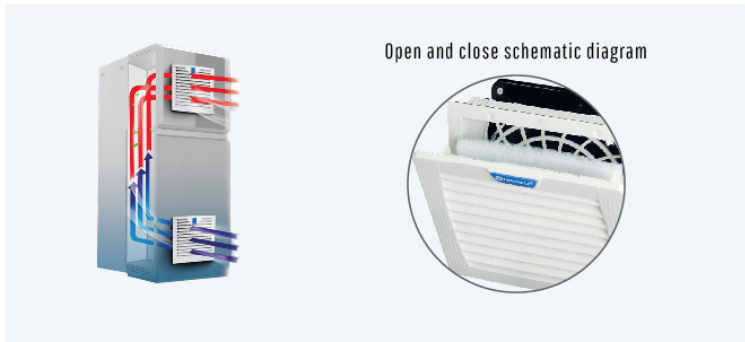


FF109 series fan-and-filter

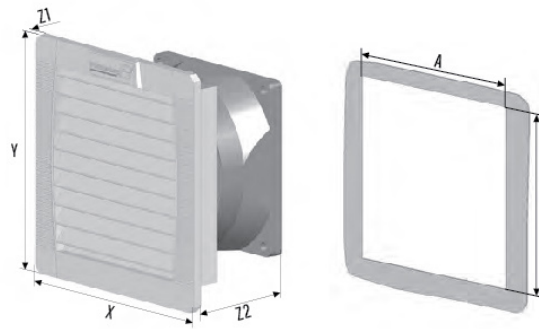
109x109mm | 25-29 m³/h



Colour	RAL7035,color can be customized
Protection category	NEMA 12-standard filter , IP54 standard , IP55 plus precision filter mat.



Dimensions



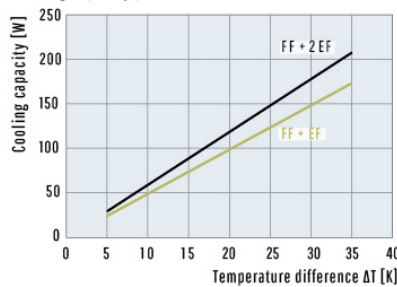
mm	FF109		EF 109
	AC	DC	
X	109	109	109
Y	109	109	109
Z1	4	4	4
Z2	62	62	19
A ¹	92	92	92
B ¹	92	92	92

¹ for material thickness up to 2 mm
+1 mm for thickness of material
> 2 mm ≤ 3 mm

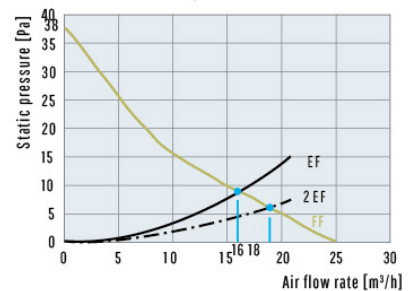
Exit filter EF 109.300



Cooling capacity performance curves



Characteristics of static pressure



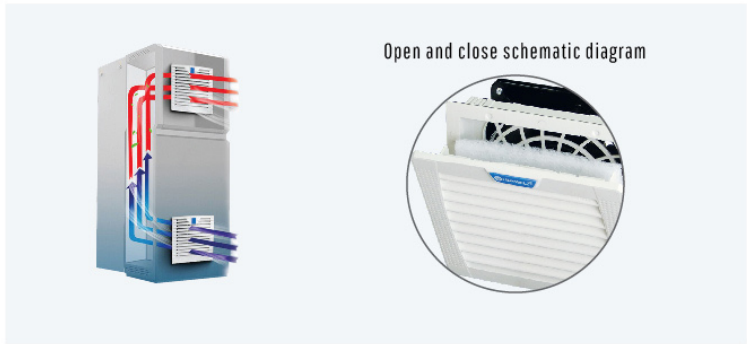
Model FF	Unit	FF109.230	FF109.115	FF109.012	FF109.024	FF109.048
Rated operating voltage,frequency	V/Hz	AC 230 /115, 50/60			DC 12/24/48, 50/60	
Unimpeded air flow	m ³ /h				25-29	
Combined air volume	m ³ /h				16-18	
Rated Power	W	9-7	15-14	2.4	2.4	2.6
Rated current max.	A	0.08-0.07	0.15-0.13	0.2	0.1	0.05
Noise level	dB(A)	33			33	
Type of connection		Terminal row				
Filtration efficiency	%	88				
Filter pad performance level		63				
Duty cycle	%	100				
Bearing type		sleeve bearing			ball bearing	
Service life	h	52,500	55,000		70,000	
Operating temperature range	°C	-40-+70				
Design		made of injection-moulded thermoplastic, self-extinguishing UL 94 V0				

FF145 series fan-and-filter

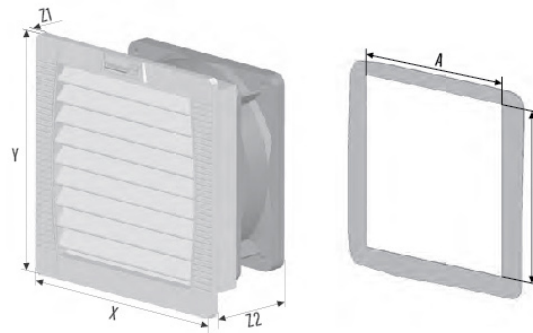
145x145mm | 56-70 m³/h



Colour	RAL7035,color can be customized
Protection category	NEMA 12-standard filter, IP54 standard, IP55 plus precision filter mat.



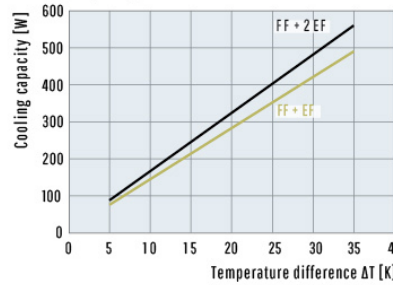
Dimensions



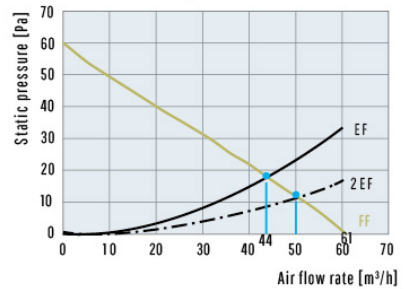
mm	FF145		EF 145
	AC	DC	
X	145	145	145
Y	145	145	145
Z1	5	5	5
Z2	70	70	27
A'	125	125	125
B'	125	125	125

¹for material thickness up to 2mm
+1 mm for thickness of material
> 2 mm ≤ 3 mm

Cooling capacity performance curves



Characteristics of static pressure

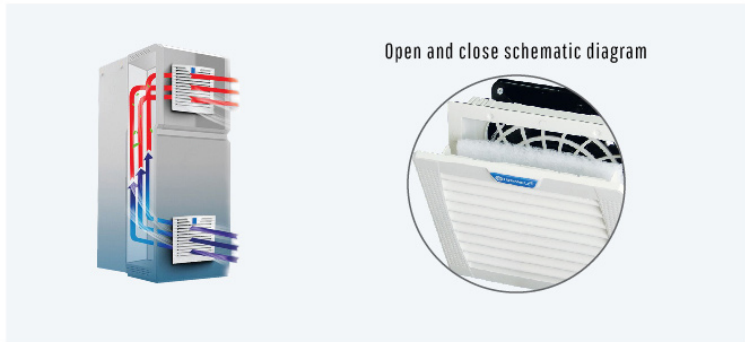


Model FF	Unit	FF145.230	FF145.115	FF145.012	FF145.024	FF145.048
Rated operating voltage,frequency	V/Hz	AC 230 /115, 50/60			DC 12/24/48, 50/60	
Unimpeded air flow	m ³ /h				IP54-61-70	IP55-56-64
Combined air volume	m ³ /h				IP54-44-52	IP55-40-46
Rated Power	W	19-14	18-15	5	5	5
Rated current max.	A	0.12-0.10	0.24-0.20	0.42	0.21	0.1
Noise level	dB(A)	44			44	
Type of connection		Terminal row				
Filtration efficiency	%	88				
Filter pad performance level		G3				
Duty cycle	%	100				
Bearing type		sleeve bearing			ball bearing	
Service life	h	37,500	40,000		62,500	
Operating temperature range	°C	-40-+70				
Design		made of injection-moulded thermoplastic, self-extinguishing UL 94 V0				

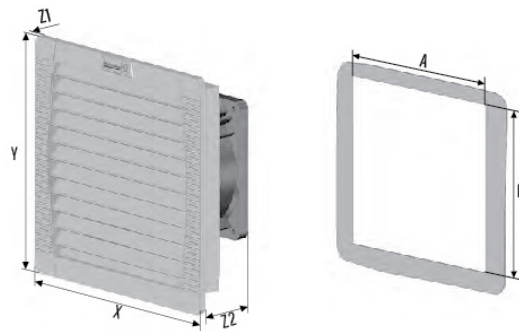
FF202 series fan-and-filter

202x202mm | 55-125 m³/h

Colour	RAL7035,color can be customized
Protection category	NEMA 12-standard filter , IP54 standard , IP55 plus precision filter mat.



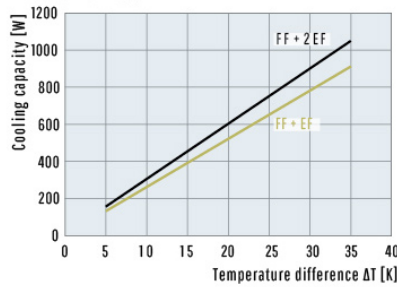
Dimensions



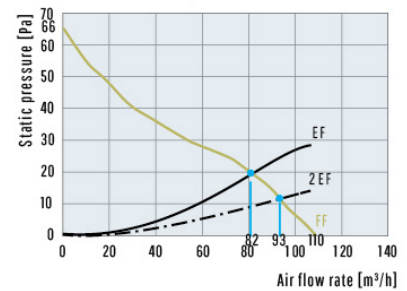
mm	FF 202		EF 202
	AC	DC	
X	202	202	202
Y	202	202	202
Z1	6.5	6.5	6.5
Z2	87	87	30
A ¹	177	177	177
B ¹	177	177	177

¹ for material thickness up to 2 mm
+1 mm for thickness of material
> 2 mm ≤ 3 mm

Cooling capacity performance curves



Characteristics of static pressure



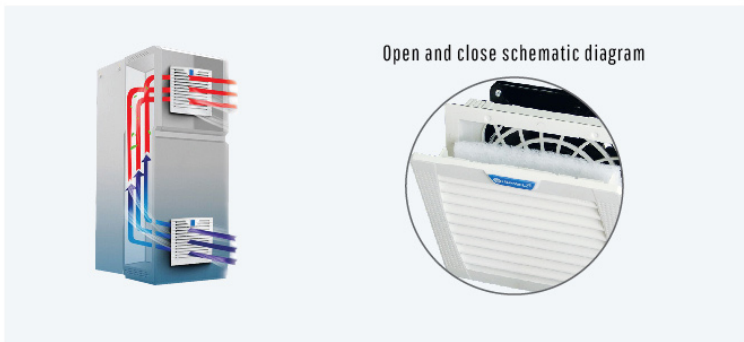
Model FF	Unit	FF202.230	FF202.115	FF202.012	FF202.024	FF202.048
Rated operating voltage,frequency	V/Hz	AC 230 /115, 50/60			DC 12/24/48, 50/60	
Unimpeded air flow	m ³ /h	IP54-110-125			IP55-100-110	
Combined air volume	m ³ /h	IP54-82-93			IP55-55-64	
Rated Power	W	19-18	20	5	5	5
Rated current max.	A	0.12-0.10	0.24-0.20	0.42	0.21	0.1
Noise level	dB(A)	40			40	
Type of connection		Terminal row				
Filtration efficiency	%	88				
Filter pad performance level		63				
Duty cycle	%	100				
Bearing type		sleeve bearing			ball bearing	
Service life	h	37,500	40,000		62,500	
Operating temperature range	°C	-40-+70				
Design		made of injection-moulded thermoplastic, self-extinguishing UL 94 V0				

FF252-P series fan-and-filter

252x252mm | 155-260 m³/h

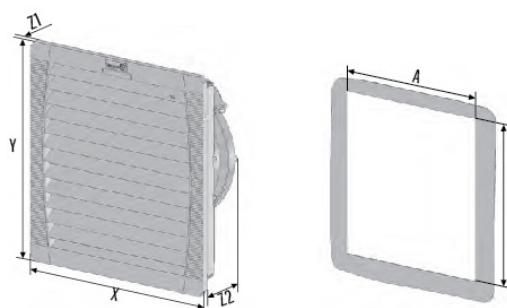


Colour	RAL7035,color can be customized
Protection category	NEMA 12-standard filter, IP54 standard, IP55 plus precision filter mat.



Dimensions

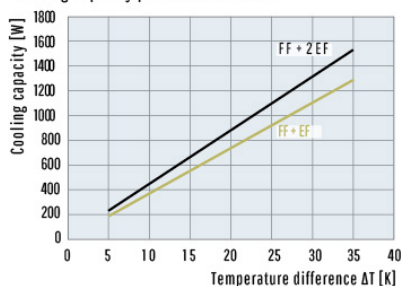
Exit filter EF 252.300



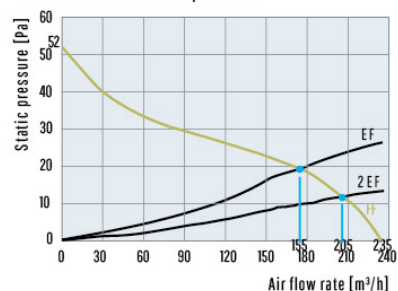
mm	FF 252-P	EF 252	
	AC	DC	
X	252	252	252
Y	252	252	252
Z1	6.5	6.5	6.5
Z2	111	111	33
A'	223	223	223
B'	223	223	223

¹for material thickness up to 2mm
+1 mm for thickness of material
> 2 mm ≤ 3 mm

Cooling capacity performance curves



Characteristics of static pressure

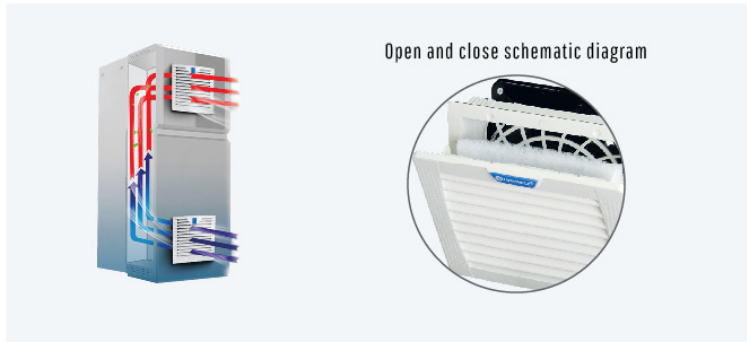


Model FF	Unit	FF252-P.230	FF252-P.115	FF252-P.012	FF252-P.024	FF252-P.048
Rated operating voltage,frequency	V/Hz	AC 230 /115, 50/60			DC 12/24/48, 50/60	
Unimpeded air flow	m ³ /h	IP54-225-260			IP55-205-235	
Combined air volume	m ³ /h	IP54-202-235			IP55-155-185	
Rated Power	W	36-30	36-30	6	4.7	4.6
Rated current max.	A	0.25-0.21	0.49-0.45	0.5	0.2	0.1
Noise level	dB(A)	40-43			40	
Type of connection		Terminal row				
Filtration efficiency	%	88				
Filter pad performance level		G3				
Duty cycle	%	100				
Bearing type		ball bearing				
Service life	h	40,000	42,500	57,500	70,000	
Operating temperature range	°C	-40-+70				
Design		made of injection-moulded thermoplastic, self-extinguishing UL 94 V0				

FF252-M series fan-and-filter

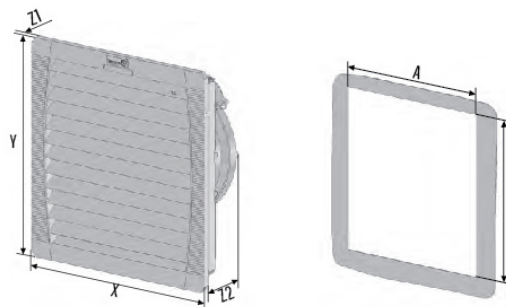
252x252mm | 180-292 m³/h

Colour	RAL7035,color can be customized
Protection category	NEMA 12-standard filter , IP54 standard , IP55 plus precision filter mat.



Dimensions

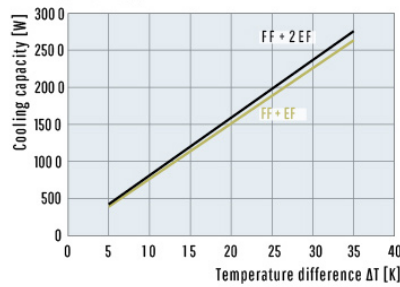
Exit filter EF 252.300



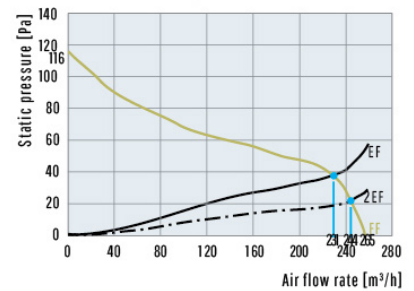
mm	FF252-M	EF 252
X	252	252
Y	252	252
Z1	6.5	6.5
Z2	114	33
A ¹	223	223
B ¹	223	223

¹ for material thickness up to 2 mm
+1 mm for thickness of material
> 2 mm ≤ 3 mm

Cooling capacity performance curves



Characteristics of static pressure



Model FF	Unit	FF252-M.400	FF252-M.230	FF252-M.115
Rated operating voltage,frequency	V/Hz	AC 230 /115, 50/60		
Unimpeded air flow	m ³ /h	IP54-256-292 IP55-233-265		
Combined air volume	m ³ /h	IP54-231-265 IP55-180-207		
Rated Power	W	42-37	37-33	40-40
Rated current max.	A	0.16-0.14	0.25-0.20	0.52-0.43
Noise level	dB(A)	42-46		
Type of connection		Terminal row		
Filtration efficiency	%	88		
Filter pad performance level		G3		
Duty cycle	%	100		
Bearing type		ball bearing		
Service life	h	40,000		
Operating temperature range	°C	-40-+70		
Design		made of injection-moulded thermoplastic, self-extinguishing UL 94 V0		

FF320 series fan-and-filter

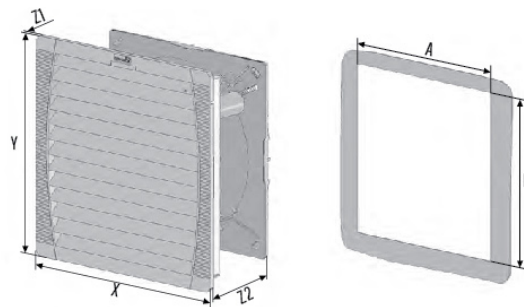
320x320mm | 470-700 m³/h

Colour	RAL7035,color can be customized
Protection category	NEMA 12-standard filter, IP54 standard, IP55 plus precision filter mat.



Dimensions

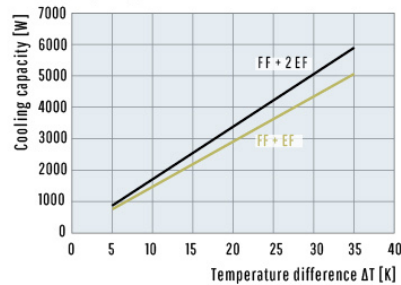
Exit filter EF 320.300



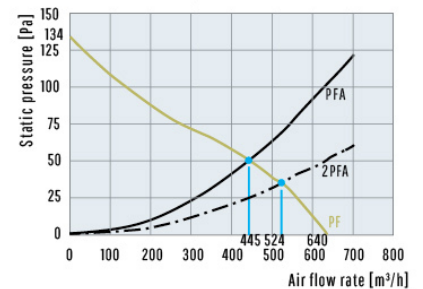
mm	FF 320	EF 320
X	320	320
Y	320	320
Z1	7	7
Z2	162	36
A'	291	291
B'	291	291

¹for material thickness up to 2mm
+1 mm for thickness of material
> 2 mm ≤ 3 mm

Cooling capacity performance curves



Characteristics of static pressure



Model FF	Unit	FF320.230	FF320.115
Rated operating voltage,frequency	V/Hz	AC 230 /115, 50/60	
Unimpeded air flow	m ³ /h	IP54-580-700	IP55-550-670
Combined air volume	m ³ /h	IP54-490-550	IP55-470-530
Rated Power	W	75-65	
Rated current max.	A	0.59-0.47	1.2-1.1
Noise level	dB(A)	59-62	
Type of connection		Terminal row	
Filtration efficiency	%	91	
Filter pad performance level		64	
Duty cycle	%	100	
Bearing type		ball bearing	
Service life	h	40,000	
Operating temperature range	°C	-40-+70	
Design		made of injection-moulded thermoplastic, self-extinguishing UL 94 V0	

FF320-D series fan-and-filter

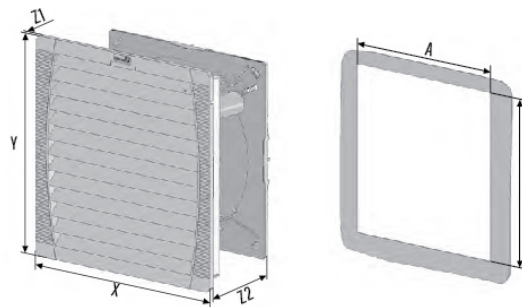
320x320mm | 750-1350 m³/h

Colour	RAL7035,color can be customized
Protection category	NEMA 12-standard filter , IP54 standard , IP55 plus precision filter mat.



Dimensions

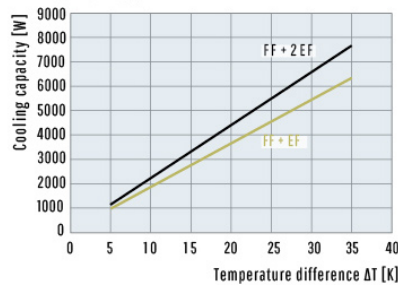
Exit filter EF 320.300



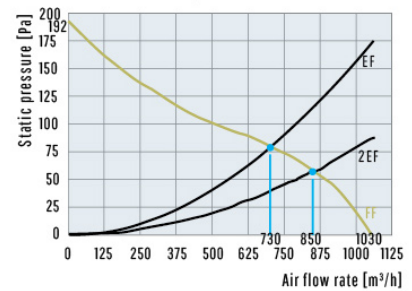
mm	FF 320-D	EF 320
X	320	320
Y	320	320
Z1	7	7
Z2	162	36
A ¹	291	291
B ¹	291	291

¹ for material thickness up to 2 mm
+1 mm for thickness of material
> 2 mm ≤ 3 mm

Cooling capacity performance curves



Characteristics of static pressure

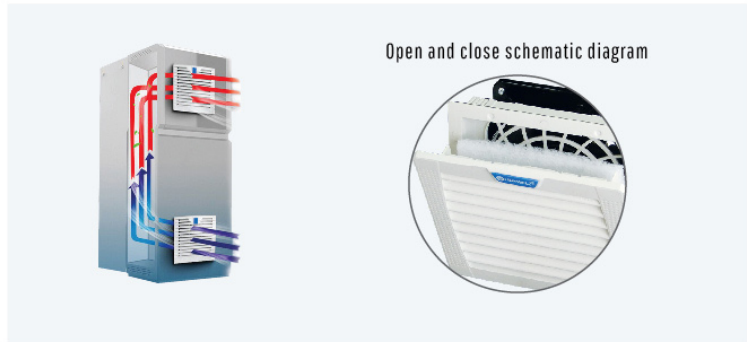


Model FF	Unit	FF320-D.230	FF320-D.115
Rated operating voltage,frequency	V/Hz	AC 230 /115, 50/60	
Unimpeded air flow	m ³ /h	IP54-1150-1350	IP55-950-1150
Combined air volume	m ³ /h	IP54-800-1030	IP55-750-950
Rated Power	W	135-104	149-110
Rated current max.	A	0.59-0.47	1.2-1.1
Noise level	dB(A)	63-65	
Type of connection		Terminal row	
Filtration efficiency	%	91	
Filter pad performance level		G4	
Duty cycle	%	100	
Bearing type		ball bearing	
Service life	h	40,000	
Operating temperature range	°C	-40-+70	
Design		made of injection-moulded thermoplastic, self-extinguishing UL 94 V0	

FF5000 series fan-and-filter

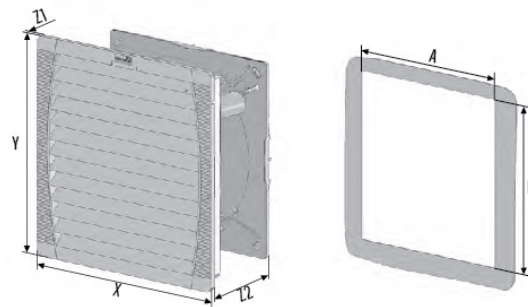
320x320mm | 425-650 m³/h

Colour	RAL7035,color can be customized
Protection category	NEMA 12-standard filter, IP54 standard, IP55 plus precision filter mat.



Dimensions

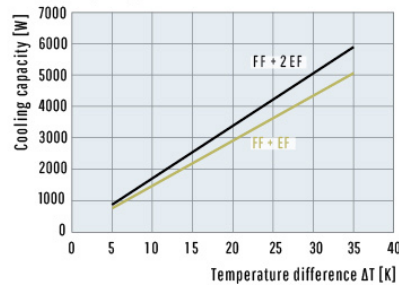
Exit filter EF 320.300



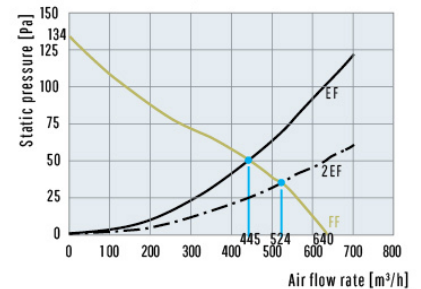
mm	FF 5000	EF 320
X	320	320
Y	320	320
Z1	7	7
Z2	125	36
A'	291	291
B'	291	291

¹for material thickness up to 2mm
+1 mm for thickness of material
> 2 mm ≤ 3 mm

Cooling capacity performance curves



Characteristics of static pressure

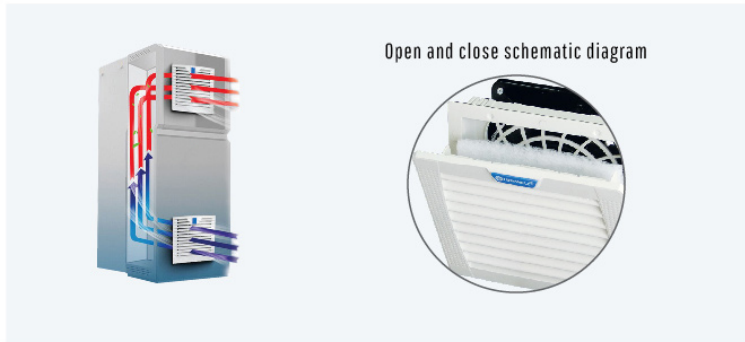


Model FF	Unit	FF5000.230	FF5000.115
Rated operating voltage,frequency	V/Hz	AC 230 /115, 50/60	
Unimpeded air flow	m ³ /h	IP54-550-650	IP55-460-515
Combined air volume	m ³ /h	IP54-490-540	IP55-425-475
Rated Power	W	71-62	
Rated current max.	A	0.34-0.30	0.64-0.62
Noise level	dB(A)	54-52	
Type of connection		Terminal row	
Filtration efficiency	%	91	
Filter pad performance level		64	
Duty cycle	%	100	
Bearing type		ball bearing	
Service life	h	40,000	
Operating temperature range	°C	-40-+70	
Design		made of injection-moulded thermoplastic, self-extinguishing UL 94 V0	

FF7000 series fan-and-filter

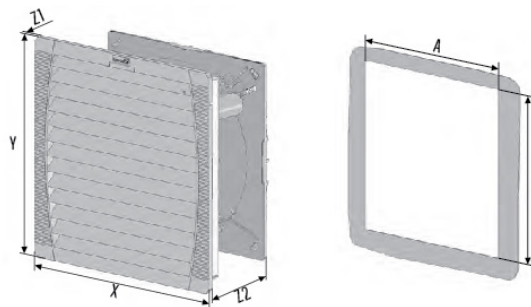
320x320mm | 700-1250 m³/h

Colour	RAL7035,color can be customized
Protection category	NEMA 12-standard filter , IP54 standard , IP55 plus precision filter mat.



Dimensions

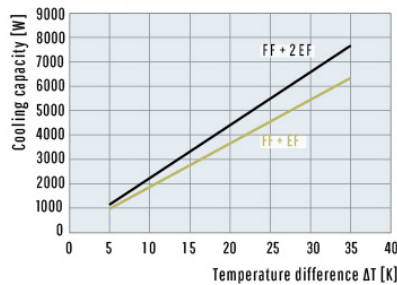
Exit filter EF 320.300



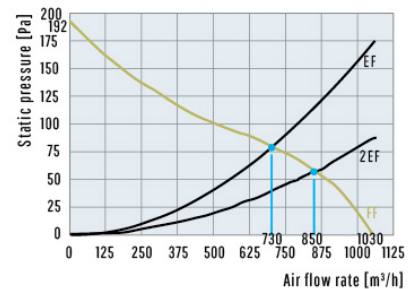
mm	FF 7000	EF 320
X	320	320
Y	320	320
Z1	7	7
Z2	127	36
A ¹	291	291
B ¹	291	291

¹ for material thickness up to 2 mm
+1 mm for thickness of material
> 2 mm ≤ 3 mm

Cooling capacity performance curves



Characteristics of static pressure



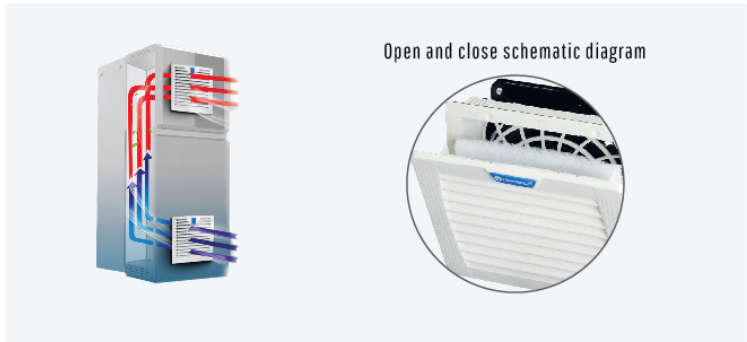
Model FF	Unit	FF7000.400	FF7000.230	FF7000.115
Rated operating voltage,frequency	V/Hz	AC 400 / 230 /115, 50/60		
Unimpeded air flow	m ³ /h	IP54-1050-1250 IP55-900-1100		
Combined air volume	m ³ /h	IP54-700-930 IP55-650-850		
Rated Power	W	155-120	135-104	149-110
Rated current max.	A	0.26-0.25	0.59-0.47	1.2-1.1
Noise level	dB(A)	63-64		
Type of connection		Terminal row		
Filtration efficiency	%	91		
Filter pad performance level		64		
Duty cycle	%	100		
Bearing type		ball bearing		
Service life	h	40,000		
Operating temperature range	°C	-40-+70		
Design		made of injection-moulded thermoplastic, self-extinguishing UL 94 V0		

FF130 series fan-and-filter

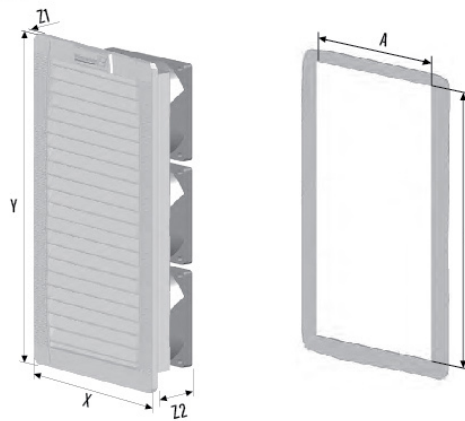
130x290mm | 53-120 m³/h



Colour	RAL7035,color can be customized
Protection category	NEMA 12-standard filter, IP54 standard, IP55 plus precision filter mat.



Dimensions



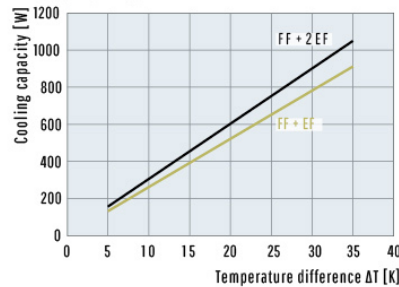
mm	FF 130	EF 130	
	AC	DC	
X	130	130	130
Y	290	290	290
Z1	5	5	5
Z2	74	74	26
A'	105	105	105
B'	265	265	265

¹for material thickness up to 2mm
+1 mm for thickness of material
> 2 mm ≤ 3 mm

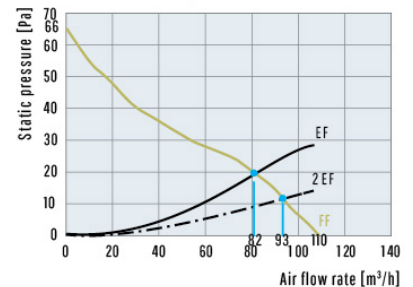
Exit filter EF130.300



Cooling capacity performance curves



Characteristics of static pressure



Model FF	Unit	FF130.230	FF130.115	FF130.012	FF130.024	FF130.048
Rated operating voltage,frequency	V/Hz	AC 230/115, 50/60			DC 12/24/48, 50/60	
Unimpeded air flow	m ³ /h				IP54 105-120	IP55 95-105
Combined air volume	m ³ /h				IP54 80-91	IP55 53-62
Rated Power	W	(9-7)x3	(15-14)x3	2.4x3	2.4x3	2.6x3
Rated current max.	A	(0.08-0.07)x3	(0.15-0.13)x3	0.2x3	0.1x3	0.05x3
Noise level	dB(A)	45			45	
Type of connection		Terminal row				
Filtration efficiency	%	88				
Filter pad performance level		G3				
Duty cycle	%	100				
Bearing type		Sleeve			Ball	
Service life	h	52,500	55,000		70,000	
Operating temperature range	°C	-40~+70				
Design		made of injection-moulded thermoplastic, self-extinguishing UL 94 V0				