





4th Generation Filterfans[®] save time and energy

Filterfans[®]

You can save energy, resources and valuable assembly time through the use of Pfannenberg's 4th Generation Filterfans[®].

They provide for more reliability in the production process, because the innovative filterfans[®] and filter mats from the 4th Generation enable an increase in the air flow while maintaining Type 12 integrity.

Practical tests under the toughest conditions in the woodworking industry, for example, showed that service intervals were prolonged by one to three weeks. The new design features a patented "Click & Fit" latching design for a hardware-free installation and a simple to operate hinge system for easy insertion of the pre-cut and sized filter mat. The newly developed fluted filter mats are easy to clean providing for a longer use life and shorter service times.

Using a combination of filterfans[®] with thermostats and hygrometers from the FLZ series (see page 166), you can additionally achieve savings on energy, materials and time plus a significantly longer life span. This results in an optimized environmental balance as well as greater reliability of your production process.

NEW! 4th Generation Filterfan®

With the 4th Generation, our company can look back on over 50 years of very successful development and marketing of filterfans®. As early as 1958, Otto Pfannenberger developed the world's first filterfan®, which today is still considered to be the '1st Generation' and the model for all subsequent filterfans® worldwide. This was the beginning of industrial thermal management for the electrical enclosure.



Extra service-friendly Filterfan®

The 4th Generation of the Pfannenberger Filterfan® offers an enormous degree of service, mounting and maintenance-friendliness due to:



Tool-free mounting

- fastening without screws
- patented 4-corner latching



Faster filter mat replacement

- patented hinge system for simplest possible handling
- easily insert filter mat



Installation compatibility

- cut-out compatible with older filterfan generations
- ability to be mounted in rows matched to customer application



Modular structure

- variable air flow direction
- toolless mounting of accessories and additional components



Easier, variable electrical connection

- more secure, faster connection using spring-type terminals
- optimum adaptation to electronic assembly concepts

4th Generation Filterfans®

Type	Air flow rate ¹	Rated voltage	Cut-out dimensions (HxW) ³ inches (mm)	Approvals					Page
	CFM2 (Type 12 / IP 55)			UL	cUL	GOST	CSA	CE	
PF Series Filterfans®									
PF 11000	17	115 V / 230 V AC	3.62 x 3.62 (92 x 92)	●	●	●	○	●	137
		12 V / 24 V / 48 V DC							
PF 22000	38	115 V / 230 V AC	4.92 x 4.92 (125 x 125)	●	●	●	○	●	139
		12 V / 24 V / 48 V DC							
PF 32000	65	115 V / 230 V AC	6.97 x 6.97 (177 x 177)	●	●	●	○	●	141
		12 V / 24 V / 48 V DC							
PF 42500	94	115 V / 230 V AC	8.78 x 8.78 (223 x 223)	●	●	●	○	●	145
		12 V / 24 V / 48 V DC							
PF 43000	169	115 V / 230 V AC	8.78 x 8.78 (223 x 223)	●	●	●	○	●	147
		12 V / 24 V / 48 V DC							
PF 65000	297	115 V / 230 V AC	11.46 x 11.46 (291 x 291)	●	●	●	○	●	149
PF 66000	462	400 V / 460 V 3 Ø	11.46 x 11.46 (291 x 291)	●	●	●	○	●	151
		115 V / 230 V AC							
PF 67000	560	400 V / 460 V 3 Ø	11.46 x 11.46 (291 x 291)	●	●	●	○	●	153
		115 V / 230 V AC							
PFA Series exhaust filters									
PFA 10000	N/A	N/A	3.62 x 3.62 (92 x 92)	●	●	●	○	●	137
PFA 20000			4.92 x 4.92 (125 x 125)	●	●	●	○	●	139
PFA 30000			6.97 x 6.97 (177 x 177)	●	●	●	○	●	141
PFA 40000			8.78 x 8.78 (223 x 223)	●	●	●	○	●	145
PFA 60000			11.46 x 11.46 (291 x 291)	●	●	●	○	●	149
PF Slim Line Filterfans									
PF 33000 SL	152	115 V / 230 V AC	11.46 x 11.46 (291 x 291)	○	○			●	143
PF 65000 SL	325	115 V / 230 V AC	11.46 x 11.46 (291 x 291)	●	●			●	155
PF 67000 SL	427	400 V / 460 V 3 Ø	11.46 x 11.46 (291 x 291)	●	●			●	157
		115 V / 230 V AC							
PF Series EMC Filterfans									
PF 11000 EMC	as for PF series	as for PF series	3.66 x 3.66 (93 x 93)	●	●	●	○	●	137
PF 22000 EMC			4.96 x 4.96 (126 x 126)	●	●	●	○	●	139
PF 32000 EMC			7.01 x 7.01 (178 x 178)	●	●	●	○	●	141
PF 42500 EMC			8.82 x 8.82 (224 x 224)	●	●	●	○	●	145
PF 43000 EMC			8.82 x 8.82 (224 x 224)	●	●	●	○	●	147
PF 65000 EMC			11.50 x 11.50 (292 x 292)	●	●	●	○	●	149
PF 66000 EMC			11.50 x 11.50 (292 x 292)	●	●	●	○	●	151
PF 67000 EMC			11.50 x 11.50 (292 x 292)	●	●	●	○	●	153
PFA series EMC exhaust filters									
PFA 10000 EMC	N/A	N/A	3.66 x 3.66 (93 x 93)	●	●	●	○	●	138
PFA 20000 EMC			4.96 x 4.96 (126 x 126)	●	●	●	○	●	140
PFA 30000 EMC			7.01 x 7.01 (178 x 178)	●	●	●	○	●	142
PFA 40000 EMC			8.82 x 8.82 (224 x 224)	●	●	●	○	●	146
PFA 60000 EMC			11.50 x 11.50 (292 x 292)	●	●	●	○	●	148
PTF Series Top-Mounted Filterfans®									
PTF 60500	206 (350)	115 V / 230 V AC	11.46 x 11.46 (291 x 291)	●	●	●		●	161
PTF 60700	324 (550)	115 V / 230 V AC	11.46 x 11.46 (291 x 291)	●	●	●		●	161
PTF 61000	441 (749)	115 V / 230 V AC	11.46 x 11.46 (291 x 291)	●	●	●		●	161
PTFA Series Top Exhaust Filters									
PTFA 60000	N/A	N/A	11.46 x 11.46 (291 x 291)	●	●	●		●	161

¹ free-blowing

³ for material thicknesses up to .08" (2 mm)

● available

○ pending

PF 11000

Filterfan®

PFA 10000

Exhaust filter



- Installation size 1, air flow rate up to 17 CFM
- System of protection IP 54, NEMA type 12
- UL, cUL to NITW2 Category and CE approved, CSA pending
- Cut-out compatible with installation size 1 from the 3rd Generation (see page 159)

Data	PF 11000			Unit	
Part number	RAL 7035 (Lt. Gray Grill)	11611101055	11611151055	11611801055	
	RAL 9011 (Black Grill)	11611101050	11611151050	11611801050	
	AC 50 Hz / 60 Hz			DC	
Rated voltage ± 10 %	230	115	24	V	
Unimpeded airflow	17 (29)			CFM (m³/h)	
Air flow rate in combination (PF + PFA 10000)	11 (18)				
Power consumption	12 / 11	12 / 11	2.4	W	
Current consumption	0.07 / 0.06	0.15 / 0.15	0.1	A	
Noise level (according to EN ISO 3741)	33			dB(A)	
Weight	1.2 (0.55)		.35 (0.16)	lb (kg)	
Type of connection	cable, 2-core, length 310 mm				
Fuse	6			A	
System of protection according to EN 60529 / UL 50	NEMA type 12 - standard filter				
Filtration efficiency	88			%	
Filter mat quality class¹	G 3				
Duty cycle	100			%	
Bearing type	sleeve bearing		ball bearing		
Service life L₁₀ (+ 40 °C)²	52500	55000	70000	h	
Temperature range	+ 5 ... + 131 / - 15 ... + 55			°F / °C	
Material Protection Rating	made of injection-moulded thermoplastic, self-extinguishing, UL 94 VO				

Accessories	Piece	Part number	Information on page	
Exhaust filter PFA 10000	RAL 9011 (Black Grill)	1	11710001050	164
	RAL 7035 (Lt. Gray Grill)	1	11710001055	164
Thermostat FLZ 530° F	1	17111000000		174

¹ according to DIN EN 779

² fan failure is defined as being when the current and speed deviate or the operating noises are out of the ordinary

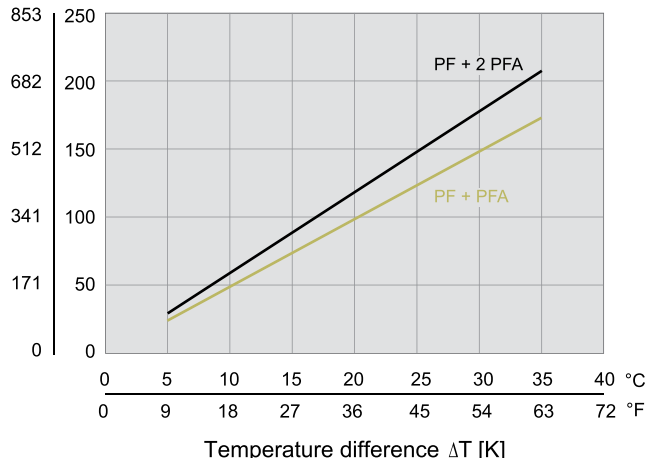
Approvals see page 136

Cooling Capacity Performance Curves

PF 11000

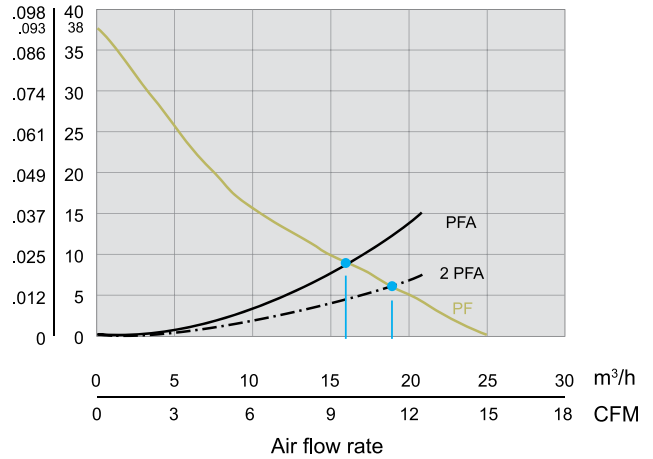
Cooling capacity

BTU W



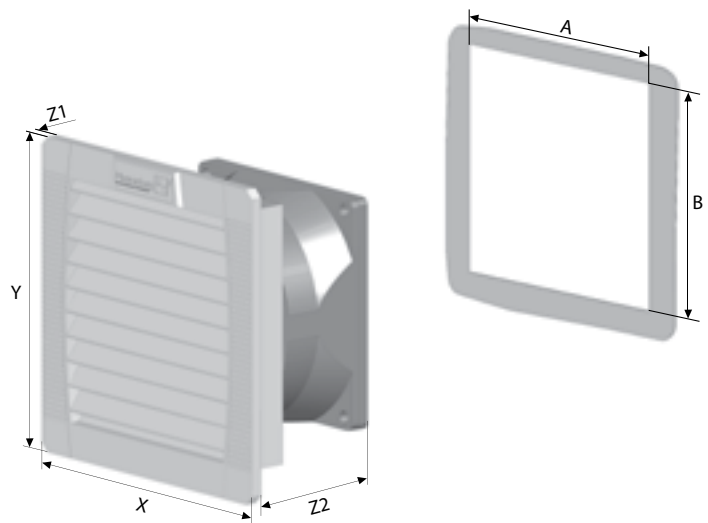
Static pressure

Inch
H₂O Pa



Dimensions

inches (mm)	PF 11000		PFA 10000
	AC	DC	Exhaust
X	4.29 (109)	4.29 (109)	4.29 (109)
Y	4.29 (109)	4.29 (109)	4.29 (109)
Z1	.16 (4)	.16 (4)	.16 (4)
Z2	2.44 (62)	1.93 (49)	.75 (19)
A'	3.62 (92)	3.62 (92)	3.62 (92)
B'	3.62 (92)	3.62 (92)	3.62 (92)



PF 22000

Filterfan®

PFA 20000

Exhaust filter

- Installation size 2, air flow rate up to 38 CFM
- System of protection IP 55, NEMA Type 12
- UL, cUL to NITW2 Category and CE approved, CSA pending
- Cut-out compatible with installation size 2 from the 3rd Generation (see page 159)



Options:

- UV-resistance / EMC, consult factory for part numbers

Data	PF 22000						Unit
Part number	RAL 9011 (Black Grill)	11622104050	11622154050	11622854050	11622804050	1162704050	
	RAL 7035 (Lt. Gray Grill)	11622104055	11622154055	11622854055	11622804055	1162704055	
	AC 50 Hz / 60 Hz			DC			
Rated voltage ± 10 %	230	115	12	24	48		V
Unimpeded airflow (CFM2)	38 (64)						CFM (m³/h)
Air flow rate in combination (PF + PFA 20000) (CFM3)	28 (46)						
Power consumption	19 / 18	20 / 20	5	5	5		W
Current consumption	0.12 / 0.18	0.24 / 0.23	0.42	0.21	0.1		A
Noise level (according to EN ISO 3741)	44 / 44		44				
Weight	1.5 (0.7)		.97 (0.44)				lb (kg)
Type of connection	terminal strip		cable, 2-core, length 310 mm				
Fuse (Recommended)	6						A
System of protection according to EN 60529 / UL 50	NEMA Type 12 - fluted filter / IP 55						
Filtration efficiency	91						%
Filter mat quality class¹	G 4						
Duty cycle	100						%
Bearing type	sleeve bearing		ball bearing				
Service life L ₁₀ (+ 40 °C)²	37500	40000	62500				h
Temperature range	+ 5 ... + 131 / - 15 ... + 55						°F / °C
Material Protection Rating	made of injection-molded thermoplastic, self-extinguishing, UL 94 VO, UV-resistant optional						

Accessories	Piece	Part number	Information on page
Exhaust filter PFA 20000 RAL 9011 (Black Grill)	1	11720004050	164
RAL 7035 (Lt. Gray Grill)	1	11720004055	164
Thermostat FLZ 530° F	1	17121000010	174

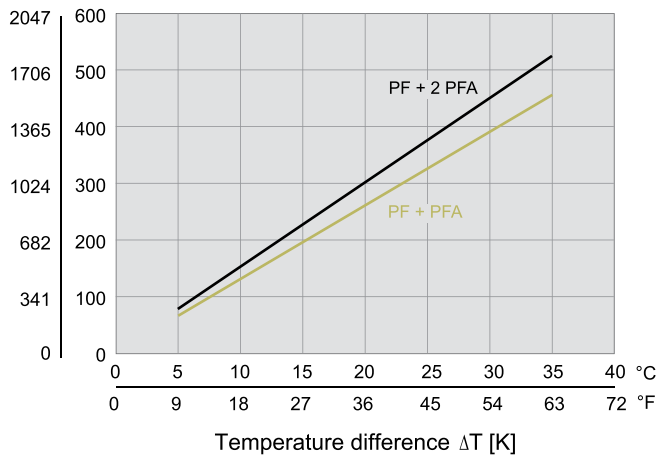
¹ according to DIN EN 779

² fan failure is defined as being when the current and speed deviate or the operating noises are out of the ordinary

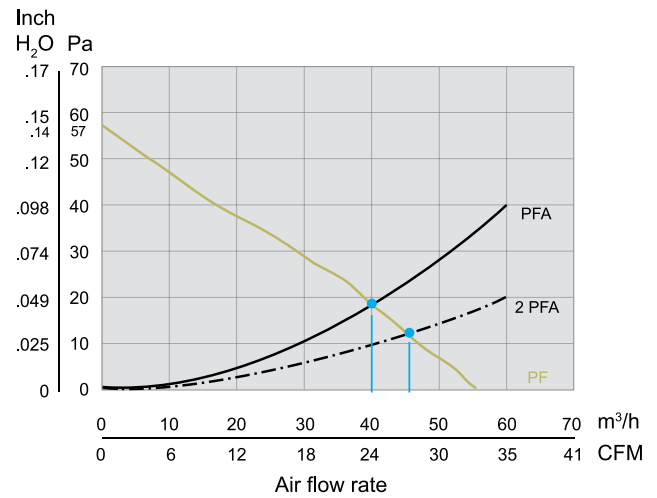
Approvals see page 136

Cooling Capacity Performance Curves	Static Pressure Performance Curves
PF 22000 T12/IP 55 (& UV option)	PF 22000 T12/IP 55 (& UV option)

Cooling capacity
BTU W



Static pressure

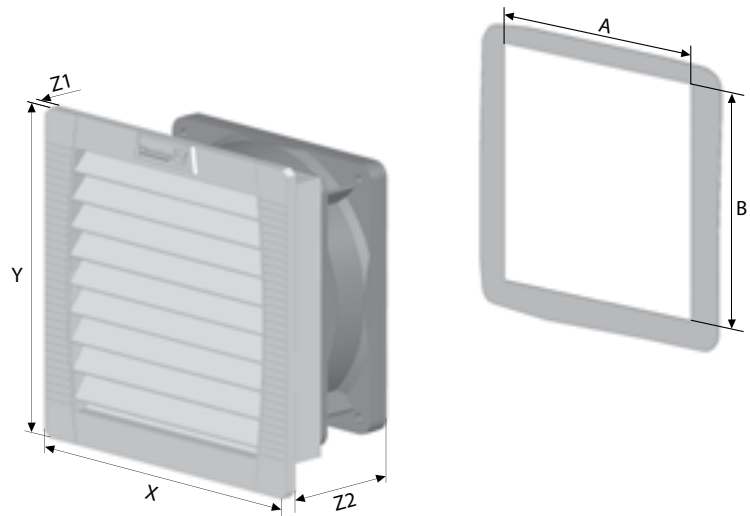


Dimensions

inches (mm)	PF 22000		PFA 20000
	AC	DC	Exhaust
X	5.71 (145)	5.71 (145)	5.71 (145)
Y	5.71 (145)	5.71 (145)	5.71 (145)
Z1	.2 (5)	.2 (5)	.2 (5)
Z2	2.76 (70)	2.52 (64)	1.02 (26)
A¹	4.92 (125)²	4.92 (125)²	4.92 (125)²
B¹	4.92 (125)²	4.92 (125)²	4.92 (125)²

¹ for material thicknesses up to .07" (2 mm)
+1 mm for thickness of material > .07" (2 mm) ≤ .12" (3 mm)

² add .039" (1 mm) for EMC version



PF 32000

Filterfan®

PFA 30000**Exhaust filter**

- Installation size 3, air flow rate up to 65 CFM
- System of protection IP 54 and IP 55, NEMA type 12
- UL, cUL to NITW2 Category and CE approved, CSA pending

Options:

- **UV-resistance / EMC, consult factory for part numbers**

Data		PF32000			Unit
Part number	RAL 9011 (Black Grill)	11632104050	11632154050	11632804050	
	RAL 7035 (Lt. Gray Grill)	11632104055	11632154055	11632804055	
		AC 50 Hz / 60 Hz		DC	
Rated voltage ± 10 %		230	115	24	V
Unimpeded airflow (CFM2)		65 (110)			CFM (m³/h)
Air flow rate in combination (PF + PFA 30000) (CFM3)		38 (64)			
Power consumption		19 / 18	20 / 20	5	W
Current consumption		0.12 / 0.18	0.24 / 0.23	0.21	A
Noise level (according to EN ISO 3741)		40			
Weight		1.9 (0.87)		1.3 (0.61)	lb (kg)
Type of connection		terminal strip		cable, 2-core, length 310 mm	
Fuse (Recommended)		6			A
System of protection according to EN 60529 / UL 50		NEMA Type 12 - fluted filter / IP 55			
Filtration efficiency		91			%
Filter mat quality class ¹		G 4			
Duty cycle		100			%
Bearing type		sleeve bearing		ball bearing	
Service life L ₁₀ (+ 40 °C) ²		37500	40000	62500	h
Temperature range		+ 5 ... + 131 / - 15 ... + 55			°F / °C
Material Protection Rating		made of injection-molded thermoplastic, self-extinguishing, UL 94 VO, UV-resistant optional			

Accessories	Piece	Part number	Information on page
Exhaust filter PFA 30000 RAL 9011 (Black Grill)	1	11730004050	164
Exhaust filter PFA 30000 RAL 7035 (Lt. Gray Grill)	1	11730004055	164
Thermostat FLZ 530° F	1	17121000010	174

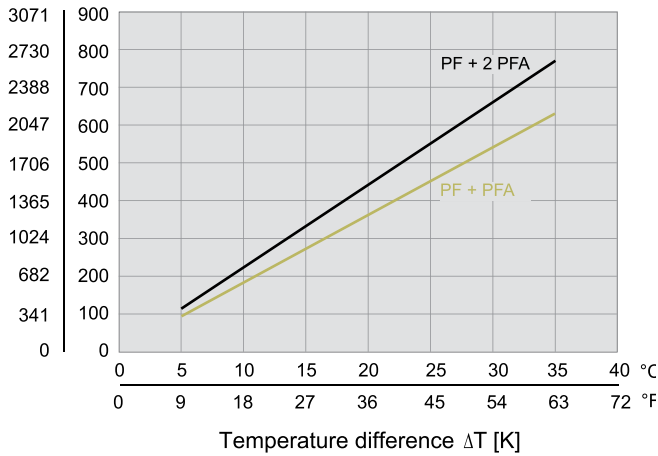
¹ according to DIN EN 779

² fan failure is defined as being when the current and speed deviate or the operating noises are out of the ordinary

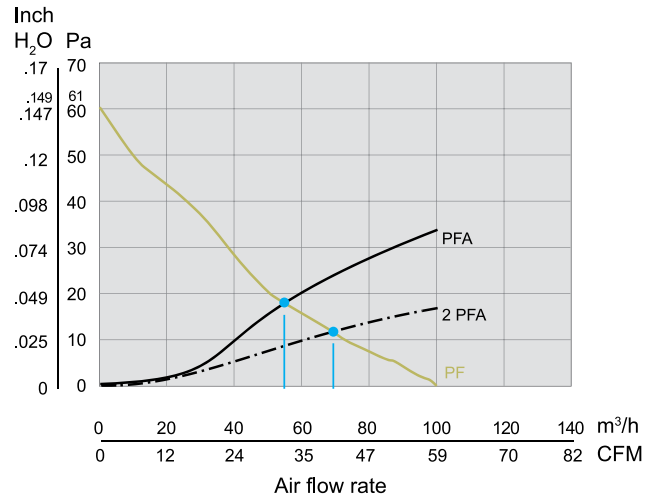
Approvals see page 136

Cooling Capacity Performance Curves	Static Pressure Performance Curves
PF 32000 T12 / IP 55 (& UV option)	PF 32000 T12 / IP 55 (& UV option)

Cooling capacity
BTU W



Static pressure

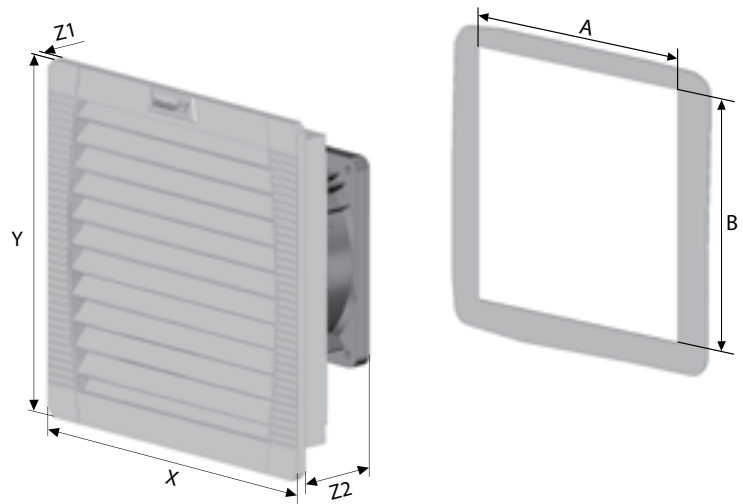


Dimensions

inches (mm)	PF 32000		PFA 30000
	AC	DC	Exhaust
X	7.95 (202)	7.95 (202)	7.95 (202)
Y	7.95 (202)	7.95 (202)	7.95 (202)
Z1	.24 (6)	.24 (6)	.24 (6)
Z2	3.43 (87)	3.19 (81)	1.34 (34)
A¹	6.97 (177) ²	6.97 (177) ²	6.97 (177) ²
B¹	6.97 (177) ²	6.97 (177) ²	6.97 (177) ²

¹ for material thicknesses up to .07" (2 mm)
+1 mm for thickness of material > .07" (2 mm) ≤ 1.2" (3 mm)

² add .039" (1 mm) for EMC version



PF 33000 SL

Slim Line Filterfan®

Pfannenberger 4th Generation filterfan® with low installation depth

- Installation size 3, air flow rate up to 115 CFM
- System of protection IP 55, NEMA 12
- UL, cUL to NITW2 Category and CE approved, CSA pending

• Product available July 1, 2009. Catalog data subject to change



Data		PF33000 SL			Unit
Part number	RAL 9011 (Black Grill)	11633106050	11633156050	11633806050	
	RAL 7035 (Lt. Gray Grill)	11633106055	11633156055	11633806055	
		AC 50 Hz / 60 Hz		DC	
Rated voltage ± 10 %		230	115	24	V
Unimpeded airflow (CFM2)		152 (258)			CFM (m³/h)
Air flow rate in combination (PF + PFA 30000) (CFM3)		115 (196)			
Power consumption		19 / 18	20 / 20	5	W
Current consumption		0.12 / 0.18	0.24 / 0.23	0.21	A
Noise level (according to EN ISO 3741)		40			
Weight		1.9 (0.87)		1.3 (0.61)	lb (kg)
Type of connection		terminal strip		cable, 2-core, length 310 mm	
Fuse (Recommended)		6			A
System of protection according to EN 60529 / UL 50		NEMA 12 - fluted filter / IP 55			
Filtration efficiency		91			%
Filter mat quality class ¹		G 4			
Duty cycle		100			%
Bearing type		sleeve bearing		ball bearing	
Service life L ₁₀ (+ 40 °C) ²		37500	40000	62500	h
Temperature range		+ 5 ... + 131 / - 15 ... + 55			°F / °C
Material Protection Rating		made of injection-molded thermoplastic, self-extinguishing, UL 94 VO, UV-resistant optional			

Accessories	Piece	Part number	Information on page
Exhaust filter PFA 30000 RAL 9011 (Black Grill)	1	11730004050	164
RAL 7035 (Lt. Gray Grill)	1	11730004055	164
Thermostat FLZ 530° F	1	17121000010	174

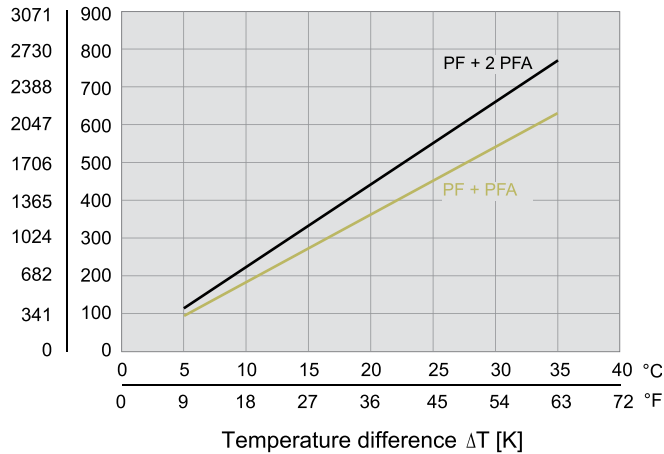
¹ according to DIN EN 779

² fan failure is defined as being when the current and speed deviate or the operating noises are out of the ordinary

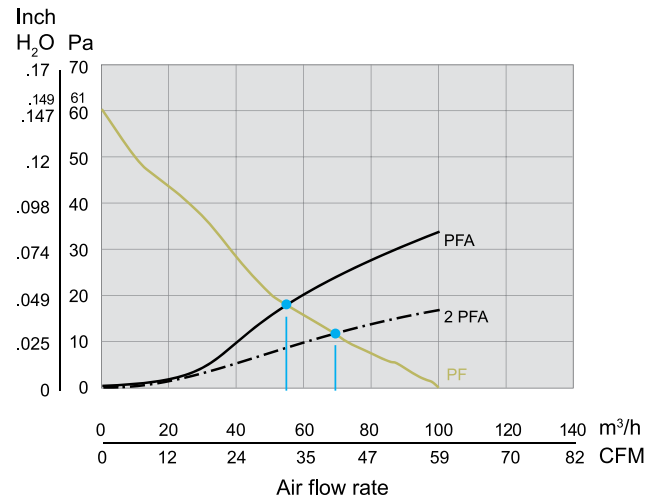
Approvals see page 136

Cooling Capacity Performance Curves	Static Pressure Performance Curves
PF 33000 SL	PF 33000 SL

Cooling capacity
BTU W



Static pressure

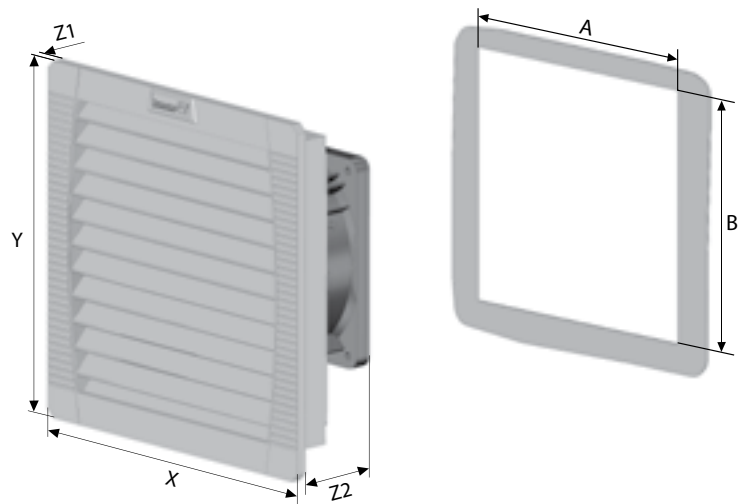


Dimensions

inches (mm)	PF 33000 SL		PFA 30000
	AC	DC	Exhaust
X	7.95 (202)	7.95 (202)	7.95 (202)
Y	7.95 (202)	7.95 (202)	7.95 (202)
Z1	.24 (6)	.24 (6)	.24 (6)
Z2	3.43 (87)	3.19 (81)	1.34 (34)
A¹	6.97 (177)²	6.97 (177)²	6.97 (177)²
B¹	6.97 (177)²	6.97 (177)²	6.97 (177)²

¹ for material thicknesses up to .07" (2 mm)
+1 mm for thickness of material > .07" (2 mm) ≤ 1.2" (3 mm)

² add .039" (1 mm) for EMC version



PF 42500

Filterfan®

PFA 40000**Exhaust filter**

- Installation size 4, air flow rate up to 94 CFM
- Two performance classes, cut-out compatible
- System of protection IP 54 and IP 55, NEMA type 12
- UL, cUL to NITW2 Category and CE approved, CSA pending
- Cut-out compatible with installation size 4 from the 3rd Generation (see page 159)

Data		PF 42500			Unit
Part number	RAL 9011 (Black Grill)	11642104050	11642154050	11642804050	
	RAL 7035 (Lt. Gray Grill)	11642104055	11642154055	11642804055	
		AC 50 Hz / 60 Hz		DC	
Rated voltage ± 10 %		230	115	24	V
Unimpeded airflow (CFM2)		94 (160)			CFM (m³/h)
Air flow rate in combination (PF + PFA 40000) (CFM3)		67 (113)			
Power consumption		18 / 17	18 / 17	4.7	W
Current consumption		0.12 / 0.1	0.25 / 0.25	0.2	A
Noise level (according to EN ISO 3741)		40 / 43		40	dB(A)
Weight		3 (1.18)		2 (0.92)	lb (kg)
Type of connection		spring-type terminal			
Fuse (Recommended)		6			A
System of protection according to EN 60529 / UL 50		NEMA Type 12 - fluted filter / IP 55			
Filtration efficiency		91			%
Filter mat quality class¹		G 4			
Duty cycle		100			%
Bearing type		ball bearing			
Service life L₁₀ (+ 40 °C)²		40000	42500	70000	h
Temperature range		+ 5 ... + 131 / - 15 ... + 55			°F / °C
Material Protection Rating		made of injection-molded thermoplastic, self-extinguishing, UL 94 VO, UV-resistant optional			

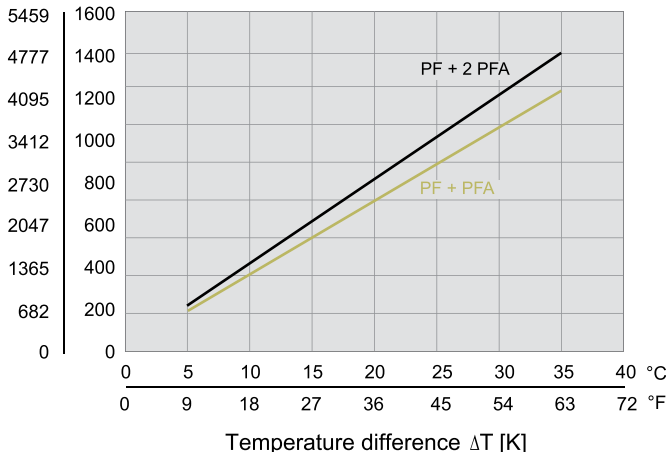
Accessories	Piece	Part number	Information on page
Exhaust filter PFA 40000 RAL 9011 (Black Grill)	1	11740004050	164
Exhaust filter PFA 40000 RAL 7035 (Lt. Gray Grill)	1	11740004055	164
Thermostat FLZ 530° F	1	17121000010	174

¹ according to DIN EN 779² fan failure is defined as being when the current and speed deviate or the operating noises are out of the ordinary

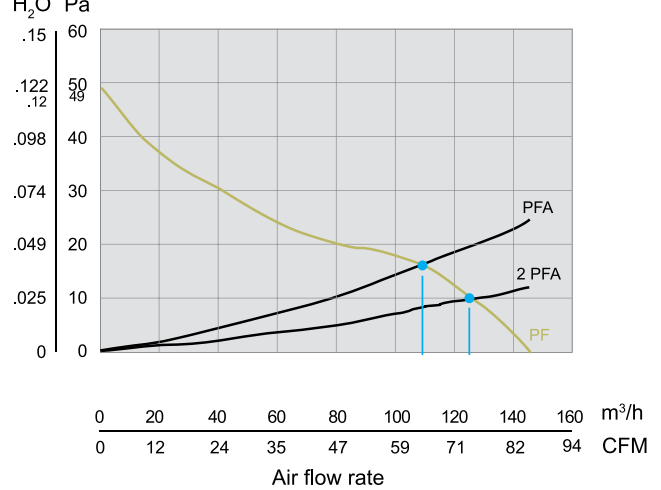
Approvals see page 136

Cooling Capacity Performance Curves	Static Pressure Performance Curves
PF 42500 T12 / IP 55 (& UV option)	PF 42500 T12 / IP 55 (& UV option)

Cooling capacity
BTU W



Static pressure
Inch
H₂O Pa

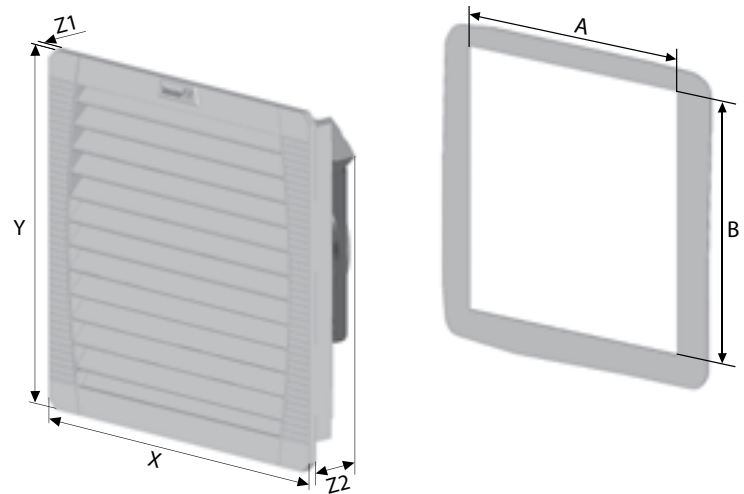


Dimensions

inches (mm)	PF 42500	PFA 40000
X	9.92 (252)	9.92 (252)
Y	9.92 (252)	9.92 (252)
Z1	.24 (6)	.24 (6)
Z2	3.82 (97)	1.5 (38)
A¹	8.78 (223)²	8.78 (223)²
B¹	8.78 (223)²	8.78 (223)²

¹ for material thicknesses up to .08" (2 mm)
+.039" (+1 mm) for thickness of material > .08" (2 mm) ≤ .19" (3 mm)

² add .039" (1 mm) for EMC version



PF 43000

Filterfan®

PFA 40000

Exhaust filter



- Installation size 4, air flow rate up to 169 CFM
- Two performance classes, cut-out compatible
- System of protection IP 54 and IP 55, NEMA type 12
- UL, cUL to NITW2 Category and CE approved, CSA pending
- Cut-out compatible with installation size 4 from the 3rd Generation (see page 159)

Options:

- **UV-resistance / EMC, consult factory for part numbers**

Data		PF 43000			Unit
Part number	RAL 9011 (Black Grill)	11643104050	11643154050	11643804050	
	RAL 7035 (Lt. Gray Grill)	11643104055	11643154055	11643804055	
		AC 50 Hz / 60 Hz		DC	
Rated voltage ± 10 %		230	115	24	V
Unimpeded airflow (CFM2)	IP 55	169 (287)			CFM (m³/h)
Air flow rate in combination (PF + PFA 40000) (CFM3)	IP 55	142 (241)			
Power consumption		45 / 39	40 / 40	12	W
Current consumption		0.32 / 0.26	0.5 / 0.5	0.5	A
Noise level (according to EN ISO 3741)	IP 55	42 / 46		42	dB(A)
Weight		3.68 (1.67)		3.33 (1.51)	lb (kg)
Type of connection		spring-type terminal			
Fuse (Recommended)		6			A
System of protection according to EN 60529 / UL 50	IP 55	NEMA Type 12 - fluted filter / IP 55			
Filtration efficiency	IP 55	91			%
Filter mat quality class¹	IP 55	G 4			
Duty cycle		100			%
Bearing type		ball bearing			
Service life L₁₀ (+ 40 °C)²		40000		80000	h
Temperature range		+ 5 ... + 131 / - 15 ... + 55			°F / °C
Material Protection Rating		made of injection-molded thermoplastic, self-extinguishing, UL 94 VO, UV-resistant optional			

Accessories	Piece	Part number	Information on page
Exhaust filter PFA 40000 RAL 9011 (Black Grill)	1	11740004050	164
RAL 7035 (Lt. Gray Grill)	1	11740004055	164
Thermostat FLZ 530° F	1	17121000010	174

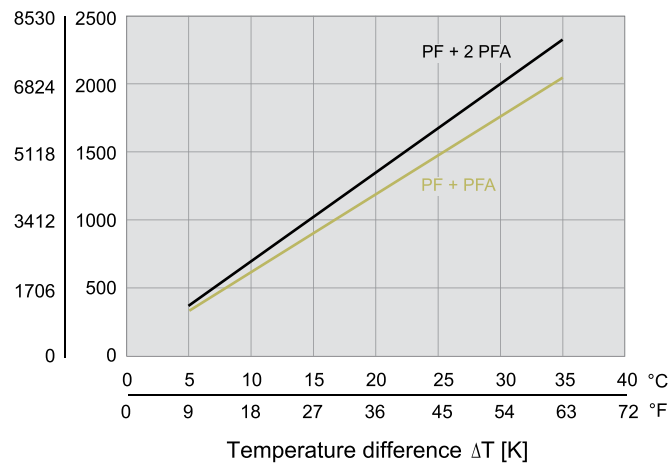
¹ according to DIN EN 779

² fan failure is defined as being when the current and speed deviate or the operating noises are out of the ordinary
Approvals see page 136

Cooling Capacity Performance Curves	Static Pressure Performance Curves
PF 43000 T12 / IP 55 (& UV option)	PF 43000 T12 / IP 55 (& UV option)

Cooling capacity

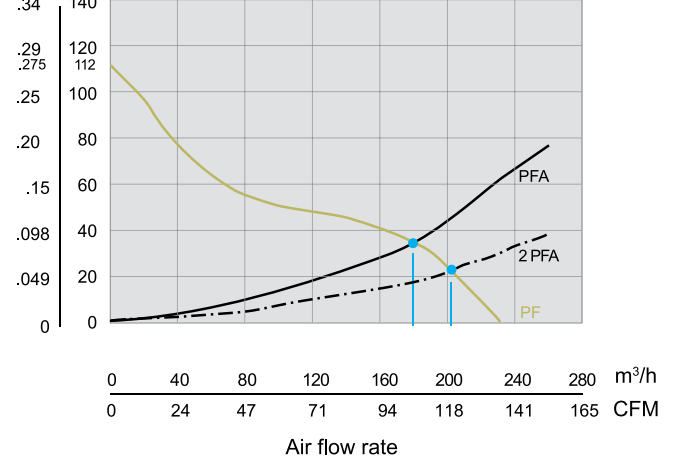
BTU W



Static pressure

Inch

H₂O Pa

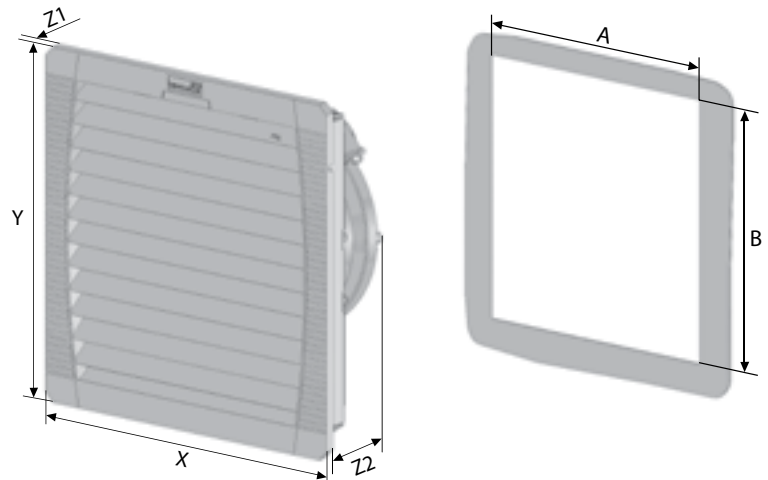


Dimensions

inches (mm)	43000		PFA 40000
	AC	DC	Exhaust
X	9.92 (252)	9.92 (252)	9.92 (252)
Y	9.92 (252)	9.92 (252)	9.92 (252)
Z1	.24 (6)	.24 (6)	.24 (6)
Z2	4.45 (113)	3.82 (97)	1.5 (38)
A¹	8.78 (223) ²	8.78 (223) ²	8.78 (223) ²
B¹	8.78 (223) ²	8.78 (223) ²	8.78 (223) ²

¹ for material thicknesses up to .08" (2 mm)
+.039 (+1 mm) for thickness of material > .08" (2 mm) ≤ .19" (3 mm)

² add .039" (1 mm) for EMC version



PF 65000

Filterfan®

PFA 60000**Exhaust filter**

- Installation size 6, air flow rate up to 297 CFM
- Three performance classes, cut-out compatible
- System of protection IP 54 and IP 55, NEMA type 12
- UL, cUL to NITW2 Category and CE approved, CSA pending
- Cut-out compatible with installation size 6 from the 3rd Generation (see page 159)

**Options:**

- **UV-resistance / EMC, consult factory for part numbers**

Data		PF 65000		Unit
Part number	RAL 9011 (Black Grill)	11665104050	11665154050	
	RAL 7035 (Lt. Gray Grill)	11665104055	11665154055	
		AC 50 Hz / 60 Hz		
Rated voltage $\pm 10\%$		230	115	V
Unimpeded airflow (CFM2)		297 (505)		CFM (m ³ /h)
Air flow rate in combination (PF + PFA 60000) (CFM3)		230 (391)		
Power consumption		65 / 80	75 / 90	W
Current consumption		0.3 / 0.36	0.66 / 0.8	A
Noise level (according to EN ISO 3741)		54 / 52		dB(A)
Weight		7 (3.2)		lb (kg)
Type of connection		spring-type terminal		
Fuse (Recommended)		6		A
System of protection according to EN 60529 / UL 50		IP 55 NEMA Type 12 - fluted filter / IP55		
Filtration efficiency		91		%
Filter mat quality class ¹		IP 55 G 4		
Duty cycle		100		%
Bearing type		ball bearing		
Service life L ₁₀ (+ 40 °C) ²		40000		h
Temperature range		+ 5 ... + 131 / - 15 ... + 55		°F / °C
Material Protection Rating		made of injection-molded thermoplastic, self-extinguishing, UL 94 VO, UV-resistant optional		

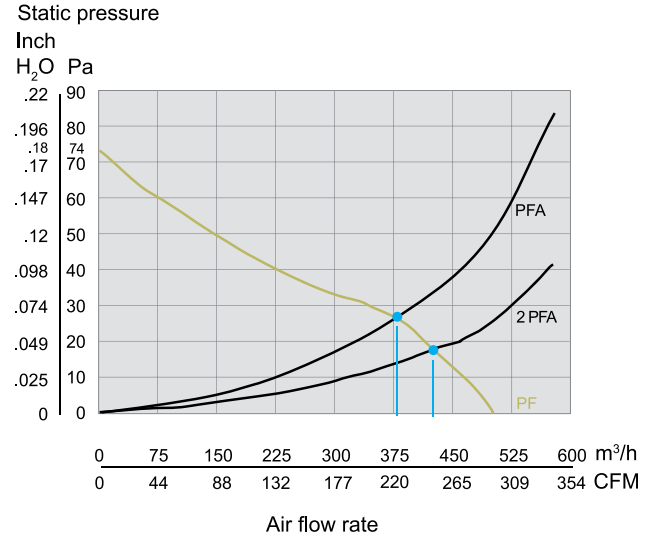
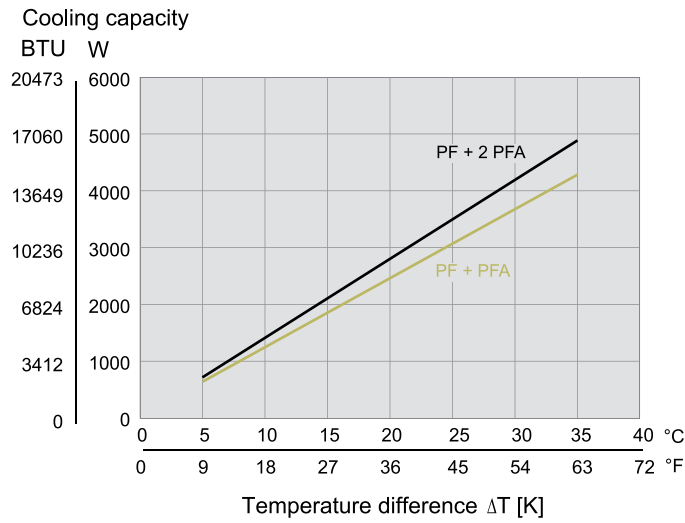
Accessories	Piece	Part number	Information on page
Exhaust filter PFA 60000 RAL 9011 (Black Grill)	1	11760004050	164
RAL 7035 (Lt. Gray Grill)	1	11760004055	164
Thermostat FLZ 530° F	1	17121000010	174

¹ according to DIN EN 779

² fan failure is defined as being when the current and speed deviate or the operating noises are out of the ordinary

Approvals see page 136

Cooling Capacity Performance Curves	Static Pressure Performance Curves
PF 65000 T12 / IP 55 (& UV option)	PF 65000 T12 / IP 55 (& UV option)

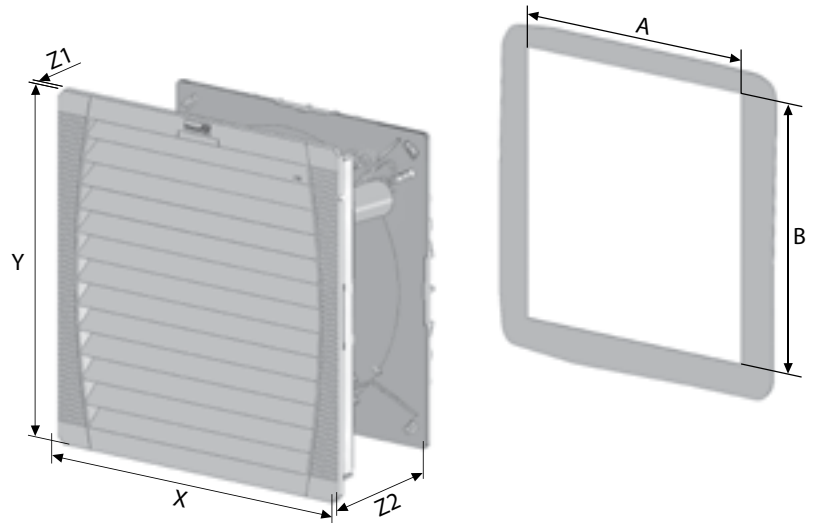


Dimensions

inches (mm)	PF 65000	PFA 60000
X	12.6 (320)	12.6 (320)
Y	12.6 (320)	12.6 (320)
Z1	.28 (7)	.28 (7)
Z2	5.91 (150)	1.54 (39)
A¹	11.46 (291)²	11.46 (291)²
B¹	11.46 (291)²	11.46 (291)²

¹ for material thicknesses up to .08" (2 mm)
+.039" (+1 mm) for thickness of material > .08" (2 mm) ≤ .19" (3 mm)

² add .039" (1 mm) for EMC version



PF 66000

Filterfan®

PFA 60000

Exhaust filter



- Installation size 6, air flow rate up to 462 CFM
- Three performance classes, cut-out compatible
- System of protection IP 54 and IP 55, NEMA type 12
- UL, cUL to NITW2 Category and CE approved, CSA pending
- Cut-out compatible with installation size 6 from the 3rd Generation (see page 159)

Options:

- **UV-resistance / EMC, consult factory for part numbers**

Data		PF 66000			Unit
Part number	RAL 9011 (Black Grill)	11666024050	11666104050	11666154050	
	RAL 7035 (Lt. Gray Grill)	11666024055	11666104055	11666154055	
		AC 50 Hz / 60 Hz			
Rated voltage ± 10 %		400 / 460	230	115	V
Unimpeded airflow (CFM2)		462 (785)			CFM (m³/h)
Air flow rate in combination (PF + PFA 60000) (CFM3)		295 (501)			CFM (m³/h)
Power consumption		120 / 155	115 / 150	110 / 160	W
Current consumption		0.26 / 0.25	0.51 / 0.66	0.96 / 1.4	A
Noise level (according to EN ISO 3741)		63 / 64			dB(A)
Weight		7 (3.2)			lb (kg)
Type of connection		spring-type terminal			
Fuse (Recommended)		6			A
System of protection according to EN 60529 / UL 50		NEMA Type 12 - standard filter / IP55			
Filtration efficiency		91			%
Filter mat quality class¹		G 4			
Duty cycle		100			%
Bearing type		ball bearing			
Service life L₁₀ (+ 40 °C)²		40000			h
Temperature range		+ 5 ... + 131 / - 15 ... + 55			°C / °F
Material Protection Rating		made of injection-molded thermoplastic, self-extinguishing, UL 94 VO, UV-resistant optional			

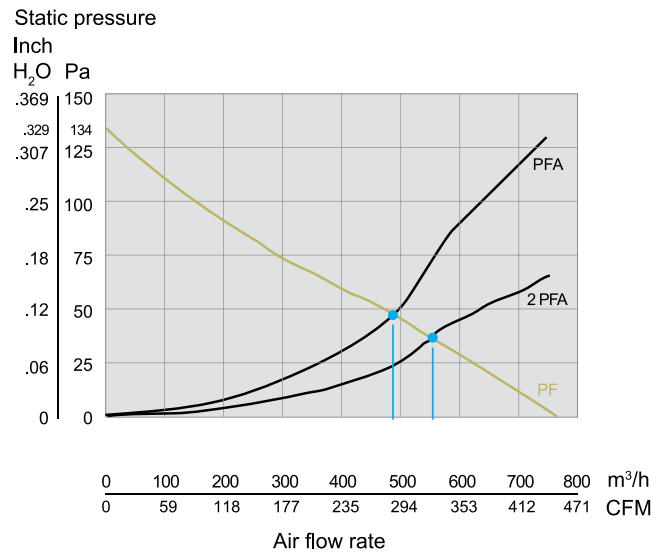
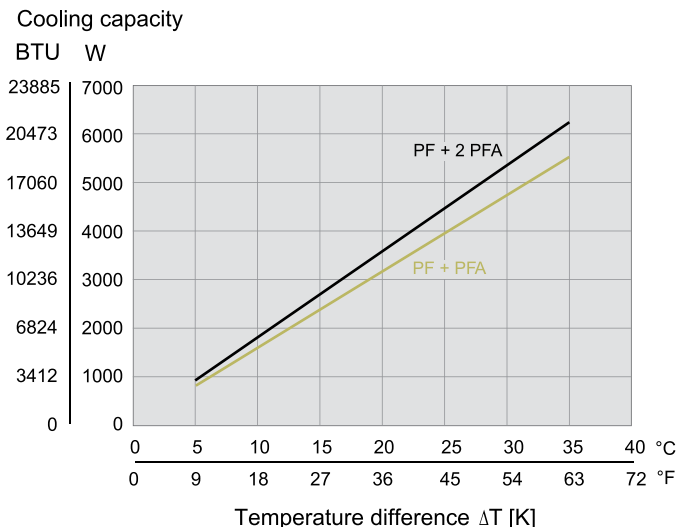
Accessories	Piece	Part number	Information on page
Exhaust filter PFA 60000 RAL 9011 (Black Grill)	1	11760004050	164
Exhaust filter PFA 60000 RAL 7035 (Lt. Gray Grill)	1	11760004055	164
Thermostat FLZ 530° F	1	17121000010	174

¹ according to DIN EN 779

² fan failure is defined as being when the current and speed deviate or the operating noises are out of the ordinary

Approvals see page 136

Cooling Capacity Performance Curves	Static Pressure Performance Curves
PF 66000 T12 / IP 55 (& UV option)	PF 66000 T12 / IP 55 (& UV option)

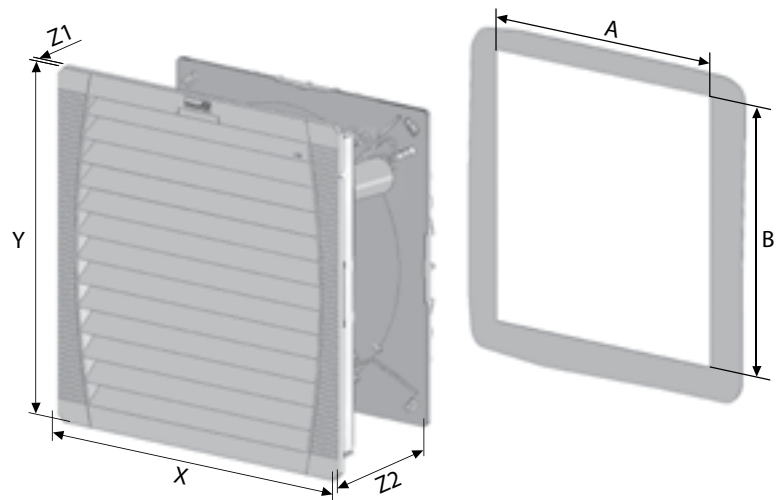


Dimensions

inches (mm)	PF 66000	PFA 60000
X	12.6 (320)	12.6 (320)
Y	12.6 (320)	12.6 (320)
Z1	.28 (7)	.28 (7)
Z2	5.91 (150)	1.54 (39)
A¹	11.46 (291) ²	11.46 (291) ²
B¹	11.46 (291) ²	11.46 (291) ²

¹ for material thicknesses up to .08" (2 mm)
+.039 (+1 mm) for thickness of material > .08" (2 mm) ≤ .19" (3 mm)

² add .039" (1 mm) for EMC version



PF 67000

Filterfan®

PFA 60000**Exhaust filter**

- Installation size 6, air flow rate up to 560 CFM
- Three performance classes, cut-out compatible
- System of protection IP 54 and IP 55, NEMA type 12
- UL, cUL to NITW2 Category and CE approved, CSA pending
- Cut-out compatible with installation size 6 from the 3rd Generation (see page 159)

Options:

- UV-resistance / EMC, consult factory for part numbers

Data	PF 67000			Unit
Part number RAL 9011 (Black Grill)	11667024050	11667104050	11667154050	
RAL 7035 (Lt. Gray Grill)	11667024055	11667104055	11667154055	
	AC 50 Hz / 60 Hz			
Rated voltage $\pm 10\%$	400 / 460	230	115	V
Unimpeded airflow (CFM2)	560 (950)			CFM (m ³ /h)
Air flow rate in combination (PF + PFA 60000) (CFM3)	368 (625)			
Power consumption	140 / 170	135 / 200	140 / 195	W
Current consumption	0.35 / 0.43	0.59 / 0.88	1.23 / 1.71	A
Noise level (according to EN ISO 3741)	66 / 69			dB(A)
Weight	8.16 (3.7)			lb (kg)
Type of connection	spring-type terminal			
Fuse (Recommended)	6			A
System of protection according to EN 60529 / UL 50	NEMA Type 12 - fluted filter / IP 55			
Filtration efficiency	91			%
Filter mat quality class ¹	G 4			
Duty cycle	100			%
Bearing type	ball bearing			
Service life L ₁₀ (+ 40 °C) ²	40000			h
Temperature range	+ 5 ... + 131 / - 15 ... + 55			°F / °C
Material Protection Rating	made of injection-molded thermoplastic, self-extinguishing, UL 94 VO, UV-resistant optional			

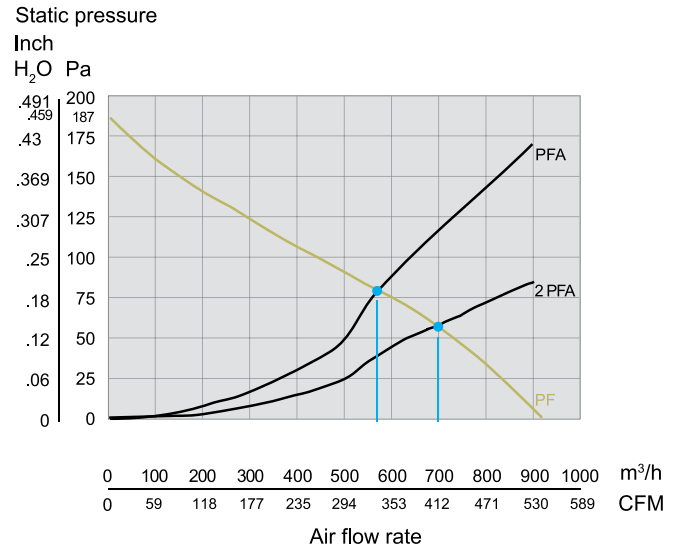
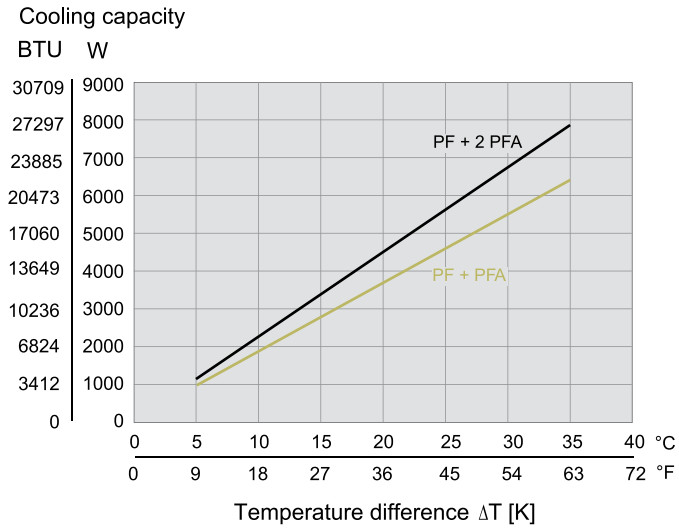
Accessories	Piece	Part number	Information on page
Exhaust filter PFA 60000 RAL 9011 (Black Grill)	1	11760004050	164
RAL 7035 (Lt. Gray Grill)	1	11760004055	164
Thermostat FLZ 530° F	1	17121000010	174

¹ according to DIN EN 779

² fan failure is defined as being when the current and speed deviate or the operating noises are out of the ordinary

Approvals see page 136

Cooling Capacity Performance Curves	Static Pressure Performance Curves
PF 67000 T12 / IP 55 (& UV option)	PF 67000 T12 / IP 55 (& UV option)

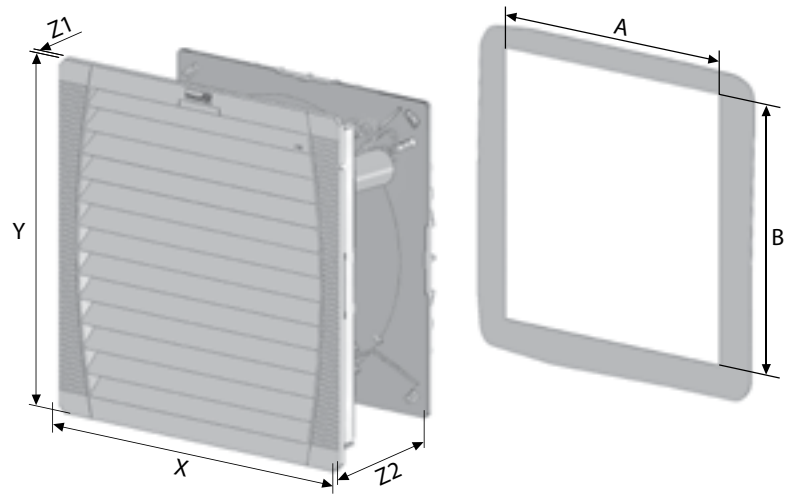


Dimensions

inches (mm)	PF 67000	PFA 60000
X	12.6 (320)	12.6 (320)
Y	12.6 (320)	12.6 (320)
Z1	.28 (7)	.28 (7)
Z2	5.91 (150)	1.54 (39)
A¹	11.46 (291) ²	11.46 (291) ²
B¹	11.46 (291) ²	11.46 (291) ²

¹ for material thicknesses up to .08" (2 mm)
+.039 (+1 mm) for thickness of material > .08" (2 mm) ≤ .19" (3 mm)

² add .039" (1 mm) for EMC version



PF 65000 SL

Slim Line Filterfan®



Pfannenberg 4th Generation filterfan® with low installation depth

- Installation size 6, air flow rate up to 325 CFM
- Three performance classes, cut-out-compatible
- System of protection IP 55, NEMA Type 12
- UL, cUL to NITW2 Category and CE approved, CSA pending

Data	PF 65000 SL		Unit	
Part number	RAL 9011 (Black Grill)	11675104050	11675154050	
	RAL 7035 (Lt. Gray Grill)	11675104055	11675154055	
	AC 50 Hz / 60 Hz			
Rated voltage ± 10 %	230	115	V	
Unimpeded airflow (CFM2)	325 (550)			CFM (m³/h)
Air flow rate in combination (PF + PFA 60000) (CFM3)	250 (423)			
Power consumption	64 / 80			W
Current consumption	0.29 / 0.35	0.58 / 0.70	A	
Noise level (according to EN ISO 3741)	54 / 52			dB(A)
Weight	7 (3.3)			lb (kg)
Type of connection	spring-type terminal			
Fuse (Recommended)	6			A
System of protection according to EN 60529 / UL 50	NEMA Type 12 - fluted filter / IP 55			
Filtration efficiency	91			%
Filter mat quality class¹	G 4			
Duty cycle	100			%
Bearing type	ball bearing			
Service life L₁₀ (+ 40 °C)²	40000			h
Temperature range	+ 5 ... + 131 / - 15 ... + 55			°F / °C
Material Protection Rating	made of injection-molded thermoplastic, self-extinguishing, UL 94 VO, UV-resistant optional			

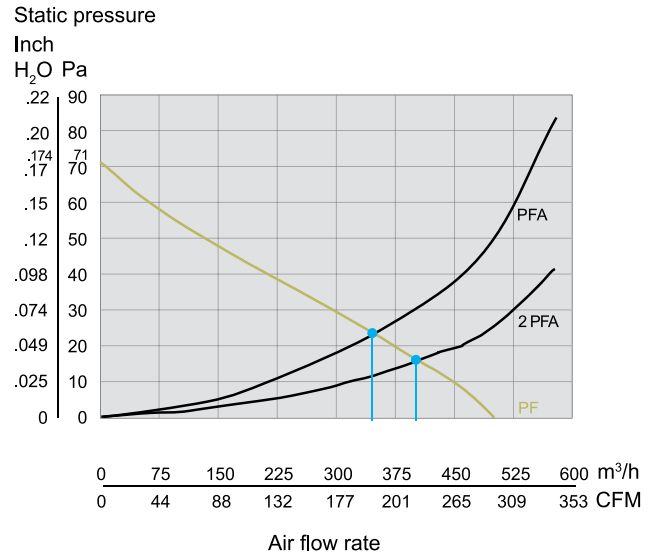
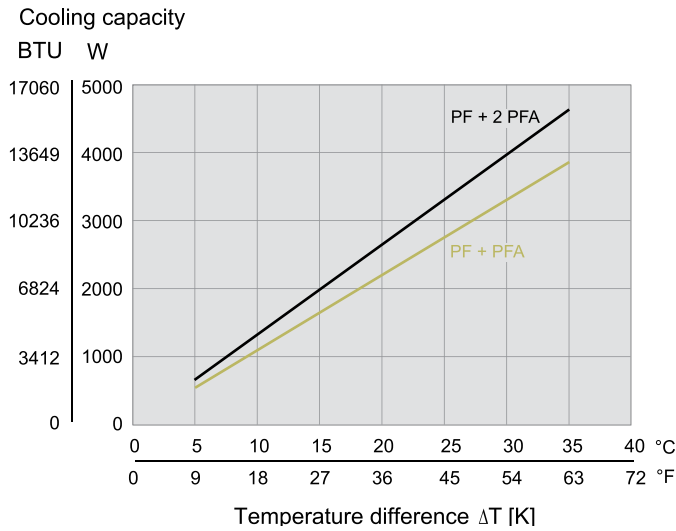
Accessories	Piece	Part number	Information on page
Exhaust filter PFA 60000			
RAL 9011 (Black Grill)	1	11760004050	164
RAL 7035 (Lt. Gray Grill)	1	11760004055	164
Thermostat FLZ 530° F	1	17121000010	174

¹ according to DIN EN 779

² fan failure is defined as being when the current and speed deviate or the operating noises are out of the ordinary

Approvals see page 136

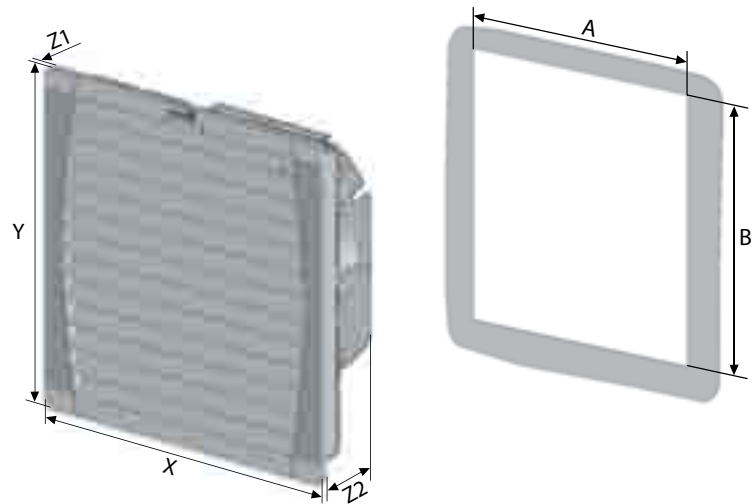
Cooling Capacity Performance Curves	Static Pressure Performance Curves
PF 65000 SL	PF 65000 SL



Dimensions

inches (mm)	PF 65000 SL	PFA 60000
X	12.6 (320)	12.6 (320)
Y	12.6 (320)	12.6 (320)
Z1	.28 (7)	.28 (7)
Z2	4.88 (124)	1.54 (39)
A¹	11.46 (291)	11.46 (291)
B¹	11.46 (291)	11.46 (291)

¹ for material thicknesses up to .08" (2 mm)
+.039 (+1 mm) for thickness of material > .08" (2 mm) ≤ .19" (3 mm)



PF 67000 SL

Slim Line Filterfan®

Pfannenbergs 4th Generation filterfan with low installation depth

- Installation size 6, air flow rate up to 427 CFM
- Three performance classes, cut-out-compatible
- System of protection IP 55, NEMA Type 12
- UL, cUL to NITW2 Category and CE approved, CSA pending



Data	PF 67000 SL			Unit
Part number RAL 9011 (Black Grill)	16677124050	11677104050	11677154050	
RAL 7035 (Lt. Gray Grill)	16677124055	11677104055	11677154055	
	AC 50 Hz / 60 Hz			
Rated voltage ± 10 %	400 / 460	230	115	V
Unimpeded airflow (CFM2)	427 (725)			CFM (m³/h)
Air flow rate in combination (PF + PFA 60000) (CFM3)	342 (580)			
Power consumption	110 / 165	127 / 180	120 / 165	W
Current consumption	0.2 / 0.23	0.56 / 0.79	1.05 / 1.45	A
Noise level (according to EN ISO 3741)	66 / 69			dB(A)
Weight	(8.49) 3.85	8.93 (4.05)	8.82 (4.00)	lb (kg)
Type of connection	spring-type terminal			
Fuse (Recommended)	6			A
System of protection according to EN 60529 / UL 50	NEMA Type 12 - fluted filter / IP 55			
Filtration efficiency	91			%
Filter mat quality class¹	G4			
Duty cycle	100			%
Bearing type	ball bearing			
Service life L₁₀ (+ 40 °C)²	40000			h
Temperature range	+ 5 ... + 131 / - 15 ... + 55			°F / °C
Material Protection Rating	made of injection-molded thermoplastic, self-extinguishing, UL 94 VO, UV-resistant optional			

Accessories	Piece	Part number	Information on page
Exhaust filter PFA 60000 RAL 9011 (Black Grill)	1	11760004050	164
RAL 7035 (Lt. Gray Grill)	1	11760004055	164
Thermostat FLZ 530° F	1	17121000010	174

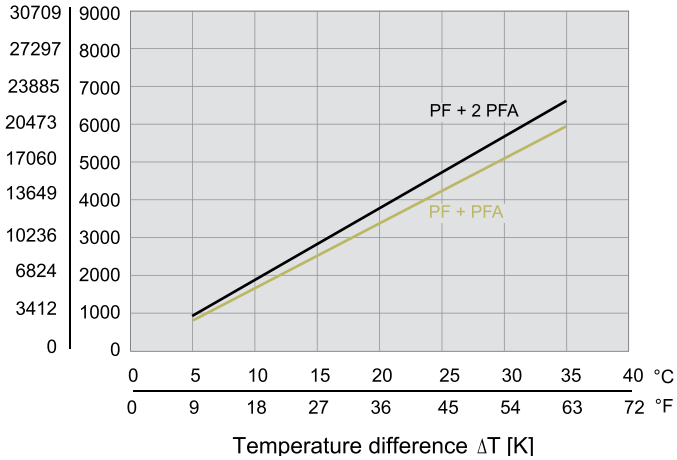
¹ according to DIN EN 779

² fan failure is defined as being when the current and speed deviate or the operating noises are out of the ordinary
Approvals see page 136

Cooling Capacity Performance Curves	Static Pressure Performance Curves
PF 67000 SL	PF 67000 SL

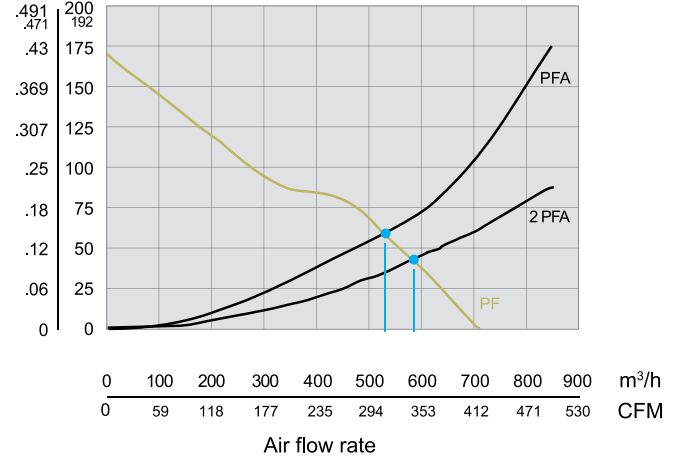
Cooling capacity

BTU W



Static pressure

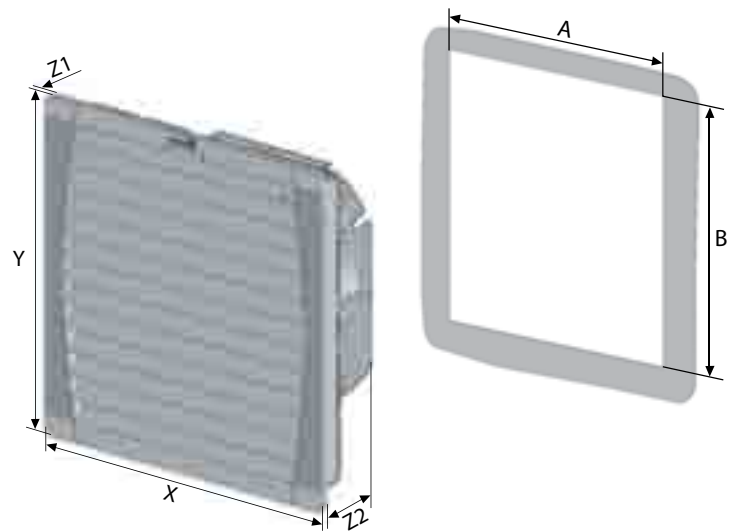
Inch
H₂O Pa



Dimensions

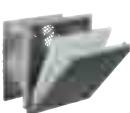
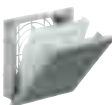
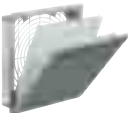
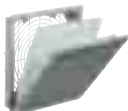
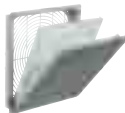
inches (mm)	PF 67000 SL	PFA 60000
X	12.6 (320)	12.6 (320)
Y	12.6 (320)	12.6 (320)
Z1	.28 (7)	.28 (7)
Z2	5 (127)	1.54 (39)
A¹	11.46 (291)	11.46 (291)
B¹	11.46 (291)	11.46 (291)

¹ for material thicknesses up to .08" (2 mm)
+.039 (+1 mm) for thickness of material > .08" (2 mm) ≤ .19" (3 mm)

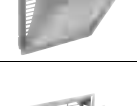


Filterfans® 3rd/4th Generation

Comparison

	Filterfans® 4 th Generation	Installation size	Cut-out inches (mm)	Filterfans® 3 rd Generation
Flat profile Filterfans® from the PF Series				
	PF 11000	1	3.62 x 3.62 (92 x 92)	PF 1000
	PF 22000	2	4.92 x 4.92 (125 x 125)	PF 2000
	PF 32000	3	6.97 x 6.97 (177 x 177)	N/A
	PF 42500	4	8.78 x 8.78 (223 x 223)	PF 2500
	PF 43000			PF 3000
	PF 65000	6	11.46 x 11.46 (291 x 291)	PF 5000
	PF 66000			PF 6000
	PF 67000			PF 7000
Flat profile exhaust filters from the PFA Series				
	PFA 10000	1	3.62 x 3.62 (92 x 92)	PFA 1000
	PFA 20000	2	4.92 x 4.92 (125 x 125)	PFA 2000
	PFA 30000	3	6.97 x 6.97 (177 x 177)	N/A
	PFA 40000	4	8.78 x 8.78 (223 x 223)	PFA 2500
				PFA 3000
	PFA 60000	6	11.46 x 11.46 (291 x 291)	PFA 5000
				PFA 6000
				PFA 7000

3rd Generation Filterfans®

Type	Air flow rate CFM2	Rated voltage	Cut-out dimensions inches (mm)	Approvals					
				UL	cUL	GOST	CSA	CE	
PF Series Filterfans®									
PF 1000	16	115 V / 230 V AC	3.62 x 3.62 (92 x 92)	●	●	●		●	
		12 V / 24 V / 48 V DC							
PF 2000	38	115 V / 230 V AC	4.92 x 4.92 (125 x 125)	●	●	●		●	
		12 V / 24 V / 48 V DC							
PF 2500	89	115 V / 230 V AC	6.97 x 6.97 (177 x 177)	●	●	●		●	
		12 V / 24 V / 48 V DC							
PF 3000	169	115 V / 230 V AC	8.78 x 8.78 (223 x 223)	●	●	●		●	
		400 V 2 Ø¹							
		12 V / 24 V / 48 V DC							
PF 5000	324	115 V / 230 V AC	11.46 x 11.46 (291 x 291)	●	●	●		●	
PF 6000	410	400 V 3 Ø	11.46 x 11.46 (291 x 291)	●	●	●		●	
		115 V / 230 V AC							
PF 7000	506	115 V / 230 V AC	11.46 x 11.46 (291 x 291)	●	●	●		●	
		400 V 3 Ø							
PFA Series exhaust filters									
PFA 1000	N/A	N/A	3.62 x 3.62 (92 x 92)	●	●	●		●	
PFA 2500	N/A	N/A	4.92 x 4.92 (125 x 125)	●	●	●		●	
PFA 3000									
PFA 3000	N/A	N/A	8.78 x 8.78 (223 x 223)	●	●	●		●	
PFA 5000	N/A	N/A	11.46 x 11.46 (291 x 291)	●	●	●		●	
PFA 6000									
PFA 7000									

PTF 60500

PTF 60700

PTF 61000

Filterfan® for roof mounting

PTFA 60000

Top exhaust filter for roof mounting



- 2 Sizes, air flow rate up to 441 CFM
- Three performance classes, all with the same cut-out
- Hardware free "Click & Fit" mounting
- NEMA 12 System protection
- Optimum passage of air and even temperature distribution (natural air convection is supported)
- Toolless mounting, patented quick fastening system
- UL, cUL to NITW2 Category and CE approved, CSA pending

Data	PTF 60500		PTF 60700		PTF 61000		Unit
Part number RAL 7035 (Lt. Gray Grill)	11685101055	11685151055	11087102055	11087152055	11081102055	11081152055	
	AC 50 Hz / 60 Hz						
Rated voltage ± 10 %	230	115	230	115	230	115	V
Unimpeded airflow (CFM2)	206 (350)		324 (550)		441 (750)		CFM (m³/h)
Air flow rate in combination (PTF + PFA 60000) (CFM3)	142 (242)		218 (370)		294 (500)		
Power consumption	4 x 28 / 29	4 x 29 / 24	65 / 80	75 / 90	115 / 150	110 / 160	W
Current consumption	4 x 0.2 / 0.2	4 x 0.3 / 0.3	0.3 / 0.36	0.66 / 0.8	0.51 / 0.66	0.96 / 1.4	A
Noise level (according to EN ISO 3741)	147.71 (67)		152.12 (69)		169.76 (77)		dB(A)
Weight	5.5		5.8		6.0		lb (kg)
Type of connection	terminal strip						
Fuse (Recommended)	6						A
System of protection according to EN 60529 / UL 50	IP 33, IP 54						
Filtration efficiency	81						%
Filter mat quality class¹	G 3						
Duty cycle	100						%
Bearing type	ball bearing						
Service life L₁₀ (+ 40 °C)²	approx. 50000³		approx. 40000		approx. 40000		h
Temperature range	+ 5 ... + 131 / - 15 ... + 55						°F / °C
Material Protection Rating	sheet steel, cover powder-coated; snap-in housing made of injection-moulded thermoplastic (ABS-FR) self-extinguishing, UL 94 VO						

Accessories	Piece	Part number	Information on page
Exhaust filter PFA 60000 RAL 9011 (Black Grill)	1	11760004050	164
RAL 7035 (Lt. Gray Grill)	1	11760004055	164
Thermostat FLZ 530° F	1	17121000010	174

¹ according to DIN EN 779

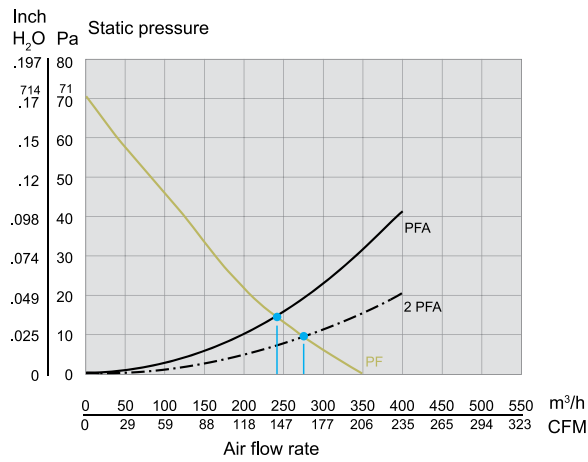
² fan failure is defined as being when the current and speed deviate or the operating noises are out of the ordinary

³ L₁₀ (+25 °C)

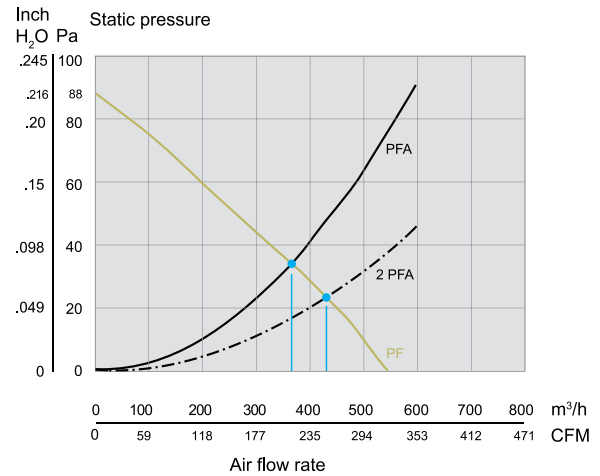
Approvals see page 136

Static Pressure Performance Curves

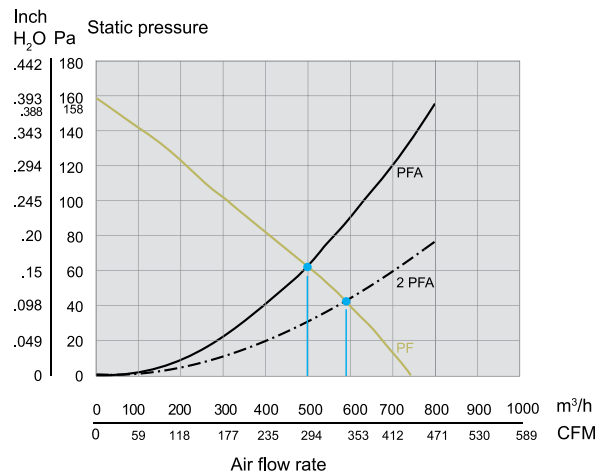
PTF 60500 IP 54



PTF 60700 IP 54



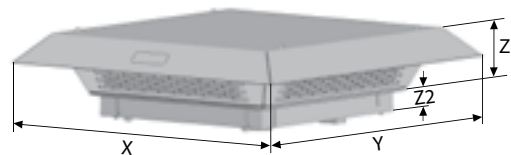
PTF 61000 IP 54



Dimensions

inches (mm)	PTF 60500	PTF 60700	PTF 6000
X	17 (430)	18.5 (470)	18.5 (470)
Y	17 (430)	18.5 (470)	18.5 (470)
Z1	3 (75)	3.5 (90)	3.5 (90)
Z2	2 (50)	2 (50)	2 (50)
A¹	11.5 (291)	11.5 (291)	11.5 (291)
B¹	11.5 (291)	11.5 (291)	11.5 (291)

¹ for material thicknesses up to .08" (2 mm)
+.039 (+1 mm) for thickness of material > .08" (2 mm) ≤ .19" (3 mm)

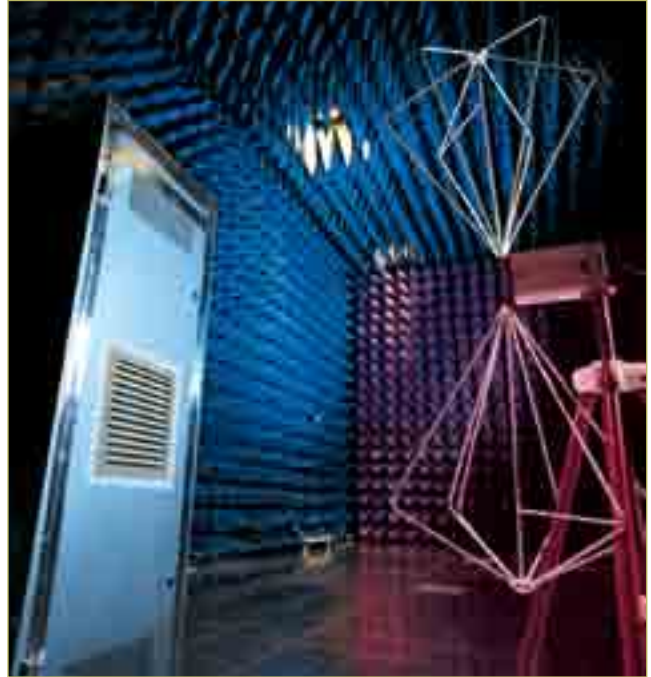


EMC Filterfans® (EMC series)

If filterfans® are used for thermal management, openings must exist in the cabinet. These can allow electromagnetic radiation to pass in or out unhindered. Pfannenberg offers the widest range of EMC Filterfans® as solutions to this problem.

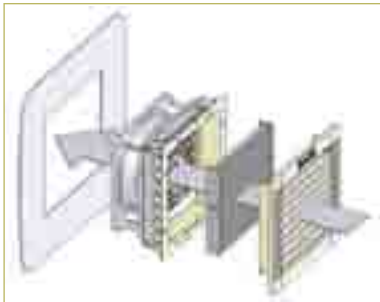
You too can find the right combination of EMC filterfan® and exhaust filter for air flow rates from 17 to 560 CFM2

In accordance with the basic principle of our company we have dispensed with the use of metallized plastics, because these are difficult to recycle.



New metal shielding

- unequalled worldwide: contact surfaces without beryllium-copper seal!
- contact springs



No elaborate reworking of the cut-out

- no adhering of copper tape or similar aids
- no time-consuming scratching off of coatings in order to ensure a good contact
- contact is made via the cut edge of the cut-out for the filterfan® or exhaust filter

EMC – electromagnetic compatibility

In standards, electromagnetic compatibility, or 'EMC' for short, is defined as the ability of a component, device or system to function satisfactorily under the influence of electromagnetic fields in its surroundings, without influencing its surroundings, to which other electrical equipment also belongs, in an impermissible way. We guarantee that our EMC shielded filterfans provide protection against electromagnetic interference by ensuring continuity between the shielding part of

the fan and the metal structure of the cabinet based on the attenuation characteristics below:

Attenuation at 30 MHz approx. 71 dB

Attenuation at 400 MHz approx. 57 dB

Measured in accordance with EN 50 147-1 (1996): absorber rooms, part 1, measurement of screening attenuation.

Options



Exhaust filters for all PF Filterfans

- Same design as the PF series filterfans
- Snap fastener developed and patented by Pfannenberger
- Door mounting without screws in accordance with VDE 0113 (EN 60204)
- Simple filter mat exchange during operation
- With integrated foam seal to enclosure

Product	Cut-out ¹	Part number (Black)	Part number (Lt. Gray)
PFA 10000	92 x 92 mm	11710001050	11710001055
PFA 20000	125 x 125 mm	11720004050	11720004055
PFA 30000	177 x 177 mm	11730004050	11730004055
PFA 40000	223 x 223 mm	11740004050	11740004055
PFA 60000	291 x 291 mm	11760004050	11760004055

¹ EMC version + 1 mm

Product	Cut-out	Part number (Lt. Gray)
PTFA 60000	291 x 291 mm	11186002054



Thermostat and Hygrostat

In combination with thermostats and hygrometers from the FLZ series Pfannenberger Filterfans® additionally achieve savings on energy, materials and time plus a significantly longer service life. This results in an optimized environmental balance as well as greater reliability of your production process. Suitable for all Pfannenberger Filterfans®.

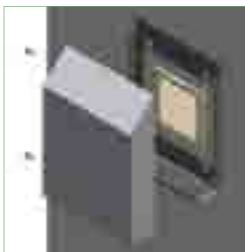
Product	Part numbers	
	0 - 60° C	32 - 140° F
FLZ 530 Thermostat	17121000000	17121000010
FLZ 541 Dual Thermostat	17141000000	17141000010
FLZ 600 Hygrostat 40 ... 90 % R.H.	17207000000	
FLZ 610 Thermostat/Hygrostat 40 ... 90 % R.H.	17218100000	17218151000



Spare filter mats for filterfans® of the 3rd and 4th Generation and top mounting filterfans®.

Suitable for ...	Part number ¹ (3rd)	Part number ¹ (4th)
Installation size 1	18611600000	18611600029
Installation size 2	18611600001	18611600034
Installation size 3	N/A	18611600035
Installation size 4	18611600006	18611600036
Installation size 6	18611600011	18611600037
PTF 60500 and PTFA 60000	N/A	18611600038
PTF 60700 and PTFA 61000	N/A	18611600039

¹ Set with 5 pieces



Weather protection hoods - UL NEMA Type 3R

Weather protection hood in stainless steel or powder-coated.

Suitable for ...	Part number		
	Stainless Steel	ANSI 61 (Gray)	RAL 7035 (Lt. Gray)
Installation size 1 and 2	18102000014	18102000012	18102000013
Installation size 3 and 4	18102000017	18102000015	18102000016
Installation size 6	18102000020	18102000018	18102000019
Mesh & Snow Plug Galvanized Kits			
Kit for 20000	18102000021		
Kit for 40000	18102000022		
Kit for 60000	18102000023		