



EN AIR FILTER

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AIR FILTER

ULPA FILTER

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HEPA FILTER

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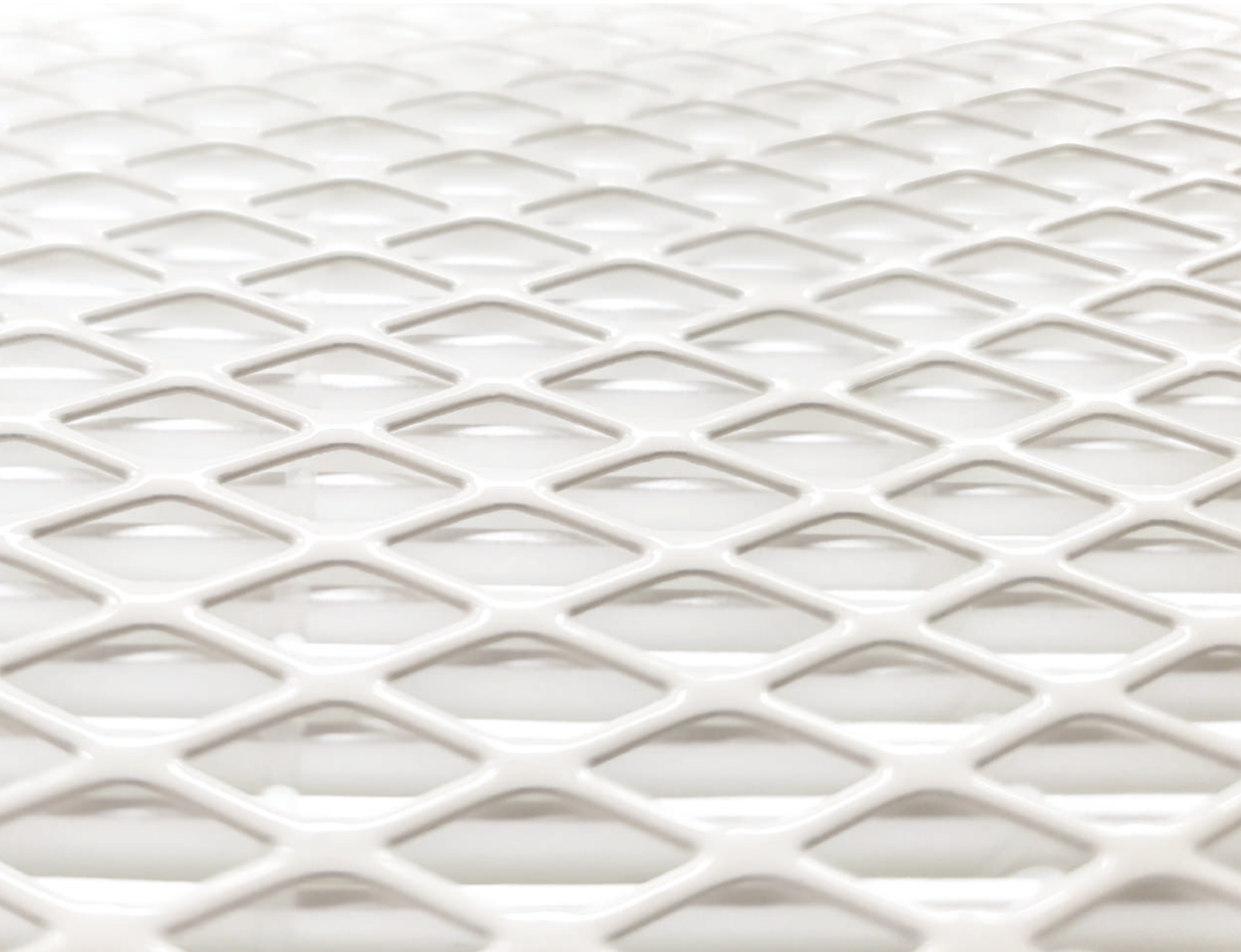
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ULPA FILTER


MINI PLEAT

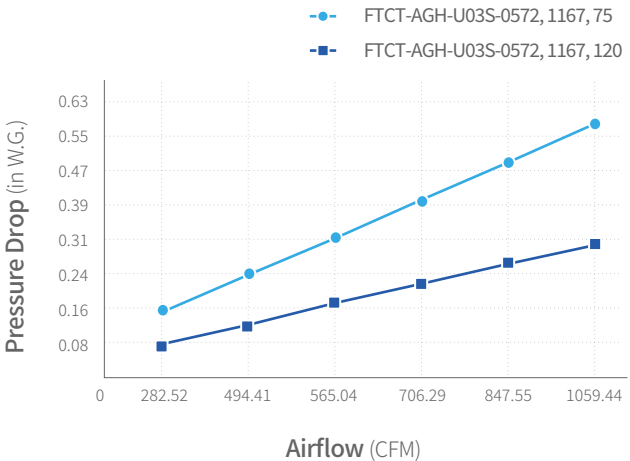


KLARING is the brand name of CLEAN & SCIENCE Co., Ltd. products.

KLARING ULPA FILTER MINI PLEAT

This filter provides a collection efficiency of over 99.9995% at 0.1 μm, and is designed for manufacturing processes requiring high cleanliness levels such as semiconductors, LCD, and pharmaceutical industries. It is also applicable to cleanrooms of Class 100 or lower, as well as FFU systems.

COMPONENT	SPECIFICATION
Media	Glass Fiber
Frame	Aluminum / Stainless Steel
Separator	Aluminum / Kraft-Paper
Sealant	Poly-Urethane
Gasket	Neoprene / EPDM
Max. Temperature	80°C
Max. Humidity	100% RH



Category	Size H×W×D (inch)	Airflow (CFM)	Pressure Drop (in W.G.)	Efficiency (%)
FTCT-AGH-U03S-0610, 0305	12×12×2.9/4.7	105.9 / 176.5	0.41 / 0.53	≥ 99.9995
FTCT-AGH-U03S-0305, 0305	24×12×2.9/4.7	247.2 / 459	0.41 / 0.53	≥ 99.9995
FTCT-AGH-U03S-0610, 0610	24×24×2.9/4.7	600.3 / 1059.4	0.41 / 0.53	≥ 99.9995
FTCT-AGH-U03S-0610, 0762	24×30×2.9/4.7	741.6 / 1341.9	0.41 / 0.53	≥ 99.9995
FTCT-AGH-U03S-0610, 0915	24×36×2.9/4.7	918.1 / 1624.8	0.41 / 0.53	≥ 99.9995
FTCT-AGH-U03S-0610, 1220	24×48×2.9/4.7	1341.9 / 2189.5	0.41 / 0.53	≥ 99.9995
FTCT-AGH-U03S-0572, 1167	22.5×45.9×2.9/4.7	1130 / 2083.5	0.41 / 0.53	≥ 99.9995
FTCT-AGH-U03S-0572, 0572	22.5×22.5×2.9/4.7	529.7 / 988.8	0.41 / 0.53	≥ 99.9995

ULPA FILTER



PTFE MINI PLEAT

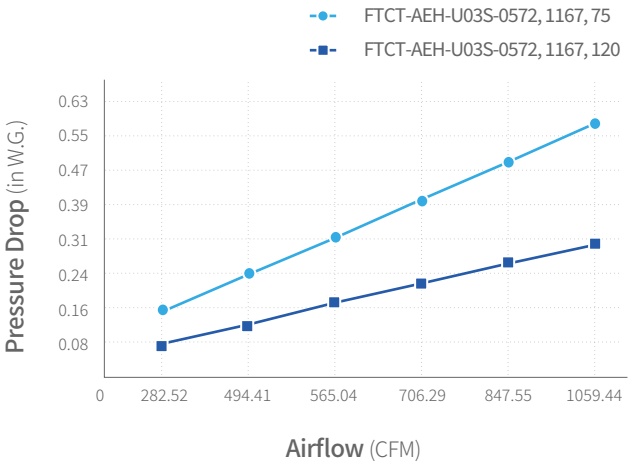


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KLARING ULPA FILTER PTFE MINI PLEAT

This filter provides a collection efficiency of over 99.9995% at 0.1 µm and is used in manufacturing processes that require high cleanliness levels, such as semiconductor, LCD, and pharmaceutical production. It is also suitable for cleanrooms of Class 100 or lower, as well as FFU systems.

COMPONENT	SPECIFICATION
Media	PTFE (Polytetrafluoroethylene)
Frame	Aluminum / Stainless Steel
Separator	—
Sealant	Poly-Urethane
Gasket	Neoprene / EPDM
Max. Temperature	80°C
Max. Humidity	100% RH



Category	Size H×W×D (inch)	Airflow (CFM)	Pressure Drop (in W.G.)	Efficiency (%)
FTCT-AEH-U03S-0610, 0305	12×12×2.9/4.7	105.9 / 176.5	0.41 / 0.53	≥ 99.9995
FTCT-AEH-U03S-0305, 0305	24×12×2.9/4.7	247.2 / 459	0.41 / 0.53	≥ 99.9995
FTCT-AEH-U03S-0610, 0610	24×24×2.9/4.7	600.3 / 1059.4	0.41 / 0.53	≥ 99.9995
FTCT-AEH-U03S-0610, 0762	24×30×2.9/4.7	741.6 / 1341.9	0.41 / 0.53	≥ 99.9995
FTCT-AEH-U03S-0610, 0915	24×36×2.9/4.7	918.1 / 1624.8	0.41 / 0.53	≥ 99.9995
FTCT-AEH-U03S-0610, 1220	24×48×2.9/4.7	1341.9 / 2189.5	0.41 / 0.53	≥ 99.9995
FTCT-AEH-U03S-0572, 1167	22.5×45.9×2.9/4.7	1130 / 2083.5	0.41 / 0.53	≥ 99.9995
FTCT-AEH-U03S-0572, 0572	22.5×22.5×2.9/4.7	529.7 / 988.8	0.41 / 0.53	≥ 99.9995

HEPA FILTER

MINI PLEAT

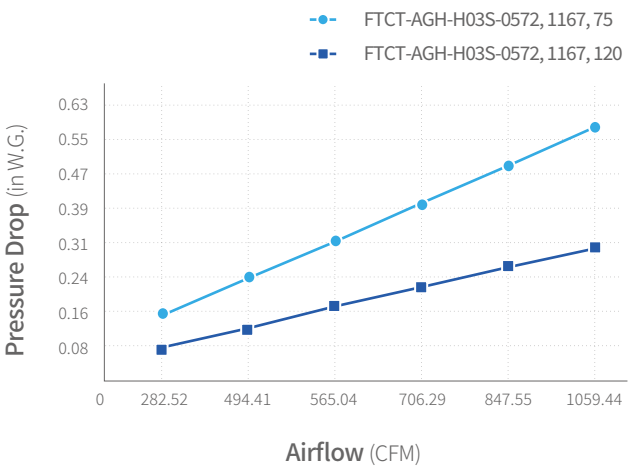


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KLARING HEPA FILTER MINI PLEAT

This filter provides a collection efficiency of over 99.97% at 0.3 µm and is used in manufacturing processes that require high cleanliness levels, such as semiconductor, LCD, and pharmaceutical production. It is also suitable for cleanrooms of Class 1,000 or lower, as well as FFU systems.

COMPONENT	SPECIFICATION
Media	Glass Fiber
Frame	Aluminum / Stainless Steel
Separator	Aluminum / Kraft-Paper
Sealant	Poly-Urethane
Gasket	Neoprene / EPDM
Max. Temperature	80°C
Max. Humidity	100% RH

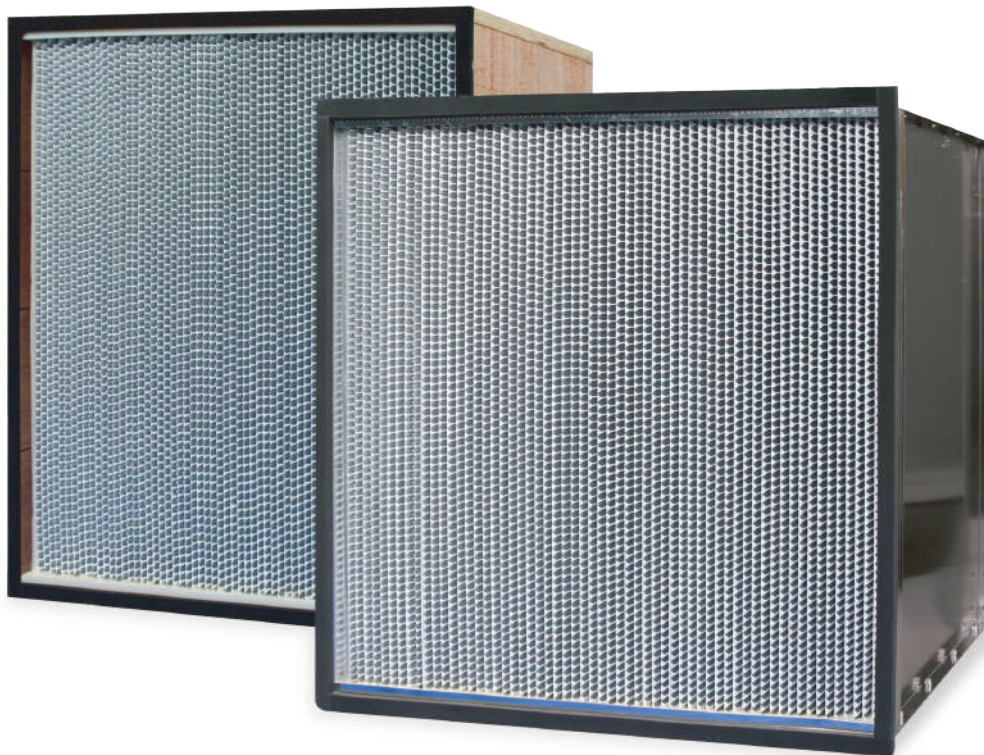


Category	Size H×W×D (inch)	Airflow (CFM)	Pressure Drop (in W.G.)	Efficiency (%)
FTCT-AGH-H03S-0610, 0305	12×12×2.9/4.7	105.9 / 176.5	0.41 / 0.53	≥ 99.97
FTCT-AGH-H03S-0305, 0305	24×12×2.9/4.7	247.2 / 459	0.41 / 0.53	≥ 99.97
FTCT-AGH-H03S-0610, 0610	24×24×2.9/4.7	600.3 / 1059.4	0.41 / 0.53	≥ 99.97
FTCT-AGH-H03S-0610, 0762	24×30×2.9/4.7	741.6 / 1341.9	0.41 / 0.53	≥ 99.97
FTCT-AGH-H03S-0610, 0915	24×36×2.9/4.7	918.1 / 1624.8	0.41 / 0.53	≥ 99.97
FTCT-AGH-H03S-0610, 1220	24×48×2.9/4.7	1341.9 / 2189.5	0.41 / 0.53	≥ 99.97
FTCT-AGH-H03S-0572, 1167	22×45×2.9/4.7	1130 / 2083.5	0.41 / 0.53	≥ 99.97
FTCT-AGH-H03S-0572, 0572	22.5×22.5×2.9/4.7	529.7 / 988.8	0.41 / 0.53	≥ 99.97

HEPA FILTER



SEPARATOR

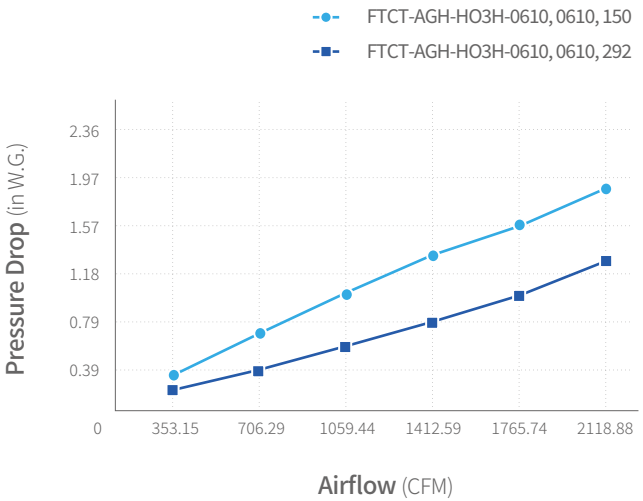


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KLARING HEPA FILTER SEPARATOR

This filter provides a collection efficiency of over 99.97% at 0.3 μm and is used in manufacturing processes such as semiconductor, LCD, and pharmaceutical production.

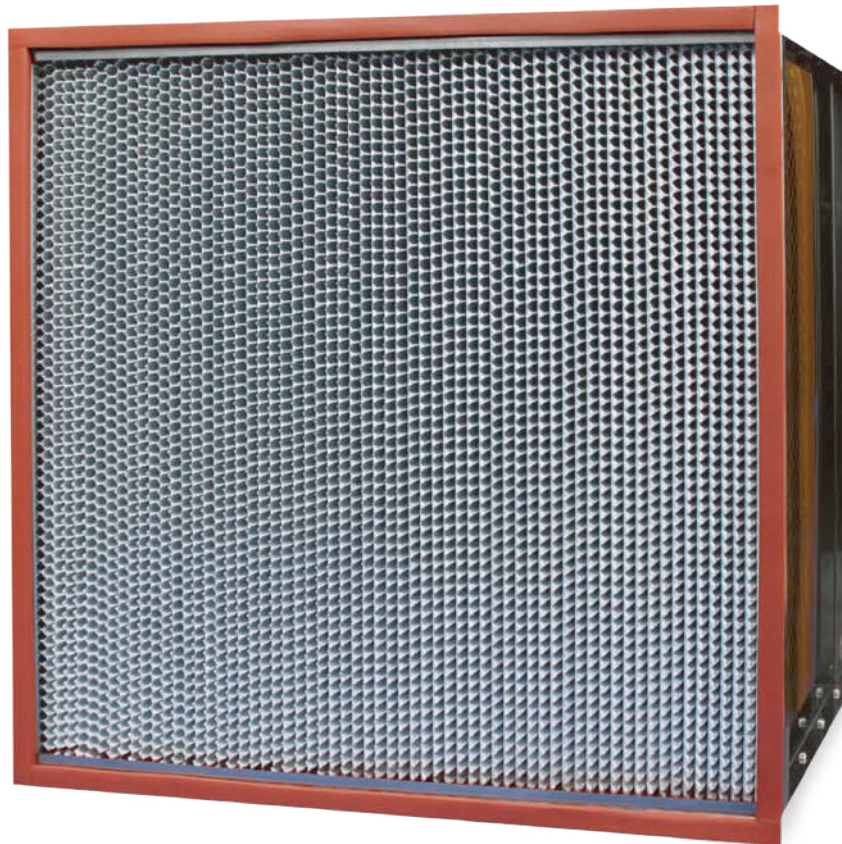
COMPONENT	SPECIFICATION
Media	Glass Fiber / Melt Blown
Frame	Aluminum / Plywood / Stainless Steel
Separator	Aluminum / Kraft-Paper
Sealant	Poly-Urethane
Gasket	Neoprene / EPDM
Max. Temperature	80°C
Max. Humidity	100% RH



Category	Size H×W×D (inch)	Airflow (CFM)	Pressure Drop (in W.G.)	Efficiency (%)
FTCT-AGH-H03H-0305, 0305, 150 / 292	12×12×5.9/11.5	211.8 / 423.7	1	≥ 99.97
FTCT-AGH-H03H-0610, 0305, 150 / 292	24×12×5.9/11.5	494.4 / 847.5	1	≥ 99.97
FTCT-AGH-H03H-0610, 0610, 150 / 292	24×24×5.9/11.5	988.8 / 1765.7	1	≥ 99.97
FTCT-AGH-H03H-0610, 0762, 150 / 292	24×30×5.9/11.5	1236 / 2224.8	1	≥ 99.97
FTCT-AGH-H03H-0610, 0915, 150 / 292	24×36×5.9/11.5	1483.6 / 2683.9	1	≥ 99.97
FTCT-AGH-H03H-0610, 1220, 150 / 292	24×48×5.9/11.5	2012.9 / 3531.4	1	≥ 99.97

HEPA FILTER


HIGH TEMP

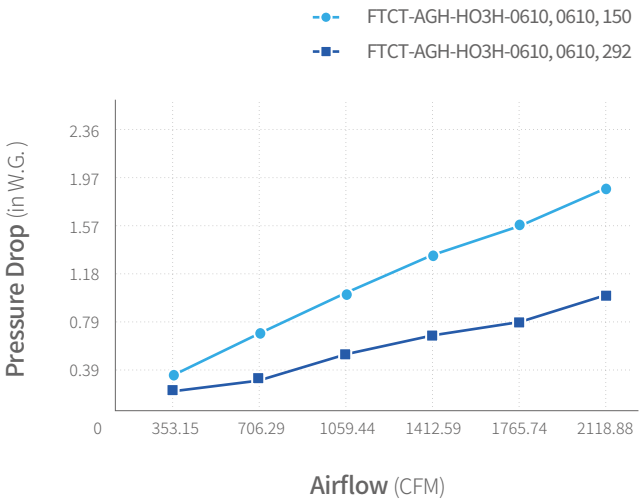


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KLARING HEPA FILTER HIGH TEMP

This filter is used in high-temperature sterilization and drying processes in industries such as semiconductor and pharmaceutical manufacturing. It is designed with silicone, allowing stable operation at temperatures up to 250 °C.

COMPONENT	SPECIFICATION
Media	Glass Fiber
Frame	Stainless Steel
Separator	Aluminum
Sealant	Silicone / Ceramic
Gasket	Silicone
Max. Temperature	250°C
Max. Humidity	100% RH



Category	Size H×W×D (inch)	Airflow (CFM)	Pressure Drop (in W.G.)	Efficiency (%)
FTCT-AGH-H03S-0305, 0305, 150 / 292	12×12×5.9/11.4	141.2 / 423.7	1	≥ 99.97
FTCT-AGH-H03S-0610, 0305, 150 / 292	24×12×5.9/11.4	282.5 / 529.7	1	≥ 99.97
FTCT-AGH-H03S-0610, 0610, 150 / 292	24×24×5.9/11.4	635.6 / 1130	1	≥ 99.97
FTCT-AGH-H03S-0610, 0762, 150 / 292	24×30×5.9/11.4	776.9 / 1412.5	1	≥ 99.97
FTCT-AGH-H03S-0610, 0915, 150 / 292	24×36×5.9/11.4	953.4 / 1695.7	1	≥ 99.97
FTCT-AGH-H03S-0610, 1220, 150 / 292	24×48×5.9/11.4	1377.2 / 2260.9	1	≥ 99.97

HEPA FILTER

DUALKLAR



BENEFIT

- Reduced operating costs through energy savings
- Extended replacement cycles due to longer service life

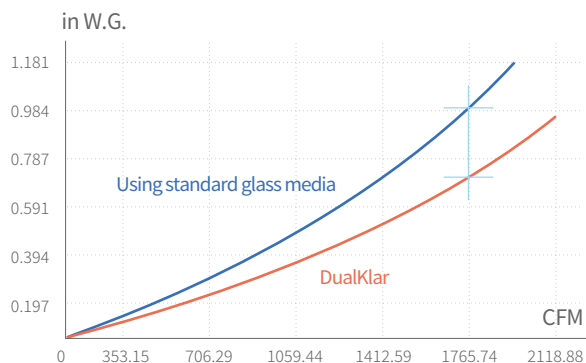
COMPONENT MATERIALS

Media	Glass Fiber + MB (Synthetic)
Frame	Aluminum
Separator	Aluminum
Gasket	Neoprene
Max Temp.	176 °F (80°C)
Max Humidity	100% RH

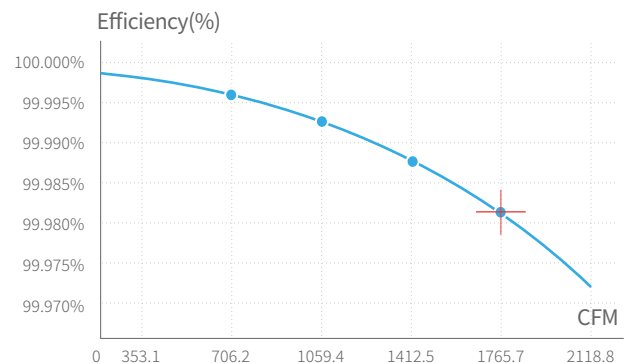
KLARING HEPA FILTER DUALKLAR

		Conventional HEPA Filter	DualKlar
Performance	Size	24 × 24 × 11.4 in	24 × 24 × 11.4 in
	Air Flow	1765.7 CFM	1765.7 CFM
	Initial Pressure	1.0 inW.G @ 1765.7 CFM	0.7 inW.G @ 1765.7 CFM ≤ 0.7 inW.G. (35.7% reduction)
	Efficiency	0.3 μm, 99.97%	0.3 μm, 99.97%
Materials	Media	Glass Fiber	Glass Fiber + Synthetic (MB)
	Frame	Aluminum	Aluminum
	Sealer	Urethane	Urethane
	Separator	Aluminum	Aluminum
	Type	Deep Pleat	Deep Pleat
Point	—	—	In-house media and filter manufacturing with C&S Technology, providing strong cost competitiveness

Airflow vs. Pressure Drop



Airflow vs. Efficiency



Energy Savings and Performance Analysis

Comparison Items	Standard Glass Fiber Filter	DualKlar	Improvement	Remarks
Pressure Drop (in W.G.)	1 (Design)	0.7	0.2	—
Airflow (CFM)	1765.7	1765.7	0	Reference Value
Power Consumption (KWH)	0.346	0.245	0.101	30% Reduction
Daily Electricity Usage (KWH)	8.30	5.90	2.4	24 Hours
Annual Electricity Usage (KWH)	2,988	2,118	870	30 Days × 12 Months
Annual Carbon Emissions (kgCO2)	225.9	160.1	65.9	30% Reduction

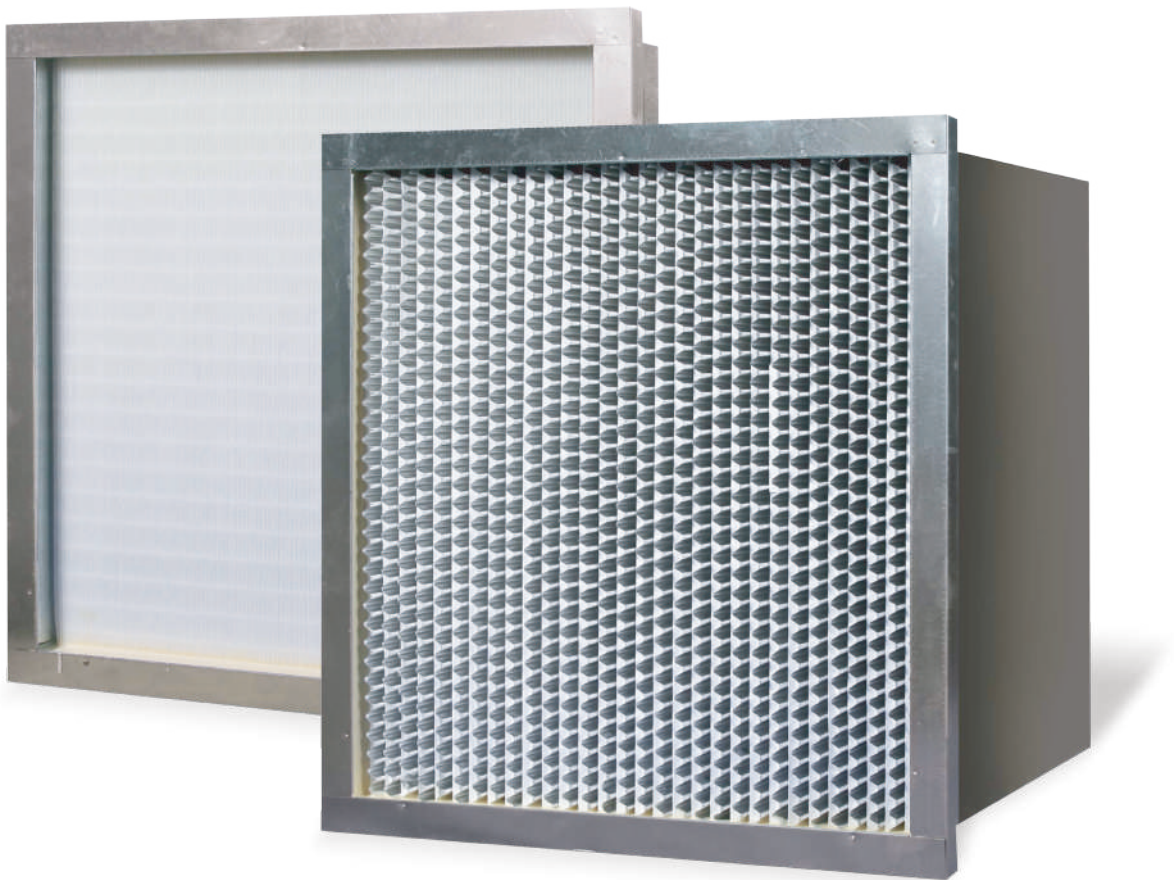
1) Carbon Reduction Calculation 1 KWH = 0.42 kg CO2

2) Power Consumption Formula: Power (kWh) = [Q (CFM) × H (in W.G.)] / [6120 × Efficiency (60% standard)]

MEDIUM FILTER



STANDARD



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KLARING MEDIUM FILTER STANDARD

Filters with dust-spot efficiencies of 65%, 85%, and 95% are available. They are offered in both Box Type and Flange Type configurations and can be used as pre-filters for HEPA filters.

COMPONENT	SPECIFICATION
Media	Glass Fiber / Melt Blown
Frame	Galvanized Steel / Aluminum / Plywood
Separator	Aluminum / Kraft-Paper / Hot-Melt
Sealant	Poly-Urethane / Hot-Melt
Gasket	Neoprene / EPDM
Max. Temperature	60°C
Max. Humidity	100% RH

Category	Size H×W×D (inch)	Airflow (CFM)	Pressure Drop (in W.G.)	Efficiency (%)
FTCT-GMHU-M12S-0289, 0289, 075 / 100	11.3×11.3×2.9/3.9	459	0.6	80 ~ 85
FTCT-GMHU-M12S-0289, 0289, 292	11.3×11.3×11.4	459	0.6	80 ~ 85
FTCT-GMHU-M12S-0594, 0289, 075 / 100	23.4×11.3×2.9/3.9	988.8	0.6	80 ~ 85
FTCT-GMHU-M12S-0594, 0289, 292	23.4×11.3×11.4	988.8	0.6	80 ~ 85
FTCT-GMHU-M12S-0594, 0594, 075 / 100	23.4×23.4×2.9/3.9	1977	0.6	80 ~ 85
FTCT-GMHU-M12S-0594, 0594, 292	23.4×23.4×11.4	1977	0.6	80 ~ 85

MEDIUM FILTER



WETKLAR



BENEFIT

- Reduced operating costs through energy savings
- Extended replacement cycles due to longer service life

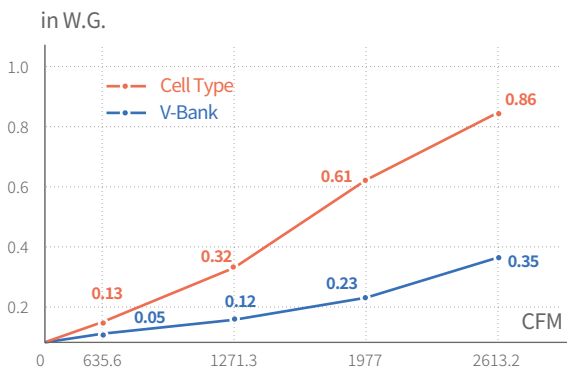
COMPONENT MATERIALS

Media	2 Layers-Synthetic Wet Laid+Synthetic(MB)
Frame	ABS
Separator	Hot-Melt
Gasket	Option (Neoprene)
Max Temp.	140 °F (60°C)
Max Humidity	100% RH

KLARING MEDIUM FILTER WETKLAR

		MEDIUM Filter (292T)	WetKlar (300T)
Performance	Size	23.3 × 23.3 × 11.4 in	23.3 × 23.3 × 11.8 in
	Air Flow	1977.6 CFM	1977.6 CFM
	Initial Pressure	0.5 in W.G. @ 1977.6 CFM	0.2 in W.G. @ 1977.6 CFM
	Efficiency	MERV 13 ~ 14	MERV 16
	DHC (ASHRAE Dust)	0.2 lb (Final: 1.3 in W.G.)	1.1 lb (Final: 1.2 in W.G.)
Materials	Media	Glass Fiber	Synthetic (Melt-Blown)
	Frame	Galvanized Steel	ABS
	Sealer	Urethane or Hot-Melt	Urethane
Point	—	—	In-house media and filter manufacturing with C&S Technology, providing strong cost competitiveness

Comparison: V-Bank vs. Cell Type



POINT

C&S’s wet-laid V-bank filter provides:

- 1. Initial pressure drop that is twice lower than that of conventional medium filters
- 2. Dust holding capacity (*DHC) approximately four times higher than standard medium filters

* DHC : Dust Holding Capacity

Energy Savings and Performance Analysis

Comparison Items	292t Glass Fiber Filter	WetKlar	Improvement	Remarks
Pressure Drop (in W.G.)	0.55	0.27	0.28	—
Airflow (CFM)	1977	1977	0	Reference Value
Power Consumption (KWH)	0.21	0.1	0.11	—
Daily Electricity Usage (KWH)	5.12	2.5	2.62	24 Hours
Annual Electricity Usage (KWH)	1,870	935	935	30 Days × 12 Months
Annual Carbon Emissions (kgCO2)	785	392	393	49% Reduction

1) Carbon Reduction Calculation 1 KWH = 0.42 kg CO2
2) Power Consumption Formula: Power (kWh) = [Q (CFM) × H (in W.G.)] / [6120 × Efficiency (60% standard)]

POWER PLANT

GAS TURBINE INTAKE



BENEFIT

- Longer service life with low initial pressure drop and high dust-holding capacity
- Energy savings achieved through reduced pressure drop
- Stable operation ensured by excellent humidity resistance

COMPONENT MATERIALS

Max Constant Temp.	158°F (70°C)
Recommended Final Pressure Drop	2.0" w.g.
Flammability	UL 900 Class 2
Relative Humidity	100 %

KLARING POWER PLANT GAS TURBINE INTAKE

This filter can be manufactured in various specifications and offers excellent initial performance, achieving MERV 15 filtration efficiency—one of the highest in the industry.

DESCRIPTION		
Materials	Media	Electric Melt-Blown Microfiber surface layer / Cellulose+Synthetic fiber
	Frame (Cap & Liner)	Stainless Steel, Galvanized Steel
	Separator	Polyolefin
	Sealant	Poly-Urethane
	Gasket	EPDM
	Pleat per inch	3 ~ 5 (A constant 25 mm pleat spacing enhances air-pulse cleaning efficiency and improves durability)

Key Features

① Low Initial Pressure Drop	② High Moisture Resistance
③ Healthy In-Plant Air	④ Improved pulse-cleaning performance extends filter service life ➡ Enhances overall dust collector performance
⑤ P.P casing provides excellent corrosion resistance	⑥ High burst strength ensures safe operation and easy handling
⑦ Long Life Time Large dust-holding capacity and a surface-loading structure allow superior dust release	⑧ Cost Saving Low pressure drop reduces energy consumption, while long service life lowers replacement costs



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