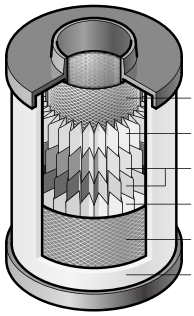
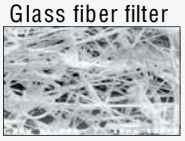
2 Super Filter
DSF/LSF/MSF/KSF

1. The Evolved EMS □□□ -H Filter Element

Element Cross section		Item	Newly Developed EMS□□□-H	Previous Model EMS□□□	Closeup of Filter Media	Comments
	❶ Primary Filter Medium	Material	*NEW* Glass fiber filter	Glass fiber filter	Glass fiber filter 	Greater filtration surface area for increased oil collection capacity
		Filtration Surface	Approx. 2x that of prev. models	–		
		Number of Layers	2	1		
	❷ Secondary Filter Medium	Material	*NEW* Plastic foam (Polyurethane)	Plastic foam (Polyurethane)	Plastic foam 	Cell ※ More cells yield greater oil collection capacity Reducing the cell size helps prevent release of oil.

※ Cell: Space created from plastic formation

2. Stainless Steel Vessels Adopted on Medium and Heavy Duty Class Models

※ Stainless steel shell design is available on DSF/LSF/MSF/KSF 400 Series models and above.

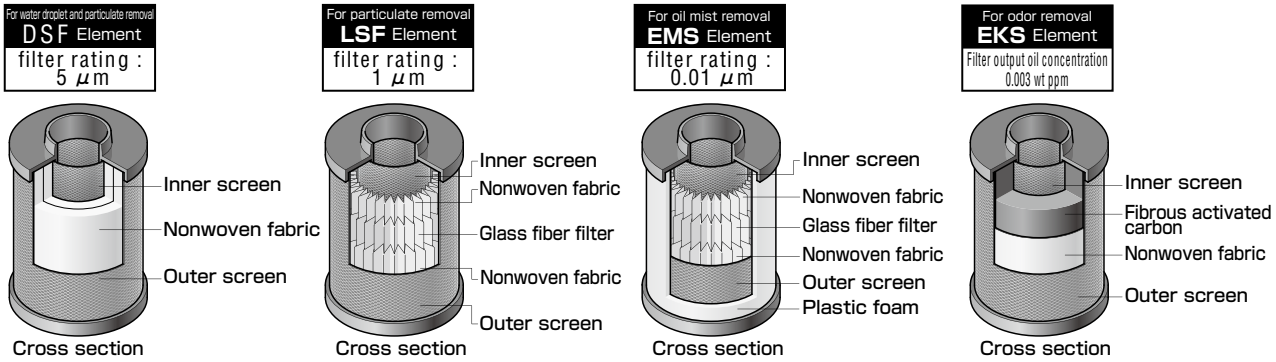
3. Clamp Joint Design is Standard, for Easy Element Replacement (400 ~ 2000)

The lower body can be removed by simply loosening the wingnut inside the band cover. Filter element replacement is easy!

4. The MSF Series has a "Life Indicator" LED that shows approximately when the filament element should be replaced. (Models 400D and above)

※ (The LED indicator sign is set for 8000 h. The element replacement period will differ depending on inlet contaminants and operating conditions.)

□ Improved filtration by employing a combination of filters.



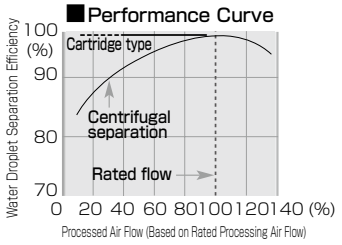
2 DSF Series

Water Droplet and Solid Particulate Removal Super Filter (Compressed air purification equipment)

DSF75B ～ 31800B
Removes particulate 5 μm and greater.
Air processing capacity: 0.35～318.9 m³/min
Inlet air temperature: 5 ～ 60 ℃

Features

1. Stainless steel vessel (models 400-1 and above)
2. High efficiency means consistent filtration efficiency.
   No drop in filtration performance due to flow rate fluctuations thanks to our element filtration design.
3. Low pressure loss (0.005 MPa or less.)
4. Increased pressure range (75B ～ 250B)
5. Tie-Rod Stacking Available (Compatible Models: 75B to 250B. Sold separately.)




DSF1300-1

□ Specifications

Item			Model DSF	75B	150B	200B	250B	400-1	404	500	700-1
Air Processing Capacity ※1			m³/min	0.35	1.2	1.8	2.7	3.9		5.2	6.6
Processing Capacity	Processed Fluid			Compressed air							
	Compressed Air Pressure Range (Gauge Pressure)		MPa	0.05 ～ 1.57 ※3				0.1 ～ 1.0			
	Inlet Air Temperature / Ambient Temperature Range		℃	5 ～ 60/2 ～ 60							
Performance Specifications	Degree of Filtration		μm	5							
	Processed Air Conditions	Inlet Air Pressure	MPa	0.69							
		Inlet Air Temperature	℃	32							
	Water Droplet Filtration Efficiency / Initial Pressure Loss		%/MPa	99/0.005							
	When to Replace Element ※2	Pressure Loss	MPa	0.02							
		Period of Use		1 year							
Main Dimensions	Differential Pressure Gauge Connection Size			Rc 1/4				High pressure side: Rp1/4, Low pressure side: M5			
	Piping Connection Size		B・A	Rc 3/8・10	Rc 3/4・20		Rc1・25		Rc1 1/2・40		
	Drain Port Size			Rc1/4, Outside diameter φ16				Hose nipple (for hose with inside diameter φ5.7- φ6) ※4			
	Mass		kg	1.0		2.0	2.1	3.0	3.1	3.2	3.3
Auto Drain Traps				NH-503MR (built-in)				FD2			
Element	Model		EDS	75	150	200	250	400		500	700
	No. of Filter Elements Used		qty.	1							

Item			Model DSF	850	1000-1	1005	1200	1300-1	2700C	3200C	4000C
Air Processing Capacity ※1			m³/min	8.6	10.6		12.8	13.8	27.6	32.0	40.0
Processing Capacity	Processed Fluid			Compressed air							
	Compressed Air Pressure Range (Gauge Pressure)		MPa	0.1 ～ 1.0					0.20 ～ 1.0		
	Inlet Air Temperature / Ambient Temperature Range		℃	5 ～ 60/2 ～ 60							
Performance Specifications	Degree of Filtration		μm	5							
	Processed Air Conditions	Inlet Air Pressure	MPa	0.69							
		Inlet Air Temperature	℃	32							
	Water Droplet Filtration Efficiency / Initial Pressure Loss		%/MPa	99/0.005							
	When to Replace Element ※2	Pressure Loss	MPa	0.02							
		Period of Use		1 year							
Main Dimensions	Differential Pressure Gauge Connection Size			High pressure side: Rp1/4, Low pressure side: M5					Rc 1/4		
	Piping Connection Size		B・A	Rc1 1/2・40		Rc 2・50			2 1/2・65	3・80	
	Drain Port Size			Hose nipple (for hose with inside diameter φ5.7- φ6) ※4					Rc 3/8		
	Mass		kg	3.5	3.7	4.2	4.3		26	28	
Auto Drain Traps				FD2					FD-10-A		
Element	Model		EDS	850	1000		1200	1300	1300	2000	
	No. of Filter Elements Used		qty.	1					2		

Item			Model DSF	5000B	6000B	7700B	10300B	12900B	15500B	20700B	31800B
Air Processing Capacity ※1			m³/min	50.0	60.0	77.8	103.7	129.7	155.6	207.5	318.9
Processing Capacity	Processed Fluid			Compressed air							
	Compressed Air Pressure Range (Gauge Pressure)		MPa	0.20 ～ 1.0				0.29 ～ 1.0			
	Inlet Air Temperature / Ambient Temperature Range		℃	5 ～ 60/2 ～ 60							
Performance Specifications	Degree of Filtration		μm	5							
	Processed Air Conditions	Inlet Air Pressure	MPa	0.69							
		Inlet Air Temperature	℃	32							
	Water Droplet Filtration Efficiency / Initial Pressure Loss		%/MPa	99/0.005							
	When to Replace Element ※2	Pressure Loss	MPa	0.02							
		Period of Use		1 year							
Main Dimensions	Differential Pressure Gauge Connection Size			Rc 1/4							
	Piping Connection Size		B・A	4・100		5・125	6・150		8・200		10・250
	Drain Port Size			Rc 3/8				Rc 1/2			
	Mass		kg	73		95	155	190	250	310	380
Auto Drain Traps				FD-10-A				AD-5			
Element	Model		EDS	2000							
	No. of Filter Elements Used		qty.	3		4	6	7	9	12	18

※1 Processing air capacity is calculated based on compressor intake conditions (atmospheric pressure, 32 ℃, 75 % humidity.) ※2 To be replaced either the accumulated running time or pressure drop of filter elements as indicated above, whichever comes first to set figure. ※ Optional differential pressure gauge sold separately. ※3 When models 75B or 150B are used without an auto drain, the maximum operable pressure is 2.94 MPa. (Special order configuration.) ※4 Can be adapted for use with Rc1/4 using the included adapter. ※ Auto Drain Trap: Float type (Built-in or individual)/Disc type
Note: The loading weight to flanges to be less than 120 Kg. Please ensure adequate support for the piping that leads to the filter. (2700C～31800B series)
※ DSF5000B～31800B are subject to JBA 2nd class pressure vessel regulation. ※ DSF2700C ～ 31800B are built to order. ※ **Legs on the DSF2700C, 3200C and 4000C are optional.** ※ The differential pressure gauge is sold separately.

2 LSF Series

Solid Particulate Removal Super Filter (Compressed air purification equipment)

LSF75B ～ 31800B
Removes particulate 1 μm and greater.
Air processing capacity: 0.35 ～ 318.9 m^3/min
Inlet air temperature: 5 ～ 60 ℃

Features

1. First in its class to come standard equipped with a stainless steel vessel (models 400-1 and above.)
2. Standard equipped with clamp joint (models 400-1 ～ 2000-1) Now equipped with band clamps for easier housing removal (compared with earlier flange-type models.)
3. Improved water resistance thanks to our newly developed filter element. (Improvement of 200 % compared to our earlier models.)
4. Increased pressure range (75B ～ 250B)
5. Tie-rod filter stacking system (Compatible Models: 75B to 250B. Sold separately.)

□ Specifications

Item			Model LSF	75B	150B	200B	250B	400-1	404	500	700-1
Air Processing Capacity ※1			m^3/min	0.35	1.2	1.8	2.7	3.9		5.2	6.6
Processing Capacity	Processed Fluid			Compressed air							
	Compressed Air Pressure Range (Gauge Pressure)		MPa	0.05 ～ 1.57 ※3				0.1 ～ 1.0			
	Inlet Air Temperature / Ambient Temperature Range		℃	5 ～ 60/2 ～ 60							
Performance Specifications	Degree of Filtration / Efficiency		μm/%	1/99.999							
	Pressure Loss		MPa	Initial 0.005							
	When to Replace Element ※2	Pressure Loss	MPa	0.07							
		Period of Use		1 year							
Main Dimensions	Differential Pressure Gauge Connection Size			Rc 1/4				High pressure side: Rp1/4, Low pressure side: M5			
	Piping Connection Size		B・A	Rc 3/8・10	Rc 3/4・20		Rc1・25		Rc1 1/2・40		
	Drain Port Size			Rc1/4, Outside diameter φ16				Hose nipple（for hose with inside diameter φ5.7- φ6）※4			
	Mass		kg	1.0		2.0	2.1	3.0	3.1	3.2	3.3
Auto Drain Traps				NH-503MR（built-in）				FD2			
Element	Model		ELS	75	150	200	250	400		500	700
Elements Used	No. of Filter		qty.	1							

Item			Model LSF	850	1000-1	1005	1200	1300-1	1700	2000-1	2700C1
Air Processing Capacity ※1			m^3/min	8.6	10.6		12.8	13.8	17.3	20	27.6
Processing Capacity	Processed Fluid			Compressed air							
	Compressed Air Pressure Range (Gauge Pressure)		MPa	0.1 ～ 1.0							
	Inlet Air Temperature / Ambient Temperature Range		℃	5 ～ 60/2 ～ 60							
Performance Specifications	Degree of Filtration / Efficiency		μm/%	1/99.999							
	Pressure Loss		MPa	Initial 0.005							
	When to Replace Element ※2	Pressure Loss	MPa	0.07							
		Period of Use		1 year							
Main Dimensions	Differential Pressure Gauge Connection Size			High pressure side: Rp1/4, Low pressure side: M5							Rc 1/4
	Piping Connection Size		B・A	Rc1 1/2・40		Rc 2・50					2 1/2・65
	Drain Port Size			Hose nipple（for hose with inside diameter φ5.7- φ6）※4							
	Mass		kg	3.5	3.7	4.2	4.3		4.9	6.0	26
Auto Drain Traps				FD2							
Element	Model		ELS	850	1000		1200	1300	1700	2000	1300
Elements Used	No. of Filter		qty.	1							2

Item			Model LSF	3200C1	4000C1	5000B1	6000B1	7700B1	10300B	12900B	15500B	20700B	31800B
Air Processing Capacity ※1			m^3/min	32	40	50	60	77.8	103.7	129.7	155.6	207.5	318.9
Processing Capacity	Processed Fluid			Compressed air									
	Compressed Air Pressure Range (Gauge Pressure)		MPa	0.1 ～ 1.0					0.20 ～ 1.0				
	Inlet Air Temperature / Ambient Temperature Range		℃	5 ～ 60/2 ～ 60									
Performance Dpecifications	Degree of Filtration / Efficiency		μm/%	1/99.999									
	Pressure Loss		MPa	Initial 0.005									
	When to Replace Element ※2	Pressure Loss	MPa	0.07									
		Period of Use		1 year									
Main Dimensions	Differential Pressure Gauge Connection Size			Rc 1/4									
	Piping Connection Size		B・A	3・80		4・100		5・125	6・150		8・200		10・250
	Drain Port Size			Hose nipple（for hose with inside diameter φ5.7- φ6）※4					Rc 3/8				
	Mass		kg	28		73		95	155	190	250	310	380
Auto Drain Traps				FD2					FD-10-A				
Element	Model		ELS	2000									
Elements Used	No. of Filter		qty.	2		3		4	6	7	9	12	18

※1 Processing air capacity is calculated based on compressor intake conditions (atmospheric pressure, 32 ℃, 75 % humidity.) Processed air conditions: Inlet air pressure: 0.7 MPa, inlet air temp: 32 ℃, intel dew point at atmospheric pressure: -17 ℃ (PDP10 ℃) inlet oil concentration: 3 wt ppm. ※2 Replace filter when there is pressure loss or after the recommended period use, whichever comes first. ※3 When models 75B or 150B are used without an auto drain, the maximum operable pressure is 2.94 MPa. (Special order configuration.) ※4 Can be adapted for use with Rc1/4 using the included adapter. ※ Auto Drain Trap: Float type (Built-in or individual)
Note: Load placed on air inlet/outlet flanges should be no more than 120 kg. Please ensure adequate support for the piping that leads to the filter. (LSF2700C1 ～ 31800B) ※ Models LSF5000B1 ～ 31800B are subject to JBA 2nd class pressure vessel regulation. ※ LSF2700C1 ～ 31800B are built to order. ※ **Legs on the LSF2700C1, 3200C1 and 4000C1 are optional.** ※ Optional differential pressure gauge sold separately.

2 MSF Series

Oil Mist Removal Super Filter (Compressed air purification equipment)

MSF75D ～ 31800D

Removes oil mist of 0.01 μm and up (Output concentration: 0.01 wt ppm)

Air processing capacity: 0.35 ～ 318.9 m^3/min

Inlet air temperature: 5 ～ 60 ℃

Features

1. New element suitable with high oil concentrations. (17wt ppm input ⇒ 0.5wt ppm output)
   In order to increase oil collection capacity, the number of layers in the primary filter medium is increased and the area of filtration is also increased. This results in a pressure loss value of 0.02 MPa (which is equiv. to previous models).
2. First in its class to come standard equipped with a stainless steel tank. (Models 400 and above)
3. Comes standard with a clamp joint configuration (on models 400D ～ 2000D).
   The band structure allows for easy removal of the housing.
4. An element life indicator lamp (on models 400 and above) clearly shows when it's time to replace the element.
5. Tie-rod connection possible. (Applicable models: 75D ～ 250D. Available as an accessory -- sold separately)

□ Specifications

Item			Model MSF	75D	150D	200D	250D	400D	404D	500D	700D
Air Processing Capacity			※1 m^3/min	0.35	1.2	1.8	2.7	3.9		5.2	6.6
Processing Capacity	Processed Fluid			Compressed air							
	Compressed Air Pressure Range (Gauge Pressure)		MPa	0.05 ～ 1.57 ※3				0.1 ～ 1.0			
	Inlet Air Temperature / Ambient Temperature Range		℃	5 ～ 60/2 ～ 60							
Performance Specifications	Degree of Filtration / Output Oil Concentration		μm	0.01/0.01wt ppm（Remaining oil content 0.01mg/m^3）							
	Collection Efficiency / Pressure Loss		%/MPa	99.999 / Initial: 0.01・Typical: 0.02							
	When to Replace	Pressure Loss	MPa	0.07							
	Element ※2	Period of Use		1 year							
Main Dimensions	Differential Pressure Gauge Connection Size			Rc 1/4				High pressure side: Rp1/4, Low pressure side: M5			
	Piping Connection Size		B・A	Rc 3/8・10	Rc 3/4・20		Rc1・25		Rc1 1/2・40		
	Drain Port Size			Rc1/4, Outside diameter φ16				Hose nipple（for hose with inside diameter φ5.7- φ6）※4			
	Mass		kg	1.0		2.5	2.6	3.0	3.1	3.2	3.3
Auto Drain Traps				NH-503MR（built-in）				FD2			
Element	Model		EMS	75	150	200	250	400		500	700
	No. of Filter Elements Used		qty.	1							

Item			Model MSF	850D	1000D	1005D	1200D	1300D	1700D	2000D	2700D
Air Processing Capacity			※1 m^3/min	8.6	10.6		12.8	13.8	17.3	20.0	27.6
Processing Capacity	Processed Fluid			Compressed air							
	Compressed Air Pressure Range (Gauge Pressure)		MPa	0.1 ～ 1.0							
	Inlet Air Temperature / Ambient Temperature Range		℃	5 ～ 60/2 ～ 60							
Performance Specifications	Degree of Filtration / Output Oil Concentration		μm	0.01/0.01wt ppm（Remaining oil content 0.01mg/m^3）							
	Collection Efficiency / Pressure Loss		%/MPa	99.999 / Initial: 0.01・Typical: 0.02							
	When to Replace	Pressure Loss	MPa	0.07							
	Element ※2	Period of Use		1 year							
Main Dimensions	Differential Pressure Gauge Connection Size			High pressure side: Rp1/4, Low pressure side: M5							Rc 1/4
	Piping Connection Size		B・A	Rc1 1/2・40		Rc 2・50					2 1/2・65
	Drain Port Size			Hose nipple（for hose with inside diameter φ5.7- φ6）※4							
	Mass		kg	3.5	3.7	4.2	4.3		4.9	6.0	26
Auto Drain Traps				FD2							
Element	Model		EMS	850	1000		1200	1300	1700	2000	1300
	No. of Filter Elements Used		qty.	1							2

Item			Model MSF	3200D	4000D	5000D	6000D	7700D	10300D	12900D	15500D	20700D	31800D
Air Processing Capacity			※1 m^3/min	32.0	40.0	50.0	60.0	77.8	103.7	129.7	155.6	207.5	318.9
Processing Capacity	Processed Fluid			Compressed air									
	Compressed Air Pressure Range (Gauge Pressure)		MPa	0.1 ～ 1.0					0.20 ～ 1.0				
	Inlet Air Temperature / Ambient Temperature Range		℃	5 ～ 60/2 ～ 60									
Performance Specifications	Degree of Filtration / Output Oil Concentration		μm	0.01/0.01wt ppm（Remaining oil content 0.01mg/m^3）									
	Collection Efficiency / Pressure Loss		%/MPa	99.999 / Initial: 0.01・Typical: 0.02									
	When to Replace	Pressure Loss	MPa	0.07									
	Element ※2	Period of Use		1 year									
Main Dimensions	Differential Pressure Gauge Connection Size			Rc 1/4									
	Piping Connection Size		B・A	3・80		4・100		5・125	6・150		8・200		10・250
	Drain Port Size			Hose nipple（for hose with inside diameter φ5.7- φ6）※4					Rc 3/8				
	Mass		kg	28		73		95	155	190	250	310	380
Auto Drain Traps				FD2					FD-10-A				
Element	Model		EMS	2000									
	No. of Filter Elements Used		qty.	2		3		4	6	7	9	12	18

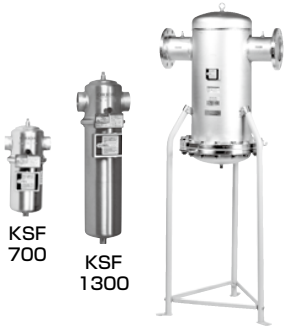
※1 Processing air capacity is calculated based on compressor intake conditions (atmospheric pressure, 32 ℃, 75 % humidity.) Processed air conditions: Inlet air pressure: 0.7 MPa, inlet air temp: 32 ℃, inlet dew point at atmospheric pressure: −17 ℃ (PDP: 10 ℃), inlet oil concentration: 3 wt ppm (3.6 mg/m^3). ※2 Replace filter when there is pressure loss or after the recommended replacement period, whichever comes first. Noted replacement periods are not guaranteed periods. Some parts may require replacement sooner depending on the specific operating environment or operating conditions. ※3 When models 75D or 150D are used without an auto drain, the maximum operable pressure is 2.94 MPa. (Special specifications) ※4 Can be adapted for use with Rc1/4 using the included adapter. ※ Optional differential pressure gauge sold separately. (Comes standard equipped on models 200B/250B) ※ Always install an air dryer before the MSF series filters. ※ Auto drain trap: float operated type. (internal or separate)

Note: Load placed on air inlet/outlet flanges should be no more than 120 kg. Please ensure adequate support for the piping that leads to the filter. (MSF2700C1 ～ 31800B) ※ Models MSF5000B1 ～ 31800B are subject to JBA 2nd class pressure vessel regulation. ※ MSF2700C1 ～ 31800B are built to order. ※ **Legs on the MSF2700C1, 3200C1 and 4000C1 are optional.** ※ As the construction of the Final Filter is different, it is not compliant with ISO14644-1 (F.S.209D) air purity class standard.

2 Odor Removal Super Filter (Compressed air purification equipment)

KSF Series

KSF150B ～ 31800B
Removes odor due to oil vapors
Air processing capacity: 1.2 ～ 318.9 m^3/min
Inlet air temperature: 5 ～ 60 ℃



Features

1. First in its class to come standard equipped with a stainless steel vessel (models 400 and above.)
2. Uses our newly developed "fiberous activated carbon" Compared with previous granular activated carbon filters, the amount of carbon that flows into secondary filter stages has been greatly reduced.
3. Outlet oil concentration reduced to 0.003 wt ppm.
   Using our newly developed filter element which combines line and mist filters, outlet oil concentration has been greatly reduced. Gives you a cleaner air supply.
4. Increased pressure range (150B ～ 250B)
5. Tie-rod filter stacking system (Compatible Models: 150B to 250B. Sold separately.)

□ Specifications

Item			Model KSF	150B	200B	250B	400	404	500	700	850
Air Processing Capacity ※1			m^3/min	1.2	1.8	2.7	3.9		5.2	6.6	8.6
Processing Capacity	Processed Fluid			Compressed air							
	Compressed Air Pressure Range(Gauge Pressure)		MPa	0.05 ～ 1.57 ※ 2			0.05 ～ 1.0				
	Inlet Air Temperature Range		℃	5 ～ 60							
	Ambient Temperature Range		℃	2 ～ 60							
Performance Specifications	Filtration Method			Adsorption by activated carbon fiber							
	Output Oil Concentration / Pressure Loss		MPa	0.003wt ppm（Remaining oil content 0.004mg/m^3）/ 0.009							
	When to Replace Element ※ 3	Pressure Loss	MPa	0.07							
		Period of Use		1 year							
Main Dimensions	Differential Pressure Gauge Connection Size			Rc 1/4			High pressure side: Rp1/4, Low pressure side: M5				
	Piping Connection Size		B・A	Rc 3/4・20		Rc1・25		Rc1 1/2・40			
	Mass		kg	1.0	2.0	2.1	3.0	3.1	3.2	3.3	3.5
Element	Model		EKS	150	200	250	400		500	700	850
	No. of Filter Elements Used		qty.	1							

Item			Model KSF	1000	1005	1200	1300	1700	2000	2700C	3200C
Air Processing Capacity ※1			m^3/min	10.6		12.8	13.8	17.3	20.0	27.6	32.0
Processing Capacity	Processed Fluid			Compressed air							
	Compressed Air Pressure Range(Gauge Pressure)		MPa	0.05 ～ 1.0							
	Inlet Air Temperature Range		℃	5 ～ 60							
	Ambient Temperature Range		℃	2 ～ 60							
Performance Specifications	Filtration Method			Adsorption by activated carbon fiber							
	Output Oil Concentration / Pressure Loss		MPa	0.003wt ppm（Remaining oil content 0.004mg/m^3）/ 0.009							
	When to Replace Element ※ 3	Pressure Loss	MPa	0.07							
		Period of Use		1 year							
Main Dimensions	Differential Pressure Gauge Connection Size			High pressure side: Rp1/4, Low pressure side: M5						Rc 1/4	
	Piping Connection Size		B・A	Rc1 1/2・40		Rc 2・50				2 1/2・65	3・80
	Mass		kg	3.7	4.2	4.3		4.9	6.0	26	28
Element	Model		EKS	1000		1200	1300	1700	2000	1300	2000
	No. of Filter Elements Used		qty.	1						2	

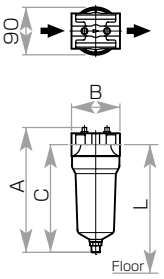
Item			Model KSF	4000C	5000B	6000B	7700B	10300B	12900B	15500B	20700B	31800B
Air Processing Capacity ※1			m^3/min	40.0	50.0	60.0	77.8	103.7	129.7	155.6	207.5	318.9
Processing Capacity	Processed Fluid			Compressed air								
	Compressed Air Pressure Range(Gauge Pressure)		MPa	0.05 ～ 1.0								
	Inlet Air Temperature Range		℃	5 ～ 60								
	Ambient Temperature Range		℃	2 ～ 60								
Performance Specifications	Filtration Method			Adsorption by activated carbon fiber								
	Output Oil Concentration / Pressure Loss		MPa	0.003wt ppm（Remaining oil content 0.004mg/m^3）/ 0.009								
	When to Replace Element ※ 3	Pressure Loss	MPa	0.07								
		Period of Use		1 year								
Main Dimensions	Differential Pressure Gauge Connection Size			Rc 1/4								
	Piping Connection Size		B・A	3・80	4・100		5・125	6・150		8・200		10・250
	Mass		kg	28	74		96	155	190	250	311	380
Element	Model		EKS	2000								
	No. of Filter Elements Used		qty.	2	3		4	6	7	9	12	18

※1 Processing air capacity is calculated based on compressor intake conditions (atmospheric pressure, 32 ℃, 75 % humidity.) Processed air conditions: Inlet air pressure: 0.7 MPa, inlet air temp: 32 ℃, inlet dew point at atmospheric pressure: −17 ℃ (PDP: 10 ℃), inlet oil concentration: 0.01 wt ppm (0.01 mg/m^3). ※2 Model 150B can be configured to handle pressures of 2.94 MPa. (This is a special order item.) ※3. The actual replacement time will be whichever occurs first. There should be almost no increase in pressure loss when using the EKS element as long as proper pre-processing (removal of water mist, solid particulate, and oil mist) is carried out. If there is an increase in pressure, then immediate inspection of the pre-processing filters should be carried out. ※ Optional differential pressure gauge sold separately. ※ Always install an air dryer, super line filter, and super mist filter before the KSF series filters.
Note: Load placed on air inlet/outlet flanges should be no more than 120 kg. Please ensure adequate support for the piping that leads to the filter. (KSF2700C ～ 31800B) ※ Models KSF12900B ～ 31800B are built-to-order models. ※ Models KSF5000B ～ 31800B are subject to JBA 2nd class pressure vessel regulation. ※ KSF2700C ～ 31800B are built to order. ※ Replacement period is not guaranteed. In addition, some parts may require replacement sooner depending on the specific operating environment or operating conditions of the unit. ※ **Legs on the KSF2700C, 3200C and 4000C are optional.** ※ As the construction of the Final Filter is different, it is not compliant with ISO14644-1 (F.S.209D) air purity class standard.

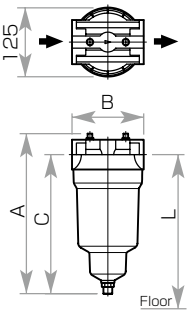
2 Super Filter
DSF/LSF/MSF/KSF

□ External Dimensions

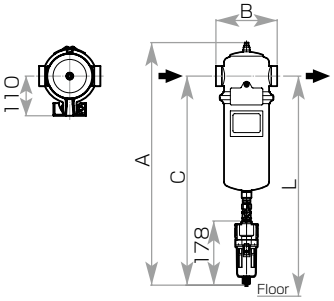
● □SF75
● □SF150



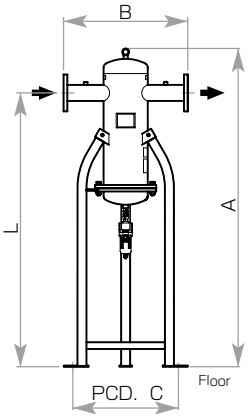
● □SF200
● □SF250



● □SF400 / 404 / 500 / 700 / 850
● □SF1000 / 1005 / 1200 / 1300
1700 / 2000



● □SF2700 / 3200 / 4000
※ When mounted on optional legs.
(Part Number 02101762010)
● □SF5000 / 6000 / 7700
● □SF10300 / 12900
● □SF15500 / 20700 / 31800



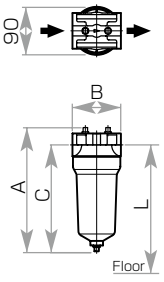
External Dimensions (Units:mm)

DSF LSF	MSF-D	A	B	C	L	Piping Connection Size B · A
75B	75D	237	92	205	300 min	Rc 3/8 · 10
150B	150D					Rc 3/4 · 20
200B	200D	290.5	130	253	370 min	
250B	250D				400 min	Rc 1 · 25
400-1	400D	536	160	452	550 min	
404	404D	557	170	466		Rc 11/2 · 40
500	500D	588		495	680 min	
700-1	700D	618		526.5	710 min	
850	850D	673		580	770 min	
1000-1	1000D	726		634.5	920 min	
1005	1005D	747	173	649		2 · 50
1200	1200D	799		700	1060 min	
1300-1	1300D	819		721	1080 min	
1700 ※	1700D	913		814	1180 min	
2000-1 ※	2000D	976		878	1400 min	
2700C	2700D	(1511)	590	575	1300	2 1/2 · 65
3200C	3200D					3 · 80
4000C	4000D					
5000B	5000D	(1735)	640	630	1500	4 · 100
6000B	6000D					
7700B	7700D	(1757)	680	682		5 · 125
10300B	10300D	(1992)	790	810	1700	6 · 150
12900B	12900D	(2102)	970	987	1800	
15500B	15500D	(2142)	1010	1038		8 · 200
20700B	20700D	(2252)	1060	1089	1900	
31800B	31800D	(2391)	1100	1140	2000	10 · 250

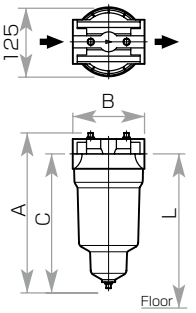
※ LSF models only.

□ External Dimensions

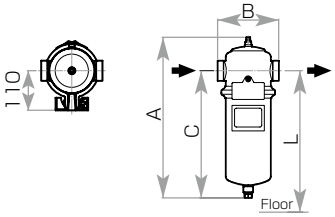
● KSF150B



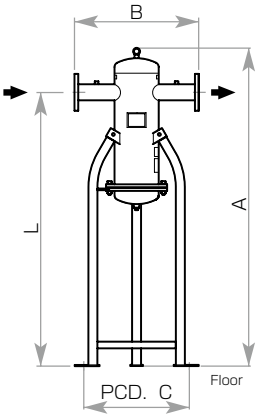
● KSF200B
● KSF250B



● KSF400/404/500/700/850/
1000/1005
● KSF1200/1300/1700/2000



● KSF2700C/3200C/4000C
※ When mounted on optional legs.
(Part Number 02101762010)
● KSF5000B/6000B/7700B
● KSF10300B/12900B
● KSF15500B/20700B/31800B



External Dimensions (Units:mm)

KSF	A	B	C	L	Piping Connection Size B · A
150B	232	92	199	300 min.	Rc 3/4 · 20
200B	281.5	130	244	370 min.	
250B				400 min.	Rc 1 · 25
400	307.5	160	224	550 min.	
404	327	170	235		Rc 11/2 · 40
500	362		269	680 min.	
700	389.5		298.5	710 min.	
850	447		354	770 min.	
1000	497.5		406.5	920 min.	
1005	515	173	417		2 · 50
1200	573		474	1060 min.	
1300	590.5		493	1080 min.	
1700	687		588	1180 min.	
2000	747.5		650	1400 min.	
2700C	(1511)	590	575	1300	2 1/2 · 65
3200C					3 · 80
4000C					
5000B	(1735)	640	630	1500	4 · 100
6000B					
7700B	(1757)	680	682		5 · 125
10300B	(1992)	790	810	1700	6 · 150
12900B	(2102)	970	987	1800	
15500B	(2142)	1010	1038		8 · 200
20700B	(2252)	1060	1089	1900	
31800B	(2391)	1100	1140	2000	10 · 250

2 Choosing the Right Super Filter

☐ Air quality will differ depending on the type of contaminants present at the filter inlet. System construction of a clear air line may be required depending on the suitable combination of components. (If the type of contaminant present at the inlet changes, the change on the outlet side will be proportional.)

Please make your system line filter choice based on the table below.

Performance Specification Chart

Remaining Oil Content \ Particulate Size	0.01μm	1μm	5μm
0.01mg/m³ (0.01wt ppm) 0.6mg/m³ (0.5wt ppm)	Super Mist Filter MSF-D シリーズ		
1mg/m³ (0.83wt ppm)			
5mg/m³ (4.2wt ppm)			
–		Super Line Filter LSF Series	Super Drain Filter DSF Series

※ Regarding remaining oil content, please confirm the inlet conditions of the filter in question.

Making the right model choice

Choose a model that allows plenty of leeway in capacity.

(Common with DSF, LSF, MSF, and KSF models)

$$\text{Air processing capacity} \geqq \frac{\text{Desired capacity}}{\text{Pressure correction coefficient}}$$

■ Pressure Correction Coefficient (inlet pressure)

Pressure (MPa)	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.57
Pressure Correction Coefficient	0.38	0.49	0.62	0.75	0.87	1.0	1.06	1.12	1.17	1.23	1.28	1.32	1.37	1.41	1.46

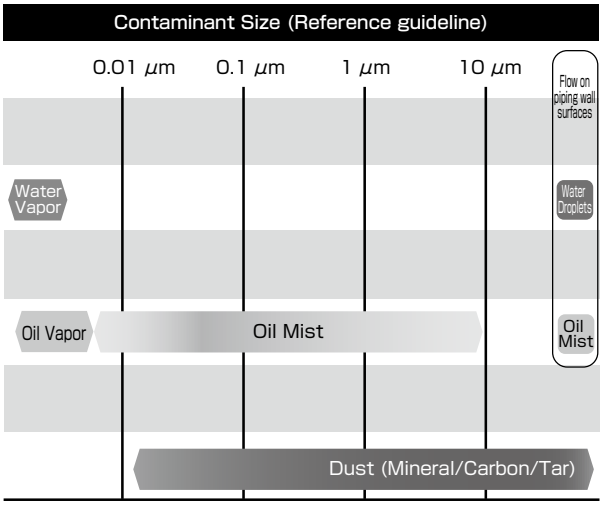
Super Filter Operating Ranges

Item			DSF	LSF	MSF	KSF
Operating Range	Pressure [MPa]	75～250	0.05～1.57			
		400～2000	0.1～1.0			0.05～1.0
		2700～7700	0.20～1.0	0.1～1.0		0.05～1.0
		10300	0.20～1.0			0.05～1.0
		12900～31800	0.29～1.0	0.20～1.0		0.05～1.0
	Pressure Fluctuation [MPa/min]		0.34 or lower			
	Inlet Air Temperature [℃]		5～60			
	Inlet Air Pressure Dew Point [℃]		–		10 or lower	
	Inlet Air Oil Concentration [wt ppm]		–	3 or lower		0.01 or lower
Filter Element Replacement Period※	Differential Pressure [MPa]		0.02	0.07		–
	Maximum Operating Period		1 year			

※ The filter element replacement period will depend on operating conditions and is not a warranted value. ※ Cannot be operated under reverse pressure. There will not be a large pressure loss. The filter element can be deteriorated even if there is no differential pressure, and should be replaced after one year at the latest.

Air Compressor Classification and Discharged Contaminant Type Table (General guideline)

Air Compressor		①Lubricated Reciprocal Pump	②Lubricated Screw Pump	③Oil Free (Screw and turbo types, etc.)
Typical Compression Method		 Air compression from reciprocating movement of a piston	 Compression from the movement of 2 rotating rotors	 Generic name of models that don't use lubrication. Includes models where the compression method uses water, etc., instead of lubricating oil.
Type of Contaminant	Dust	Tar	Little	Minerals, Carbon
	Oil	Liquid Oil Oil Mist Oil Vapor	Liquid Oil Oil Mist Oil Vapor	Little (Substances contained in the intake air)
	Water	Liquid Water (Water droplets) and Moisture		
Air Characteristics		High discharge temperature and a variety of contaminant types due to the use of high viscosity lubrication	There are a variety of contaminants, however there is some collection of lubrication, so there is little dust.	Since these don't operating with lubricating oil, most of the contaminants are dust.



2 Super Filter

Manufacturer Options and Accessories (Sold separately)

☐ Super Filter, Clean Air Filter Optional Equipment Part Number Nomenclature

Part numbers for optional equipment have 6 digits. Please refer to the following chart to confirm the proper part number when making orders.

Product number ——— Part Number of Optional Equipment ———

MSF400D + [1st Digit] [2nd Digit] [3rd Digit] [4th Digit] [5th Digit] [6th Digit]

1st Digit	2nd Digit	3rd Digit	4th Digit	5th Digit	6th Digit
0 · Standard	0 · Standard	0 · Standard	0 · Standard	0 · Standard	0 · Standard
	1 · Includes differential pressure gauge	1 · Rated for outdoor use	1 · Export packaging	1 · Anchor bolt A	1 · Test manual included
	2 · Includes indicator	2 · Custom color	2 · Includes Inspection Certificate	2 · Anchor bolt B	2 · Test results chart included
	3 · Includes differential pressure gauge · Includes indicator	3 · Anti-rust treated		3 · Anchor bolt C	3 · Photo
	4 · Incl. Optional Legs	4 · Rated for outdoor use · Custom color	4 · Export packaging · Includes Inspection Certificate	4 · Anchor bolt D	4 · Test manual included · Test results chart included
	5 · Incl. Optional Legs · Incl. Differential Pressure Gauge	5 · Rated for outdoor use · Anti-rust treated	5	5 · Anchor bolt E	5 · Test manual included · Photo
	6 · Incl. Optional Legs · Incl. Indicator	6 · Custom color · Anti-rust treated	6 · English documentation · Includes Inspection Certificate	6 · Anchor bolt F	6 · Test results chart included · Photo
	7 · Incl. Optional Legs · Incl. Differential Pressure Gauge · Incl. Indicator	7 · Rated for outdoor use · Custom color · Anti-rust treated	7 · English documentation · Export packaging		7 · Test manual included · Test results chart included · Photo
			8 · English documentation		

☐ Manufacturer Option Details and Compatible Models

Optional Item	Description	Compatible Models
Includes Differential Pressure Gauge	· Differential pressure gauge is included. (Customer installation required.)	LSF · KSF · DSF (all models) All MSF models except for MSF200D, 250D. All models of medium-pressure filters (Includes MFH)
Outdoor Operation Spec ※	· Life-Indicator removed. Includes differential pressure gauge.	MSF400D ～ 2000D
	· Special Leg Coating, SUS Bolts	All 2700 ～ 31800 models Life Indicator changed to Differential Pressure Gauge on MSF models only.
Custom Colors (We don't coat to custom user-specified thicknesses.)	· Please specify Munsell No., or JPMA (Japan Paint Manufacturers Association) No. (Attach color sample.)	All 2700 ～ 31800 models (Legs only)
Degreasing Processing	· Alcohol wipe-down of body and inside-housing · Flange Gasket: Teflon	(All models)
Packaging for Export	· Packaged in plywood (Plywood sided)	(All models)
Inspection Certificate Included	· Body and Housing Inspection	All models excluding 75 ～ 250 and medium pressure filters.
English Specifications	· Machine Plates, English Operation Manual	(All models)
Anchor Bolts A	· SS grade stainless steel L-type	All 2700 ～ 31800 models.
Anchor Bolts B	· SS grade stainless steel Hole-In Anchor	
Anchor Bolts C	· SS grade stainless steel, Chemical Anchor	
Anchor Bolts D	· SS grade stainless steel L-Type	
Anchor Bolts E	· SUS grade stainless steel Hole-In Anchor	
Anchor Bolts F	· SUS grade stainless steel, Chemical Anchor	
Inspection Manual	· Document Produced by ORION.	All Models (Process photographs not included.)
Test Results Chart	· Document Produced by ORION.	
Photograph	· Photos of finished equipment (of designated views of the equipment)	
Element Life Indicator	· Element Life Indicator Factory Installed	Models 400 ～ 31800 excluding MSF models. (DSF2000 not equipped.), excluding medium pressure filters.
Optional Legs	· Legs require on-site installation.	DSF · LSF · MSF · KSF2700 ～ 4000

※ Can be used outdoors as is under the standard specifications. (DSF400-1 ～ 1300-1、LSF400-1 ～ 2000-1、KSF400 ～ 2000)

☐ List of Anchor Bolt

Model ＼ Type	L Type	Hole-in	Chemical
DSF · LSF · MSF · KSF 2700 ～ 31800	M16 × L200 3 pcs.	M16 × L120 3 pcs.	M16 × L160 3 pcs.

□ Accessories (Sold separately)

■ DG-50(A)/DG-50(B)/DG-50(D)
Differential pressure display range: 0～0.15 MPa

Features

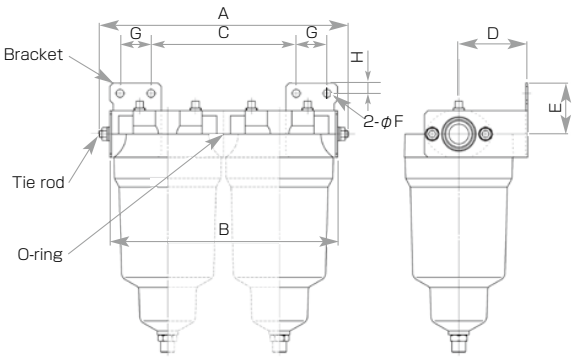
Measures the difference in pressure between a filter's inlet and outlet in a single gauge.

□ Specifications

Item		Model	DG-50（A）	DG-50（B）	DG-50（D）
Maximum Operating Pressure (Gauge Pressure)		MPa	1.0	1.6	1.0
Differential Pressure Display Range (Gauge Pressure)		MPa	0～0.15		
Connection			R1/4		
Outside Dimensions (Outside Diameter x Depth)		mm	φ70×43		
Mass		kg	0.5		
Included Parts	Nylon Tubing		O.D.: φ4 mm × L1000 mm		
	Straight Coupler		R1/4×φ4 mm (for tubing)		
	Elbow Coupler		R1/4×φ4 (for tubing)		M5×φ4 (for tubing)
Applicable Model	LSF- MSF- KSF- DSF-		2700,3200,4000, 5000,6000,7700, 10300,12900,15500, 20700,31800	75 150 200 250 ※ 75 not on KSF models.	400,404,500,700,850,1000, 1005,1200,1300,1700,2000 ※ 1700,2000-1 not on DSF models.
	LFH MFH KFH DFH		—	600,900,1400,1900,2900	—
Part Number			03A30984010	03A30985010	0A000338010

※ When ordering, please specify the model name. ※ Please contact us for guaranteed performance specifications.

■ Bracket set · Tie rod set
（75～250, Medium Pressure Spec 600）



Set Details

Bracket Set Contents	Tie Rod Set Contents	Tie rods (2 pcs) Hex nuts (4 pcs) Flat washers (4 pcs) Spring washers (4 pcs) O-ring (1 pc per filter unit)
	Brackets (2 pcs), assembly guide	

※ The bracket set includes the tie rod set.

● External Dimension (Units:mm)

※ The following part numbers are for the Blanket Set. (The Blanket Set contains the Tie-Rod Set.)

Model	Filter Units	Part Number	A	B	C	D	E	F	G	H
75 150	1	03101363010	120	97	27	60.5	51.5	7.2	25	10
	2	03101363020	210	189	119					
	3	03101363030	305	281	211					
200 250 600	1	03101373010	160	135	39	80	59	9.2	36	12
	2	03101373020	290	265	169					
	3	03101373030	420	395	299					

□ Others

■ Element Life Indicator

Indicator Lamp That Tells When Filter Element Needs Replacing
Super Filter
Comes standard on models MSF400D and above
(Does not work with models 250D and below.)
Available as Special Specifications on models
LSF/KSF/DSF400-1 and above.
(Does not work with models 250B and below.)

Judging when to change filters has become more difficult due to the evolution in air compressors and the fact that oil from them is in the form of mist. ORION has started a new era in element management with a suggested replacement time of Approx. 8000h.

Element Life Indicator