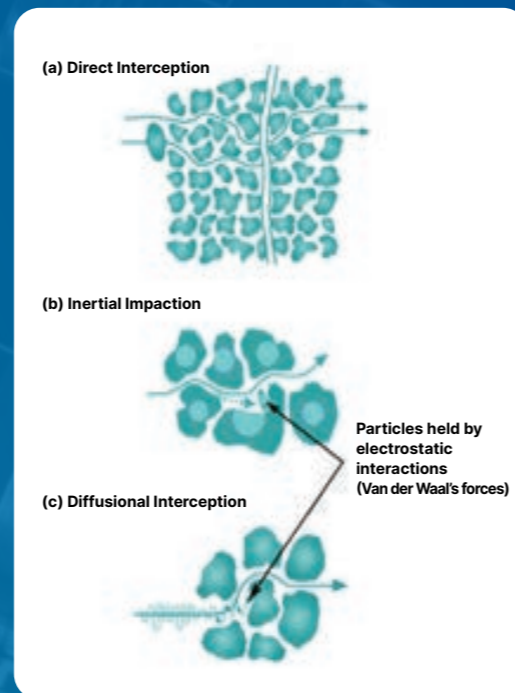
Diffusion : particle deposition via diffusion results when particles collide with the filter structure due to their random Brownian motion.

Interception : A particle is deposited via the interception mechanism if a particle of finite size is brought within one particle radius of the filter structure as it follows the flow streamlines around the filter structure.

Inertial impaction : This mechanism becomes an increasingly significant means of particle collection for larger particles (particle mass), and higher gas velocities.

Electrostatic effects : Particles deposit via electrostatic deposition if electrical charges on either the particle or the filter, or both, create attractive electrostatic forces of sufficient magnitude to attract the particle to the filter surface.

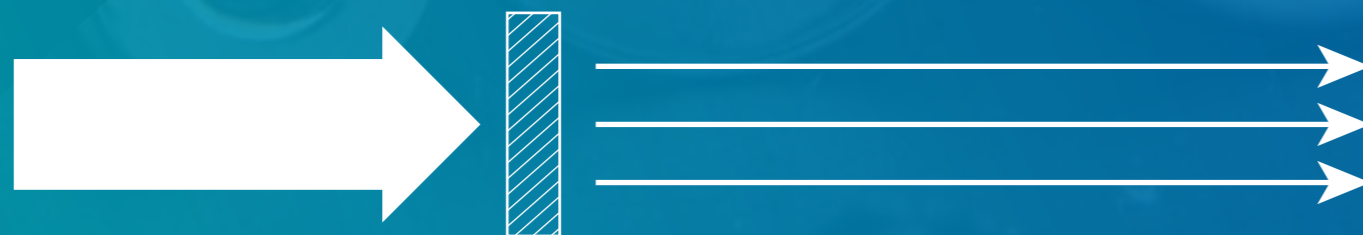
Sieving : Particles unable to pass through openings in the filter structure, due to their larger size, are captured via the mechanism of sieving



Our mission is to optimize our manufacturing processes and offer the highest quality products at very competitive prices. Our dedicated staffs, with the assistance of EP technology leadership, are committed to making our company the most efficient producer of super clean product.

What's Filtration?

Filtration is a mechanical / physical operation which is used for the separation of particles from fluid. It will depend on the pore size and the thickness of the medium as well as the mechanisms that occur during filtration. Filtration is used for the purification of fluids : for instance separating dust from the atmosphere to clean air.



Gas & Metal Compatibility Table

Gas	Gas Symbols	Gas Type	Process Step	Suggest Filter Media	
				SS	Ni
Ammonia	NH3	-	CVD	SS	Ni
Argon	Ar	Inert	Etch, CVD, PVD	SS	Ni
Arsine	AsH3	Corrosive	CVD	SS	Ni
Boron Trichloride	BCl3	Corrosive	Etch	Ni	H
Boron Trifluoride	BF3	-	Implant	Ni	H
Carbon Dioxide	CO2	-	Various	SS	Ni
Chlorine	Cl2	Corrosive	Etch	SS	Ni
Chlorine Trifluoride	ClF3	Corrosive	Etch	SS	Ni
Diborane	B2H6	Reactive	CVD	SS	Ni
Dichlorosilane	SiH2Cl2	Reactive	CVD	Ni	H
Hexafluoroethane	C2F6	Corrosive	Etch	SS	Ni
Helium	He	Inert	Various	SS	Ni
Hydrogen	H2	Corrosive	Various	SS	Ni
Hydrogen Bromide	HBr	Corrosive	Etch	Ni	H
Hydrogen Chloride	HCl	Corrosive	Etch, CVD	Ni	H
Hydrogen Fluoride	HF	Corrosive	Etch	Ni	H
Hydrogen Selenide	H2Se	-	CVD	SS	Ni
Krypton	Kr	-	Various	SS	Ni
Neon	Ne	-	Various	SS	Ni
Nitrogen	N2	Inert	CVD	SS	Ni
Nitrogen Trifluoride	NF3	Oxidizer	CVD	SS	H
Nitrous Oxide	N2O	Corrosive	CVD	SS	Ni
Oxygen	O2	Corrosive	Etch, CVD	SS	Ni
Ozone	O3	-	CVD	H	
Perfluoropropane	C3F8	Corrosive	Etch	SS	Ni
Phosphine	PH3	Reactive	CVD	SS	Ni
Phosphorous Trifluoride	PF3	-	Implant	Ni	H
Silane	SiH4	Reactive	CVD	SS	Ni
Silicon Tetrachloride	SiCl4	Corrosive	Etch, CVD	Ni	H
Silicon Tetrafluoride	SiF4	-	Etch	Ni	H
Sulfur Hexafluoride	SF6	Corrosive	Etch	SS	Ni
Trichlorosilane	SiHCl3	Corrosive	CVD	Ni	H
Tungsten Hexafluoride	WF6	Corrosive	CVD	Ni	H
Xenon	Xe	-	Various	SS	Ni

*SS : 316L Stainless Steel / *Ni: Nickel / *H : Hastelloy