

HIGH EFFICIENCY
AIR FILTER SERIES

MEDIUM HIGH EFFICIENCY AIR FILTER SERIES

MIRACEL

MIRACEL S

MIRAKLEEN

MIRAKLEEN MH

MIRAVEE WIDE

MIRADEEP III

MIRADEEP BORSA

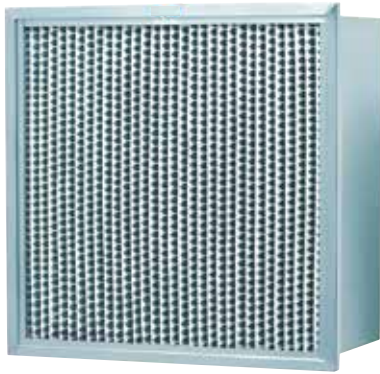
MEDIUM HIGH EFFICIENCY AIR FILTER SERIES

Summary

Medium high efficiency filters remove medium and fine particles from the air stream. More than just filtering the air, these filters too when used rightly will increase the usage lifespan of ULPA/HEPA (Final) filters. Without them, bigger particles would have choked up ULPA/HEPA (Final) filters and increasing frequency of filter replacement which is costly .Medium high efficiency filters play an important role in many industries & applications, starting from general commercial building, medical facilities, various industry, research buildings, art gallery, museums, etc.

Product Category

Performance	Construction	Features	Product Name	Product Introduction	Page
Medium High Efficiency	Separator		MiraCel	<ul style="list-style-type: none"> • Best as HEPA filter pre-treatment 	4, 5
		Salt Damage Prevention	MiraCel S	<ul style="list-style-type: none"> • Salt damage prevention filter using double layer media • High water repellent media, which traps dust and sea salt particles too 	6, 7
	Mini Pleats		MiraKleen	<ul style="list-style-type: none"> • Compact design • Space saving 	8
			MiraKleen MH		9
	V-Bank	Longlife Low Resistance	MiraVee Wide	<ul style="list-style-type: none"> • Low pressure resistance • Mini Pleats with V-Bank 	10
	Pocket Fiber Glass		MiraDeep III	<ul style="list-style-type: none"> • Long life, high dust holding capacity • Low pressure lost realization from new sewing technology 	11
	Synthetic Pocket		MiraDeep Borsa		12



Standard Type Medium High Efficiency Filter

MiraCel

MiraCel Flange Type

- Aluminium separator to maintain media structure
- Best as HEPA filter pretreatment

• Specification

Nominal Size W×H×D (in)	Outer Dimension W×H×D (mm)	Air Flow (m ³ /min)	Weight (kg)	Average Efficiency (%)	Pressure Resistance (Pa)	
					Initial	Final
24x24x12	594x594x292	56	7.4	F8 90-95% MERV 14	145	375
12x24x12	289x594x292	28	4.5			
20x24x12	492x594x292	46	5.5			
24x24x6	594x594x150	28	3.8		108	350
12x24x6	289x594x150	14	2.3			
20x24x6	492x594x150	23	2.8			
24x24x12	594x594x292	56	6.9	F7 80-85% MERV 13	127	375
12x24x12	289x594x292	28	4.3			
20x24x12	492x594x292	46	5.3			
24x24x6	594x594x150	28	3.5		78	350
12x24x6	289x594x150	14	2.2			
20x24x6	492x594x150	23	2.7			
24x24x12	594x594x292	56	6.9	F6 60-65% MERV 11	108	375
12x24x12	289x594x292	28	4.3			
20x24x12	492x594x292	46	5.3			
24x24x6	594x594x150	28	3.5		59	350
12x24x6	289x594x150	14	2.2			
20x24x6	492x594x150	23	2.7			

Measurement method : JIS B 9908 FORM 2 (Colorimetric Method) ASHRAE 52.1 & 52.2 EN 779 Inflammability : JACA No.11A Class 3 Other than standard dimension please discuss

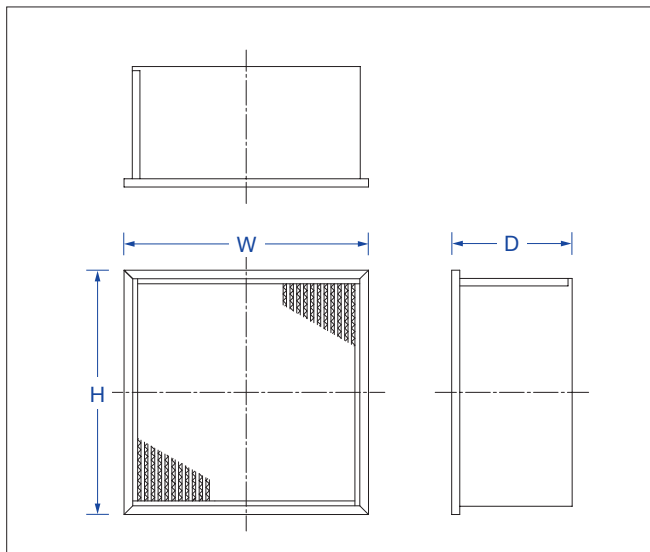
• Operating Condition

Usage Temperature Limit (Continuous)	60°C
Usage Humidity Limit (Continuous)	95%RH

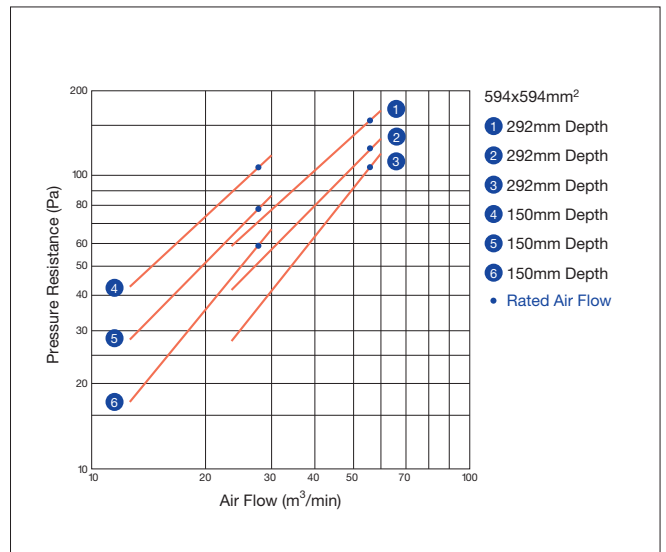
• Material

Cellside	G.I.
Media	Glass Fibre
Separator	Aluminium
Sealant	Polyurethane

• Outer Dimension Diagram



• Air Capacity vs Initial Pressure Resistance



Specification, appearance and content are subject to change without prior notice.

Standard Type Medium High Efficiency Filter



MiraCel Box Type

- Aluminium separator to maintain media structure
- Best as HEPA filter pretreatment

• Specification

Nominal Size W×H×D (in)	Outer Dimension W×H×D (mm)	Air Flow (m ³ /min)	Weight (kg)	Average Efficiency (%)	Pressure Resistance (Pa)	
					Initial	Final
24x24x12	610x610x292	56	8.1	F8 90-95% MERV 14	145	375
12x24x12	305x610x292	28	4.9			
20x24x12	500x610x292	46	6.2			
24x24x6	610x610x150	28	4.7		78	350
12x24x6	305x610x150	14	2.8			
20x24x6	500x610x150	23	3.6			
24x24x12	610x610x292	56	7.8	F7 80-85% MERV 13	127	375
12x24x12	305x610x292	28	4.7			
20x24x12	500x610x292	46	6.0			
24x24x6	610x610x150	28	4.5		59	350
12x24x6	305x610x150	14	2.7			
20x24x6	500x610x150	23	3.5			
24x24x12	610x610x292	56	7.8	F6 60-65% MERV 11	108	375
12x24x12	305x610x292	28	4.7			
20x24x12	500x610x292	46	6.0			
24x24x6	610x610x150	28	4.5		29	350
12x24x6	305x610x150	14	2.7			
20x24x6	500x610x150	23	3.4			

Measuring method : JIS B 9908 FORM 2 (Colorimetric Method) ASHRAE 52.1 & 52.2 EN779
 Inflammability : JACA No.11A Class 3 Outer dimension are dimension without gasket Other than standard dimension please discuss

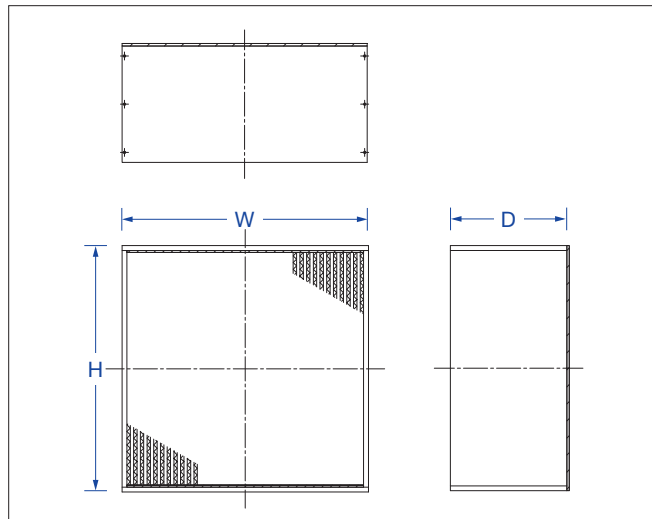
• Operating Condition

Usage Temperature Limit (Continuous)	60°C
Usage Humidity Limit (Continuous)	95%RH

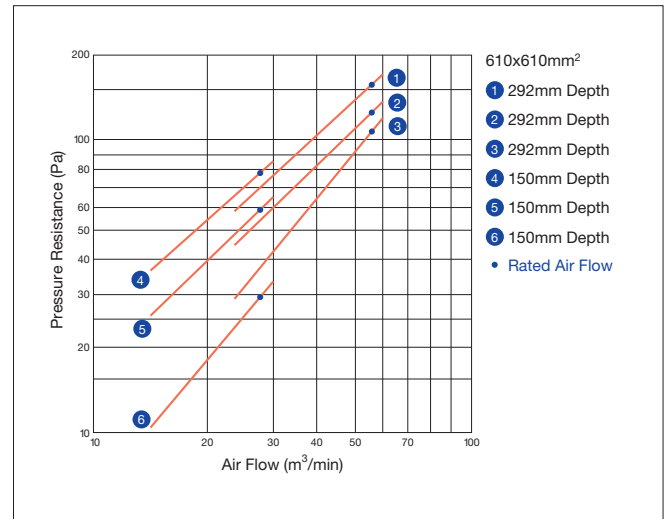
• Material

Cellside	Plywood, Galvalume, MDF, Stainless, Aluminium, Fire Retardant Plywood
Media	Glass Fibre
Separator	Aluminium
Sealant	Polyurethane
Gasket	Neoprene

• Outer Dimension Diagram (Plywood Frame)



• Air Capacity vs Initial Pressure Resistance



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Salt Damage Prevention Type Medium High Efficiency Filter **MiraCel**

MiraCel S Flange Type



- Double layer media for salt damage prevention filter
- High water repellent media, which traps dust and sea salt particles too
- Best at general air conditioning and industrial air intake to remove sea salt particles

• Specification

Nominal Size W×H×D (in)	Outer Dimension W×H×D (mm)	Air Flow (m³/min)	Weight (kg)	Average Efficiency (%)	Pressure Resistance (Pa)	
					Initial	Final
24x24x12	594x594x292	56	8.2	F8 90-95% MERV 14	196	392
12x24x12	289x594x292	28	4.9			
20x24x12	492x594x292	46	6.1			
24x24x6	594x594x150	28	4.1		137	294
12x24x6	289x594x150	14	2.5			
20x24x6	492x594x150	23	3.1			
24x24x12	594x594x292	56	7.5	F7 80-85% MERV 13	167	294
12x24x12	289x594x292	28	4.6			
20x24x12	492x594x292	46	5.8			
24x24x6	594x594x150	28	3.8		108	245
12x24x6	289x594x150	14	2.3			
20x24x6	492x594x150	23	2.9			
24x24x12	594x594x292	56	7.5	F6 60-65% MERV 11	118	294
12x24x12	289x594x292	28	4.6			
20x24x12	492x594x292	46	5.8			
24x24x6	594x594x150	28	3.8		88	245
12x24x6	289x594x150	14	2.3			
20x24x6	492x594x150	23	2.9			

Measurement method : JIS B 9908 FORM 2 (Colorimetric Method) ASHRAE 52.1 & 52.2 EN779 Inflammability : JACA No.11A Class 3 Other than standard dimension please discuss

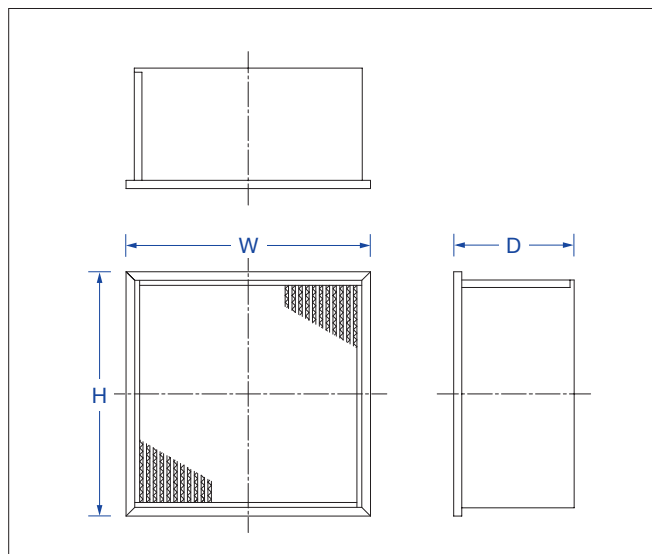
• Operating Condition

Usage Temperature Limit (Continuous)	60°C
Usage Humidity Limit (Continuous)	95%RH

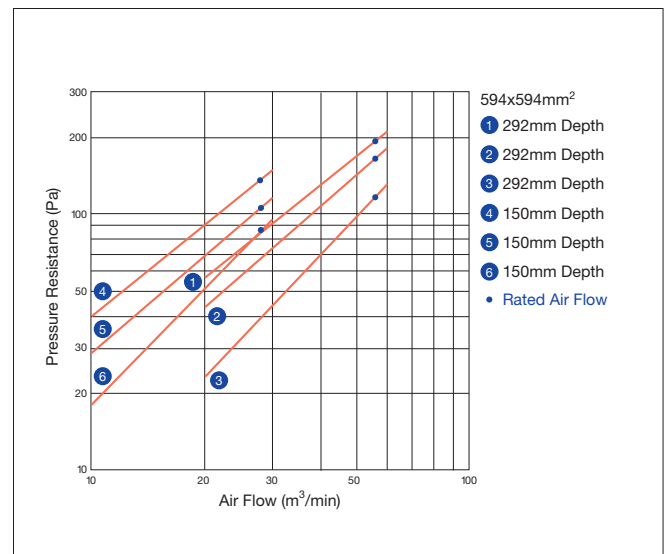
• Material

Cellside	G.I.
Media	Glass Fibre
Separator	Aluminium
Sealant	Polyurethane

• Outer Dimension Diagram



• Air Capacity vs Initial Pressure Resistance



Specification, appearance and content are subject to change without prior notice.



Salt Damage Prevention Type Middle High Efficiency Filter

MiraCel

MiraCel S Box Type

- Double layer media for salt damage prevention filter
- High water repellent media, which traps dust and sea salt particles too
- Best at general air conditioning and industrial air intake to remove sea salt

• Specification

Nominal Size W×H×D (in)	Outer Dimension W×H×D (mm)	Air Flow (m ³ /min)	Weight (kg)	Average Efficiency (%)	Pressure Resistance (Pa)	
					Initial	Final
24x24x12	610×610×292	56	8.7	F8 90-95% MERV 14	196	392
12x24x12	305×610×292	28	5.1			
20x24x12	500×610×292	46	6.7			
24x24x6	610×610×150	28	5.0		137	294
12x24x6	305×610×150	14	2.9			
20x24x6	500×610×150	23	3.8			
24x24x12	610×610×292	56	8.3	F7 80-85% MERV 13	167	294
12x24x12	305×610×292	28	5.0			
20x24x12	500×610×292	46	6.4			
24x24x6	610×610×150	28	4.8		108	245
12x24x6	305×610×150	14	2.8			
20x24x6	500×610×150	23	3.7			
24x24x12	610×610×292	56	8.3	F6 60-65% MERV 11	118	294
12x24x12	305×610×292	28	5.0			
20x24x12	500×610×292	46	6.4			
24x24x6	610×610×150	28	4.8		88	245
12x24x6	305×610×150	14	2.8			
20x24x6	500×610×150	23	3.7			

Measuring method : JIS B 9908 FORM 2 (Colorimetric Method) ASHRAE 52.1 & 52.2 EN779
 Inflammability : JACA No.11A Class 3 Outer dimension are dimension without gasket Other than standard dimension please discuss

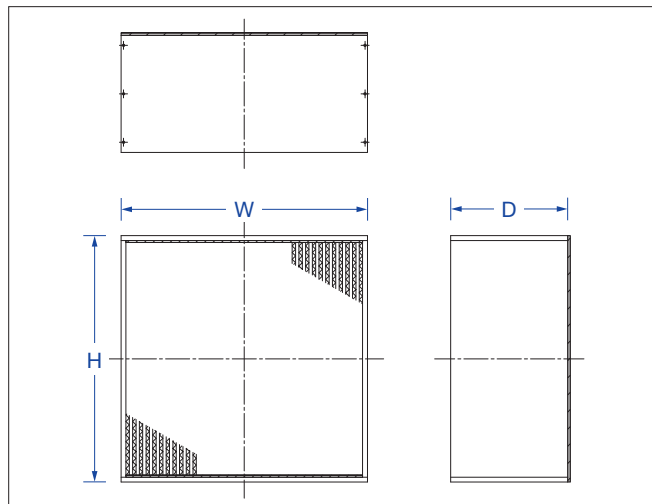
• Operating Condition

Usage Temperature Limit (Continuous)	60°C
Usage Humidity Limit (Continuous)	95%RH

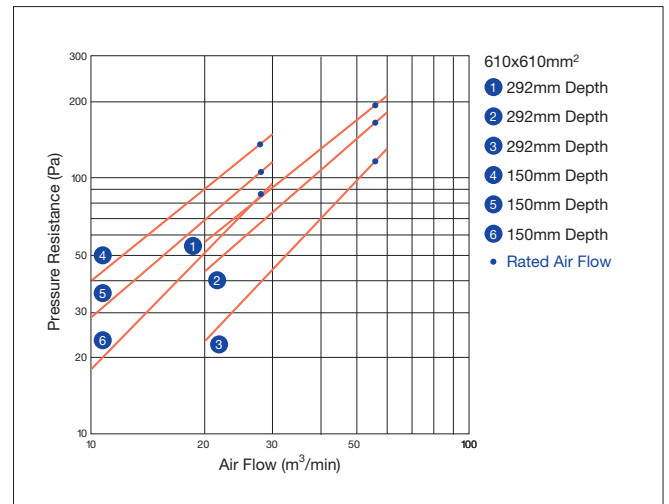
• Material

Cellside	Plywood, Galvalume, MDF, Stainless, Aluminium, Fire Retardant Plywood
Media	Glass Fibre
Separator	Aluminium
Sealant	Polyurethane
Gasket	Neoprene

• Outer Dimension Diagram (Plywood Frame)



• Air Capacity vs Initial Pressure Resistance



Specification, appearance and content are subject to change without prior notice.



Mini-Pleat Type Medium High Efficiency Filter

MiraKleen

MiraKleen

- Thin, light weight compact type
- Best as HEPA filter pretreatment

• Specification

Nominal Size W×H×D (in)	Outer Dimension W×H×D (mm)	Air Flow (m ³ /min)	Average Efficiency (%)	Pressure Resistance (Pa)	
				Initial	Final
12x24x4	289x594x95	28	F8 90-95% MERV 14	170	375
20x24x4	492x594x95	46			
24x24x4	594x594x95	56			
12x24x4	289x594x95	28	F7 80-85% MERV 13	150	
20x24x4	492x594x95	46			
24x24x4	594x594x95	56			
12x24x4	289x594x95	28	F6 60-65% MERV 11	105	
20x24x4	492x594x95	46			
24x24x4	594x594x95	56			

Measurement method : JIS B 9908 FORM 2 (Colorimetric Method) ASHRAE 52.1 & 52.2 EN779 Inflammability : JACA No.11A Class 3
 All outer dimension are dimension with out gasket There are also filter with 30mm, 50mm thickness Please discuss for other dimension

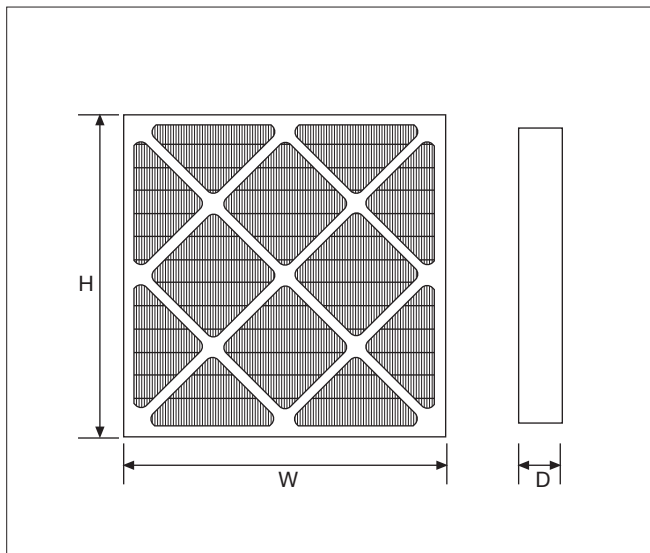
• Operating Condition

Usage Temperature Limit (Continuous)	60°C
Usage Humidity Limit (Continuous)	95%RH

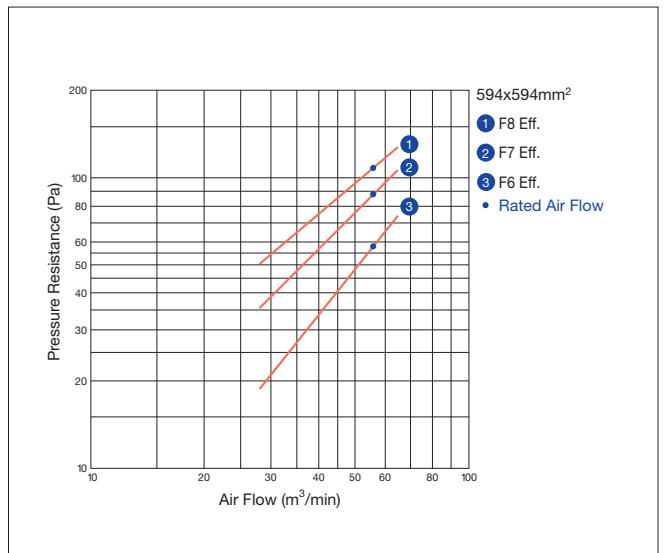
• Material

Cellside	Beverage Board, G.I
Media	Glass Fibre
Separator	Hot Melt
Sealant	Glue

• Outer Dimension Diagram



• Air Capacity vs Initial Pressure Resistance



Specification, appearance and content are subject to change without prior notice.



Mini-Pleat Type Medium High Efficiency Filter

MiraKleen

MiraKleen MH

- Thin, light weight compact type
- Best as HEPA filter pretreatment

• Specification

Nominal Size W×H×D (in)	Outer Dimension W×H×D (mm)	Air Flow (m ³ /min)	Average Efficiency (%)	Pressure Resistance (Pa)	
				Initial	Final
12x24x4	289x594x95	28	F8 90-95% MERV 14	170	375
20x24x4	492x594x95	46			
24x24x4	594x594x95	56			
12x24x4	289x594x95	28	F7 80-85% MERV 13	150	
20x24x4	492x594x95	46			
24x24x4	594x594x95	56			
12x24x4	289x594x95	28	F6 60-65% MERV 11	105	
20x24x4	492x594x95	46			
24x24x4	594x594x95	56			

Measurement method : JIS B 9908 FORM 2 (Colorimetric Method) ASHRAE 52.1 & 52.2 EN779 Inflammability : JACA No.11A Class 3
 All outer dimension are dimension with out gasket There are also filter with 30mm, 50mm thickness Please discuss for other dimension

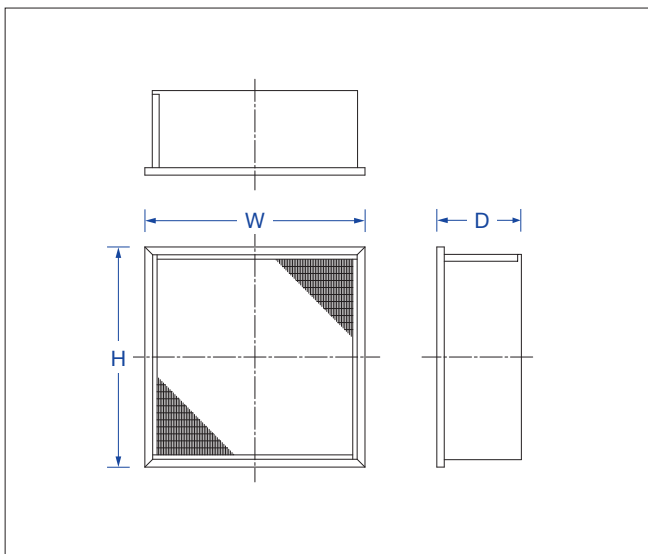
• Operating Condition

Usage Temperature Limit (Continuous)	60°C
Usage Humidity Limit (Continuous)	95%RH

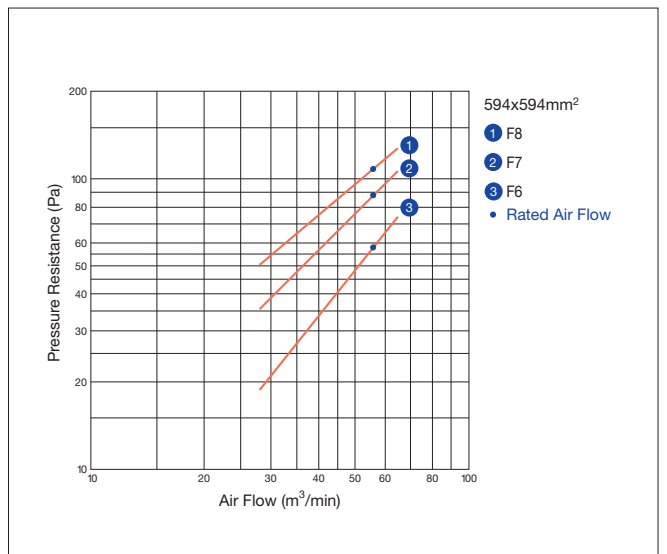
• Material

Cellside	G.I
Media	Fibre Glass
Sepacer	Hot Melt
Sealant	Glue

• Outer Dimension Diagram



• Air Capacity vs Initial Pressure Resistance



Specification, appearance and content are subject to change without prior notice.



MiraVee Wide

- Mini pleated media arranged in V-shape increasing media area widely hence long life
- High air capacity

• Specification

Nominal Size W×H×D (in)	Outer Dimension W×H×D (mm)	Air Flow (m³/min)	Weight (kg)	Average Efficiency (%)	Pressure Resistance (Pa)	
					Initial	Final
24x12x12	592x287x292	28	5.0	F9	145	350
24x24x12	592x592x292	56	8.5	>95% MERV15	125	
24x12x12	592x287x292	28	5.0	F8		
24x24x12	592x592x292	56	8.5	90-95% MERV14	110	
24x12x12	592x287x292	28	5.0	F7	95	
24x24x12	592x592x292	56	8.5	80-85% MERV13		
24x12x12	592x287x292	28	5.0	F6		
24x24x12	592x592x292	56	8.5	60-65% MERV11		

Measuring method : JIS B 9908 FORM 2 (calculation method) ASHRAE 52.1 & 52.2 EN779
 Outer dimensions are measured without gasket. Please discuss for other dimension than standard.

• Operating Condition

Usage Temperature (Continuous)	60°C
Usage Humidity Limit (Continuous)	100%RH (no dew condensation)

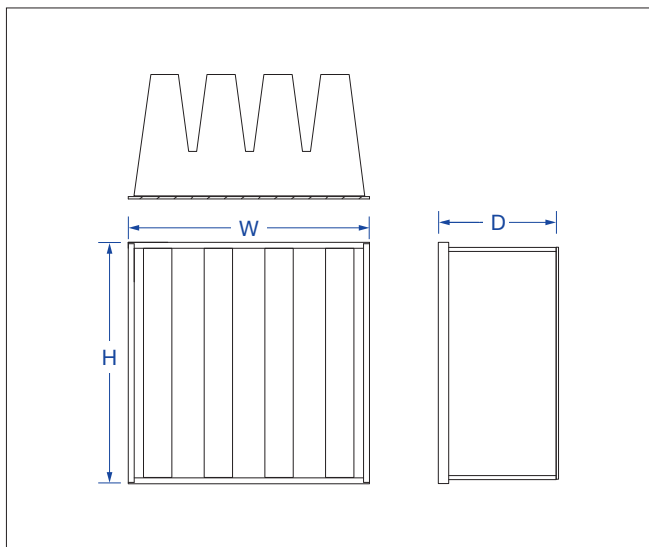
Please discuss for high temperature.

• Material

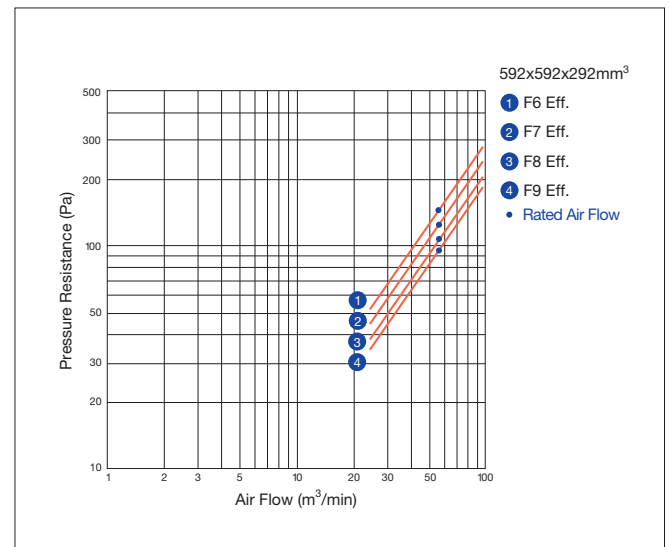
Cellside	ABS
Media	Glass Fiber
Separator	Hot Melt
Sealant	Polyurethane
Gasket	Neoprene

Standard position for gasket is upstream.

• Outer Dimension Diagram (ABS Frame)

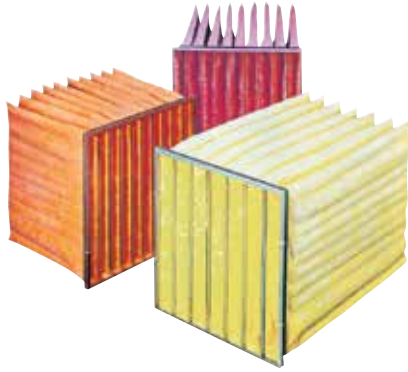


• Air Capacity vs Initial Pressure Resistance

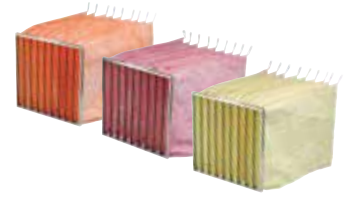


Bag Type High Performance Filter

MiraDeep III



- Long life, high dust holding capacity
- Low pressure resistance using new stitching technology



• Specification

Nominal Size W×H×D (in)	Outer Dimension W×H×D (mm)	No. of Pockets	Air Flow (m ³ /min)	Weight (kg)	Average Efficiency (%)	Pressure Resistance (Pa)	
						Initial	Final
24x24x36	594x594x920	6	56	2.3	F8 90-95% MERV 14	118	245
12x24x36	289x594x920	3	28	1.3		118	
24x24x20	594x594x514	8	56	2.2		167	294
12x24x20	289x594x514	4	28	1.3		167	
24x24x36	594x594x920	6	56	2.3	F7 80-85% MERV 13	78	245
12x24x36	289x594x920	3	28	1.3		78	
24x24x20	594x594x514	8	56	2.2		118	
12x24x20	289x594x514	4	28	1.3		118	
24x24x36	594x594x920	6	56	2.3	F6 60-65% MERV 11	59	245
12x24x36	289x594x920	3	28	1.3		59	
24x24x20	594x594x514	8	56	2.2		78	
12x24x20	289x594x514	4	28	1.3		78	

Measurement method : JIS B 9908 FORM 2 (Colorimetric Method) ASHRAE 52.1 & 52.2 EN779 Inflammability : JACA No.11A Class 3

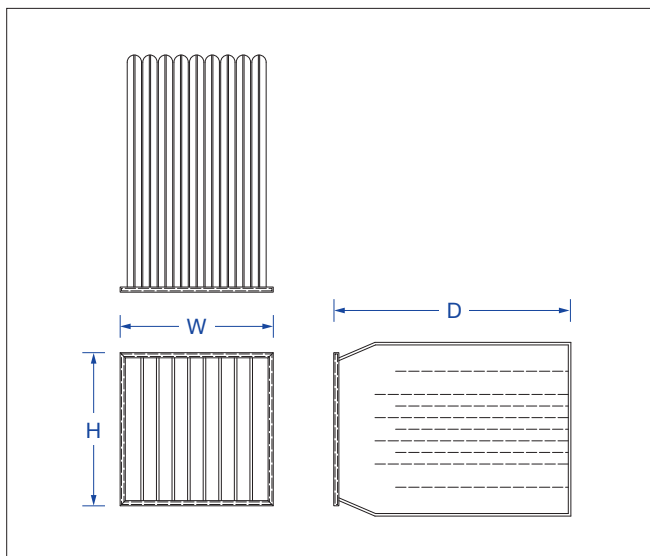
• Operating Condition

Usage Temperature Limit (Continuous)	60°C
Usage Humidity Limit (Continuous)	95%RH

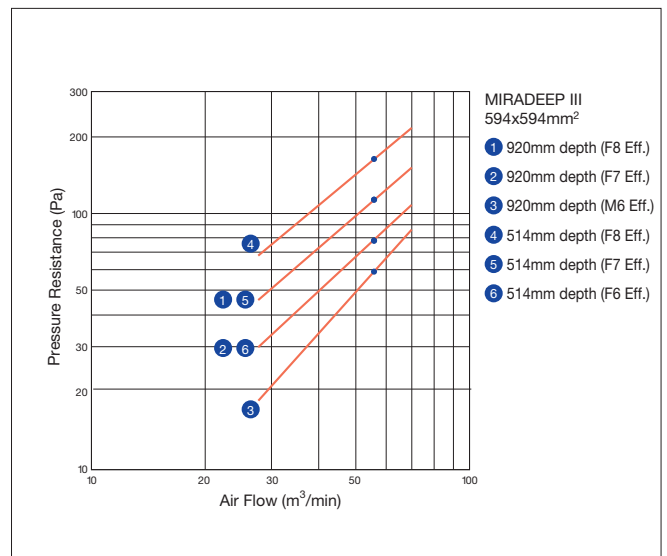
• Material

Header	G.I.
Media	Glass Fibre

• Outer Dimension Diagram



• Air Capacity vs Initial Pressure Resistance



Specification, appearance and content are subject to change without prior notice.



Bag Type Medium High Performance Filter

MiraDeep Borsa

- Long life, high dust holding capacity
- Aerodynamically designed pocket configuration
- Synthetic fibre glass

• Specification

Nominal Size W×H×D (in)	Actual Size W×H×D (mm)	No. of Pockets	Rated Air Flow (m3/min)	Rated Initial Resistance (Pa)			Final Resistance (Pa)
				F6 60 - 65% MERV 11	F7 80 - 85% MERV 13	F8 90 - 95% MERV 14	
24x24x36	594x594x900	10	56	70	75	85	300
24x24x36	594x594x900	8	56	53	60	65	
24x24x36	594x594x900	6	56	55	65	73	
12x24x36	289x594x900	4	28	53	60	65	
12x24x36	289x594x900	3	28	55	65	73	
24x24x30	594x594x750	10	56	53	70	88	
24x24x30	594x594x750	8	56	55	68	80	
24x24x30	594x594x750	6	56	65	75	90	
12x24x30	289x594x750	5	28	65	70	88	
12x24x30	289x594x750	4	28	65	68	80	
12x24x30	289x594x750	3	28	60	75	90	
24x24x21	594x594x530	10	56	73	110	125	
24x24x21	594x594x530	8	56	63	88	120	
24x24x21	594x594x530	6	56	70	100	125	
12x24x21	289x594x530	5	28	73	85	125	
12x24x21	289x594x530	4	28	63	88	120	
12x24x21	289x594x530	3	28	63	88	120	
24x24x15	594x594x380	6	56	80	105	145	
12x24x15	289x594x380	3	28	80	105	145	

Measurement method : JIS B 9908 FORM 2 (Colorimetric Method) ASHRAE 52.1 & 52.2 EN779

Inflammability : JACA No.11A Class 3

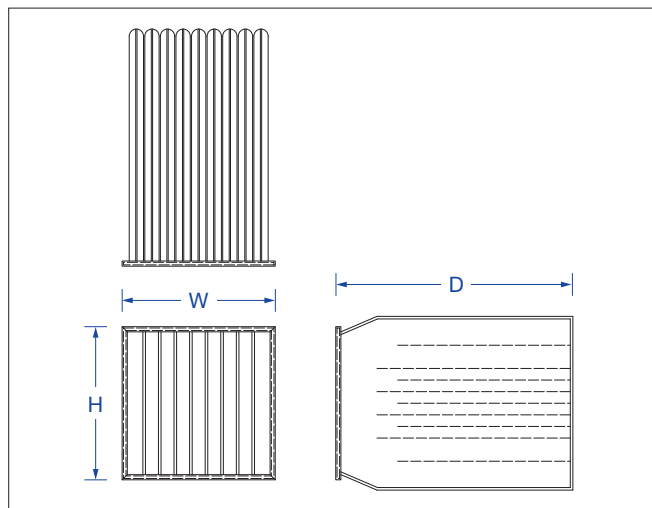
• Operating Condition

Usage Temperature Limit (Continuous)	60°C
Usage Humidity Limit (Continuous)	95%RH

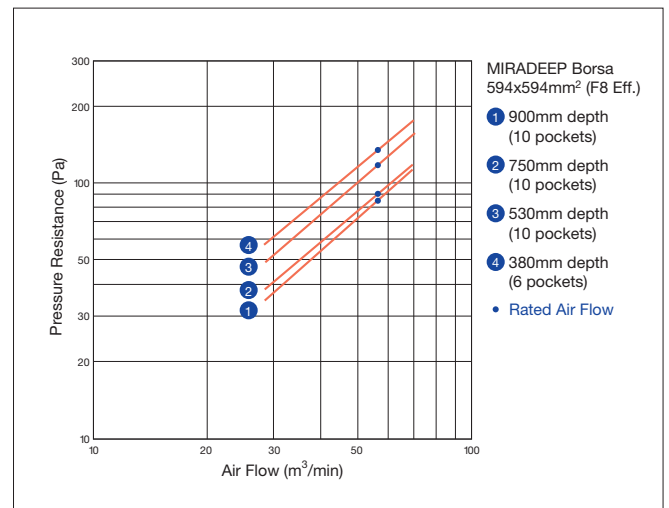
• Material

Header	G.I
Media	Synthetic Fiber

• Outer Dimension Diagram



• Air Capacity vs Initial Pressure Resistance



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