

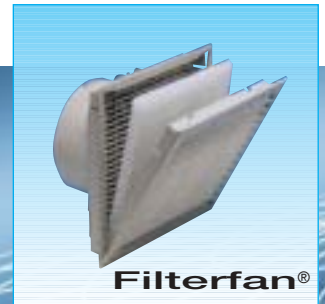
VENTILACION SERIE PF

con rejilla y filtro

Cooling Units · Chillers · Heat Exchangers · Filterfans®
Heaters · Thermostats · Hygrostats · Lamp Systems · Components for Enclosures

Your Air Conditioning Experts

NEW!



Safety for man, machine and the environment!®

Pfannenberg

AUTOMATICA

Automática Electrónica y Control, S.L. Gorina i Pujol, 61 - 08203 Sabadell (Barcelona)
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Filterfan® PF1.000



PF1.000

For versatile incorporation into equipment. Examples are in the medical industry, in EDP equipment, warning and control enclosures and also for low power applications.



System of protection



click and fit!



Germanischer Lloyd



Colour



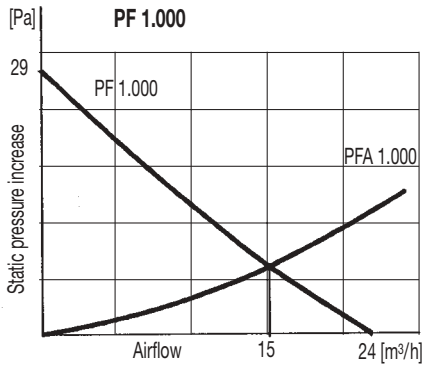
Installation without tools

Airflow data:	PF 1.000
Filter material (standard grade)	150 g/m ²
Unimpeded airflow	24 m ³ /h; 50 Hz / 28 m ³ /h; 60 Hz
Capacity free-flow	8 W/K / 9 W/K
Airflow in combination (Filterfan® + Exhaust Filter)	15 m ³ /h; 50 Hz / 17 m ³ /h; 60 Hz (PF 1.000 + PFA 1.000)
Capacity in combination (Filterfan® + Exhaust Filter)	5 W/K / 6 W/K (PF 1.000 + PFA 1.000)
Max. static pressure (Airflow = 0 m ³ /h)	29 Pa
Filtration efficiency	73%
Filter material grade (DIN EN 779)	G 2
Noise level (DIN 45 635)	39 dB (A)
Duty cycle	100%

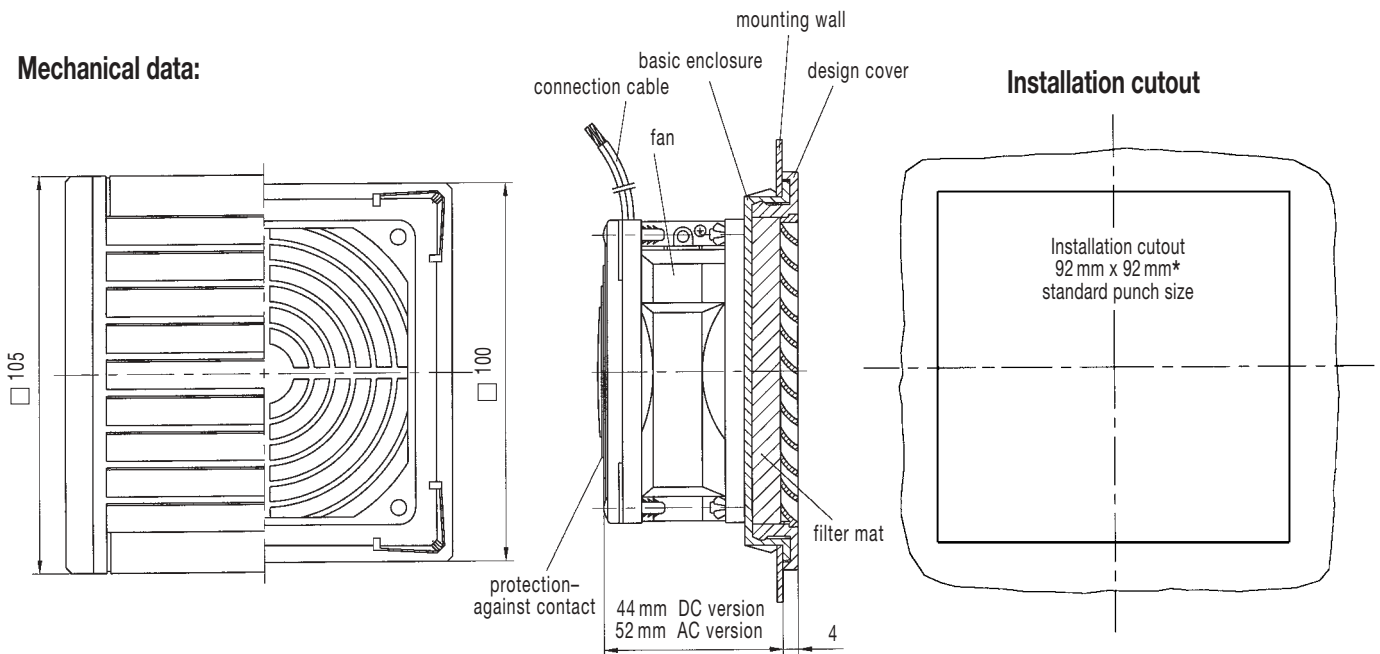
Technical data:	PF 1.000	
	AC	DC
Outside dimensions in mm (Height x Width x Installation depth)	105 x 105 x 52	105 x 105 x 44
Bearing type	sleeve bearings	ball bearings
Fitting position	horizontal - vertical	any
Construction	housing and guard of sprayed thermoplastic (PC-FR) self-extinguishing, UL 94 VO	
Weight	0,60 kg	0,45 kg
Safety protection	in accordance with DIN 31 001	
Colour	RAL 7035, RAL 7032 or black, other colours on request	
Connections	2 wires, 310 mm long	

Electrical data:	PF 1.000				
	AC 50 Hz/60 Hz		DC		
Rated voltage	230V	115V	12V	24V	48V
Range of operation	187V ... 253V	97V ... 127V	7V ... 15V	14V ... 28V	36V ... 56V
Power consumption	12W / 11W	12W / 11W	2,4W	2,4W	2,6W

Airflow data:



Mechanical data:



Supplementary data:	AC	DC
Climatic data		
Operating temperature	-10 °C (+ 14 °F) to +60 °C (+ 140 °F)	-20 °C (- 4 °F) to +60 °C (+ 140 °F)
Storage temperature	-20 °C (- 4 °F) to +70 °C (+ 158 °F)	
Max. relative humidity	90%	
System of protection	IP 43 (EN 60 529), when installed as specified, not for outdoor-application	
Basic parts kit	standard filter, mounting- and user manual	
Accessories	radiant heater, fan heater, thermostat, see Thermal Management	
Approvals	Germanischer Lloyd (GL), UL approval see overview filter fans	
* Tolerance installation cutout	92 ⁺¹ ₋₀	

Filterfan® PF2.000



PF2.000

For a broad range of applications in electronics as well as conventional switchgear installations; a wide range of operating voltages ensures universal usability.

- with integrated foamed on seal



System of protection



System of protection (see page 92)



click and fit!



Installation without tools



Colour

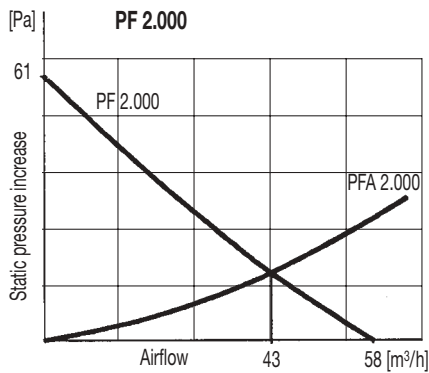
Airflow data:	PF 2.000
Filter material*	150 g/m ²
Unimpeded airflow	58 m ³ /h; 50 Hz / 65 m ³ /h; 60 Hz
Capacity free-flow	19 W/K / 22 W/K
Airflow in combination (Filterfan® + Exhaust Filter)	43 m ³ /h; 50 Hz / 49 m ³ /h; 60 Hz (PF 2.000 + PFA 2.000)
Capacity in combination (Filterfan® + Exhaust Filter)	14 W/K / 16 W/K (PF 2.000 + PFA 2.000)
Max. static pressure (Airflow = 0 m ³ /h)	61 Pa
Filtration efficiency	73%
Filter material grade (DIN EN 779)	G 2
Noise level (DIN 45 635)	49 dB (A)
Duty cycle	100%

* standard filter mat 150 g/m² (alternative filter mat in 350 g/m², 500 g/m²)

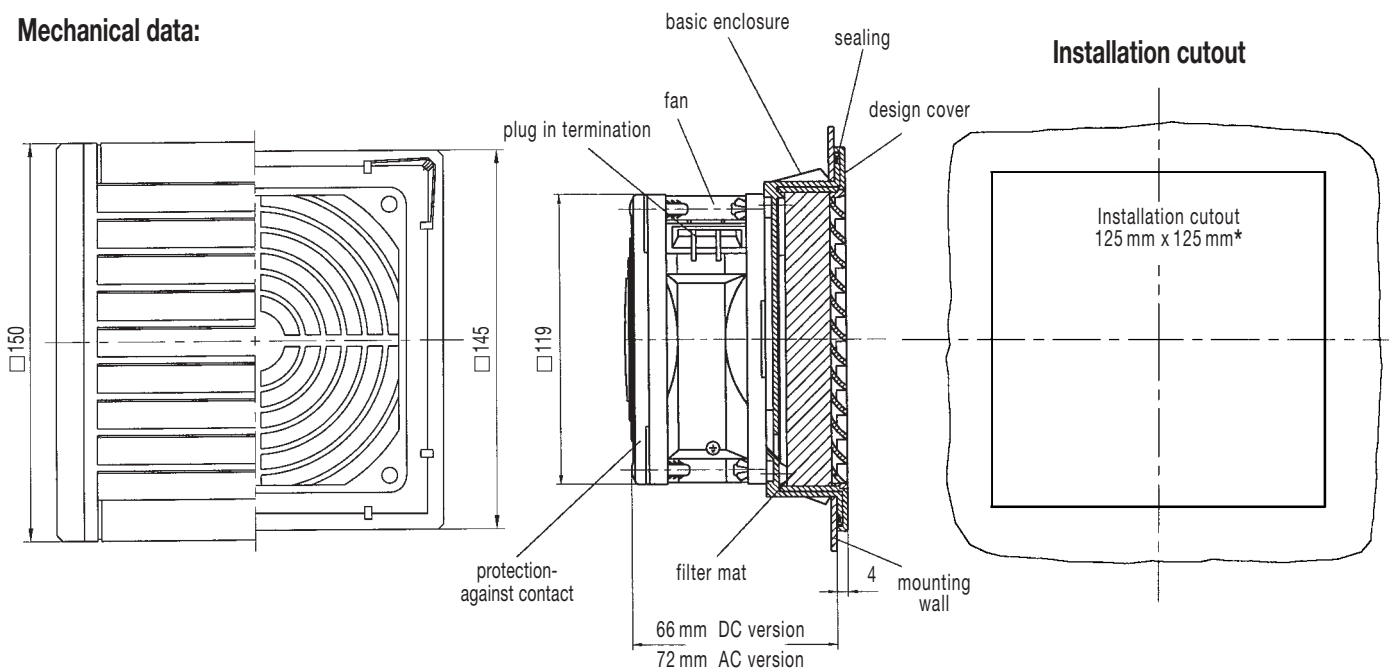
Technical data:	PF 2.000	
	AC	DC
Outside dimensions in mm (Height x Width x Installation depth)	150 x 150 x 72	150 x 150 x 66
Bearing type	sleeve bearings	ball bearings
Fitting position	horizontal - vertical	any
Construction	housing and guard of sprayed thermoplastic (ABS-FR) self-extinguishing, UL 94 VO	
Weight	0,735 kg	0,385 kg
Safety protection	in accordance with DIN 31 001	
Colour	RAL 7035, RAL 7032 or black, other colours on request	
Connections	terminal strip	2 wires, 310 mm long

Electrical data:	PF 2.000				
	AC 50 Hz/60 Hz		DC		
Rated voltage	230V	115V	12V	24V	48V
Range of operation	187V ... 253V	97V ... 127V	6V ... 14V	18V ... 30V	36V ... 56V
Power consumption	19W / 18W	20W	5W	5W	5W

Airflow data:



Mechanical data:



Supplementary data:	AC	DC
Climatic data		
Operating temperature	-10 °C (+ 14 °F) to +55 °C (+ 131 °F)	-20 °C (- 4 °F) to +55 °C (+ 131 °F)
Storage temperature	-20 °C (- 4 °F) to +70 °C (+ 158 °F)	
Max. relative humidity	90%	
System of protection	IP 54 (EN 60529), when installed as specified, not for outdoor-application	
Basic parts kit	standard filter, mounting- and user manual	
Accessories	radiant heater, fan heater, thermostat, see Thermal Management	
* Tolerance installation cutout	125 ⁺¹ ₋₀ thickness of material to 2 mm 126 ⁺¹ ₋₀ thickness of material > 2 mm ≤ 3 mm	
Approvals	UL approval see overview filter fans	

Filterfan® PF 2.500, PF 3.000



PF 2.500

For medium range applications in plant and machine equipment.

PF 3.000

The same size PF 2.500 but with a more powerful fan.

- with integrated foamed on seal (PF 2.500, PF 3.000)



System of protection



System of protection (see page 92)



click and fit



Cutout-compatibility



Germanischer Lloyd (PF 3000)



Installation without tools



Colour

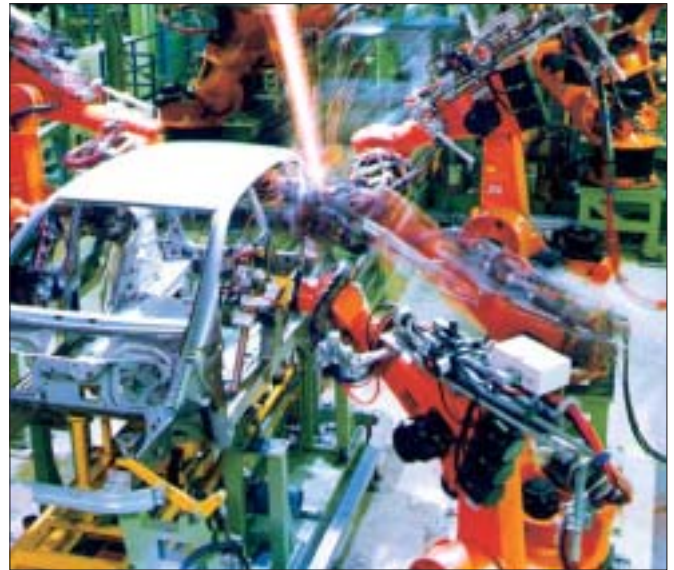
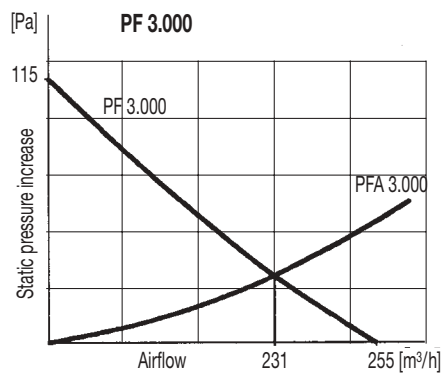
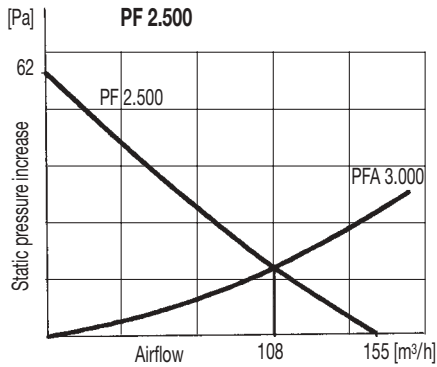
Airflow data:	PF 2.500	PF 3.000
Filter material*	150 g/m ²	150 g/m ²
Unimpeded airflow	155 m ³ /h; 50 Hz / 170 m ³ /h; 60 Hz	255 m ³ /h; 50 Hz / 292 m ³ /h; 60 Hz
Capacity free-flow	52 W/K / 57 W/K	85 W/K / 97 W/K
Airflow in combination (Filterfan® + Exhaust Filter)	108 m ³ /h; 50 Hz / 118 m ³ /h; 60 Hz (PF 2.500 + PFA 3.000)	231 m ³ /h; 50 Hz / 265 m ³ /h; 60 Hz (PF 3.000 + PFA 3.000)
Capacity in combination (Filterfan® + Exhaust Filter)	36 W/K / 39 W/K (PF 3.000 + PFA 3.000)	77 W/K / 88 W/K (PF 3.000 + PFA 3.000)
Max. static pressure (Airflow = 0 m ³ /h)	62 Pa	115 Pa
Filtration efficiency		73%
Filter material grade (DIN EN 779)		G 2
Noise level (DIN 45 635)	53 dB(A)	55 dB(A)
Duty cycle		100%

* standard filter mat 150 g/m² (alternative filter mat in 350 g/m², 500 g/m²)

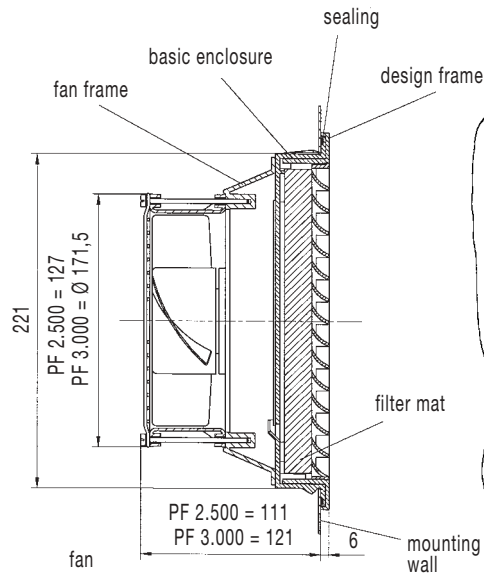
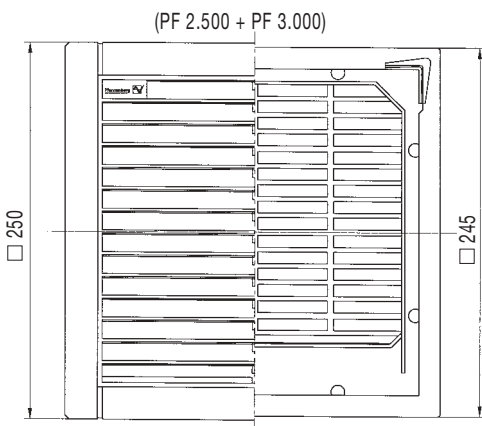
Technical data:	PF 2.500		PF 3.000	
	AC/DC		AC	DC
Outside dimensions in mm (Height x Width x Installation depth)	250 x 250 x 111		250 x 250 x 121	
Bearing type	ball bearings			
Fitting position	any, horizontal airflow preferred			
Construction	housing and guard of sprayed thermoplastic (ABS-FR) self-extinguishing, UL 94 VO			
Weight	1,75 kg		1,75 kg	1,50 kg
Safety protection	in accordance with DIN 31 001			
Colour	RAL 7035, RAL 7032 or black, other colours on request			
Connections	terminal strip			

Electrical data:	PF 2.500					
	AC 50 Hz/60 Hz			DC		
Rated voltage	230V	115V	12V	24V	48V	
Range of operation	187V ... 253V	97V ... 127V	8V ... 14V	18V ... 30V	36V ... 56V	
Power consumption	18W / 17W	18W / 17W	5W	4,7W	4,6W	
	PF 3.000					
	AC 50 Hz/60 Hz			DC		
Rated voltage	400V / 440V	230V	115V	12V	24V	48V
Range of operation	369V ... 484V	187V ... 253V	97V ... 127V	8V ... 15V	18V ... 30V	36V ... 56V
Power consumption	41W / 38W	45W / 39W	40W	12W	18W	17W

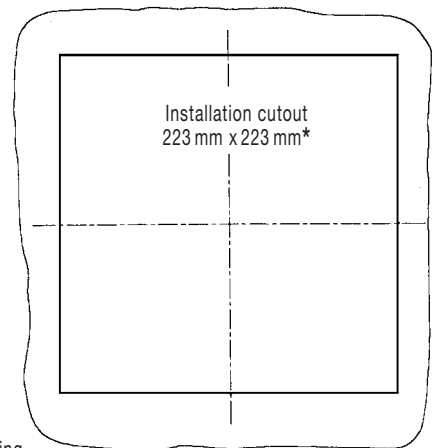
Airflow data:



Mechanical data:



Installation cutout



Supplementary data:	AC	DC
Climatic data		
Operating temperature	-10 °C (+ 14 °F) to +55 °C (+ 131 °F)	-20 °C (- 4 °F) to +55 °C (+ 131 °F)
Storage temperature	-20 °C (- 4 °F) to +70 °C (+ 158 °F)	
Max. relative humidity	90%	
System of protection	IP 54 (EN 60 529), when installed as specified, not for outdoor-application	
Basic parts kit	standard filter, mounting- and user manual	
Accessories	radiant heater, fan heater, thermostat, see Thermal Management	
Approvals	PF 3.000 Germanischer Lloyd (GL), UL approval see overview filter fans	
* Tolerance installation cutout	223 ⁺¹ / ₋₀ thickness of material to 2 mm 224 ⁺¹ / ₋₀ thickness of material > 2 mm A≤ 3 mm	

Filterfan® PF 5.000, PF 6.000, PF 7.000

The cutout for PF fans is compatible with the DTFI cooling unit (see page 24)



PF 5.000

For larger switchgear installations with higher demands for heat extraction.

PF 6.000 / PF 7.000

For large switchgear installations where extreme heat extraction is needed whilst maintaining the required I.P. protection rating.

- with integrated foamed on seal



System of protection



System of protection (see page 92)



click and fit



Cutout-compatibility



Installation without tools



Colour

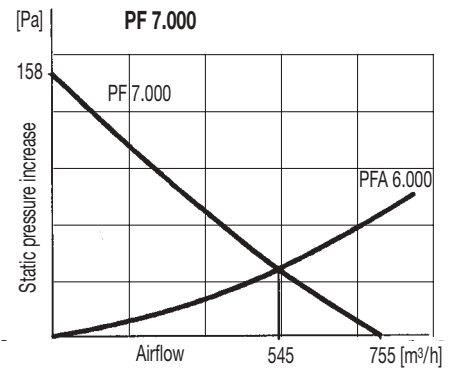
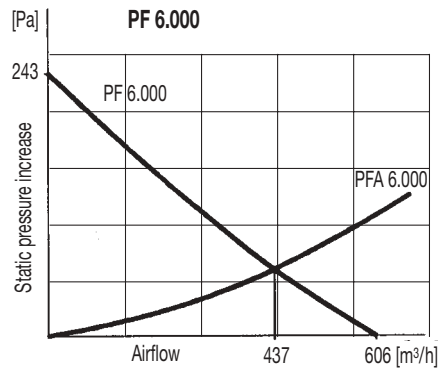
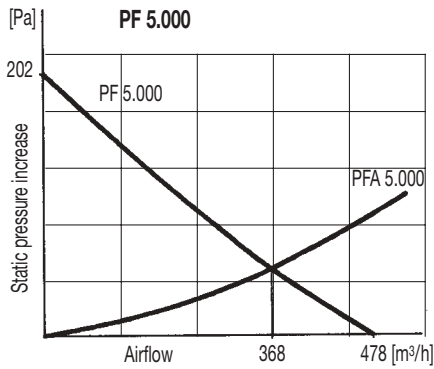
Airflow data:	PF 5.000	PF 6.000	PF 7.000
Filter material*	150 g/m ²	150 g/m ²	150 g/m ²
Unimpeded airflow	478 m ³ /h; 50 Hz / 550 m ³ /h; 60 Hz	606 m ³ /h; 50 Hz / 647 m ³ /h; 60 Hz	755 m ³ /h; 50 Hz / 830 m ³ /h; 60 Hz
Capacity free-flow	159 W/K / 183 W/K	201 W/K / 215 W/K	245 W/K / 277 W/K
Airflow in combination (Filterfan® + Exhaust Filter)	368 m ³ /h; 50 Hz / 423 m ³ /h; 60 Hz (PF 5.000 + PFA 6.000)	437 m ³ /h; 50 Hz / 476 m ³ /h; 60 Hz (PF 6.000 + PFA 6.000)	545 m ³ /h; 50 Hz / 626 m ³ /h; 60 Hz (PF 7.000 + PFA 6.000)
Capacity in combination (Filterfan® + Exhaust Filter)	122 W/K / 141 W/K (PF 5.000 + PFA 6.000)	145 W/K / 155 W/K (PF 6.000 + PFA 6.000)	175 W/K / 202 W/K (PF 7.000 + PFA 6.000)
Max. static pressure (Airflow = 0 m ³ /h)	202 Pa	243 Pa	158 Pa
Filtration efficiency	73%		
Filter material grade (DIN EN 779)	G 2		
Noise level (DIN 45 635)	69 dB (A)	71 dB (A)	72 dB (A)
Duty cycle	100%		

* standard filter mat 150 g/m² (alternative filter mat in 350 g/m², 500 g/m²)

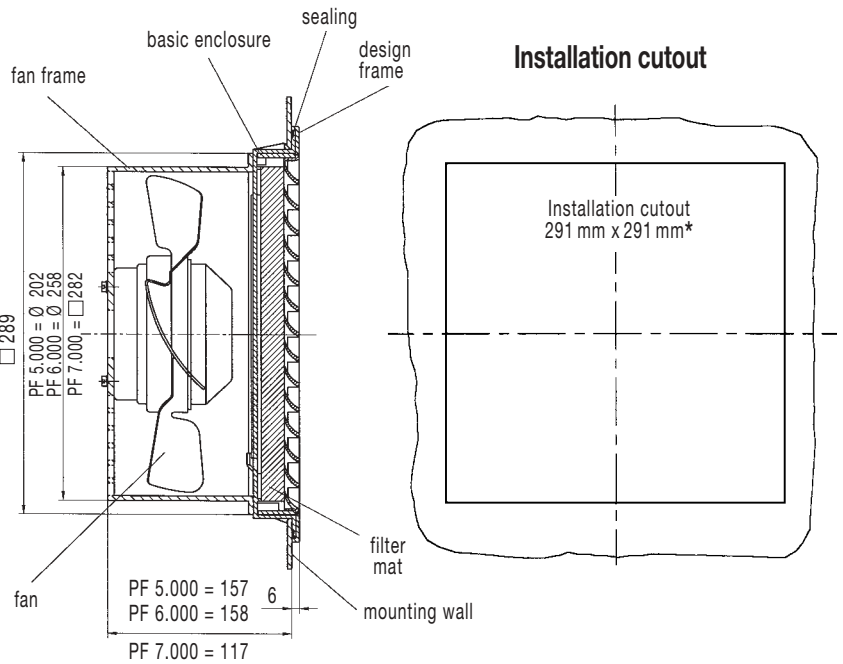
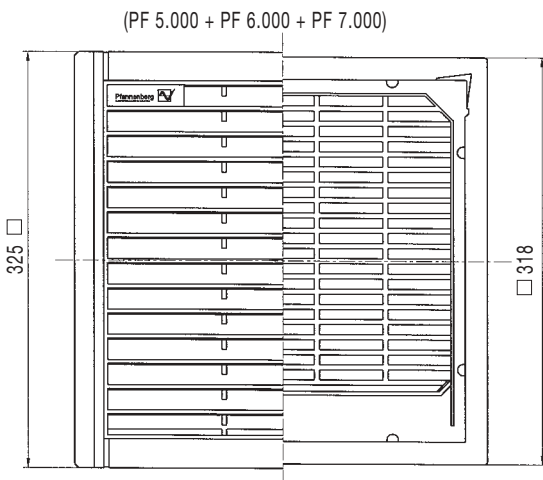
Technical data:	PF 5.000	PF 6.000	PF 7.000
Outside dimensions in mm (Height x Width x Installation depth)	325 x 325 x 157	325 x 325 x 158	325 x 325 x 117
Bearing type	ball bearings		
Fitting position	any, horizontal airflow preferred		
Construction	housing and guard of sprayed thermoplastic (ABS-FR) self-extinguishing, UL 94 VO		
Weight	3,0 kg	3,5 kg	3,55 kg
Safety protection	in accordance with DIN 31 001		
Colour	RAL 7035, RAL 7032, other colours on request		
Connections	terminal strip		

Electrical data:	AC 50Hz/60Hz								
	PF 5.000		PF 6.000			PF 7.000			
Rated voltage	230V	115V	400V/3 Phasen	230V	115V	230V	115V	400V/3 Phasen	
Range of operation	190V...253V	103V...127V	369V...484V	190V...253V	97V...127V	190V...253V	97V...127V	369V...484V	
Power consumption	74W	82W	110W/160W	165W	110W/155W	127W/195W	120W/165W	106W/145W	

Airflow data:



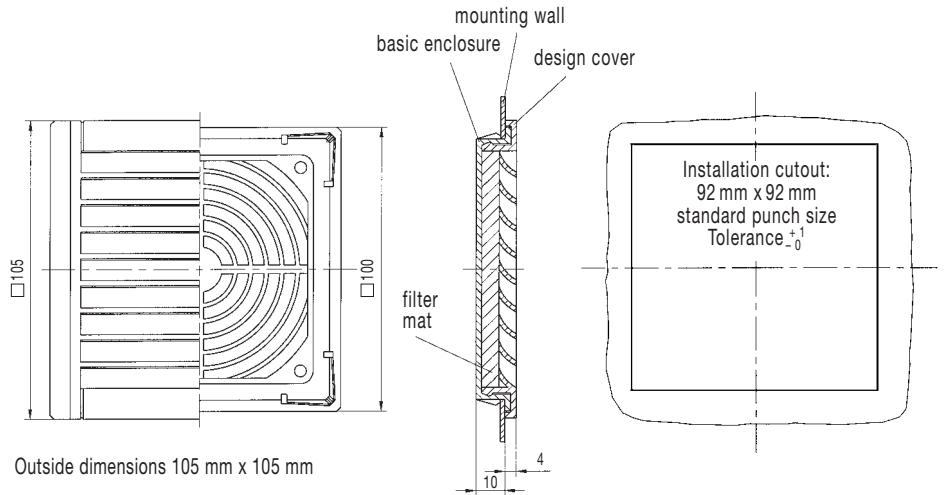
Mechanical data:



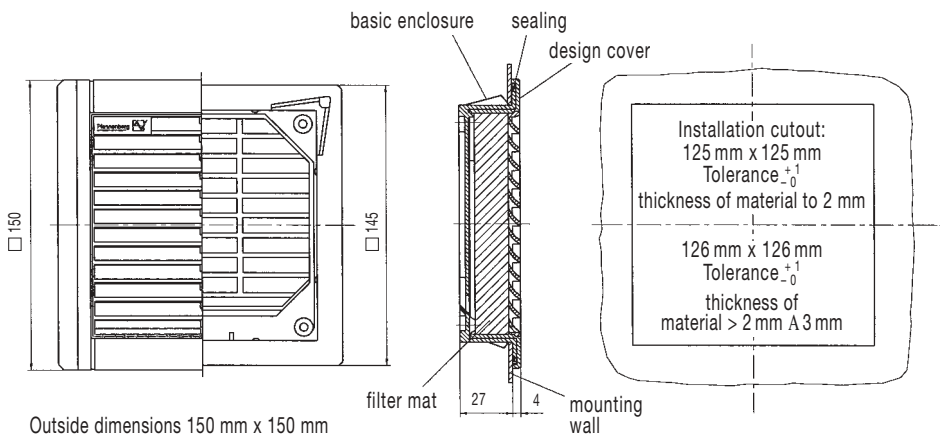
Supplementary data:	PF 5.000	PF 6.000	PF 7.000
Climatic data			
Operating temperature		-10 °C (+ 14 °F) to +55 °C (+ 131 °F)	
Storage temperature		-20 °C (- 4 °F) to +70 °C (+ 158 °F)	
Max. relative humidity		90%	
System of protection	IP 54 (EN 60529), when installed as specified, not for outdoor-application		
Basic parts kit	standard filter, mounting- and user manual		
Accessories	radiant heater, fan heater, thermostat, see Thermal Management		
* Tolerance installation cutout	291 \pm 1 thickness of material to 2 mm 292 \pm 1 thickness of material > 2 mm \leq 3 mm		
Approvals	UL approval see overview filter fans		

Exhaust Filters – Model PFA

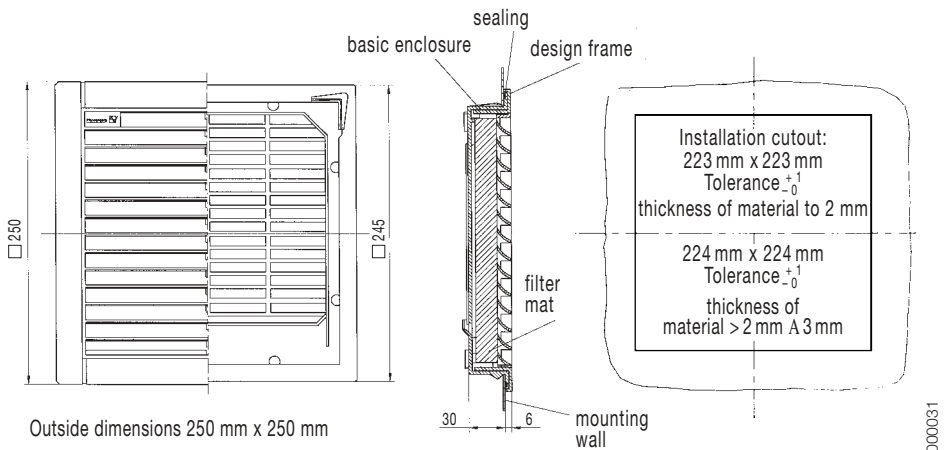
PFA1.000



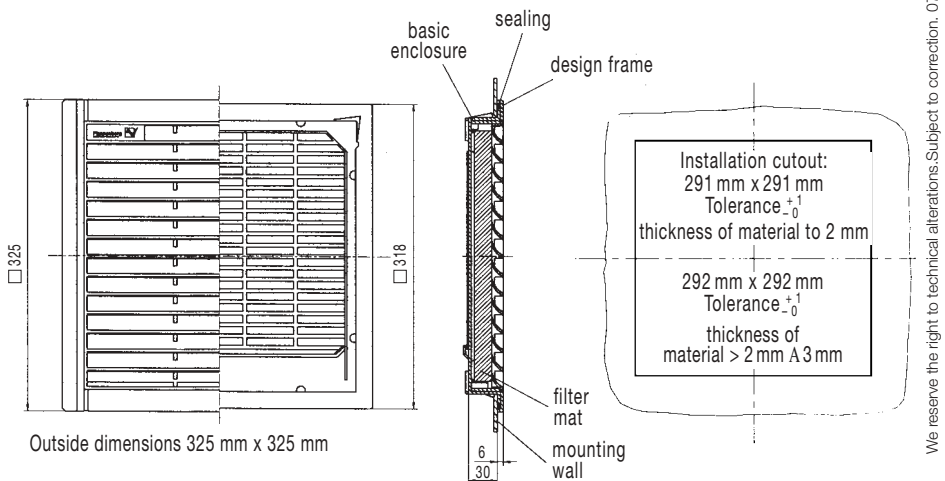
PFA2.000



PFA2.500/3.000



PFA5.000/6.000/7.000



We reserve the right to technical alterations. Subject to connection. 075000031

„ ... click and fit!“

- same design as the Filterfans® PF-Series
- Pfannenber developed and patented snap-fastening “... click and fit”
- for door mounting in accordance with VDE 0113 (EN 60204) without screws
- easy filter exchange during use
- with integrated foamed on seal (from size PF 2.000)



System of protection (only PFA 1.000)



System of protection



System of protection (see page 92)



click and fit!



Germanischer Lloyd certified (only PFA 1.000 and PFA 3.000)



Installation without tools



Colour

Airflow data:	PFA 1.000	PFA 2.000	PFA 3.000	PFA 6.000
Filter material	150 g/m ² *)		150 g/m ² *)	
Filtration efficiency	73%		73%	
Filter material grade (DIN EN 779)	G 2		G 2	

*) standard filter mat 150 g/m² (alternative filter mat in 350 g/m², 500 g/m²)

Technical data:	PFA 1.000	PFA 2.000	PFA 3.000	PFA 6.000
Outside dimensions in mm (Height x Width x Installation depth)	105 x 105 x 10	150 x 150 x 27	250 x 250 x 30	325 x 325 x 30
Material	(PC-FR)	sprayed thermoplastic, self-extinguishing, UL94 VO		(ABS-FR)
Weight	0,050 kg	0,126 kg	0,460 kg	0,755 kg
Colour	RAL 7035, RAL 7032 or black, other colours on request			

Supplementary data:	PFA 1.000	PFA 2.000	PFA 3.000	PFA 6.000
Climatic data				
Operating temperature	-20 °C (- 4 °F) to +70 °C (+ 158 °F)			
Storage temperature	-20 °C (- 4 °F) to +70 °C (+ 158 °F)			
Max. relative humidity	90%			
System of protection	IP 43	IP 54		
Basic parts kit	standard filter, mounting- and user manual			
Accessories	radiant heater, fan heater, Thermostat, see Thermal Management			
Approvals	PF 1.000 Germanischer Lloyd (GL), PF 3.000 Germanischer Lloyd (GL) UL approval see overview filter fans			