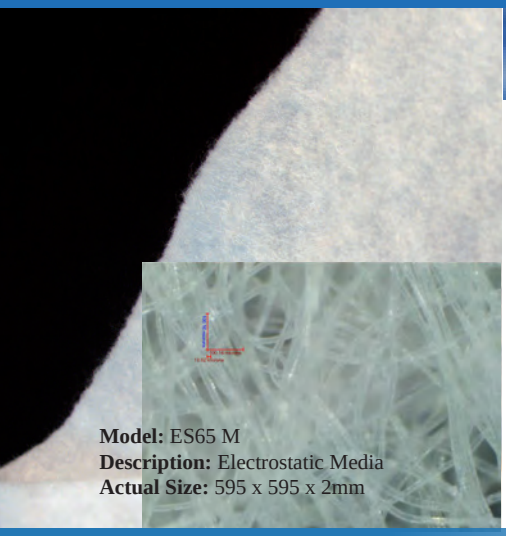
IF ES ElectroStatic Pleated Disposable

MERV11, MER13,MERV14 Primary/Secondary Filters



Model: ES65 M
Description: Electrostatic Media
Actual Size: 595 x 595 x 2mm

General Characteristics

ES Electrostatic Pleated disposable filters are made with 100% synthetic needle punched and permanent electrostatically charged media during media manufacturing. The electrostatic charged filter has tremendous increase at initial efficiency in particles size range of 0.3-1 & 1-3 micron.

ES Pleated Disposable is of extended surface and fully disposable. They can be used as primary / prefilters/Secondary filters in Fan Coil Units (FCU), Air Handling Units (AHU) or Fresh Air Fans (FAF), Cassette FCU in both new or existing air filtration system. The flat media pad can also be used as filter in split units to prevent dust build up in the coils. The pleated filter has greater extended surface allowing higher dust holding capacity and longer replacement intervals compared to flat panel filters. It is used as a pre-filter which considerably extends the life of other secondary filters in the filtration system. The higher efficiency filter greatly prevents dust build-up on heating and cooling coils, fans and duct. Reduced Coil cleaning frequency and inenergy savings.

Model: **ES65 IF or ES13 IF or ES14 IF**
Description: ES Pleated MERV11/13/14
Nominal Size: 24x24x2" WxHxD
Actual Size: 595x595x45mmt WxHxD
Thickness available 1" 2" 4"

+ New Synthetic ElectroStatic ES Pleated Media

+ High Efficiency MERV11,13 &14, unsurpassed low pressure drop and long lifespan

+ Used as Prefilter/Primary or Secondary filter

+ New or Direct Replacement from exisiting prefilter frames for Dust, Haze, Smoke, microorganism bacterial/virus Control >90 up to 99%.

+ Various Sizes of Nominal Thickness 1-4" actual 21,45,95mm.

+ Fully Disposable, Easy Storage and Installations

Construction

ES Electrostatic filter media comprises permanent electrostatically charged 100% synthetic media. Independent tested against ASHRAE 52.2, the ES65 Pleated can achieve MERV 11 value with Average Composite Particle Size Efficiency is >65% (Range 2 1.0-3.0um). The ES13 Pleated can achieve Initial MERV 13 value with Average Composite Particle Size Efficiency >85%(Range 2 1.0-3.0um).
IF International Filtration years of Air Filter Media Research trials and testing, New ES Electret Media of ES14 Pleated of 1-4" can achieve initial MERV Rating 14 of ASHRAE 52.2 with Efficiency >90% @1-3um and >75%@0.3-1.0um with low pressure drop.

The raw material is antimicrobial and it is a byproduct of the manfacturing process of the filter media as opposed to non-permanent sprayed products.The antimicrobial feature inhibit the growth and reduce the microorganisms like bacteria, fungi on the filter media which may otherwise deteriorate the filter integrity.

The media support is an expanded diamond grid with an effective open area of not less than 98%. The corrosion resistant wire grid is laminated to the filter media to maintain pleat shape and reduce media oscillation.

The radial V pleat design ensures the maximum use of the filter media and maximising dust holding capacity and extending the service life.

The enclosing frame is constructed of a rigid moisture resistant kraft board with diagonal support members bonded to each pleat upstream and downstream side to ensure pleat spacing and stability. The filter pack is bonded to the enclosing frame to eliminate air bypass.

Optional Galvanised steel or aluminium Frame is available with cross bracers or corrosion resistant expanded GI mesh as downstream air face support. Upstream bracers for Frame rigidity. Metal Frame will expected stable high efficiency and less media oscillation.

Note : Filter lifespan and performance will vary by site conditions, initial or equipment design. Air change, fresh air and Ventilation and aircon design, equipment selection is still prevalent.

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Specifications

Model	ES65 M	ES65 IF			ES13 IF			ES14 IF		
Description	ES65 Media MERV10	ES Pleated MERV11			ES Pleated MERV13			ES Pleated MERV14		
Nominal Thickness	2mm	1"	2"	4"	1"	2"	4"	1"	2"	4"
Rated Air Flow cmh	1500	3400			2000 , 3400			2000 , 3400		
Face Velocity m/s	1.1	2.5			1.5 , 2.5			1.5 ,2.5		
Face Area m^2	0.372	0.372			0.372			0.372		
Initial Pressure Drop Pa at 2.5m/s ** 1.5m/s ^1.1m/s	Nil **100, ^69	100	79	66	120 **70	95 **55	85 **45	162 **100	112 **60	95 **45
Filter Class EN779 / Class to ISO16890	M5 / Coarse 80%	M6 / ePM10 65%			F7 / ePM2.5 60%			F8 / ePM2.5 75%		
ASHRAE 52.76 Average Arrestance >10um	90%	91%			97%			98%		
ASHRAE 52.1-1992 Avg Dust Spot Eff>1um	40-45%	60-65%			80-85%			90-95%		
Efficiency Particle Size Range 2 (1.0-3.0um)	>50%	>65%			>85%			>90%		
Efficiency Particle Size Range 1 (0.3-1.0um)	>20%	>20%			>50%			>75%		
ASHRAE 52.2-2017 MERV Minimum Efficiency Reporting Value	10	MERV11			MERV13			MERV14		
# Expected Lifespan mths	0.5-2	3-6			3-6			2-6		
Media Area m^2	0.37	0.61	1.53	1.85	0.61	1.53	1.85	0.61	1.53	1.85
Pleats per 24x24"	NA	24	28	16	24	28	16	24	28	16

Performance data is based on ASHRAE 52.2-2017 Test method entitled "Method of Testing General Ventilation Air Cleaning Devices for Removal Efficiency by particle size, others provided is for comparison & information. MERV: Minimum Efficiency Reporting Value at Face Velocity

If being used as one layer primary filter, Rated velocity 1.5m/s to be used. Efficiency may drop due to mixed big dust with fine dust. Additional prefilter roll or Secondary filters like Minipleat Ccell Vcell, Interpocket, Interfirm are to be used & installed for longer lifespan and prevent very fine dust at 0.3-1.0um breakthrough and in oily, high alcohol or salt environment.

All above MERV13 Efficiency filters must be protected by prefilters min MERV5/6 for longer lifespan. MERV16 by min MERV11. # Lifespan is for typical design, vary on system design, site conditions, initial equipment design and environment. In higher fresh air or surrounding high dust, lifespan can be halved or much lesser. High Air change, Fresh air ,Aircon & ventilation design is still prevalent. Typical dust environment have big dust >10um which are heavier. Higher efficiency will keep coil clean but more replacement frequency expected initial.

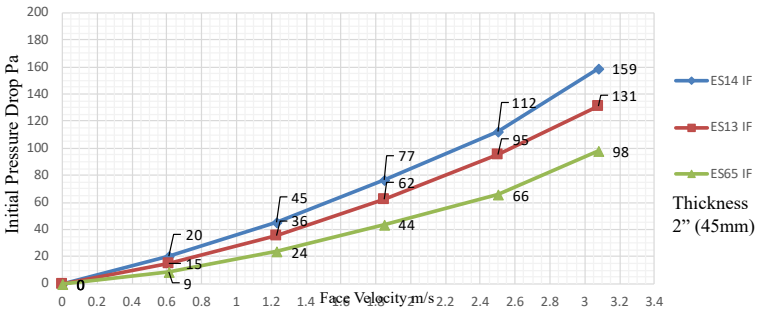
Technical Data

Filter Media
Polypropylene Synthetic Blend Electret Media

Enclosing Frame
Heavy Duty Moisture-resistant Kraft board
Recommended Option:
Galvanised Steel/ Aluminum
Downstream: Cross Bracers or Gi Mesh
Upstream: Straight Bracer

Sealant
Water based adhesive

Continuous Operating Temperature	<80°C
Relative Humidity	<90%
Recommended Final Pressure Drop	150 Pa
Maximum Final Pressure Drop	250 Pa
Flammability	Non flammable



Dimensions

Nominal Size L x W x D in inch	Actual Size L x W x D in mm	Rated Air Flow m^3/h or cmh		Pleats High Cap	Media Area sqft
		1.5 m/s	2.5 m/s		
12 x 24 x 1	289 x 595 x 21	1020	1700	12	3.2
16 x 20 x 1	395 x 495 x 21	1130	1880	16	3.6
16 x 24 x 1	395 x 595 x 21	1360	2265	16	4.3
16 x 25 x 1	395 x 622 x 21	1428	2380	16	4.4
18 x 24 x 1	444 x 595 x 21	1530	2550	18	4.8
20 x 20 x 1	495 x 495 x 21	1428	2380	20	4.4
20 x 24 x 1	495 x 595 x 21	1700	2830	20	5.3
20 x 25 x 1	495 x 622 x 21	1785	2975	20	5.5
24 x 24 x 1	595 x 595 x 21	2040	3400	24	6.5
12 x 24 x 2	289 x 595 x 45	1020	1700	14	8.2
16 x 20 x 2	395 x 495 x 45	1130	1880	18	9.1
16 x 24 x 2	395 x 595 x 45	1360	2265	18	10.9
16 x 25 x 2	395 x 622 x 45	1428	2380	18	11.3
18 x 24 x 2	444 x 595 x 45	1530	2550	21	12.3
20 x 20 x 2	495 x 495 x 45	1428	2380	24	11.3
20 x 24 x 2	495 x 595 x 45	1700	2830	24	13.6
20 x 25 x 2	495 x 622 x 45	1785	2975	24	14.2
24 x 24 x 2	595 x 595 x 45	2040	3400	28	16.4
12 x 24 x 4	289 x 595 x 95	1020	1700	8	9.4
16 x 20 x 4	395 x 495 x 95	1130	1880	9	9.2
16 x 24 x 4	395 x 595 x 95	1360	2265	9	11.1
16 x 25 x 4	395 x 622 x 95	1428	2380	9	11.5
18 x 24 x 4	444 x 595 x 95	1530	2550	10	12.1
20 x 20 x 4	495 x 495 x 95	1428	2380	12	12.0
20 x 24 x 4	495 x 595 x 95	1700	2830	12	14.4
20 x 25 x 4	495 x 622 x 95	1785	2975	12	15.0
24 x 24 x 4	595 x 595 x 95	2040	3400	16	19.8

Additional sizes available in the following diecut sizes: 14x20,12x12, 12x20,25x25"
Odd sizes can be custom fabricated accordingly. **Tolerances +/-up to 5mm. Width and height dimensions are interchangeable. Filters may be installed with the pleats either vertical or horizontal.**

IF International Filtration

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