

# ERV Filter Specifications



## Test Results as per ASHRAE Std. 52.1

Model	RHF025E*	RHF035E*	RHF050E*	RHF080E*	RHF100E*	Remarks
Dust Spot Efficiency (%)	70.1	72.8	74.8	68.2	64.7	※ Particle Size : 0.5 $\mu$ m
Test Air Flow Rate (m3/s)	0.183	0.174	0.248	0.263	0.328	
Initial Pressure Drop (Pa)	17.7	16.7	28.4	23.5	27.5	
Final Pressure Drop (Pa)	245.2	←	←	←	←	
Dust Holding Capacity (g)	180.9	185.1	169.2	140.9	111.3	
Approx. MERV (ASHRAE 52.2)	11 ~ 12					-
Approx. Class (as per EN779)	F5 ~ F6					-

## Comparison with ASHRAE Std. 52.1 / 52.2 & EN779

Std. 52.2 Minimum Efficiency Reporting Value (MERV)	Approx. Std. 52.1 Results		Application Guidelines		
	Dust Spot Efficiency	Arrestance	Typical Controlled Contaminant	Typical Applications and Limitations	Typical Air Filter /Cleaner Type
20	n/a	n/a	<0.30 $\mu$ m Particle Size Virus (unattached) Carbon dust Sea salt All combustion smoke Radon progeny	Cleanrooms Radioactive materials Pharmaceutical mfg. Carcinogenic materials Orthopedic surgery	<b>HEPA/ULPA Filters</b> >99.999% efficiency on 0.10-0.20 $\mu$ m particles, IEST Type F >99.999% efficiency on 0.30 $\mu$ m particles, IEST Type D >99.99% efficiency on 0.30 $\mu$ m particles, IEST Type C >99.97% efficiency on 0.30 $\mu$ m particles, IEST Type A
19	n/a	n/a			
18	n/a	n/a			
17	n/a	n/a			
16	n/a	n/a	0.30-1.0 $\mu$ m Particle Size All bacteria Most tobacco smoke Droplet nuclei (sneeze) Cooking oil Most smoke Insecticide dust Copier toner Most face powder Most paint pigments	Hospital inpatient care General surgery Smoking lounges Superior commercial buildings	<b>Bag Filters</b> Nonsupported (flexible) microfine fiberglass or synthetic media. 300 to 900 mm (12 to 36 inch) deep , 6 to 12 pockets. <b>Box Filters</b> Rigid style cartridge filters 150 to 300 mm (6 to 12 inch) deep may be use lofted (air laid) or paper (wet laid) media.
15	>95%	n/a			
14	90-95%	>98%			
13	80-90%	>98%			
12	70-75%	>95%	1.0-3.0 $\mu$ m Particle Size Legionella Humidifier dust Lead dust Milled flour Coal dust Auto emissions Nebulizer drops Welding fumes	Residential Better commercial buildings Hospital laboratories	<b>Bag Filters</b> Nonsupported (flexible) microfine fiberglass or synthetic media. 300 to 900 mm (12 to 36 inch) deep , 6 to 12 pockets. <b>Box Filters</b> Rigid style cartridge filters 150 to 300 mm (6 to 12 inch) deep may be use lofted (air laid) or paper (wet laid) media.
11	60-65%	>95%			
10	50-55%	>95%			
9	40-45%	>90%			

### Coarse and Fine Dust Efficiency and Classification

Category	EN779 Class	EN779 Separation Performance	ASHRAE 52.2 MERV	Particle Size Range Efficiency		
				0.3 – 1 $\mu$ m %	1 – 3 $\mu$ m %	3 – 10 $\mu$ m %
Coarse	G1	*A: 50% - 60%	1	n/a	n/a	>20
	G2	A: 65% - 80%	3	n/a	n/a	>20
Low	G3	A: 80% - 90%	5	n/a	n/a	20 – 35
	G4	A: > 90%	7	n/a	n/a	35 – 70
Medium Efficiency	F5	*E: 40% - 60%	9	n/a	<50	>85
	F6	E: 60% - 80%	11	n/a	65 – 80	>85
	F7	E: 80% - 90%	13	<75	>90	>90
High Efficiency	F8	E: 90% - 95%	14	75 – 85	>90	>90
	F9	E: >95%	15	85 – 95	>90	>90
	H10	MPPS: > 95	16	> 95	> 95	> 95

\*A: Arrestance Value  
\*E: Fractional Efficiency