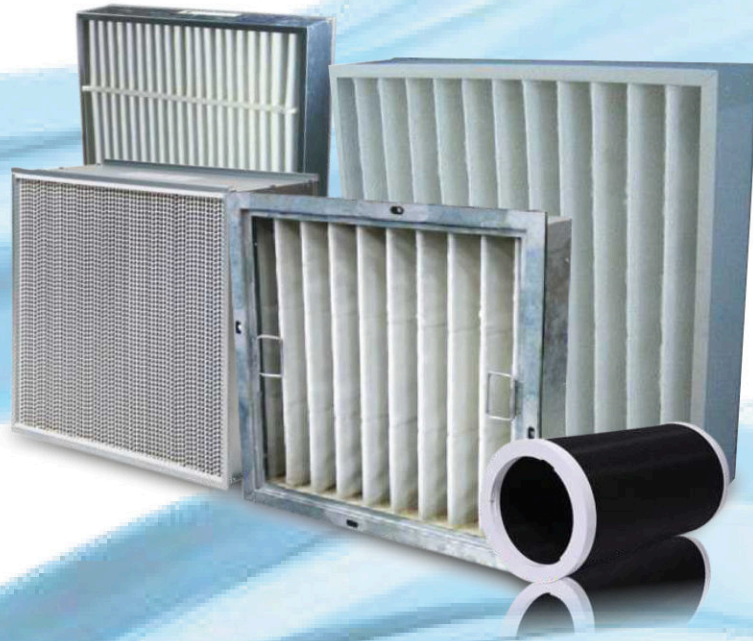


AIR FILTER



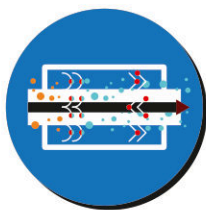
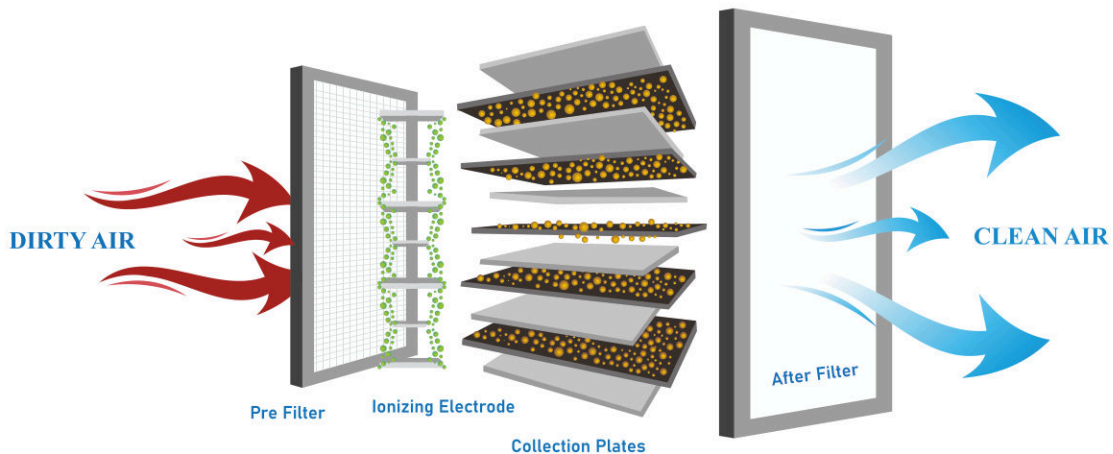
Quality Speaks For Itself

ESP FILTERS

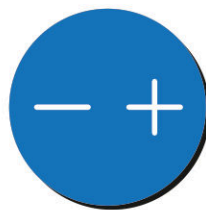
HUMIDIN designs, manufacture and offers an highly efficient, engineered solution for reduction in Dust, Soot, Smoke, Odour from the indoor and outdoor air through FALP which operates on the principle of electrostatic precipitation. It pulls the air through the return air duct into the FALP where the dust gets filtered before they are supplied or released into the occupied space.



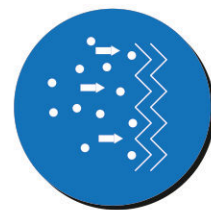
HOW IT WORKS



2. Stage ESP Filtration



Fine Sub particles are electrostatically charged



Charged Particles get attracted

The Technology is based on the principle of two stage electrostatic air Filtration. Fine sub - micron suspended particles are electrostatically charged using high voltage electric Field. These charged particles get attracted and precipitated on opposite charged electrode plates.

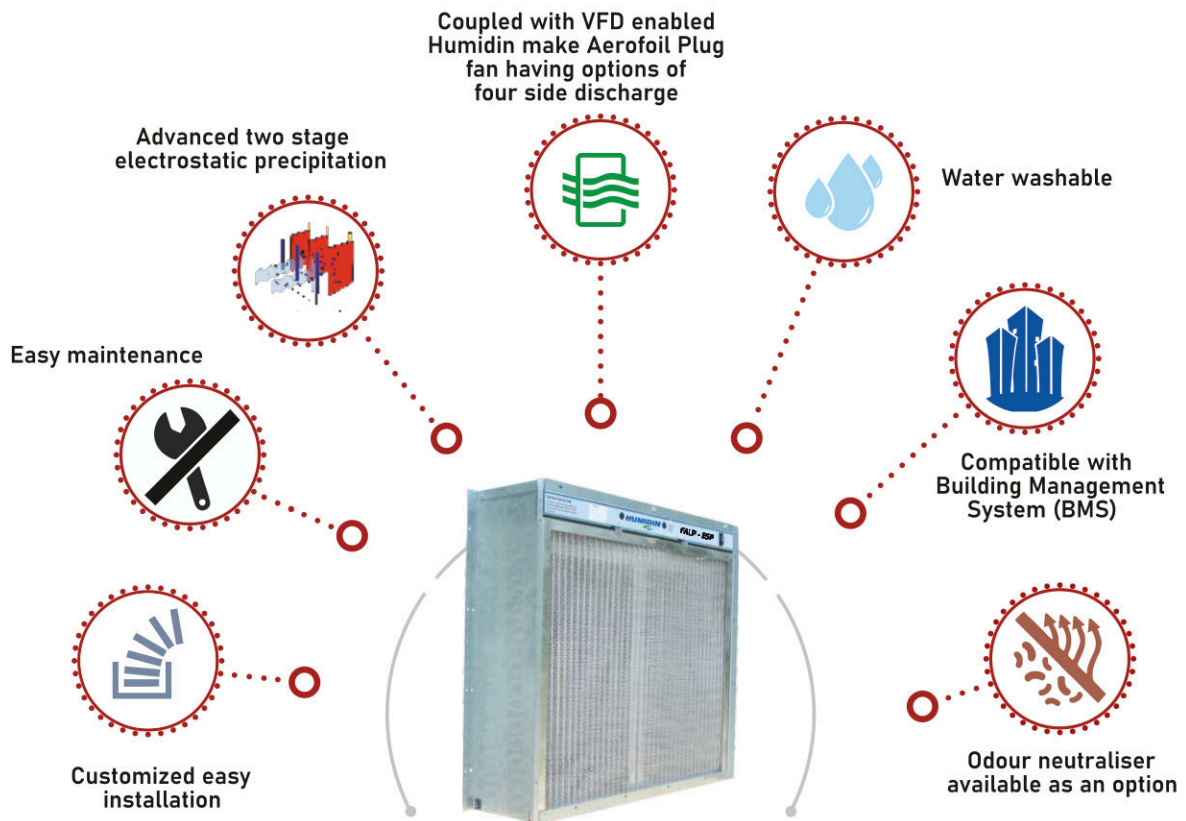
WHY ESP BASED " FALP MEDIA"

Filters ranging from F6 to F7 are the most widely used One Filters and has become an accepted standard of using these filters for air cleaning for building designs aimed at Green Rating world wide. The importance of F6 to F7 Filters bears to fact that, there is sufficient removal of PM2.5 and Pm10 particles which are crucial from human health standpoint.

PM2.5 and Pm10 are the particles with mean size of 2.5 microns and 10 microns respectively. While the larger particles will typically be trapped through the coarse built- in pre filter, one filter particles are so small and light , they tend to stay longer in the air than heavier particles. This increases the chances of humans and animals inhaling them into their bodies. Owing to their minute size, particles less than or equal to 10 micrometers in diameter can into the lung, potentially causing serious health problems.

These particles particles have been shown to have significant link with diseases of heart, lung and liver etc.

MAXIMUM DUST REMOVAL



HUMIDIN ELECTRONIC FILTER BANK VS MECHANICAL FILTER

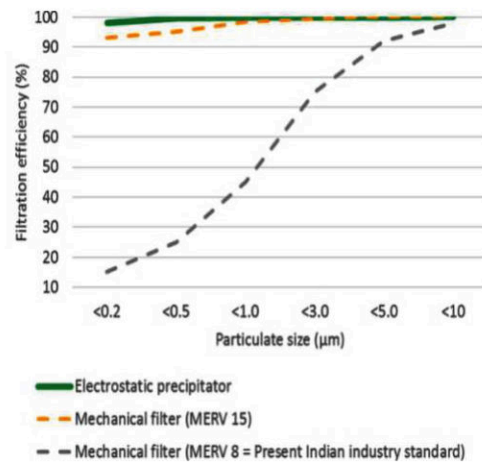
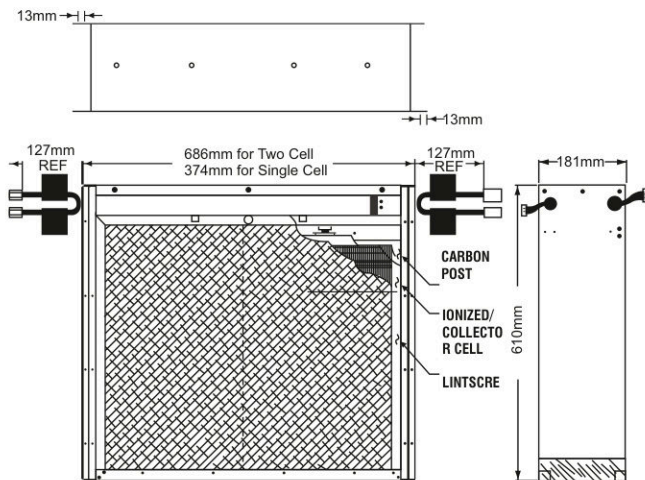
Given below a comparative & payback analysis with Humidin ESP " FALP - Filtration at Low Pressure ".

Criteria	Humidin - FALP	Conventional Mech. Filter
Capital Investment	Higher Capital Cost	Lower Capital Cost
Engineering Design	Built in Pre-Filter, Ionizer, Collector Plates & optional with UVC / Carbon Filter Comes with Airflow Sensor and BMS Signal	Standard design
Filtration Efficiency Rating	F6 - F8	Upto HEPA Rating
Pressure Drop	Lower Pressure Drop Min - 0.19"wg, Max- 0.39"wg	Higher Pressure Drop Min - 0.4"wg, Max- 1.8"wg
Installation Type	AHU / Ducted	AHU / Ducted
Energy Bills	Low power consumption due to lower pressure drop	High power consumption due to higher pressure drop
Maintenance Requirement	Easy Maintenance due to BMS signal provided	Frequent replacement of Filters per year
Life Cycle	Forever & ever with proper washing upon washable signal via BMS-15 to 20 years	2 - 4 times replacements per year
Certification	As per ASHRAE 52.1 & 52.2	As per ASHRAE 52.1 / ASHRAE 52.2

Return On Investment		
AHU Air Flow	50,000 CFM	50,000 CFM
Initial Cost (INR)	` 750,000.00	` 175,000.00 (F5 - F9 Filters)
Operation hour / Day	12	12
Power Usage (kW) /hr including fan	8	16
Electricity Cost (INR / kW)	` 10.00	` 10.00
Energy Usage / Day	` 960.00	` 1,920.00
Total Energy Cost / Year	350,400.00`	700,800.00
Changing Frequency / Year	0	3
Maintenance Cost	0.00`	`525,000.00
Total Investment per Year	1,100,400.00`	`1400,800.00
Hidden Cost for 5 Year	` 1,752,000.00	` 6,129,000.00
Total Saving / 5 Year	` 4,377,000.00	- 4,377,000.00`

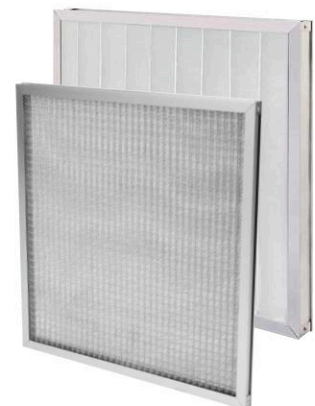
FALP - TECHNICAL PARAMETERS

ESP Based FALP		
Criterion	Single Cell (610x374 mm)	
Voltage, Frequency	220 / 240V, 50 / 60Hz 110 / 120V, 50 / 60Hz	220 / 240V, 50 / 60Hz 110 / 120V, 50 / 60Hz
Power Consumption	50W	50W
Current Draw	0.20A @ 220V 0.45A @ 120V	0.20A @ 220V 0.45A @ 120V
Ionizer / Collector Cell Voltage	4 / 8 kW	4 / 8 kW
Temperature of Inlet Air	Ambient: 4 - 52C ⁰	Ambient: 4 - 52C ⁰
Max Washing Temp	82C ⁰	82C ⁰
Installation Type	AHU / Duct	AHU / Duct
Weight		
Installed Weight	10.5kg	17.3kg
Optional Accessories	Carbon Filter	Carbon Filter



PRE FILTER MERV-8 EU-4

Humidin Pre Filters are guaranteed to last longer. It Meets all published hospital filter efficiency guidelines. Humidin pre Filters are manufactured in accordance with BS En 779 are used to remove solid particles of dia ≥ 10 micron from the air stream entering the ventilation system.

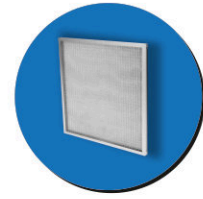




HDPE Flange



HDPE Box



Al. Wire Mesh Box

HDPE: HIGH DENSITY POLYTHYLENE

Pre Filter Specifications

Model No.	Media	Filter Size	CFM	IPD	Recommended FPD	Efficiency	Merv	EU
					Pa	%		
AC-PF-4-662	HDPE	610X610X25mm	1000	40	150	90% @ 10 Micron	MERV-8	EU-4
AC-PF-4-632	HDPE	610X305X25mm	500	40	150	90% @ 10 Micron	MERV-8	EU-4
AC-PF-4-665	HDPE	610X610X50mm	2000	40	150	90% @ 10 Micron	MERV-8	EU-4
AC-PF-4-632	HDPE	610X305X25mm	1000	40	150	90% @ 10 Micron	MERV-8	EU-4
AC-PF-4-335	HDPE	305X305X50mm	500	40	150	90% @ 10 Micron	MERV-8	EU-4

FILTER CLASS	MOC (CASING)	OPERATING TEMP.	FRAME DEPTH
G-4	ALUMINIUM	70	25
	EXTRUSION/GI	70	50

Al. Mesh Pre Filter Specification

Model No.	Media	Filter Size	CFM	IPD	Recommended FPD	Efficiency	Merv	EU
					Pa	%		
AC-MF-4-662	Al Wire Mesh	610X610X25mm	1000	40	250	85% @ 20 Micron	MERV-8	EU-4
AC-MF-4-442	Al Wire Mesh	457X457X250mm	?	40	250	85% @ 20 Micron	MERV-8	EU-4
AC-MF-4-665	Al Wire Mesh	610X610X50mm	2000	40	250	85% @ 20 Micron	MERV-8	EU-4
AC-MF-4-331	Al Wire Mesh	305X305X1000mm	?	40	250	85% @ 20 Micron	MERV-8	EU-4

FINE FILTER **MERV-9-15 EU-5-9**

Humidin Fine Filters are manufactured in accordance with BS EN 779 & are used to remove solid particles such as dust particles dust, pollen, & bacteria from the air.

Media: 100% washable Synthetic non woven media supported by aluminium. Mesh on one side & HDPE mesh on the other side.



Specifications (1 Micron)

Model No.	Media	Filter Size	CFM	IPD	Recommended FPD	Efficiency	Merv	EU
					Pa	%		
AC-FF-9-662	HDPE	610X610X25mm	1000	40	150	90% @ 10 Micron	MERV-15	EU-9
AC-FF-9-632	HDPE	610X305X25mm	500	40	150	90% @ 10 Micron	MERV-15	EU-9
AC-FF-9-665	HDPE	610X610X50mm	2000	40	150	90% @ 10 Micron	MERV-15	EU-9
AC-FF-9-632	HDPE	610X305X25mm	1000	40	150	90% @ 10 Micron	MERV-15	EU-9
AC-FF-9-335	HDPE	305X305X50mm	500	40	150	90% @ 10 Micron	MERV-15	EU-9

Specifications (3 Micron)

Model No.	Media	Filter Size	CFM	IPD	Recommended FPD	Efficiency	Merv	EU
					Pa	%		
AC-FF-7-663	HDPE	610X610X25mm	1000	40	200-220	99% @ 3 Micron	MERV-13	EU-7
AC-FF-7-633	HDPE	610X305X300mm	500	40	200-220	99% @ 3 Micron	MERV-13	EU-7
AC-FF-7-333	HDPE	305X305X300mm	2000	40	200-220	99% @ 3 Micron	MERV-13	EU-7
AC-FF-7-632	HDPE	610X610X150mm	1000	40	200-220	99% @ 3 Micron	MERV-13	EU-7
AC-FF-7-335	HDPE	610X305X150mm	500	40	200-220	99% @ 3 Micron	MERV-13	EU-7

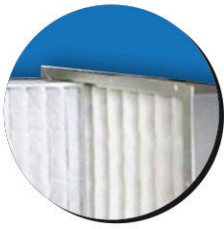
Specifications (5 Micron)

Model No.	Media	Filter Size	CFM	IPD	Recommended FPD	Efficiency	Merv	EU
					Pa	%		
AC-FF-5-663	HDPE	610X610X300mm	2000	60-70	190-200	95% @ 5 Micron	MERV-9-10	EU-5
AC-FF-5-633	HDPE	610X305X300mm	1000	60-70	190-200	95% @ 5 Micron	MERV-9-10	EU-5
AC-FF-5-333	HDPE	305X305X300mm	500	60-70	190-200	95% @ 5 Micron	MERV-9-10	EU-5
AC-FF-5-661	HDPE	610X610X150mm	1000	60-70	190-200	95% @ 5 Micron	MERV-9-10	EU-5
AC-FF-5-631	HDPE	610X305X150mm	500	60-70	190-200	95% @ 5 Micron	MERV-9-10	EU-5

COMBINATION FILTER MERV-7-13 EU-4

Humidin's Combination Filter is suitable for high humidity condition and high dust holding capacity with Light weight & compact design. Available in □ange type also. Available in different combinations ranging from MERV 7 TO MERV13





Flange



Box

Combination Filter Specifications

Model No.	Media	Filter Size	CFM	IPD	Recommended FPD	Efficiency	Merv	EU
					Pa	%		
AC-CF-4-662	HDPE	610X610X25mm	1000	40	450	90% @ 10 Micron	MERV-8	EU-4
AC-CF-4-632	HDPE	610X305X25mm	500	40	450	90% @ 10 Micron	MERV-8	EU-4
AC-CF-4-665	HDPE	610X610X50mm	2000	40	450	90% @ 10 Micron	MERV-8	EU-4
AC-CF-4-632	HDPE	610X305X25mm	1000	40	450	90% @ 10 Micron	MERV-8	EU-4
AC-CF-4-335	HDPE	305X305X50mm	500	40	450	90% @ 10 Micron	MERV-8	EU-4

BAG FILTER MERV-8-13 EU-4-7

Humidin Bag Type OR Pocket filters Tapered pockets offer Controlled Media Spacing (CMS) for full use of media area. Transport handle built into frame for ease of filter service. Longest lasting pocket style filter available in the industry, less changes and less landfill waste.



Specifications (3 Micron)

Model No.	Media	Filter Size	CFM	IPD	Recommended FPD	Efficiency	Merv	EU
					Pa	%		
AC-BF-7-663	HDPE	610X610X300mm	1500-2000	<100	250	99% @ 3 Micron	MERV-13	EU-7
AC-BF-7-633	HDPE	610X305X300mm	750-1000	<100	250	99% @ 3 Micron	MERV-13	EU-7
AC-BF-7-333	HDPE	305X305X300mm	500	<100	250	99% @ 3 Micron	MERV-13	EU-7

Bag Filter Specifications (5 Micron)

Model No.	Media	Filter Size	CFM	IPD	Recommended FPD	Efficiency	Merv	EU
					Pa	%		
AC-BF-5-663	HDPE	610X610X300mm	1500-2000	<80	400	95% @ 5 Micron	MERV-9-10	EU-5
AC-BF-5-633	HDPE	610X305X300mm	750-1000	<80	400	95% @ 5 Micron	MERV-9-10	EU-5
AC-BF-5-363	HDPE	305X610X300mm	500	<80	400	95% @ 5 Micron	MERV-9-10	EU-5
AC-BF-5-333	HDPE	305X305X300mm	?	<80	400	95% @ 5 Micron	MERV-9-10	EU-5

Specifications (10 Micron)

Model No.	Media	Filter Size	CFM	IPD	Recommended FPD	Efficiency	Merv	EU
					Pa	%		
AC-BF-4-663	HDPE	610X610X300mm	1500-2000	<60	250	90% @ 10 Micron	MERV-8	EU-4
AC-BF-4-633	HDPE	610X305X300mm	750-1000	<60	250	90% @ 10 Micron	MERV-8	EU-4
AC-BF-4-333	HDPE	305X305X300mm	500	<60	250	90% @ 10 Micron	MERV-8	EU-4

(3 Micron)

FILTER CLASS	MOC (CASING)	OPERATING TEMP.	BAG DEPTH
F-7	ALUMINIUM /GI	70	300
		70	600

(5 Micron)

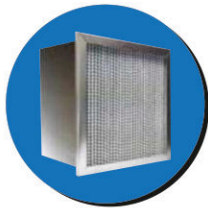
FILTER CLASS	MOC (CASING)	OPERATING TEMP.	BAG DEPTH
F-5	ALUMINIUM /GI	70	300
		70	600

(10 Micron)

FILTER CLASS	MOC (CASING)	OPERATING TEMP.	BAG DEPTH
G-4	ALUMINIUM EXTRUSION/GI	70	25
		70	50

HEPA FILTER MERV 19 EU-13/14

Humidin's Hepa filter Unique seamless poured-inplace gasket ensures leak free performance when installed into housings or built-up filter. Individually tested HEPA/ULPA filter in an enclosure assembled without penetrating fasteners.



AL. Wire Mesh Flange



AL. Wire Mesh Box



HDPE Flange



HDPE Box

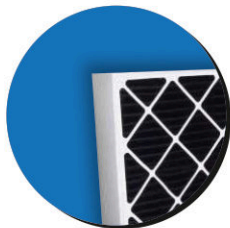
FILTER CLASS	MOC (CASING)	OPERATING TEMP.	FRAME DEPTH
H-13/ H-14	ALUMINIUM ANODISED	70	150
		70	300

Hepa Filter Specifications

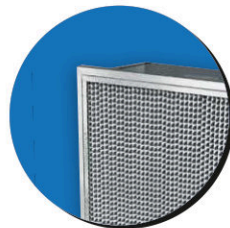
Model No.	Media	Filter Size	CFM	IPD	Recommended FPD	Efficiency	Merv	EU
					Pa	%		
AC-HF-13-663	HDPE	610X610X300mm	2000	250	600	99.9% @ 0.3 Micron	MERV-19	EU-13/14
AC-HF-13-633	HDPE	610X305X300mm	1000	250	600	99.9% @ 0.3 Micron	MERV-19	EU-13/14
AC-HF-13-333	HDPE	305X305X300mm	500	250	600	99.9% @ 0.3 Micron	MERV-19	EU-13/14
AC-HF-13-661	HDPE	610X610X150mm	1000	250	600	99.9% @ 0.3 Micron	MERV-19	EU-13/14
AC-HF-13-631	HDPE	610X305X150mm	500	250	600	99.9% @ 0.3 Micron	MERV-19	EU-13/14

CARBON FILTER

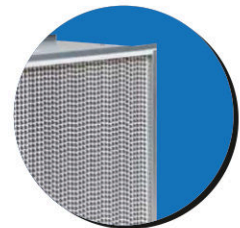
Humidin's carbon filter is used to absorb odour from the air passing through it. With the help of activated carbon, about 80-90% of the odour is absorbed.



HDPE Box



Al. Wire Mesh Flange



Al. Wire Mesh Box

Carbon Filter Specifications

Model No.	Media	Filter Size	CFM	IPD	Recommended FPD	Efficiency
					Pa	%
AC-CAF-663	HDPE/ Al. Wire Mesh	610X610X300mm	2000	30-40	250	80-85% down to 10 Micron or 55-60% down to 0.3 Micron
AC-CAF-633	HDPE/ Al. Wire Mesh	610X305X300mm	1000	30-40	250	80-85% down to 10 Micron or 55-60% down to 0.3 Micron
AC-CAF-333	HDPE/ Al. Wire Mesh	305X305X300mm	500	30-40	250	80-85% down to 10 Micron or 55-60% down to 0.3 Micron
AC-CAF-661	HDPE/ Al. Wire Mesh	610X610X150mm	1000	30-40	250	80-85% down to 10 Micron or 55-60% down to 0.3 Micron
AC-CAF-631	HDPE/ Al. Wire Mesh	610X305X150mm	500	30-40	250	80-85% down to 10 Micron or 55-60% down to 0.3 Micron
AC-CAF-331	HDPE/ Al. Wire Mesh	305X305X150mm		30-40	250	80-85% down to 10 Micron or 55-60% down to 0.3 Micron

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The intention of this brochure is to introduce you to, and acquaint you with the capabilities of the HUMIDIN organization in the offered product areas. It will not answer all your immediate questions, and indeed, it will no doubt raise others. We welcome your interest in our products and shall be very pleased to provide further information.

GUARANTEES

HUMIDIN guarantees its products to be free of defects in materials and workmanship for a period of one year from the date of delivery from the factory, provided motors are properly installed with overload protector. Humidin agrees to repair or replace defective parts or part to be returned to the factory, all transportation charges prepaid. Humidin does not guarantee against abrasion, corrosion or erosion. Humidin shall not be held responsible for any charges in connection with the removal or replacement of alleged defective equipment nor for incidental consequential damages

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