

Simpex Electronic AG
Binzackerstrasse 33
CH-8622 Wetzikon
Telefon +41-44-931 10 30
Telefax +41-44-931 10 31

www.simpex.ch
contact@simpex.ch
CHE-108.018.777 MWST



SYSTEMS AND COMPONENTS FOR INDUSTRIAL ENCLOSURES



CATALOGUE ■ 2017



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colors of engineering

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Fandis. Enclosure Solutions.



Most of our products are available in the industrial engineering software:

ePLAN
data portal

IGE-XAO
GROUP

SPAC
AUTOMAZIONE

Protection ratings

ENVIRONMENTAL TYPE RATINGS

Enclosure Types	
Type 1	Primarily indoor use to provide protection against contact with the enclosed equipment and against a limited amount of falling dirt.
Type 12	Indoor use to provide a degree of protection against dust, dirt, fiber flying, dripping water, and external condensation of non-corrosive liquids.
Type 3R	Outdoor use to provide a degree of protection against falling rain; undamaged by the formation of ice on the enclosure.

Description according to UL50E standard

"IP" PROTECTION DEGREE TABLE

Protection degree against solid foreign object and against access to hazardous parts (1st numeral)

Protection degree against water (2nd numeral)

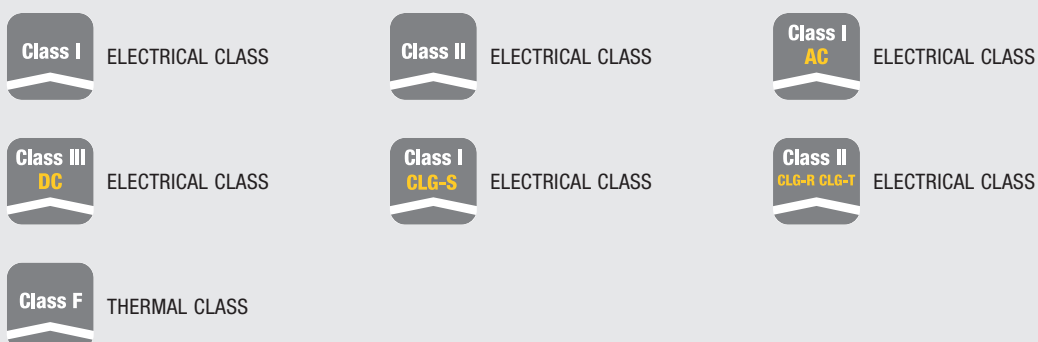
IP	Symbol	Description
0		non-protected
1		protected against solid foreign objects of 50 mm Ø or greater and against access to hazardous parts with the back of a hand
2		protected against solid foreign objects of 12.5 mm Ø or greater and against access to hazardous parts with a finger
3		protected against solid foreign objects of 2.5 mm Ø or greater and against access to hazardous parts with a tool
4		protected against solid foreign objects of 1.0 mm Ø or greater and against access to hazardous parts with a wire
5		dust-protected and protected against access to hazardous parts with a wire
6		dust-tight and protected against access to hazardous parts with a wire

IP	Symbol	Description
0		non-protected
1		protected against vertically falling water drops
2		protected against vertically falling water drops at any angle up to 15°
3		protected against spraying water at any angle up to 60° from the vertical
4		protected against splashing water from any direction
5		protected against water jets from any direction
6		protected against powerful water jets from any direction

Description according to rule CEI EN 60529

How to read the icons

INSULATION CLASSES



PROTECTION RATINGS



ELECTRICAL FEATURES



NO CONTACT



NC CONTACT



NO/NO CONTACTS



NC/NO CONTACTS



NC/NC CONTACTS



CHANGE-OVER CONTACT



1/3-PHASE



MULTI VOLTAGE



DC VERSION

MOUNTING FEATURES



LAMP SOCKET



LAMP SOCKET



SIDE MOUNTING



TOP MOUNTING



PARTIALLY RECESSED MOUNTING



FAST MOUNTING



DIN RAIL MOUNTING



NO TOOLS

PRODUCT FEATURES



ELECTRONICALLY COMMUTATED TECHNOLOGY



ELECTROMAGNETIC COMPATIBILITY



ECO-FRIENDLY



REVERSIBLE



THERMALLY PROTECTED



TOUCH-SAFE



ASSEMBLY KIT



Clean cooling air

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virdis
fan filters

Most of our products are available
in the industrial engineering software:



Air flow management

Increasingly often, the causes behind malfunctions or faults in electrical and electronic equipment housed in control panels or fitted as an integral part of a machine, are due to heat problems. In reality, the life span of components depends on the temperature and level of humidity inside the electrical cabinet. The normal recommended average operating temperature inside a cabinet is 35°C with relative humidity of no more than 60%.

Fandis offers a wide range of solutions for efficiently disposing of dissipated heat from electrical components suitable for different applications.

NATURAL CONVECTION



The use of exhaust filter ensures the passage of air and the removal of heat in a natural manner. This solution can be considered for dissipating low level of heat in dusty environments.

FORCED CONVECTION



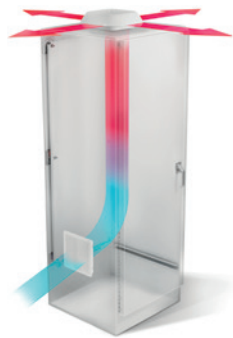
Forced ventilation is an inexpensive and efficient solution for preventing the formation of air pockets inside electrical cabinets. The best configuration includes fitting a fan filter to an exhaust filter.

The fan filter positioned at the bottom of the cabinet, takes in and filters air from the outside (standard air flow) while the exhaust filter at the top expels hot air. The pressure generated by the ventilation prevents unfiltered air from entering through holes or openings.



An inverted air flow version - reverse flow - is also available (fan filter at top and exhaust filter at bottom).

The system can be controlled by a thermostat that turns the fan on when high temperatures are detected.



Hot air can also be expelled from the roof of the cabinet if, for instance, the sides of the cabinet are covered by obstacles, walls or by the sides of other cabinets. In a perfect configuration, an exhaust filter is positioned at the bottom of the cabinet. The lower pressure generated by the roof unit sucks in air from the outside through the exhaust filter to enhance internal air flow and the dissipation of heat.



The use of a swivelling fan is an alternative solution for a better air circulation inside the electrical cabinet.

This fan distributes heat to reduce the temperature, cools local hot spots and disperses cold air emitted by cooling units.

EMC shielding



Electromagnetic compatibility, or EMC, relates to the unintentional generation or reception of electromagnetic energy that may lead to electromagnetic interference with a component or item of equipment. By incorporating EMC into electrical component design, electronics engineers can ensure the long-term stability and lifespan of multiple electrical components operating within a given space.

The EMC shielding of an enclosure guarantees both limited radiated emissions and protects internal components from external sources of interference.

Fandis EMC filters and fan filters are designed to prevent the weakening of the shielding effect in enclosures with a high level of protection, even with cutouts, and to maintain this status.



FAN FILTERS

Fan filters are a practical solution for removing heat from the cabinet. They channel filtered ambient air into the enclosure, expelling warm internal air through an exhaust filter or roof unit to reduce temperatures and protect electronic components from overheating.

Fandis offers three different series of fan filters to better satisfy various cooling and ventilation requirements.

■ FF SERIES



TIME-SAVING INSTALLATION

Quick tool-less mounting system with clips for 1 to 3.7mm thick plates

QUICK CONNECTION

Cage clamp free-tool wiring system

IP55 AND TYPE 3R (OPTIONAL)

Ideal for indoor or outdoor use in harsh industrial environments

EMC-COMPATIBLE

Metal shielding for electromagnetic protection

SLIDE OPENING

Easy replacement of the filter media without the need of tools

COLORS

Custom RAL colors subject to minimum order



Details that make the difference



■ FPF SERIES

FPF fan filters are the first series of Fandis filtering solutions for enclosures. These units have a low external profile to avoid obstruction and are easy to mount on standard panel cutouts with a fast snap-on assembly. An integrated sealing gasket also provides secure dust and water protection.



QUICK INSTALLATION

Snap-mounting system with elastic hooks



EMC-COMPATIBLE

Metal shielding for electromagnetic protection

IP55 PROTECTION (OPTIONAL)

Ideal for harsh ambient condition in industrial applications

■ GF SERIES FAN FILTERS

The GF fan filter range is characterized by an innovative mounting system with jacks, which accommodate both plastic and plate enclosures with thick wall applications.

This series has the advantage of a fast outer installation, without extra drilling, and an easy filter replacement through the original hinged protection guard.



FIXING WITH JACKS

Patented system for thick wall applications in both plastic and plate enclosures (up to 16mm)



HINGED OPENING

Easy tool-less replacement of the filter media through the hinged protection guard

Model numbering system for FF SERIES

description	FF 15 P A 230 U N R 5 C 1 O -SXX	description
FAMILY FF		CUSTOM SERIES SXX = custom version
DIMENSION CODE 08 - 107 x 107 12 - 150 x 150 13 - 204 x 204 15 - 250 x 250 20 - 325 x 325		FILTER () = with filter mat O = without filter mat
FAN SIZE P = small M = medium G = large GE = large with plastic adaptor () = standard		VERSION
VOLTAGE A = a.c. voltage D = d.c. voltage		EMC C = EMC shielded
RATED VOLTAGE 115 = 115 V.a.c. 230 = 230 V.a.c. 400T = 400 3~ 24 = 24 V.d.c. 48 = 48 V.d.c.		IP PROTECTION 5 = IP55
COLOUR R = grey RAL 7032 U = grey RAL 7035 N = black RAL 9005		AIR FLOW DIRECTION () = standard flow R = reverse flow
		FAN SUPPLIER N = NMB internal fan F = Fandis internal fan E = Ecofit internal fan

Model numbering system for FPF SERIES

description	FPF 15K P R 230 BE (R) -110	description
FAMILY FPF		SERIES 100... = standard S** = custom
DIMENSION CODE Standard version 08K 12K 13K 15K 20K		OPTIONS () = Type 12 and IP54 protected 5 = IP55 protected R = Reverse flow Type 12 O = Type 1 protected C = EMC shielded N = Type 3R protected
FAN SIZE P = small () = standard M = medium G = large		VERSION B BE
COLOUR R = grey RAL 7032 U = grey RAL 7035 N = black RAL 9005		VOLTAGE G = no voltage 400T = 400 3~ 24 = 24 V.a.c. D12 = 12 V.d.c. 115 = 115 V.a.c. D24 = 24 V.d.c. 230 = 230 V.a.c. D48 = 48 V.d.c.

Model numbering system for GF SERIES

description	GF 15K P U 230 BE (R) -110	description
FAMILY GF		SERIES 100... = standard S** = custom
DIMENSION CODE Standard version 12K 15K 20K		OPTIONS () = Standard R = Reverse flow
FAN SIZE P = small () = standard G = large		VERSION B BE
COLOUR U = grey RAL 7035 other colours on request		VOLTAGE G = no voltage 400T = 400 3~ 24 = 24 V.a.c. D12 = 12 V.d.c. 115 = 115 V.a.c. D24 = 24 V.d.c. 230 = 230 V.a.c. D48 = 48 V.d.c.

PRODUCTS OVERVIEW FF SERIES						
Model	Dimensions	Cut-out	Voltage	Air Flow	Approvals	Page
	mm	mm	V	m³/h		
FF08	107X107	91.5X91.5			CE; cURus; cCSAus	16
FF08AF	107X107	91.5X91.5	230 Va.c.	10 ÷ 13	CE	19
FF08AN	107X107	91.5X91.5	115/230 Va.c.	12 ÷ 21	CE; cURus; cCSAus	20
FF08DF	107X107	91.5X91.5	48 Vd.c.	12	CE	21
FF08DN	107X107	91.5X91.5	12/24 Vd.c.	16 ÷ 23	CE; cURus; cCSAus	21
FF08GAF	107X107	92.5X92.5	115/230 Va.c.	22 ÷ 26	CE; cURus; cCSAus	22
FF08GAN	107X107	92.5X92.5	115/230 Va.c.	16 ÷ 20	CE; cURus; cCSAus	22
FF08GDF	107X107	92.5X92.5	48 Vd.c.	48	CE	23
FF08GDN	107X107	92.5X92.5	24 Vd.c.	50 ÷ 60	CE; cURus; cCSAus	23
FF12	150X150	124X124			CE; cURus; cCSAus	16
FF12A24	150X150	124X124	24 Va.c.	39 ÷ 52	CE	24
FF12AF	150X150	124X124	115/230 Va.c.	45 ÷ 52	CE; cURus; cCSAus	25
FF12AN	150X150	124X124	115/230 Va.c.	60 ÷ 79	CE; cURus; cCSAus	26
FF12DN	150X150	124X124	24/48 Vd.c.	47 ÷ 64	CE; UR; cCSAus	27
FF13	204X204	177X177			CE; cURus; cCSAus	16
FF13PAF	204X204	177X177	115/230 Va.c.	100 ÷ 110	CE; cURus; cCSAus	28
FF13PAN	204X204	177X177	115/230 Va.c.	110 ÷ 135	CE; cURus; cCSAus	29
FF13PD	204X204	177X177	24 Vd.c.	100 ÷ 120	CE; cURus; cCSAus	30
FF15	250X250	223X223			CE; cURus; cCSAus	16
FF15AF	250X250	223X223	115/230 Va.c.	230 ÷ 290	CE; cURus; cCSAus	31
FF15AN2	250X250	223X223	115/230 Va.c.	230 ÷ 283	CE; cURus; cCSAus	32
FF15DF	250X250	223X223	24/48 Vd.c.	275 ÷ 310	CE; cURus; cCSAus	33
FF15DN	250X250	223X223	24/48 Vd.c.	225 ÷ 255	CE; cURus; cCSAus	34
FF15MA	250X250	223X223	115/230 Va.c.	130 ÷ 155	CE	35
FF15PAF	250X250	223X223	115/230 Va.c.	105 ÷ 120	CE; cURus; cCSAus	36
FF15PAN	250X250	223X223	115/230 Va.c.	125 ÷ 150	CE; cURus; cCSAus	37
FF15PD	250X250	223X223	24/48 Vd.c.	140 ÷ 150	CE; cURus; cCSAus	38
FF20	325X325	291X291			CE; cURus; cCSAus	16
FF20A	325X325	291X291	115/230 Va.c.	445 ÷ 595	CE	39
FF20A	325X325	291X291	400 V 3~	510	CE	40
FF20A1	325X325	291X291	115/230 Va.c.	445 ÷ 590	CE; cURus; cCSAus	41
FF20GA	325X325	291X291	115/230 Va.c.	705 ÷ 870	CE	42
FF20GAA	325X325	291X291	115/230 Va.c.	820 ÷ 960	CE	43
FF20GA1	325X325	291X291	115/230 Va.c.	675 ÷ 860	CE; cURus; cCSAus	44
FF20GAA1	325X325	291X291	115/230 Va.c.	820 ÷ 998	CE; cURus; cCSAus	45
FF20GEA	325X325	291X291	400 V 3~	485 ÷ 695	CE	46

PRODUCTS OVERVIEW FPF SERIES

Model	Dimensions	Cut-out	Voltage	Air Flow	Approvals	Page
	mm	mm	V	m³/h		
FPF08	105X105	91.5X91.5			CE; cURus	47
FPF08K	105X105	91.5X91.5	115/230 Va.c.	23 ÷ 30	CE; cURus	49
FPF08KD	105X105	91.5X91.5	12/24 Vd.c.	15 ÷ 20	CE; cURus	50
FPF12	150X150	125X125			CE; cURus	47
FPF12K	150X150	125X125	24/115/230 Va.c.	57 ÷ 61	CE; cURus	51
FPF12KD	150X150	125X125	24/48 Vd.c.	60 ÷ 60	CE; cURus	52
FPF13	204X204	177X177			CE; cURus	47
FPF13K	204X204	177X177	115/230 Va.c.	120 ÷ 135	CE; cURus	53
FPF13KP	204X204	177X177	115/230 Va.c.	110 ÷ 120	CE; cURus	54
FPF13KPD	204X204	177X177	24 Vd.c.	120 ÷ 120	CE; cURus	55
FPF15	250X250	223X223			CE; cURus	47
FPF15K	250X250	223X223	115/230 Va.c.	240 ÷ 270	CE; cURus	56
FPF15KD	250X250	223X223	24/48 Vd.c.	250 ÷ 250	CE; cURus	57
FPF15KG	250X250	223X223	115/230 Va.c.	360 ÷ 400	CE; cURus	58
FPF15KM	250X250	223X223	115/230 Va.c.	130 ÷ 150	CE; cURus	60
FPF15KP	250X250	223X223	115/230 Va.c.	115 ÷ 125	CE; cURus	61
FPF15KPD	250X250	223X223	24/48 Vd.c.	145 ÷ 145	CE; cURus	62
FPF20	325X325	291X291			CE; cURus	47
FPF20K	325X325	291X291	115/230/400 Va.c.	520 ÷ 580	CE; cURus	63
FPF20KG B	325X325	291X291	115/230/400 Va.c.	650 ÷ 745	CE; cURus	65
FPF20KG BE	325X325	291X291	115/230/400 Va.c.	660 ÷ 745	CE; cURus	67

PRODUCTS OVERVIEW GF SERIES

Model	Dimensions	Cut-out	Voltage	Air Flow	Approvals	Page
	mm	mm	V	m³/h		
GF12	150x150	125x125			CE	69
GF12K BE	150x150	125x125	230 Va.c.	42 ÷ 53	CE	70
GF12KD B	150x150	125x125	24 Vd.c.	46 ÷ 55	CE	71
GF15	250x250	223x223			CE	69
GF15K BE	250x250	223x223	115/230 Va.c.	224 ÷ 290	CE	72
GF15KP BE	250x250	223x223	230 Va.c.	118 ÷ 132	CE	73
GF20	325x325	290x290			CE	69
GF20KG B	325x325	290x290	230 Va.c.	583 ÷ 680	CE	74
GF20K BE	325x325	290x290	230 Va.c.	475 ÷ 535	CE	74



General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness: FF08 from 1 to 2mm; FF12, FF13 from 1.3 to 3.2mm; FF15, FF20 from 1.3 to 3.7mm (up to 4mm with cut-out max tolerance)
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



- ▶ Clip mounting system
- ▶ Easy media replacement

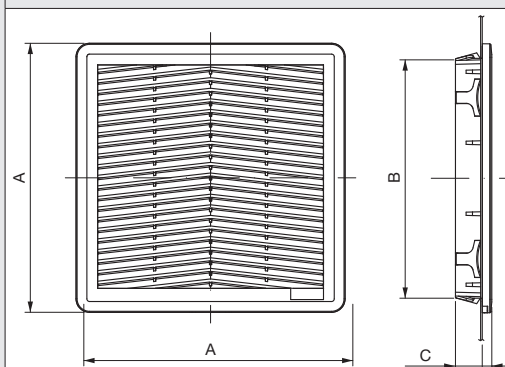
- ▶ Low profile

Technical data

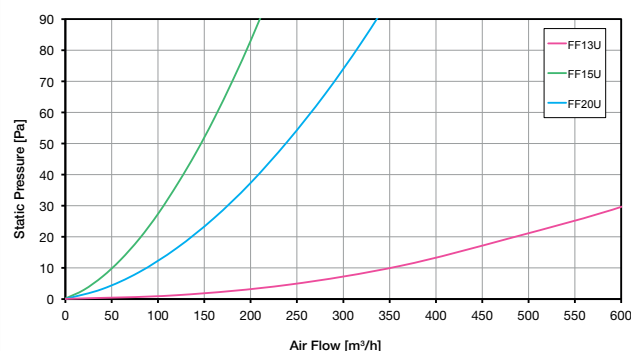
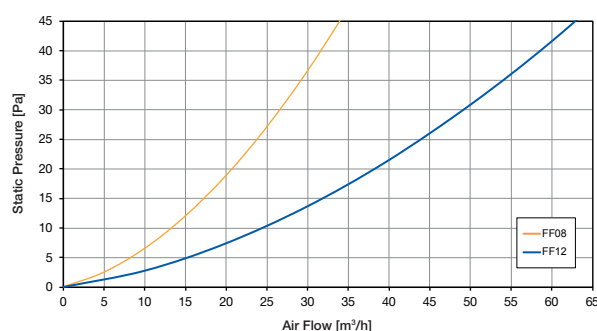
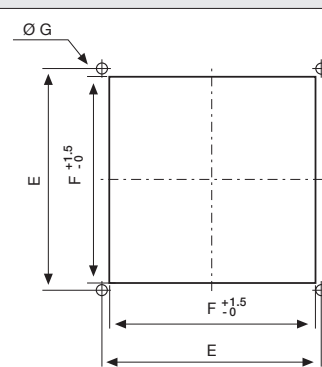
Model	A	B	C	D	E	F	G	Weight	Approvals
	mm	mm	mm	mm	mm	mm	mm	Kg	
FF08U	107	91.5	16.5	6.7	95	91.5	1.8	0.1	CE; cURus; cCSAus;
FF12U	150	124	21.5	7.7	131	124	4.5	0.2	CE; cURus; cCSAus;
FF13U	204	176	21.5	8	185	177	4.5	0.33	CE; cURus; cCSAus;
FF15U	250	223	24.9	8.9	230	223	4.5	0.57	CE; cURus; cCSAus;
FF20U	325	291	24.5	9.5	302	291	4.5	0.98	CE; cURus; cCSAus;

Technical specifications

Technical drawing



Mounting cut-out



General specifications



- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness: FF12, FF13 from 1.3 to 3.2mm; FF15, FF20 from 1.3 to 3.7mm (up to 4mm with cut-out max tolerance)
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



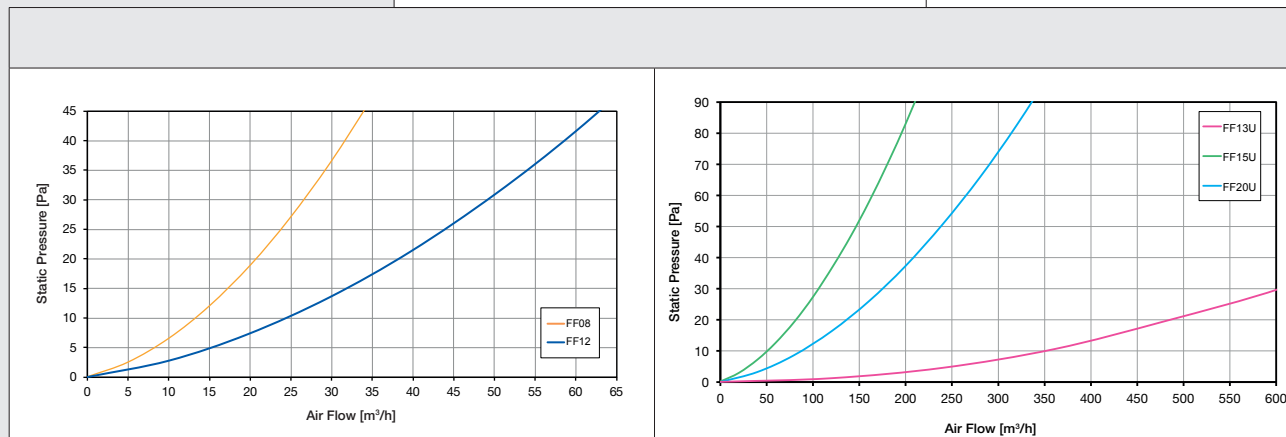
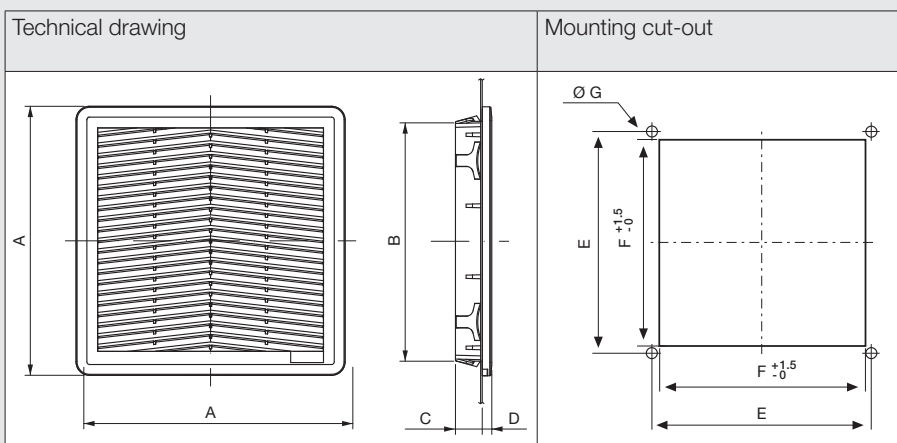
- ▶ Clip mounting system
- ▶ Easy media replacement

- ▶ Low profile

Technical data

Model	A	B	C	D	E	F	G	Weight	Approvals
	mm	mm	mm	mm	mm	mm	mm	Kg	
FF12U5	150	124	21.5	7.7	131	124	4.5	0.2	CE; cURus; cCSAus;
FF13U5	204	176	21.5	8	185	177	4.5	0.33	CE; cURus; cCSAus;
FF15U5	250	223	24.9	8.9	230	223	4.5	0.58	CE; cURus; cCSAus;
FF20U5	325	291	24.5	9.5	302	291	4.5	0.99	CE; cURus; cCSAus;

Technical specifications





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness: FF08 from 1 to 2mm; FF12, FF13 from 1.3 to 3.2mm; FF15, FF20 from 1.3 to 3.7mm (up to 4mm with cut-out max tolerance)
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1 and 3R versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



- ▶ Electromagnetic radiation protection
- ▶ Clip mounting system

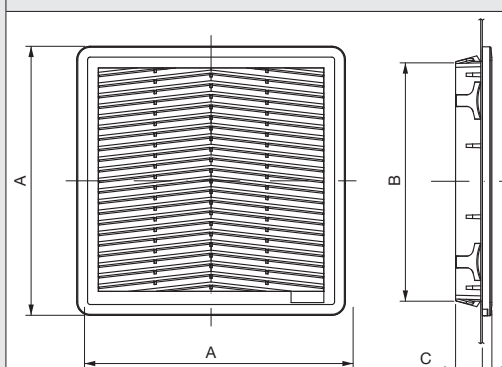
- ▶ Low profile
- ▶ Easy media replacement

Technical data

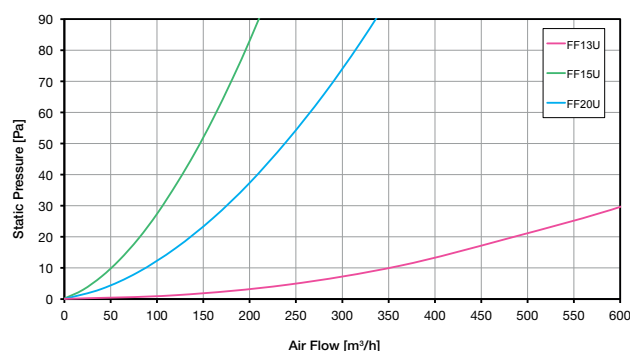
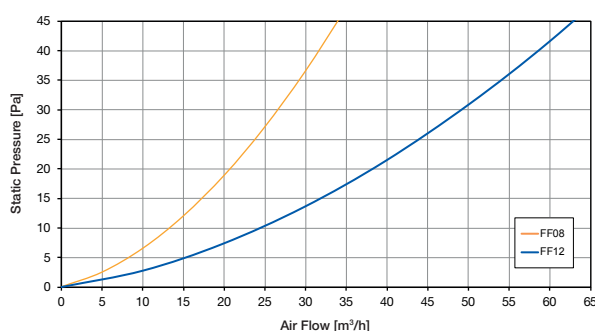
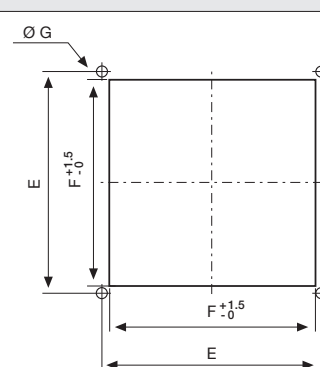
Model	A	B	C	D	E	F	G	Weight	Approvals
	mm	mm	mm	mm	mm	mm	mm	Kg	
FF08UC	107	91.5	16.5	6.7	95	91.5	1.8	0.1	CE; cURus; cCSAus;
FF12UC	150	124	21.5	7.7	131	124	4.5	0.21	CE; cURus; cCSAus;
FF13UC	204	176	21.5	8	185	177	4.5	0.33	CE; cURus; cCSAus;
FF15UC	250	223	24.9	8.9	230	223	4.5	0.61	CE; cURus; cCSAus;
FF20UC	325	291	24.5	9.5	302	291	4.5	1.01	CE; cURus; cCSAus;

Technical specifications

Technical drawing



Mounting cut-out





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1 to 2mm
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3, according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- Type1, 3R and EMC versions on request



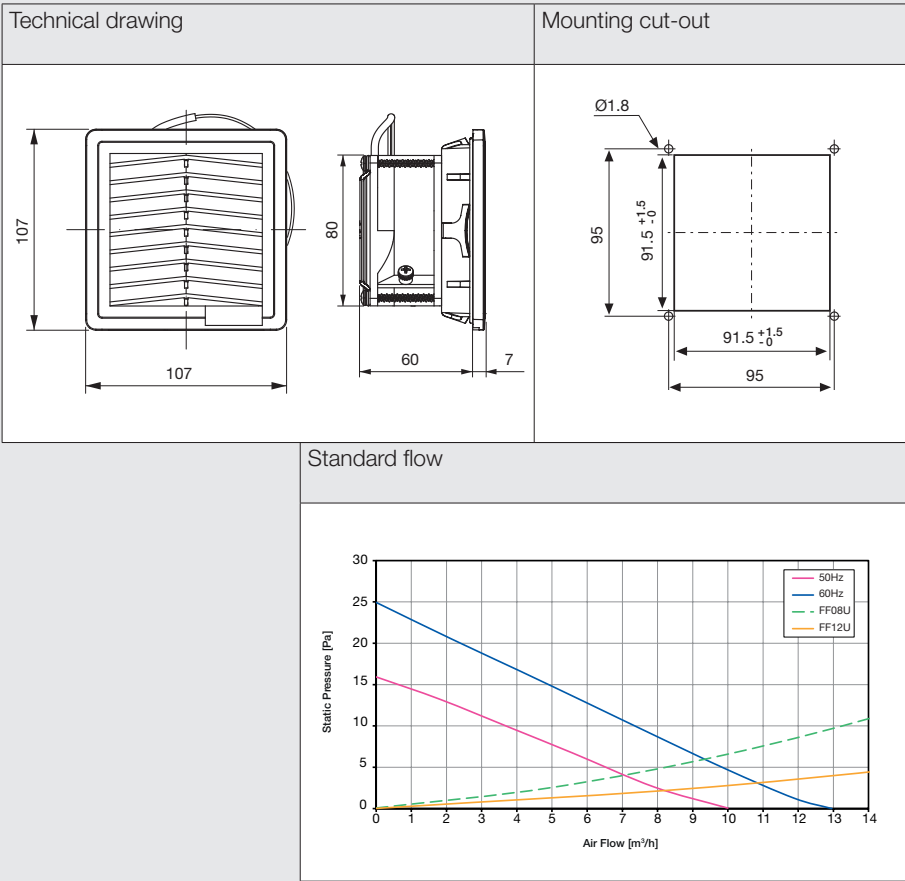
- Clip mounting system
- Easy media replacement

- Low profile

Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF08A230UF	230 V a.c.	50/60	0.085/0.071	14/11	10/13	16/25	32.0/36.0	0.44	-10 ÷ +70	CE;

Technical specifications



General specifications



- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1 to 2mm
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3, according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



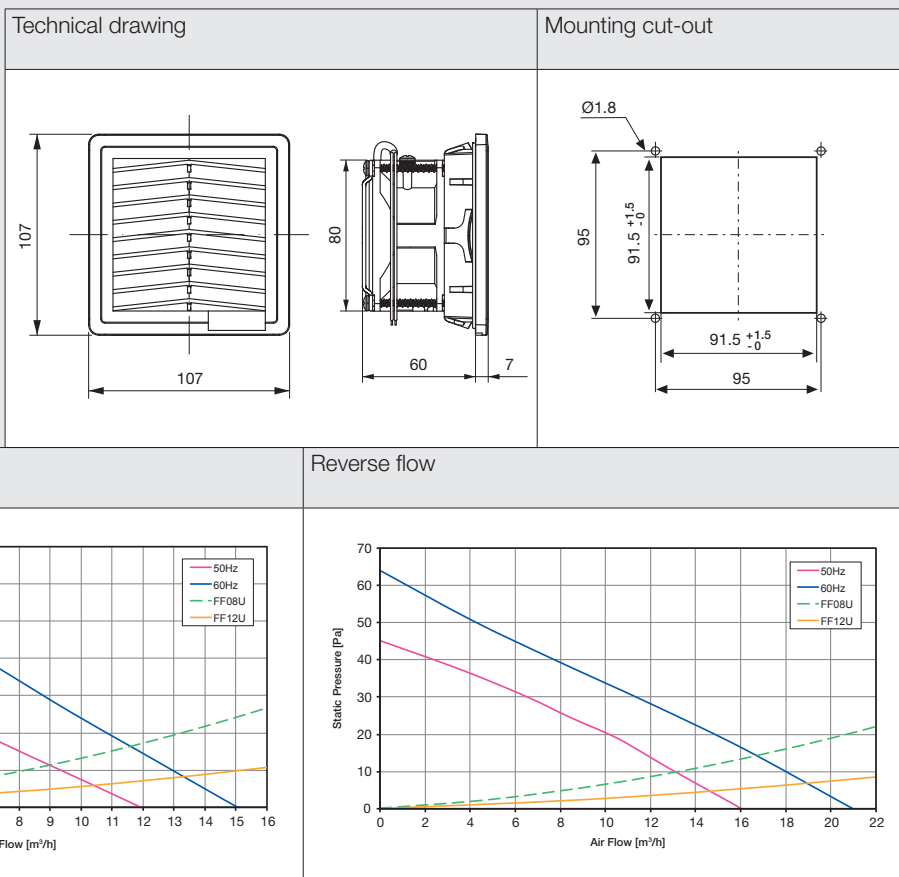
- ▶ Clip mounting system
- ▶ Easy media replacement

- ▶ Low profile

Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF08A115UN	115 V a.c.	50/60	0.113/0.092	9.0/7.0	12/15	23/33	31.0/33.0	0.49	-10 ÷ +55	CE; cURus; cCSAus;
FF08A115UNR	115 V a.c.	50/60	0.111/0.093	9.0/7.5	16/21	45/64	31.0/33.0	0.49	-10 ÷ +55	CE; cURus; cCSAus;
FF08A230UN	230 V a.c.	50/60	0.062/0.050	10/8.0	12/15	23/33	31.0/33.0	0.44	-10 ÷ +55	CE; cURus; cCSAus;
FF08A230UNR	230 V a.c.	50/60	0.063/0.052	10/8.0	16/21	45/64	31.0/33.0	0.44	-10 ÷ +55	CE; cURus; cCSAus;

Technical specifications





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1 to 2mm
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3, according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



- ▶ Clip mounting system
- ▶ Easy media replacement

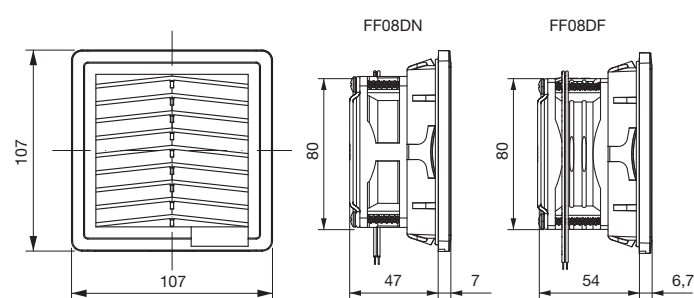
- ▶ Low profile

Technical data

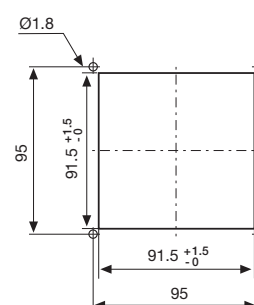
Model	Rated Voltage	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF08D12UN	12 V d.c.	0.170	2.0	16	28	30.0	0.23	-10 ÷ +55	CE; cURus; cCSAus;
FF08D12UNR	12 V d.c.	0.184	2.2	23	44	30.0	0.23	-10 ÷ +55	CE; cURus; cCSAus;
FF08D24UN	24 V d.c.	0.085	2.0	16	28	30.0	0.23	-10 ÷ +55	CE; cURus; cCSAus;
FF08D24UNR	24 V d.c.	0.092	2.2	23	44	30.0	0.23	-10 ÷ +55	CE; cURus; cCSAus;
FF08D48UF	48 V d.c.	0.063	3.0	12	19	35.5	0.26	-10 ÷ +55	CE;

Technical specifications

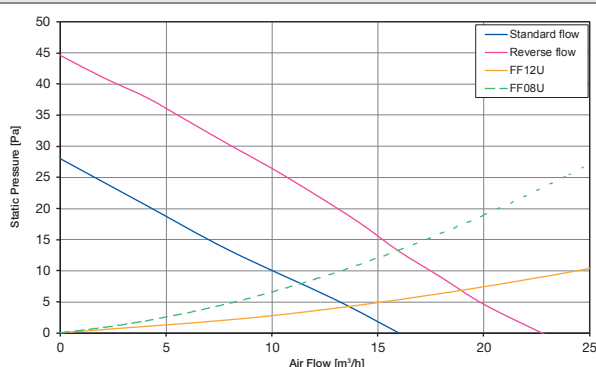
Technical drawing



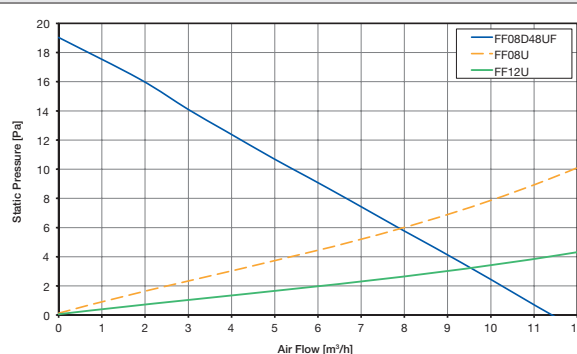
Mounting cut-out



Standard flow / Reverse flow FF08DN



Standard flow / Reverse flow FF08DF



General specifications



- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1 to 2mm
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3, according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14

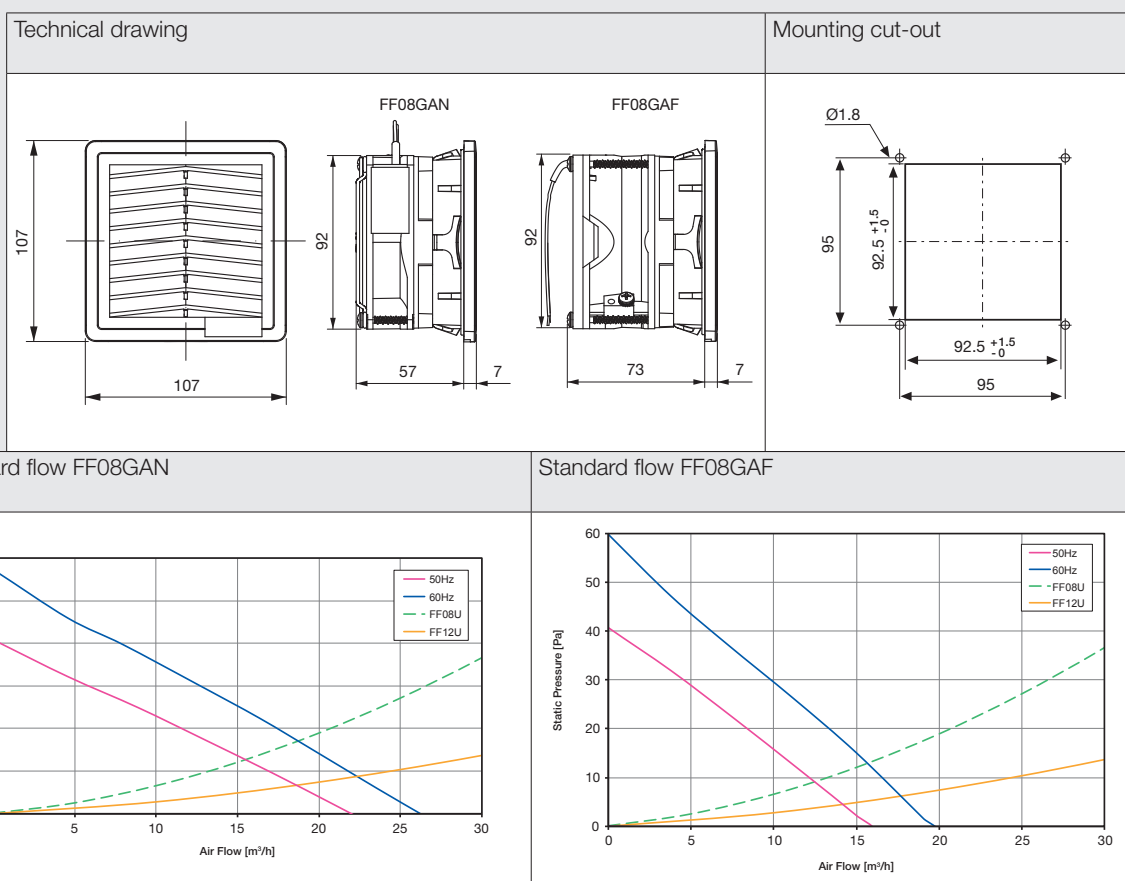


- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile
- ▶ High performances

Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF08GA115UF	115 V a.c.	50/60	0.145/0.127	12/10	22/26	41/57	37.0/42.0	0.6	-10 ÷ +55	CE; cURus; cCSAus;
FF08GA115UNR	115 V a.c.	50/60	0.133/0.113	12/9.0	16/20	40/60	33.5/38.0	0.47	-10 ÷ +55	CE; cURus; cCSAus;
FF08GA230UF	230 V a.c.	50/60	0.078/0.068	12/11	22/26	41/57	37.0/42.0	0.6	-10 ÷ +55	CE; cURus; cCSAus;
FF08GA230UNR	230 V a.c.	50/60	0.065/0.056	12/10	16/20	40/60	33.5/38.0	0.44	-10 ÷ +55	CE; cURus; cCSAus;

Technical specifications



General specifications



- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1 to 2mm
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3, according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14

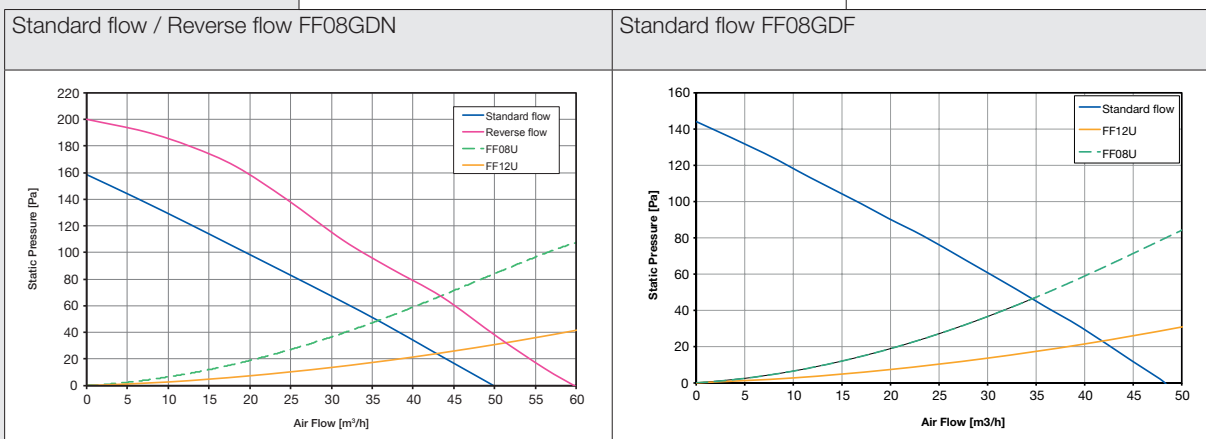
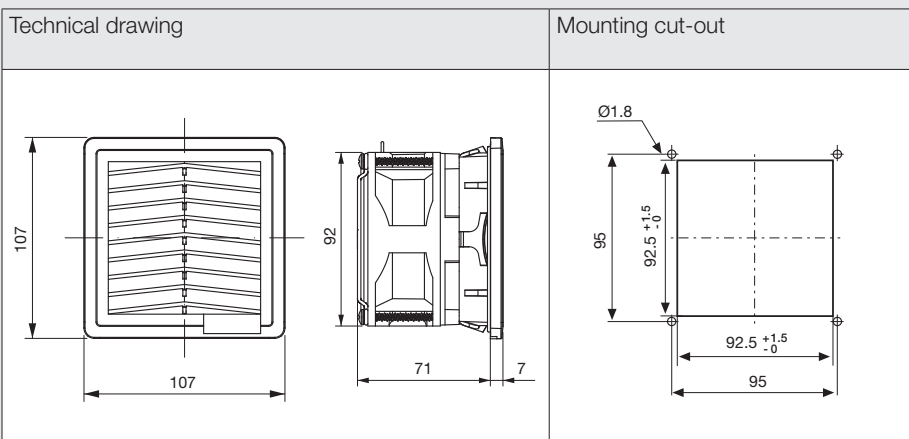


- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile
- ▶ High performances

Technical data

Model	Rated Voltage	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF08GD24UN	24 V d.c.	0.610	15	50	160	59.0	0.4	-10 ÷ +55	CE; cURus; cCSAus;
FF08GD24UNR	24 V d.c.	0.710	17	60	200	59.0	0.4	-10 ÷ +55	CE; cURus; cCSAus;
FF08GD48UF	48 V d.c.	0.354	17	48	144	58.5	0.38	-10 ÷ +55	CE;

Technical specifications





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1,3 to 3,2mm
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request



- ▶ Clip mounting system
- ▶ Easy media replacement

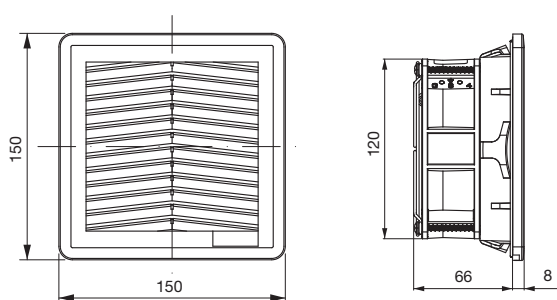
- ▶ Low profile
- ▶ Quick electrical connection with cage clamp terminal

Technical data

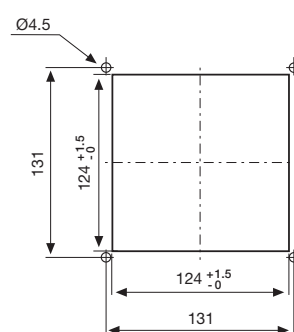
Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF12A24UF	24 V a.c.	50/60	0.77/0.76	15/15	39/44	43/41	46.0/49.0	0.76	-10 ÷ +60	CE;
FF12A24UFR	24 V a.c.	50/60	0.77/0.76	15/15	50/52	59/40	46.0/49.0	0.76	-10 ÷ +60	CE;

Technical specifications

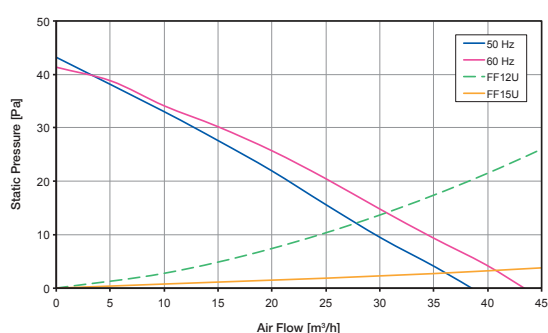
Technical drawing



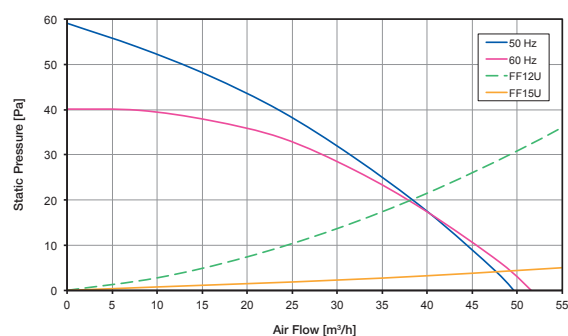
Mounting cut-out



Standard flow



Reverse flow





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1,3 to 3,2mm
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



- ▶ Clip mounting system
- ▶ Easy media replacement

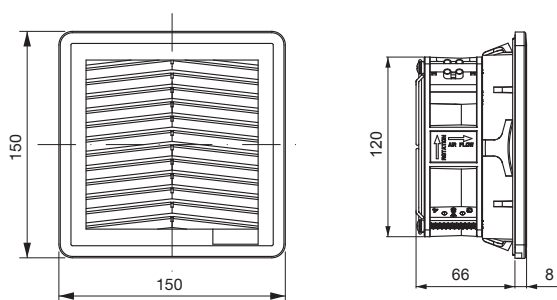
- ▶ Low profile
- ▶ Quick electrical connection with cage clamp terminal

Technical data

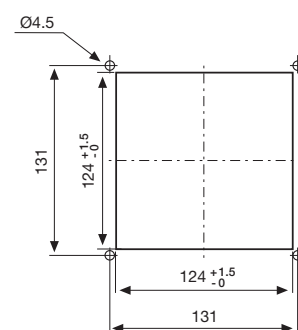
Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF12A115UF	115 V a.c.	50/60	0.200/0.180	16/15	45/50	55/62	46.0/49.0	0.76	-10 ÷ +55	CE; cURus; cCSAus;
FF12A115UFR	115 V a.c.	50/60	0.200/0.180	16/15	47/52	72/82	46.0/49.0	0.76	-10 ÷ +55	CE; cURus; cCSAus;
FF12A230UF	230 V a.c.	50/60	0.110/0.100	18/17	45/50	55/62	48.0/54.0	0.76	-10 ÷ +55	CE; cURus; cCSAus;
FF12A230UFR	230 V a.c.	50/60	0.110/0.100	18/17	47/52	72/82	48.0/54.0	0.76	-10 ÷ +55	CE; cURus; cCSAus;

Technical specifications

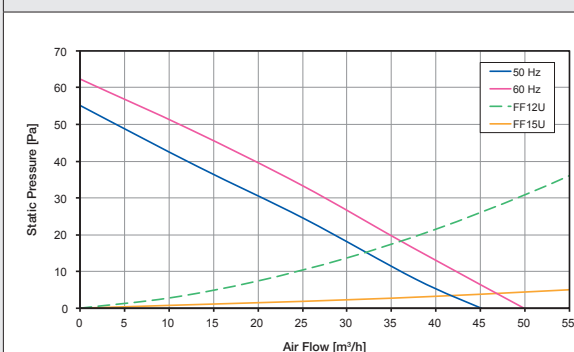
Technical drawing



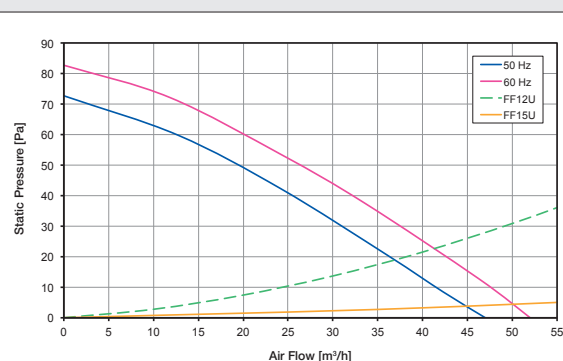
Mounting cut-out



Standard flow



Reverse flow





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1,3 to 3,2mm
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14

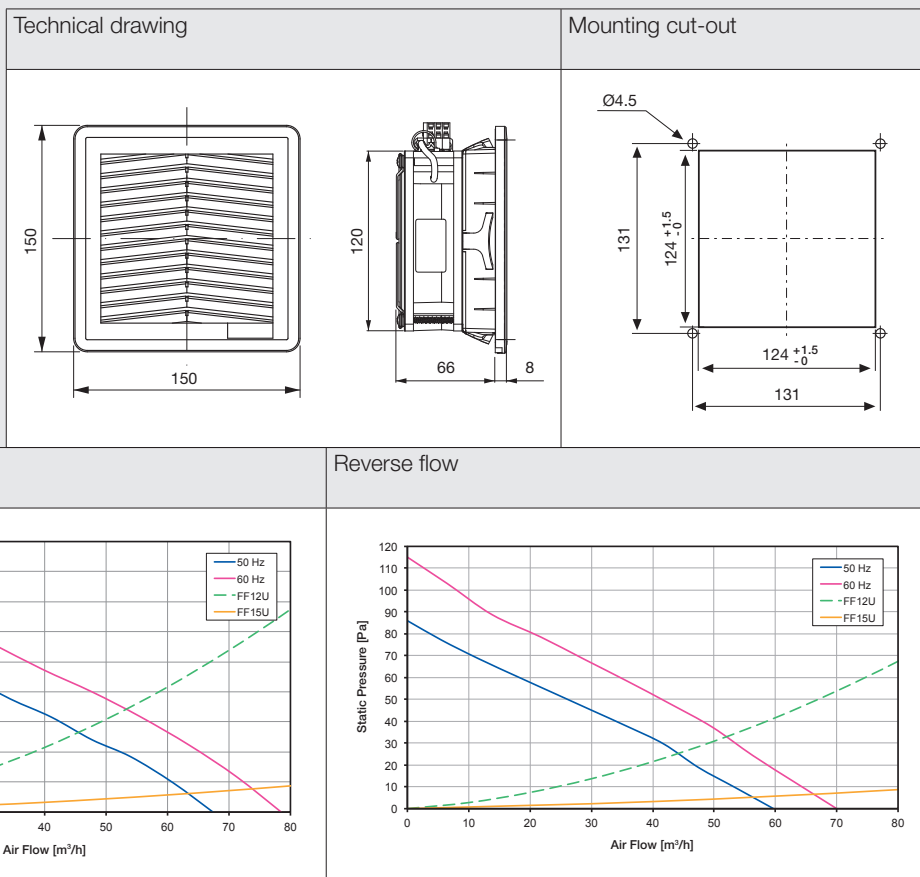


- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile
- ▶ Cage clamp terminal

Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF12A115UN	115 V a.c.	50/60	0.260/0.220	19/17	67/79	73/86	40.0/44.0	0.9	-10 ÷ +55	CE; cURus; cCSAus;
FF12A115UNR	115 V a.c.	50/60	0.260/0.220	19/17	60/70	86/115	40.0/44.0	0.9	-10 ÷ +55	CE; cURus; cCSAus;
FF12A230UN	230 V a.c.	50/60	0.130/0.100	18/16	67/79	73/86	40.0/44.0	0.91	-10 ÷ +55	CE; cURus; cCSAus;
FF12A230UNR	230 V a.c.	50/60	0.130/0.100	18/16	60/70	86/115	40.0/44.0	0.91	-10 ÷ +55	CE; cURus; cCSAus;

Technical specifications





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1.3 to 3.2mm
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14

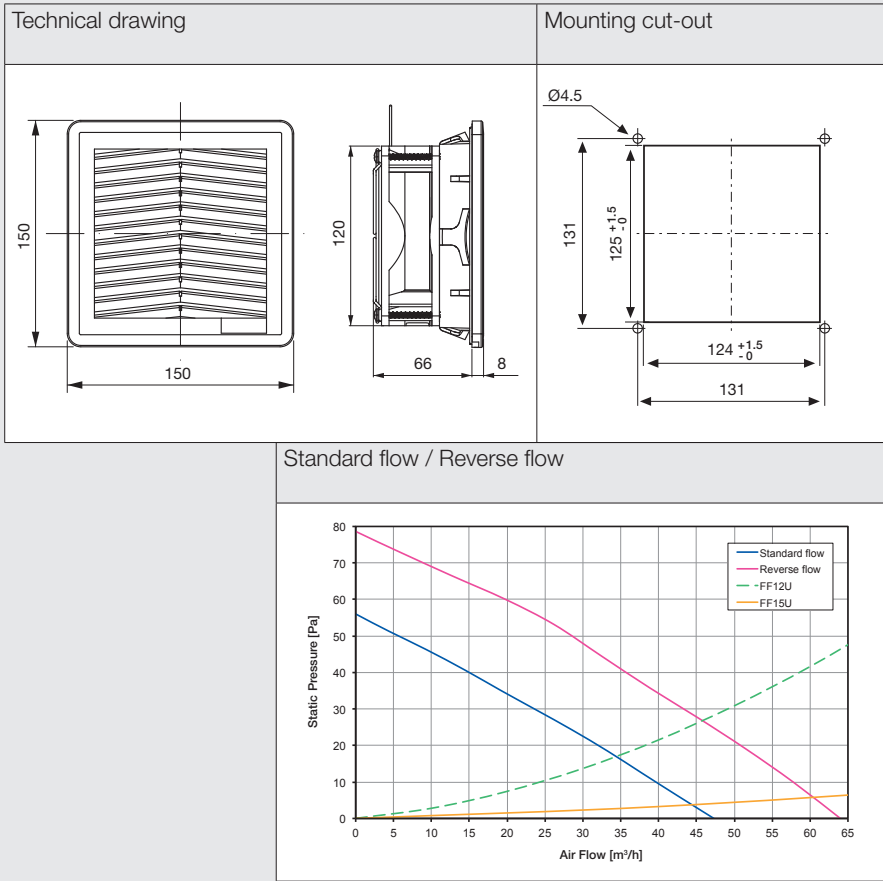


- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile

Technical data

Model	Rated Voltage	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF12D24UN	24 V d.c.	0.310	7.4	47	56	42.5	0.53	-10 ÷ +55	CE; UR; cCSAus;
FF12D24UNR	24 V d.c.	0.310	7.4	64	79	42.5	0.53	-10 ÷ +55	CE; UR; cCSAus;
FF12D48UN	48 V d.c.	0.180	8.6	47	56	42.5	0.52	-10 ÷ +55	CE; UR; cCSAus;
FF12D48UNR	48 V d.c.	0.180	8.6	64	79	42.5	0.52	-10 ÷ +55	CE; UR; cCSAus;

Technical specifications





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1.3 to 3.2mm
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



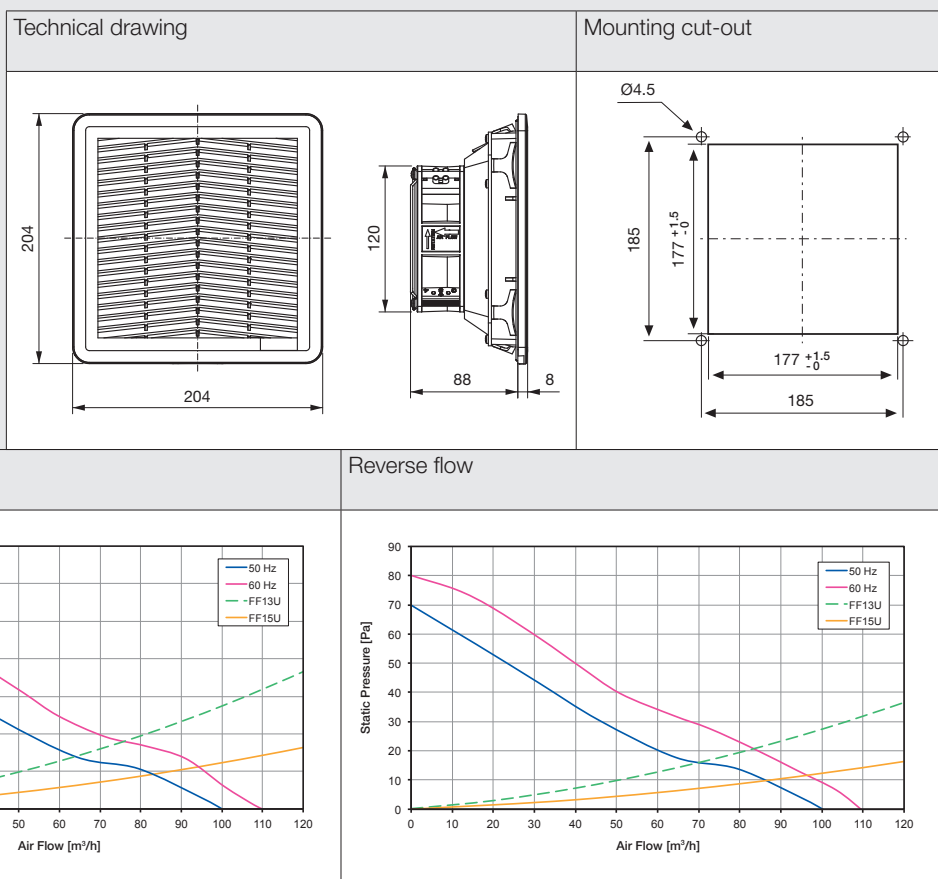
- ▶ Clip mounting system
- ▶ Easy media replacement

- ▶ Low profile
- ▶ Quick electrical connection with cage clamp terminal

Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF13PA115UF	115 V a.c.	50/60	0.213/0.202	19/18	100/110	55/60	46.0/49.0	1.04	-10 ÷ +55	CE; cURus; cCSAus;
FF13PA115UFR	115 V a.c.	50/60	0.215/0.200	18/18	100/110	70/80	46.0/49.0	1.04	-10 ÷ +55	CE; cURus; cCSAus;
FF13PA230UF	230 V a.c.	50/60	0.106/0.100	18/18	100/110	55/60	48.0/54.0	1.04	-10 ÷ +55	CE; cURus; cCSAus;
FF13PA230UFR	230 V a.c.	50/60	0.106/0.100	18/18	100/110	70/80	48.0/54.0	1.04	-10 ÷ +55	CE; cURus; cCSAus;

Technical specifications





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1.3 to 3.2mm
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No.14



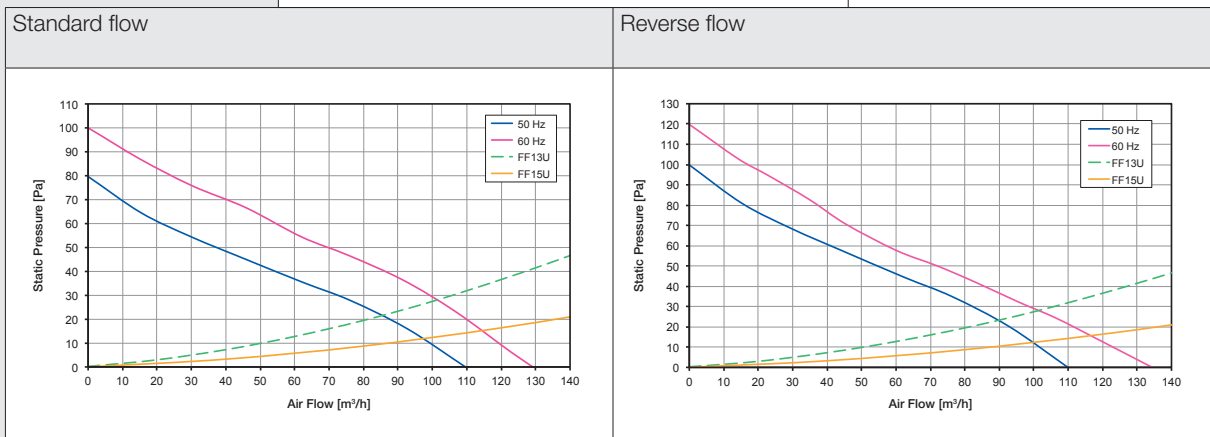
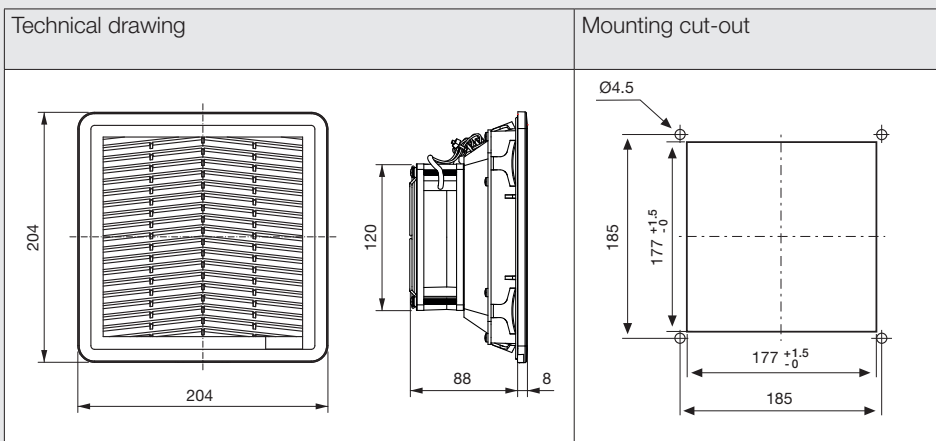
- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile

- ▶ Cage clamp terminal

Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF13PA115UN	115 V a.c.	50/60	0.200/0.180	16/15	110/130	80/100	40.0/44.0	1.17	-10 ÷ +55	CE; cURus; cCSAus;
FF13PA115UNR	115 V a.c.	50/60	0.257/0.224	20/18	110/135	100/120	40.0/44.0	1.12	-10 ÷ +55	CE; cURus; cCSAus;
FF13PA230UN	230 V a.c.	50/60	0.126/0.110	19/17	110/130	80/100	40.0/44.0	1.13	-10 ÷ +55	CE; cURus; cCSAus;
FF13PA230UNR	230 V a.c.	50/60	0.128/0.110	19/18	110/135	100/120	40.0/44.0	1.13	-10 ÷ +55	CE; cURus; cCSAus;

Technical specifications





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1.3 to 3.2mm
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No.14



- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile

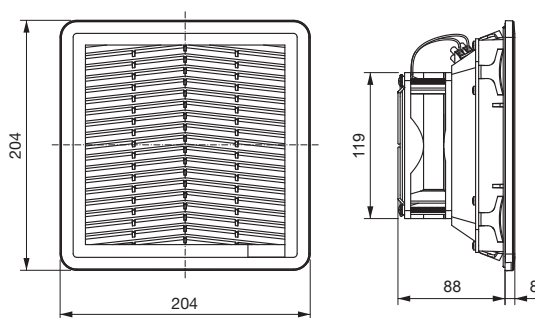
- ▶ Quick electrical connection with cage clamp terminal

Technical data

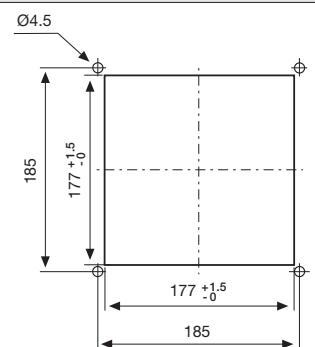
Model	Rated Voltage	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF13PD24UN	24 V d.c.	0.342	8.2	100	60	42.0	0.81	-10 ÷ +55	CE; UR; cCSAus;
FF13PD24UNR	24 V d.c.	0.355	8.5	120	83	42.0	0.81	-10 ÷ +55	CE; UR; cCSAus;

Technical specifications

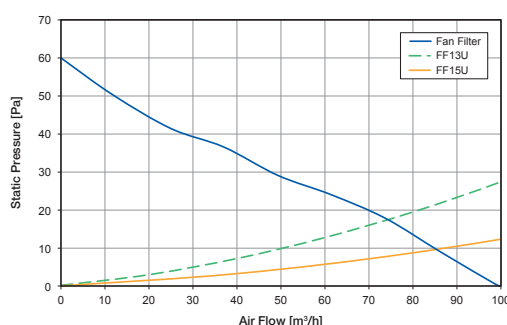
Technical drawing



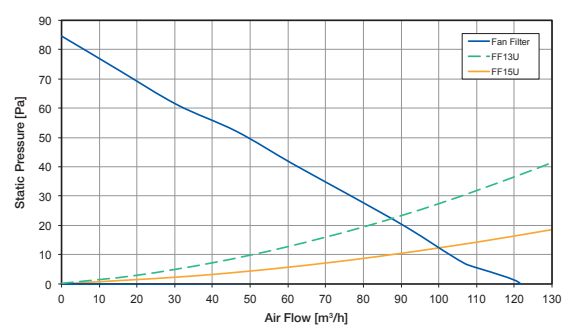
Mounting cut-out



Standard flow



Reverse flow





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1.3 to 3.7mm (up to 4mm with cut-out max tolerance)
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile

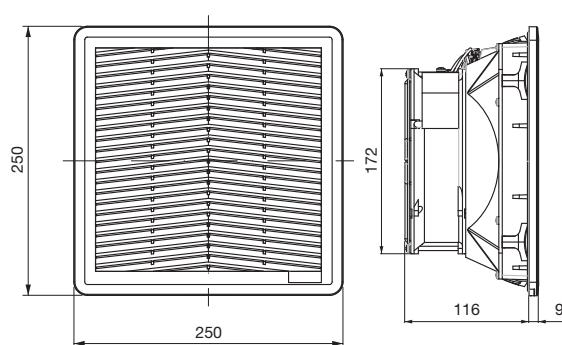
- ▶ Quick electrical connection with cage clamp terminal

Technical data

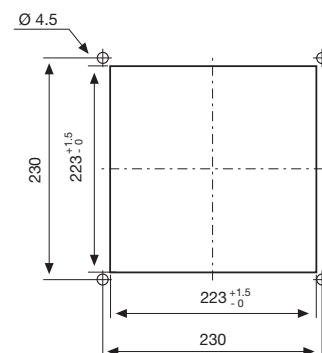
Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF15A115UF	115 V a.c.	50/60	0.280/0.270	31/31	230/270	115/155	50.0/55.0	1.78	-10 ÷ +55	CE; cURus; cCSAus;
FF15A115UFR	115 V a.c.	50/60	0.280/0.260	31/31	245/290	165/210	50.0/55.0	1.78	-10 ÷ +55	CE; cURus; cCSAus;
FF15A230UF	230 V a.c.	50/60	0.140/0.160	32/36	230/270	115/155	50.0/55.0	1.78	-10 ÷ +55	CE; cURus; cCSAus;
FF15A230UFR	230 V a.c.	50/60	0.140/0.160	32/36	245/290	165/210	50.0/55.0	1.78	-10 ÷ +55	CE; cURus; cCSAus;

Technical specifications

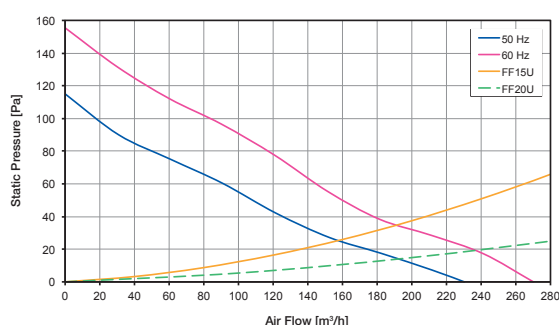
Technical drawing



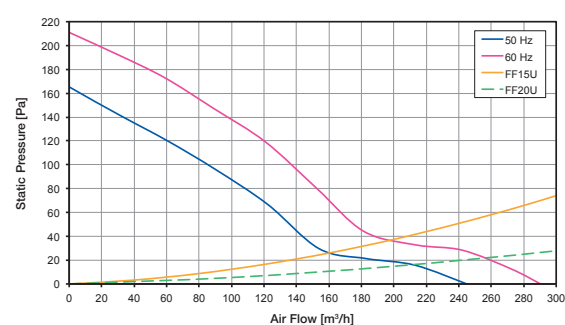
Mounting cut-out



Standard flow



Reverse flow





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1.3 to 3.7mm (up to 4mm with cut-out max tolerance)
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile

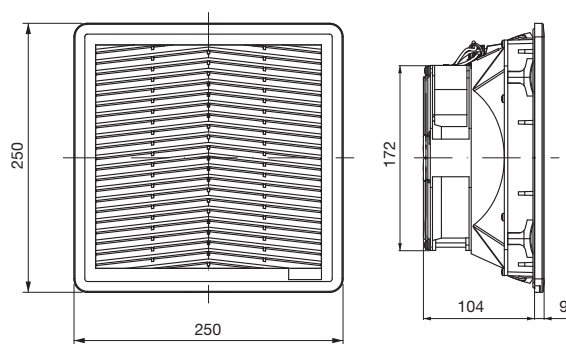
- ▶ Quick electrical connection with cage clamp terminal

Technical data

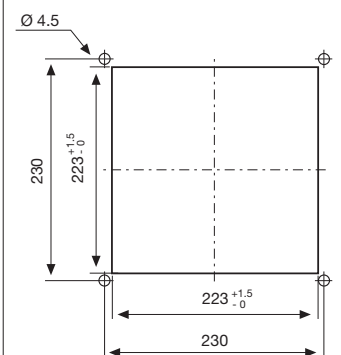
Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF15A115UN2	115 V a.c.	50/60	0.360/0.361	39/41	230/272	150/195	52.0/56.0	1.71	-10 ÷ +55	CE; cURus; cCSAus;
FF15A115UNR2	115 V a.c.	50/60	0.358/0.359	39/41	238/283	195/252	52.0/56.0	1.71	-10 ÷ +55	CE; cURus; cCSAus;
FF15A230UN2	230 V a.c.	50/60	0.185/0.194	42/45	230/272	150/195	52.0/56.0	1.71	-10 ÷ +55	CE; cURus; cCSAus;
FF15A230UNR2	230 V a.c.	50/60	0.185/0.192	42/45	238/283	195/252	52.0/56.0	1.71	-10 ÷ +55	CE; cURus; cCSAus;

Technical specifications

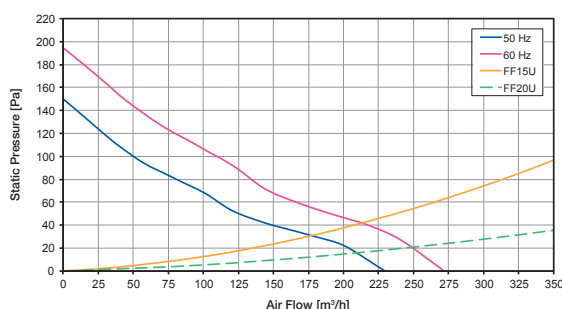
Technical drawing



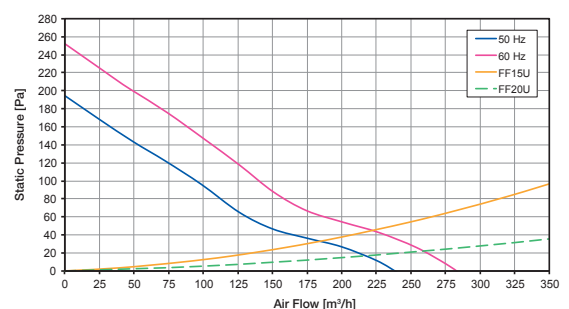
Mounting cut-out



Standard flow



Reverse flow





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1.3 to 3.7mm (up to 4mm with cut-out max tolerance)
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile

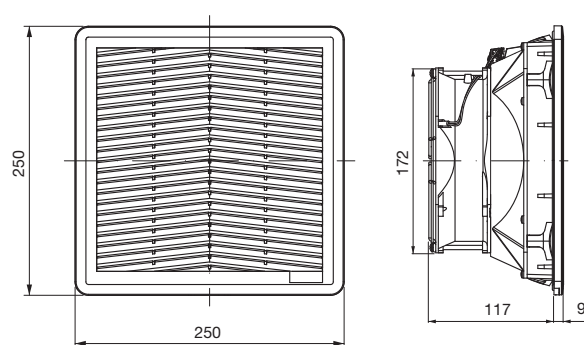
- ▶ Quick electrical connection with cage clamp terminal

Technical data

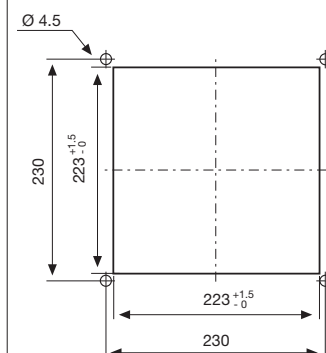
Model	Rated Voltage	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF15D24UF	24 V d.c.	1.3	31	275	150	60.0	1.71	-10 ÷ +55	CE; cURus; cCSAus;
FF15D24UFR	24 V d.c.	1.3	31	295	205	60.0	1.71	-10 ÷ +55	CE; cURus; cCSAus;
FF15D48UF	48 V d.c.	0.9	43	295	175	59.0	1.71	-10 ÷ +55	CE;
FF15D48UFR	48 V d.c.	0.9	43	310	250	59.0	1.71	-10 ÷ +55	CE;

Technical specifications

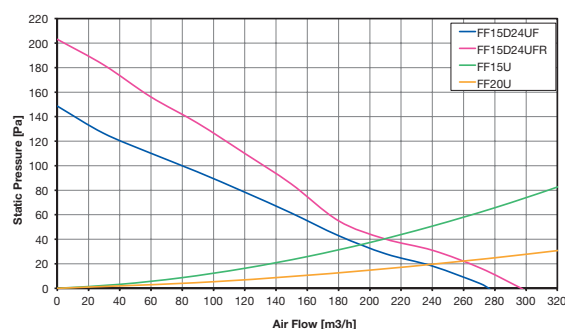
Technical drawing



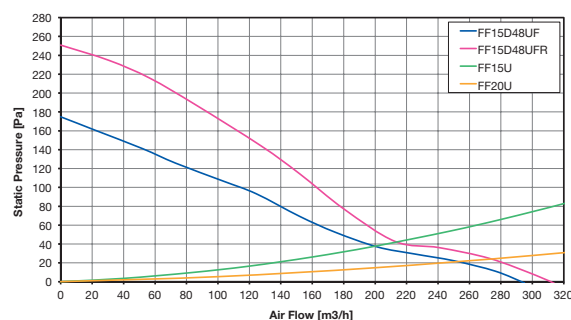
Mounting cut-out



Standard flow / Reverse flow 24 V d.c.



Standard flow / Reverse flow 48 V d.c.





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1.3 to 3.7mm (up to 4mm with cut-out max tolerance)
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



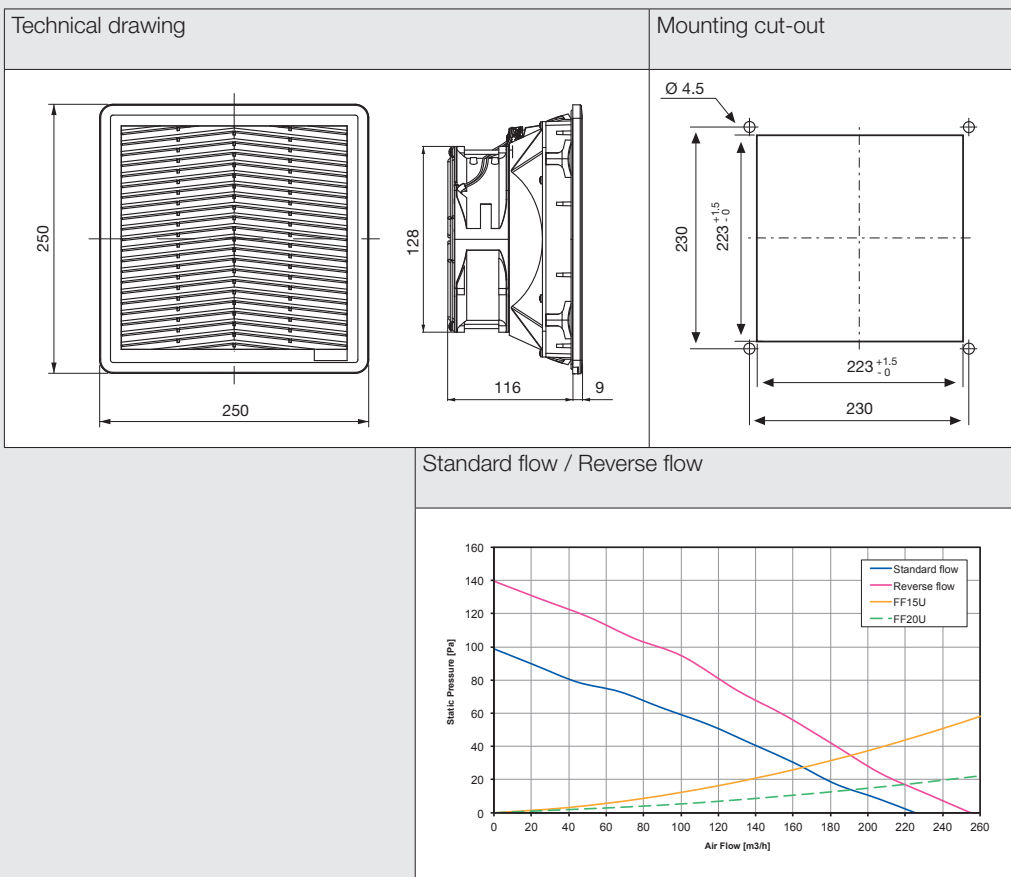
- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile

- ▶ Quick electrical connection with cage clamp terminal

Technical data

Model	Rated Voltage	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF15D24UN	24 V d.c.	0.71	17	225	99	58.0	1.64	-10 ÷ +55	CE; UR; cCSAus;
FF15D24UNR	24 V d.c.	0.71	17	255	140	58.0	1.64	-10 ÷ +55	CE; UR; cCSAus;
FF15D48UN	48 V d.c.	0.340	16	225	99	60.0	1.78	-10 ÷ +55	CE; UR; cCSAus;
FF15D48UNR	48 V d.c.	0.340	16	255	140	60.0	1.78	-10 ÷ +55	CE; UR; cCSAus;

Technical specifications





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1.3 to 3.7mm (up to 4mm with cut-out max tolerance)
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile

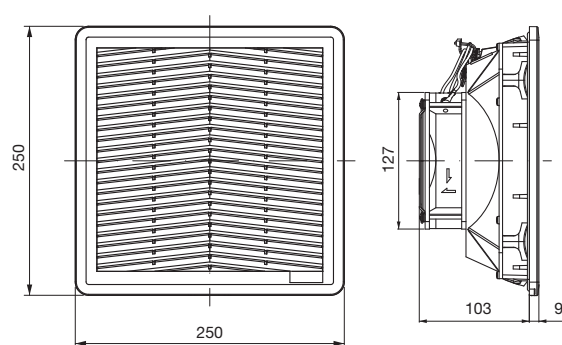
- ▶ Quick electrical connection with cage clamp terminal

Technical data

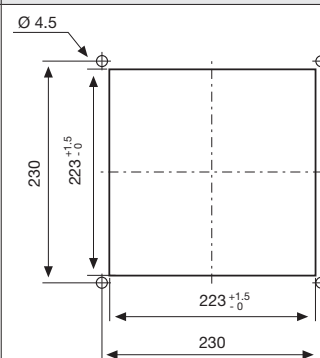
Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF15MA115UF	115 V a.c.	50/60	0.230/0.190	16/15	130/145	63/39	46.0/50.0	1.5	-10 ÷ +70	CE;
FF15MA115UFR	115 V a.c.	50/60	0.230/0.190	16/15	140/155	80/55	46.0/50.0	1.5	-10 ÷ +70	CE;
FF15MA230UF	230 V a.c.	50/60	0.140/0.130	21/20	130/145	63/39	46.0/50.0	1.47	-10 ÷ +70	CE;
FF15MA230UFR	230 V a.c.	50/60	0.140/0.130	21/20	140/155	80/55	46.0/50.0	1.47	-10 ÷ +70	CE;

Technical specifications

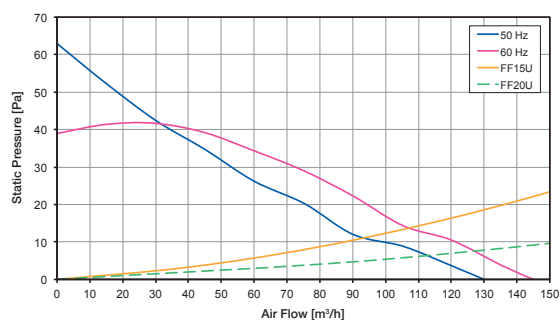
Technical drawing



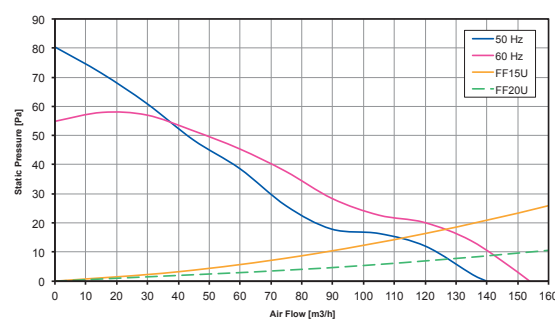
Mounting cut-out



Standard flow



Reverse flow





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1.3 to 3.7mm (up to 4mm with cut-out max tolerance)
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile

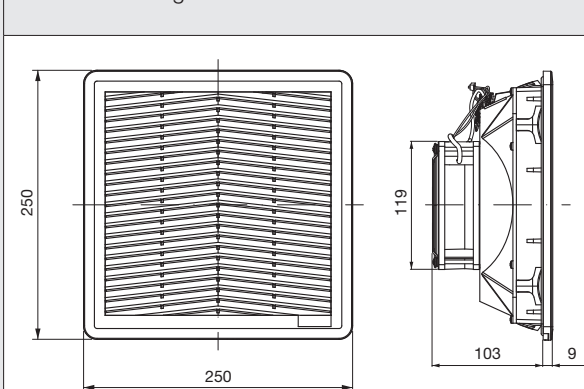
- ▶ Quick electrical connection with cage clamp terminal

Technical data

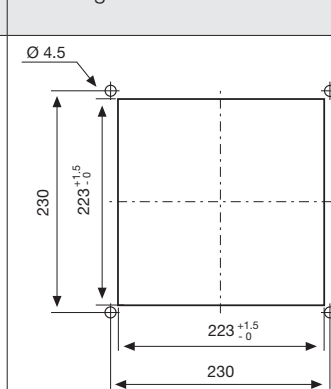
Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF15PA115UF	115 V a.c.	50/60	0.210/0.210	17/16	105/120	54/57	46.0/49.0	1.43	-10 ÷ +55	CE; cURus; cCSAus;
FF15PA115UFR	115 V a.c.	50/60	0.210/0.210	17/16	110/120	66/70	46.0/49.0	1.43	-10 ÷ +55	CE; cURus; cCSAus;
FF15PA230UF	230 V a.c.	50/60	0.110/0.100	18/17	105/120	54/57	48.0/54.0	1.43	-10 ÷ +55	CE; cURus; cCSAus;
FF15PA230UFR	230 V a.c.	50/60	0.110/0.100	18/17	110/120	66/70	48.0/54.0	1.43	-10 ÷ +55	CE; cURus; cCSAus;

Technical specifications

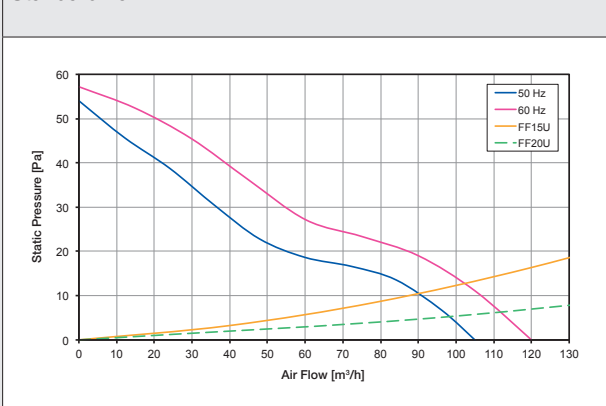
Technical drawing



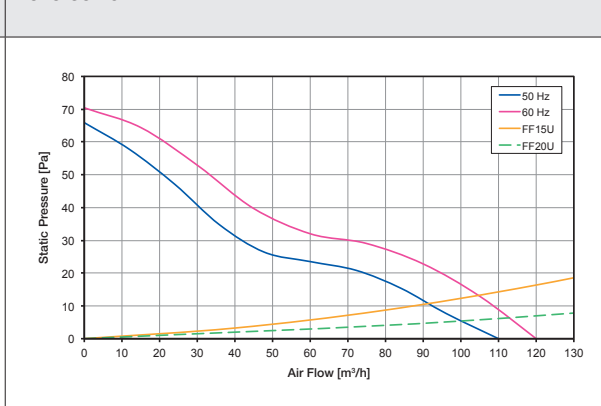
Mounting cut-out

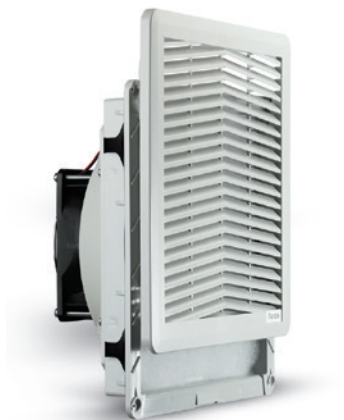


Standard flow



Reverse flow





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1.3 to 3.7mm (up to 4mm with cut-out max tolerance)
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile

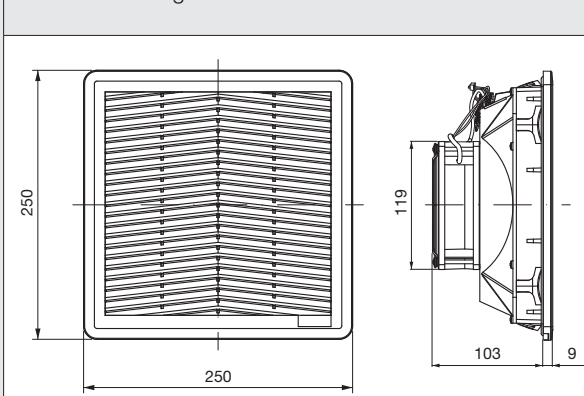
- ▶ Quick electrical connection with cage clamp terminal

Technical data

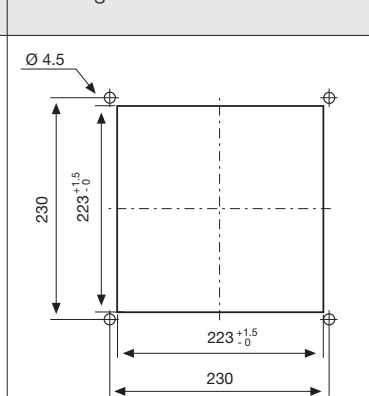
Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF15PA115UN	115 V a.c.	50/60	0.253/0.225	20/19	125/145	80/100	40.0/44.0	1.51	-10 ÷ +55	CE; cURus; cCSAus;
FF15PA115UNR	115 V a.c.	50/60	0.254/0.227	20/19	130/150	100/120	40.0/44.0	1.51	-10 ÷ +55	CE; cURus; cCSAus;
FF15PA230UN	230 V a.c.	50/60	0.126/0.110	19/17	125/145	80/100	40.0/44.0	1.52	-10 ÷ +55	CE; cURus; cCSAus;
FF15PA230UNR	230 V a.c.	50/60	0.127/0.111	19/18	130/150	100/120	40.0/44.0	1.52	-10 ÷ +55	CE; cURus; cCSAus;

Technical specifications

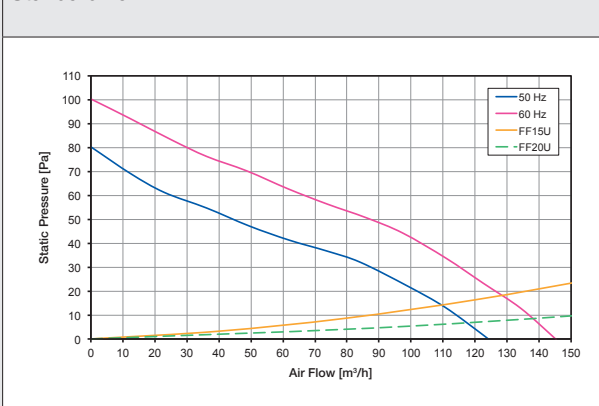
Technical drawing



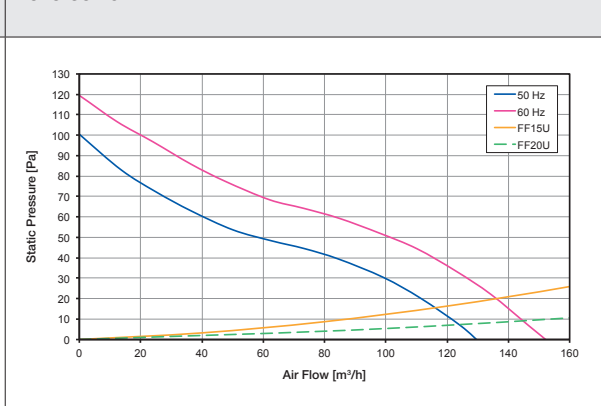
Mounting cut-out



Standard flow



Reverse flow





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1.3 to 3.7mm (up to 4mm with cut-out max tolerance)
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14

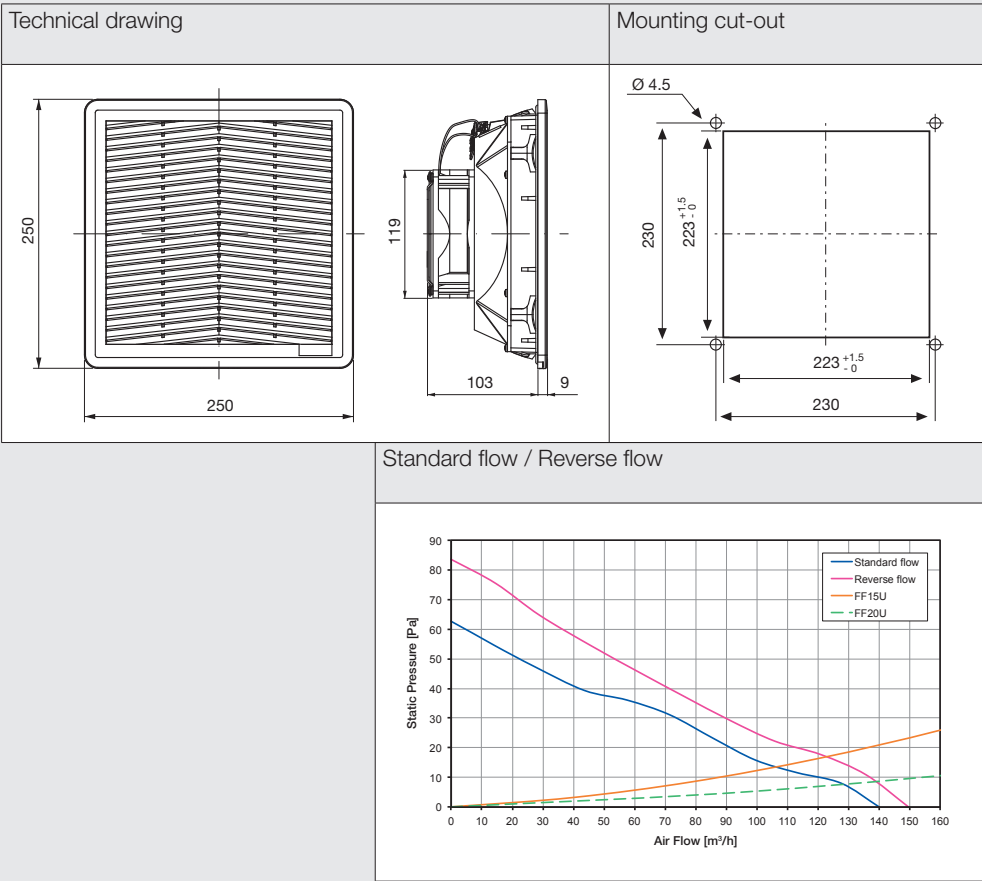


- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile
- ▶ Quick electrical connection with cage clamp terminal

Technical data

Model	Rated Voltage	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp.Range	Approvals
	V	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF15PD24UN	24 V d.c.	0.320	7.6	140	63	42.0	1.2	-10 ÷ +55	CE; UR; cCSAus;
FF15PD24UNR	24 V d.c.	0.320	7.6	150	84	42.0	1.2	-10 ÷ +55	CE; UR; cCSAus;
FF15PD48UN	48 V d.c.	0.180	8.6	140	63	42.5	1.2	-10 ÷ +55	CE; UR; cCSAus;
FF15PD48UNR	48 V d.c.	0.180	8.6	150	84	42.5	1.2	-10 ÷ +55	CE; UR; cCSAus;

Technical specifications





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1.3 to 3.7mm (up to 4mm with cut-out max tolerance)
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile

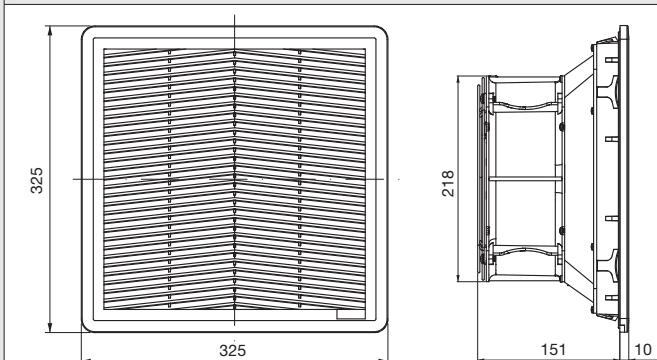
- ▶ SOON quick electrical connection with cage clamp terminal

Technical data

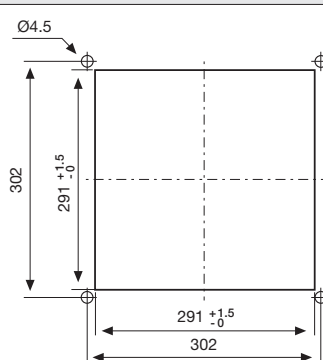
Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF20A115UE	115 V a.c.	50/60	0.70/0.80	77/92	445/490	131/141	66.0/69.2	3.62	-10 ÷ +70	CE;
FF20A115UER	115 V a.c.	50/60	0.70/0.80	77/92	530/577	206/216	66.0/69.2	3.62	-10 ÷ +70	CE;
FF20A230UE	230 V a.c.	50/60	0.345/0.420	79/96	460/510	136/148	65.3/68.1	3.6	-10 ÷ +70	CE;
FF20A230UER	230 V a.c.	50/60	0.345/0.420	79/96	540/595	204/219	65.3/68.1	3.6	-10 ÷ +70	CE;

Technical specifications

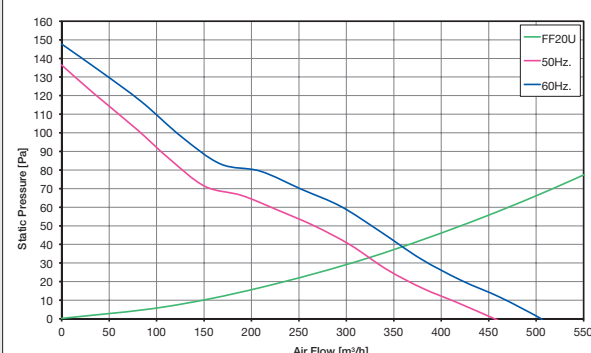
Technical drawing



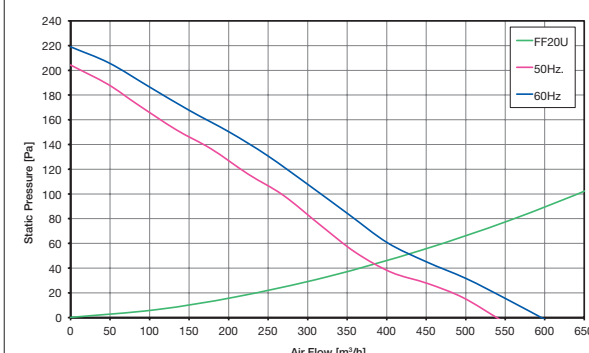
Mounting cut-out



Standard flow - 230 Va.c.



Reverse flow - 230 Va.c.





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1.3 to 3.7mm (up to 4mm with cut-out max tolerance)
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



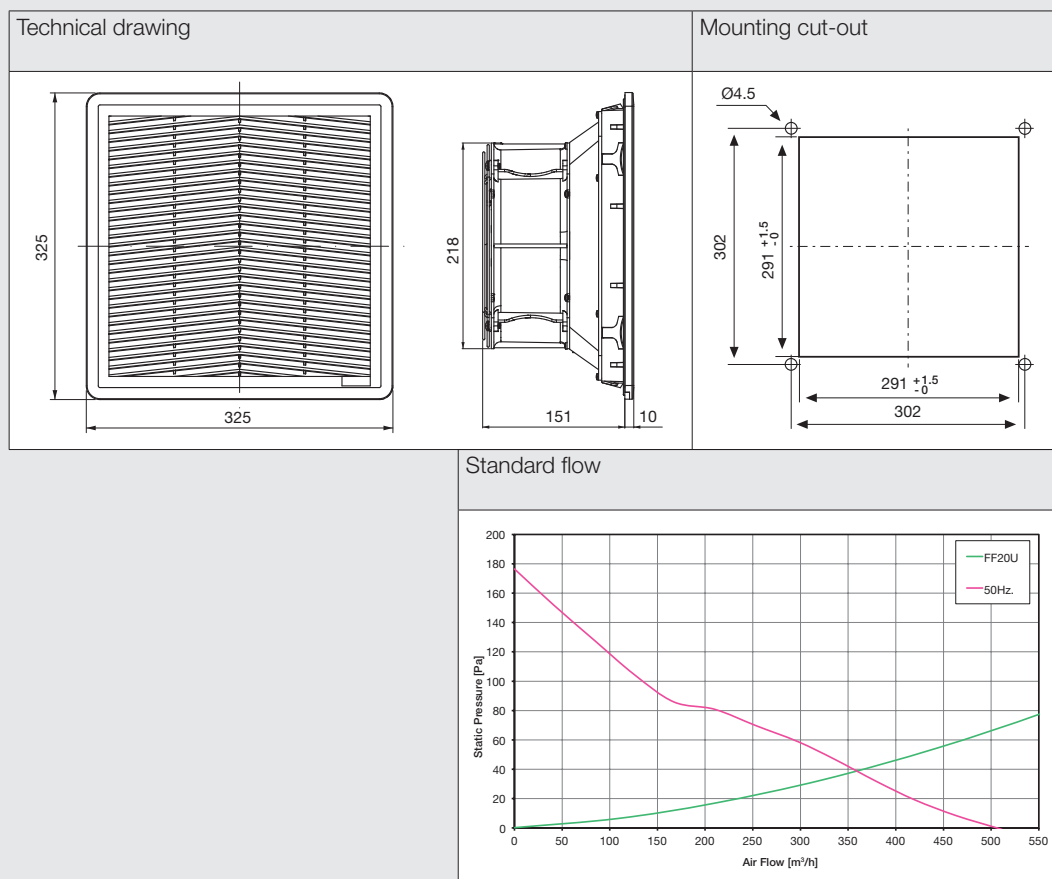
- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile

- ▶ SOON quick electrical connection with cage clamp terminal

Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF20A400TUE	400 V 3 ~	50	0.280	174	510	176	61.0	3.75	-10 ÷ +70	CE;

Technical specifications





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1.3 to 3.7mm (up to 4mm with cut-out max tolerance)
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile

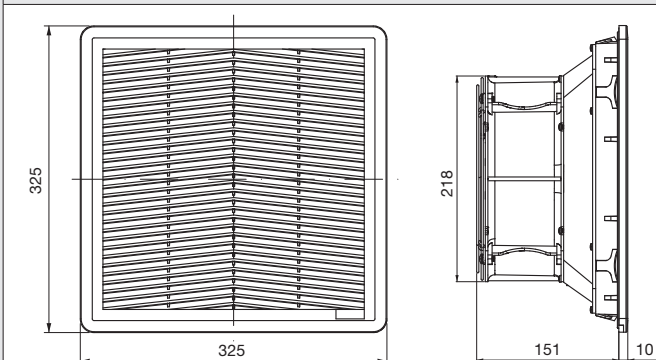
- ▶ SOON quick electrical connection with cage clamp terminal

Technical data

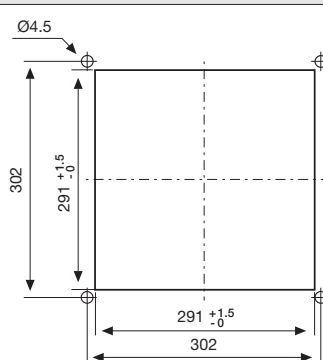
Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF20A115UE1	115 V a.c.	50/60	0.68/0.73	74/83	445/485	129/140	66.0/69.2	3.62	-10 ÷ +55	CE; cURus; cCSAus;
FF20A115UER1	115 V a.c.	50/60	0.68/0.73	74/83	530/575	195/207	66.0/69.2	3.62	-10 ÷ +55	CE; cURus; cCSAus;
FF20A230UE1	230 V a.c.	50/60	0.310/0.350	70/85	455/503	134/146	65.3/68.1	3.6	-10 ÷ +55	CE; cURus; cCSAus;
FF20A230UER1	230 V a.c.	50/60	0.310/0.350	70/85	540/590	207/221	65.3/68.1	3.6	-10 ÷ +55	CE; cURus; cCSAus;

Technical specifications

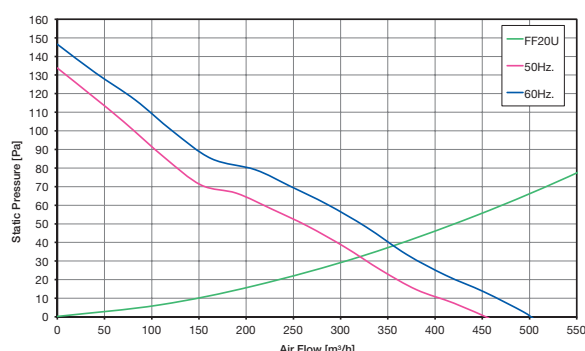
Technical drawing



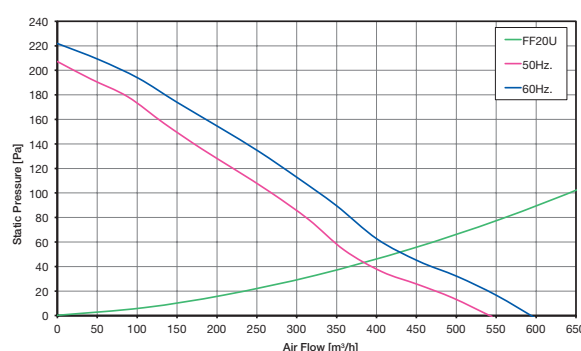
Mounting cut-out



Standard flow - 230 Va.c.



Reverse flow - 230 Va.c.





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1.3 to 3.7mm (up to 4mm with cut-out max tolerance)
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile

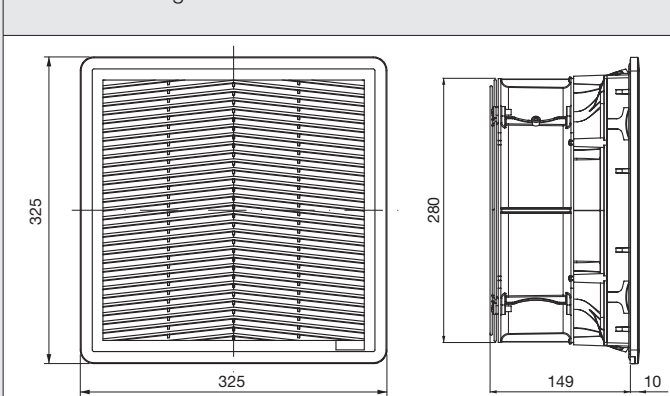
- ▶ High performances
- ▶ SOON quick electrical connection with cage clamp terminal

Technical data

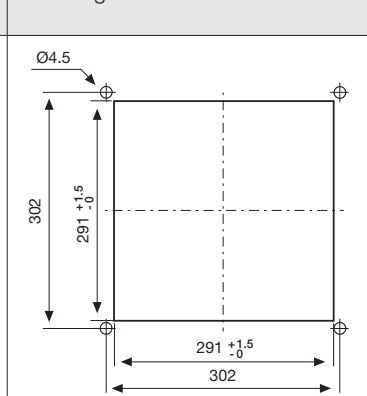
Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF20GA115UE	115 V a.c.	50/60	1.3/1.5	143/177	708/775	188/181	74.7/78.9	4.58	-10 ÷ +60	CE;
FF20GA115UER	115 V a.c.	50/60	1.1/1.7	124/192	760/845	282/258	74.7/78.9	4.7	-10 ÷ +60	CE;
FF20GA230UE	230 V a.c.	50/60	0.67/0.84	155/194	705/790	200/206	72.8/75.8	4.53	-10 ÷ +60	CE;
FF20GA230UER	230 V a.c.	50/60	0.74/0.90	170/208	773/870	306/291	72.8/75.8	4.53	-10 ÷ +60	CE;

Technical specifications

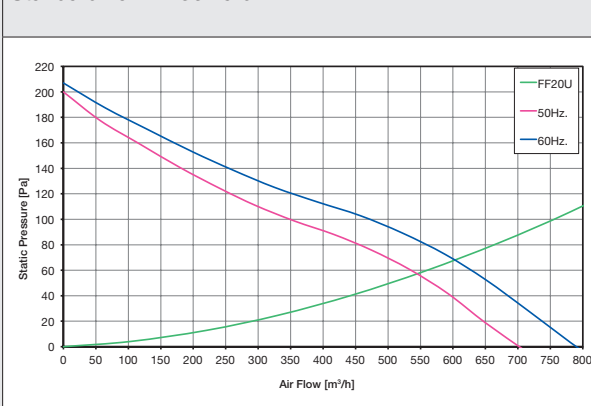
Technical drawing



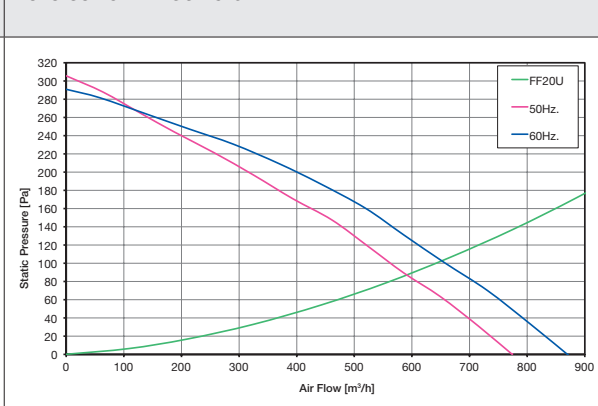
Mounting cut-out



Standard flow - 230 Va.c.



Reverse flow - 230 Va.c.





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1.3 to 3.7mm (up to 4mm with cut-out max tolerance)
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
- filter class G2, according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- EMC versions on request



- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile

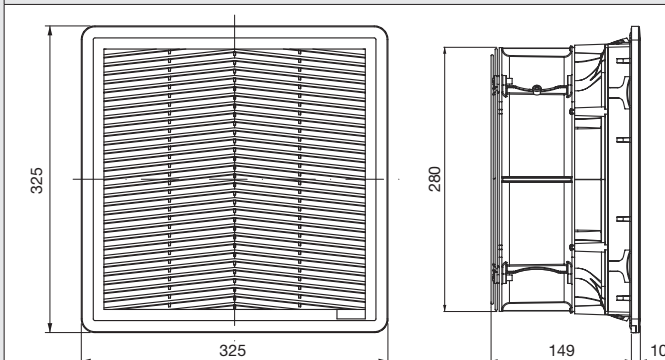
- ▶ High performances
- ▶ SOON quick electrical connection with cage clamp terminal

Technical data

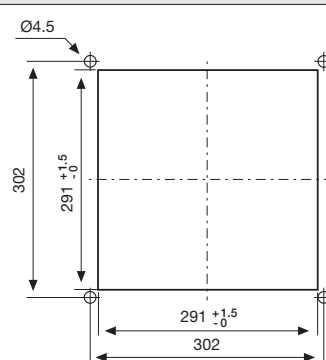
Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF20GA115UEA	115 V a.c.	50/60	1.3/1.6	146/179	875/960	200/189	74.7/78.9	4.58	-10 ÷ +60	CE;
FF20GA115UERA	115 V a.c.	50/60	1.1/1.1	124/124	820/920	279/255	74.7/78.9	4.7	-10 ÷ +60	CE;
FF20GA230UEA	230 V a.c.	50/60	0.69/0.86	158/198	850/960	213/216	72.8/75.8	4.52	-10 ÷ +60	CE;
FF20GA230UERA	230 V a.c.	50/60	0.74/0.91	171/210	840/958	302/289	72.8/75.8	4.53	-10 ÷ +60	CE;

Technical specifications

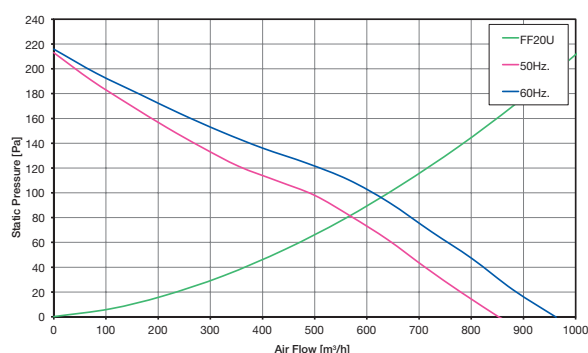
Technical drawing



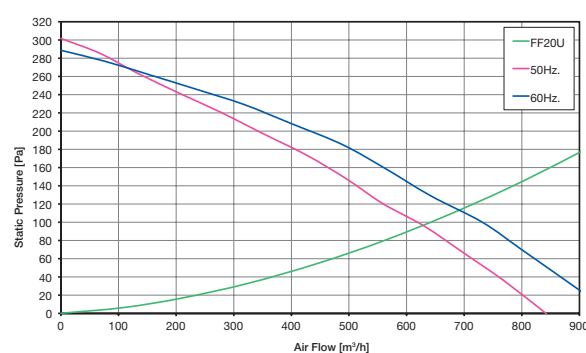
Mounting cut-out



Standard flow - 230 Va.c.



Reverse flow - 230 Va.c.





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1.3 to 3.7mm (up to 4mm with cut-out max tolerance)
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile

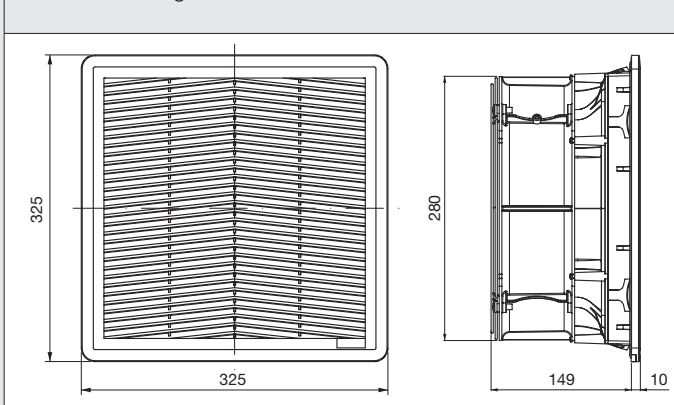
- ▶ High performances
- ▶ SOON quick electrical connection with cage clamp terminal

Technical data

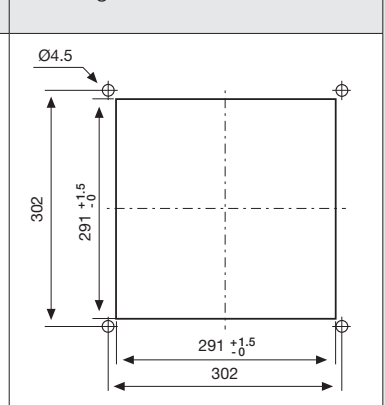
Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF20GA115UE1	115 V a.c.	50/60	1.18/1.46	124/146	675/738	183/170	74.7/78.9	4.62	-10 ÷ +55	CE; cURus; cCSAus;
FF20GA115UER1	115 V a.c.	50/60	1.16/1.49	125/171	760/850	280/254	74.7/78.9	4.57	-10 ÷ +55	CE; cURus; cCSAus;
FF20GA230UE1	230 V a.c.	50/60	0.53/0.69	120/158	680/765	200/210	66.0/69.2	4.72	-10 ÷ +55	CE; cURus; cCSAus;
FF20GA230UER1	230 V a.c.	50/60	0.53/0.69	120/157	760/860	308/304	67.6/70.6	4.68	-10 ÷ +55	CE; cURus; cCSAus;

Technical specifications

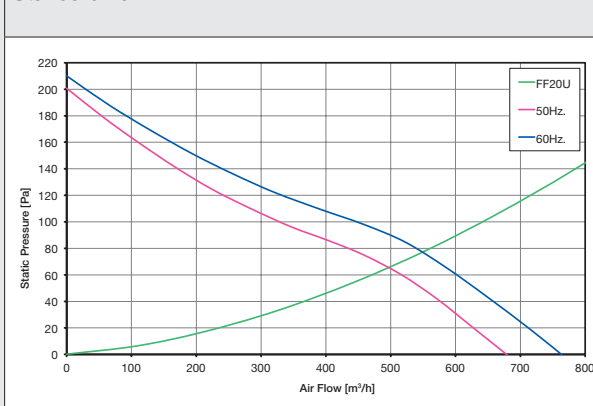
Technical drawing



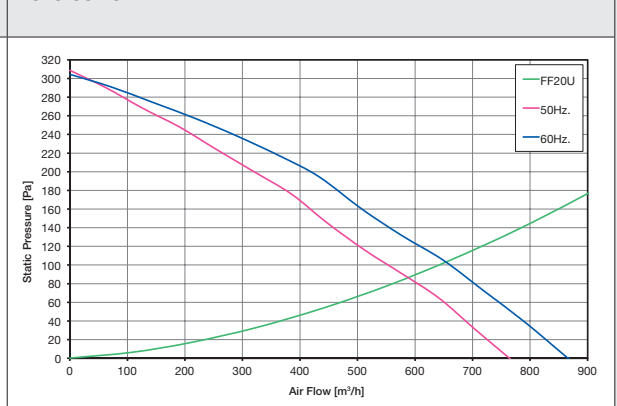
Mounting cut-out



Standard flow



Reverse flow





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1.3 to 3.7mm (up to 4mm with cut-out max tolerance)
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G2, according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile

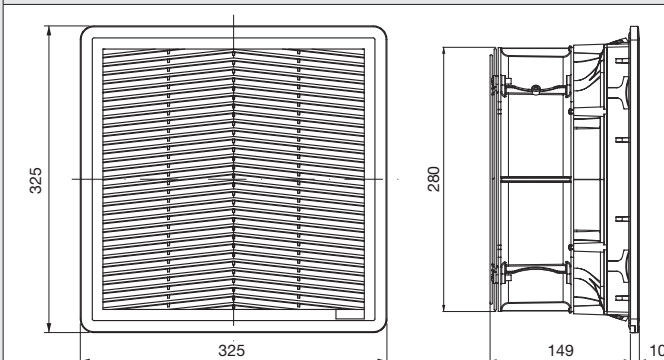
- ▶ High performances
- ▶ SOON quick electrical connection with cage clamp terminal

Technical data

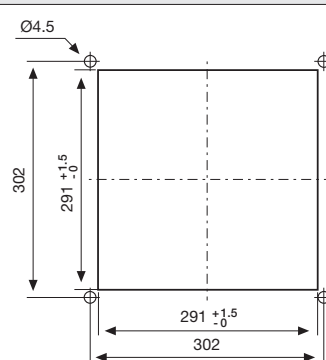
Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF20GA115UEA1	115 V a.c.	50/60	1.18/1.46	124/146	893/960	200/176	74.7/78.9	4.57	-10 ÷ +55	CE; cURus; cCSAus;
FF20GA115UERA1	115 V a.c.	50/60	1.16/1.49	125/171	820/925	279/251	74.7/78.9	4.57	-10 ÷ +55	CE; cURus; cCSAus;
FF20GA230UEA1	230 V a.c.	50/60	0.53/0.69	120/158	895/998	220/222	66.0/69.2	4.68	-10 ÷ +55	CE; cURus; cCSAus;
FF20GA230UERA1	230 V a.c.	50/60	0.53/0.69	120/157	825/930	305/295	67.6/70.6	4.68	-10 ÷ +55	CE; cURus; cCSAus;

Technical specifications

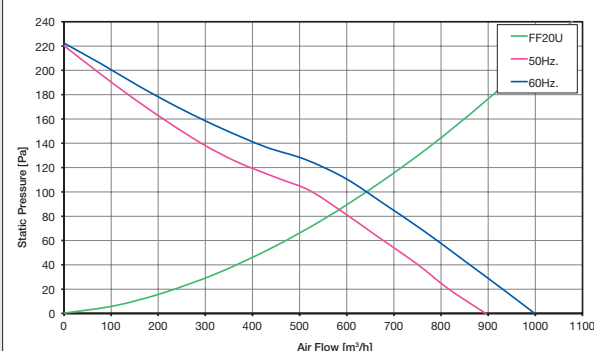
Technical drawing



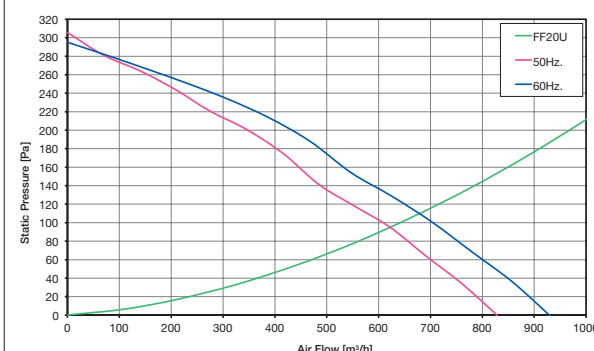
Mounting cut-out



Standard flow - 230 Va.c.



Reverse flow - 230 Va.c.





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness from 1.3 to 3.7mm (up to 4mm with cut-out max tolerance)
- Plastic parts in PC/ABS alloy, except elastic clips, made in PA66 GF13HSL
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



- ▶ Clip mounting system
- ▶ Easy media replacement
- ▶ Low profile

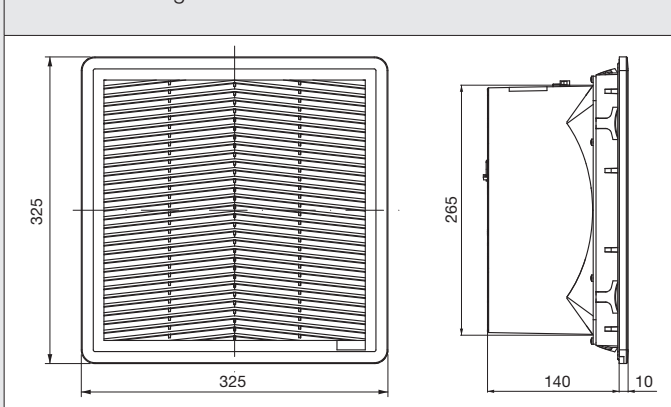
- ▶ High performances
- ▶ SOON quick electrical connection with cage clamp terminal

Technical data

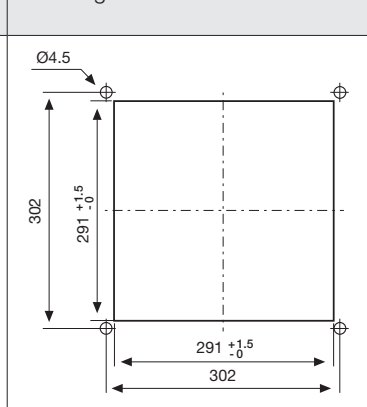
Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FF20GEA400TUE	400 V 3 ~	50	0.220	137	485	180	69.0	4.09	-10 ÷ +55	CE;
FF20GEA400TUER	400 V 3 ~	50/60	0.250/0.280	137/173	645/695	240/255	69.0/72.0	3.55	-10 ÷ +55	CE;

Technical specifications

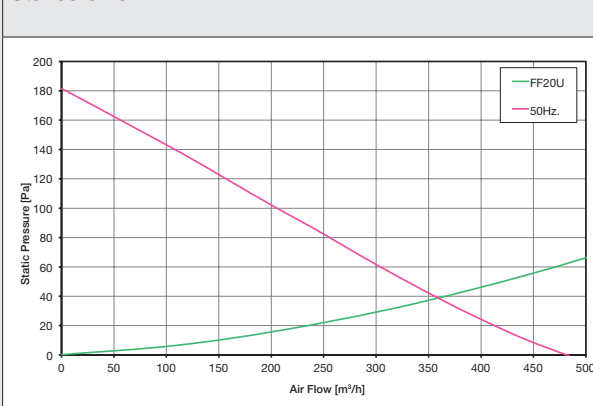
Technical drawing



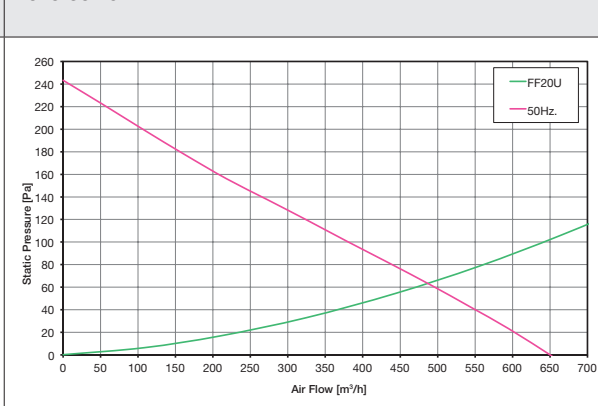
Mounting cut-out



Standard flow



Reverse flow





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness between 1.5 and 2.2mm
- Plastic parts in PC/ABS alloy
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508



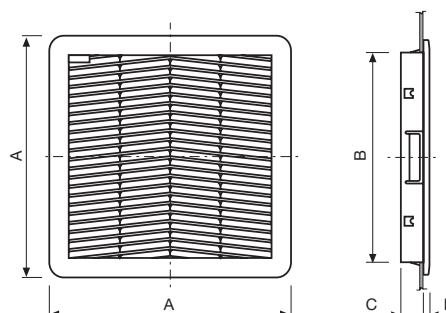
- Clip mounting system
- Low profile

Technical data

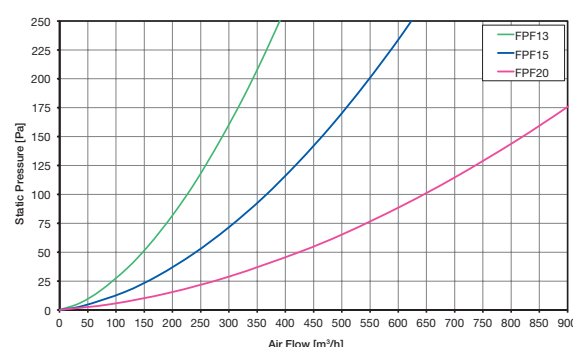
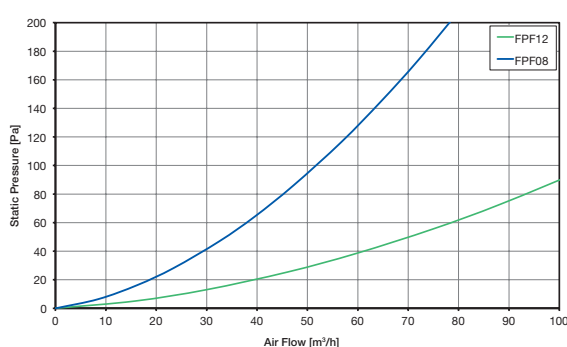
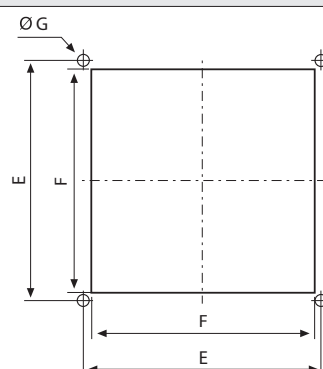
Model	A	B	C	D	E	F	G	Weight	Approvals
	mm	mm	mm	mm	mm	mm	mm	Kg	
FPF08KUG-101	105	91	14	7	95	91.5	1.8	0.09	CE; cURus;
FPF12KUG-100	150	124	21	7	131	125	4.5	0.22	CE; cURus;
FPF13KUG-100	204	175	20	8	185	177	4.5	0.33	CE; cURus;
FPF15KUG-100	250	220	23	8	230	223	4.5	0.57	CE; cURus;
FPF20KUG-100	325	288	24	9	302	291	4.5	0.94	CE; cURus;

Technical specifications

Technical drawing



Mounting cut-out





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness between 1.5 and 2.2mm
- Plastic parts in PC/ABS alloy
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508



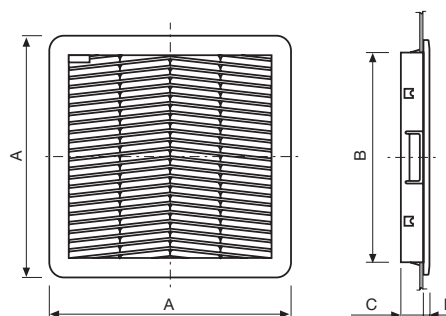
- ▶ Electromagnetic radiation protection
- ▶ Clip mounting system
- ▶ Low profile

Technical data

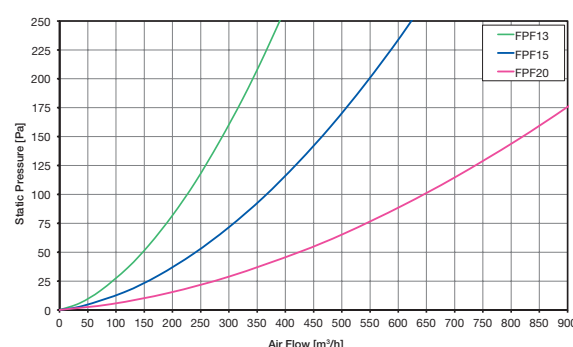
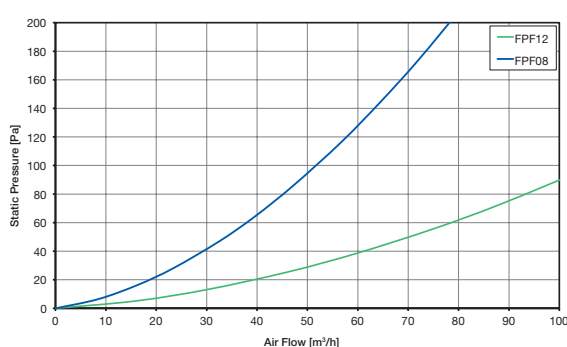
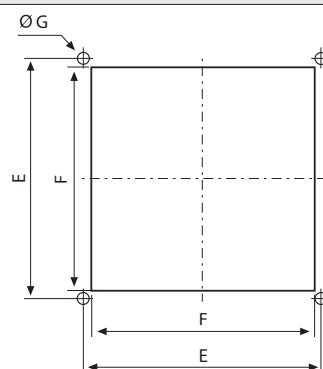
Model	A	B	C	D	E	F	G	Weight	Approvals
	mm	mm	mm	mm	mm	mm	mm	Kg	
FPF12KUGC-110	150	124	21	7	131	125	4.5	0.24	CE;
FPF13KUGC-110	204	175	20	8	185	177	4.5	0.34	CE;
FPF15KRGC-110	250	220	23	8	230	223	4.5	0.61	CE;
FPF15KUGC-110	250	220	23	8	230	223	4.5	0.61	CE;
FPF20KRGC-110	325	288	24	9	302	291	4.5	1	CE;
FPF20KUGC-110	325	288	24	9	302	291	4.5	0.98	CE;

Technical specifications

Technical drawing



Mounting cut-out





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness between 1.5 and 2.2mm
- Plastic parts in PC/ABS alloy
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508

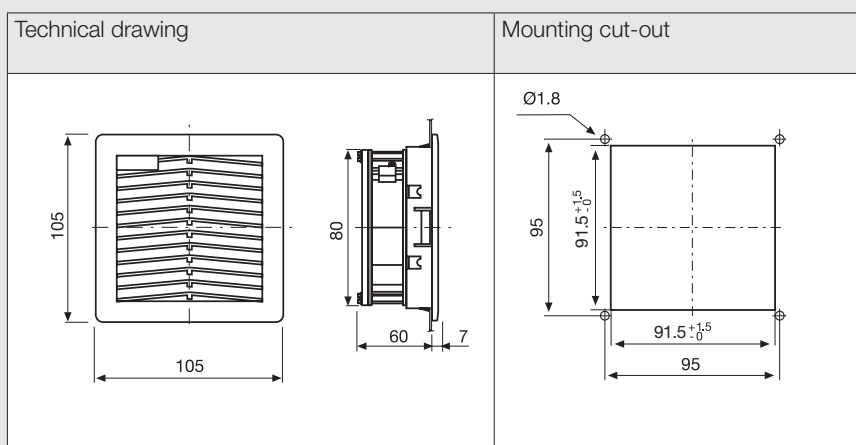


- Clip mounting system
- Low profile

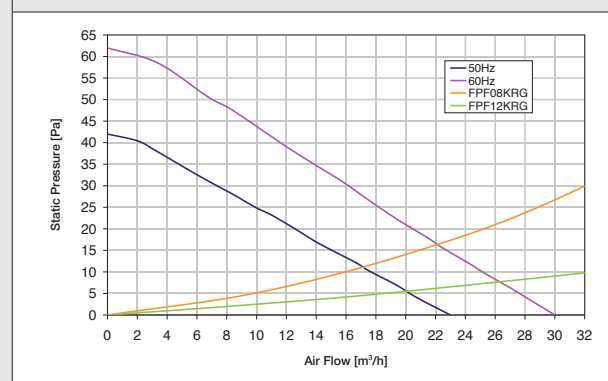
Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FPF08KU115B-110	115 V a.c.	50/60	0.115/0.092	9.0/7.0	23/30	42/62	33.0/38.0	0.49	-10 ÷ +50	CE; cURus;
FPF08KU115BR-110	115 V a.c.	50/60	0.115/0.092	9.0/7.0	23/30	42/62	33.0/38.0	0.49	-10 ÷ +50	CE; cURus;
FPF08KU230B-110	230 V a.c.	50/60	0.07/0.055	10/8.0	23/30	42/62	33.0/38.0	0.45	-10 ÷ +50	CE; cURus;
FPF08KU230BR-110	230 V a.c.	50/60	0.07/0.055	10/8.0	23/30	42/62	32.0/36.0	0.45	-10 ÷ +50	CE; cURus;

Technical specifications



Standard flow / Reverse flow





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness between 1.5 and 2.2mm
- Plastic parts in PC/ABS alloy
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508

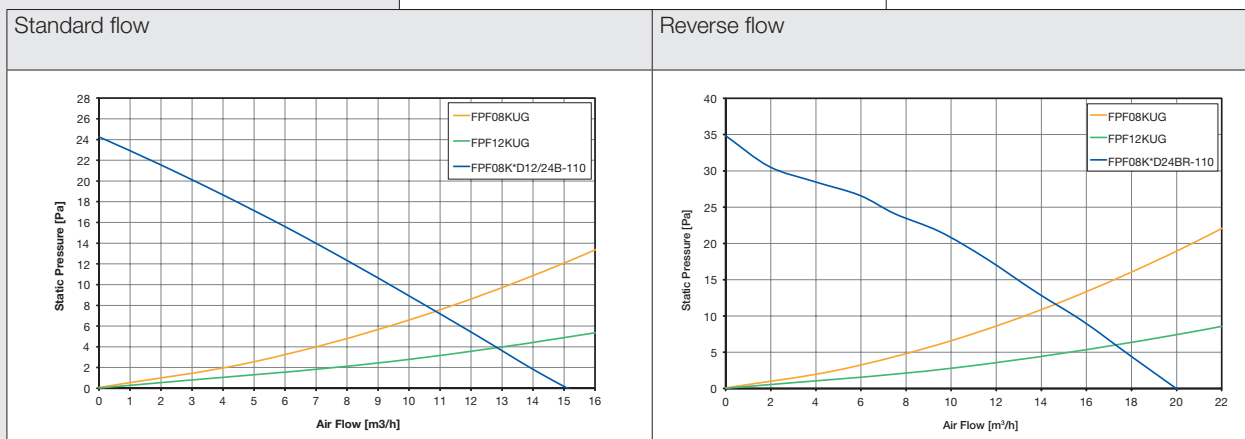
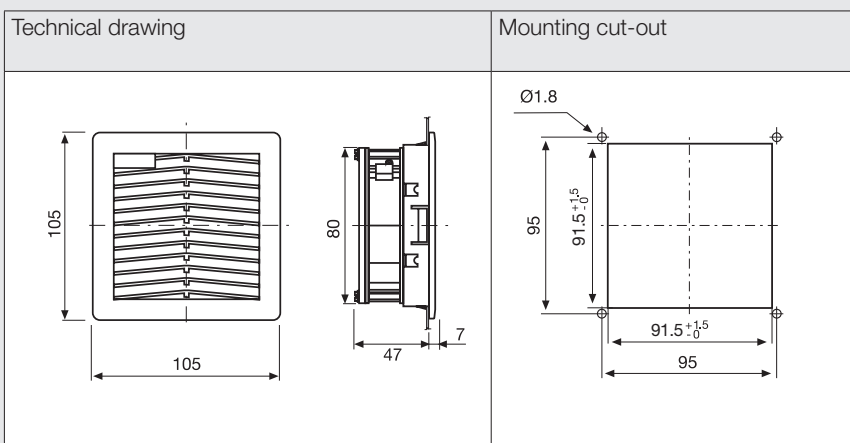


- Clip mounting system
- Low profile

Technical data

Model	Rated Voltage	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp.Range	Approvals
	V	A	W	m³/h	Pa	dB(A)	Kg	°C	
FPF08KUD12B-110	12 V d.c.	0.183	2.2	15	24	32.5	0.23	-10 ÷ +70	CE;
FPF08KUD24B-110	24 V d.c.	0.150	3.6	15	24	32.5	0.23	-10 ÷ +50	CE; cURus;
FPF08KUD24BR-110	24 V d.c.	0.150	3.6	20	35	32.5	0.23	-10 ÷ +50	CE; cURus;

Technical specifications





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness between 1.5 and 2.2mm
- Plastic parts in PC/ABS alloy
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508

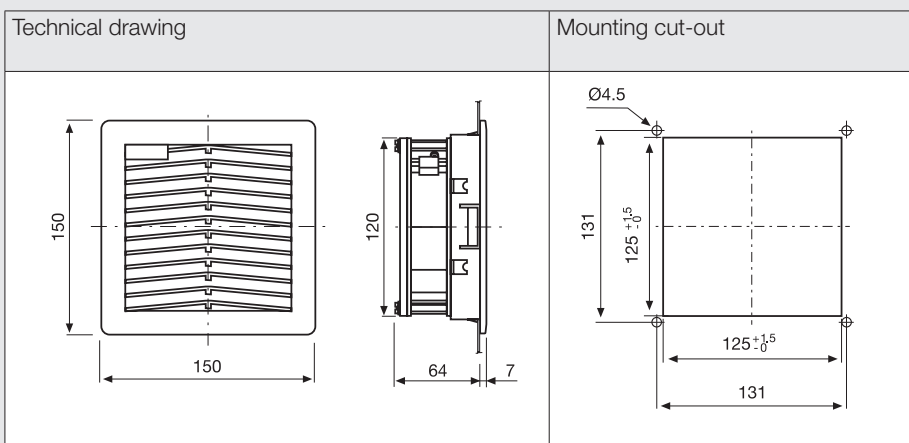


- Clip mounting system
- Low profile

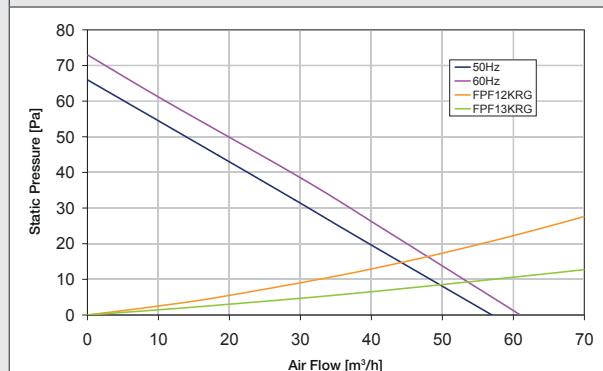
Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FPF12KU115BE-110	115 V a.c.	50/60	0.210/0.180	20/18	57/61	66/73	46.0/49.0	0.78	-10 ÷ +50	CE; cURus;
FPF12KU115BER-110	115 V a.c.	50/60	0.210/0.180	20/18	57/61	66/73	46.0/49.0	0.79	-10 ÷ +50	CE; cURus;
FPF12KU230BE-110	230 V a.c.	50/60	0.125/0.110	20/19	57/61	66/73	46.0/49.0	0.78	-10 ÷ +50	CE; cURus;
FPF12KU230BER-110	230 V a.c.	50/60	0.125/0.110	20/19	57/61	66/73	46.0/49.0	0.78	-10 ÷ +50	CE; cURus;
FPF12KR24BE-110	24 V a.c.	50/60	0.810/0.850	15/16	57/61	66/73	46.0/49.0	0.78	-10 ÷ +50	CE;
FPF12KU24BER-110	24 V a.c.	50/60	0.810/0.850	15/16	57/61	66/73	46.0/49.0	0.78	-10 ÷ +50	CE;

Technical specifications



Standard flow / Reverse flow





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness between 1.5 and 2.2mm
- Plastic parts in PC/ABS alloy
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508

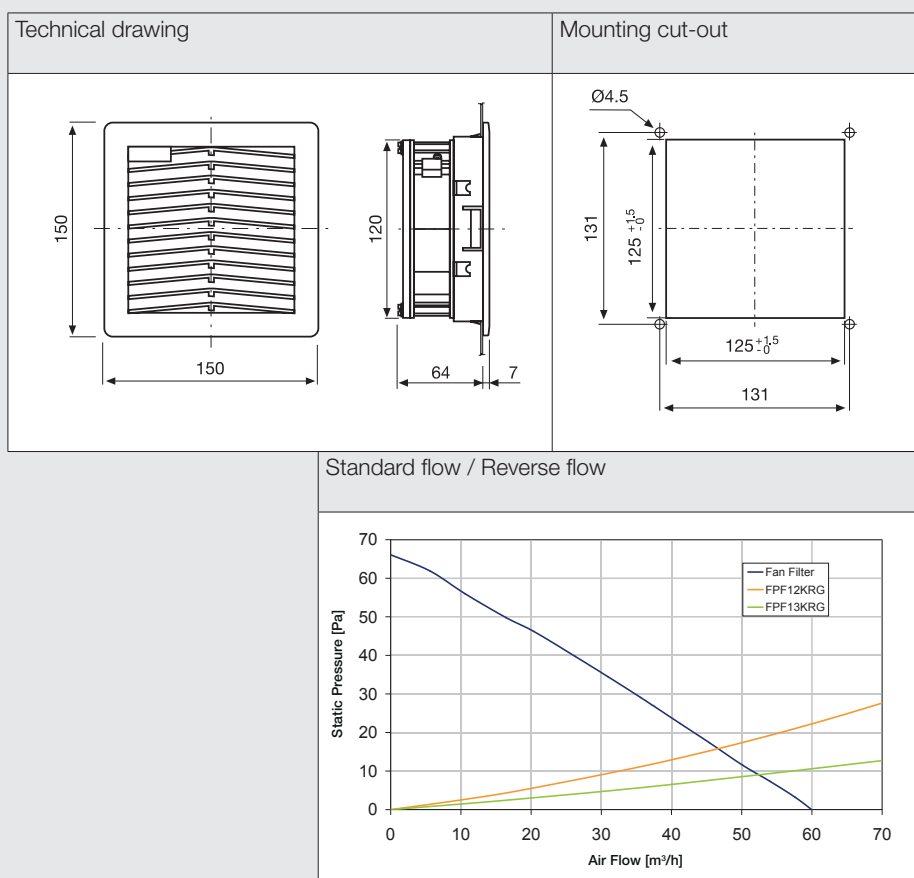


- Clip mounting system
- Low profile

Technical data

Model	Rated Voltage	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp.Range	Approvals
	V	A	W	m³/h	Pa	dB(A)	Kg	°C	
FPF12KUD24B-110	24 V d.c.	0.400	9.6	60	66	42.5	0.55	-10 ÷ +50	CE; cURus;
FPF12KUD24BR-110	24 V d.c.	0.400	9.6	60	66	42.5	0.55	-10 ÷ +50	CE; cURus;
FPF12KUD48B-110	48 V d.c.	0.160	7.7	60	66	42.5	0.55	-10 ÷ +55	CE;

Technical specifications





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness between 1.5 and 2.2mm
- Plastic parts in PC/ABS alloy
- Permanent sealing gasket in polyurethane foam
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- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508

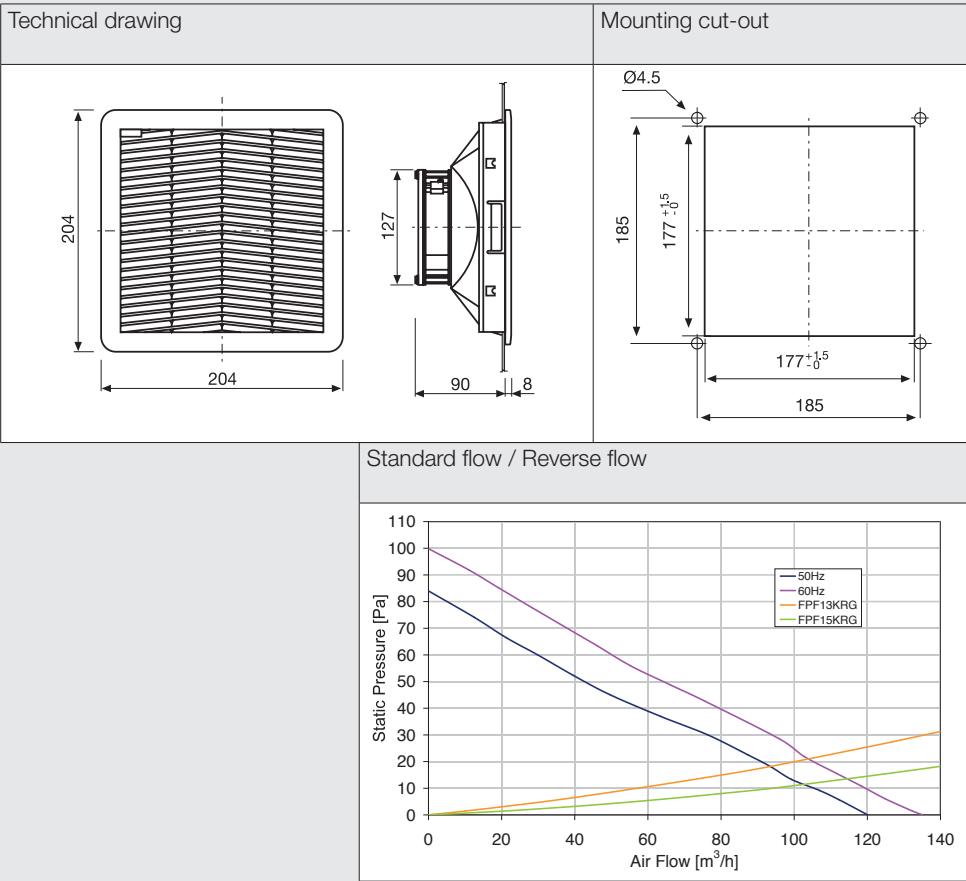


- ▶ Clip mounting system
- ▶ Low profile

Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FPF13KU115BE-110	115 V a.c.	50/60	0.200/0.160	22/20	120/135	84/100	46.0/50.0	1.11	-10 ÷ +50	CE; cURus;
FPF13KU115BER-110	115 V a.c.	50/60	0.200/0.160	22/20	120/135	84/100	46.0/50.0	1.11	-10 ÷ +50	CE; cURus;
FPF13KU230BE-110	230 V a.c.	50/60	0.100/0.090	23/21	120/135	84/100	46.0/50.0	1.09	-10 ÷ +50	CE; cURus;
FPF13KU230BER-110	230 V a.c.	50/60	0.100/0.090	23/21	120/135	84/100	46.0/50.0	1.09	-10 ÷ +50	CE; cURus;

Technical specifications





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness between 1.5 and 2.2mm
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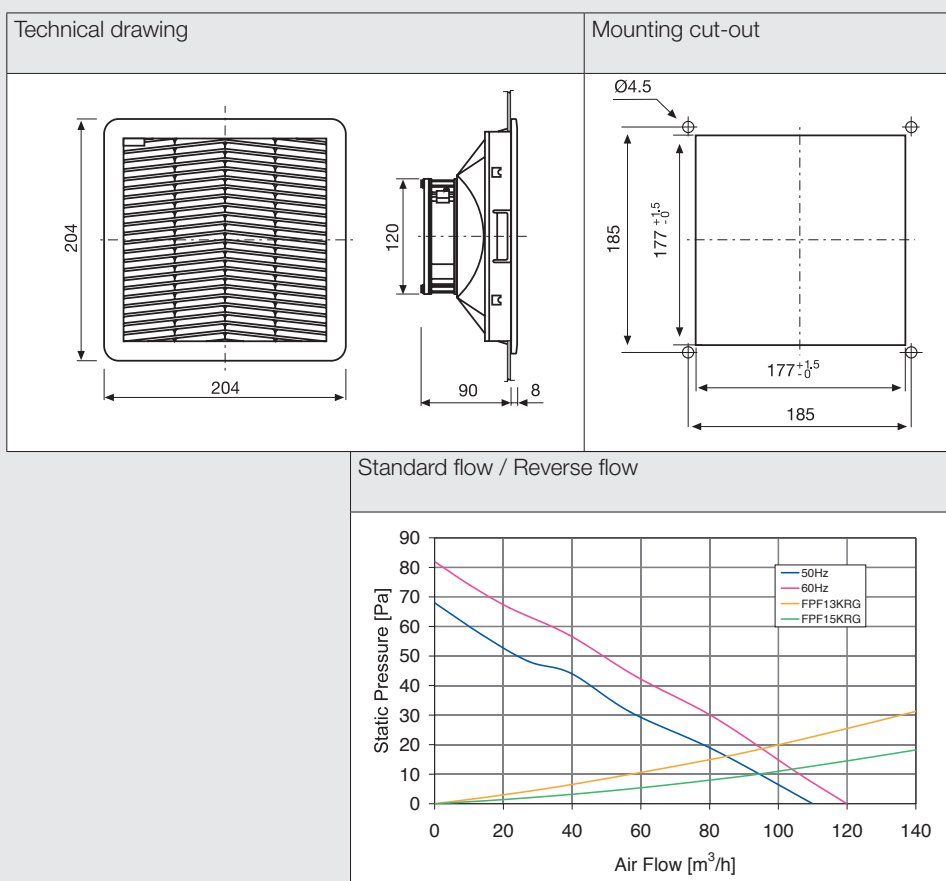


- Clip mounting system
- Low profile

Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FPF13KPU115BE-110	115 V a.c.	50/60	0.210/0.180	20/18	110/120	68/82	46.0/50.0	1.05	-10 ÷ +50	CE; cURus;
FPF13KPU115BER-110	115 V a.c.	50/60	0.210/0.180	20/18	110/120	68/82	46.0/50.0	1.05	-10 ÷ +50	CE; cURus;
FPF13KPU230BE-110	230 V a.c.	50/60	0.125/0.110	20/19	110/120	68/82	46.0/50.0	1.04	-10 ÷ +50	CE; cURus;
FPF13KPU230BER-110	230 V a.c.	50/60	0.125/0.110	20/19	110/120	68/82	46.0/50.0	1.04	-10 ÷ +50	CE; cURus;

Technical specifications





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness between 1.5 and 2.2mm
- Plastic parts in PC/ABS alloy
- Permanent sealing gasket in polyurethane foam
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- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508

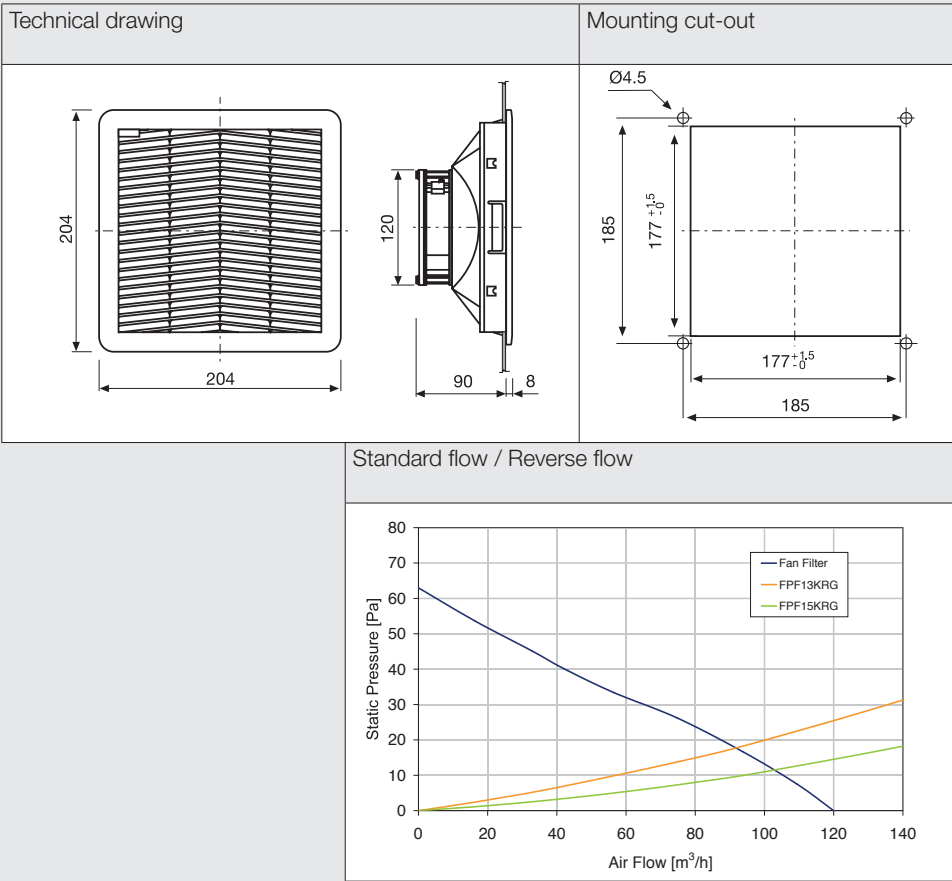


- Clip mounting system
- Low profile

Technical data

Model	Rated Voltage	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp.Range	Approvals
	V	A	W	m³/h	Pa	dB(A)	Kg	°C	
FPF13KPRD24B-110	24 V d.c.	0.400	9.6	120	63	42.5	0.81	-10 ÷ +50	CE; cURus;
FPF13KPRD24BR-110	24 V d.c.	0.400	9.6	120	63	42.5	0.81	-10 ÷ +50	CE; cURus;

Technical specifications





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness between 1.5 and 2.2mm
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- Permanent sealing gasket in polyurethane foam
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- IP55, Type1, 3R and EMC versions on request
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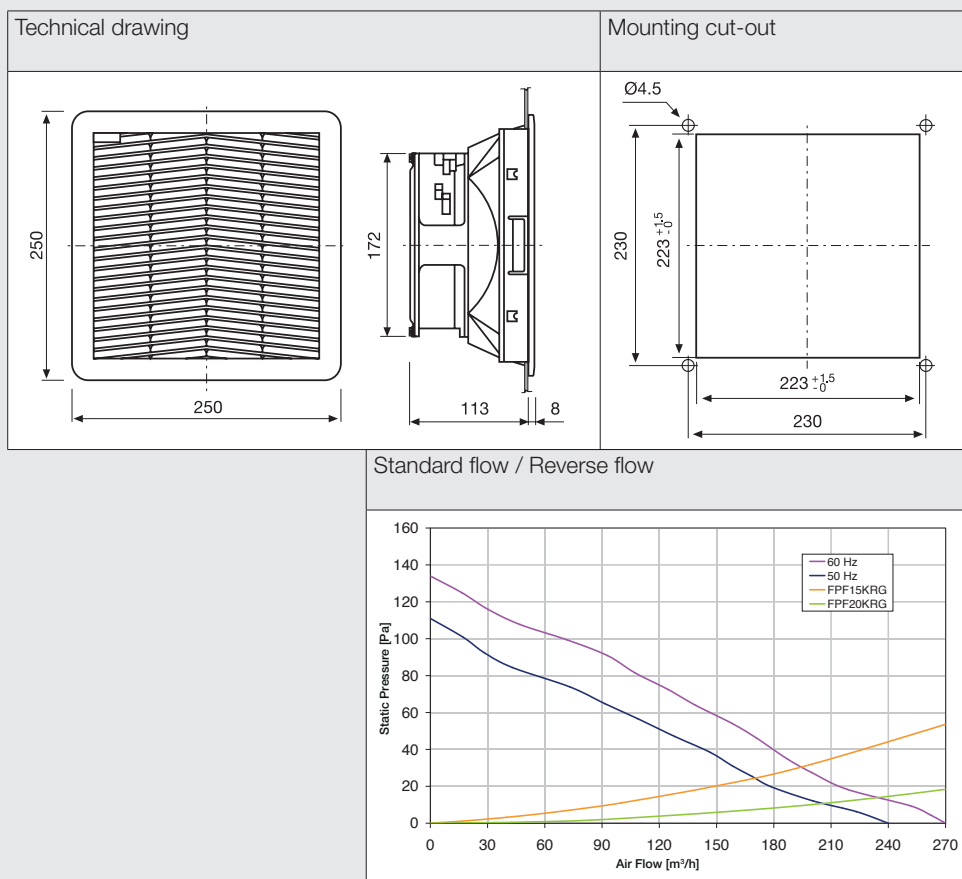


- Clip mounting system
- Low profile

Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FPF15KU115BE-110	115 V a.c.	50/60	0.265/0.274	30/30	240/270	111/134	50.0/55.0	1.78	-10 ÷ +50	CE; cURus;
FPF15KU115BER-110	115 V a.c.	50/60	0.265/0.274	30/30	240/270	111/134	50.0/55.0	1.78	-10 ÷ +50	CE; cURus;
FPF15KU230BE-110	230 V a.c.	50/60	0.132/0.130	29/29	240/270	111/134	50.0/55.0	1.78	-10 ÷ +50	CE; cURus;
FPF15KU230BER-110	230 V a.c.	50/60	0.132/0.130	29/29	240/270	111/134	50.0/55.0	1.78	-10 ÷ +50	CE; cURus;

Technical specifications





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness between 1.5 and 2.2mm
- Plastic parts in PC/ABS alloy
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508

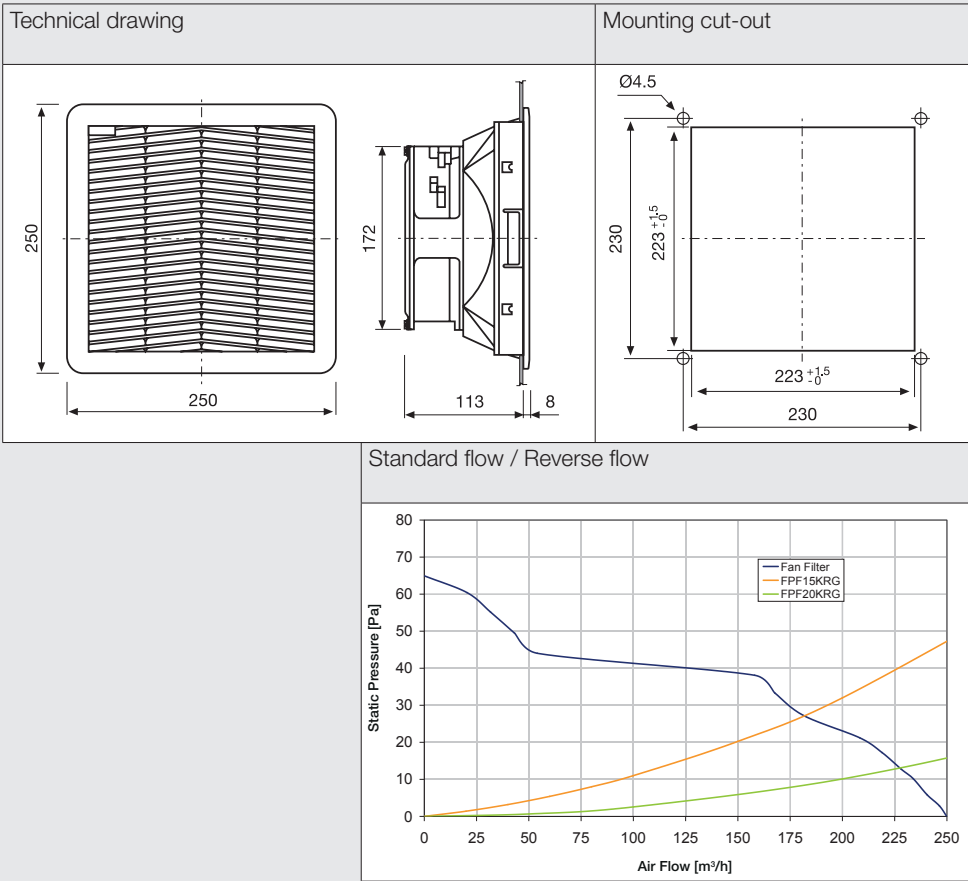


- Clip mounting system
- Low profile

Technical data

Model	Rated Voltage	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp.Range	Approvals
	V	A	W	m³/h	Pa	dB(A)	Kg	°C	
FPF15KRD24BR-110	24 V d.c.	0.95	23	250	65	64.0	1.63	-10 ÷ +50	CE; cURus;
FPF15KUD24B-110	24 V d.c.	0.95	23	250	65	64.0	1.63	-10 ÷ +50	CE; cURus;
FPF15KUD48B-110	48 V d.c.	0.370	18	250	65	64.0	1.77	-10 ÷ +55	CE;

Technical specifications





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness between 1.5 and 2.2mm
- Plastic parts in PC/ABS alloy
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508



- ▶ Clip mounting system
- ▶ Low profile
- ▶ High performance

Technical data

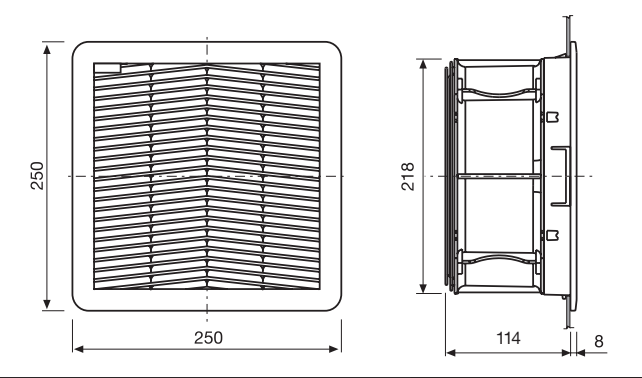
Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FPF15KGR115BE-130	115 V a.c.	50/60	0.60/0.65	58/70	360/400	160/180	66,0/69,2	2.88	-10 ÷ +70	CE; cURus;
FPF15KGU115BE-120	115 V a.c.	50/60	0.54/0.65	50/64	360/400	160/180	66,0/69,2	2.88	-10 ÷ +55	CE;
FPF15KGU115BER-120	115 V a.c.	50/60	0.54/0.65	50/64	360/400	160/180	66,0/69,2	2.88	-10 ÷ +55	CE;
FPF15KGR230BE-130	230 V a.c.	50/60	0.320/0.380	70/85	360/400	160/180	63.3/68.1	2.86	-10 ÷ +70	CE; cURus;
FPF15KGU230BE-120	230 V a.c.	50/60	0.300/0.382	67/87	360/400	160/180	63.3/68.1	2.86	-10 ÷ +50	CE;

Technical data

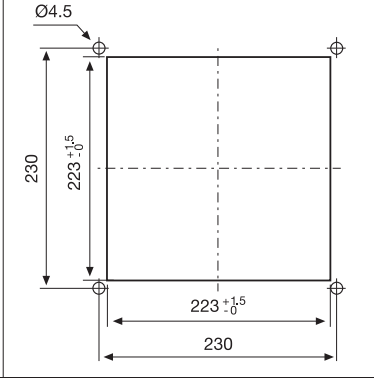
Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FPF15KGU230BER-120	230 V a.c.	50/60	0.300/0.382	67/87	360/400	160/180	63.3/68.1	2.86	-10 ÷ +50	CE;
FPF15KGU400TBE-120	400 V a.c.	50/60	0.140/0.130	71/93	360/400	160/180	69.8/72.7	3.01	-10 ÷ +55	CE;
FPF15KGU400TBER-120	400 V a.c.	50/60	0.140/0.130	71/93	360/400	160/180	69.8/72.7	3.01	-10 ÷ +55	CE;

Technical specifications

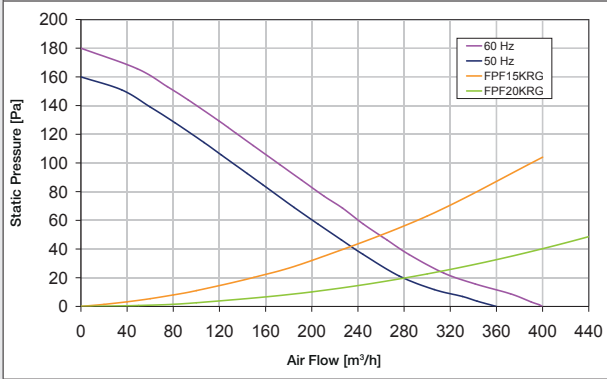
Technical drawing



Mounting cut-out



Standard flow / Reverse flow





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness between 1.5 and 2.2mm
- Plastic parts in PC/ABS alloy
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508

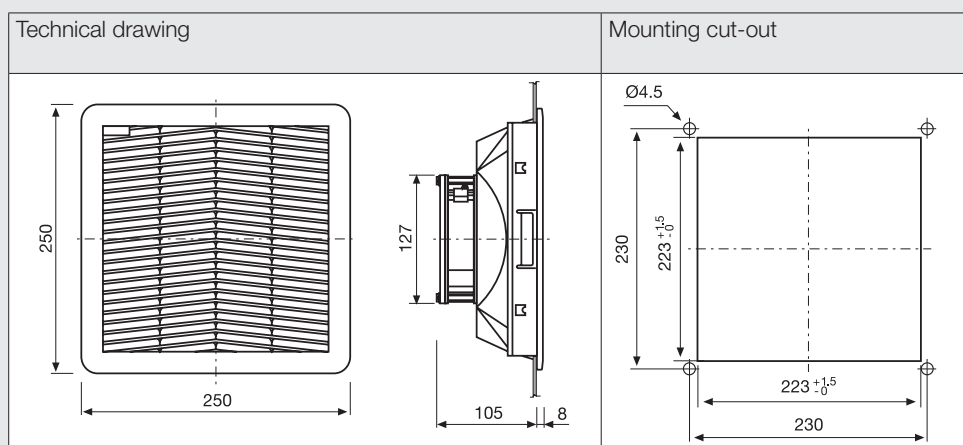


- ▶ Clip mounting system
- ▶ Low profile

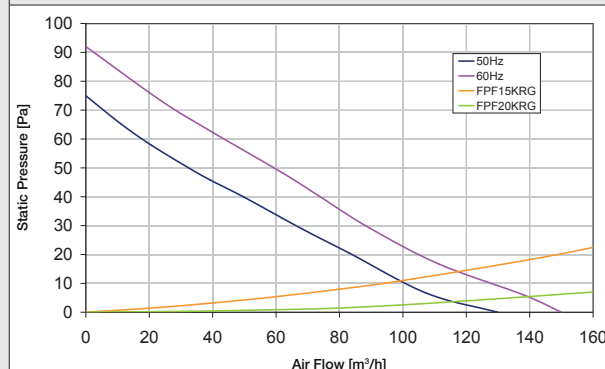
Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FPF15KMR115BER-110	115 V a.c.	50/60	0.200/0.160	17/15	130/150	75/92	46.0/50.0	1.49	-10 ÷ +50	CE; cURus;
FPF15KMU115BE-110	115 V a.c.	50/60	0.200/0.160	17/15	130/150	75/92	46.0/50.0	1.49	-10 ÷ +50	CE; cURus;
FPF15KMU230BE-110	230 V a.c.	50/60	0.100/0.090	23/21	130/150	75/92	46.0/50.0	1.47	-10 ÷ +50	CE; cURus;
FPF15KMU230BER-110	230 V a.c.	50/60	0.100/0.090	23/21	130/150	75/92	46.0/50.0	1.47	-10 ÷ +50	CE; cURus;

Technical specifications



Standard flow / Reverse flow





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness between 1.5 and 2.2mm
- Plastic parts in PC/ABS alloy
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508

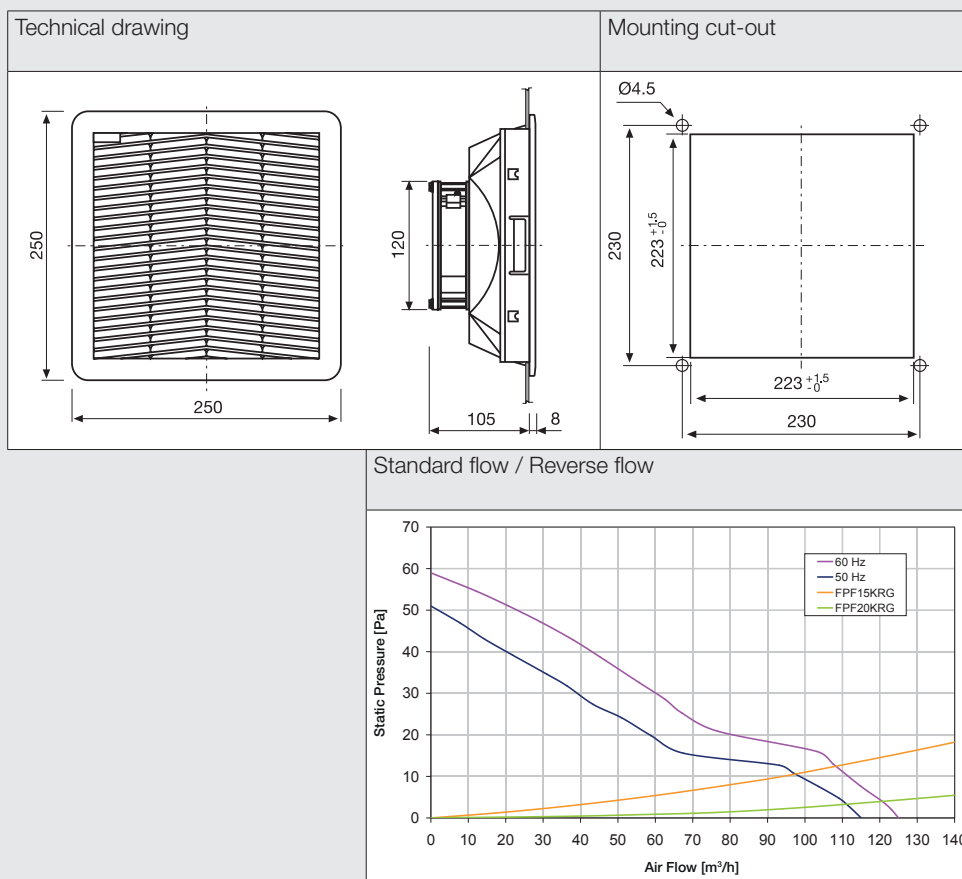


- Clip mounting system
- Low profile

Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FPF15KPR115BE-110	115 V a.c.	50/60	0.210/0.180	20/18	115/125	51/59	46.0/50.0	1.43	-10 ÷ +50	CE; cURus;
FPF15KPR115BER-110	115 V a.c.	50/60	0.210/0.180	20/18	115/125	51/59	46.0/50.0	1.43	-10 ÷ +50	CE; cURus;
FPF15KPU230BE-110	230 V a.c.	50/60	0.125/0.110	20/19	115/125	51/59	46.0/50.0	1.43	-10 ÷ +50	CE; cURus;
FPF15KPU230BER-110	230 V a.c.	50/60	0.125/0.110	20/19	115/125	51/59	46.0/50.0	1.43	-10 ÷ +50	CE; cURus;

Technical specifications





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness between 1.5 and 2.2mm
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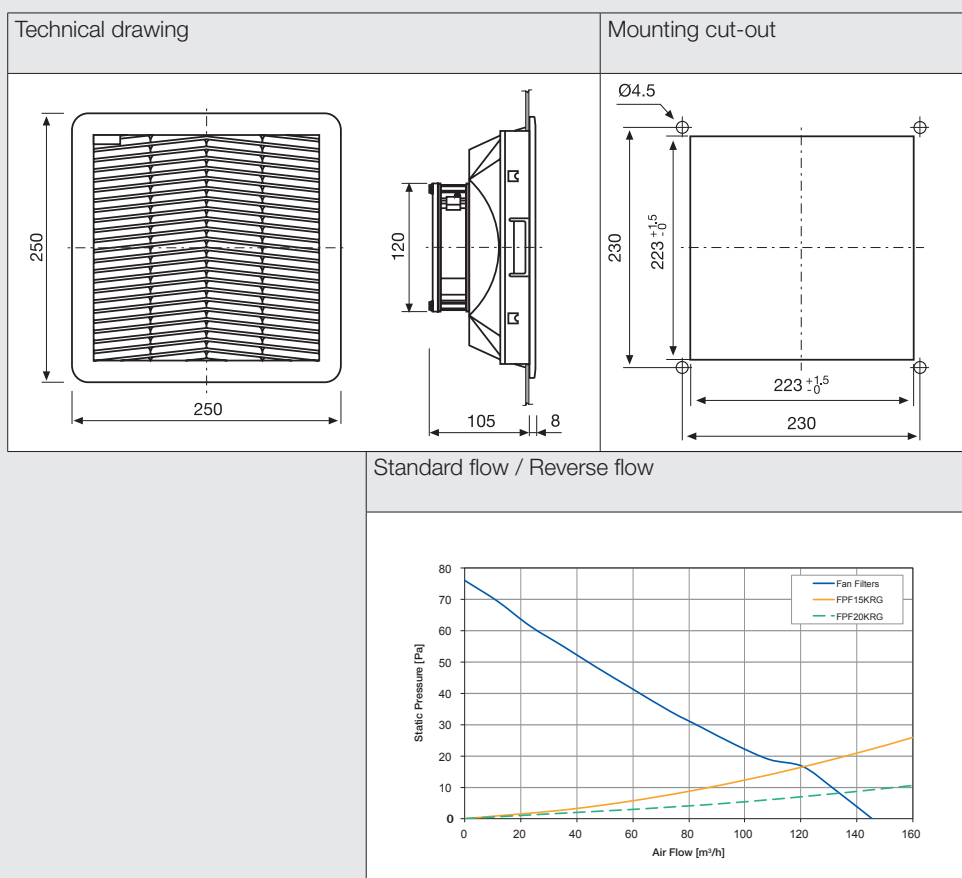


- Clip mounting system
- Low profile

Technical data

Model	Rated Voltage	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp.Range	Approvals
	V	A	W	m³/h	Pa	dB(A)	Kg	°C	
FPF15KPRD24BR-110	24 V d.c.	0.400	9.6	145	76	42.5	1.19	-10 ÷ +50	CE; cURus;
FPF15KPUD24B-110	24 V d.c.	0.400	9.6	145	76	42.5	1.19	-10 ÷ +50	CE; cURus;
FPF15KPRD48B-110	48 V d.c.	0.160	7.7	145	76	42.5	1.19	-10 ÷ +55	CE;
FPF15KPRD48BR-110	48 V d.c.	0.160	7.7	145	76	42.5	1.19	-10 ÷ +55	CE;

Technical specifications





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
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- Clip mounting system
- Low profile

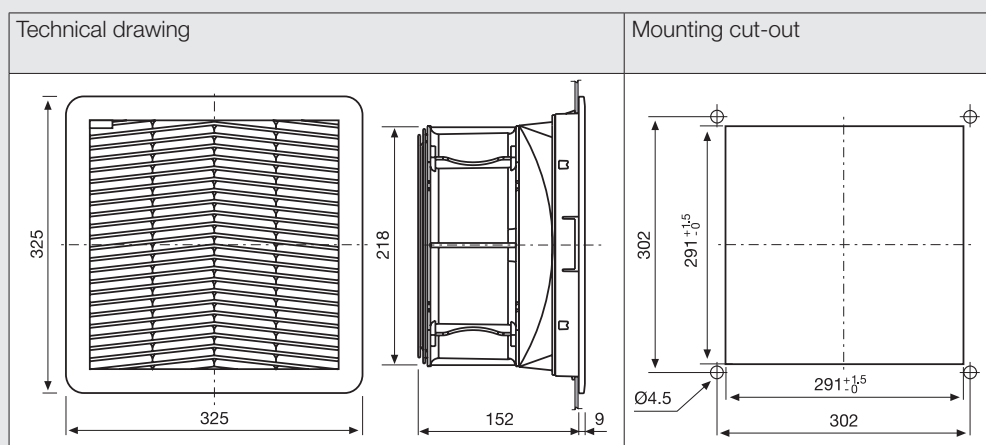
Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FPF20KR115BE-130	115 V a.c.	50/60	0.60/0.65	58/70	520/580	160/186	74.7/78.9	3.6	-10 ÷ +70	CE; cURus;
FPF20KU115BE-120	115 V a.c.	50/60	0.54/0.65	50/64	520/580	160/186	66.0/69.2	3.58	-10 ÷ +55	CE;
FPF20KU115BE-130	115 V a.c.	50/60	0.60/0.65	58/70	520/580	160/186	66,0/69,2	3.58	-10 ÷ +70	CE; cURus;
FPF20KU115BER-120	115 V a.c.	50/60	0.54/0.65	50/64	520/580	160/186	66.0/69.2	3.58	-10 ÷ +55	CE;
FPF20KR230BE-130	230 V a.c.	50/60	0.326/0.391	70/85	520/580	160/186	65.3/68.1	3.58	-10 ÷ +70	CE; cURus;
FPF20KU230BE-120	230 V a.c.	50/60	0.335/0.405	77/92	520/580	160/186	65.3/68.1	3.56	-10 ÷ +50	CE;

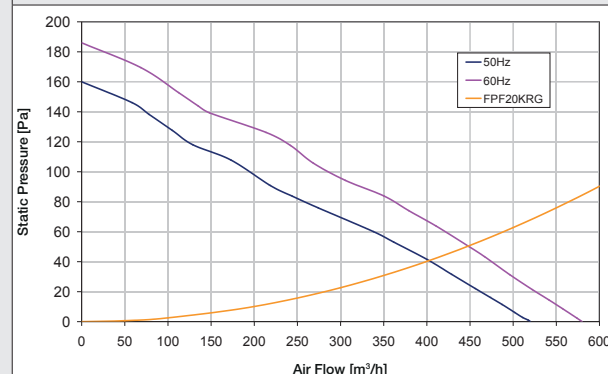
Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FPF20KU230BE-130	230 V a.c.	50/60	0.300/0.360	70/85	520/580	160/186	65,3/68,1	3.56	-10 ÷ +70	CE; cURus;
FPF20KU230BER-120	230 V a.c.	50/60	0.300/0.382	67/87	520/580	160/186	65.3/68.1	3.56	-10 ÷ +50	CE;
FPF20KR400TBER-120	400 V a.c.	50/60	0.140/0.130	71/93	520/580	160/186	69.8/72.7	3.73	-10 ÷ +55	CE;
FPF20KU400TBE-120	400 V a.c.	50/60	0.140/0.130	71/93	520/580	160/186	69.8/72.7	3.71	-10 ÷ +55	CE;

Technical specifications



Standard flow / Reverse flow





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness between 1.5 and 2.2mm
- Plastic parts in PC/ABS alloy
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- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508



- ▶ Clip mounting system
- ▶ Low profile
- ▶ High performance

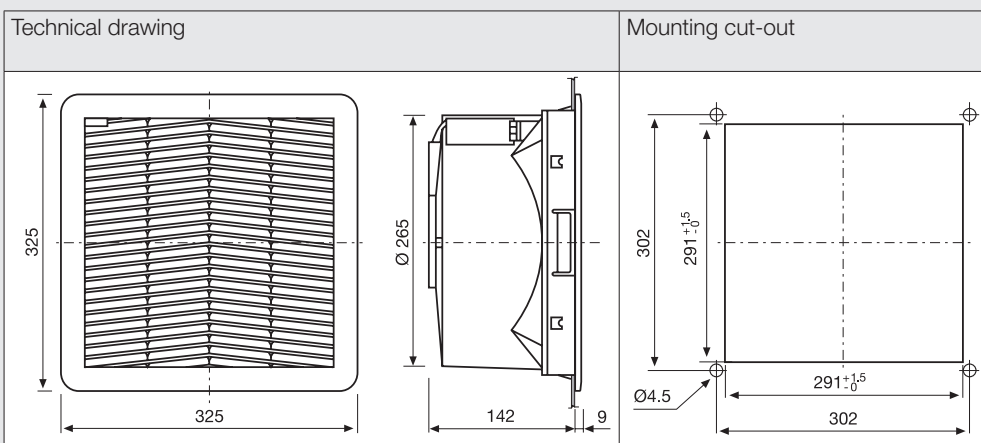
Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FPF20KGR115B-130	115 V a.c.	50/60	1.5/1.4	112/148	660/745	220/222	74.8/79.0	3.6	-10 ÷ +70	CE; cURus;
FPF20KGR115BR-130	115 V a.c.	50/60	1.5/1.4	112/148	660/745	220/222	74.8/79.0	3.6	-10 ÷ +70	CE; cURus;
FPF20KGU115B-110	115 V a.c.	50/60	1.2/1.2	120/135	650/730	186/213	64.6/67.4	3.71	-10 ÷ +55	CE;
FPF20KGU115B-130	115 V a.c.	50/60	1.5/1.4	112/148	660/745	220/222	74.8/79.0	3.58	-10 ÷ +70	CE; cURus;
FPF20KGU115BR-110	115 V a.c.	50/60	1.2/1.2	120/135	650/730	186/213	74.7/78.9	3.59	-10 ÷ +55	CE;

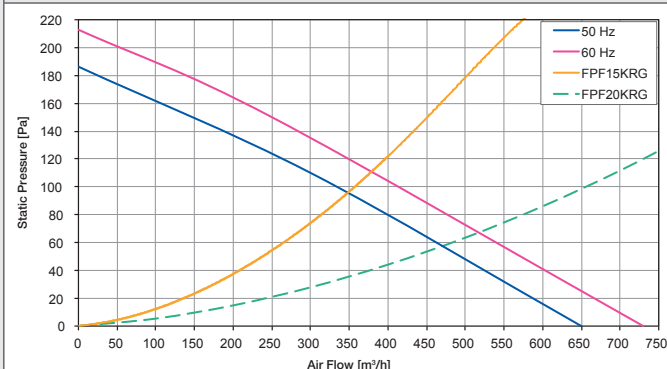
Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FPF20KGR230B-130	230 V a.c.	50/60	0.70/0.72	111/140	660/745	220/222	67.6/70.6	3.71	-10 ÷ +70	CE; cURus;
FPF20KGR230BR-130	230 V a.c.	50/60	0.70/0.72	111/140	660/745	220/222	66.0/69.2	3.71	-10 ÷ +70	CE; cURus;
FPF20KGU230B-110	230 V a.c.	50/60	0.62/0.81	140/185	650/730	186/213	67.6/70.6	3.54	-10 ÷ +55	CE;
FPF20KGU230B-130	230 V a.c.	50/60	0.70/0.72	111/140	660/745	220/222	67.6/70.6	3.69	-10 ÷ +70	CE; cURus;
FPF20KGU230BR-110	230 V a.c.	50/60	0.460/0.64	106/147	650/730	186/213	74.8/79.0	3.53	-10 ÷ +50	CE;
FPF20KGU400TB-110	400 V a.c.	50/60	0.180/0.200	93/123	650/730	186/213	76.0/79.0	4.05	-10 ÷ +55	CE;

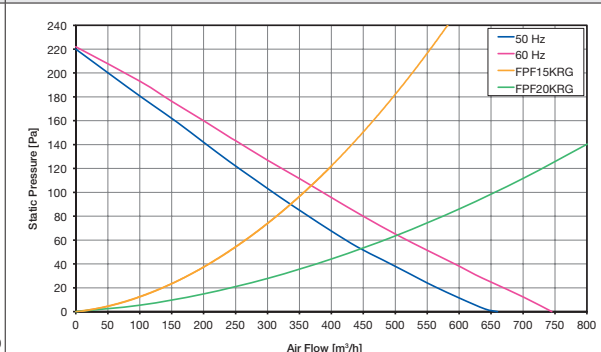
Technical specifications



Standard flow / Reverse flow - 110



Standard flow / Reverse flow - 130





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness between 1.5 and 2.2mm
- Plastic parts in PC/ABS alloy
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3 (optionally filter class G4), according to EN 779
- Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating
- IP55, Type1, 3R and EMC versions on request
- UL approval according to UL 508



- ▶ Clip mounting system
- ▶ Low profile
- ▶ High performance

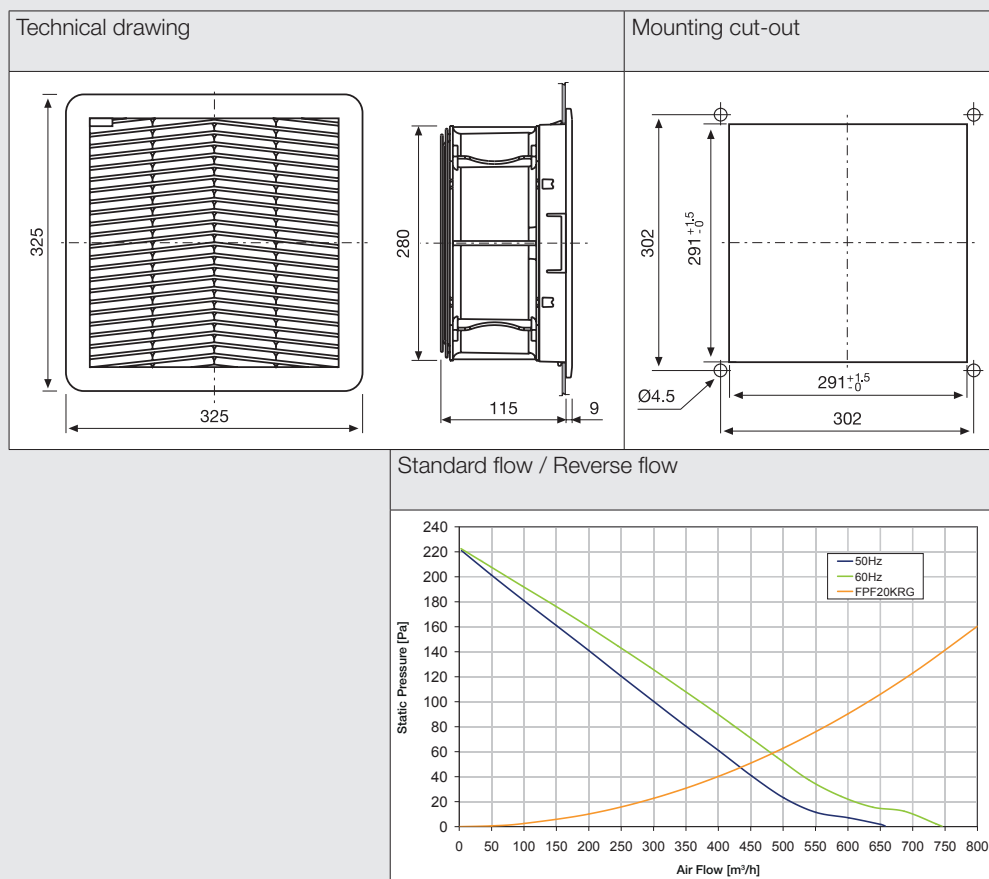
Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FPF20KGR115BE-130	115 V a.c.	50/60	1.4/1.5	112/148	660/745	220/222	74.7/78.9	4.31	-10 ÷ +70	CE; cURus;
FPF20KGU115BE-120	115 V a.c.	50/60	0.96/1.3	107/143	660/745	220/222	74.7/78.9	4.43	-10 ÷ +55	CE;
FPF20KGU115BE-130	115 V a.c.	50/60	1.4/1.5	112/148	660/745	220/222	74.7/78.9	4.29	-10 ÷ +70	CE; cURus;
FPF20KGU115BER-120	115 V a.c.	50/60	0.96/1.3	107/143	660/745	220/222	74.7/78.9	4.43	-10 ÷ +55	CE;
FPF20KGR230BE-130	230 V a.c.	50/60	0.60/0.72	111/140	660/745	220/222	68.0/70.0	4.43	-10 ÷ +70	CE; cURus;

Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
FPF20KGU230BE-120	230 V a.c.	50/60	0.50/0.72	111/140	660/745	220/222	72.8/75.8	4.26	-10 ÷ +55	CE;
FPF20KGU230BE-130	230 V a.c.	50/60	0.60/0.72	111/140	660/745	220/222	68.0/70.0	4.41	-10 ÷ +70	CE; cURus;
FPF20KGU230BER-120	230 V a.c.	50/60	0.50/0.72	111/140	660/745	220/222	72.8/75.8	4.26	-10 ÷ +55	CE;
FPF20KGR400TBER-120	400 V a.c.	50/60	0.180/0.200	93/123	660/745	220/222	76.0/79.0	4.78	-10 ÷ +55	CE;

Technical specifications



- Fixing system with jacks (international patent)
- Ideal for plastic or plate enclosures
- Easy media replacement
- Low profile
- Media replacement without tools



General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness up to 8mm and by cutting the jacks up to 16mm
- Plastic parts in PC/ABS alloy
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3, according to EN 779 Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating

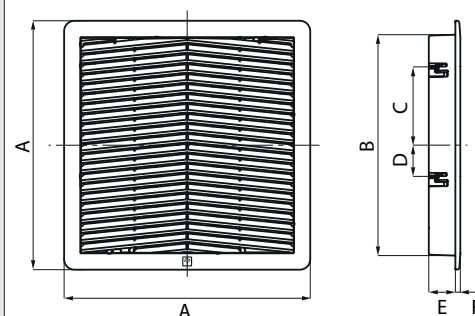


Technical data

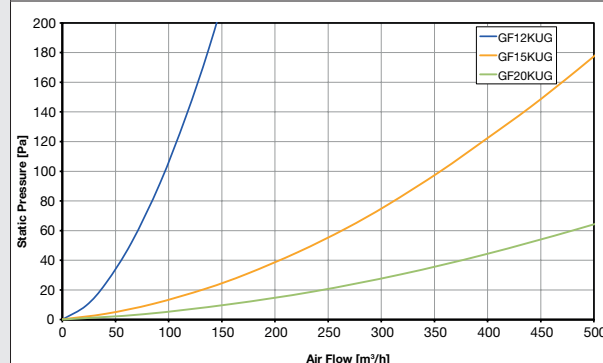
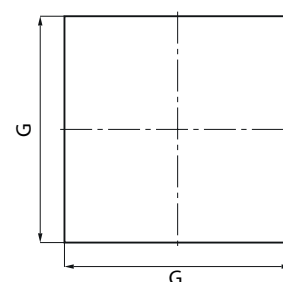
Model	A	B	C	D	E	F	G	Weight	Approvals
	mm	mm	mm	mm	mm	mm	mm	Kg	
GF12KUG	150	124	41.6	-	26.5	4.5	125	0.17	CE;
GF15KUG	250	222	78.6	31.4	27	5	223	0.49	CE;
GF20KUG	325	289	95.6	48.4	26.7	5.8	290	0.74	CE;

Technical specifications

Technical drawing



Mounting cut-out





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness thickness up to 8mm and by cutting the jacks up to 16mm
- Plastic parts in PC/ABS alloy
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3, according to EN 779 Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating

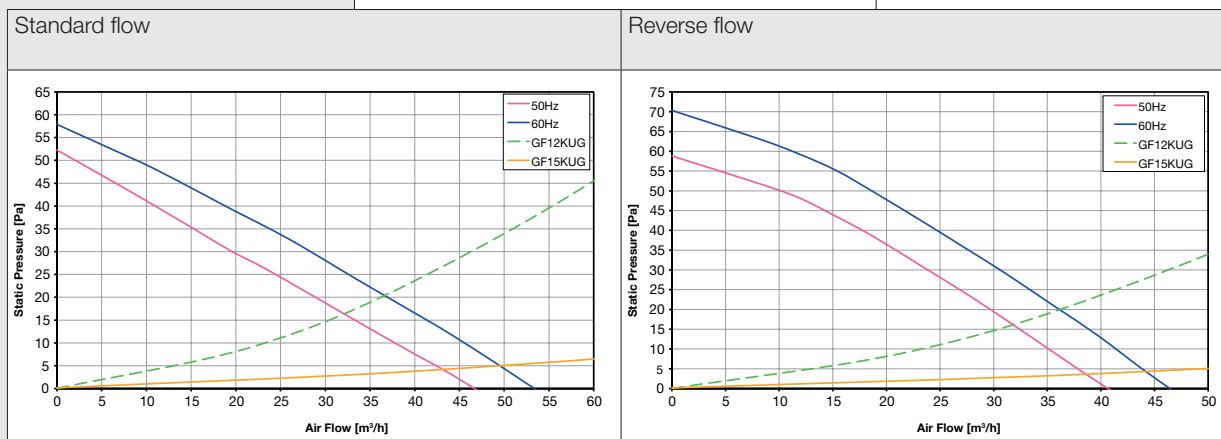
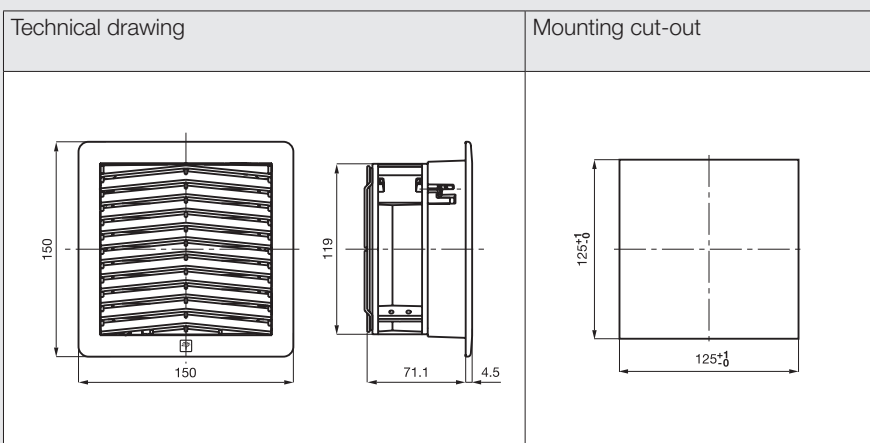


- Fixing system with jacks (international patent)
- Ideal for plastic or plate enclosures
- Easy media replacement
- Low profile
- Media replacement without tools

Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
GF12KU230BE	230 V a.c.	50/60	0.10/0.09	17/16	46/53	52/58	43.0/48.0	0.75	-10 ÷ +55	CE;
GF12KU230BER	230 V a.c.	50/60	0.10/0.09	17/16	42/47	59/70	43.0/48.0	0.75	-10 ÷ +55	CE;

Technical specifications





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness thickness up to 8mm and by cutting the jacks up to 16mm
- Plastic parts in PC/ABS alloy
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3, according to EN 779Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating

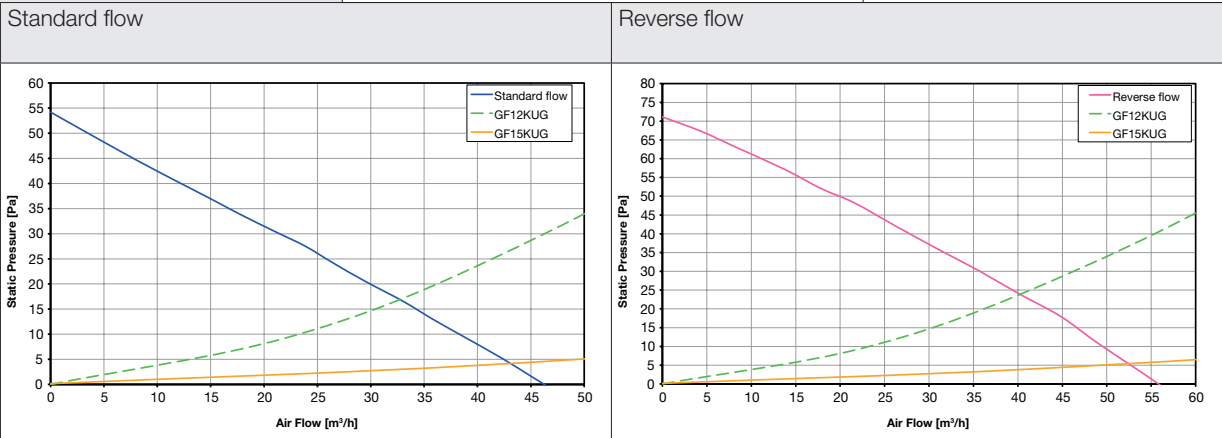
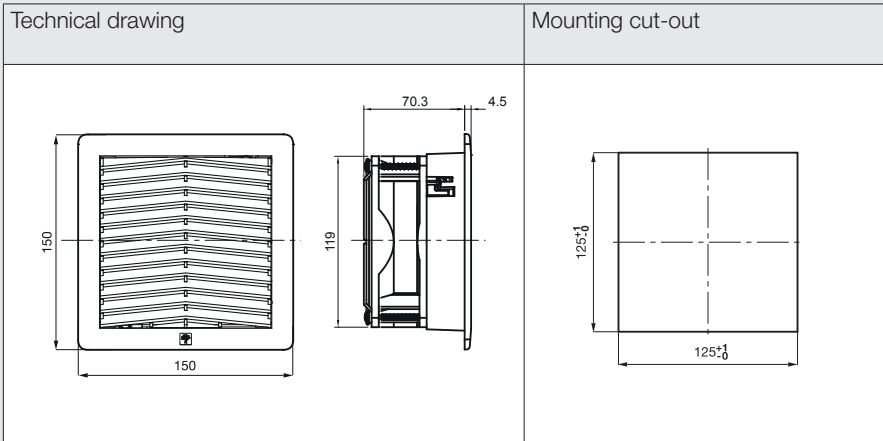


- ▶ Fixing system with jacks (international patent)
- ▶ Ideal for plastic or plate enclosures
- ▶ Easy media replacement
- ▶ Low profile
- ▶ Media replacement without tools

Technical data

Model	Rated Voltage	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp.Range	Approvals
	V	A	W	m³/h	Pa	dB(A)	Kg	°C	
GF12KUD24B	24 V d.c.	0.30	7.0	46	54	42.5	0.52	-10 ÷ +50	CE;
GF12KUD24BR	24 V d.c.	0.30	7.0	55	71	42.5	0.52	-10 ÷ +50	CE;

Technical specifications





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness up to 8mm and by cutting the jacks up to 16mm
- Plastic parts in PC/ABS alloy
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3, according to EN 779 Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating



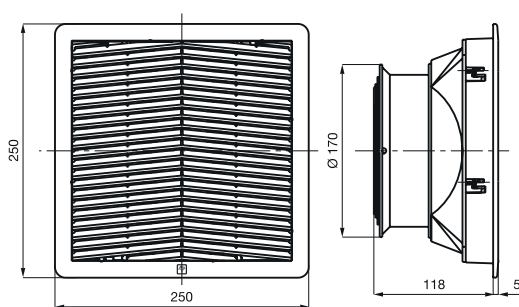
- Fixing system with jacks (international patent)
- Ideal for plastic or plate enclosures
- Easy media replacement
- Low profile
- Media replacement without tools

Technical data

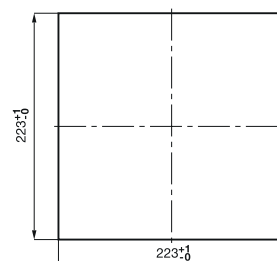
Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
GF15KU115BE	115 V a.c.	50/60	0.28/0.30	32/35	224/270	110/148	50.0/55.0	1.7	-10 ÷ +50	CE;
GF15KU230BE	230 V a.c.	50/60	0.14/0.15	32/34	224/270	110/148	50.0/55.0	1.7	-10 ÷ +50	CE;
GF15KU230BER	230 V a.c.	50/60	0.14/0.15	32/35	248/290	158/202	50.0/55.0	1.7	-10 ÷ +50	CE;

Technical specifications

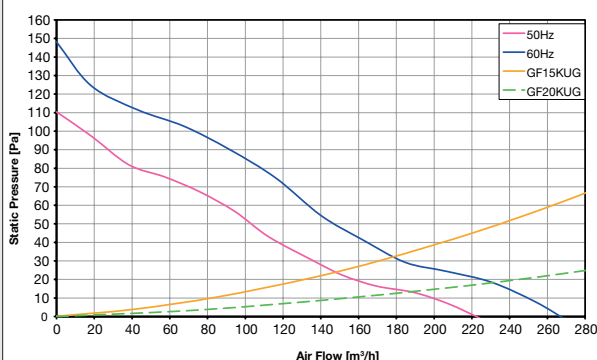
Technical drawing



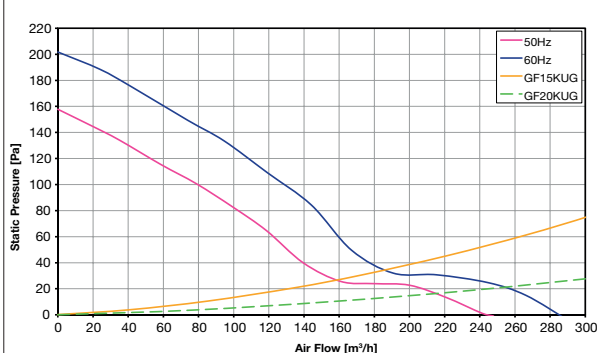
Mounting cut-out

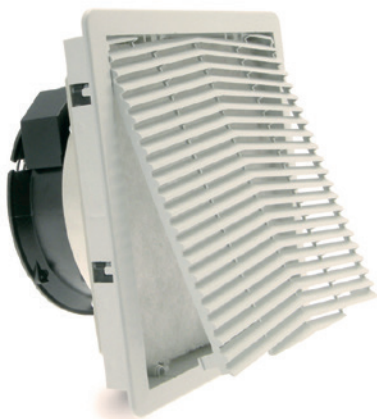


Standard flow



Reverse flow





General specifications

- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness thickness up to 8mm and by cutting the jacks up to 16mm
- Plastic parts in PC/ABS alloy
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3, according to EN 779 Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating

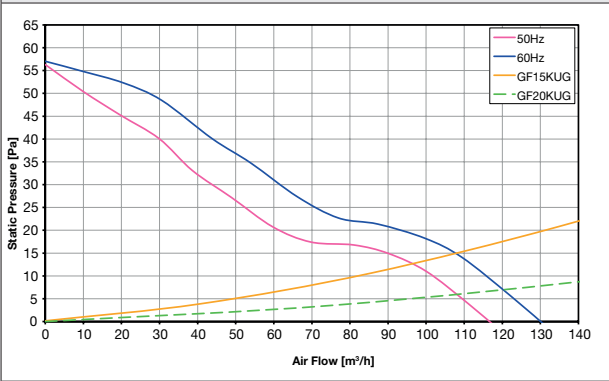
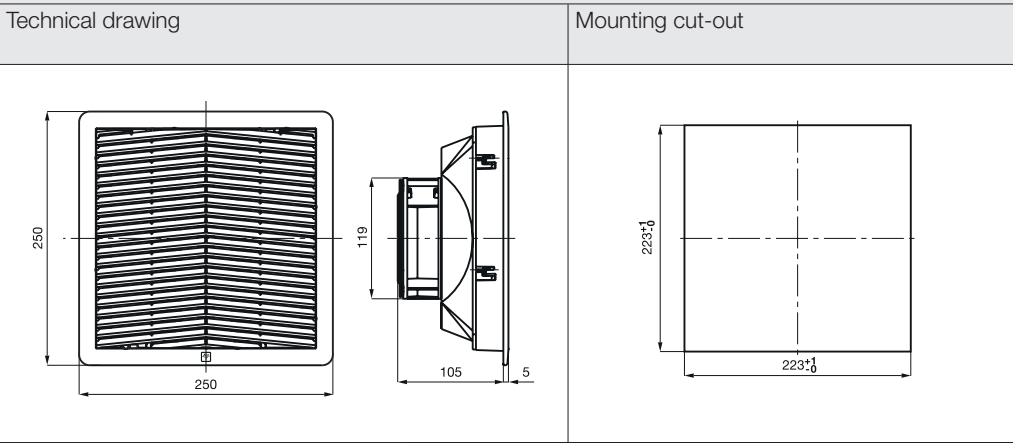


- Fixing system with jacks (international patent)
- Ideal for plastic or plate enclosures
- Easy media replacement
- Low profile
- Media replacement without tools

Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
GF15KPU230BE	230 V a.c.	50/60	0.10/0.10	18/18	118/132	56/57	43.0/48.0	1.34	-10 ÷ +55	CE;

Technical specifications



General specifications



- Mounting without screws in square openings as indicated in the cut-out diagram
- Plate thickness up to 8mm and by cutting the jacks up to 16mm
- Plastic parts in PC/ABS alloy
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- Filter media in thermo-linked progressive structure synthetic fibre
 - filter class G3, according to EN 779 Filter media can be cleaned, up to 10 times by washing, blowing dry and lightly beating

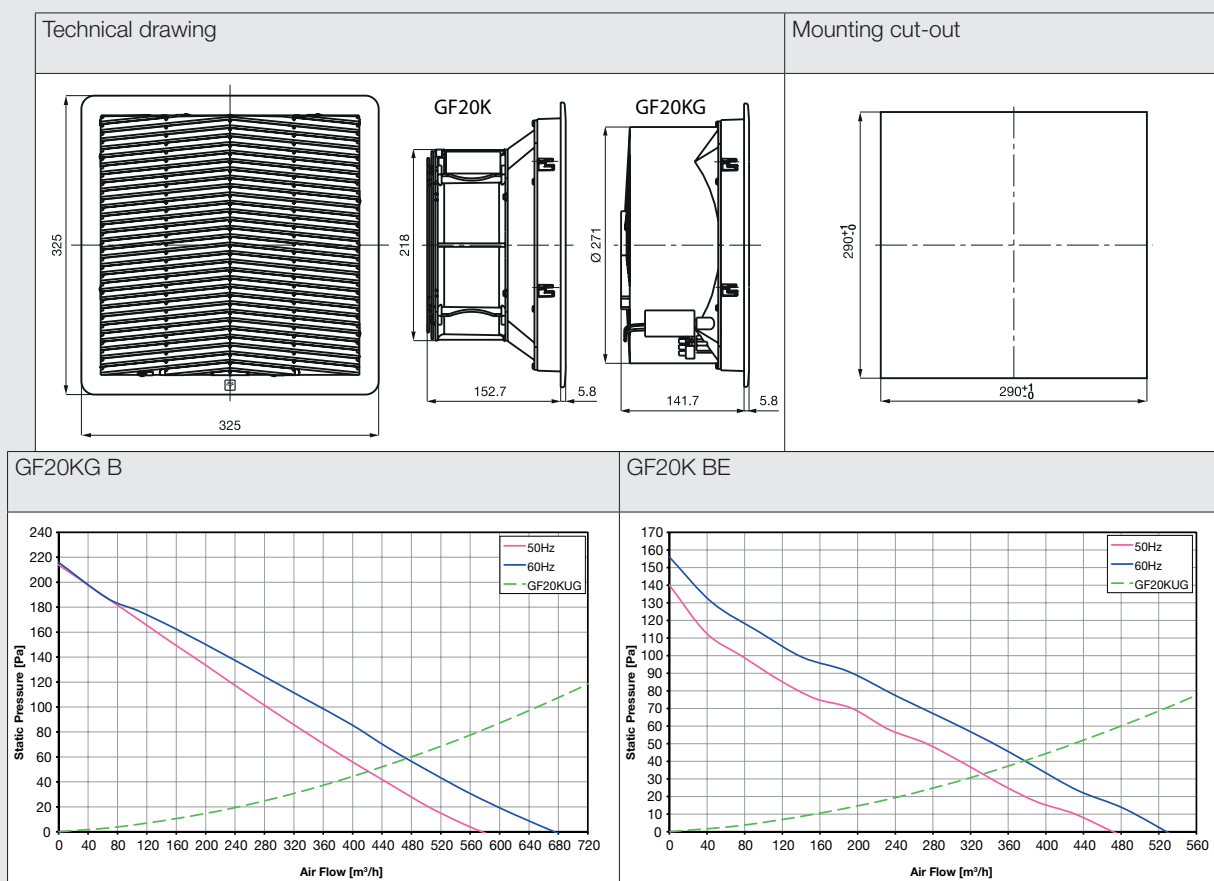


- Fixing system with jacks (international patent)
- Ideal for plastic or plate enclosures
- Easy media replacement
- Low profile
- Media replacement without tools

Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
GF20KGU230B	230 V a.c.	50/60	0.70/0.55	159/125	583/680	214/216	71.0/73.0	3.34	-10 ÷ +55	CE;
GF20KU230BE	230 V a.c.	50/60	0.33/0.40	76/92	475/535	140/156	60.0/62.0	3.36	-10 ÷ +50	CE;

Technical specifications



ROOF EXHAUST UNITS

Roof exhaust units are commonly used in restricted spaces to dissipate hot air that is extracted from the top of enclosures.

These units can be provided with an exhaust filter for either convection cooling or forced air-cooling in combination with a fan.

■ TP SERIES



CASING MATERIAL
Plastic structure with aluminum top

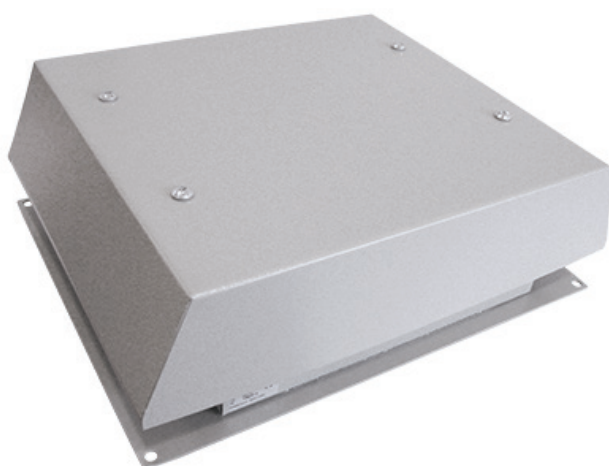


PROTECTION
Available in 4 different protection classes



VENTILATION
Natural air convection or forced air sucking

■ T SERIES



CASING MATERIAL
Metal structure

HIGH PERFORMANCE VERSION (T22)

Model numbering system for TP SERIES

description	TP	19	R	115	B	A	-	SXX	description
FAMILY TP / T TP = small plastic T = large metallic									CUSTOM SERIES SXX = custom version
FAN DIMENSION									
COLOUR R = ral 7032 U = ral 7035 N = ral 9005									VERSION A = anodized
VOLTAGE () = no voltage 115 = 115 V.a.c. 230 = 230 V.a.c.									DESIGN



General specifications

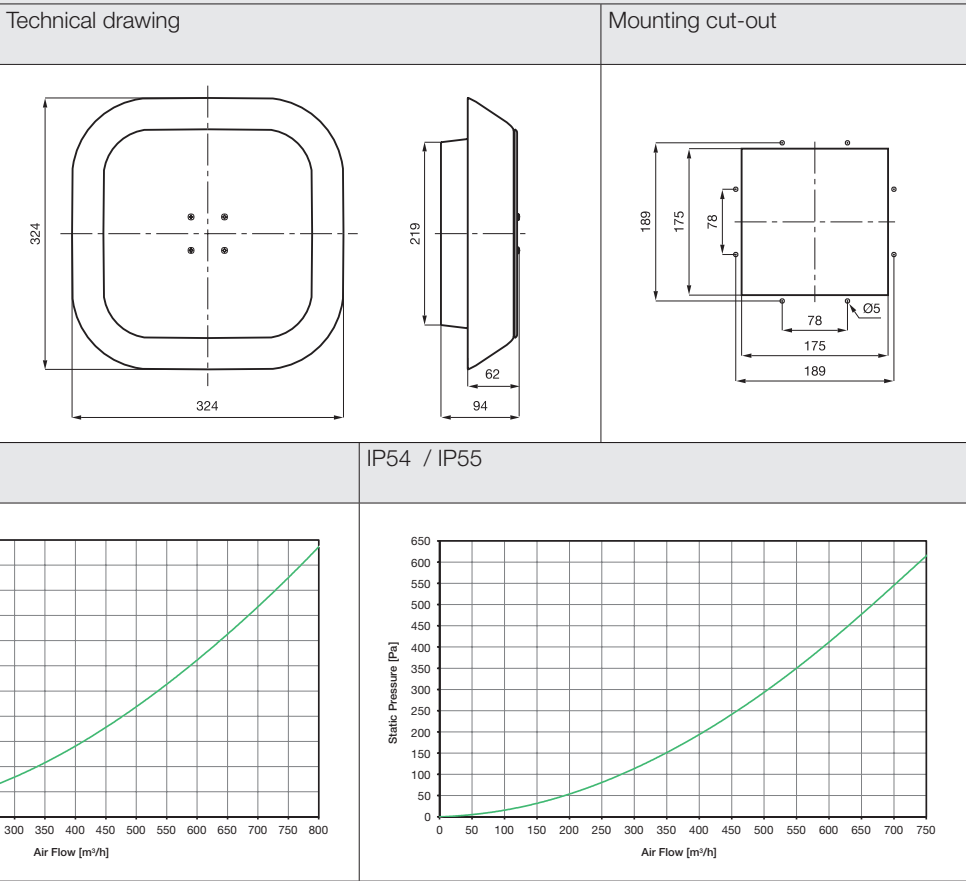
- Mounting by nr. 8 Ø4x16 mm screws for thermoplastic material in square openings as indicated in the cut-out diagram
- Plate thickness: any
- Plastic parts in PC/ABS alloy and aluminum cover
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



Technical data

Model	Protection Degree	Approvals
	IP	
TP19U1	IP24	CE; cURus; cCSAus;
TP19U541	IP54	CE; cURus; cCSAus;
TP19U551	IP55	CE; cURus; cCSAus;

Technical specifications





General specifications

- Mounting by nr. 8 Ø4x16 mm screws for thermoplastic material in square openings as indicated in the cut-out diagram
- Plate thickness: any
- Plastic parts in PC/ABS alloy and aluminum cover
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14

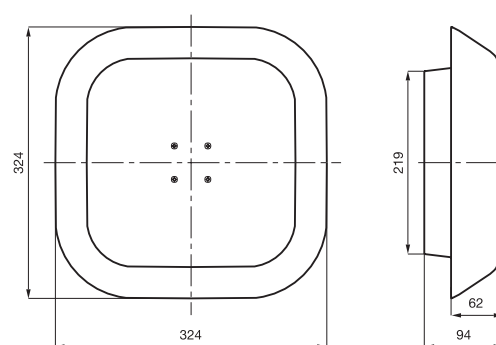


Technical data

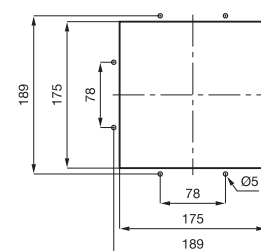
Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
TP19U115B	115 V a.c.	50/60	0.55/0.65	62/75	500/575	335/465	67.9/71.0	2.54	-10 - +60	CE;
TP19U115B1	115 V a.c.	60	0.85	97	575	465	72.9	2.56	-10 - +55	CE; cURus; cCSAus;
TP19U115B441	115 V a.c.	60	0.85	97	560	470	71.9	2.64	-10 - +55	CE; cURus; cCSAus;
TP19U230B	230 V a.c.	50/60	0.307/0.361	67/83	500/575	335/465	67.9/71.0	2.53	-10 - +60	CE;
TP19U230B1	230 V a.c.	50/60	0.310/0.360	70/81	500/575	335/465	67.9/71.0	2.51	-10 - +55	CE; cURus; cCSAus;
TP19U230B44	230 V a.c.	50/60	0.309/0.354	69/81	485/560	330/470	67.9/71.0	2.62	-10 - +60	CE;
TP19U230B441	230 V a.c.	50/60	0.310/0.360	70/81	485/560	330/470	67.9/71.0	2.6	-10 - +55	CE; cURus; cCSAus;

Technical specifications

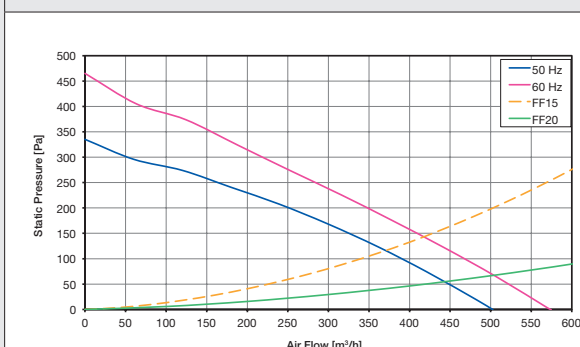
Technical drawing



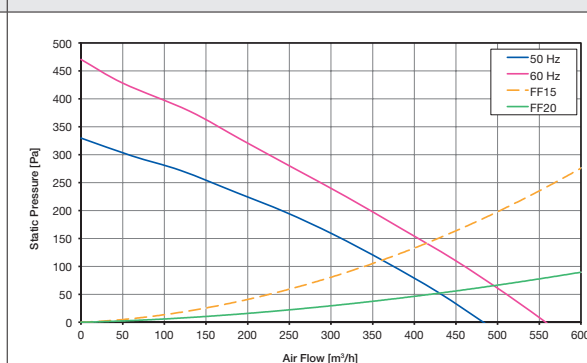
Mounting cut-out



IP24



IP44





General specifications

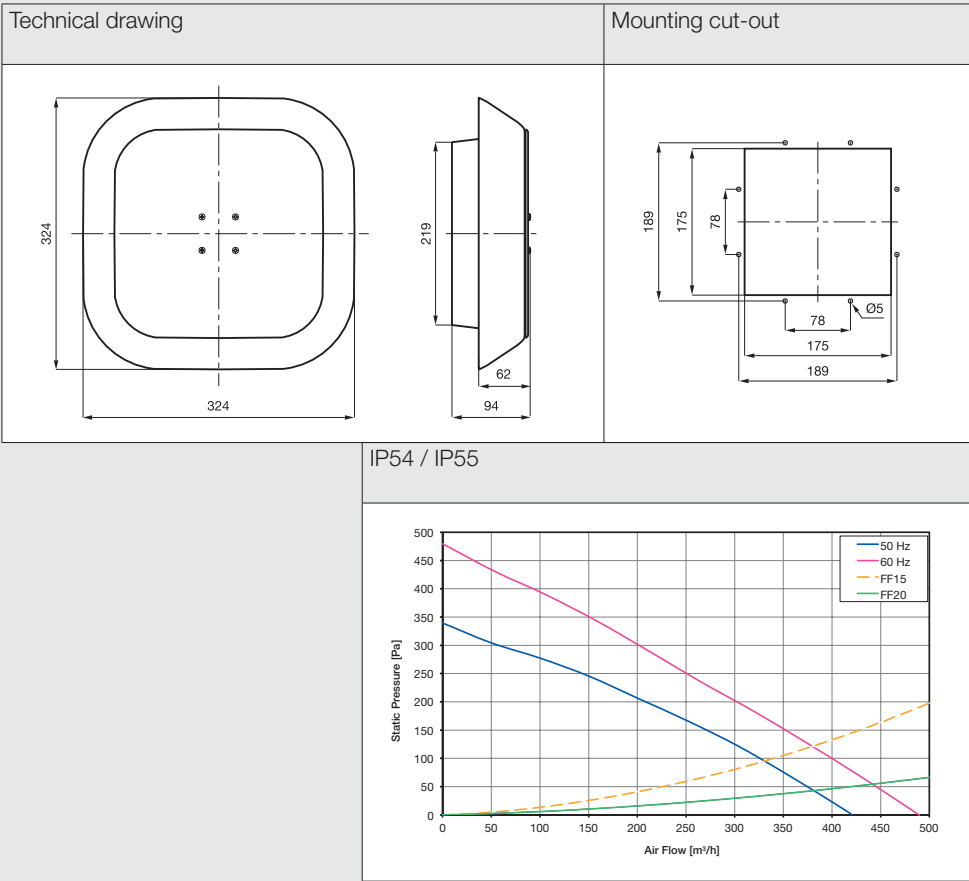
- Mounting by nr. 8 Ø4x16 mm screws for thermoplastic material in square openings as indicated in the cut-out diagram
- Plate thickness: any
- Plastic parts in PC/ABS alloy and aluminum cover
- Standard color RAL 7035, other colors available on request, subject to quantity
- Permanent sealing gasket in polyurethane foam
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14

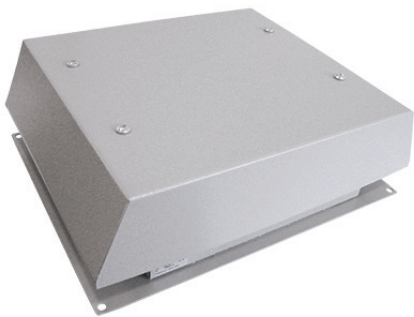


Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
TP19U115B54	115 V a.c.	50/60	0.62/0.64	66/74	420/490	340/480	67.9/71.0	2.63	-10 - +60	CE;
TP19U115B541	115 V a.c.	60	0.85	97	490	480	71.9	2.65	-10 - +55	CE; cURus; cCSAus;
TP19U115B55	115 V a.c.	50/60	0.62/0.64	66/74	420/490	340/480	67.9/71.0	2.63	-10 - +60	CE;
TP19U115B551	115 V a.c.	60	0.85	97	490	480	71.9	2.66	-10 - +55	CE; cURus; cCSAus;
TP19U230B54	230 V a.c.	50/60	0.309/0.360	70/83	420/490	340/480	67.9/71.0	2.62	-10 - +60	CE;
TP19U230B541	230 V a.c.	50/60	0.310/0.360	70/81	420/490	340/480	67.9/71.0	2.61	-10 - +55	CE; cURus; cCSAus;
TP19U230B55	230 V a.c.	50/60	0.309/0.360	70/83	420/490	340/480	67.9/71.0	2.63	-10 - +60	CE;
TP19U230B551	230 V a.c.	50/60	0.310/0.360	70/81	420/490	340/480	67.9/71.0	2.61	-10 - +55	CE; cURus; cCSAus;

Technical specifications





General specifications

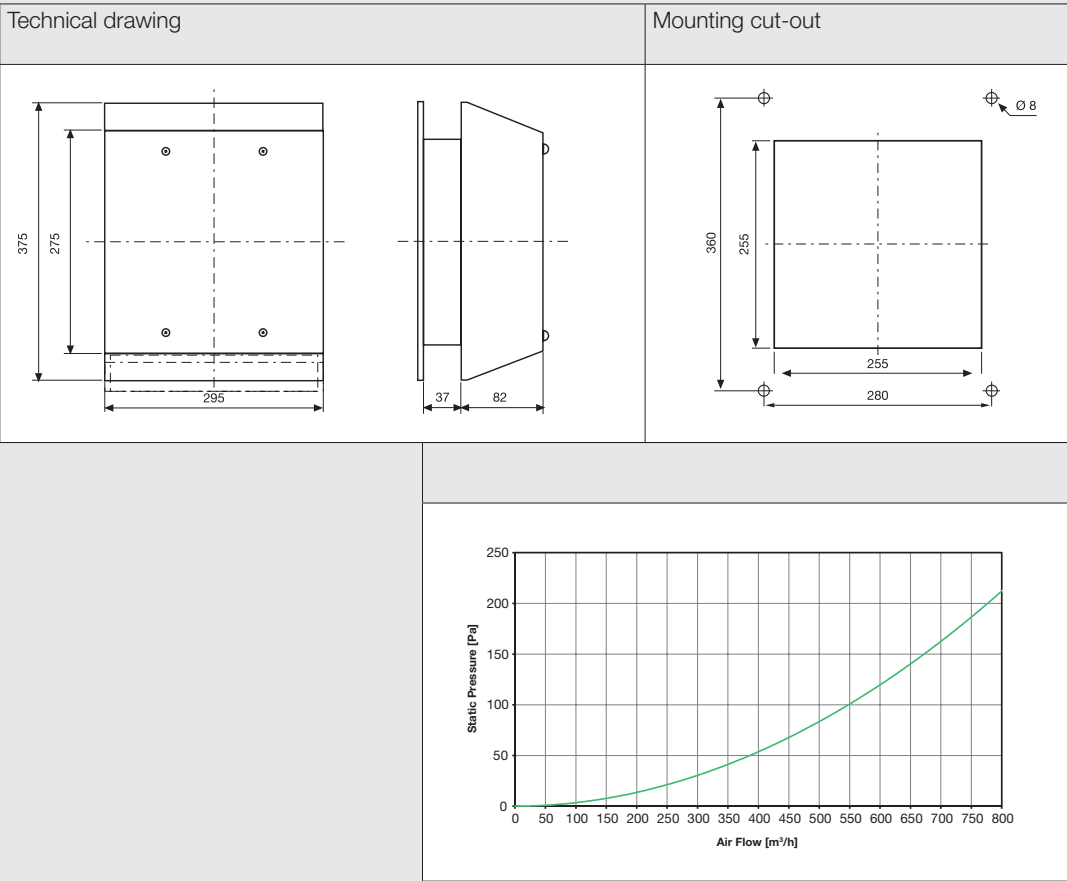
- Mounting by nr. 4 M6 screws in square openings as indicated in the cut-out diagram
- Plate thickness: any
- Epoxy painted steel casing
- Permanent sealing gasket in polyurethane foam
- Standard color RAL 7035 and RAL 7032

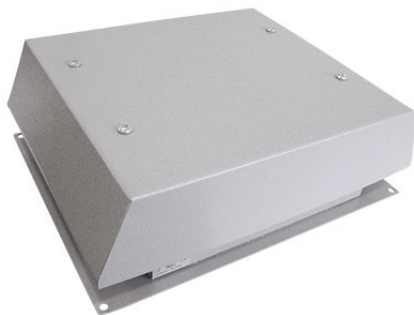


Technical data

Model	Approvals
T19UK	CE;

Technical specifications





General specifications

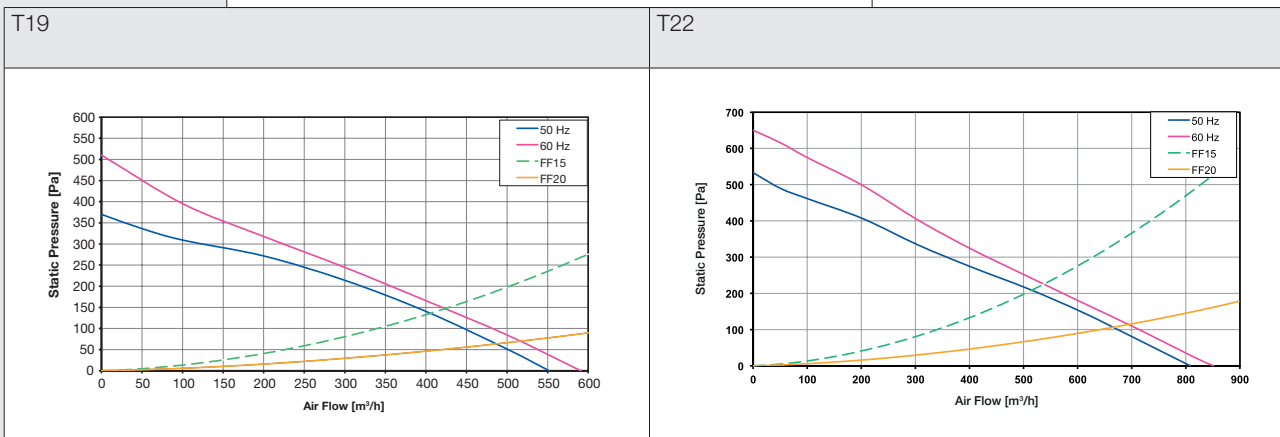
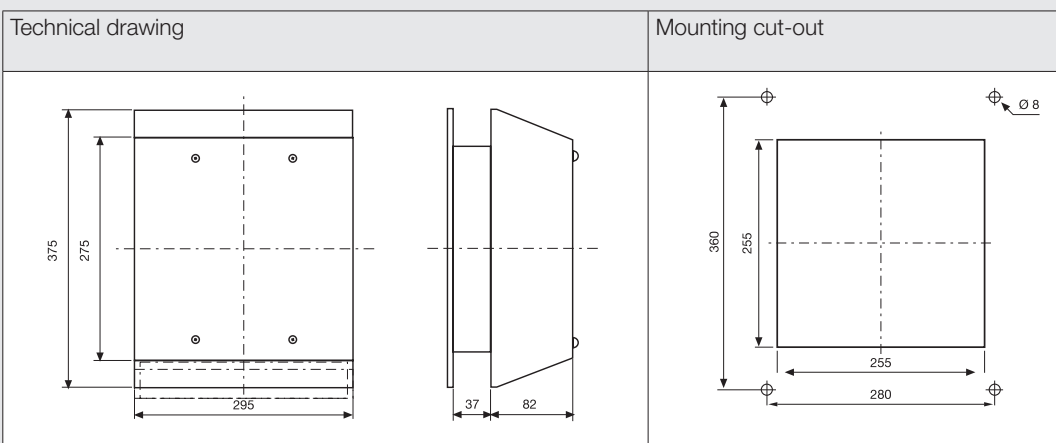
- Mounting by nr. 4 M6 screws in square openings as indicated in the cut-out diagram
- Plate thickness: any
- Epoxy painted steel casing
- Permanent sealing gasket in polyurethane foam
- Standard color RAL 7035 and RAL 7032

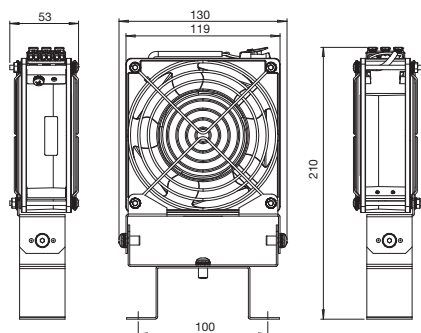


Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m³/h	Pa	dB(A)	Kg	°C	
T19R115B	115 V a.c.	50/60	0.53/0.62	58/71	550/590	370/510	67.9/71.0	5.53	-20 ÷ +60	CE;
T19R230B	230 V a.c.	50/60	0.290/0.340	62/78	550/590	370/510	67.9/71.0	5.53	-20 ÷ +60	CE;
T19U115B	115 V a.c.	50/60	0.53/0.62	58/71	550/590	370/510	67.9/71.0	5.92	-20 ÷ +60	CE;
T19U230B	230 V a.c.	50/60	0.290/0.340	62/78	550/590	370/510	67.9/71.0	5.91	-20 ÷ +60	CE;
T22R115B	115 V a.c.	50/60	1.1/1.5	130/170	800/850	520/650	74.0/75.6	6.36	-20 ÷ +60	CE;
T22R230B	230 V a.c.	50/60	0.56/0.70	125/161	800/850	520/650	75.2/76.7	6.28	-20 ÷ +60	CE;
T22U115B	115 V a.c.	50/60	1.10/1.50	130/170	800/850	520/650	74.0/75.6	6.74	-20 ÷ +60	CE;
T22U230B	230 V a.c.	50/60	0.56/0.70	125/161	800/850	520/650	75.2/76.7	6.65	-20 ÷ +60	CE;

Technical specifications





General specifications

- Prevents hot spots inside the cabinet
- Mounting by 2 screws (fixing holes $\varnothing$ 6mm)
- Vertical/horizontal adjustable positioning
- Metal protection guards on both sides

IP 20

- Quick electrical connection with cage clamp terminal
- Easy adjustable positioning system

Technical data

Model	Rated Voltage	Freq.	Rated Current	Rated power	Max air flow	Static Pressure	Noise	Weight	Working Temp. Range	Approvals
	V	Hz	A	W	m ³ /h	Pa	dB(A)	Kg	°C	
OF-A12B23SWBAQ130	230 V a.c.	50/60	0.170/0.130	21/21	163/182	60/62	46.4/48.1	0.99	-10 ÷ +70	CE;

ORIENTABLE FAN

The orientable fan is designed to be mounted vertically or horizontally to eliminate hot spots and ensure distribution of air inside the enclosure.



SIMPLE POSITIONING

Adjustable in 2 axis



QUICK CONNECTION

Cage clamp free-tool wiring system



General specifications

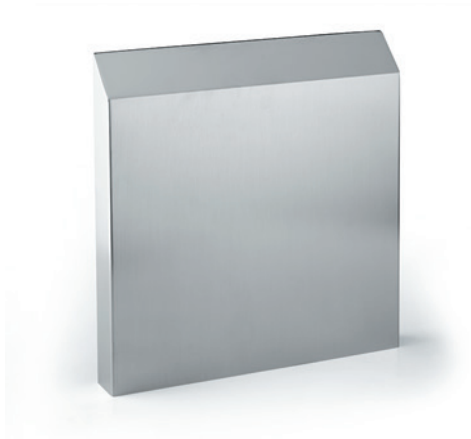
The adaptor is a plastic frame, which allows the fan filter installation in a semi built-in position in the electric cabinet, reducing the internal dimensions.

- Available for FF, FPF and GF series in 150x150mm, 204x204mm and 325x325mm sizes
- Standard color RAL 7035 and 7032 grey, other colors on request

Technical data	
Model	Description
FPFA12-7032G	FF12, FPF12, GF12
FPFA12-7035G	FF12, FPF12, GF12
FPFA12-9005G	FF12, FPF12, GF12
FPFA15-7032G	FF15, FPF15, GF15
FPFA15-7035G	FF15, FPF15, GF15
FPFA20-7011G	FF20, FPF20, GF20
FPFA20-7032G	FF20, FPF20, GF20
FPFA20-7035G	FF20, FPF20, GF20

Technical specifications

FPFA12	FPFA15	FPFA20



General specifications

The stainless steel cover is particularly suitable for outdoors applications or in the food industry. This cover protects against splashing water and solid foreign objects and it is easily washable.

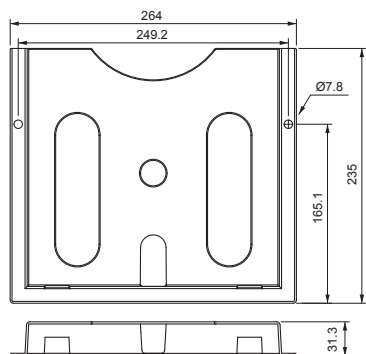
- Available for FF, FPF and GF series in all sizes
- AISI 304 stainless steel cover of 1mm with bayonet joint on support
- Stainless steel support of 0.6mm to apply between base and clips



Technical data	
Model	Description
SSC-08	FF08, FPF08
SSC-12	FF12, FPF12, GF12
SSC-13	FF13, FPF13
SSC-15	FF15, FPF15, GF15
SSC-20	FF20, FPF20, GF20

Technical specifications

SSC-08		SSC-12
SSC-13	SSC-15	SSC-20



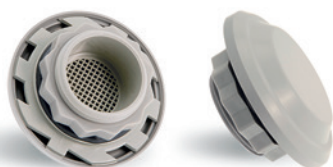
General specifications

An handy accessory for documents storage, this holder can be easily fixed on the enclosure door through a pre-arranged double side adhesive tape.

- Material: PC/ABS alloy
- Holds documents in A4 format
- Standard color RAL 7035

Technical data

Model
TPD-A4



General specifications

The pressure compensation device avoids the pressure compensation for temperature fluctuations across the seal. Air pressure changes are compensated and the ingress of dirt and water is prevented.

- Fixing system: PG29, Ø37mm
- Easy installation to any cabinet, even retrospectively
- Standard color RAL 7035



Technical data

Model
CP-U55-00



General specifications

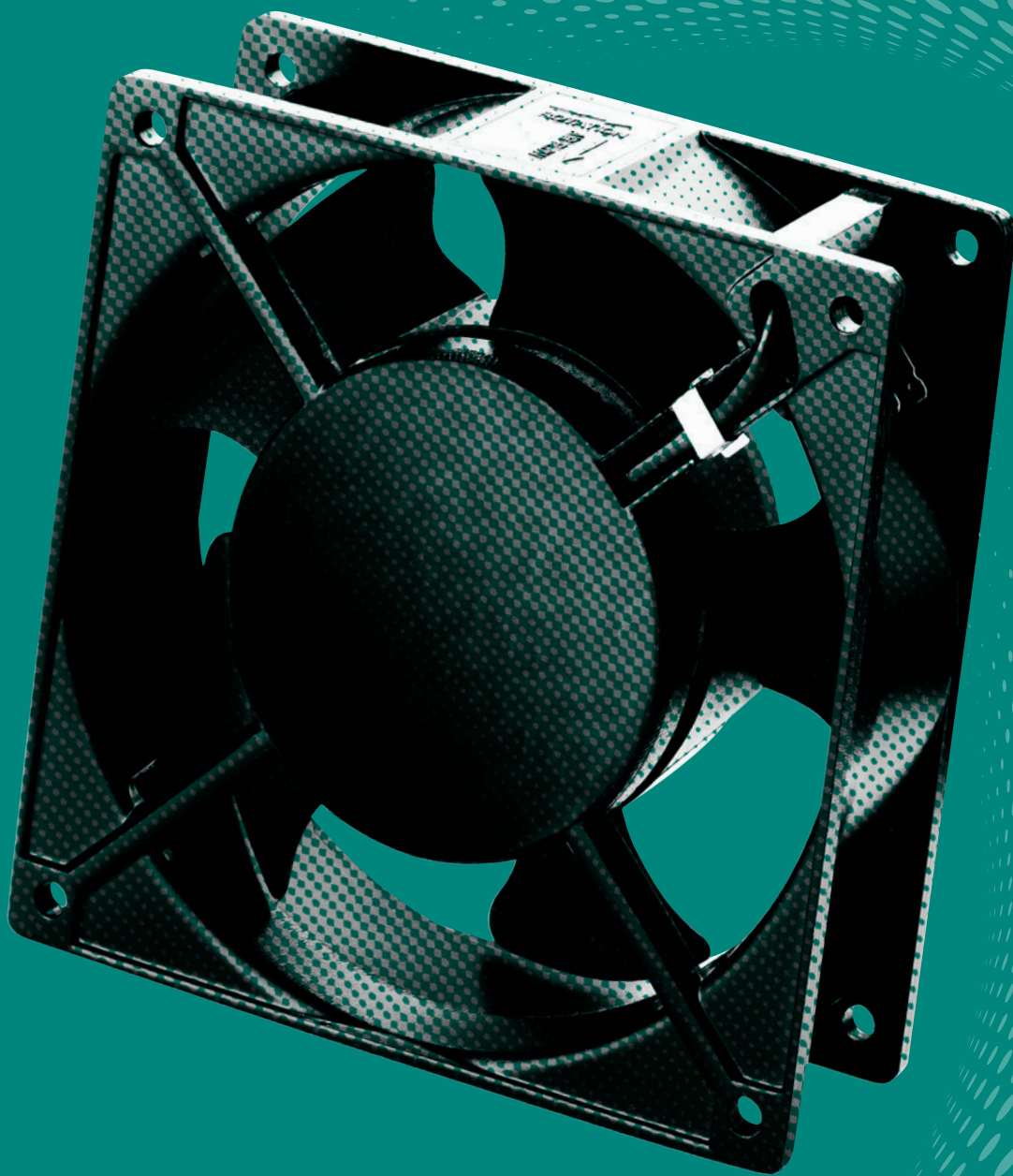
- The filter media are made of high performance nonwovens produced from elastic, break-resistant polyolefin fibers with thermal bonding.
- High arrestance throughout their entire useful lifetime, thus providing maximized operational reliability
 - The filter media can be cleaned, up to 10 times, by careful washing, blowing dry and lightly beating
 - Available for FF, FPF and GF series in all sizes
 - G4 not for FF08 and FPF08 models



► 6 pcs. kit

Technical data

Model	Description	Filtration Class
M08FPFK	FF08, FPF08	G3
M12FPF5K	FF12, FPF12	G4
M12FPFK	FF12, FPF12	G3
M12GFK	GF12	G3
M13FPF5K	FF13, FPF13	G4
M13FPFK	FF13, FPF13	G3
M15FPF5K	FF15, FPF15	G4
M15FPFK	FF15, FPF15	G3
M15GFK	GF15	G3
M20FPF5K	FF20, FPF20	G4
M20FPFK	FF20, FPF20	G3
M20GFK	GF20	G3



Air moving and spot cooling

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esmeris
frame fans

STANDARD FRAME FANS

Axial fans and blowers provide forced-air cooling solution to temperature-sensitive applications. The large airflow and low noise axial fans are designed for ventilation and spot cooling of internal machinery components, especially in areas with confined spaces. Blowers, on the other hands, produce more concentrated airflow and are suitable to work with high impedance systems. A variety of AC, DC and energy-efficiency EC fans in different sizes, air volumes and pressures satisfies each industrial requirements.



MOTOR TYPE

AC shaded pole or capacitor, or alternatively with brushless DC motor

ELECTRICAL CONNECTION

Wires or terminal

FAN DESIGN

With or without external casing

SUPPORT SYSTEM

Long life ball bearing or quiet operation sleeve bearing

ENERGY EFFICIENCY

EC green technology for high performance

DC SIGNALS

Alarm or speed sensor provided by a separate wire

Details that make the difference



Frameless version



Blower



Fan filter kit

Model numbering system for Standard Frame fans

description	A	12	B	23	H	T	B	W	00	description
MOTOR TYPE A = a.c. shaded pole motor C = a.c. capacitor run induction motor D = d.c. brushless										OPTIONS 00 = no option A = alarm output S = speed signal output I = variable speed with integrated V = variable speed with external thermistor M = digital PWM speed control T = for high temperature ambient F = motor IP55 protected H = motor IP25 protected Wnn = wires lenght out of standard Qnn = special version
CASING SIZE 01 = 15x15 mm axial fan 20 = 20x20 mm axial fan 02 = 25x25 mm axial fan 03 = 30x30 mm axial fan 35 = 35x35 mm axial fan 04 = 40x40 mm axial fan 45 = 45x45 mm axial fan 50 = 50x50 mm axial fan 06 = 60x60 mm axial fan 07 = 70x70 mm axial fan 08 = 80x80 mm axial fan 09 = 92x92 mm axial fan 12 = 120x120 mm axial fan 13 = 127x127 mm axial fan 17 = 172x150 mm axial fan 18 = ø 172 mm axial fan 22 = 218x218 mm axial fan 25 = 280x280 mm axial fan C1 = 120x120 mm blower C6 = 75x75 mm blower										DESIGN
CASING THICKNESS N = 6.5 mm E = 10 mm F = 15 mm D = 20 mm A = 25 mm G = 30-32 mm B = 38 mm standard flow R = 38 mm reverse flow C = 50-52 mm M = 55 mm S = 83 mm W = without casing, standard flow Z = without casing, reverse flow										BEARING TYPE B = shielded ball S = sleeve
										CONNECTION K = terminal block T = flat terminals 110 series (2.8x0.5 mm) W = lead wires
										SPEED E = extra low V = very low L = low M = medium H = high S = super high
										RATED VOLTAGE 01 = 5 V d.c. 12 = 115 V a.c. 04 = 12 V d.c. 23 = 230 V a.c. 05 = 24 V d.c. / V a.c. 40 = 400 V a.c. 3-phase 07 = 48 V d.c.

Model numbering system for Standard Frame fans (NEW)

description	A	12	B	23	H	T	B	A	5	0	- R	F	T	0	- Wxx	description
FAN TYPE A = axial shaded pole B = blower d.c. brushless C = axial a.c. capacitor run induction motor D = axial d.c. brushless E = axial EC fan J = blower a.c. capacitor run induction motor P = chip cooler d.c. brushless R = blower a.c.																CUSTOMIZATION Wxx = wire lenght not standard Qxx = special version
CASING SIZE 01 = 15x15 mm 75 = 75x75 mm 20 = 20x20 mm 08 = 80x80 mm 02 = 25x25 mm 09 = 92x92 mm 03 = 30x30 mm 97 = 97x97 or 97x94 mm (blower) 35 = 35x35 mm 12 = 120x120 mm 04 = 40x40 mm 13 = 127x127 mm 45 = 45x45 mm 17 = 172x150 mm 50 = 50x50 mm 18 = ø 172 mm 06 = 60x60 mm 22 = 218x218 mm 07 = 70x70 mm 25 = 280x280 mm																FREE PROGRESSIVE DIGIT () = standard 0-9 = progressive
CASING THICKNESS N = 6.5 mm G = 30-32 mm E = 10 mm B = 38 mm F = 15 mm C = 50-52 mm D = 20 mm M = 55 mm A = 25 mm S = 83 mm J = 28 mm																HIGH TEMPERATURE () = standard temperature T = high temperature
RATED VOLTAGE 01 = 5 V d.c. 12 = 115 V a.c. 04 = 12 V d.c. 23 = 230 V a.c. 05 = 24 V d.c. / V a.c. 30 = 115-230 V a.c. 07 = 48 V d.c. 40 = 400 V a.c. 3-phase																IP PROTECTION () = IP20 F = IP55 coated P = IP55 parylene G = IP58
SPEED E = extra low V = very low L = low M = medium H = high S = super high U = ultra high I = hyper high																AIR FLOW DIRECTION () = standard flow with casing R = reverse flow with casing W = standard flow without casing Z = reverse flow without casing
CONNECTION K = terminal block T = flat terminal W = wires																OPTIONS 0 = by impedance 1 = by IC 2 = by IC with alarm (RD) 3 = by IC with speed sensor (FG) 4 = by IC variable speed sensor (VS) 6 = by transistor with speed sensor (FG) 7 = two speed 8 = VS + FG 9 = PWM control A = VS + RD B = PWM + FG C = RD + FG D = thermally protected F = PWM + RD
BEARING TYPE B = ball S = sleeve																BLADES NUMBER 5 = 5 C = 15 7 = 7 D = 17 9 = 9 E = 19 A = 11 F = 21 B = 13 0 = blower blade shape
																DESIGN

PRODUCTS OVERVIEW						
Model	Dimensions	Voltage	Rated Power	Air Flow	Noise	Page
	mm	V	W	m³/h	dB(A)	
AC AXIAL FANS						
A06GF	60x60x30	115/230 Va.c.	4 ÷ 5	14 ÷ 17	27 ÷ 28	92
A08AF	80x80x25	115/230 Va.c.	11 ÷ 16	36 ÷ 41	32 ÷ 35	93
A08BF	80x80x38	115/230 Va.c.	9 ÷ 14	33 ÷ 41	28 ÷ 36	94
A09AF	92x92x25	115/230 Va.c.	11 ÷ 16	39 ÷ 68	28 ÷ 36	95
A12AF	120x120x25	115/230 Va.c.	11 ÷ 16	87 ÷ 117	33 ÷ 42	96
A12BW	120x120x38	24/115/230 Va.c.	6 ÷ 24	83 ÷ 199	28 ÷ 50	97
A12RW	120x120x38	230 Va.c.	19 ÷ 20	150 ÷ 167	48 ÷ 54	99
A12ZWW	ø 113x38	115/230V a.c.	18 ÷ 22	148 ÷ 182	43 ÷ 50	100
A13BF	127x127x38	115/230V a.c.	15 ÷ 17	178 ÷ 204	46 ÷ 50	101
A17CF	172x150x51	115/230V a.c.	28 ÷ 35	290 ÷ 331	50 ÷ 55	102
C17BF	172x150x38	115/230V a.c.	26 ÷ 29	300 ÷ 360	54 ÷ 58	103
C17CF	172x150x51	115/230V a.c.	29 ÷ 31	348 ÷ 384	53 ÷ 58	104
C18CF	ø 172x51	115/230V a.c.	29 ÷ 31	348 ÷ 384	50 ÷ 55	105
C22SD	218x218x83	115/230V/400 Va.c.	78 ÷ 174	855 ÷ 970	61 ÷ 67	106
C22SU	218x218x83	115/230V a.c.	68 ÷ 85	800 ÷ 937	35 ÷ 68	107
C25SE	280x280x80	115/230/400 V a.c.	86 ÷ 138	1540 ÷ 1920	65 ÷ 79	108
C25SU	280x280x80	115/230V a.c.	130 ÷ 170	1450 ÷ 1835	68 ÷ 79	110
A12BA Q109	120x120x38	230 Va.c.	13 ÷ 14	110 ÷ 115	40 ÷ 41	111
EC FANS						
E08BL	80x80x38	115/230V a.c.	5 ÷ 5	64 ÷ 73	35 ÷ 39	112
E12BL	120x120x38	230 Va.c.	2.5 ÷ 6	132 ÷ 206	34 ÷ 47	112
DC AXIAL FANS						
D20EA	20x20x10	5/12 Vd.c.	0.4 ÷ 0.8	1 ÷ 1.4	15 ÷ 26	113
D02EZ	25x25x10	5/12 Vd.c.	0.5 ÷ 1	3.6 ÷ 4.3	23 ÷ 29	114
D03EA	30x30x10	5/12 Vd.c.	0.6 ÷ 0.7	5 ÷ 6.4	20 ÷ 28	115
D04ET	40x40x10	5/12/24 Vd.c.	1 ÷ 2.2	8.5 ÷ 11	22 ÷ 26	116
D04FA	40x40x15	12 Vd.c.	1 ÷ 1.4	11 ÷ 15	27 ÷ 39	117
D04DZ	40x40x20	24 Vd.c.	2.2 ÷ 2.2	15 ÷ 15	36 ÷ 36	118
D45EA	45x45x10	5/12 Vd.c.	0.2 ÷ 1	12 ÷ 15	22 ÷ 27	119
D50EA	50x50x10	12 Vd.c.	1.2 ÷ 1.4	10 ÷ 15	20 ÷ 24	120
D50FA	50x50x15	12 Vd.c.	1 ÷ 2.4	19 ÷ 29	25 ÷ 34	121
D06ET	60x60x10	5/12 Vd.c.	0.8 ÷ 1.8	20 ÷ 24	29 ÷ 33	122
D06FA	60x60x15	5/12/24 Vd.c.	1.3 ÷ 2.2	24 ÷ 27	31 ÷ 35	123
D06DA	60x60x20	12/24 Vd.c.	1 ÷ 1.9	21 ÷ 28	24 ÷ 31	124
D06AA	60x60x25	12/24 Vd.c.	1 ÷ 4.2	22 ÷ 50	18 ÷ 40	125
D07AA	70x70x25	12/24 Vd.c.	1.9 ÷ 3.1	55 ÷ 61	32 ÷ 36	126
D08FA	80x80x15	5/12/24 Vd.c.	0.4 ÷ 3.1	37 ÷ 51	26 ÷ 31	127
D08DA	80x80x20	12/24 Vd.c.	1.9 ÷ 3.6	40 ÷ 49	27 ÷ 35	128
D08AA	80x80x25	24/48 Vd.c.	2.2 ÷ 6.2	40 ÷ 89	23 ÷ 41	129
D09DA	92x92x20	12/24 Vd.c.	1.9 ÷ 3.4	49 ÷ 56	29 ÷ 33	130
D09AZ	92x92x25	12/24 Vd.c.	1.1 ÷ 5	51 ÷ 105	19 ÷ 42	131
D09BZ	92x92x38	24 Vd.c.	13.2 ÷ 13.2	185 ÷ 185	53 ÷ 53	132

PRODUCTS OVERVIEW						
Model	Dimensions	Voltage	Rated Power	Air Flow	Noise	Page
	mm	V	W	m³/h	dB(A)	
D12AZ	120x120x25	12/24/48 Vd.c.	2.9 ÷ 6	122 ÷ 168	34 ÷ 43	133
D12GA	120x120x32	24 Vd.c.	6 ÷ 6	190 ÷ 190	43 ÷ 43	134
D12BA9	120x120x38	24 Vd.c.	7 ÷ 24	220 ÷ 340	49 ÷ 61	135
D17CA	172x150x51	24/48 Vd.c.	24 ÷ 24	450 ÷ 450	59 ÷ 60	136
DC6GA	75x75x30	12/24 Vd.c.	2.4 ÷ 3.6	13 ÷ 18	35 ÷ 39	137
DC1GA	120x120x31	24 Vd.c.	9.4 ÷ 9.4	48 ÷ 48	49 ÷ 49	138
SPECIAL FANS						
A06 IP55	60x60x30	230 Va.c.	4 ÷ 5	14 ÷ 17	27 ÷ 28	142
A08 IP55	80x80x38	115/230 Va.c.	12 ÷ 14	41 ÷ 51	32 ÷ 36	142
A09 IP55	92x92x25	230 Va.c.	14 ÷ 16	56 ÷ 68	32 ÷ 36	142
A12 IP55	120x120x38	115/230 Va.c.	5.5 ÷ 20	78 ÷ 182	27 ÷ 49	142
A12W/Z IP55	ø113x38	230 Va.c.	18 ÷ 22	140 ÷ 200	42 ÷ 50	142
A17 IP55	172x150x55	115/230 Va.c.	42 ÷ 42	332 ÷ 391	49 ÷ 53	142
E12BL IP55	120x120x38	230 Va.c.	6 ÷ 7	190 ÷ 200	45 ÷ 47	143
D04D IP55	40x40x20	24 Vd.c.	2.2 ÷ 2.2	15 ÷ 15	36 ÷ 36	144
D04E IP55	40x40x10	24 Vd.c.	1.9 ÷ 1.9	8.5 ÷ 8.5	22 ÷ 22	144
D06 IP55	60x60x25	12/24 Vd.c.	0.96 ÷ 3.8	24 ÷ 36	18 ÷ 38	144
D07 IP55	70x70x25	12 Vd.c.	2.3 ÷ 2.3	61 ÷ 61	36 ÷ 36	144
D08 IP55	80x80x25	12/24 Vd.c.	1.4 ÷ 6.2	44 ÷ 87	23 ÷ 41	144
D09 IP55	92x92x25	24 Vd.c.	3.6 ÷ 3.6	95 ÷ 95	38 ÷ 38	144
D12A IP55	120x120x25	24 Vd.c.	4.6 ÷ 4.6	150 ÷ 150	39 ÷ 39	144
D12B IP55	120x120x38	12/24/48 Vd.c.	6 ÷ 9.6	179 ÷ 179	47 ÷ 47	144
A09BM	92x92x38	115/230 Va.c.	11 ÷ 12	75 ÷ 87	37 ÷ 42	145
A12BM	120x120x38	115/230 Va.c.	15 ÷ 17	107 ÷ 175	33 ÷ 46	145
A17MM	172x150x55	115/230 Va.c.	42 ÷ 42	332 ÷ 391	49 ÷ 53	145
A17TM	172x150x55	115/230 Va.c.	45 ÷ 45	383 ÷ 434	58 ÷ 61	145
A09BMT	92x92x38	115/230 Va.c.	11 ÷ 12	75 ÷ 87	37 ÷ 42	146
A12BMT	120x120x38	115/230 Va.c.	15 ÷ 17	110 ÷ 175	33 ÷ 46	146
A17MMT	172x150x55	115/230 Va.c.	42 ÷ 42	332 ÷ 391	49 ÷ 53	146
A17TMT	172x150x55	115/230 Va.c.	45 ÷ 45	383 ÷ 434	58 ÷ 61	146



General specifications

- Casing in black die cast aluminum alloy
- Impeller in fibreglass reinforced PBT PC
- Shaded pole motor
- Impedance protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507

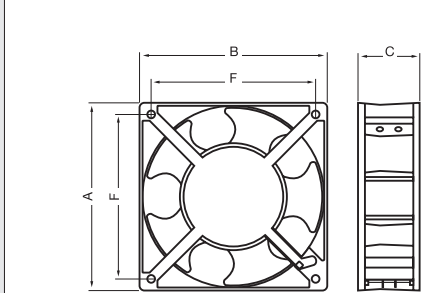


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
A06G12HWBF00	60x60x30	50	Ball	115 V a.c.	50/60	5.0/4.0	14/17	18/27	27.0/28.0	2,200/2,800	CE; cURus;
A06G23HWBF00	60x60x30	50	Ball	230 V a.c.	50/60	5.0/4.0	14/17	17/27	27.0/28.0	2,400/3,000	CE; cURus;

Technical specifications

Technical drawing



General specifications



- Casing in black die cast aluminum alloy
- Impeller in fibreglass reinforced PBT PC
- Shaded pole motor
- Impedance protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507

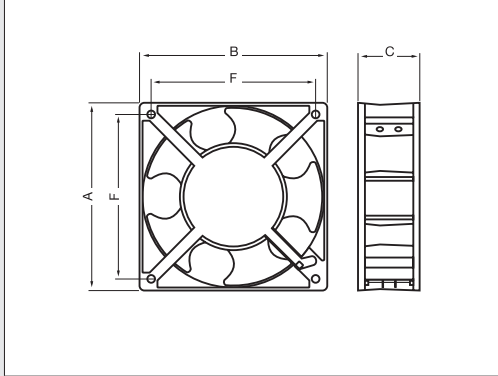


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
A08A12HWBF00	80x80x25	71.5	Ball	115 V a.c.	50/60	14/11	36/41	40/55	32.0/35.0	2,600/3,100	CE; cURus;
A08A12HWSF00	80x80x25	71.5	Sleeve	115 V a.c.	50/60	14/11	36/41	40/55	32.0/35.0	2,600/3,100	CE; cURus;
A08A23HWBF00	80x80x25	71.5	Ball	230 V a.c.	50/60	16/14	36/41	40/55	32.0/35.0	2,600/3,100	CE; UR;
A08A23HWSF00	80x80x25	71.5	Sleeve	230 V a.c.	50/60	16/14	36/41	40/55	32.0/35.0	2,600/3,100	CE; UR;

Technical specifications

Technical drawing





General specifications

- Casing in black die cast aluminum alloy
- Impeller in fibreglass reinforced PBT PC
- Shaded pole motor
- Impedance protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507

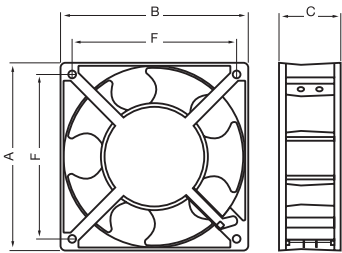


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
A08B12HWBF00	80x80x38	71.5	Ball	115 V a.c.	50/60	14/12	41/51	40/55	32.0/36.0	2,500/3,000	CE; cURus;
A08B12HWSF00	80x80x38	71.5	Sleeve	115 V a.c.	50/60	14/12	41/51	40/55	32.0/36.0	2,500/3,000	CE; cURus;
A08B12LWBF00	80x80x38	71.5	Ball	115 V a.c.	50/60	12/9.0	33/42	25/40	28.0/32.0	1,900/2,400	CE; cURus;
A08B12LWSF00	80x80x38	71.5	Sleeve	115 V a.c.	50/60	12/9.0	33/42	25/40	28.0/32.0	1,900/2,400	CE; cURus;
A08B23HWBF00	80x80x38	71.5	Ball	230 V a.c.	50/60	14/12	41/51	40/55	32.0/36.0	2,500/3,000	CE; UR;
A08B23HWSF00	80x80x38	71.5	Sleeve	230 V a.c.	50/60	14/12	41/51	40/55	32.0/36.0	2,500/3,000	CE; UR;
A08B23LWBF00	80x80x38	71.5	Ball	230 V a.c.	50/60	14/12	33/42	25/40	28.0/32.0	1,900/2,400	CE; UR;
A08B23LWSF00	80x80x38	71.5	Sleeve	230 V a.c.	50/60	14/12	33/42	25/40	28.0/32.0	1,900/2,400	CE; UR;

Technical specifications

Technical drawing



General specifications



- Casing in black die cast aluminum alloy
- Impeller in fibreglass reinforced PBT PC
- Shaded pole motor
- Impedance protected motor
- Electrical connection: flat terminals
- UL approval according to UL 507

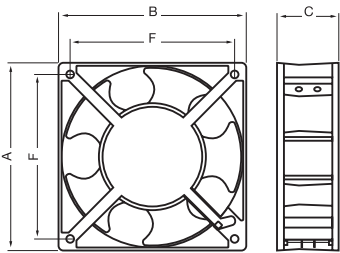


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
A09A12HTBF00	92x92x25	82.5	Ball	115 V a.c.	50/60	14/11	56/68	37/54	32.0/36.0	2,500/3,000	CE; cURus;
A09A12HTSF00	92x92x25	82.5	Sleeve	115 V a.c.	50/60	14/11	56/68	37/54	32.0/36.0	2,500/3,000	CE; cURus;
A09A23HTBF00	92x92x25	82.5	Ball	230 V a.c.	50/60	16/14	56/68	37/54	32.0/36.0	2,500/3,000	CE; UR;
A09A23HTSF00	92x92x25	82.5	Sleeve	230 V a.c.	50/60	16/14	56/68	37/54	32.0/36.0	2,500/3,000	CE; UR;
A09A23LTBF00	92x92x25	82.5	Ball	230 V a.c.	50/60	16/14	39/53	17/32	28.0/32.0	1,800/2,300	CE;
A09A23LTSF00	92x92x25	82.5	Sleeve	230 V a.c.	50/60	16/14	39/53	17/32	28.0/32.0	1,800/2,300	CE; cURus;
A09A23MTBF00	92x92x25	82.5	Ball	230 V a.c.	50/60	16/14	51/63	30/45	28.0/32.0	2,200/2,750	CE; UR;
A09A23MTSF00	92x92x25	82.5	Sleeve	230 V a.c.	50/60	16/14	51/63	30/45	28.0/32.0	2,200/2,750	CE; UR;

Technical specifications

Technical drawing



A12AF
120x120x25mm

Standard fans - Costech
AC axial fans



General specifications

- Casing in black die cast aluminum alloy
- Impeller in fibreglass reinforced PBT PC
- Shaded pole motor
- Impedance protected motor
- Electrical connection: flat terminals
- UL approval according to UL 507

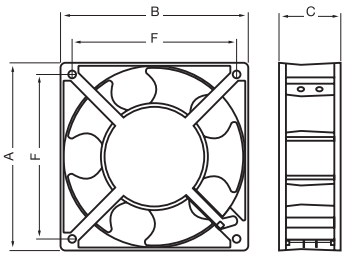


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
A12A12HTBF00	120x120x25	104.8	Ball	115 V a.c.	50/60	14/11	99/117	42/40	38.0/42.0	2,400/2,900	CE; cURus;
A12A12HTSF00	120x120x25	104.8	Sleeve	115 V a.c.	50/60	14/11	99/117	42/40	38.0/42.0	2,400/2,900	CE; cURus;
A12A12MTBF00	120x120x25	104.8	Ball	115 V a.c.	50/60	14/11	87/105	27/32	33.0/35.0	2,050/2,500	CE; cURus;
A12A12MTSF00	120x120x25	104.8	Sleeve	115 V a.c.	50/60	14/11	87/105	27/32	33.0/35.0	2,050/2,500	CE; cURus;
A12A23HTBF00	120x120x25	104.8	Ball	230 V a.c.	50/60	16/14	109/127	52/52	38.0/42.0	2,400/2,900	CE; UR;
A12A23HTSF00	120x120x25	104.8	Sleeve	230 V a.c.	50/60	16/14	109/127	52/52	38.0/42.0	2,400/2,900	CE; UR;
A12A23MTBF00	120x120x25	104.8	Ball	230 V a.c.	50/60	16/14	87/102	27/32	34.0/36.0	2,000/2,400	CE; UR;
A12A23MTSF00	120x120x25	104.8	Sleeve	230 V a.c.	50/60	16/14	87/102	27/32	34.0/36.0	2,000/2,400	CE; UR;

Technical specifications

Technical drawing





General specifications

- Casing in black die cast aluminum alloy
- Impeller in fibreglass reinforced PBT PC
- Shaded pole motor
- Impedance protected motor
- Electrical connection: flat terminals
- UL approval according to UL 507
- VDE Reg. No. A634

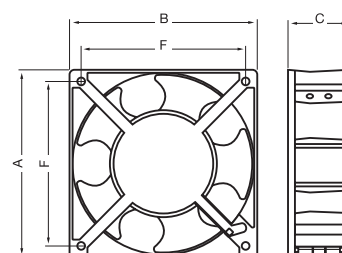


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
A12B05HTBW00	120x120x38	104.8	Ball	24 V a.c.	50/60	14/14	154/165	62/77	46.0/49.0	2,650/2,850	CE;
A12B05HTSW00	120x120x38	104.8	Sleeve	24 V a.c.	50/60	13.2/13.2	147/142	55/50	46.0/45.0	2,530/2,430	CE;
A12B12HTBW00	120x120x38	104.8	Ball	115 V a.c.	50/60	20/18	136/168	57/80	46.0/49.0	2,750/3,050	CE; cURus; VDE;
A12B12HTSW00	120x120x38	104.8	Sleeve	115 V a.c.	50/60	20/18	136/168	57/80	46.0/49.0	2,750/3,050	CE; cURus; VDE;
A12B12LTBW00	120x120x38	104.8	Ball	115 V a.c.	50/60	11/11	122/113	25/22	42.0/40.0	2,300/2,100	CE; cURus; VDE;
A12B12LTSW00	120x120x38	104.8	Sleeve	115 V a.c.	50/60	11/11	122/113	25/22	42.0/40.0	2,300/2,100	CE; cURus; VDE;
A12B12MTBW00	120x120x38	104.8	Ball	115 V a.c.	50/60	16/15	136/143	52/62	44.0/46.0	2,500/2,700	CE; cURus; VDE;
A12B12MTSW00	120x120x38	104.8	Sleeve	115 V a.c.	50/60	16/15	126/133	52/62	44.0/46.0	2,500/2,700	CE; cURus; VDE;
A12B12STBW00	120x120x38	104.8	Ball	115 V a.c.	50/60	22/20	161/195	82/95	45.0/50.0	2,700/3,100	CE; cURus; VDE;
A12B12STSW00	120x120x38	104.8	Sleeve	115 V a.c.	50/60	22/23.8	161/195	82/95	45.0/50.0	2,700/3,100	CE; cURus; VDE;
A12B23ETSW00	120x120x38	104.8	Sleeve	230 V a.c.	50/60	6.5/6.0	85/83	19/16	29.0/28.0	1,500/1,450	CE; VDE;
A12B23HTBW00	120x120x38	104.8	Ball	230 V a.c.	50/60	20/19	148/182	65/80	46.0/49.0	2,750/3,050	CE; cURus; VDE;
A12B23HTSW00	120x120x38	104.8	Sleeve	230 V a.c.	50/60	20/19	148/182	65/80	46.0/49.0	2,750/3,050	CE; cURus; VDE;
A12B23LTBW00	120x120x38	104.8	Ball	230 V a.c.	50/60	11/10	114/102	27/22	43.0/42.0	2,200/1,800	CE; cURus; VDE;
A12B23LTSW00	120x120x38	104.8	Sleeve	230 V a.c.	50/60	11/10	114/102	27/22	43.0/42.0	2,200/1,800	CE; cURus; VDE;
A12B23MTBW00	120x120x38	104.8	Ball	230 V a.c.	50/60	16/15	133/143	35/52	43.0/45.0	2,400/2,600	CE; cURus; VDE;
A12B23MTSW00	120x120x38	104.8	Sleeve	230 V a.c.	50/60	16/15	133/143	35/52	43.0/45.0	2,400/2,600	CE; cURus; VDE;
A12B23STBW00	120x120x38	104.8	Ball	230 V a.c.	50/60	22/21	143/199	62/97	48.0/50.0	2,700/3,100	CE; cURus; VDE;
A12B23STSW00	120x120x38	104.8	Sleeve	230 V a.c.	50/60	22/21	143/199	62/97	48.0/50.0	2,700/3,100	CE; cURus; VDE;
A12B23VTBW00	120x120x38	104.8	Ball	230 V a.c.	50/60	10/10	98/105	28/28	34.0/35.0	1,800/1,900	CE; VDE;

Technical specifications

Technical drawing





General specifications

- Casing in black die cast aluminum alloy
- Impeller in fibreglass reinforced PBT PC
- Shaded pole motor
- Impedance protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507
- VDE Reg. No. A634

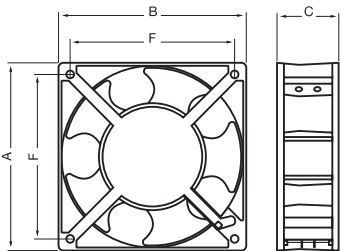


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
A12B12HBBW00	120x120x38	104.8	Ball	115 V a.c.	50/60	20/18	136/168	57/80	46.0/49.0	2,750/3,050	CE; cURus; VDE;
A12B23HBBW00	120x120x38	104.8	Ball	230 V a.c.	50/60	20/19	148/182	65/80	46.0/49.0	2,750/3,050	CE; cURus; VDE;
A12B23HBSW00	120x120x38	104.8	Sleeve	230 V a.c.	50/60	20/19	148/182	65/80	46.0/49.0	2,750/3,050	CE; cURus; VDE;
A12B23LBBW00	120x120x38	104.8	Ball	230 V a.c.	50/60	11/10	114/102	27/22	43.0/42.0	2,200/1,800	CE; cURus; VDE;
A12B23LBSW00	120x120x38	104.8	Sleeve	230 V a.c.	50/60	11/10	116/104	36/20	41.0/38.0	2,200/1,800	CE; cURus; VDE;
A12B23MBSW00	120x120x38	104.8	Ball	230 V a.c.	50/60	16/15	133/143	35/52	43.0/45.0	2,400/2,600	CE; cURus; VDE;
A12B23SBSW00	120x120x38	104.8	Ball	230 V a.c.	50/60	22/21	143/199	62/97	48.0/50.0	2,700/3,100	CE; cURus; VDE;

Technical specifications

Technical drawing





General specifications

- Casing in black die cast aluminum alloy
- Impeller in fibreglass reinforced PBT PC
- Shaded pole motor
- Impedance protected motor
- Electrical connection: flat terminals
- UL approval according to UL 507
- VDE Reg. No. A634

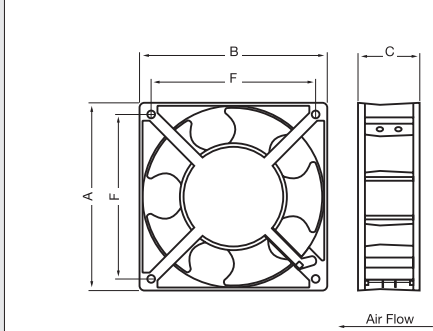


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
A12R23HTBW00	120x120x38	104.8	Ball	230 V a.c.	50/60	20/19	150/167	66/81	48.0/54.0	2,650/3,050	CE; cURus; VDE;
A12R23HTSW00	120x120x38	104.8	Sleeve	230 V a.c.	50/60	20/19	150/167	66/81	48.0/54.0	2,650/3,050	CE; cURus; VDE;

Technical specifications

Technical drawing



General specifications



- Impeller in fibreglass reinforced PBT PC and housing cover in black die cast aluminum alloy
- Shaded pole motor
- Impedance protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507

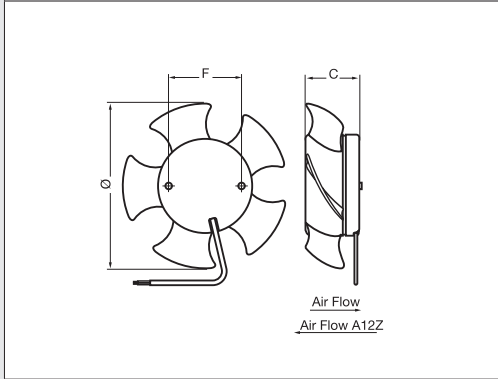


Technical data

Model	Dimensions Ø x C	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
A12W12HWW00	113x38	45.5	Ball	115 V a.c.	50/60	20/18	150/167	66/81	43.0/48.0	2,650/2,950	CE; cURus;
A12W23HWW00	113x38	45.5	Ball	230 V a.c.	50/60	20/19	148/182	65/80	46.0/49.0	2,550/2,900	CE; cURus;
A12W23SWBW00	113x38	45.5	Ball	230 V a.c.	50/60	22/21	165/200	67/94	48.0/50.0	2,700/3,100	CE;
A12Z12HWW00	113x38	45.5	Ball	115 V a.c.	50/60	19/18	150/167	66/81	43.0/48.0	2,650/2,950	CE;
A12Z12HWSW00	113x38	45.5	Sleeve	115 V a.c.	50/60	19/18	150/167	66/81	43.0/48.0	2,650/2,950	CE;
A12Z23HWW00	113x38	45.5	Ball	230 V a.c.	50/60	18/18	148/182	65/80	46.0/49.0	2,550/2,900	CE;
A12Z23HWSW00	113x38	45.5	Sleeve	230 V a.c.	50/60	18/18	148/182	65/80	46.0/49.0	2,550/2,900	CE;

Technical specifications

Technical drawing





General specifications

- Casing in black die cast aluminum alloy
- Impeller in fibreglass reinforced PBT PC
- Shaded pole motor
- Impedance protected motor
- Electrical connection: flat terminals
- UL approval according to UL 507

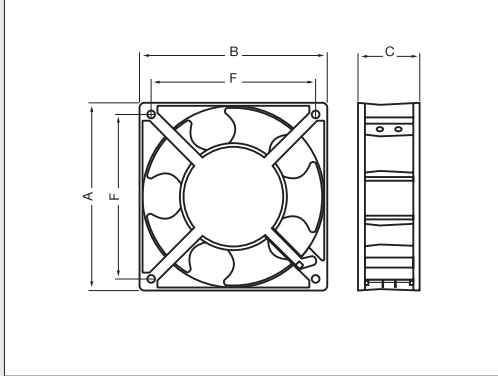


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
A13B12HTBF00	127x127x38	113.5	Ball	115 V a.c.	50/60	17/15	174/204	72/28	46.0/50.0	2,700/3,000	CE; cURus;
A13B23HTBF00	127x127x38	113.5	Ball	230 V a.c.	50/60	17/15	174/204	72/28	46.0/50.0	2,700/3,000	CE; cURus;

Technical specifications

Technical drawing





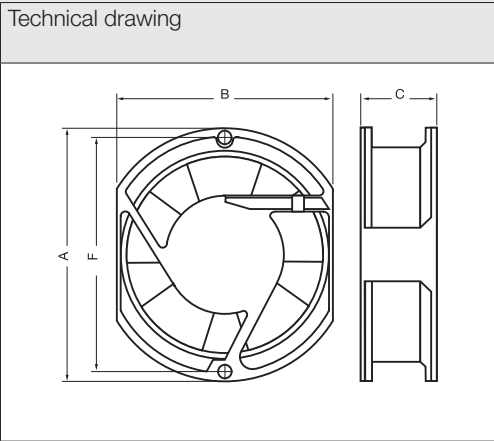
General specifications

- Casing in black die cast aluminum alloy
- Impeller in fibreglass reinforced PBT PC
- Shaded pole motor
- Thermally protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507



Technical data											
Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
A17C12HWBF00	172x150x51	162	Ball	115 V a.c.	50/60	32/28	290/331	105/95	50.0/55.0	2,750/3,100	CE; cURus;
A17C23HWBF00	172x150x51	162	Ball	230 V a.c.	50/60	35/30	290/331	105/95	50.0/55.0	2,750/3,100	CE; cURus;

Technical specifications





General specifications

- Casing in black die cast aluminum alloy
- Impeller in fibreglass reinforced PBT PC
- Shaded pole motor
- Thermally protected motor
- Electrical connection: flat terminals
- UL approval according to UL 507

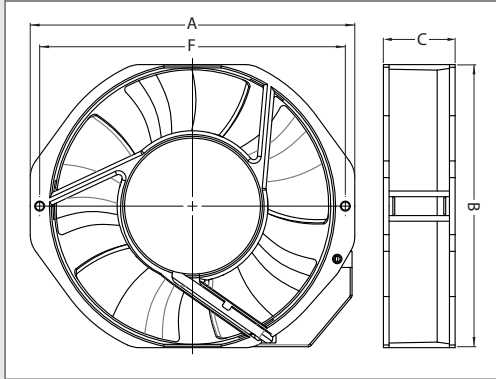


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
C17B12HTBF00	172x150x38	162	Ball	115 V a.c.	50/60	29/28	300/360	167/187	54.0/58.0	2,850/3,400	CE; cURus;
C17B23HTBF00	172x150x38	162	Ball	230 V a.c.	50/60	27/26	300/360	167/187	54.0/58.0	2,850/3,400	CE; cURus;

Technical specifications

Technical drawing



C17CF
172x150x51mm

Standard fans - Costech
AC axial fans



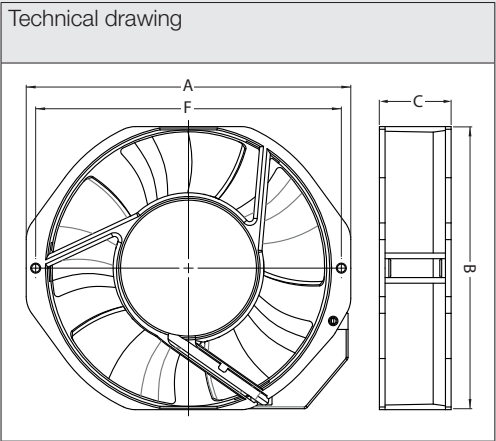
General specifications

- Casing in black die cast aluminum alloy
- Impeller in fibreglass reinforced PBT PC
- Shaded pole motor
- Thermally protected motor
- Electrical connection: flat terminals
- UL approval according to UL 507



Technical data											
Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
C17C12HTBF00	172x150x51	162	Ball	115 V a.c.	50/60	31/31	348/384	157/197	53.0/58.0	2,850/3,400	CE; cURus;
C17C23HTBF00	172x150x51	162	Ball	230 V a.c.	50/60	29/29	348/384	157/197	53.0/58.0	2,850/3,400	CE; cURus;

Technical specifications





General specifications

- Casing in black die cast aluminum alloy
- Impeller in fibreglass reinforced PBT PC
- Shaded pole motor
- Thermally protected motor
- Electrical connection: flat terminals
- UL approval according to UL 507

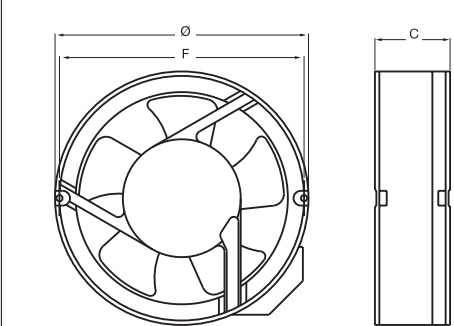


Technical data

Model	Dimensions Ø x C	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
C18C12HTBF00	172x51	162	Ball	115 V a.c.	50/60	31/31	348/384	157/197	50.0/55.0	2,850/3,400	CE; cURus;
C18C23HTBF00	172x51	162	Ball	230 V a.c.	50/60	29/29	348/384	157/197	50.0/55.0	2,850/3,400	CE; cURus;

Technical specifications

Technical drawing





General specifications

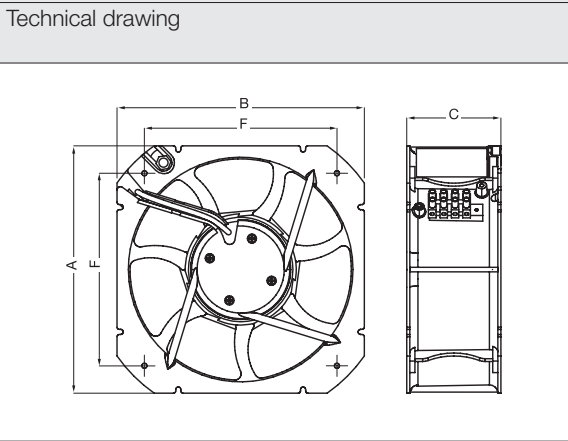
- Casing in die cast aluminum alloy
- Impeller in fibreglass reinforced PA 6/6
- External rotor fan
- Thermally protected motor
- Electrical connection: 4-poles terminal block



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
C22S12HKBD00	218x218x83	170	Ball	115 V a.c.	50/60	79/96	855/930	190/201	64.6/67.4	2,490/2,760	CE;
C22S23HKBD00	218x218x83	170	Ball	230 V a.c.	50/60	78/94	855/930	197/211	65.0/68.0	2,490/2,750	CE;
C22S40HKBD00	218x218x83	170	Ball	400 V a.c.	50	174	970	265	61.0	2,770	CE;

Technical specifications





General specifications

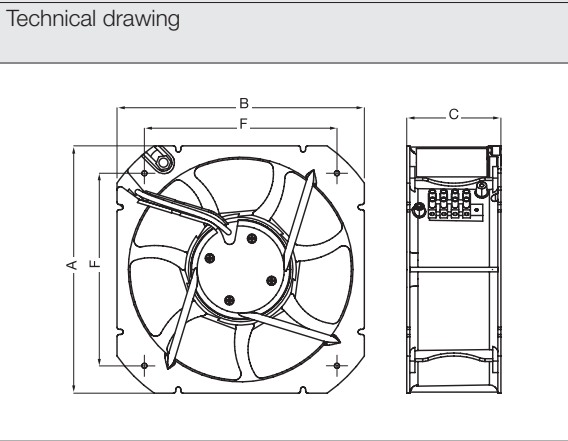
- Casing in die cast aluminum alloy
- Impeller in fibreglass reinforced PA 6/6
- External rotor fan
- Thermally protected motor
- Electrical connection: 4-poles terminal block
- UL approval according to UL 507



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
C22S12HKBU00	218x218x83	170	Ball	115 V a.c.	50/60	68/70	800/895	163/175	64.6/67.4	2,193/2,377	CE; cURus;
C22S23HKBU00	218x218x83	170	Ball	230 V a.c.	50/60	70/85	837/937	173/192	65.0/68.0	2,232/2,461	CE; cURus;

Technical specifications





General specifications

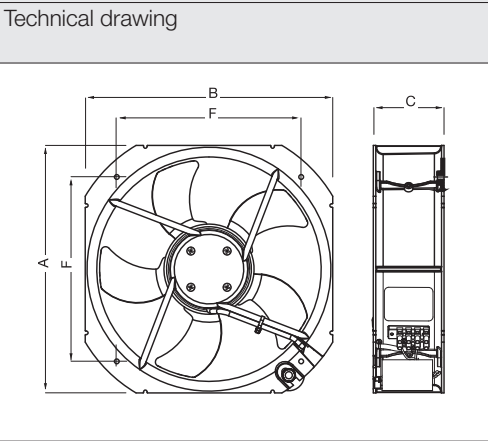
- Casing in die cast aluminum alloy
- Impeller in black painted steel
- External rotor fan
- Thermally protected motor
- Electrical connection: 4-poles terminal block



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
C25S12HKBE00	280x280x80	208.6	Ball	115 V a.c.	50/60	107/138	1,680/1,920	299/270	64.6/67.4	2,730/3,170	CE;
C25S23HKBE00	280x280x80	208.6	Ball	230 V a.c.	50/60	101/127	1,630/1,865	280/280	67.0/70.0	2,735/3,150	CE;
C25S40HKBE00	280x280x80	208.6	Ball	400 V 3 ~	50/60	86/117	1,540/1,680	280/275	67.0/69.0	2,635/2,840	CE;

Technical specifications





General specifications

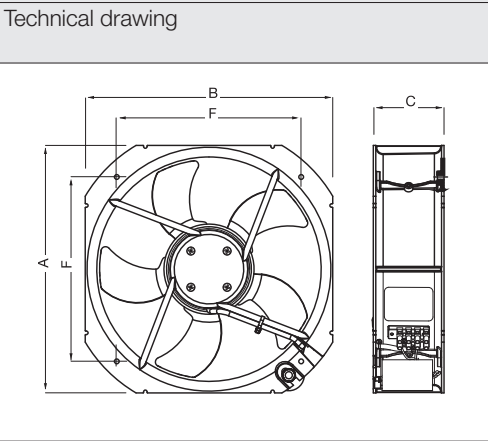
- Casing in die cast aluminum alloy
- Impeller in black painted steel
- External rotor fan
- Thermally protected motor
- Electrical connection: 4-poles terminal block



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
C25S23HKBE01	280x280x80	208.6	Ball	230 V a.c.	50/60	104/135	1,660/1,835	250/220	67.8/72.0	2,725/3,105	CE;

Technical specifications





General specifications

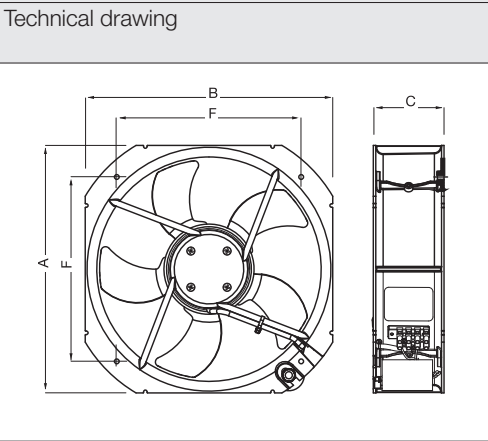
- Casing in die cast aluminum alloy
- Impeller in black painted steel
- External rotor fan
- Thermally protected motor
- Electrical connection: 4-poles terminal block
- UL approval according to UL 507



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
C25S12HKBU00	280x280x80	208.6	Ball	115 V a.c.	50/60	150/170	1,450/1,680	255/240	67.8/72.0	2,675/3,040	CE; cURus;
C25S23HKBU00	280x280x80	208.6	Ball	230 V a.c.	50/60	130/150	1,660/1,835	250/220	67.8/72.0	2,725/3,105	CE; cURus;

Technical specifications





General specifications

- Fan filter kit composed by metal fan guard, a.c. fan, mounting frame, fiberglass net, cover and hardware
- Casing in die cast aluminum alloy
- Impeller in black fiberglass reinforced PBT
- Shaded pole motor
- Impedance protected motor
- Electrical connection: flat terminals

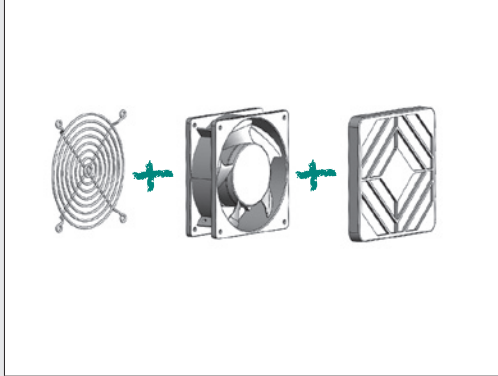


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
A12B23MTBAQ109	120x120x38	104.8	Ball	230 V a.c.	50/60	14/13	110/115	56/44	40.0/41.0	2,460/2,530	CE;

Technical specifications

Technical drawing





General specifications

- Casing and impeller in black thermoplastic
- Brushless motor
- Impedance protected motor
- Electrical connection: 2 leads

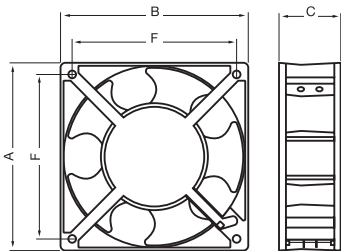


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
E08B12HWBL00	80x80x38	71.5	Ball	115 V a.c.	50/60	5.0/5.0	64/68,5	46/53	35.0/37.0	2,800/3,000	CE;
E08B23HWBL00	80x80x38	71.5	Ball	230 V a.c.	50/60	5.0/5.0	68/73	53/61	37.0/39.0	3,000/3,200	CE;
E12B23HWBL00	120x120x38	104.8	Ball	230 V a.c.	50/60	6.0/6.0	198/206	79/77	45.0/46.8	3,000/3,100	CE;
E12B23LWBL00	120x120x38	104.8	Ball	230 V a.c.	50/60	2.5/2.5	132/138	32/37	34.0/35.7	2,000/2,100	CE;
E12B23MWBL00	120x120x38	104.8	Ball	230 V a.c.	50/60	4.0/4.0	169/176	55/58	40.0/41.8	2,500/2,700	CE;

Technical specifications

Technical drawing





General specifications

- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- Impedance protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507

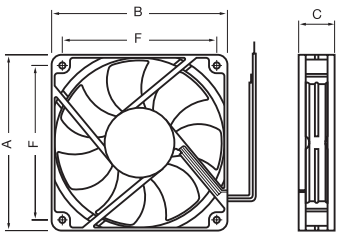


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D20E01LWBA00	20x20x10	16	Ball	5 V d.c.	0.40	1.0	12	20.0	9,000	CE; UR;
D20E01MWBA00	20x20x10	16	Ball	5 V d.c.	0.70	1.4	20	26.0	11,500	CE; cURus;
D20E04LWBA00	20x20x10	16	Ball	12 V d.c.	0.72	0.85	10	15.0	9,000	CE;
D20E04MWBA00	20x20x10	16	Ball	12 V d.c.	0.84	1.0	15	22.0	11,500	CE;

Technical specifications

Technical drawing





General specifications

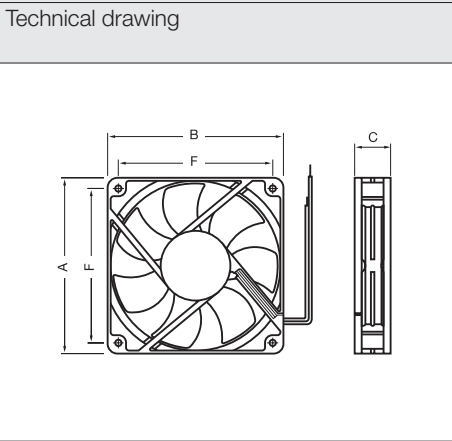
- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- Impedance protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D02E01HWBZ00	25x25x10	20	Ball	5 V d.c.	0.70	4.3	50	29.0	12,000	CE; cURus;
D02E01MWBZ00	25x25x10	20	Ball	5 V d.c.	0.50	3.6	37	23.0	10,000	CE; cURus;
D02E04HWBZ00	25x25x10	20	Ball	12 V d.c.	1.1	4.3	50	29.0	12,000	CE; cURus;
D02E04MWBZ00	25x25x10	20	Ball	12 V d.c.	0.96	3.6	37	23.0	10,000	CE; cURus;

Technical specifications





General specifications

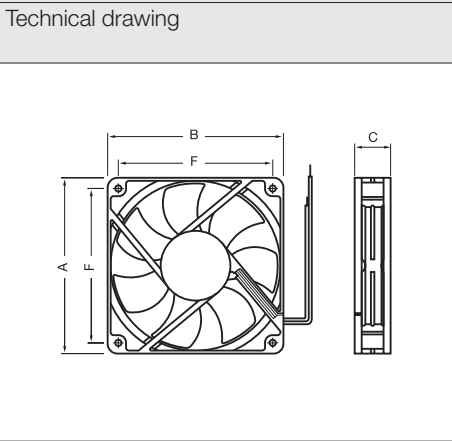
- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- Impedance protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D03E01LWBA00	30x30x10	24	Ball	5 V d.c.	0.60	5.5	30	20.2	8,000	CE; cURus;
D03E01MWBA00	30x30x10	24	Ball	5 V d.c.	0.65	6.4	42	28.0	9,000	CE; cURus;
D03E04LWBA00	30x30x10	24	Ball	12 V d.c.	0.72	5.1	32	26.0	8,000	CE; cURus;
D03E04MWBA00	30x30x10	24	Ball	12 V d.c.	0.60	6.4	42	28.0	9,000	CE; cURus;

Technical specifications





General specifications

- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- Impedance protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507

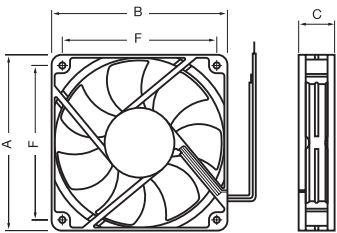


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D04E01HWBT00	40x40x10	32	Ball	5 V d.c.	0.95	11	25	26.0	6,000	CE; cURus;
D04E01HWST00	40x40x10	32	Sleeve	5 V d.c.	0.95	11	25	26.0	6,000	CE; cURus;
D04E01MWBT00	40x40x10	32	Ball	5 V d.c.	0.55	8.5	19	22.0	4,800	CE; cURus;
D04E01MWST00	40x40x10	32	Sleeve	5 V d.c.	0.75	8.5	19	22.0	4,800	CE; cURus;
D04E04HWBT00	40x40x10	32	Ball	12 V d.c.	1.2	11	25	26.0	6,000	CE; cURus;
D04E04HWST00	40x40x10	32	Sleeve	12 V d.c.	1.2	11	25	26.0	6,000	CE; cURus;
D04E04MWBT00	40x40x10	32	Ball	12 V d.c.	0.96	8.5	19	22.0	4,800	CE; cURus;
D04E04MWST00	40x40x10	32	Sleeve	12 V d.c.	0.96	8.5	19	22.0	4,800	CE; cURus;
D04E05HWBT00	40x40x10	32	Ball	24 V d.c.	2.2	11	25	26.0	6,000	CE; cURus;
D04E05HWST00	40x40x10	32	Sleeve	24 V d.c.	2.2	11	25	26.0	6,000	CE; cURus;
D04E05MWBT00	40x40x10	32	Ball	24 V d.c.	1.9	8.5	19	22.0	4,800	CE; cURus;
D04E05MWST00	40x40x10	32	Sleeve	24 V d.c.	1.9	8.5	19	22.0	4,800	CE; cURus;

Technical specifications

Technical drawing





General specifications

- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- Impedance protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507

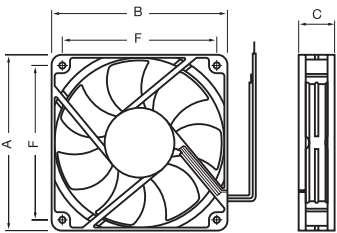


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D04F04HWBA00	40x40x15	32	Ball	12 V d.c.	1.4	15	61	39.3	8,000	CE; cURus;
D04F04HWSA00	40x40x15	32	Sleeve	12 V d.c.	1.4	15	61	39.3	8,000	CE; cURus;
D04F04LWBA00	40x40x15	32	Ball	12 V d.c.	0.96	11	35	27.5	6,000	CE; cURus;
D04F04LWSA00	40x40x15	32	Sleeve	12 V d.c.	0.96	11	35	27.5	6,000	CE; cURus;
D04F04MWBA00	40x40x15	32	Ball	12 V d.c.	1.2	13	45	31.8	7,000	CE; cURus;
D04F04MWSA00	40x40x15	32	Sleeve	12 V d.c.	1.2	13	45	31.8	7,000	CE; cURus;

Technical specifications

Technical drawing





General specifications

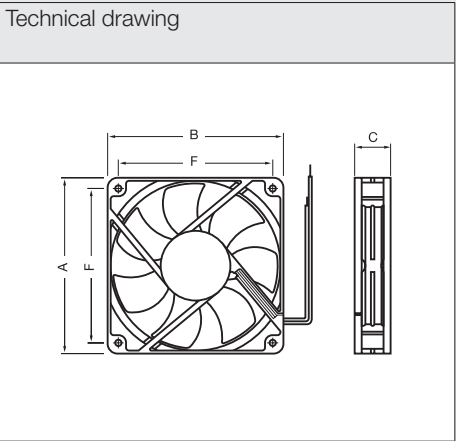
- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- Impedance protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D04D05HWBZ00	40x40x20	32	Ball	24 V d.c.	2.2	15	70	36.0	7,800	CE; cURus;

Technical specifications





General specifications

- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- Impedance protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507

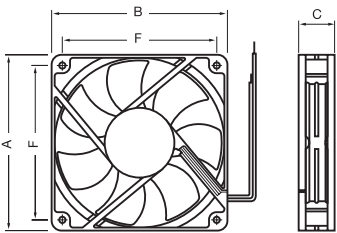


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D45E01HWBA00	45x45x10	37	Ball	5 V d.c.	0.20	15	25	27.4	5,500	CE; cURus;
D45E01HWSA00	45x45x10	37	Sleeve	5 V d.c.	0.20	15	25	27.4	5,500	CE; UR;
D45E01MWBA00	45x45x10	37	Ball	5 V d.c.	0.30	12	18	22.0	4,500	CE; cURus;
D45E01MWSA00	45x45x10	37	Sleeve	5 V d.c.	0.30	12	18	22.0	4,500	CE; UR;
D45E04HWBA00	45x45x10	37	Ball	12 V d.c.	1.1	15	25	27.4	5,500	CE; UR;
D45E04HWSA00	45x45x10	37	Sleeve	12 V d.c.	1.1	15	25	27.4	5,500	CE; UR;
D45E04MWBA00	45x45x10	37	Ball	12 V d.c.	0.84	12	18	22.0	4,500	CE; UR;
D45E04MWSA00	45x45x10	37	Sleeve	12 V d.c.	0.84	12	18	22.0	4,500	CE; UR;

Technical specifications

Technical drawing





General specifications

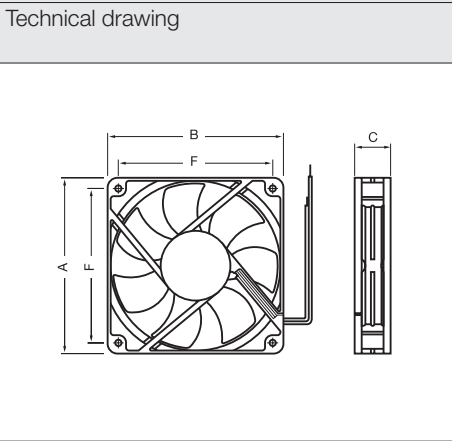
- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- Impedance protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D50E04LWBA00	50x50x10	40	Ball	12 V d.c.	1.2	10	10	20.0	3,700	CE; cURus;
D50E04LWSA00	50x50x10	40	Sleeve	12 V d.c.	1.2	10	10	20.0	3,700	CE; cURus;
D50E04MWBA00	50x50x10	40	Ball	12 V d.c.	1.4	15	20	24.0	4,300	CE; cURus;
D50E04MWSA00	50x50x10	40	Sleeve	12 V d.c.	1.4	15	20	24.0	4,300	CE; cURus;

Technical specifications





General specifications

- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- Impedance protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507

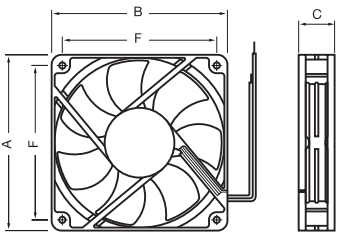


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D50F04HWBA00	50x50x15	40	Ball	12 V d.c.	1.7	24	32	30.2	4,800	CE; cURus;
D50F04HWSA00	50x50x15	40	Sleeve	12 V d.c.	1.7	24	32	34	4,800	CE; cURus;
D50F04LWSA00	50x50x15	40	Sleeve	12 V d.c.	0.96	19	17	25	3,600	CE; cURus;
D50F04MWSA00	50x50x15	40	Sleeve	12 V d.c.	1.2	22	25	30	4,300	CE; cURus;
D50F04SWBA00	50x50x15	40	Ball	12 V d.c.	2.4	29	48	33.8	5,500	CE; cURus;
D50F04SWSA00	50x50x15	40	Sleeve	12 V d.c.	2.4	29	48	33.8	5,500	CE; cURus;

Technical specifications

Technical drawing





General specifications

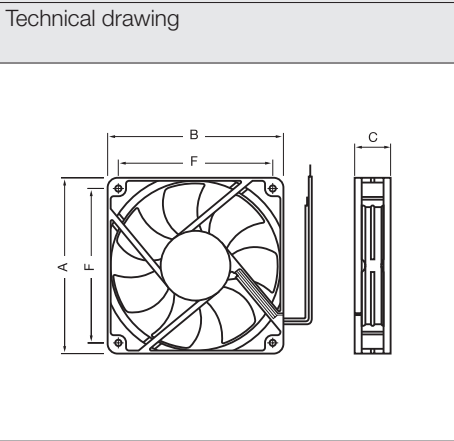
- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- Impedance protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D06E01HWST00	60x60x10	50	Sleeve	5 V d.c.	0.75	24	27	33.1	4,900	CE;
D06E01MWBT00	60x60x10	50	Ball	5 V d.c.	0.75	20	20	28.7	4,200	CE;
D06E01MWST00	60x60x10	50	Sleeve	5 V d.c.	0.75	20	20	28.7	4,200	CE;
D06E04HWST00	60x60x10	50	Sleeve	12 V d.c.	1.8	24	27	33.1	4,900	CE; UR;
D06E04MWST00	60x60x10	50	Sleeve	12 V d.c.	1.6	20	20	28.7	4,200	CE; UR;

Technical specifications





General specifications

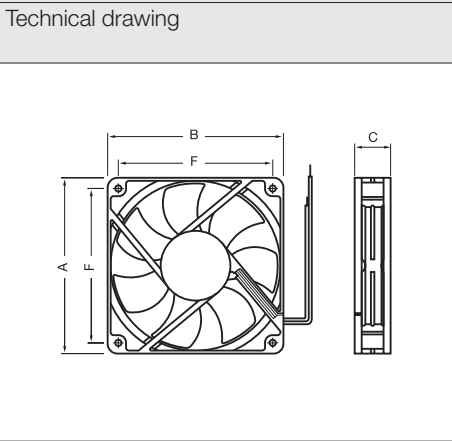
- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- IC protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D06F01HWSA00	60x60x15	50	Sleeve	5 V d.c.	1.9	27	36	33.4	4,500	CE; UR;
D06F01MWBA00	60x60x15	50	Ball	5 V d.c.	1.3	24	26	31.2	3,900	CE; UR;
D06F01MWSA00	60x60x15	50	Sleeve	5 V d.c.	1.3	24	26	31.2	3,900	CE; UR;
D06F04HWSA00	60x60x15	50	Sleeve	12 V d.c.	1.6	27	36	33.4	4,500	CE; UR;
D06F04MWBA00	60x60x15	50	Ball	12 V d.c.	1.3	24	26	31.2	3,900	CE; cURus;
D06F04MWSA00	60x60x15	50	Sleeve	12 V d.c.	1.3	24	26	31.2	3,900	CE; cURus;
D06F05HWBA00	60x60x15	50	Ball	24 V d.c.	2.2	26	28	35.2	4,500	CE;
D06F05HWSA00	60x60x15	50	Sleeve	24 V d.c.	2.16	26	38	35.2	4,500	CE; cURus;
D06F05MWBA00	60x60x15	50	Ball	24 V d.c.	1.7	24	26	31.2	3,900	CE;
D06F05MWSA00	60x60x15	50	Sleeve	24 V d.c.	1.7	24	26	31.2	3,900	CE;

Technical specifications





General specifications

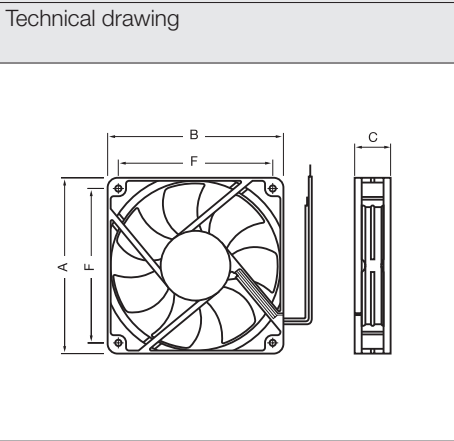
- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- Impedance protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D06D04HWBA00	60x60x20	50	Ball	12 V d.c.	1.9	28	34	31.0	4,500	CE; UR;
D06D04HWSA00	60x60x20	50	Sleeve	12 V d.c.	1.9	28	34	31.0	4,500	CE; UR;
D06D04LWBA00	60x60x20	50	Ball	12 V d.c.	0.96	21	21	23.5	3,500	CE; UR;
D06D04LWSA00	60x60x20	50	Sleeve	12 V d.c.	0.96	21	21	23.5	3,500	CE; UR;
D06D04MWBA00	60x60x20	50	Ball	12 V d.c.	1.6	23	25	26.4	3,900	CE; UR;
D06D04MWSA00	60x60x20	50	Sleeve	12 V d.c.	1.6	23	25	26.4	3,900	CE; UR;
D06D05LWBA00	60x60x20	50	Ball	24 V d.c.	1.7	21	21	23.5	3,500	CE; cURus;
D06D05LWSA00	60x60x20	50	Sleeve	24 V d.c.	1.7	21	21	23.5	3,500	CE; cURus;
D06D05MWBA00	60x60x20	50	Ball	24 V d.c.	1.9	23	25	26.4	3,900	CE; UR;
D06D05MWSA00	60x60x20	50	Sleeve	24 V d.c.	1.9	23	25	26.4	3,900	CE; UR;

Technical specifications





General specifications

- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- Impedance or IC protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507

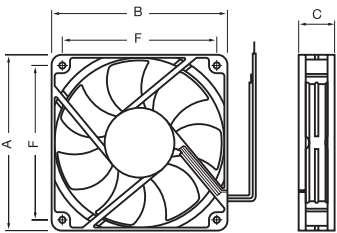


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D06A04HWBA00	60x60x25	50	Ball	12 V d.c.	2.8	42	50	36.8	4,600	CE; cURus;
D06A04HWSA00	60x60x25	50	Sleeve	12 V d.c.	2.8	42	50	35.2	4,500	CE; cURus;
D06A04LWBA00	60x60x25	50	Ball	12 V d.c.	0.96	23	18	20.6	2,700	CE; cURus;
D06A04LWSA00	60x60x25	50	Sleeve	12 V d.c.	0.96	22	16	18.1	2,500	CE; UR;
D06A04MWBA00	60x60x25	50	Ball	12 V d.c.	1.7	32	32	29.8	3,600	CE; UR;
D06A04MWSA00	60x60x25	50	Sleeve	12 V d.c.	1.7	31	30	28.6	3,500	CE; UR;
D06A04SWBA00	60x60x25	50	Ball	12 V d.c.	3.2	50	67	40.5	5,300	CE; cURus;
D06A04SWSA00	60x60x25	50	Sleeve	12 V d.c.	4.2	46	57	40.0	5,000	CE; cURus;
D06A05HWBA00	60x60x25	50	Ball	24 V d.c.	3.6	42	50	35.2	4,500	CE; cURus;
D06A05HWSA00	60x60x25	50	Sleeve	24 V d.c.	3.6	42	50	35.2	4,500	CE; cURus;
D06A05LWBA00	60x60x25	50	Ball	24 V d.c.	1.9	22	16	18.1	2,500	CE; UR;
D06A05LWSA00	60x60x25	50	Sleeve	24 V d.c.	1.9	22	16	18.1	2,500	CE; UR;
D06A05MWBA00	60x60x25	50	Ball	24 V d.c.	1.9	31	30	28.6	3,500	CE; UR;
D06A05MWSA00	60x60x25	50	Sleeve	24 V d.c.	1.9	31	30	28.6	3,500	CE; UR;
D06A05SWBA00	60x60x25	50	Ball	24 V d.c.	3.8	47	60	37.6	5,000	CE; cURus;
D06A05SWSA00	60x60x25	50	Sleeve	24 V d.c.	3.8	47	60	37.6	5,000	CE; cURus;

Technical specifications

Technical drawing





General specifications

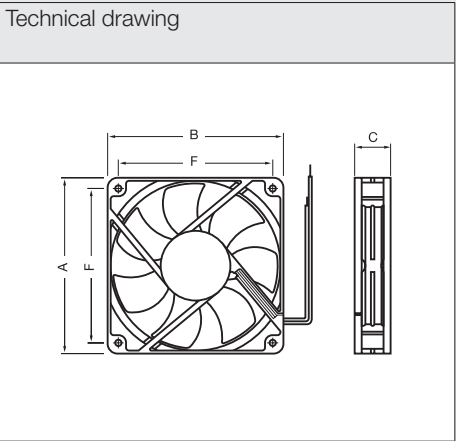
- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- Impedance protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D07A04HWSA00	70x70x25	60	Sleeve	12 V d.c.	2.3	61	55	35.5	4,200	CE; UR;
D07A04MWBA00	70x70x25	60	Ball	12 V d.c.	1.9	55	44	32.0	3,800	CE; UR;
D07A04MWSA00	70x70x25	60	Sleeve	12 V d.c.	1.9	55	44	32.0	3,800	CE; UR;
D07A05HWBA00	70x70x25	60	Ball	24 V d.c.	3.1	61	55	35.5	4,200	CE;
D07A05HWSA00	70x70x25	60	Sleeve	24 V d.c.	3.1	61	55	35.5	4,200	CE;
D07A05MWBA00	70x70x25	60	Ball	24 V d.c.	2.6	55	44	32.0	3,800	CE;
D07A05MWSA00	70x70x25	60	Sleeve	24 V d.c.	2.6	55	44	32.0	3,800	CE;

Technical specifications





General specifications

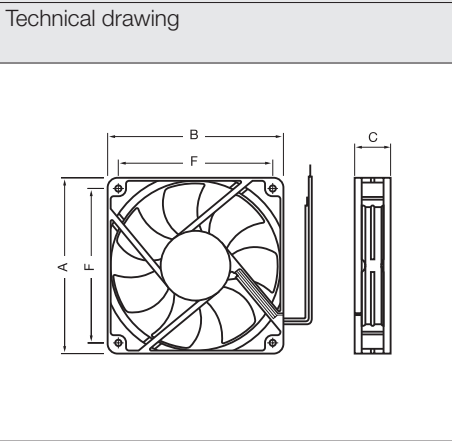
- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- IC protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D08F01HWSA00	80x80x15	71.5	Sleeve	5 V d.c.	0.44	51	32	31.4	3,200	CE; UR;
D08F01MWBA00	80x80x15	71.5	Ball	5 V d.c.	1.2	38	21	26.0	2,440	CE; UR;
D08F01MWSA00	80x80x15	71.5	Sleeve	5 V d.c.	1.2	38	21	26.0	2,440	CE; UR;
D08F04HWBA00	80x80x15	71.5	Ball	12 V d.c.	2.3	51	32	31.4	3,200	CE; UR;
D08F04HWSA00	80x80x15	71.5	Sleeve	12 V d.c.	2.3	51	32	31.4	3,200	CE; UR;
D08F04MWBA00	80x80x15	71.5	Ball	12 V d.c.	1.8	38	21	26.0	2,440	CE; UR;
D08F04MWSA00	80x80x15	71.5	Sleeve	12 V d.c.	1.8	37	19	24.9	2,440	CE; UR;
D08F05HWSA00	80x80x15	71.5	Sleeve	24 V d.c.	3.1	51	32	31.4	3,400	CE; UR;
D08F05MWBA00	80x80x15	71.5	Ball	24 V d.c.	2.4	38	21	26.0	2,440	CE; UR;
D08F05MWSA00	80x80x15	71.5	Sleeve	24 V d.c.	2.4	38	21	26.0	2,440	CE; UR;

Technical specifications





General specifications

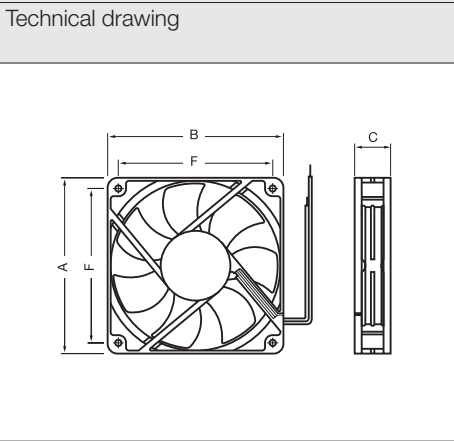
- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- Impedance protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D08D04HWBA00	80x80x20	71.5	Ball	12 V d.c.	2.9	49	37	34.9	3,100	CE; UR;
D08D04HWSA00	80x80x20	71.5	Sleeve	12 V d.c.	2.9	49	37	34.0	3,000	CE; UR;
D08D04MWBA00	80x80x20	71.5	Ball	12 V d.c.	1.9	40	24	27.0	2,550	CE; cURus;
D08D04MWSA00	80x80x20	71.5	Sleeve	12 V d.c.	1.9	40	24	27.0	2,550	CE; cURus;
D08D05HWBA00	80x80x20	71.5	Ball	24 V d.c.	3.6	49	37	32.4	3,100	CE; UR;
D08D05HWSA00	80x80x20	71.5	Sleeve	24 V d.c.	3.6	47	39	34.0	3,000	CE; UR;
D08D05MWBA00	80x80x20	71.5	Ball	24 V d.c.	3.1	40	24	27.0	2,550	CE; cURus;
D08D05MWSA00	80x80x20	71.5	Sleeve	24 V d.c.	3.1	40	24	27.0	2,550	CE; cURus;

Technical specifications





General specifications

- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- Impedance or IC protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507

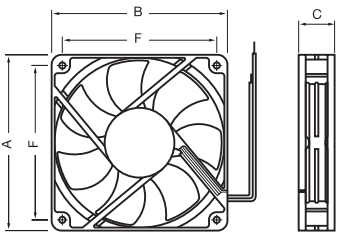


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D08A05HWBA00	80x80x25	71.5	Ball	24 V d.c.	3.8	70	39	36.2	3,200	CE; UR;
D08A05HWSA00	80x80x25	71.5	Sleeve	24 V d.c.	3.8	70	39	35.2	3,000	CE; UR;
D08A05LWBA00	80x80x25	71.5	Ball	24 V d.c.	2.2	43	17	22.7	2,000	CE; cURus;
D08A05LWSA00	80x80x25	71.5	Sleeve	24 V d.c.	2.2	43	17	22.7	2,000	CE; UR;
D08A05MWBA00	80x80x25	71.5	Ball	24 V d.c.	2.4	55	25	29.4	2,500	CE; cURus;
D08A05MWSA00	80x80x25	71.5	Sleeve	24 V d.c.	2.4	53	23	28.6	2,400	CE; cURus;
D08A05SWBA00	80x80x25	71.5	Ball	24 V d.c.	6.2	89	66	40.8	3,900	CE; cURus;
D08A05SWSA00	80x80x25	71.5	Sleeve	24 V d.c.	6.2	89	66	40.8	3,900	CE; cURus;
D08A07HWBA00	80x80x25	71.5	Ball	48 V d.c.	5.3	40	35	35.2	3,000	CE; UR;

Technical specifications

Technical drawing





General specifications

- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- Impedance protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507

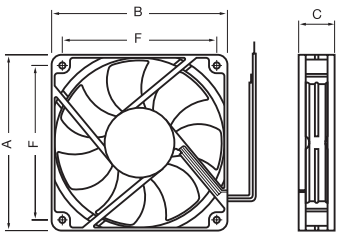


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D09D04HWSA00	92x92x20	82.5	Sleeve	12 V d.c.	3.0	56	26	32.8	2,700	CE; UR;
D09D04MWBA00	92x92x20	82.5	Ball	12 V d.c.	1.9	49	21	28.9	2,430	CE; UR;
D09D04MWSA00	92x92x20	82.5	Sleeve	12 V d.c.	1.9	49	21	28.9	2,430	CE; UR;
D09D05HWSA00	92x92x20	82.5	Sleeve	24 V d.c.	3.4	56	26	32.8	2,700	CE; UR;
D09D05MWBA00	92x92x20	82.5	Ball	24 V d.c.	2.4	49	21	28.9	2,430	CE; cURus;
D09D05MWSA00	92x92x20	82.5	Sleeve	24 V d.c.	2.4	49	21	28.9	2,430	CE; cURus;

Technical specifications

Technical drawing





General specifications

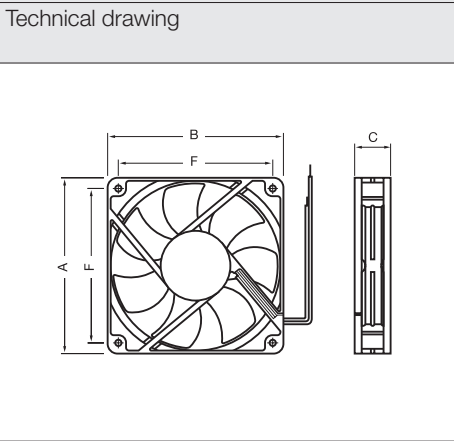
- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- Impedance protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D09A04EWBZ00	92x92x25	82.5	Ball	12 V d.c.	1.08	51	8	19.1	1,600	CE; cURus;
D09A04HWBZ00	92x92x25	82.5	Ball	12 V d.c.	3.0	95	37	37.5	2,900	CE; cURus;
D09A04HWSZ00	92x92x25	82.5	Sleeve	12 V d.c.	3.0	95	37	37.5	2,900	CE; cURus;
D09A04LWBZ00	92x92x25	82.5	Ball	12 V d.c.	1.6	66	18	27.5	2,100	CE; cURus;
D09A04LWSZ00	92x92x25	82.5	Sleeve	12 V d.c.	1.6	66	18	27.5	2,100	CE; cURus;
D09A04MWBZ00	92x92x25	82.5	Ball	12 V d.c.	2.0	76	25	31.2	2,400	CE; cURus;
D09A04MWSZ00	92x92x25	82.5	Sleeve	12 V d.c.	2.0	76	25	31.2	2,400	CE; cURus;
D09A04SWBZ00	92x92x25	82.5	Ball	12 V d.c.	4.7	105	47	39.4	3,300	CE; cURus;
D09A04SWSZ00	92x92x25	82.5	Sleeve	12 V d.c.	4.7	105	47	42.2	3,300	CE; cURus;
D09A05HWBZ00	92x92x25	82.5	Ball	24 V d.c.	3.6	95	36	37.5	2,900	CE; cURus;
D09A05HWSZ00	92x92x25	82.5	Sleeve	24 V d.c.	3.6	87	34	35.4	2,900	CE; cURus;
D09A05LWBZ00	92x92x25	82.5	Ball	24 V d.c.	1.9	66	18	28.7	2,000	CE; cURus;
D09A05LWSZ00	92x92x25	82.5	Sleeve	24 V d.c.	1.9	66	18	28.7	2,000	CE; cURus;
D09A05MWBZ00	92x92x25	82.5	Ball	24 V d.c.	2.9	76	25	31.2	2,400	CE; cURus;
D09A05MWSZ00	92x92x25	82.5	Sleeve	24 V d.c.	2.9	76	25	31.2	2,400	CE; cURus;
D09A05SWBZ00	92x92x25	82.5	Ball	24 V d.c.	5.0	105	47	42.2	3,300	CE; cURus;
D09A05SWSZ00	92x92x25	82.5	Sleeve	24 V d.c.	5.0	105	47	42.2	3,300	CE; cURus;

Technical specifications





General specifications

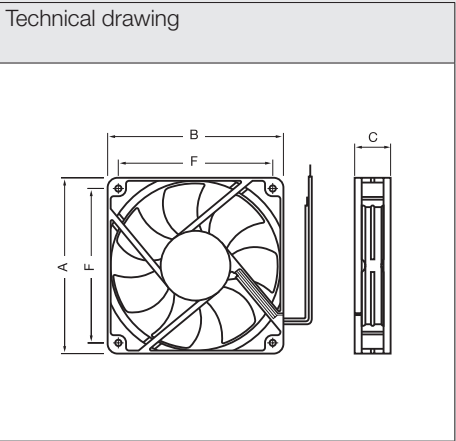
- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- IC protected motor
- Electrical connection: 2 leads



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D09B05HWBZ00	92x92x38	82.5	Ball	24 V d.c.	13.2	185	125	52.5	4,400	CE;

Technical specifications





General specifications

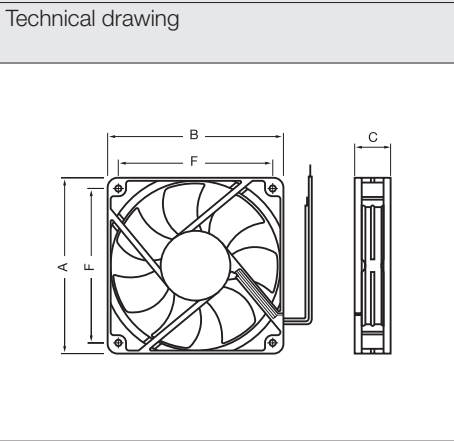
- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- IC protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D12A04HWSZ00	120x120x25	104.8	Sleeve	12 V d.c.	5.3	151	34	39.1	2,200	CE; cURus;
D12A04LWBZ00	120x120x25	104.8	Ball	12 V d.c.	2.9	122	23	34.4	1,800	CE; cURus;
D12A04LWSZ00	120x120x25	104.8	Sleeve	12 V d.c.	2.9	122	23	34.4	1,800	CE; UR;
D12A04MWBZ00	120x120x25	104.8	Ball	12 V d.c.	4.0	138	28	38.0	2,050	CE; cURus;
D12A04MWSZ00	120x120x25	104.8	Sleeve	12 V d.c.	4.1	138	28	38.0	2,050	CE; cURus;
D12A04SWBZ00	120x120x25	104.8	Ball	12 V d.c.	6.0	168	43	43.3	2,500	CE; cURus;
D12A04SWSZ00	120x120x25	104.8	Sleeve	12 V d.c.	6.0	168	43	43.3	2,500	CE; cURus;
D12A05HWBZ00	120x120x25	104.8	Ball	24 V d.c.	4.6	149	33	39.1	2,200	CE; cURus;
D12A05HWSZ00	120x120x25	104.8	Sleeve	24 V d.c.	5.8	149	33	39.1	2,200	CE; cURus;
D12A05LWBZ00	120x120x25	104.8	Ball	24 V d.c.	3.4	122	23	34.4	1,800	CE; cURus;
D12A05LWSZ00	120x120x25	104.8	Sleeve	24 V d.c.	3.4	122	23	34.4	1,800	CE; cURus;
D12A05MWBZ00	120x120x25	104.8	Ball	24 V d.c.	4.1	141	29	38.0	2,050	CE; cURus;
D12A05MWSZ00	120x120x25	104.8	Sleeve	24 V d.c.	4.1	141	29	38.0	2,050	CE; cURus;
D12A05SWBZ00	120x120x25	104.8	Ball	24 V d.c.	6.0	168	43	43.3	2,500	CE; cURus;
D12A05SWSZ00	120x120x25	104.8	Sleeve	24 V d.c.	6.0	168	43	43.3	2,500	CE; cURus;
D12A07HWBZ00	120x120x25	104.8	Ball	48 V d.c.	5.8	149	33	39.1	2,200	CE;

Technical specifications





General specifications

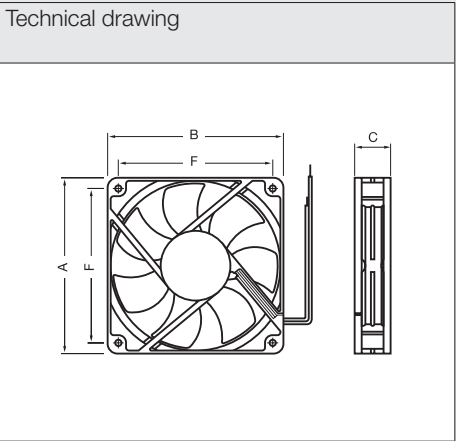
- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- IC protected motor
- Electrical connection: 2 leads



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D12G05HWBA00	120x120x32	104.8	Ball	24 V d.c.	6.0	190	60	43.3	2,750	CE;

Technical specifications





General specifications

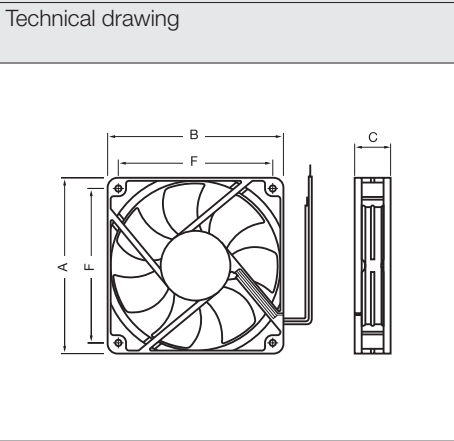
- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- IC protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507 and TÜV according to EN60950-1:2006+A11



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D12B05HWBA91	120x120x38	104.8	Ball	24 V d.c.	23.5	340	155	61.0	4,300	CE; cURus; TUV;
D12B05VWBA91	120x120x38	104.8	Ball	24 V d.c.	7.2	220	74	48.5	2,800	CE; cURus;

Technical specifications





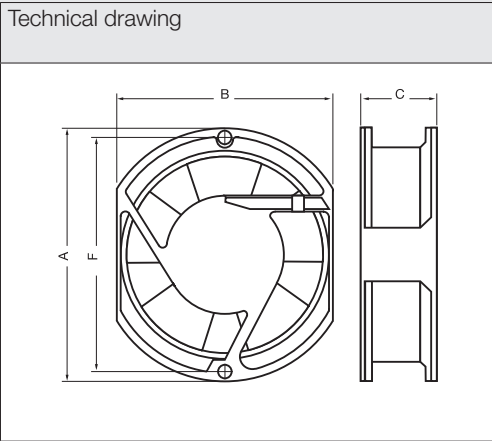
General specifications

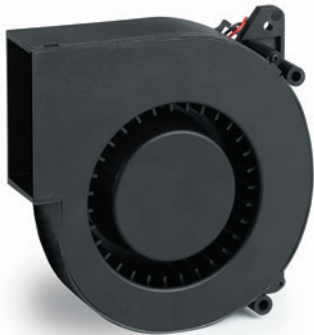
- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- IC protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507



Technical data										
Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D17C05HWBA00	172x150x51	162	Ball	24 V d.c.	24	450	190	60.0	3,500	CE; cURus;
D17C07HWBA00	172x150x51	162	Ball	48 V d.c.	24	450	190	58.8	3,500	CE; cURus;

Technical specifications





General specifications

- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- IC protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507

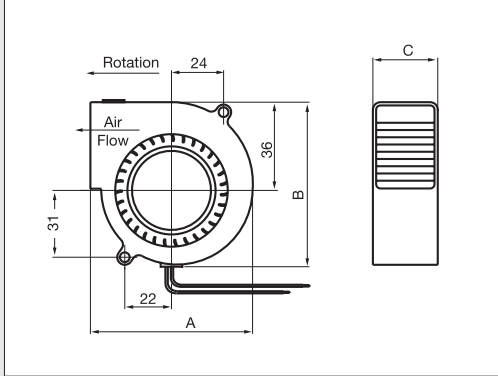


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
DC6G04HWBA00	75x75x30	81.2	Ball	12 V d.c.	3.6	18	89	38.5	3,000	CE; UR;
DC6G04HWSA00	75x75x30	81.2	Sleeve	12 V d.c.	3.6	18	89	38.5	3,000	CE; UR;
DC6G04MWBA00	75x75x30	81.2	Ball	12 V d.c.	2.4	13	58	34.9	2,600	CE; UR;
DC6G05MWBA00	75x75x30	81.2	Ball	24 V d.c.	3.4	13	58	34.9	2,600	CE; UR;
DC6G05MWSA00	75x75x30	81.2	Sleeve	24 V d.c.	3.4	13	58	34.9	2,600	CE; UR;

Technical specifications

Technical drawing





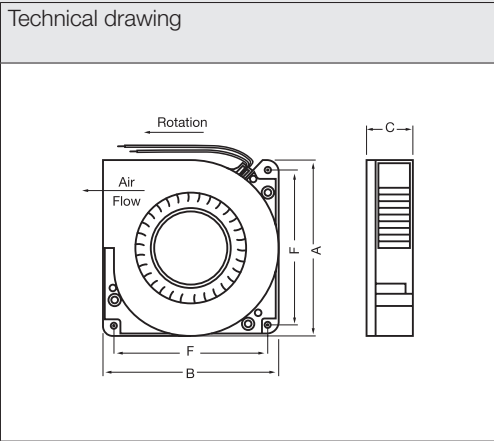
General specifications

- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- IC protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507



Technical data										
Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
DC1G05MWBA01	120x120x31	104.8	Ball	24 V d.c.	9.4	48	220	49.0	2,300	CE; cURus;

Technical specifications



EC technology



WHAT IS EC TECHNOLOGY?

EC stands for Electronically Commutated and combines AC and DC voltages to bring the best of both technologies. The motor runs on DC, but with a normal AC supply. DC motors already have low power consumption but, if used in AC applications, need to convert AC to DC using a bulky, inefficient transformer. The EC fan incorporates voltage transformation within the motor. An electronic PCB board, which takes care of AC to DC transformation and houses the controls, is fitted to the non-rotating part of the motor (stator).

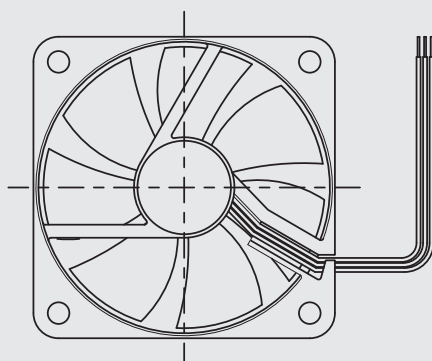
PRINCIPLE

- Permanent-magnet brushless DC motor
- The stator is driven by electronic switches governed by a microcontroller
- AC operated (115/230Volts Single phase, 50/60Hz)

BENEFITS

- Energy savings: minimum power consumption and better efficiency than equivalent AC fan
- Extended operating range (230 Vac 140~264Vac; 115 Vac 80~132Vac)
- Low motor temperature: for longer lifespan than AC equivalent
- Simplicity: electronic and power transformation are completely integrated within the motor
- High performance: better airflow and pressure values than an equivalent AC fan

DC fans with signal lead



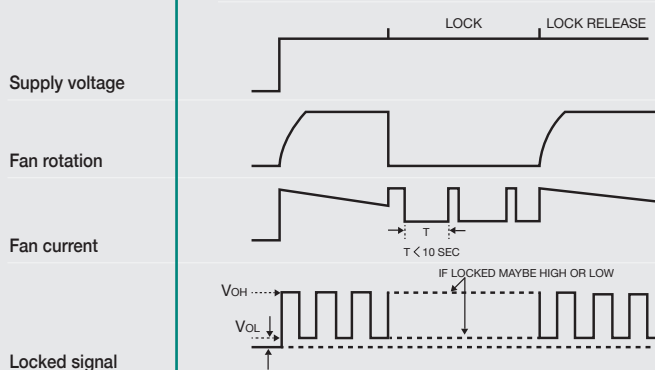
DC fans with speed sensor signal

The integrated electronic sensor provides a square wave signal proportional to the fan speed. The signal is via a third lead wire (open collector type).

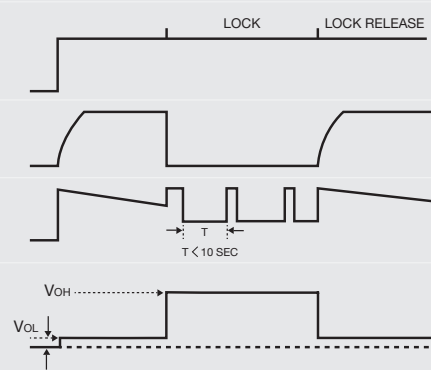
DC fans with alarm signal

It is used to detect if the fan is still rotating or stopped. The output is via a third lead wire (open collector type) and it is a continuous high or low signal depending on the fan's type.

Output Waveform Speed Control

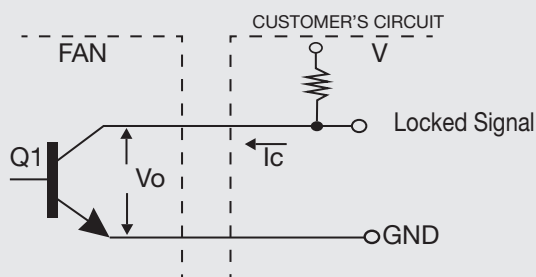


Output Waveform Alarm Signal



The output waves may change depending on the fan type. For more information, contact our Sales Dept.

Electrical diagram



External signal function design is decided by customer.

SPECIAL FRAME FANS

Custom and special solutions include a full line of AC/DC fans tested to withstand harsh environmental and working conditions. They are dustproof and water jet resistance (IP55) or tolerate high temperature up to +90°C, also thanks to a particular all metal construction.

These special fans ensure safe, reliable operation and an extended service life of the devices.



IP55

Ideal for indoor or outdoor use in harsh industrial environments



ALL METAL

Robust metal fan blades for good corrosion resistance



HIGH TEMPERATURE RESISTANT

Capable of running continuously at 90°C

Model numbering system for Special Frame fans

description	A	12	B	23	H	T	B	W	00	description
MOTOR TYPE A = a.c. shaded pole motor C = a.c. capacitor run induction motor D = d.c. brushless										OPTIONS 00 = no option A = alarm output S = speed signal output I = variable speed with integrated V = variable speed with external thermistor M = digital PWM speed control T = for high temperature ambient F = motor IP55 protected H = motor IP25 protected Wnn = wires length out of standard Qnn = special version
CASING SIZE 01 = 15x15 mm axial fan 20 = 20x20 mm axial fan 02 = 25x25 mm axial fan 03 = 30x30 mm axial fan 35 = 35x35 mm axial fan 04 = 40x40 mm axial fan 45 = 45x45 mm axial fan 50 = 50x50 mm axial fan 06 = 60x60 mm axial fan 07 = 70x70 mm axial fan 08 = 80x80 mm axial fan 09 = 92x92 mm axial fan 12 = 120x120 mm axial fan 13 = 127x127 mm axial fan 17 = 172x150 mm axial fan 18 = ø 172 mm axial fan 22 = 218x218 mm axial fan 25 = 280x280 mm axial fan C1 = 120x120 mm blower C6 = 75x75 mm blower										DESIGN BEARING TYPE B = shielded ball S = sleeve CONNECTION K = terminal block T = flat terminals 110 series (2.8x0.5 mm) W = lead wires SPEED E = extra low V = very low L = low M = medium H = high S = super high RATED VOLTAGE 01 = 5 V d.c. 12 = 115 V a.c. 04 = 12 V d.c. 23 = 230 V a.c. 05 = 24 V d.c. / V a.c. 40 = 400 V a.c. 3-phase 07 = 48 V d.c.
CASING THICKNESS N = 6.5 mm E = 10 mm F = 15 mm D = 20 mm A = 25 mm G = 30-32 mm B = 38 mm standard flow R = 38 mm reverse flow C = 50-52 mm M = 55 mm S = 83 mm W = without casing, standard flow Z = without casing, reverse flow										



General specifications

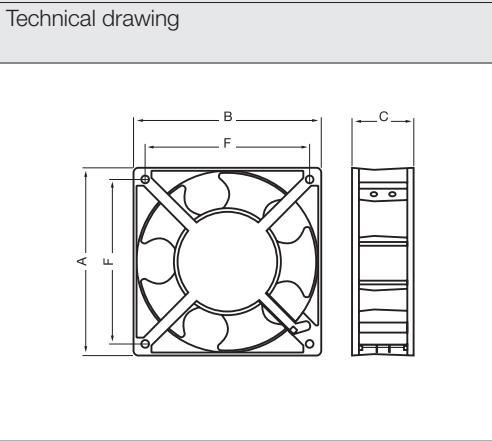
- Casing or housing cover (only for models A12WW and A12ZW) in black die cast aluminum alloy
- Impeller in fibreglass reinforced PBT PC
- Shaded pole motor
- Impedance or thermally protected motor
- Electrical connection: 2 leads or flat terminals



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
A06G23HWBFF0	60x60x30	50	Ball	230 V a.c.	50/60	5.0/4.0	14/17	17/27	27.0/28.0	2,400/3,000	CE;
A08B12HWBFF0	80x80x38	71.5	Ball	115 V a.c.	50/60	14/12	41/51	40/55	32.0/36.0	2,500/3,000	CE;
A08B23HWBFF0	80x80x38	71.5	Ball	230 V a.c.	50/60	14/12	41/51	40/55	32.0/36.0	2,500/3,000	CE;
A09A23HTBFF0	92x92x25	82.5	Ball	230 V a.c.	50/60	16/14	56/68	45/65	32.0/36.0	2,500/3,000	CE;
A09A23HWBFF0	92x92x25	82.5	Ball	230 V a.c.	50/60	16/14	56/68	45/65	32.0/36.0	2,500/3,000	CE;
A12B12ETBKF0	120x120x38	104.8	Ball	115 V a.c.	50/60	6.0/5.5	78/84	15/15	27.0/28.0	1,350/1,450	CE;
A12B12LTBKF0	120x120x38	104.8	Ball	115 V a.c.	50/60	7.0/7.0	120/114	35/22	32.0/30.0	2,100/1,950	CE;
A12B23ETBKF0	120x120x38	104.8	Ball	230 V a.c.	50/60	6.5/6.0	78/84	15/15	27.0/28.0	1,350/1,450	CE;
A12B23HTBKF0	120x120x38	104.8	Ball	230 V a.c.	50/60	15/14	162/192	74/88	37.0/41.0	2,600/2,900	CE;
A12B23HWBWFO	120x120x38	104.8	Ball	230 V a.c.	50/60	20/19	148/182	65/80	46.0/49.0	2,750/3,050	CE;
A12B23LTBKF0	120x120x38	104.8	Ball	230 V a.c.	50/60	7.5/7.5	120/114	35/22	32.0/30.0	2,100/1,900	CE;
A12B23LWBWFO	120x120x38	104.8	Ball	230 V a.c.	50/60	11/10	114/102	27/22	43.0/42.0	2,200/1,800	CE;
A12W23HWBWFO	113x113x38	45.5	Ball	230 V a.c.	50/60	20/19	150/180	66/80	46.0/49.0	2,550/2,900	CE;
A12W23SWBWFO	113x113x38	45.5	Ball	230 V a.c.	50/60	22/21	165/200	67/94	48.0/50.0	2,700/3,100	CE;
A12Z23HWBWFO	113x113x38	45.5	Ball	230 V a.c.	50/60	18/18	140/155	62/75	42.0/45.0	2,600/2,950	CE;
A17M12SWBMFO	172x150x55	162	Ball	115 V a.c.	50/60	42/42	332/391	137/157	49.0/53.0	2,800/3,250	CE;
A17M23SWBMFO	172x150x55	162	Ball	230 V a.c.	50/60	42/42	332/391	137/157	49.0/53.0	2,800/3,250	CE;

Technical specifications





General specifications

- Casing and impeller in black thermoplastic
- Brushless motor
- Impedance protected motor
- Electrical connection: 2 leads

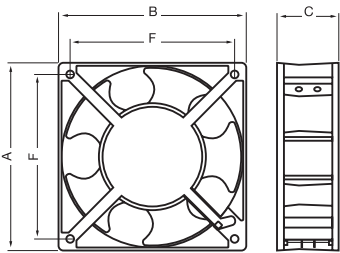


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
E12B23HWBLF0	120x120x38	104.8	Ball	230 V a.c.	50/60	6/7	190/200	70/75	45.0/46.8	3000/3100	CE;

Technical specifications

Technical drawing





General specifications

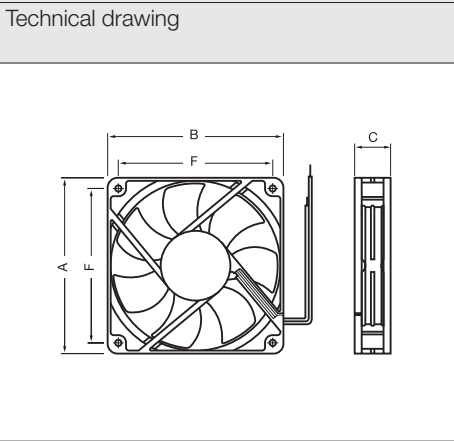
- Casing and impeller in black fiberglass reinforced PBT
- Brushless motor
- Impedance or IC protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	W	m³/h	Pa	dB(A)	Rpm	
D04D05HWBZF0	40x40x20	32	Ball	24 V d.c.	2.2	15	70	36.0	7,800	CE;
D04E05MWBTF0	40x40x10	32	Ball	24 V d.c.	1.9	8.5	19	22.0	4,800	CE;
D06A04LWBAF0	60x60x25	50	Ball	12 V d.c.	0.96	24	17	18.1	2,500	CE;
D06A05HWBAF0	60x60x25	50	Ball	24 V d.c.	3.6	41	44	35.2	4,500	CE;
D06A05SWBAF0	60x60x25	50	Ball	24 V d.c.	3.8	46	60	37.9	5,000	CE;
D07A04HWBAF0	70x70x25	60	Ball	12 V d.c.	2.3	61	55	35.5	4,200	CE;
D08A04HWBAF0	80x80x25	71.5	Ball	12 V d.c.	3.0	66	37	34.4	3,100	CE; cURus;
D08A04LWBAF0	80x80x25	71.5	Ball	12 V d.c.	1.4	44	18	22.5	2,100	CE;
D08A05HWBAF0	80x80x25	71.5	Ball	24 V d.c.	3.8	69	37	36.2	3,200	CE;
D08A05MWBAF0	80x80x25	71.5	Ball	24 V d.c.	2.6	55	25	29.4	2,500	CE;
D08A05SWBAF0	80x80x25	71.5	Ball	24 V d.c.	6.2	87	59	40.9	3,900	CE;
D09A05HWBZF0	92x92x25	82.5	Ball	24 V d.c.	3.6	95	36	37.5	2,900	CE;
D12A05HWBZF0	120x120x25	104.8	Ball	24 V d.c.	4.6	150	34	39.1	2,200	CE;
D12B04HWBAF0	120x120x38	104.8	Ball	12 V d.c.	6.0	179	66	46.7	2,800	CE;
D12B05HWBAF0	120x120x38	104.8	Ball	24 V d.c.	7.7	179	66	46.7	2,800	CE;
D12B07HWBAF0	120x120x38	104.8	Ball	48 V d.c.	9.6	179	66	46.7	2,800	CE;

Technical specifications





General specifications

- Casing in black die cast aluminum alloy
- Metal impeller
- Shaded pole motor
- Impedance or thermally protected motor
- Electrical connection: 2 leads
- UL approval according to UL 507



Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
A09B12HWBM00	92x92x38	82.5	Ball	115 V a.c.	50/60	12/11	75/87	59/74	37.0/42.0	2,700/3,200	CE; cURus;
A09B23HWBM00	92x92x38	82.5	Ball	230 V a.c.	50/60	12/11	75/87	59/74	37.0/42.0	2,700/3,200	CE; cURus;
A12B12HTBM00	120x120x38	104.8	Ball	115 V a.c.	50/60	17/15	151/175	64/59	42.0/46.0	2,700/3,100	CE; cURus;
A12B12LTBM00	120x120x38	104.8	Ball	115 V a.c.	50/60	17/15	107/114	25/22	33.0/35.0	2,000/2,050	CE; cURus;
A12B23HTBM00	120x120x38	104.8	Ball	230 V a.c.	50/60	17/15	151/175	64/59	42.0/46.0	2,700/3,100	CE; cURus;
A12B23LTBM00	120x120x38	104.8	Ball	230 V a.c.	50/60	17/15	107/114	25/22	33.0/35.0	2,000/2,050	CE; cURus;
A17M12SWBM00	172x150x55	162	Ball	115 V a.c.	50/60	42/42	332/391	137/157	49.0/53.0	2,800/3,250	CE; cURus;
A17M23SWBM00	172x150x55	162	Ball	230 V a.c.	50/60	42/42	332/391	137/157	49.0/53.0	2,800/3,250	CE; cURus;
A17T12SWBM00	172x150x55	162	Ball	115 V a.c.	50/60	45/45	383/434	123/126	58.0/61.0	2,750/3,150	CE; cURus;
A17T23SWBM00	172x150x55	162	Ball	230 V a.c.	50/60	45/45	383/434	123/126	58.0/61.0	2,750/3,150	CE; cURus;

Technical specifications

A09BM / A12BM	A17MM / A17TM



General specifications

- Casing in black die cast aluminum alloy
- Metal impeller
- Shaded pole motor
- Impedance or thermally protected motor
- Electrical connection: 2 leads or flat terminals
- UL approval according to UL 507

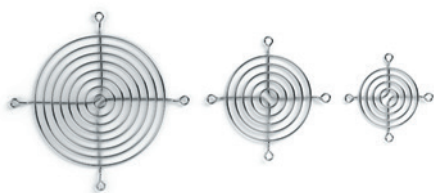


Technical data

Model	Dimensions AxBxC	Holes (F)	Bearing	Rated Voltage	Freq.	Rated power	Max air flow	Static Pressure	Noise	Rated Speed	Approvals
	mm	mm		V	Hz	W	m³/h	Pa	dB(A)	Rpm	
A09B12HWBMT0	92x92x38	82.5	Ball	115 V a.c.	50/60	12/11	75/87	59/74	37.0/42.0	2,700/3,200	CE;
A09B23HTBMT0	92x92x38	82.5	Ball	230 V a.c.	50/60	12/11	75/87	59/74	37.0/42.0	2,700/3,200	CE;
A12B12HTBMT0	120x120x38	104.8	Ball	115 V a.c.	50/60	17/15	150/175	64/59	42.0/46.0	2,700/3,100	CE;
A12B12LTBMT0	120x120x38	104.8	Ball	115 V a.c.	50/60	17/15	110/115	25/22	33.0/35.0	2,000/2,050	CE;
A12B23HTBMT0	120x120x38	104.8	Ball	230 V a.c.	50/60	17/15	150/175	64/59	42.0/46.0	2,700/3,100	CE; cURus;
A12B23LTBMT0	120x120x38	104.8	Ball	230 V a.c.	50/60	17/15	110/115	25/22	33.0/35.0	2,000/2,050	CE; cURus;
A17M12SWBMT0	172x150x55	162	Ball	115 V a.c.	50/60	42/42	332/391	137/157	49.0/53.0	2,800/3,250	CE; cURus;
A17M23SWBMT0	172x150x55	162	Ball	230 V a.c.	50/60	42/42	332/391	137/157	49.0/53.0	2,800/3,250	CE; cURus;
A17T12SWBMT0	172x150x55	162	Ball	115 V a.c.	50/60	45/45	383/434	123/123	58.0/61.0	2,750/3,150	CE; cURus;
A17T23SWBMT0	172x150x55	162	Ball	230 V a.c.	50/60	45/45	383/434	123/123	58.0/61.0	2,750/3,150	CE; cURus;

Technical specifications

A09BMT / A12BMT	A17MMT / A17TMT



General specifications

- Moving parts protection, according to EN ISO 12100 and EN ISO 13857 standards
- Material: steel wire AISI C1010
- Finishing: nickel-chrome plated

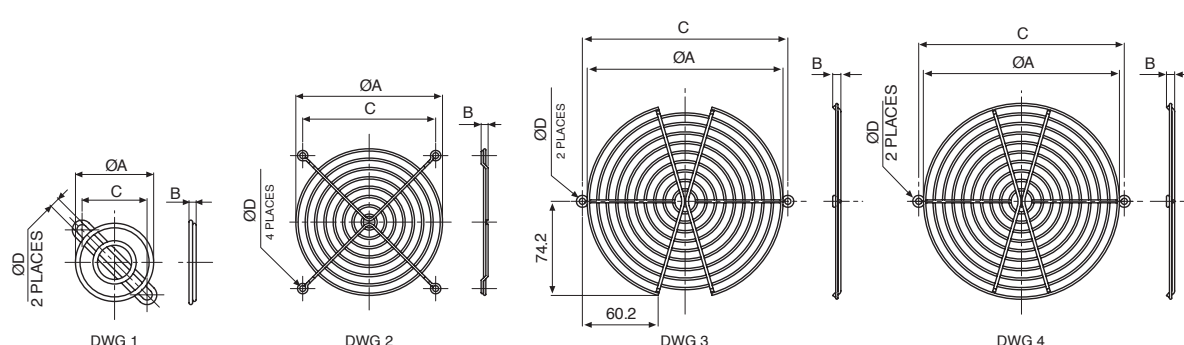


Technical data

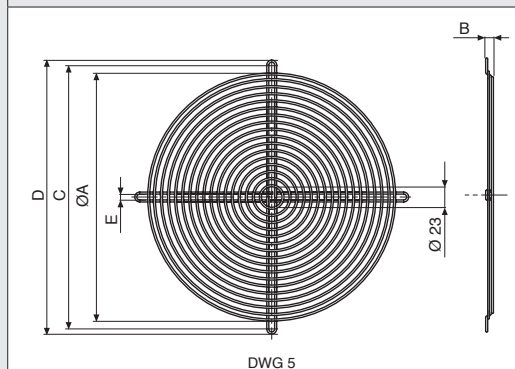
Model	Dwg	A	B	C	D
		mm	mm	mm	mm
25	1	24	2.2	20	3.2
40	2	29.1	4.8	32	4
45	2	38.3	3.8	37	4.3
50	2	42	3	40	5.2
60	2	53	4.4	50	4.6
80	2	76	5.5	71.5	4.9
92	2	90	5.5	82.5	4.9
120	2	115.6	5.5	105	4.6
127	2	115.6	6	113.3	4.6
150	4	154.4	6.5	162	4.8
150/S	3	154.4	6.5	162	4.8
GMP200NK	5	215	8.7	240	250
GMP250NK	5	278	8.7	295	307

Technical specifications

Technical drawing



Technical drawing



Accessories - frame fans metal filters



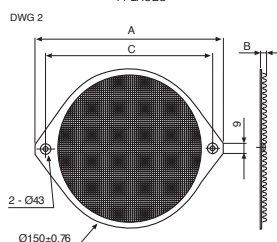
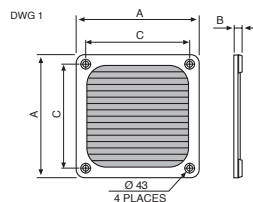
General specifications

- Moving parts and dust protection, according to EN ISO 12100 and EN ISO 13857 standards
- Material
 - Net: 30x30 stainless steel corrugated mesh with 4.8 mm pitch and 3.3 mm depth
 - Frame: aluminum
- Color: natural

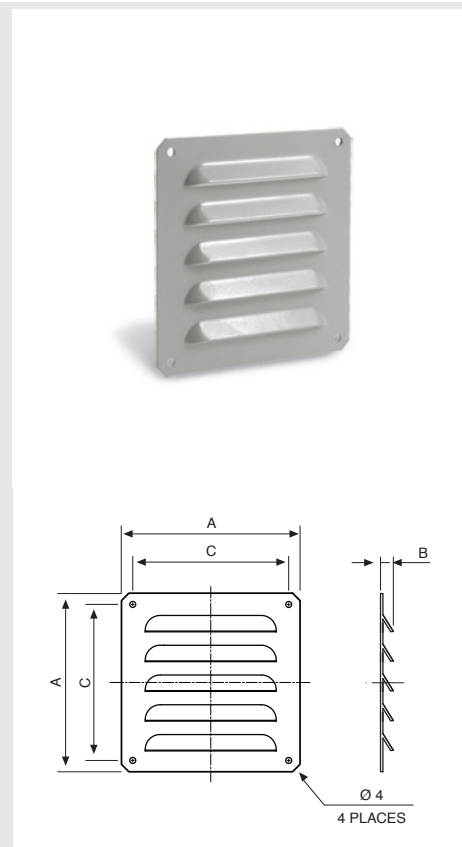


Technical data

Model	Dwg	A	B	C
		mm	mm	mm
FM/60	1	60	2.5	50
FM/80	1	83.8	3.0	71.4
FM/92	1	92	3.5	82.5
FM/120	1	119	4.0	104.5
FM/150	2	182	4.2	162



Accessories - frame fans metal ventilation louvres



General specifications

- Moving parts protection, according to EN ISO 12100 and EN ISO 13857 standards
- Material: steel plate with RAL 7035 epoxy powder coating

Model	A	B	C
	mm	mm	mm
G120M-7035	120	7.4	104.8



General specifications

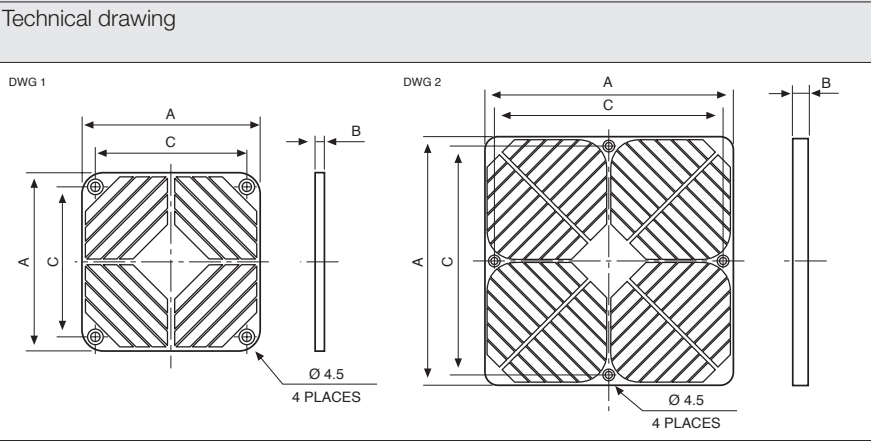
- Moving parts protection, according to EN ISO 12100 and EN ISO 13857 standards
- Material: self-extinguishing ABS/PC alloy, according to UL 94V-0
- Finishing: nickel-chrome plated
- Color: black RAL 9005



Technical data

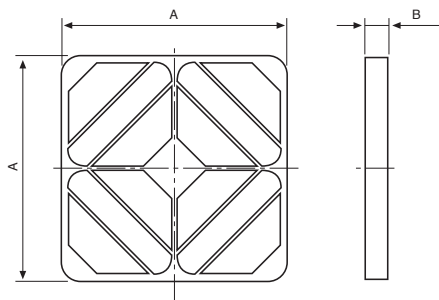
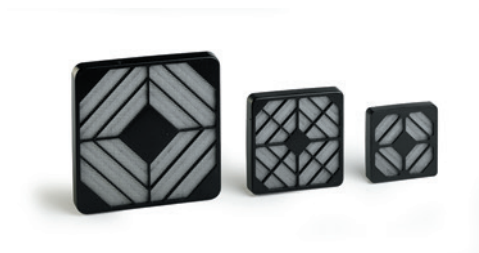
Model	Dwg	A	B	C
		mm	mm	mm
G40	1	42.3	3.3	32
G60	1	60	6	50
G80	1	81	5.5	71.4
G92	1	92	5.5	82.5
G120	1	121	6.5	104.8
G150	2	173	10.8	162

Technical specifications



Accessories - frame fans

plastic filters



General specifications

- Moving parts and dust protection, according to EN ISO 12100 and EN ISO 13857 standards
- Material
 - Plastic parts: black RAL 9005 self-extinguishing ABS/PC alloy, according to UL 94V-0
 - Filter media: white organic and synthetic fibres (polyester and polypropylene) heat bounded
 - Net: natural color fibreglass wiring Ø 0.28 mm, 18x16 mesh

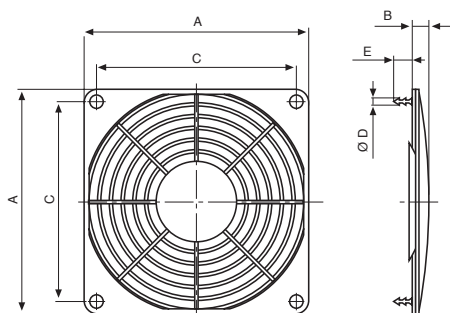


Technical data

Model	A	B
	mm	mm
F40/MR	46.4	6.5
F60/MR	64	12.2
F80/MR	86	12.2
F92/MR	97	12.2
F120/MR	126	13
F150/MR	179	24.7

Accessories - frame fans

fast assembly plastic fan guards



General specifications

- Moving parts protection, according to EN ISO 12100 and EN ISO 13857 standards
- Material: Self-extinguishing ABS according to UL 94HB
- Color: black RAL 9005



Model	A	B	C	D	E
	mm	mm	mm	mm	mm
G80/S	80	6.5	71.4	5.7	10
G120/S	120	7.3	104.8	5.7	12.2
G127/S	127.5	6.5	113.5	5.7	12

Accessories - frame fans

plastic rivets



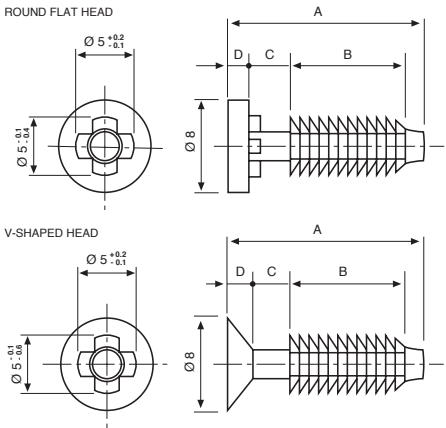
General specifications

- Fast fan and guards mounting
- Material: self-extinguishing nylon 6, according to UL 94V-0
- Suitable for fans with fixing hole diameter from 4mm to 4.8mm
- Available with round flat head or V-shaped head
- Two different stem lengths, 17mm and 22mm
- Color: black RAL 9005 or grey RAL 7032



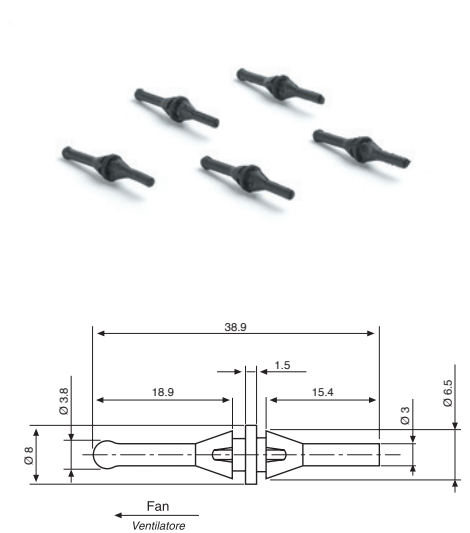
Technical data

Model	A	B	C	D	Description	Color
	mm	mm	mm	mm		0
FAR175TPN	17	10	3.6	1.8	Flat	9005 (Black)
FAR175TPR	17	10	3.6	1.8	Flat	7032 (Grey)
FAR175TSN	17	10	3.2	2.2	V-shaped	9005 (Black)
FAR175TSR	17	10	3.2	2.2	V-shaped	7032 (Grey)
FAR225TPN	22	15	3.8	1.8	Flat	9005 (Black)
FAR225TPR	22	15	3.8	1.8	Flat	7032 (Grey)
FAR225TSN	22	15	3.0	2.6	V-shaped	9005 (Black)
FAR225TSR	22	15	3.0	2.6	V-Shaped	7032 (Grey)



Accessories - frame fans

elastic rivets

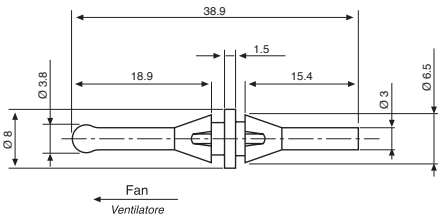


General specifications

- Fast fan mounting and dismounting, vibration and noise reduction
- Material: EPDM rubber, 63 shore A hardness
- Color: black



Model
EAR4401N





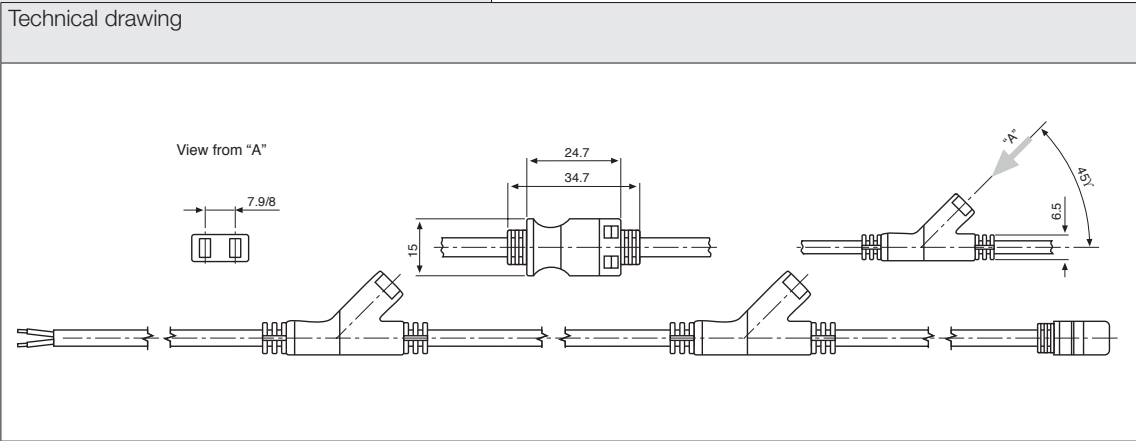
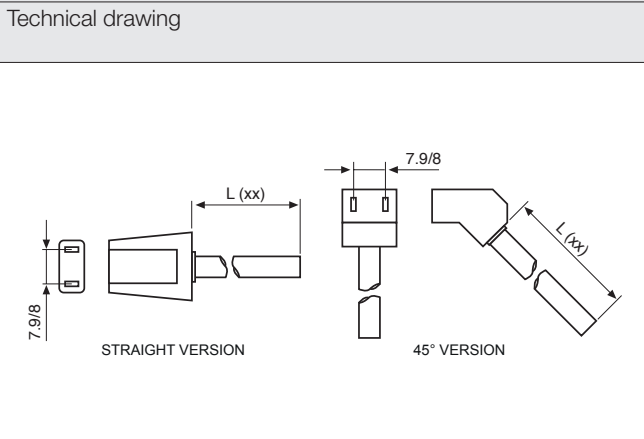
General specifications

- Quick fans power connection or disconnection with standard terminal male plugs
- Plug material: self-extinguishing PVC
- Versions available:
 - straight plug connection
 - 45° plug connection
- daisy chain plugs for multiple connections
- Other lengths are available on request, subject to quantity
- Cable type: flat flexible wire without sheath, H03VH-H according to CEI 20-20 or equivalent
- Color: black

Technical data

Model	Length of cable "L"	Description
	mm	
C24-45	610	45°
C24	610	Straight
C36-45	910	45°
C36	910	Straight
C60	1.520	Straight

Technical specifications





Protection from freezing or condensation

Anti-condensation heaters	156
H series	158
– Metal heaters with cable	158
– Metal heaters with terminal block	160
– Metal heaters with fan	161
– Metal heaters with fan, thermally protected	162
– Plastic heaters with cable	164
– Plastic heaters with terminal block	165
– Plastic heaters with fan	166
– Plastic heaters with fan, thermally protected	167
RAC Series	169
– Metal heaters with cable	170
– Metal heaters with terminal block	171

FUCSIS

anti-condensation heaters

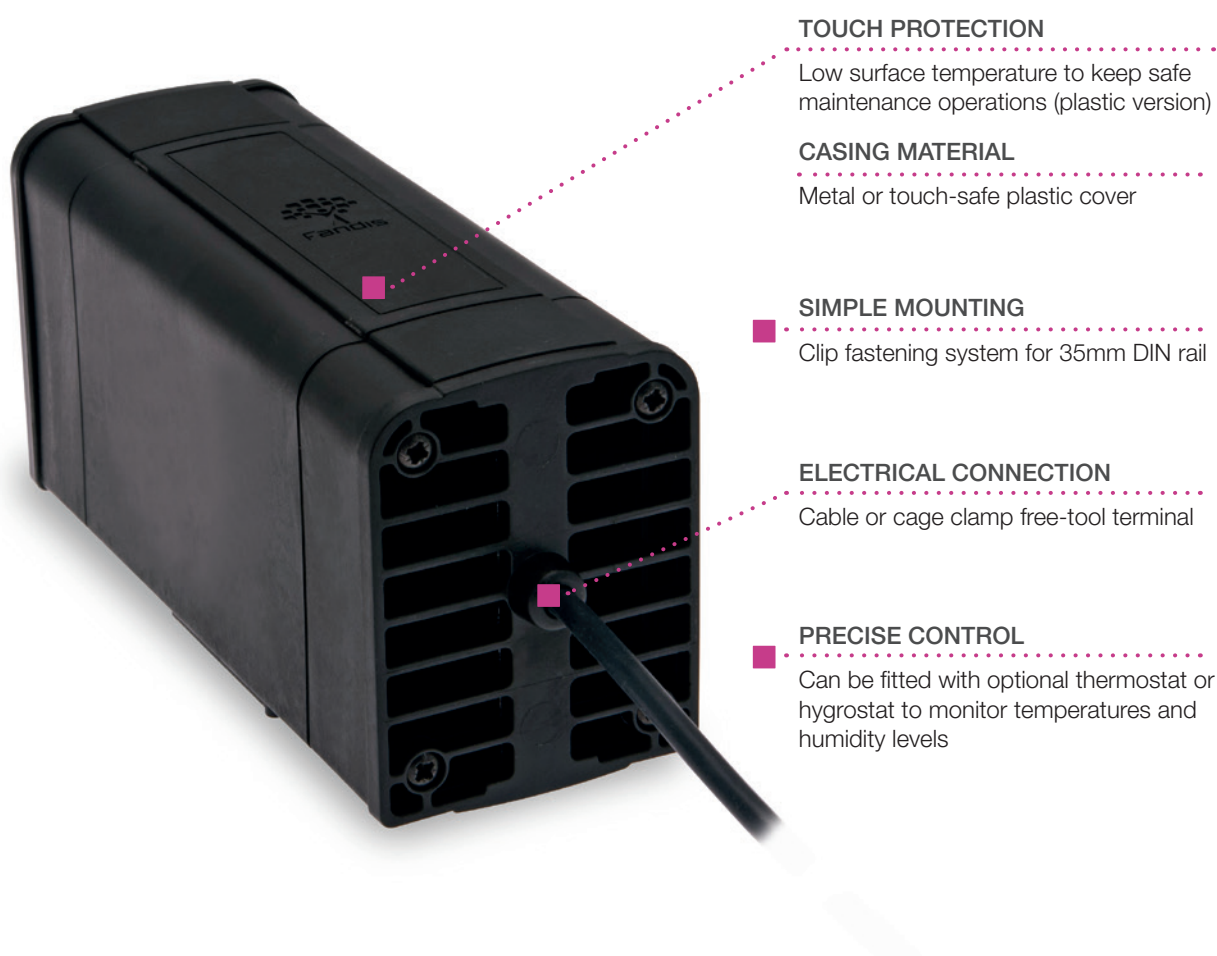
Most of our products are available
in the industrial engineering software:



ANTI-CONDENSATION HEATERS

Heaters are used for warming up the air inside enclosures, protecting electrical and electronic components from condensation and corrosion. Fandis heaters have a self-regulating function that is designed to maintain optimal temperatures within enclosures.

■ H SERIES with cable and terminal block



■ Details that make the difference



Cage Clamp terminal



Touch Safe
(plastic cover)



Clip system

■ H SERIES with fan

Heaters with built-in fans provide a forced air circulation to guarantee an even heat distribution in enclosures, thus minimizing the risk of condensation.



TOUCH PROTECTION
Low surface temperature to keep safe maintenance operations (plastic version)



ELECTRICAL CONNECTION
Cage clamp free-tool terminal



SIMPLE MOUNTING
Clip fastening system for 35mm DIN rail



FAN
Long-life axial fan for evenly distributed air temperature

THERMAL PROTECTION
Integrated device against overheating situation

Model numbering system for H SERIES

description	H V M S 150 T HP - 230 - SXX					description
FAMILY H						CUSTOM SERIES SXX = custom version
SUB FAMILY W = Wire series V = Ventilated series T = Terminal block series						VOLTAGE 115 = 115 Vac 230 = 230 Vac Blank = 110-240 Vac/Vdc
COVER M = Metal P = Plastic						VERSION HP = High Performance
SIZE S = Small B = Big Blank = Standard size						PROTECTION T = With thermal protection Blank = Without thermal protection
POWER						
005 = 5 W 025 = 25 W 060 = 60 W 125 = 125 W 200 = 200 W						
010 = 10 W 030 = 30 W 080 = 80 W 150 = 150 W 250 = 250 W						
015 = 15 W 045 = 45 W 100 = 100 W 185 = 185 W 350 = 350 W						



General specifications

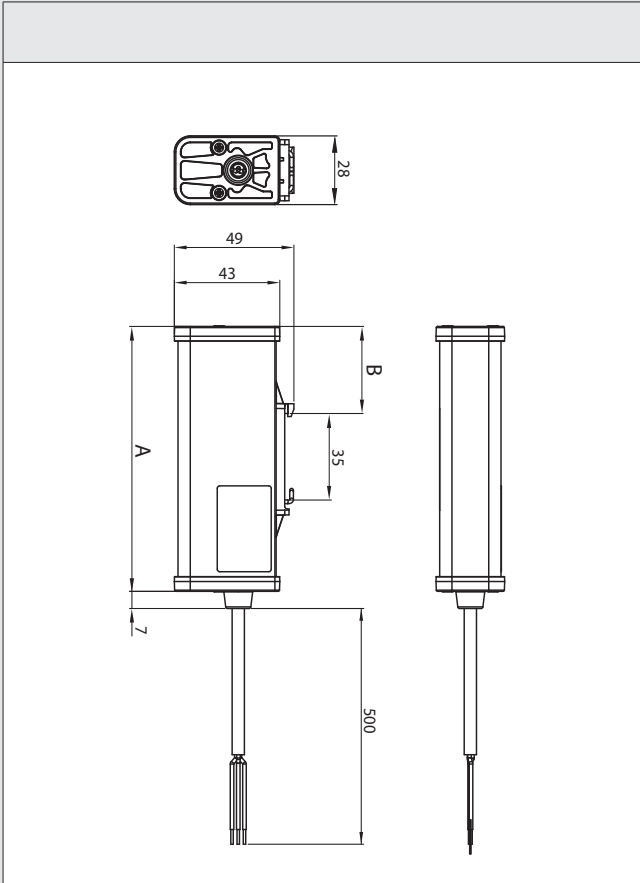
- Snap on fixing on rail 35mm EN 50022
- Heat sink and cover in black anodized aluminum profile
- Heating element consists of a self-regulating PTC resistor
- 3x20AWG cable with 500mm length
- UL approval according to UL 508



Technical data

Model	A	B	Heating Power	Rated Voltage	Weight	Approvals
	mm	mm	W	V	Kg	
HWM005	78	20.5	5	110-240 V a.c./d.c.	0.14	CE; cURus;
HWM010	78	20.5	10	110-240 V a.c./d.c.	0.14	CE; cURus;
HWM015	78	20.5	15	110-240 V a.c./d.c.	0.14	CE; cURus;
HWM020	78	20.5	20	110-240 V a.c./d.c.	0.14	CE; cURus;
HWM025	108	35.5	25	110-240 V a.c./d.c.	0.18	CE; cURus;
HWM030	108	35.5	30	110-120 V a.c./d.c.	0.18	CE; cURus;
HWM030X	108	35.5	30	110-240 V a.c./d.c.	0.18	CE;

Technical specifications





General specifications

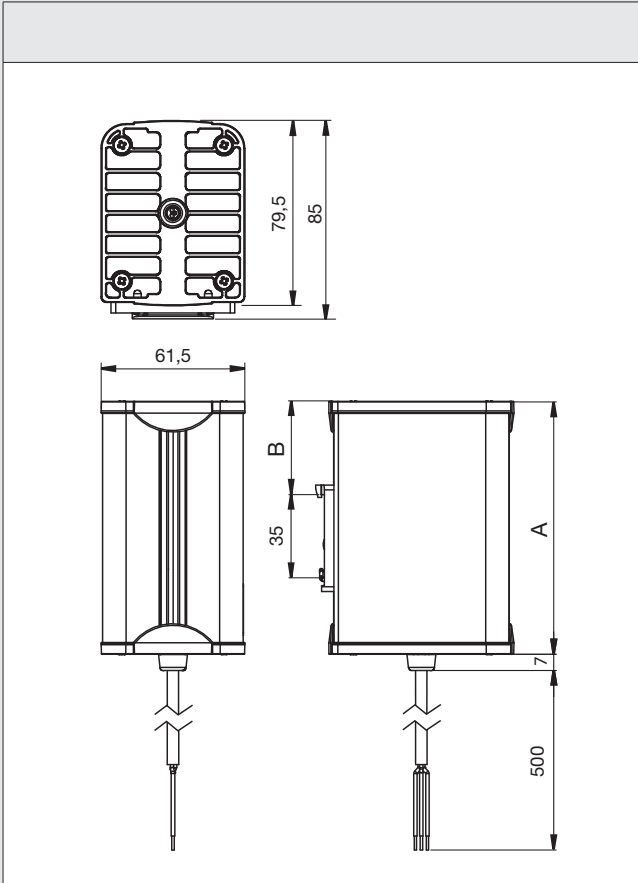
- Snap on fixing on rail 35mm EN 50022
- Heat sink and cover in black anodized aluminum profile
- Heating element consists of a self-regulating PTC resistor
- 3x20AWG cable with 500mm length
- UL approval according to UL 508



Technical data

Model	A	B	Heating Power	Rated Voltage	Weight	Approvals
	mm	mm	W	V	Kg	
HWM045	108	40	45	110-240 V a.c./d.c.	0.45	CE; cURus;
HWM060	108	40	60	110-240 V a.c./d.c.	0.45	CE; cURus;
HWM080	158	65	80	110-240 V a.c./d.c.	0.61	CE; cURus;
HWM100	158	65	100	110-240 V a.c./d.c.	0.61	CE; cURus;
HWM150	208	90	150	110-240 V a.c./d.c.	0.8	CE; cURus;

Technical specifications





General specifications

- Snap on fixing on rail 35mm EN 50022
- Heat sink and cover in black anodized aluminum profile
- Heating element consists of a self-regulating PTC resistor
- 3 cage clamp terminals for solid or fine stranded wires 0.5÷2.5mm² (20÷16 AWG)
- UL approval according to UL 508

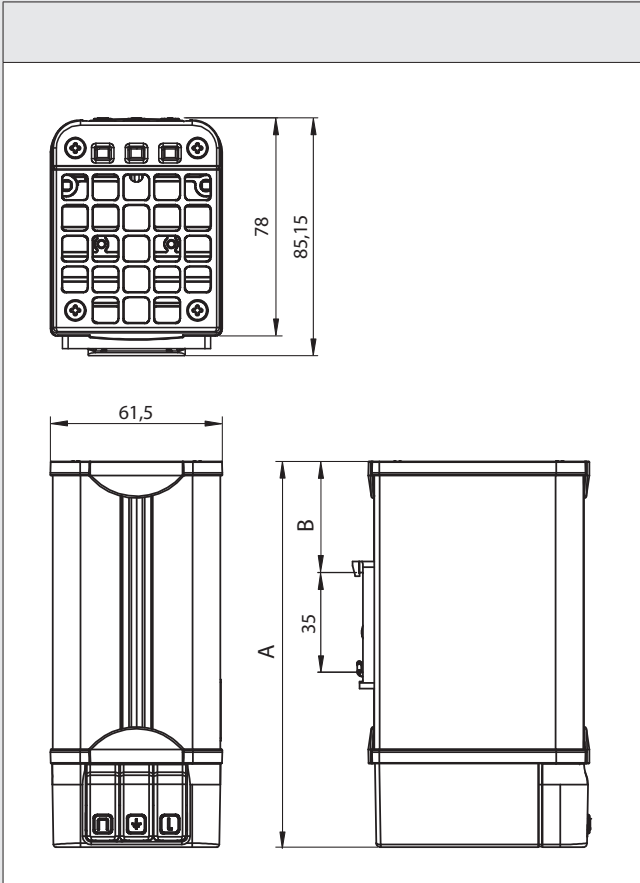


► Quick electrical connection with cage clamp terminal

Technical data

Model	A	B	Heating Power	Rated Voltage	Weight	Approvals
	mm	mm	W	V	Kg	
HTM045	138	40	45	110-240 V a.c./d.c.	0.5	CE; cURus;
HTM060	138	40	60	110-240 V a.c./d.c.	0.5	CE; cURus;
HTM080	188	65	80	110-240 V a.c./d.c.	0.65	CE; cURus;
HTM100	188	65	100	110-240 V a.c./d.c.	0.65	CE; cURus;
HTM150	238	90	150	110-240 V a.c./d.c.	0.84	CE; cURus;

Technical specifications





General specifications

- Snap on fixing on rail 35mm EN 50022
- Heat sink and cover in black anodized aluminum profile
- Heating element consists of a self-regulating PTC resistor
- 3 cage clamp terminals for solid or fine stranded wires 0.5÷2.5mm² (20÷16 AWG)
- UL approval according to UL 508

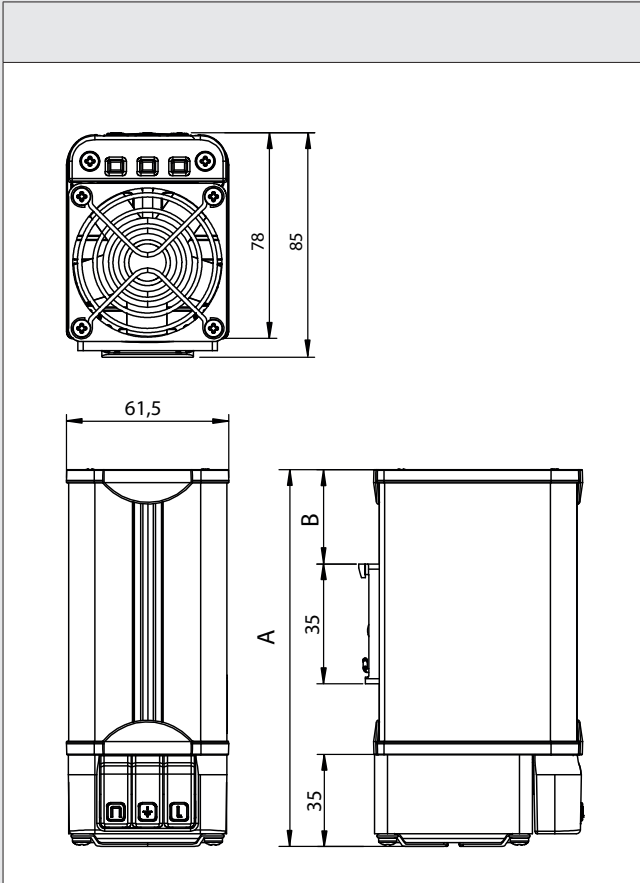


- Quick electrical connection with cage clamp terminal
- Forced ventilation

Technical data

Model	A	B	Heating Power	Rated Voltage	Weight	Approvals
	mm	mm	W	V	Kg	
HVMS080-115	143	40	80	115 V a.c.	0.62	CE; cURus;
HVMS080-230	143	40	80	230 V a.c.	0.62	CE; cURus;
HVMS125-115	193	65	125	115 V a.c.	0.78	CE; cURus;
HVMS125-230	193	65	125	230 V a.c.	0.78	CE; cURus;
HVMS185-115	243	90	185	115 V a.c.	0.97	CE; cURus;
HVMS185-230	243	90	185	230 V a.c.	0.97	CE; cURus;

Technical specifications





General specifications

- Snap on fixing on rail 35mm EN 50022
- Heat sink and cover in black anodized aluminum profile
- Heating element consists of a self-regulating PTC resistor
- 3 cage clamp terminals for solid or fine stranded wires 0.5÷2.5mm² (20÷16 AWG)
- UL approval according to UL 508

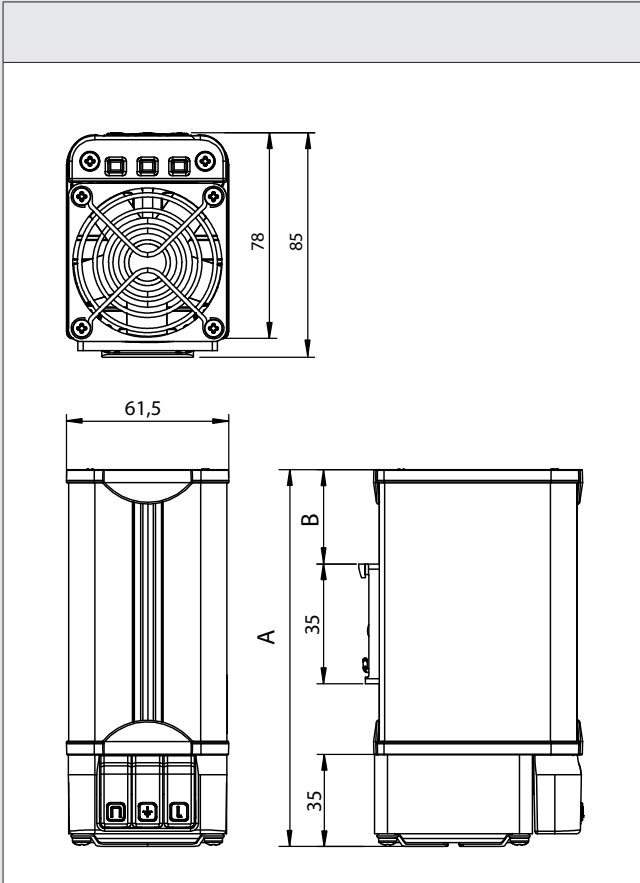


- ▶ Quick electrical connection with cage clamp terminal
- ▶ Integrated bimetal thermal protector
- ▶ Forced ventilation

Technical data

Model	A	B	Heating Power	Rated Voltage	Weight	Approvals
	mm	mm	W	V	Kg	
HVMS150T-115	143	40	150	115 V a.c.	0.66	CE; cURus;
HVMS150T-230	143	40	150	230 V a.c.	0.66	CE; cURus;
HVMS200T-115	193	65	200	115 V a.c.	0.83	CE; cURus;
HVMS200T-230	193	65	200	230 V a.c.	0.83	CE; cURus;
HVMS250T-115	243	90	250	115 V a.c.	1.03	CE; cURus;
HVMS250T-230	243	90	250	230 V a.c.	1.03	CE; cURus;

Technical specifications





General specifications

- Snap on fixing on rail 35mm EN 50022
- Heat sink and cover in black anodized aluminum profile
- Heating element consists of a self-regulating PTC resistor
- 3 cage clamp terminals for solid or fine stranded wires 0.5÷2.5mm² (20÷16 AWG)
- UL approval according to UL 508



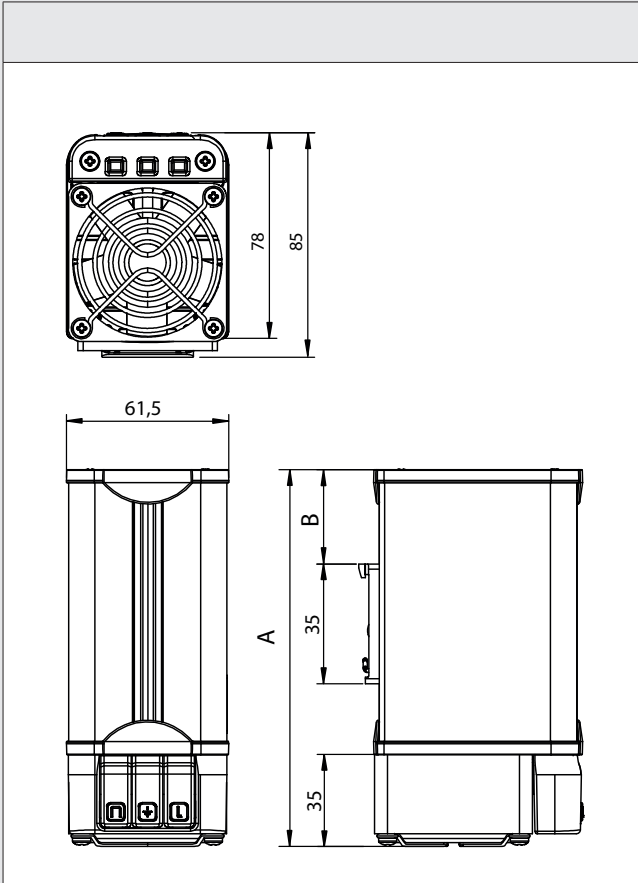
- Quick electrical connection with cage clamp terminal
- Integrated bimetal thermal protector
- High performance

► Forced ventilation

Technical data

Model	A	B	Heating Power	Rated Voltage	Weight	Approvals
	mm	mm	W	V	Kg	
HVMS200THP-115	143	40	200	115 V a.c.	0.61	CE; cURus;
HVMS200THP-230	143	40	200	230 V a.c.	0.61	CE; cURus;
HVMS250THP-115	193	65	250	115 V a.c.	0.79	CE; cURus;
HVMS250THP-230	193	65	250	230 V a.c.	0.79	CE; cURus;
HVMS350THP-115	243	90	350	115 V a.c.	1	CE; cURus;
HVMS350THP-230	243	90	350	230 V a.c.	1	CE; cURus;

Technical specifications





General specifications

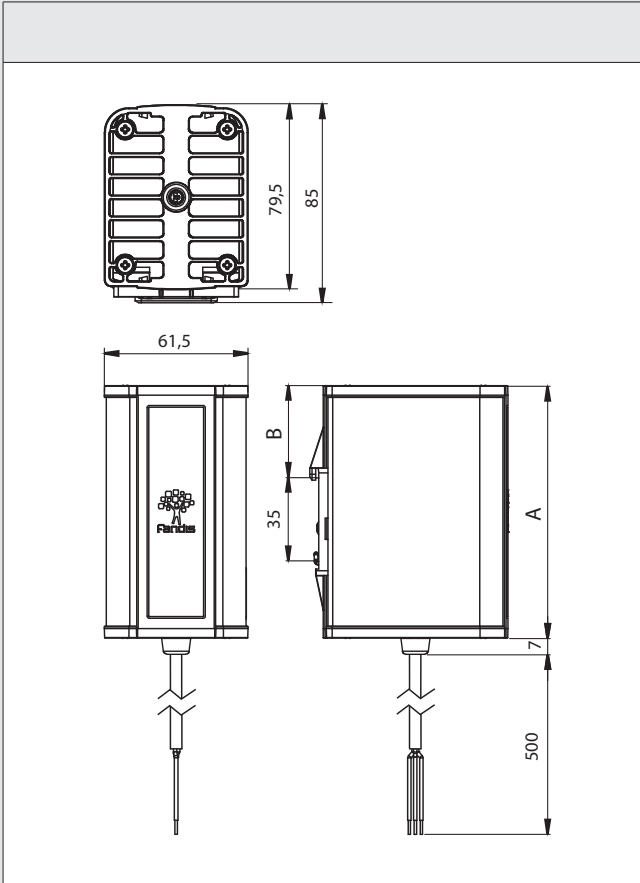
- Snap on fixing on rail 35mm EN 50022
- Heat sink in black anodized aluminum profile and cover in black PET
- Heating element consists of a self-regulating PTC resistor
- 3x20AWG cable with 500mm length
- UL approval according to UL 508



► Touch safe

Technical data						
Model	A	B	Heating Power	Rated Voltage	Weight	Approvals
	mm	mm	W	V	Kg	
HWP045	108	40	45	110-240 V a.c./d.c.	0.45	CE; cURus;
HWP060	108	40	60	110-240 V a.c./d.c.	0.45	CE; cURus;
HWP080	158	65	80	110-240 V a.c./d.c.	0.61	CE; cURus;
HWP100	158	65	100	110-240 V a.c./d.c.	0.61	CE; cURus;
HWP150	208	90	150	110-240 V a.c./d.c.	0.8	CE; cURus;

Technical specifications





General specifications

- Snap on fixing on rail 35mm EN 50022
- Heat sink in black anodized aluminum profile and cover in black PET
- Heating element consists of a self-regulating PTC resistor
- 3 cage clamp terminals for solid or fine stranded wires 0.5÷2.5mm² (20÷16 AWG)
- UL approval according to UL 508

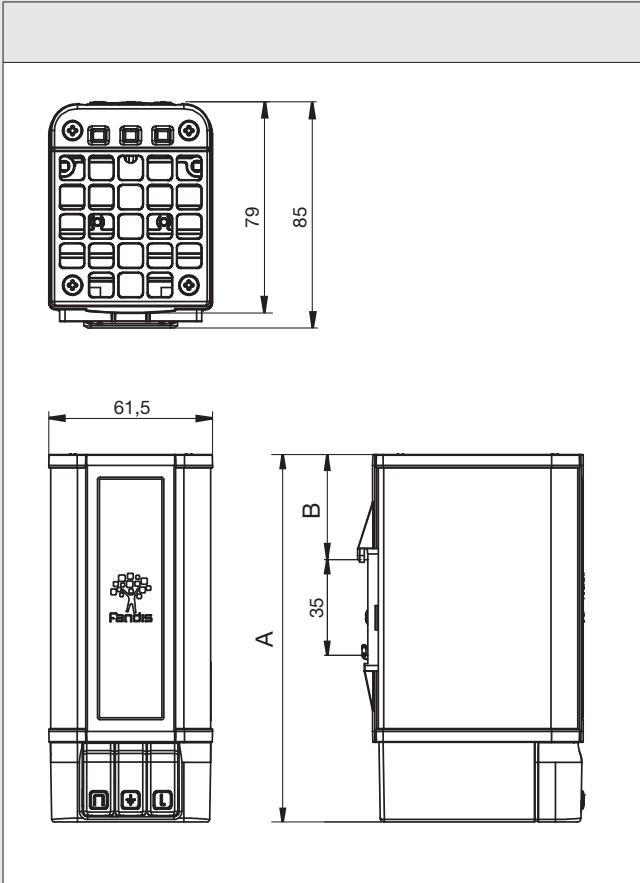


- ▶ Touch safe
- ▶ Quick electrical connection with cage clamp terminal

Technical data

Model	A	B	Heating Power	Rated Voltage	Weight	Approvals
	mm	mm	W	V	Kg	
HTP045	138	40	45	110-240 V a.c./d.c.	0.5	CE; cURus;
HTP060	138	40	60	110-240 V a.c./d.c.	0.5	CE; cURus;
HTP080	188	65	80	110-240 V a.c./d.c.	0.66	CE; cURus;
HTP100	188	65	100	110-240 V a.c./d.c.	0.66	CE; cURus;
HTP150	238	90	150	110-240 V a.c./d.c.	0.85	CE; cURus;

Technical specifications





General specifications

- Snap on fixing on rail 35mm EN 50022
- Heat sink in black anodized aluminum profile and cover in black PET
- Heating element consists of a self-regulating PTC resistor
- 3 cage clamp terminals for solid or fine stranded wires 0.5÷2.5mm² (20÷16 AWG)
- UL approval according to UL 508

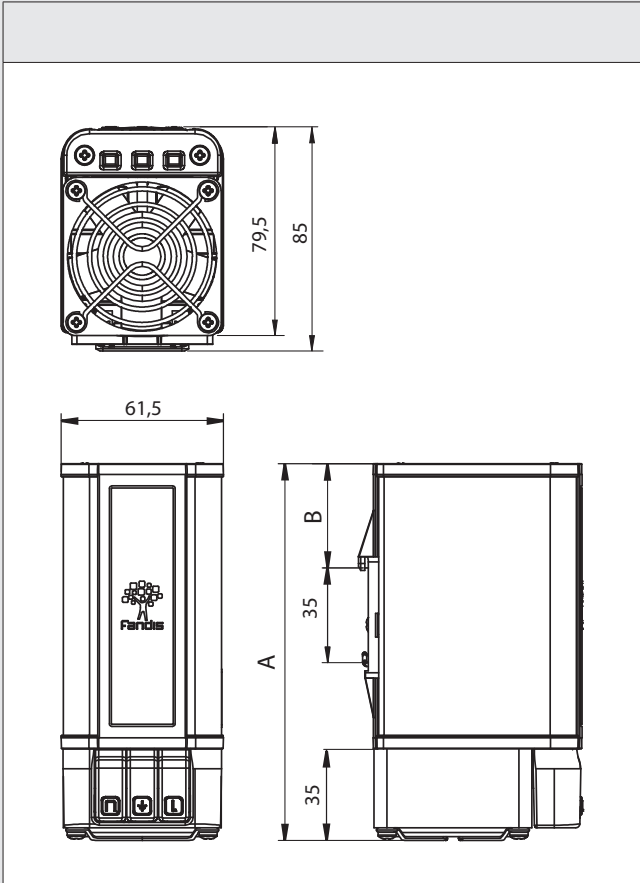


- ▶ Touch safe
- ▶ Quick electrical connection with cage clamp terminal
- ▶ Forced ventilation

Technical data

Model	A	B	Heating Power	Rated Voltage	Weight	Approvals
	mm	mm	W	V	Kg	
HVPS080-115	143	40	80	115 V a.c.	0.62	CE; cURus;
HVPS080-230	143	40	80	230 V a.c.	0.62	CE; cURus;
HVPS125-115	193	65	125	115 V a.c.	0.67	CE; cURus;
HVPS125-230	193	65	125	230 V a.c.	0.67	CE; cURus;
HVPS185-115	243	90	185	115 V a.c.	0.97	CE; cURus;
HVPS185-230	243	90	185	230 V a.c.	0.97	CE; cURus;

Technical specifications





General specifications

- Snap on fixing on rail 35mm EN 50022
- Heat sink in black anodized aluminum profile and cover in black PET
- Heating element consists of a self-regulating PTC resistor
- 3 cage clamp terminals for solid or fine stranded wires 0.5÷2.5mm² (20÷16 AWG)
- UL approval according to UL 508



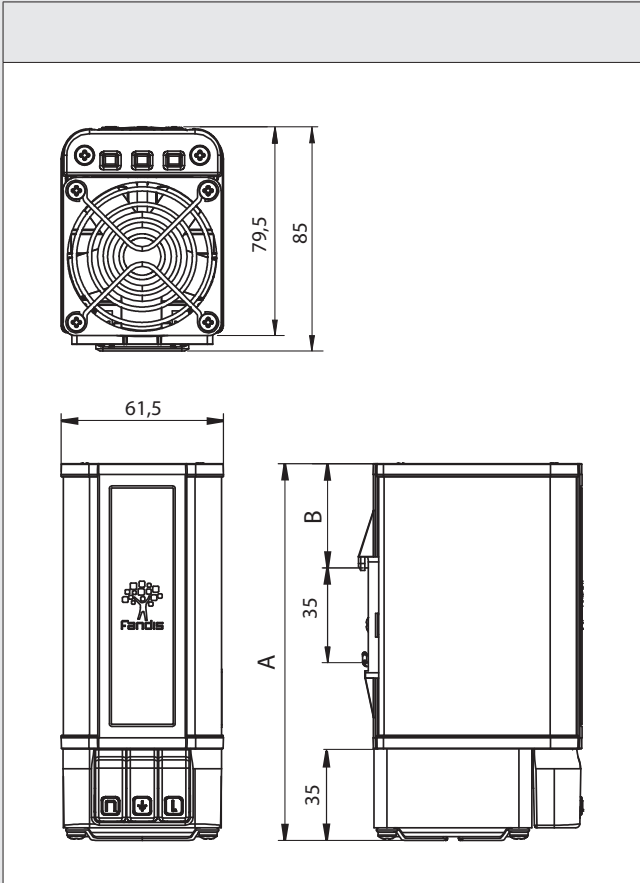
- ▶ Touch safe
- ▶ Quick electrical connection with cage clamp terminal
- ▶ Integrated bimetal thermal protector

▶ Forced ventilation

Technical data

Model	A	B	Heating Power	Rated Voltage	Weight	Approvals
	mm	mm	W	V	Kg	
HVPS150T-115	143	40	150	115 V a.c.	0.66	CE; cURus;
HVPS150T-230	143	40	150	230 V a.c.	0.66	CE; cURus;
HVPS200T-115	193	65	200	115 V a.c.	0.83	CE; cURus;
HVPS200T-230	193	65	200	230 V a.c.	0.83	CE; cURus;
HVPS250T-115	243	90	250	115 V a.c.	1.03	CE; cURus;
HVPS250T-230	243	90	250	230 V a.c.	1.03	CE; cURus;

Technical specifications





General specifications

- Snap on fixing on rail 35mm EN 50022
- Heat sink in black anodized aluminum profile and cover in black PET
- Heating element consists of a self-regulating PTC resistor
- 3 cage clamp terminals for solid or fine stranded wires 0.5÷2.5mm² (20÷16 AWG)
- UL approval according to UL 508

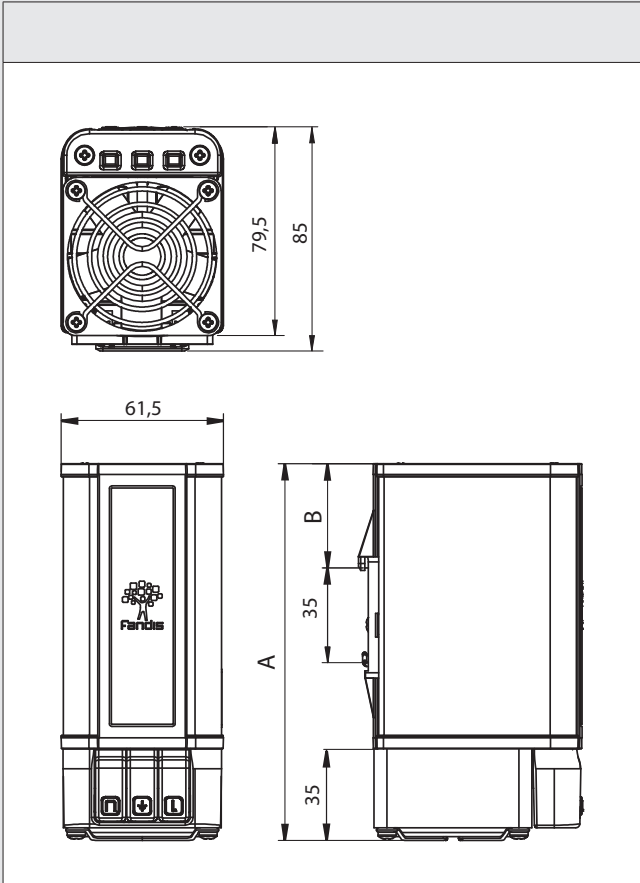


- ▶ Touch safe
- ▶ Quick electrical connection with cage clamp terminal
- ▶ Integrated bimetal thermal protector
- ▶ High performance
- ▶ Forced ventilation

Technical data

Model	A	B	Heating Power	Rated Voltage	Weight	Approvals
	mm	mm	W	V	Kg	
HVPS200THP-115	143	40	200	115 V a.c.	0.61	CE; cURus;
HVPS200THP-230	143	40	200	230 V a.c.	0.61	CE; cURus;
HVPS250THP-115	193	65	250	115 V a.c.	0.79	CE; cURus;
HVPS250THP-230	193	65	250	230 V a.c.	0.79	CE; cURus;
HVPS350THP-115	243	90	350	115 V a.c.	1	CE; cURus;
HVPS350THP-230	243	90	350	230 V a.c.	1	CE; cURus;

Technical specifications



ANTI-CONDENSATION HEATERS

The range of RAC anti-condensation heaters is designed with built-in temperature limiting PTC devices that prevent over-heating. This series protects cabinet components from the harmful effects of condensation and corrosion, keeping internal temperatures within acceptable operational limits. RAC heaters feature cable or terminal block connections and heating power from 15 to 150W.

RAC SERIES with cable



PRECISE CONTROL
Can be fitted with optional thermostat or hygrostat to monitor temperatures and humidity levels



SIMPLE MOUNTING
Clip fastening system for 35mm DIN rail



ELECTRICAL CONNECTION
Two/three-pole cable

RAC SERIES with terminal block



PRECISE CONTROL
Can be fitted with optional thermostat or hygrostat to monitor temperatures and humidity levels



SIMPLE MOUNTING
Clip fastening system for 35mm DIN rail



ELECTRICAL CONNECTION
Three-pole terminal block

Model numbering system for RAC SERIES

description	RAC	M	S	-	150	-	XXXX	description
FAMILY RAC								CUSTOM SERIES
SUBFAMILY								POWER
M = Terminal block series								15 = 15 W
Blank = Standard wire series								80 = 80 W
SIZE								100 = 100 W
S = Short								45 = 45 W
								150 = 150 W
								60 = 60 W



General specifications

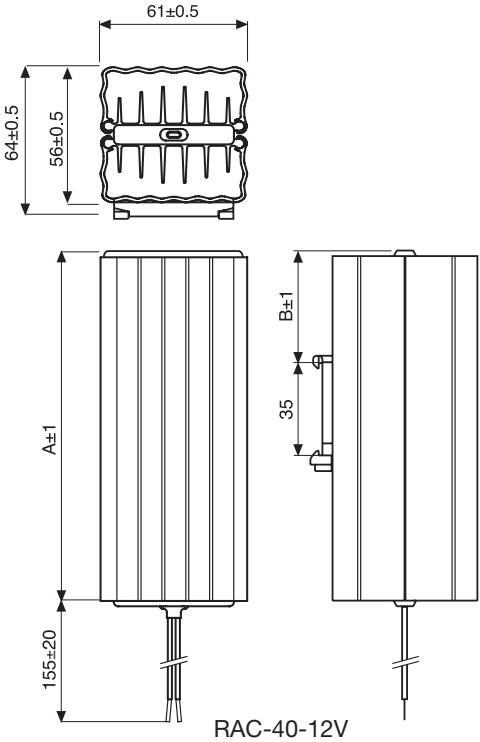
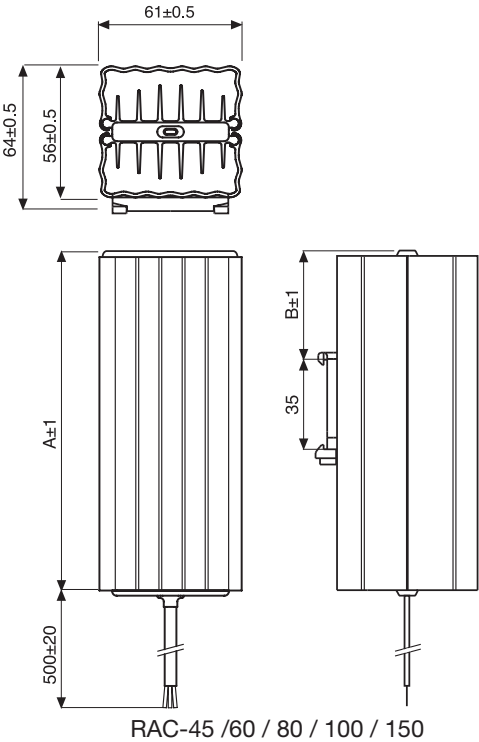
- Snap on fixing on rail 35mm EN 50022
- Heat sink and cover in black anodized aluminum profile
- Heating element consists of a self-regulating PTC resistor
- 3x20AWG cable with PFA sheath



Technical data

Model	A	B	Heating Power	Rated Voltage	Weight	Approvals
	mm	mm	W	V	Kg	
RAC-40-12V	102	34	40	12 V d.c.	0.29	CE;
RAC-45	102	34	45	110-250 V a.c./d.c.	0.31	CE;
RAC-60	102	34	60	110-250 V a.c./d.c.	0.28	CE;
RAC-80	152	58	80	110-250 V a.c./d.c.	0.4	CE;
RAC-100	152	58	100	110-250 V a.c./d.c.	0.4	CE;
RACS-150	152	58	138	110-250 V a.c./d.c.	0.4	CE;
RAC-150	227	95	150	110-250 V a.c./d.c.	0.58	CE;

Technical specifications





General specifications

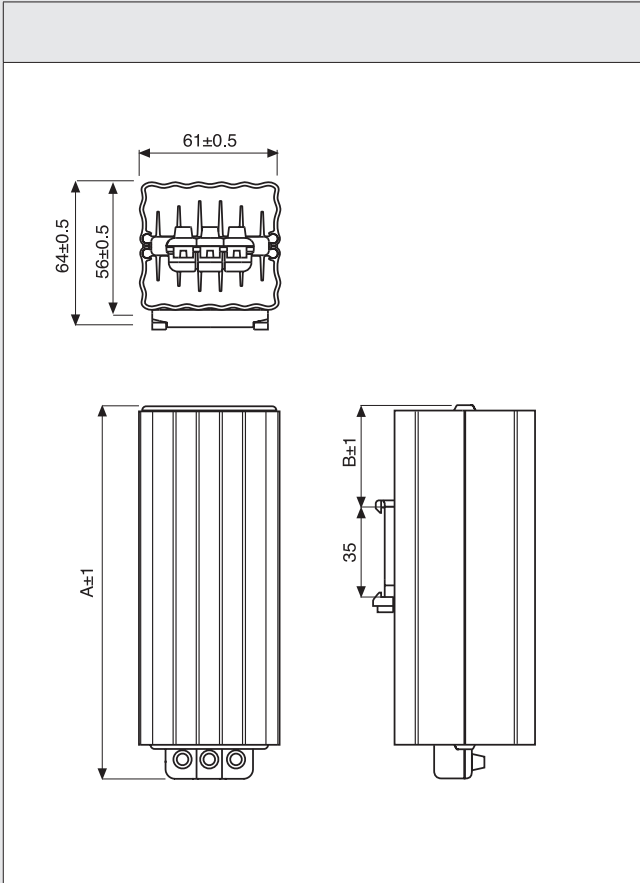
- Snap on fixing on rail 35mm EN 50022
- Heat sink and cover in black anodized aluminum profile
- Heating element consists of a self-regulating PTC resistor
- screw terminals for wires 0.5÷2.5mm² (20÷16 AWG)

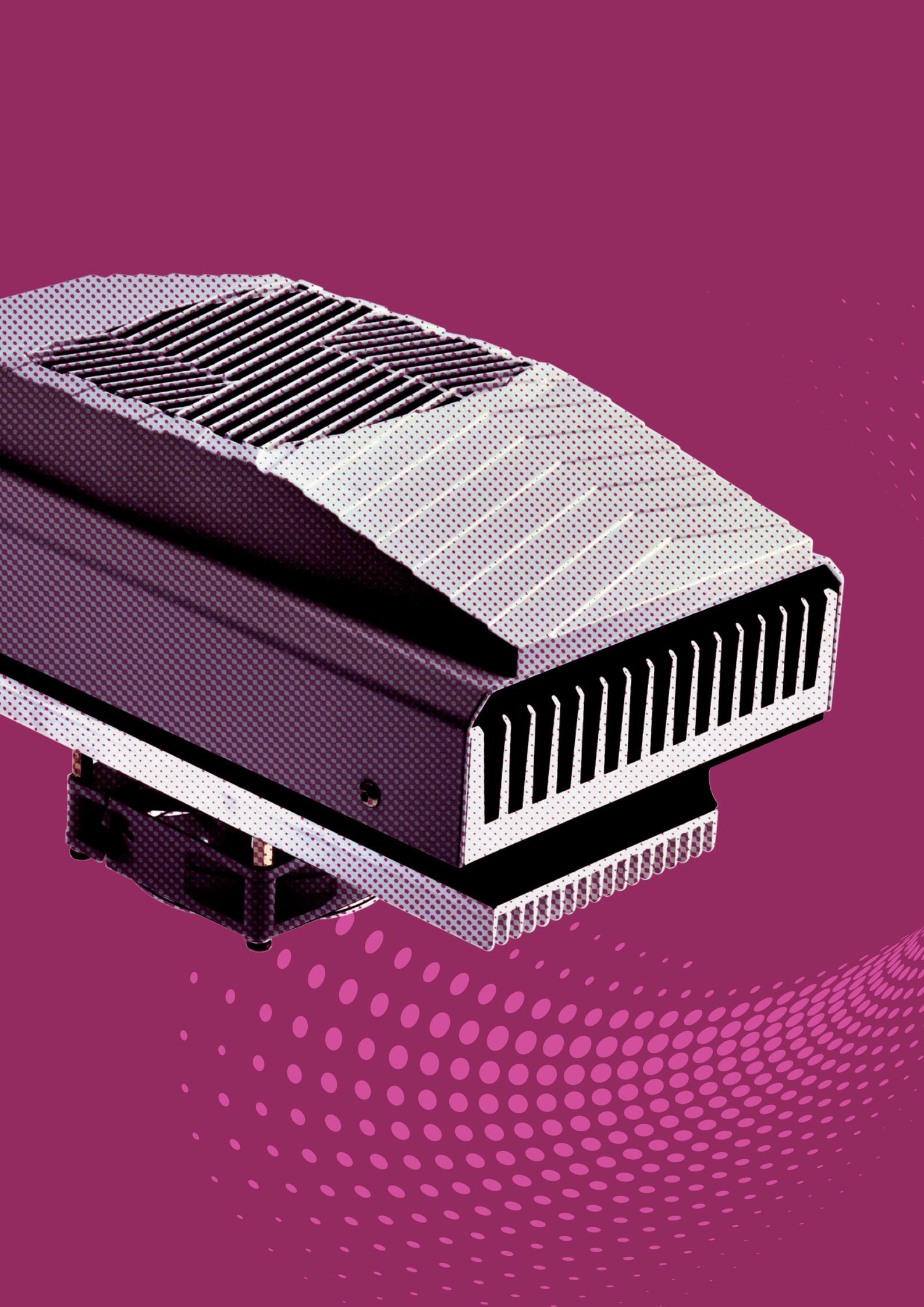


Technical data

Model	A	B	Heating Power	Rated Voltage	Weight	Approvals
	mm	mm	W	V	Kg	
RACM-45	117	34	45	110-250 V a.c./d.c.	0.29	CE;
RACM-60	117	34	60	110-250 V a.c./d.c.	0.3	CE;
RACM-80	167	58	80	110-250 V a.c./d.c.	0.42	CE;
RACM-100	167	58	100	110-250 V a.c./d.c.	0.42	CE;
RACMS-150	167	58	138	110-250 V a.c./d.c.	0.42	CE;
RACM-150	242	95	150	110-250 V a.c./d.c.	0.59	CE;

Technical specifications





Green air conditioning

What is a thermoelectric unit	174
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bordos
heat pumps

Most of our products are available
in the industrial engineering software:



What is a thermoelectric unit?

A thermoelectric unit is a device for the transfer of heat. Such units come ready for fitting and cool using electrical energy only.

Thermoelectric units achieve the same results as traditional compressor systems without the use of gas or moving components (except fans, if applicable).

HOW DO THERMOELECTRIC UNITS WORK?

Thermoelectric units are simply small static heat pumps, which use the so-called “Peltier” effect.

Heat is transferred as a result of a flow of electrical current through thermoelectric modules, which are the main components in the system.

Heat is absorbed by one side of the unit (the cold side) and as a result the temperature drops. The other side dissipates the heat into the surrounding environment (hot side). The process can be reversed by simply inverting the direction of the current flow.

WHAT ARE THE ADVANTAGES COMPARED TO A COMPRESSOR SYSTEM?

Thermoelectric units have no moving mechanical parts (except fans, if applicable) and are therefore extremely reliable, have an almost unlimited life span and require no maintenance.

The fact that they are “static” makes them immune to vibration meaning they can be used in any position, which makes them particularly suitable for applications where they are mounted on systems in motion.

They contain no pollutants such as CFC or other gases, which can harm the environment ambient and have simpler and more compact structure than compressor systems.



Thermoelectric cooling units are used to cool and dehumidify the air inside electrical cabinets and to separate the internal and exterior environments.

Air conditioners are usually used when outside temperatures are unfavorable i.e. over 35°C and the atmosphere is contaminated by oil or dust.

THERMOELECTRIC UNITS

Thermoelectric unit is a solid-state device, which can operate as a heat pump to transfer heat utilizing the Peltier effect. These thermoelectric air conditioners represent a cost-effective solution for cooling electronic equipment housed in small enclosures to provide reliable performance without the use of CFC's.

■ DC THERMOELECTRIC UNITS



DOUBLE EFFECT

Heating and cooling conversion by reversing polarity

QUIET OPERATION

Compressor-free and no moving parts, except for the fan

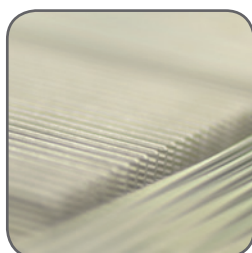
REFRIGERANT FREE

No dangerous fluids thanks to Peltier effect cooling system

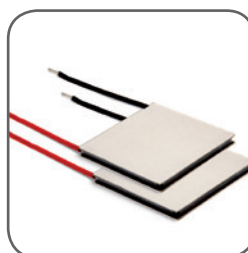
IP55

High protection against wet and dusty conditions

■ Details that make the difference



Efficient heat sink



Peltier module



Custom design

■ AC THERMOELECTRIC UNITS

Designed for enclosure in industrial settings, the AC cooling unit fit an integrated AC power supply system on the outer cover, saving internal space and avoiding additional thermal load inside the unit.



AC/DC POWER SUPPLY INTEGRATED

DESIGN
Corrosion-resistant stainless steel construction

Model numbering system for DC Thermoelectric units

description	TCU	200	AC	40	description
FAMILY TCU					SERIES 40 = standard S*** = custom
COOLING POWER 200 = 200 W					VOLTAGE AC = Va.c.

Model numbering system for AC Thermoelectric units

description	TCU	100	24	40	IP55	-7035	description
FAMILY TCU							COLOR 7035 = Grey RAL 7035
COOLING POWER 50 = 50 W 100 = 100 W 200 = 200 W							IP protection degree of the warm side fan
VOLTAGE 12 = 12 Vd.c. 24 = 24 Vd.c. 48 = 48 Vd.c.							SERIES 40 = standard S*** = custom

General specifications



- Panel through mounting, see mounting cut-out. Fixing with M5 ISO screws (not supplied). Suitable for any plate thickness
- Plastic parts in PC/ABS alloy, self-extinguishing, according to UL 94V-0
- Sealing gasket made of closed cell polyethylene foam
- Shielded and self-lubricating ball bearing fans
- Standard color grey RAL 7035

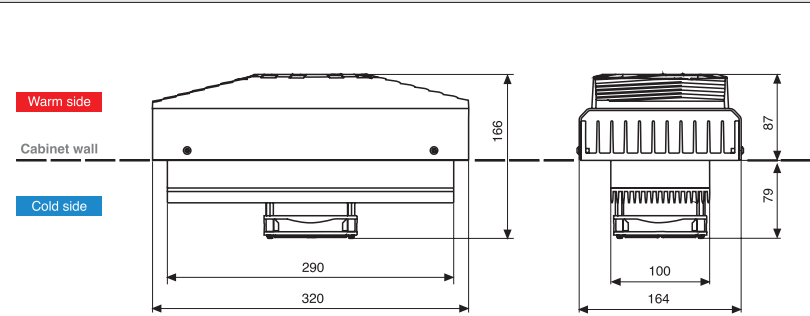


- ▶ No chlorofluorocarbons (CFC)
- ▶ Ability to heat and cool
- ▶ Precise temperature control
- ▶ Operation in any orientation
- ▶ Long life
- ▶ Not sensitive to vibration
- ▶ No moving parts except the fans

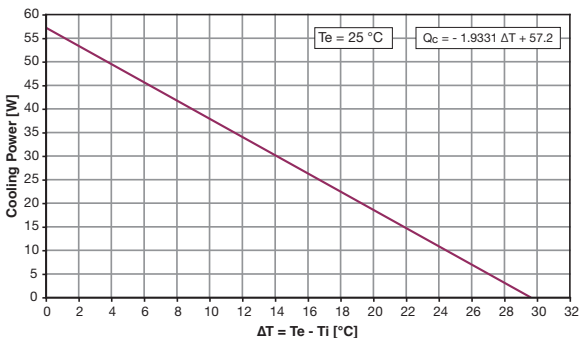
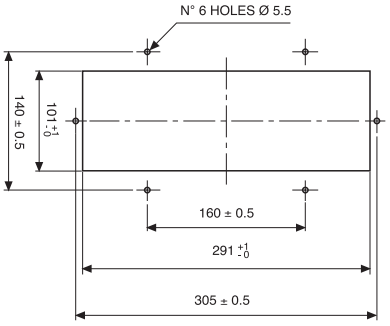
Technical data

Model	Cooling Power	Rated Voltage	Rated Current	Max Current	Operating Temp. Range	Rated Voltage Range	Weight	Approvals
	W	V	A	A	°C	V	Kg	
TCU501240IP55-7035	57	12 V d.c.	5.0	5.8	-20 ~ +70	7 ~ 13	5.39	CE;
TCU502440IP55-7035	57	24 V d.c.	2.4	2.8	-20 ~ +70	10 ~ 27.6	5.41	CE;

Technical drawing



Mounting cut-out





General specifications

- Panel through mounting, see mounting cut-out. Fixing with M5 ISO screws (not supplied). Suitable for any plate thickness
- Plastic parts in PC/ABS alloy, self-extinguishing, according to UL 94V-0
- Sealing gasket made of closed cell polyethylene foam
- Shielded and self-lubricating ball bearing fans
- Standard color grey RAL 7035

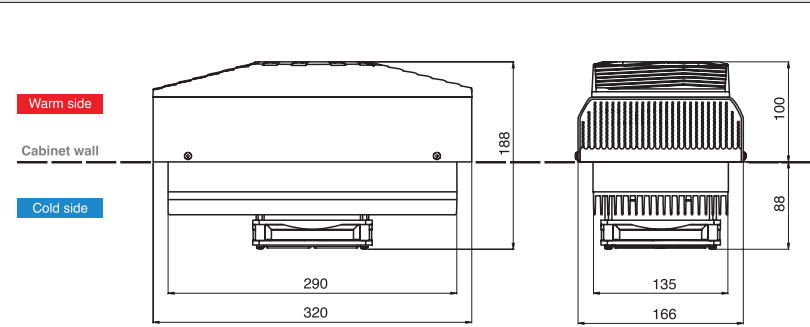


- ▶ No chlorofluorocarbons (CFC)
- ▶ Ability to heat and cool
- ▶ Precise temperature control
- ▶ Operation in any orientation
- ▶ Long life
- ▶ Not sensitive to vibration
- ▶ No moving parts except the fans

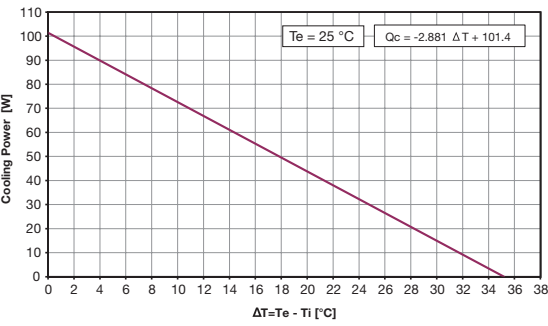
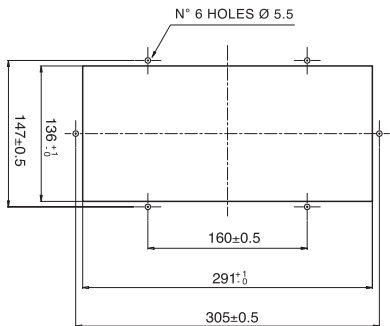
Technical data

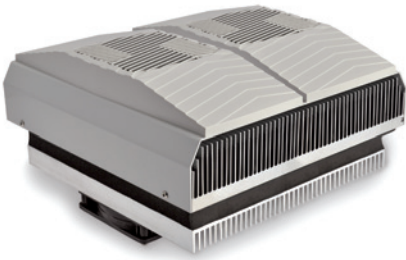
Model	Cooling Power	Rated Voltage	Rated Current	Max Current	Operating Temp. Range	Rated Voltage Range	Weight	Approvals
	W	V	A	A	°C	V	Kg	
TCU1002440IP55-7035	101	24 Vd.c.	4.7	5.7	-20 ~ +70	17 ~ 27	7.39	CE;
TCU1004840IP55-7035	101	48 Vd.c.	2.4	3.0	-20 ~ +70	34 ~ 54	7.37	CE;

Technical drawing



Mounting cut-out





General specifications

- Panel through mounting, see mounting cut-out. Fixing with M5 ISO screws (not supplied). Suitable for any plate thickness
- Plastic parts in PC/ABS alloy, self-extinguishing, according to UL 94V-0
- Sealing gasket made of closed cell polyethylene foam
- Shielded and self-lubricating ball bearing fans
- Standard color grey RAL 7035

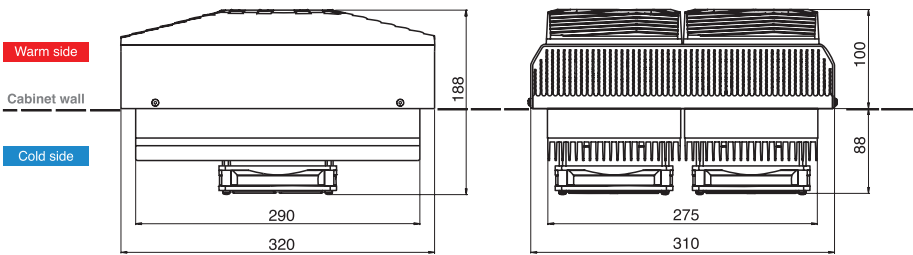


- ▶ No chlorofluorocarbons (CFC)
- ▶ Ability to heat and cool
- ▶ Precise temperature control
- ▶ Operation in any orientation
- ▶ Long life
- ▶ Not sensitive to vibration
- ▶ No moving parts except the fans

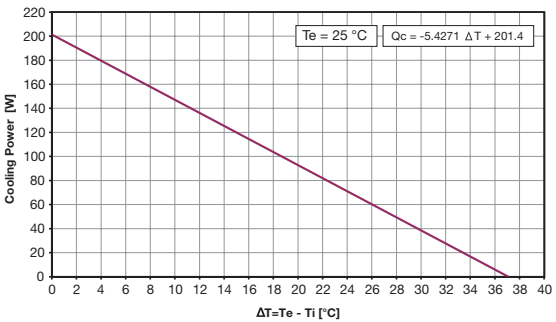
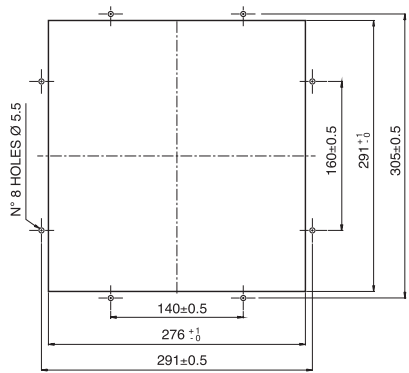
Technical data

Model	Cooling Power	Rated Voltage	Rated Current	Max Current	Operating Temp. Range	Rated Voltage Range	Weight	Approvals
	W	V	A	A	°C	V	Kg	
TCU2002440IP55-7035	201	24 Vd.c.	9.5	11.5	-20 ~ +70	17-27 Vd.c.	14.06	CE;
TCU2004840IP55-7035	201	48 Vd.c.	4.8	6.0	-20 ~ +70	34-54 Vd.c.	14.01	CE;

Technical drawing



Mounting cut-out





General specifications

- Panel through mounting, see mounting cut-out. Fixing with M5 ISO screws (not supplied). Suitable for any plate thickness
- Stainless steel external cover
- Sealing gasket made of closed cell polyethylene foam
- Shielded and self-lubricating ball bearing fans
- Terminal block connection

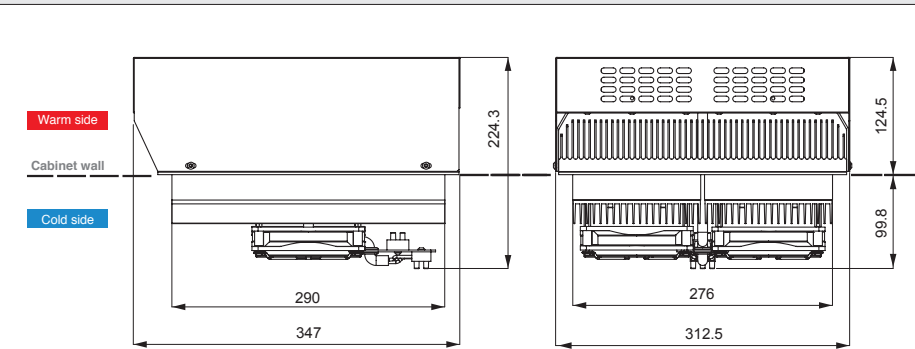


- ▶ AC/DC power supply integrated
- ▶ No chlorofluorocarbons (CFC)
- ▶ Precise temperature control
- ▶ Operation in any orientation
- ▶ Long life
- ▶ Not sensitive to vibration
- ▶ No moving parts except the fans

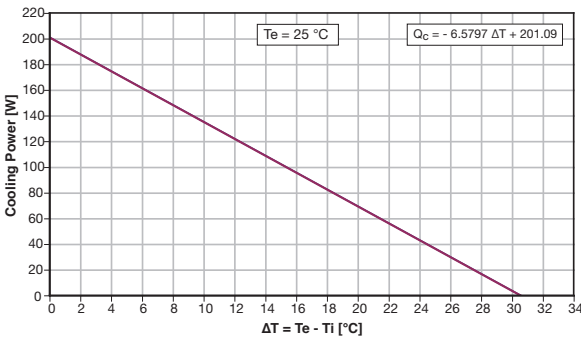
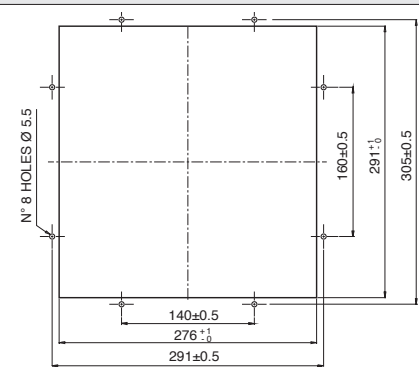
Technical data

Model	Cooling Power	Rated VoltageRange	Input Power	Max Input Power	Operating Temp. Range	Weight	Approvals
	W	V	W	W	°C	Kg	
TCU200AC40-SIP	201	88-264 Va.c.	245	306	-20 ~ +50	16.61	CE;

Technical drawing

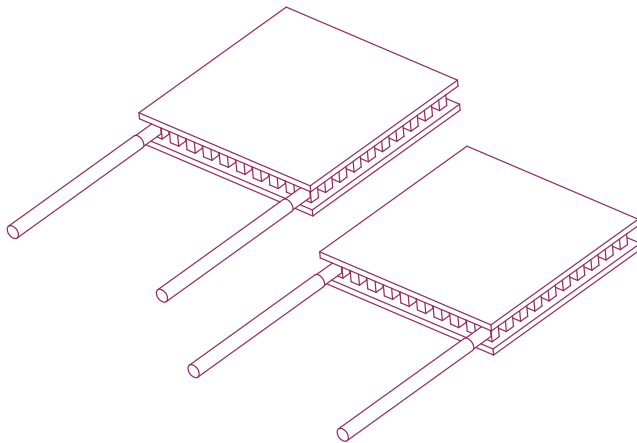


Mounting cut-out



THERMOELECTRIC MODULES

Thermoelectric modules are semiconductor-based electronic components that work as a small heat pump. These modules are the core system of thermoelectric units and combine low energy requirements with the ability to provide both cooling and heating from the same element, by reversing the polarity of DC voltage.



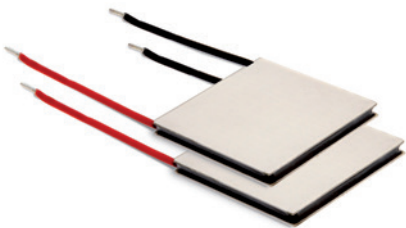
DOUBLE EFFECT

Heating and cooling conversion by reversing polarity

REFRIGERANT FREE

No dangerous fluids thanks to Peltier effect cooling system

General specifications



The thermoelectric module (or Peltier module) is an electronic component which works as a small heat pump. This is the core system of the cooling unit and it is made up of a certain number of couples of semiconductor material with different electric charge. These couples are laid down between two ceramic plates, like a “sandwich”, that act as a mechanical support and also as an electrical insulator. Applying a DC electric current to the module, the system starts to work cooling a side of the module and warming the opposite one.

- Lead wires length: standard 150mm
- Tinned lead wires ends
- Lead wires insulation: PVC
- Sealing: silicone or epoxy resin



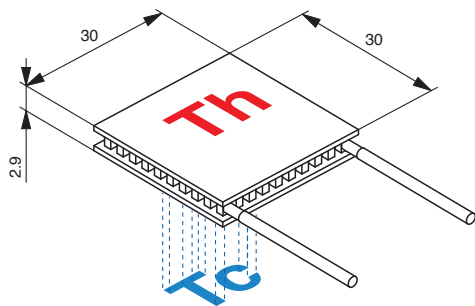
- ▶ No chlorofluorocarbons (CFC)
- ▶ Ability to heat and cool
- ▶ Precise temperature control
- ▶ Operation in any orientation
- ▶ Long life
- ▶ Not sensitive to vibration

Technical data

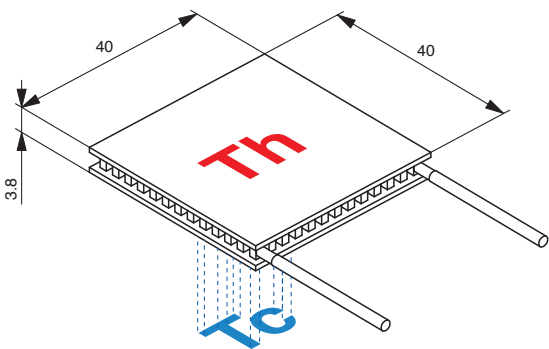
Model	Max Current	Max Voltage	Max Cooling Power	Max Temp. Differential	Max Operating Temp.
	A	V	W	°C	°C
TM1-1273050-HXHP	5.0	15.2	47.1	66	125
TM1-1274060-HXHP	6.0	15.3	60.0	67	125

Technical specifications

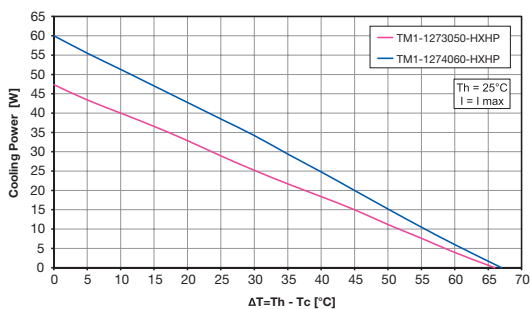
TM1-1273050-HXHP



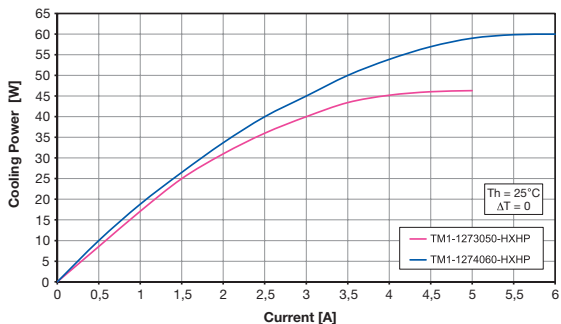
TM1-1274060-HXHP



Cooling power vs temperature difference



Cooling power vs current





General specifications

Drip trays are stainless steel accessories to be mounted on the thermoelectric units. They are used to collect the condensate generated on the cold heat sink inside the enclosure. Suitable for vertical installation of the thermoelectric unit

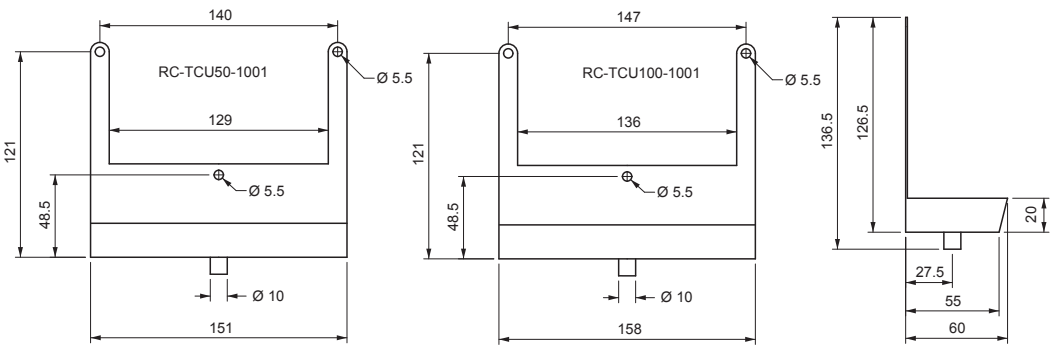
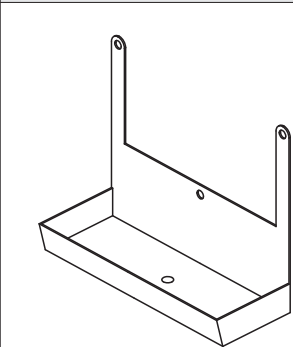
- Stainless steel

Technical data

Model	Description
RC-TCU100-1001	for TCU100
RC-TCU200-1001	for TCU200 / TCU200AC
RC-TCU50-1001	for TCU50

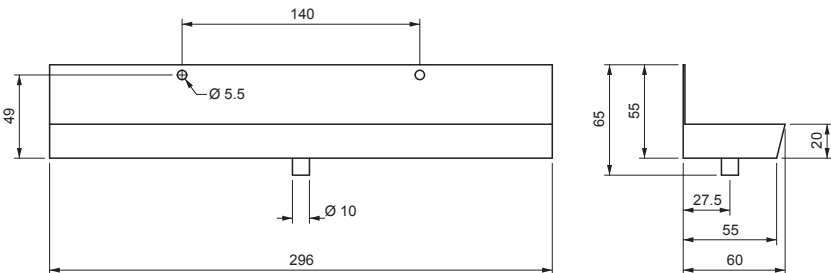
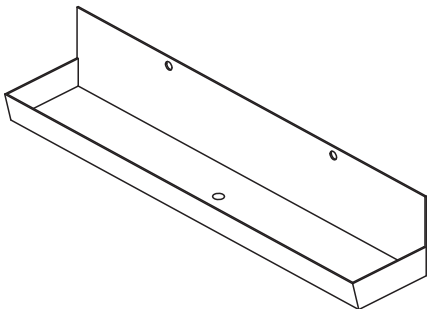
FOR TCU50 /TCU100

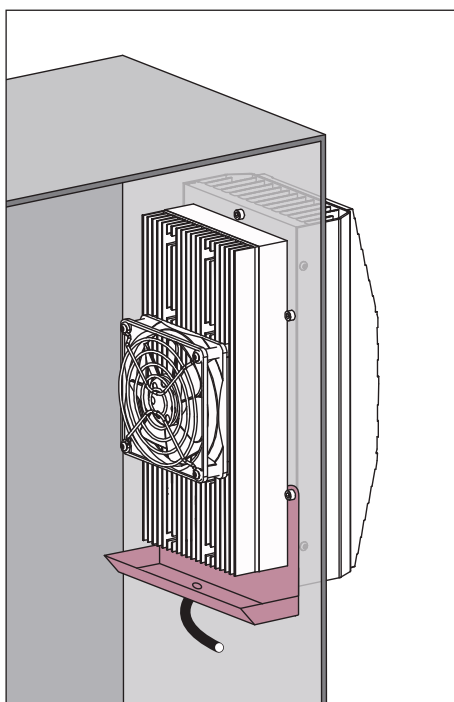
Technical drawing



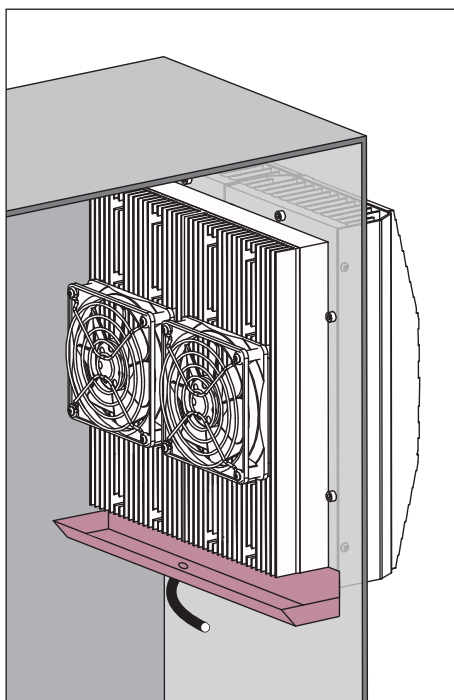
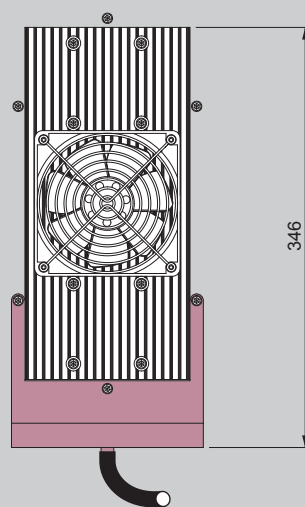
FOR TCU200

Technical drawing

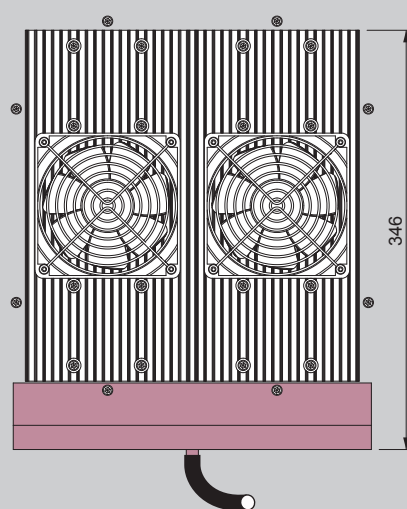


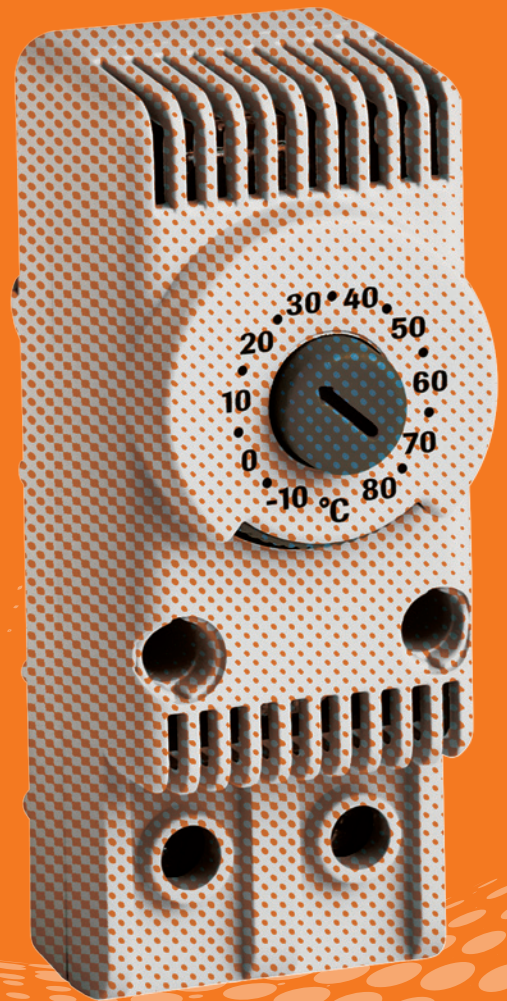


TCU50 and TCU100 - max. height with drip tray



TCU200 / TCU200AC - max. height with drip tray





Command, control and regulation

Mechanical regulators	188
– NO-NC thermostats	191
– Twin thermostats	192
– Change-over thermostats	193
– Hygrostats	194
Flashing signal device	195
Door limit switches	197
Accessories	199

orangis
ambient control

Most of our products are available
in the industrial engineering software:

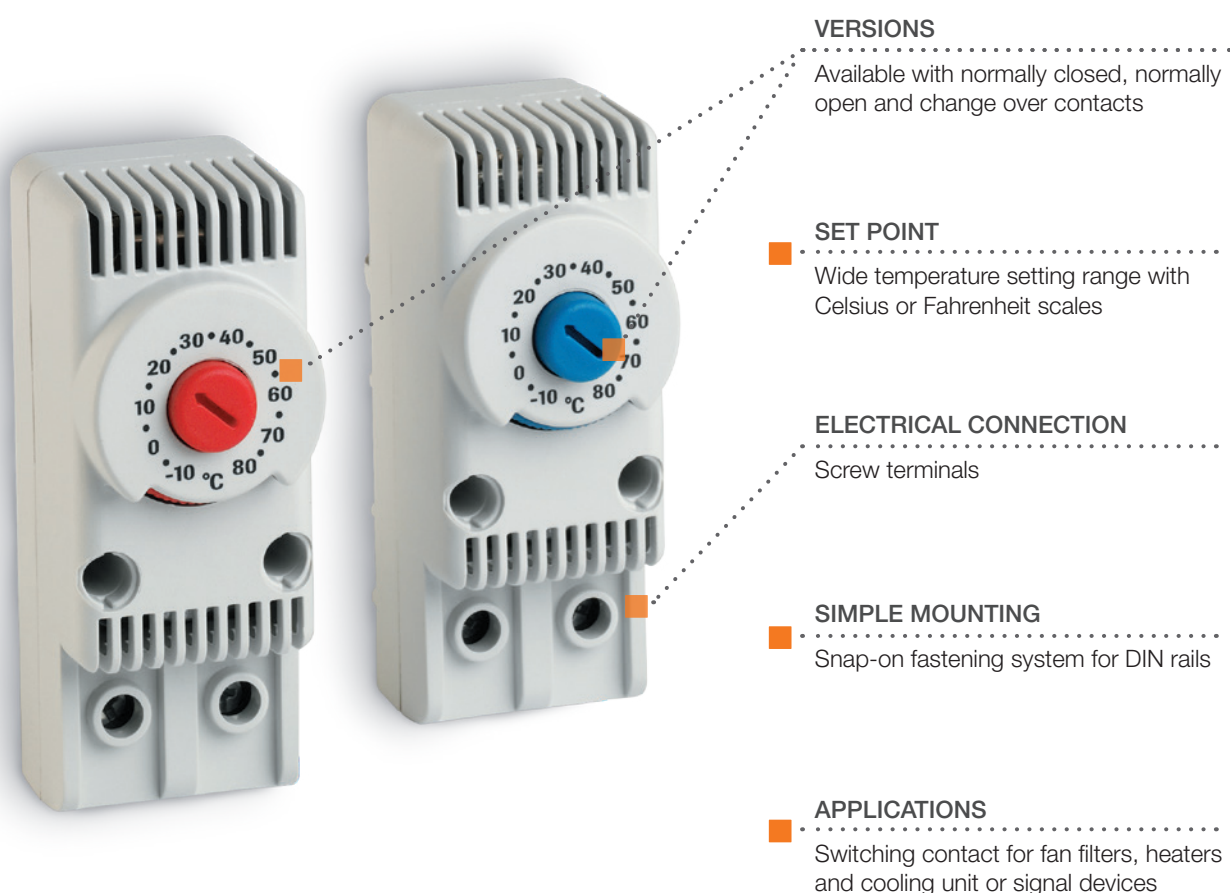


MECHANICAL REGULATORS

Temperature and humidity regulators help to guarantee the optimal conditions inside the enclosure for trouble-free operations with electrical components.

They are used for controlling fan filters, heaters or for switching signal devices.

■ NO-NC THERMOSTATS



■ Details that make the difference



C° e F° scales



Disk setting
by hand or tool



Patented clip system

TWIN THERMOSTATS

Twin thermostats integrate two independently switchable devices within one compact unit, allowing the simultaneous control of heating and cooling equipment or signaling equipment.



SET POINT
Wide temperature setting range with Celsius or Fahrenheit scales

VERSIONS

Available with
normally closed/normally open,
normally closed/normally closed and
normally open/normally open contacts

SIMPLE MOUNTING

Snap-on fastening system for 35mm
DIN rails

DUAL SYSTEM

Separate adjustment and operation

APPLICATIONS

Switching contact for fan filters, heaters
and cooling unit or signal devices

ELECTRICAL CONNECTION

Screw terminals

Model numbering system for NO-NC Thermostats and Twins Thermostats

description	TRT	10A	230V	-	NC	F	PAxx	description
FAMILY TRT TRT = single thermostat TRT2 = twins thermostat								CUSTOM SERIES PAxx = custom version
RATED CURRENT								SCALE (Blank) = C° (Celsius) F = F° (Fahrenheit)
RATED VOLTAGE								
VERSION Single thermostat NC = Normally Closed NO = Normally Open	Twins thermostat NCNC = Normally Closed / Normally Closed NCNO = Normally Closed / Normally Open NONO = Normally Open / Normally Open							

HYGROSTATS

When used with heaters or fan filters, hygrostats keep the relative humidity (RH) levels of enclosures below the dew point and prevent condensation forming on electrical components.



VERSIONS
Available with
normally closed/normally open,
normally closed/normally closed and
normally open/normally open contacts

ELECTRICAL CONNECTION
Screw terminals

SIMPLE MOUNTING
Snap-on fastening system for 35mm
DIN rails

APPLICATIONS
Combined with heaters or fan filters for
a precise control of humidity levels

Model numbering system for Hygrostats

<i>description</i>	IGR	35	F	-	PAxx	<i>description</i>
FAMILY IGR IGR = Hygostat						CUSTOM SERIES PAxx = custom version
Support 35mm DIN rail						VERSION F = Fandis



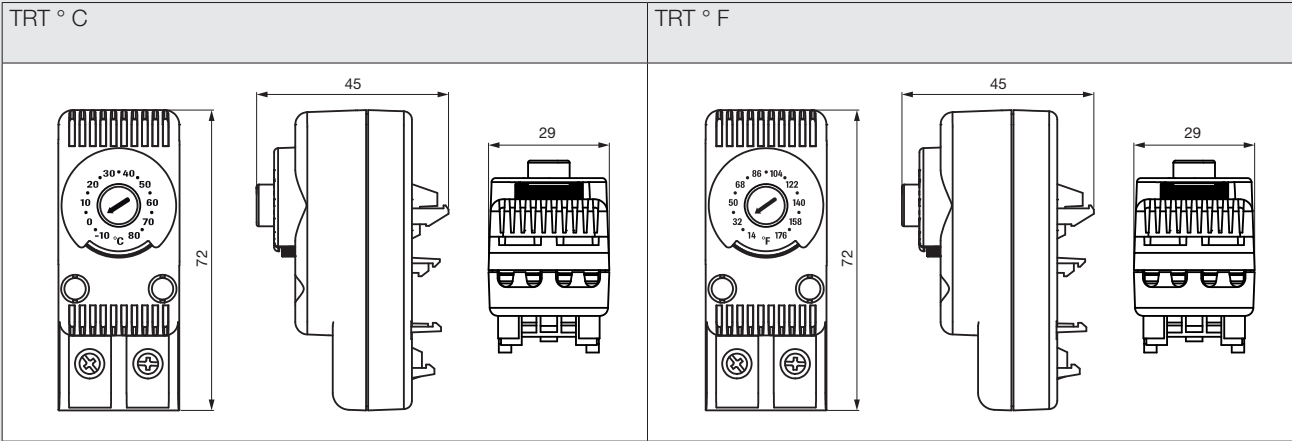
General specifications

- Snap-on mounting on:
 - DIN rail TS 35, according to EN 50 022
 - DIN rail TS 15, according to EN 50 045
 - DIN rail TS 32, according to EN 50 035
- Housing in self-extinguishing PA66, according to UL 94V-0
- Standard colour grey RAL 7035
- Screw terminals for electrical connection to wires with sections from 0.75mm² to 2.5mm² (18÷13 AWG)
- Bi-metallic sensing element
- Normally Closed (NC) red knob, Normally Open (NO) blue knob
- CEI EN 60730-1 applied standard
- CEI EN 60730-2-9 applied standard
- UL (Underwriters Laboratories) approved, according to UL 873 and C22.2 No. 24-93 standards



- Patented fastening system on DIN rails TS35/15/32
- Graduated disc rotatable by hand or tool

Technical data									
Model	Rated Voltage Range	Rated Current	Contact Current	Setting Range	Setting Range	Differential (referred to set point)	Accuracy	Weight	Approvals
	V	A	A	°C	°F	K	K	Kg	
TRT-10A230V-NC	60 V d.c.;110-250 V a.c.	10	15	-10 ~ 80		-3	±3	0.07	CE; cURus;
TRT-10A230V-NCF	60 V d.c.;110-250 V a.c.	10	15		14 ~ 176	-3	±3	0.07	CE; cURus;
TRT-10A230V-NO	60 V d.c.;110-250 V a.c.	10	15	-10 ~ 80		+4 if A < 5 ; +7 if A > 5	±3	0.07	CE; cURus;
TRT-10A230V-NOF	60 V d.c.;110-250 V a.c.	10	15		14 ~ 176	+4 if A < 5 ; +7 if A > 5	±3	0.07	CE; cURus;





General specifications

- Snap-on mounting on DIN rail TS 35, according to EN 50 022
- Housing in self-extinguishing PC/ABS, according to UL 94V-0
- Standard colour grey RAL 7035
- Screw terminals for electrical connection to wires with sections from 0.75mm² to 2.5mm² (18÷13 AWG)
- Bi-metallic sensing element
- Normally Closed (NC) red knob, Normally Open (NO) blue knob
- CEI EN 60730-1 applied standard
- CEI EN 60730-2-9 applied standard
- UL (Underwriters Laboratories) approved, according to UL 873 and C22.2 No. 24-93 standards

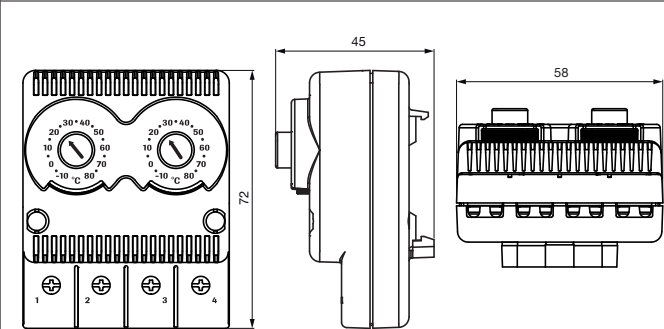


► Graduated disc rotatable by hand or tool

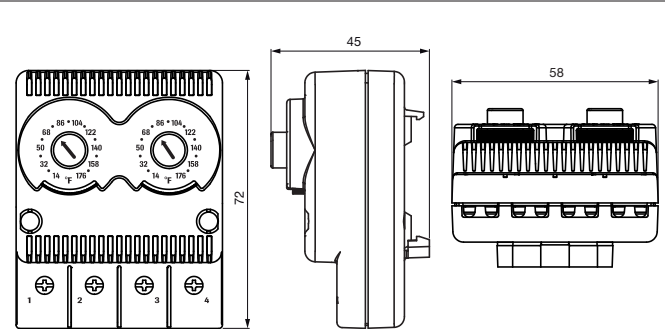
Technical data

Model	Rated Voltage Range	Rated Current	Contact Current	Setting Range	Setting Range	Differential (referred to set point)	Accuracy	Weight	Approvals
	V	A	A	°C	°F	K	K	Kg	
TRT2-10A230V-NCNC	60 V d.c.; 110-250 V a.c.	10 + 10	15 + 15	-10 ~ 80		-3	±3	0.14	CE; cURus;
TRT2-10A230V-NCNCF	60 V d.c.; 110-250 V a.c.	10 + 10	15 + 15		14 ~ 176	-3	±3	0.14	CE; cURus;
TRT2-10A230V-NCNO	60 V d.c.; 110-250 V a.c.	10 + 10	15 + 15	-10 ~ 80		-3 (NC) / +4 if A < 5 ; +7 if A > 5 (NO)	±3	0.14	CE; cURus;
TRT2-10A230V-NCNOF	60 V d.c.; 110-250 V a.c.	10 + 10	15 + 15		14 ~ 176	-3 (NC) / +4 if A < 5 ; +7 if A > 5 (NO)	±3	0.14	CE; cURus;
TRT2-10A230V-NONO	60 V d.c.; 110-250 V a.c.	10 + 10	15 + 15	-10 ~ 80		+4 if A < 5 ; +7 if A > 5	±3	0.14	CE; cURus;
TRT2-10A230V-NONOF	60 V d.c.; 110-250 V a.c.	10 + 10	15 + 15		14 ~ 176	+4 if A < 5 ; +7 if A > 5	±3	0.14	CE; cURus;

TRT2 °C



TRT2 °F





General specifications

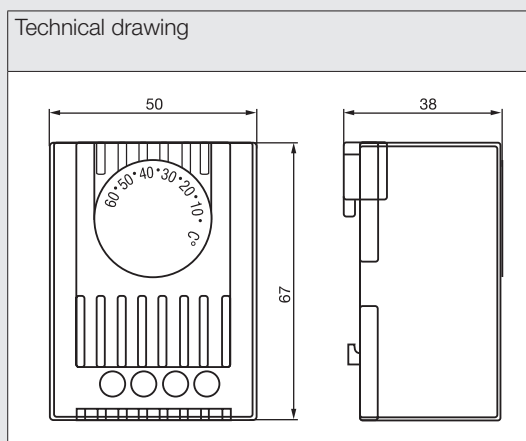
- Snap-on mounting on DIN rail 35mm, according to EN 50 022
- Housing in PC/ABS
- Standard colour grey RAL 7035
- Screw terminals for electrical connection to wires with sections from 0.75mm² to 2.5mm²
- Bi-metallic sensing element with thermal retroaction
- EN 60730-1 applied standard



Technical data

Model	Rated Voltage Range	Rated Current	Contact Current	Setting Range	Differential (referred to set point)	Accuracy	Weight	Approvals
	V	A	A	°C	K	K	Kg	
TRT-230V-S01	230 V a.c.	(Heating) a.c. 10(4) (Cooling) a.c. 5(2)	10	5° ~ 60°	1 (with thermal retroaction)	±3	0.07	CE;

Technical specifications





General specifications

- Snap-on mounting on DIN rail 35mm, according to EN 50 022
- Housing in PC/ABS alloy
- Standard colour grey RAL 7035
- Screw terminals for electrical connection to wires with sections from 0.75mm² to 4.0mm²
- Synthetic fibre sensing element
- EN 60730-1 and CISPR 14-1 standards applied
- UL (Underwriters Laboratories) approved, according to UL60730-1 e CAN/CSA-E60730-1, CAN/CSA-E730-2-2

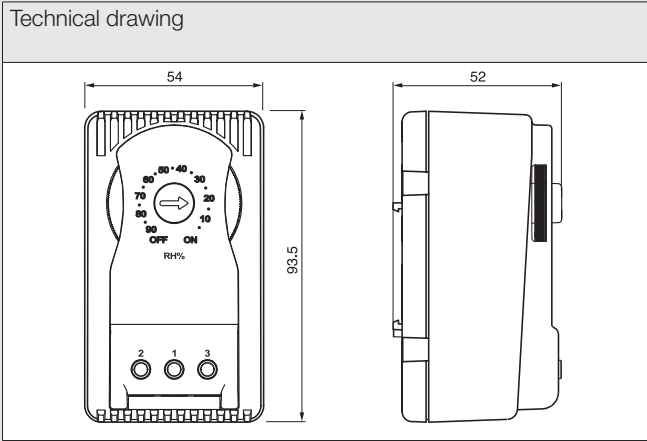


► Graduated disc rotatable by hand or tool

Technical data

Model	Rated Voltage Range	Rated Current	Setting Range	Differential average	Differential max	Accuracy	Weight	Approvals
	V	A	%RH	%RH	%RH	%RH	Kg	
IGR35F	120 - 240	12 - 6 ; 6 - 3	10 - 90	5	10	± 5	0.18	CE; cURus;

Technical specifications



FLASHING SIGNAL DEVICE

Flashing devices ensure safety for enclosure inspections. They help prevent accidents by alerting operators when doors are opened of live voltage within the electrical system through flashing lights.



VISUAL SIGNAL

3 red flashing lights indicating live voltage presence

AUXILIARY CONTACTS

Can be integrated with a limit or interlock switches

CLOSE DOOR SIMULATION

Power is restored to permit maintenance operations



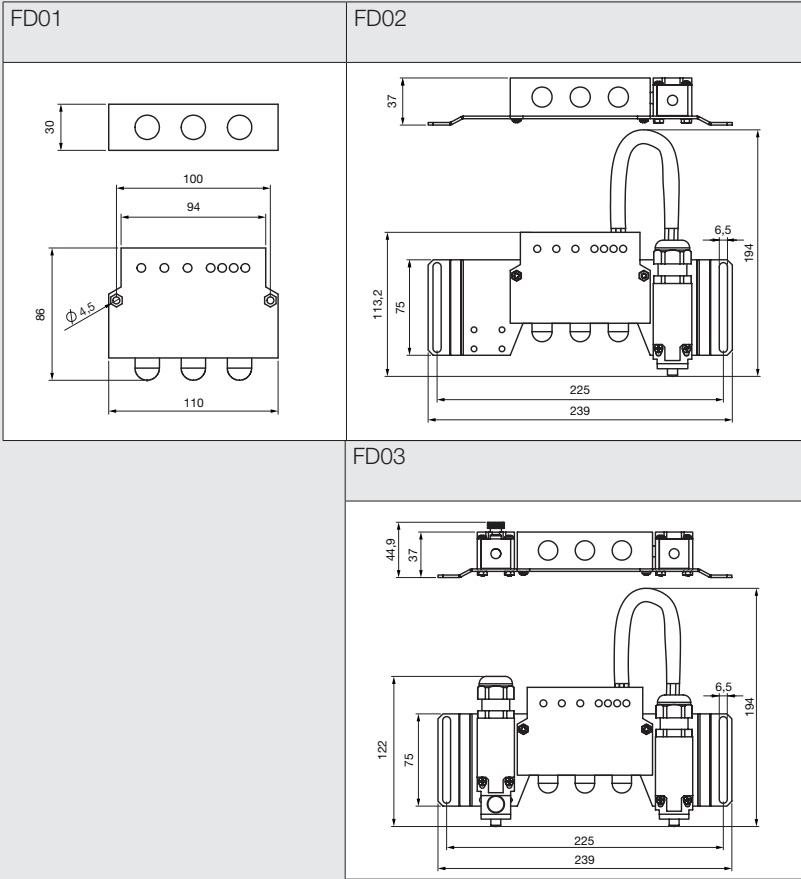
General specifications

- Thermoplastic casing
- Fixing by screws (M4) or by adjustable bracket (FD02, FD03)
- Screw terminals for electrical connection:
 - flexible cable from 0.14mm² to 2.5mm²
 - rigid or tin cable from 0.14mm² to 4mm²
- CEI EN 60947-5-1, UL 508 applied standards
- Suitable for connection to single or three-phase systems



Technical data			
Model	Rated Voltage Range	Working Temp. Range	Approvals
	V	°C	
FD01	110-290 V~; 220-500 V 3~	-25°C ~ 70°C	CE; cURus;
FD02	110-290 V~; 220-500 V 3~	-25°C ~ 70°C	CE;
FD03	110-290 V~; 220-500 V 3~	-25°C ~ 70°C	CE;

Technical specifications



DOOR LIMIT SWITCHES

Limit switches are a practical solution for sensing applications in enclosures. They are mechanically activated to switch on the lamp or switch off live voltage inside the cabinet.



VERSIONS

Different type of plungers and contacts



General specifications

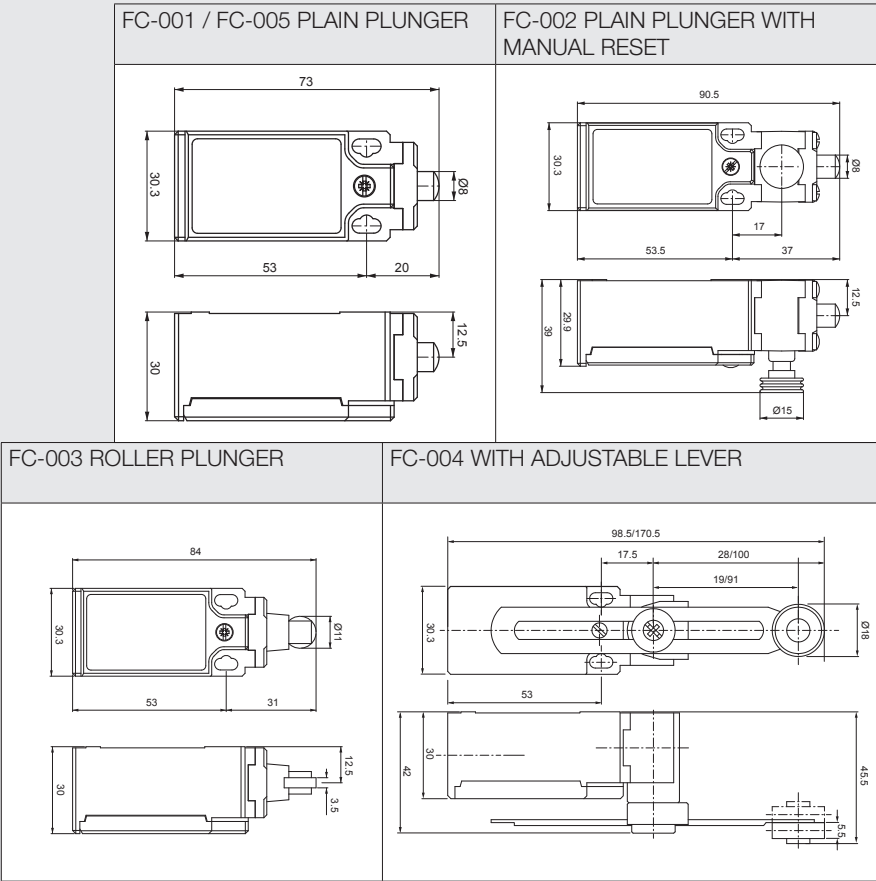
- Plastic casing
- Screws terminal for electrical connection and one cable inlet for PG13.5 cable gland
- IEC 947-5-1 / EN 60947-5-1 applied standard
- Fixing by No. 2 M4 screws
- Plain plunger (FC-001), plain plunger with manual reset (FC-002), roller plunger (FC-003), adjustable lever (FC-004), plain plunger with 3 NC contacts (FC-005)
- UL approval according to UL 508 and CSA approval according to CSA/CAN 22.2 No. 14



Technical data

Model	a.c. Rated Voltage Range	a.c. Rated Current Range	d.c. Rated Voltage Range	d.c. Rated Current Range	Mechanical Durability	Approvals
	V	A	V	A	Mil. of oper.	
FC-001	24 - 400	10 - 1.8	24 - 250	2.8 - 0.27	15	CE; cULus;
FC-002	24 - 400	10 - 1.8	24 - 250	2.8 - 0.27	1	CE; cULus;
FC-003	24 - 400	10 - 1.8	24 - 250	2.8 - 0.27	15	CE; cULus;
FC-004	24 - 400	10 - 1.8	24 - 250	2.8 - 0.27	10	CE; cULus;
FC-005	24 - 400	10 - 1.8	24 - 250	2.8 - 0.27	15	CE; cULus;

Technical specifications



General specifications

Plastic support for a fast installation and a simple positioning of our FC series door limit switch.
The kit consist of:

- n.1 slide for limit switch in PA6 H-V0
- n.2 screws for fixing to limit switch, tcb Phil ac 4.8 znb M4x30
- n.2 nuts M4



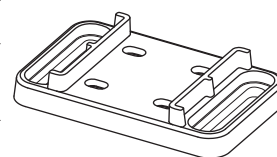
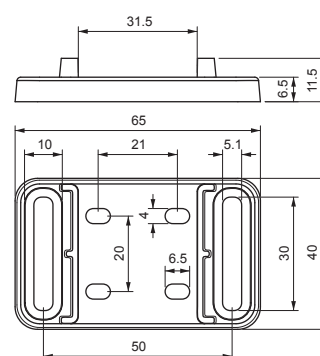
Technical data

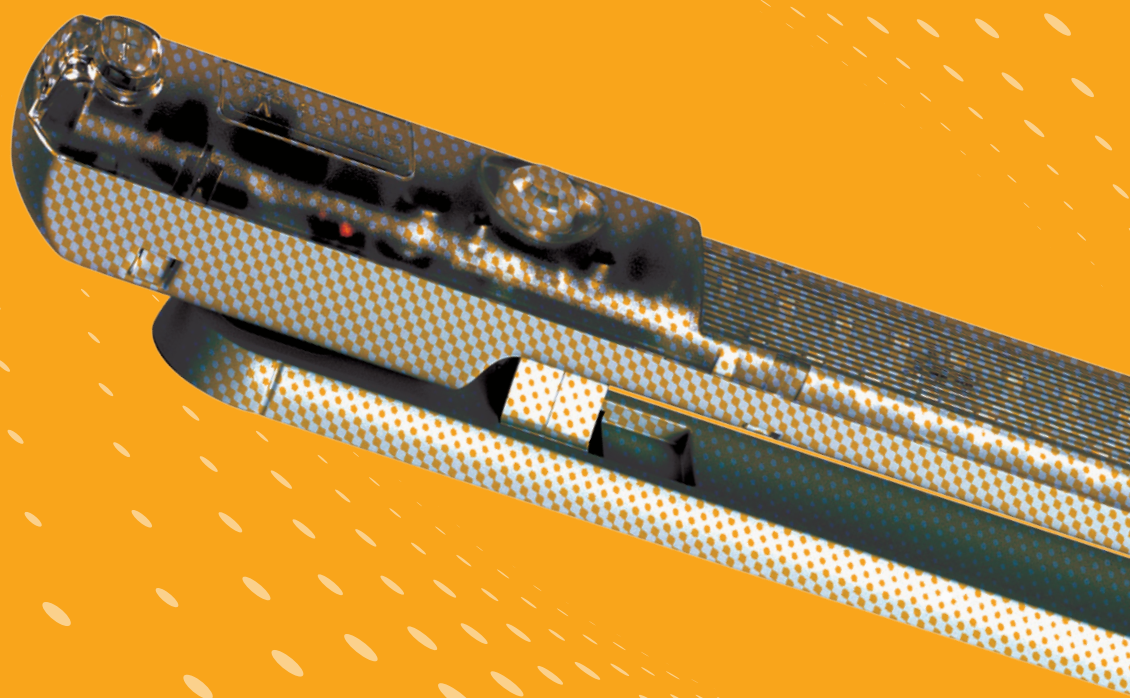
Model

SA-FC01K

Technical specifications

Technical drawing

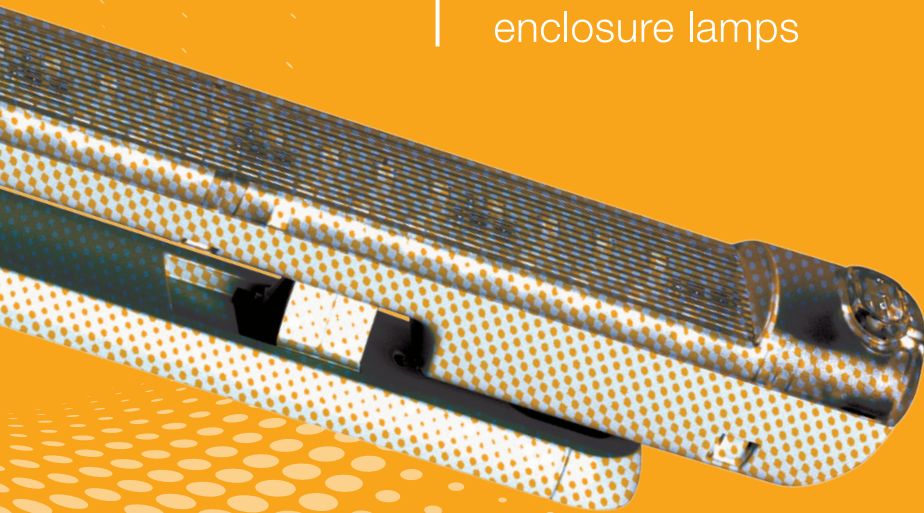




Comfort, efficient and safe indoor lights

Enclosure LED lights	202
– FLL series	204
– CLG-L series	205
Enclosure fluorescent lights	206
Enclosure LED lights	207
– LL series	207

lumeis
enclosure lamps



Most of our products are available
in the industrial engineering software:



ENCLOSURE LED LIGHTS

When carrying out maintenance in electrical enclosures, good lighting is essential in order to ensure optimal inspection and control conditions.

Fandis conventional fluorescent lamps and LED lights are specifically designed to maximize performance, brightness and energy saving.

■ FLL SERIES

ADJUSTABLE LIGHT BEAM

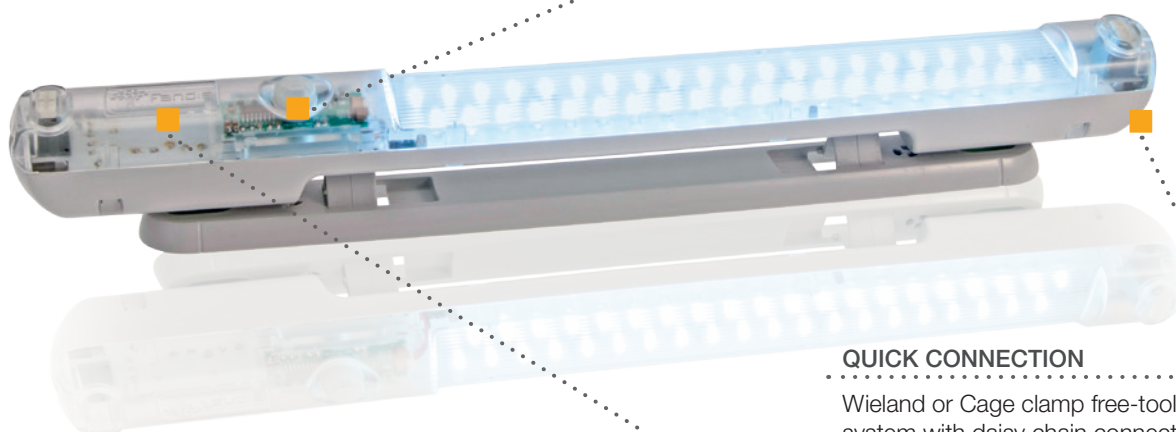
Variable beam direction of 40° per side for directing the distribution of light

FLEXIBLE INSTALLATION

Standard screw-in or, optionally, magnetic fastening for metallic surfaces

SWITCH

ON/OFF or PIR movement sensor



QUICK CONNECTION

Wieland or Cage clamp free-tool wiring system with daisy chain connection (up to 10 lamps)

LABEL DESIGN

Adhesive or in relief customized label

ENERGY EFFICIENCY

Long life and low consumption by LED technology

Details that make the difference



Swivelling system



Cage Clamp or
Wieland connection



Magnetic fixing

... OTHER LED LIGHTS

Fandis LED lamps are a durable and energy efficient solution for enclosure lighting. They offer longer service life and lower maintenance costs than fluorescent systems.

■ CLG-L SERIES



SIMPLE POSITIONING

Metal fixing brackets for an adjustable lamp fixing



ENERGY SAVING

Long-life and low consumption by LED technology

Model numbering system for FLL SERIES

description	FLL - 23 05 65 U - S V M X - SXX	description
FAMILY FLL = Fandis led lamp		CUSTOM SERIES SXX = custom version
VOLTAGE 12 = 115 Va.c. 23 = 230 Va.c. 30 = 115/230 Va.c. D"nn" = 12÷24 Vd.c.		APPROVALS X = only CE version () = UL version
RATED POWER nn = absorbed power of lamp		INSTALLATION M = magnet pot () = by screw
CORRELATED COLOUR TEMPERATURE 65 = 6500÷7500K		CONNECTION V = single connector () = standard cage clamp
COLOURED PLASTIC U = RAL 7035		SWITCH S = switch IR = PIR sensor

Model numbering system for CLG-L SERIES

description	CLG-L 30 7	description
FAMILY CLG-L = a.c. LED lamps		RATED POWER n or nn = absorbed power of lamp
		RATED VOLTAGE 30 = 115-230 Va.c.



General specifications

- Casing and protective lamp shield in polycarbonate (UL)
- Light color: daylight; color temperature: 7100K
- Built-in electronic ballast
- Brackets for enclosure with 25mm DIN frames
- Electrical connection: 2-poles cage clamp terminal or male connector (-IRV and -SV models). Female connector model CE-006WF on request.
- In compliance with EN 60598-1 standard
- Operating voltage range: 85-132 V.a.c. (FLL-120 series); 173-265 V.a.c. (FLL-230 series); 85-265 V.a.c. (FLL-300 series)
- UL approval according to UL 508

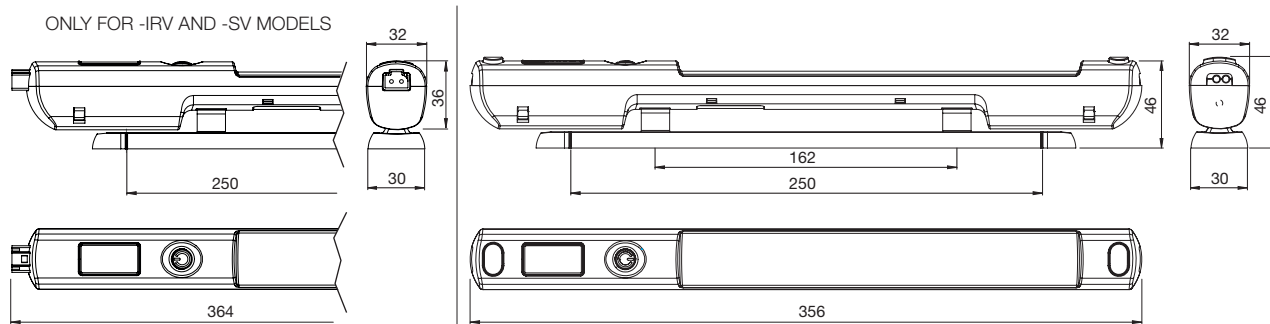


- ▶ ON/OFF switch or infrared sensor
- ▶ Adjustable positioning system
- ▶ Wide voltage range version
- ▶ SOON DC version available
- ▶ Low energy consumption
- ▶ Daisy chain up to 10 units
- ▶ Screw or magnetic fixing

Technical data

Model	Rated Voltage	Freq.	Rated power	No. of led	Color Temp.	Lum. Flux	Weight	Approvals
	V	Hz	W		K	lm	Kg	
FLL-120565U-IR	115 V a.c.	50/60	5.0	40	7,100	315	0.2	CE; cURus;
FLL-120565U-IRM	115 V a.c.	50/60	5.0	40	7,100	315	0.2	CE; cURus;
FLL-120565U-S	115 V a.c.	50/60	5.0	40	7,100	315	0.21	CE; cURus;
FLL-120565U-SM	115 V a.c.	50/60	5.0	40	7,100	315	0.21	CE; cURus;
FLL-230565U-IR	230 V a.c.	50/60	5.0	40	7,100	315	0.2	CE; cURus;
FLL-230565U-IRM	230 V a.c.	50/60	5.0	40	7,100	315	0.2	CE; cURus;
FLL-230565U-S	230 V a.c.	50/60	5.0	40	7,100	315	0.21	CE; cURus;
FLL-230565U-SM	230 V a.c.	50/60	5.0	40	7,100	315	0.21	CE; cURus;
FLL-300565U-IR	115-230V a.c.	50/60	5.0	40	7,100	315	0.2	CE; cURus;
FLL-300565U-IRM	115-230V a.c.	50/60	5.0	40	7,100	315	0.2	CE; cURus;
FLL-300565U-IRV	115-230V a.c.	50/60	5.0	40	7,100	315	0.2	CE; cURus;
FLL-300565U-S	115-230V a.c.	50/60	5.0	40	7,100	315	0.21	CE; cURus;
FLL-300565U-SM	115-230V a.c.	50/60	5.0	40	7,100	315	0.21	CE; cURus;
FLL-300565U-SV	115-230V a.c.	50/60	5.0	40	7,100	315	0.21	CE; cURus;

FLL





General specifications

- Casing and protective lamp shield in PC/ABS alloy
- Built-in electronic ballast
- ON/OFF switch
- Metal brackets for enclosure with 25mm DIN frames
- Electrical connection:
 - bipolar cable with terminal bushing, 1,800mm length
 - bipolar cable for multiple connection, 165mm standard length
- In compliance with EN 60598-1 standard

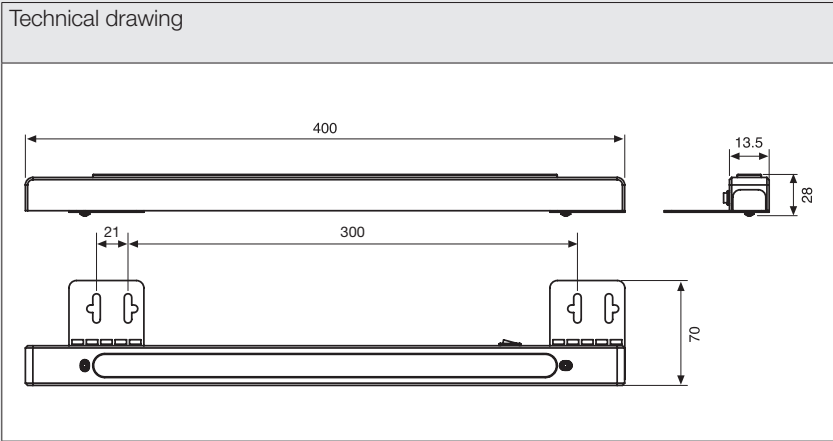


- Low energy consumption
- Orientable fixing brackets
- Daisy chain

Technical data

Model	Rated Voltage	Freq.	Rated power	No. of led	Color Temp.	Lum. Flux	Weight	Approvals
	V	Hz	W		K	lm	Kg	
CLG-L307	115-230V a.c.	50/60	7	12	6,400	416	0.37	CE;

Technical specifications



ENCLOSURE FLUORESCENT LIGHTS

The fluorescent lamps with built-in electronic ballasts are compact and flicker-free, making them suitable for enclosure application where high level of brightness is critical for inspection.

■ CLG-R, CLG-S, CLG-T SERIES



LAMP TYPE

Fluorescent lamp



MAGNETIC SUPPORT

Magnetic mounting system for CLG-T models



SWITCH ON/OFF

Model numbering system for CLG

description	CLG-S	S	23	10	description
FAMILY CLG-R = a.c. lamps 43x22mm section CLG-T = a.c. lamps 43x20mm section CLG-S = a.c. lamps with integrated electrical socket					RATED POWER n or nn = absorbed power of lamp
TYPE OF SOCKET (only for CLG-S models) S = nr. 2 Schuko type F = nr. 2 French type					RATED VOLTAGE 23 = 230 Va.c.



General specifications

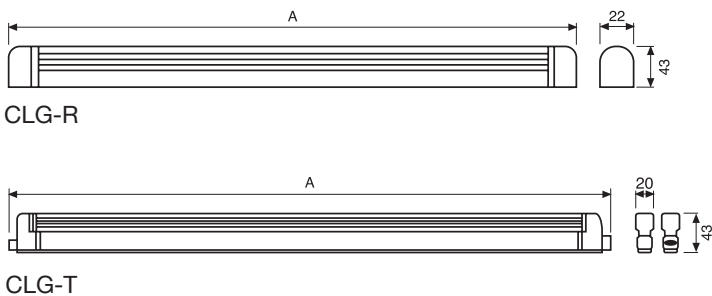
- White thermoplastic lamp casing for CLG-R and CLG-T models, steel plate white painted for CLG-S models
- Protective lamp shield in transparent thermoplastic material
- Equipped with fluorescent lamp type:
 - T5 with lamp holder G5 type for CLG-R models
 - T4 with lamp holder G5 type for CLG-T models
 - T8 with lamp holder G13 type for CLG-S models
- Built-in electronic ballast
- ON/OFF switch
- Electrical connection:
 - bipolar cable with terminal bushing for CLG-R and CLG-T models
 - 3-pole terminal block for CLG-S models
- In compliance with EN 60598-1 standard



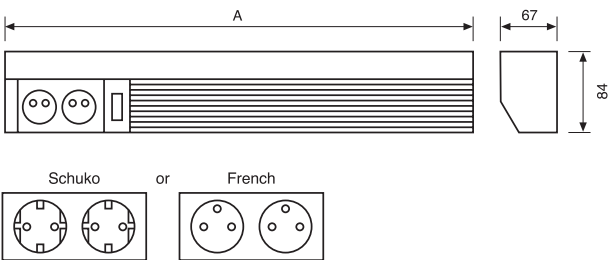
Technical data

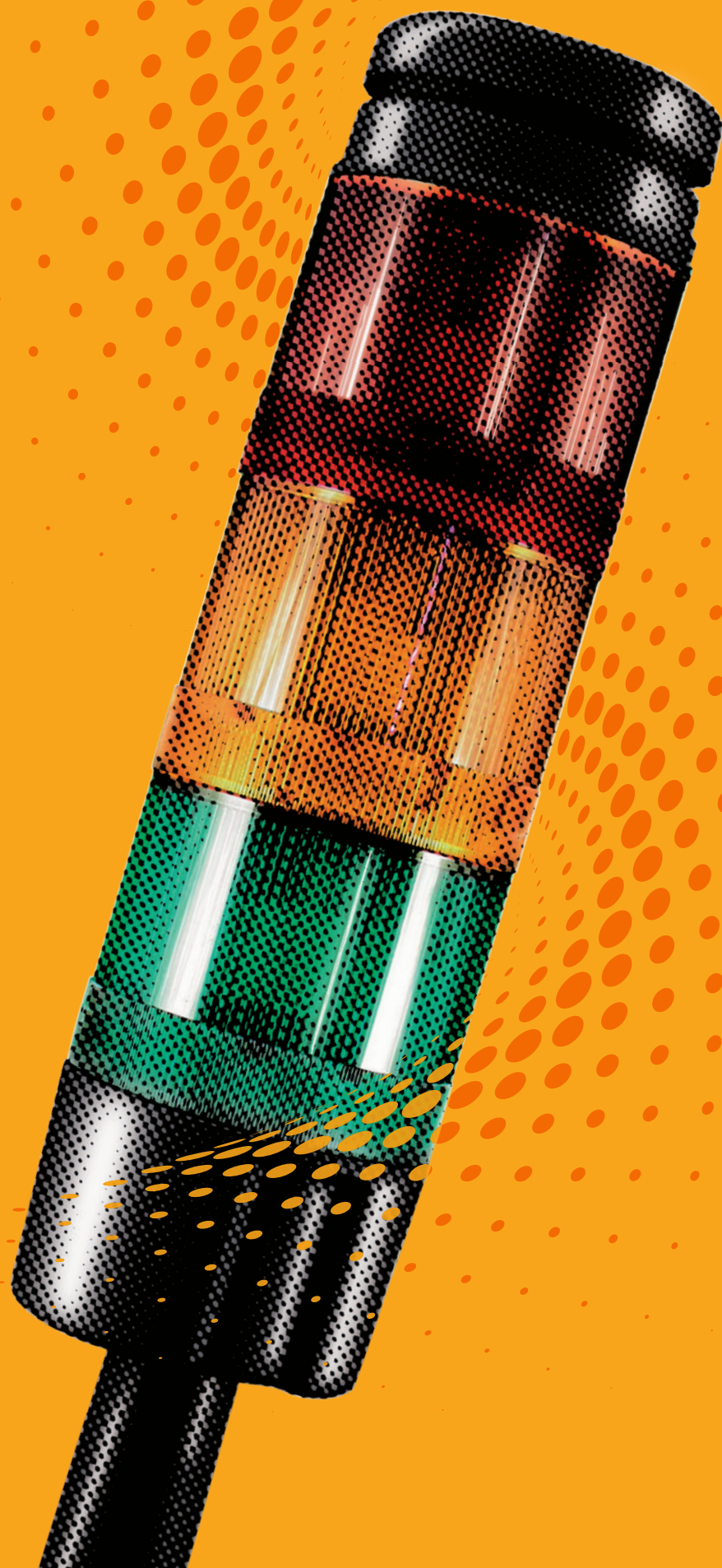
Model	A	Rated Voltage	Freq.	Rated power	Light type lamp holder	Cable length	Description	Weight	Approvals
	mm	V	Hz	W		mm		Kg	
CLG-R236	277	230 V a.c.	50	6	T5 / G5	1,300	-	0.2	CE; GS;
CLG-T236	270	230 V a.c.	50	6	T4 / G5	1,800	-	0.22	CE; GS;
CLG-R238	354	230 V a.c.	50/60	8	T5 / G5	1,800	-	0.24	CE;
CLG-T238	390	230 V a.c.	50	8	T4 / G5	1,800	-	0.26	CE; GS;
CLG-SF2310	498	230 V a.c.	50/60	10	T8 / G13	-	2 French	1	CE;
CLG-SS2310	498	230 V a.c.	50/60	10	T8 / G13	-	2 Schuko	1	CE;
CLG-T2312	425	230 V a.c.	50	12	T4 / G5	1,800	-	0.27	CE; GS;
CLG-R2313	581	230 V a.c.	50/60	13	T5 / G5	1,800	-	0.32	CE;
CLG-T2316	516	230 V a.c.	50/60	16	T4 / G5	1,800	-	0.23	CE;
CLG-T2320	616	230 V a.c.	50/60	20	T4 / G5	1,800	-	0.47	CE;
CLG-R2321	914	230 V a.c.	50/60	21	T5 / G5	1,800	-	0.8	CE;
CLG-T2324	710	230 V a.c.	50/60	24	T4 / G5	1,800	-	0.9	CE;
CLG-T2330	810	230 V a.c.	50/60	30	T4 / G5	1,800	-	0.9	CE;

CLG-R / CLG-T



CLG-SS / CLG-SF





Clear signal for process reliability

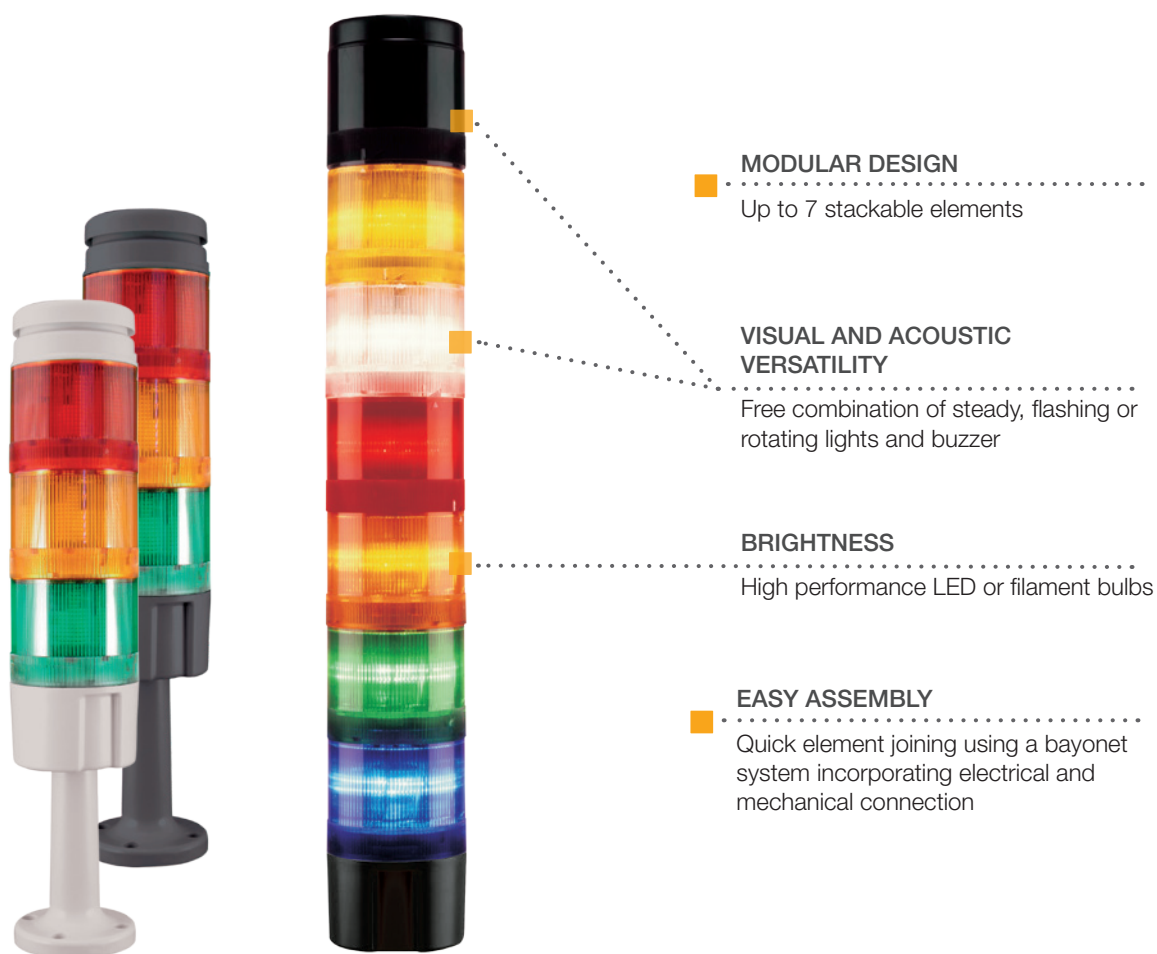
Signal Towers	210
Accessories	216



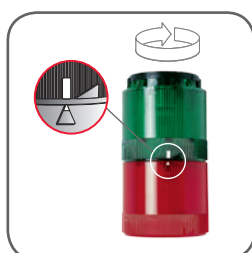
SIGNAL TOWERS

Signal towers are important optical and acoustic accessories for protecting the working environment and ensuring the efficiency of automated processes. These indicators provide alerts on anomalous situations and with regard to the machine's operating conditions.

■ ST70 SIGNAL TOWERS



■ Details that make the difference



Bayonet mounting



Foot/wall mounting



Flexible combination

... OTHER SIGNALING DEVICES

ST30

Pre assembled signal towers ø 30mm

ST45

Pre assembled signal towers ø 45mm

SL62

Signal lamp ø 62mm

SL150

Signal lamp ø 150mm



Model numbering system for ST70

description	ST 70 - L R F 230 - 0 -SXX	description
FAMILY Signal Tower		CUSTOM SERIES
DIAMETER/DIAMETRO 70 = 70mm		VERSION
ELEMENT L = light A = acoustic C = connection		VOLTAGE 024 = 24V 115 = 115V 230 = 230V DV = dual voltage (115/230V) Blank = without bulb
COLOR A = orange N = black V = green B = blue R = red W = white G = yellow U = RAL 7035		LIGHT TYPE F = steady L = flashing M = multi-function C = multi-color Blank = acoustic

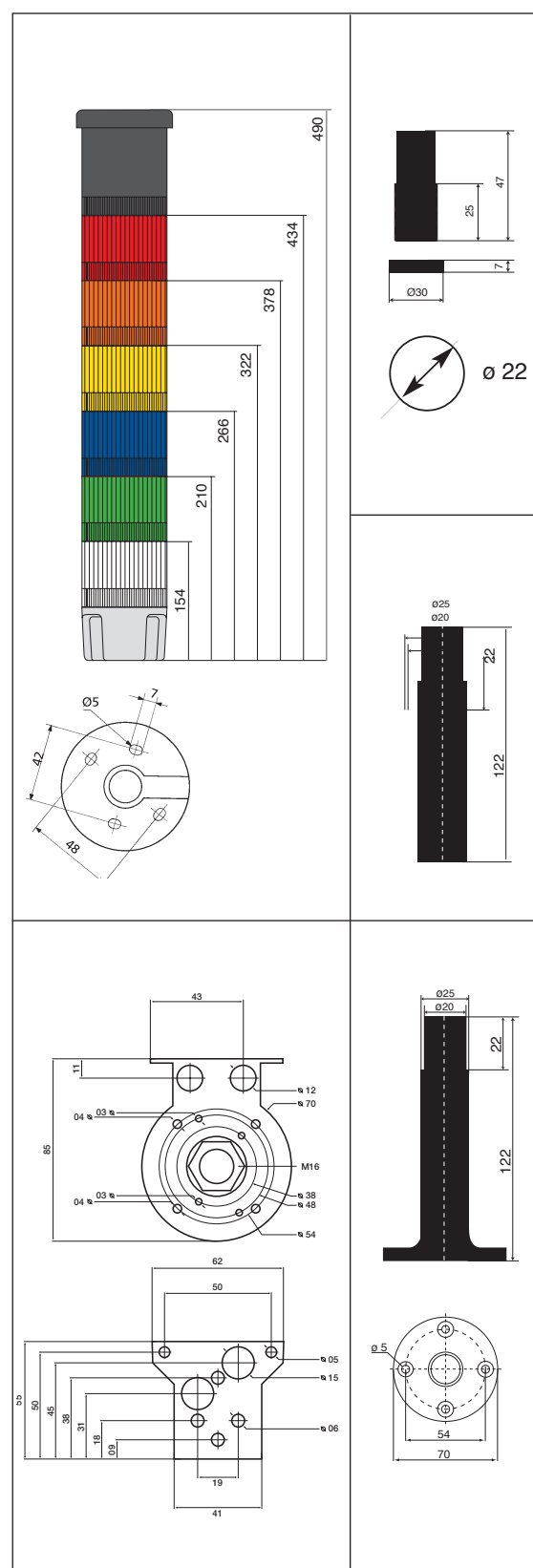
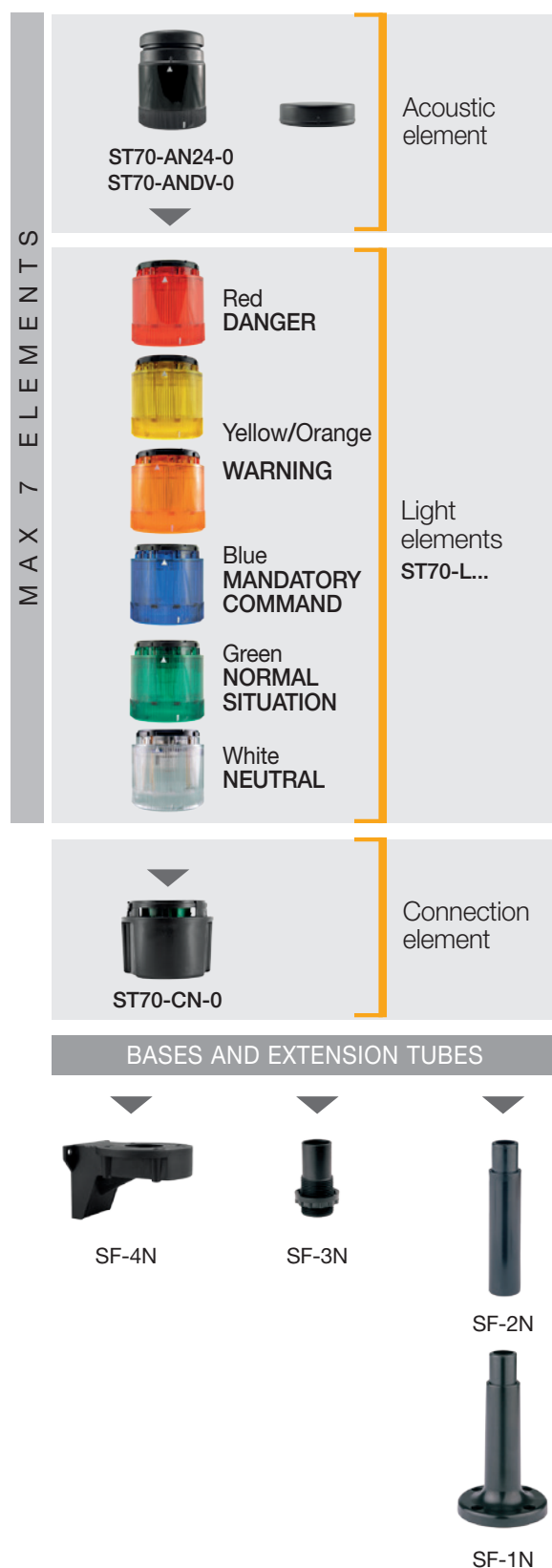
Model numbering system for Bulbs

description	BF 15D - R 230 05 K - 0	description
TYPE BF = filament bulb BL = LED bulb		VERSION
BASE Bayonet catch		KIT K = Kit 10 pcs.
COLOR A = orange N = black V = green B = blue R = red W = white G = yellow T = transparent		POWER 05 = 5W 10 = 10W
		VOLTAGE 012 = 12V 048 = 48V 230 = 230V 024 = 24V 115 = 115V 260 = 260V 030 = 30V 130 = 130V

Model numbering system for Accessories

description	SF - 1 N - 0	description
TYPE Fixing System		VERSION
Progressive alphanumeric character		COLOR N = black U = RAL 7035

MODULAR STRUCTURE

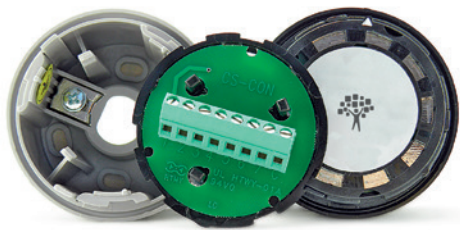




Already equipped with cap, the acoustic element can only be mounted as a final top unit.

- Acoustic signal pulsating or continuous
- Sound frequency 2,900Hz approx.
- Signal repetition rate 0.5Hz
- Weighted sound pressure level measured at 1meter 90dB max
- Protection degree IP54
- Rated Voltage 24V AC/DC, 115/230V AC
- Current consumption 30mA (24V AC/DC) / 20mA (230V AC)

Color	Model	Rated Voltage
black	ST70-AN024-0	24V AC/DC
black	ST70-ANDV-0	115/230V AC



- Screw clamp terminals
- Maximum gauge 1.5 mm²
- Connection ID code C- common to all elements 1-7 refers to elements, from the base to the top
- Maximum voltage 240 Va.c./d.c.

Color	Model
black	ST70-CN-0



Steady light element

- Illumination LED or filament bulb, not included
- Bayonet light bulb BA 15d - max. 5W
- Rated Voltage from 12 to 230V AC/DC
- Current consumption
 - 5W filament bulbs: 210mA (24V) / 43mA (115V) / 22mA (230V)
 - LED bulbs: < 50mA (24V) / < 18mA (115V) / < 17mA (230V)

Color	Model
	12-230V AC/DC
red	ST70-LRF-0
orange	ST70-LAF-0
yellow	ST70-LGF-0

Color	Model
	12-230V AC/DC
green	ST70-LVF-0
blue	ST70-LBF-0
white	ST70-LWF-0



Flashing light element

- Illumination filament bulb
- Bayonet light bulb BA 15d - max. 5W
- Rated Voltage 24V / 115V / 230V AC/DC
- Current consumption
 - 5W filament bulbs: 130mA (24V) / 25mA (115V) / 15mA (230V)
 - LED bulbs: < 50mA (24V) / < 18mA (115V) / < 17mA (230V)
- Flash frequency 1.4Hz approx. (84 flashes per minute), according to EN 60073 standard

Color	Model	Model	Model
	24V AC/DC	115V AC/DC	230V AC/DC
red	ST70-LRL024-0	ST70-LRL115-0	ST70-LRL230-0
orange	ST70-LAL024-0	ST70-LAL115-0	ST70-LAL230-0
yellow	ST70-LGL024-0	ST70-LGL115-0	ST70-LGL230-0

Color	Model	Model	Model
	24V AC/DC	115V AC/DC	230V AC/DC
green	ST70-LVL024-0	ST70-LVL115-0	ST70-LVL230-0
blue	ST70-LBL024-0	ST70-LBL115-0	ST70-LBL230-0
white	ST70-LWL024-0	ST70-LWL115-0	ST70-LWL230-0



Multifunction LED light element

- Illumination 36 ultra-bright integrated LEDs
- Operating versions steady, flashing or rotating light element (to change the function just remove or shift the CN1 jumper)
- Rated Voltage 24V AC/DC
- Current consumption 55mA (24V DC) / 85mA (24V AC) - the same for all the illumination functions
- Flash frequency 1.4Hz approx. (84 flashes per minute), according to EN 60073 standard
- Rotation frequency 60rpm approx.

Color	Model
	24V AC/DC
red	ST70-LRM024-0
orange	ST70-LAM024-0
yellow	ST70-LGM024-0

Color	Model
	24V AC/DC
green	ST70-LVM024-0
blue	ST70-LBM024-0
white	ST70-LWM024-0



LED bulbs

- Life duration >25.000 hrs.
- Perfect functioning also in case of strong vibrations or hits.
- Low current consumption: <50mA (24V CA/CC) / <18mA (115V CA) / <17mA (230V CA)
- To be used together with alarm devices whose domes are of the same color as the LEDs.

Color	Model	Model	Model
	24V AC/DC	115V AC/DC	230V AC/DC
red	BL15D-R02410-0	BL15D-R11510-0	BL15D-R23010-0
orange-yellow	BL15D-G02410-0	BL15D-G11510-0	BL15D-G23010-0
green	BL15D-V02410-0	BL15D-V11510-0	BL15D-V23010-0
blue	BL15D-B02410-0	BL15D-B11510-0	BL15D-B23010-0
white	BL15D-W02410-0	BL15D-W11510-0	BL15D-W23010-0



Filament bulbs

- Filament shock-proof
- Life duration 2,000 hrs.
- Rated Voltage 15V / 24V / 30V / 48V / 130V / 260V AC/DC
- Kit 10pcs

Model	Model	Model
15V/5W	24V/5W	30V/5W
BF15D-T01205-0K	BF15D-T02405-0	BF15D-T03005K-0

Model	Model	Model
48V/5W	130V/5W	260V/5W
BF15D-T04805K-0	BF15D-T13005K-0	BF15D-T26005K-0

 In conformity with 2002/96/EC Directive, these products must be disposed of separately from household refuse or similar, according to the local legislation



Polycarbonate base with integrated tube

- h = 100 mm
- base Ø = 70 mm

Color	Model
black	SF-1N-0



Polycarbonate extension tube

- h = 100 mm
- Ø = 25 mm

Color	Model
black	SF-2N-0



Adapter for 22mm holes

Color	Model
black	SF-3N-0



Angle bracket in nylon fiberglass

Color	Model
black	SF-4N-0

LIMITED LIABILITY AND WARRANTY DISCLAIMER

The Manufacturer hereby makes no representation or warranties expressed or implied, statutory or otherwise. All implied warranties, including those of merchantability or fitness for use are hereby disclaimed.

The product is made in conformity with the cogent standards provided for by European Health and Safety legislation.

Where expressly indicated, the product conforms to the standard of Safety and Performance defined by recognised international bodies and subject to their periodic verification.

Any loss or damage, both incidental and consequential, for any failure to perform or delay to perform due to wrong use or wrong installation of the product, as well as to the non-observance of technical specifications, are not covered by the Manufacturer's warranty.

The buyer alone is responsible to determine the suitability of the product.

The data indicated in the catalogue is purely indicative. The product is subject to wear.

Electrical connections must be carried out in compliance with pertinent national, state or local health and safety laws.

If the apparatus in which the product is incorporated should guarantee continuous use without variation or interruption in performance, the product must be utilised only in the presence of a device which immediately signals any functional anomaly or arrest, allowing immediate intervention or the activation of an auxiliary product.

If installed and/or integrated in other apparatus, the use and maintenance manual of the apparatus must also indicate the correct use of our product and its working characteristics and must prescribe its estimated life, before the product actually reaches the maximum working hours shown in the data sheets, that is to say, taking account of all the specific conditions of use and of the technical specifications supplied and must supply exhaustive information allowing the user to substitute the product (removal & substitution).

Any fan found to be defective within the limits of the warranty, will be replaced free of charge. Costs of labour or other extra subsequent costs relative to the removal, restitution or new installation of the fan are not covered by the product warranty.

Sales Conditions and Data Sheets available on www.fandis.it



Fandis S.p.A.

Via per Castelletto 65/69 - 28040 Borgo Ticino (NO) - Italy

Tel. +39 0321 96 32 32 - Fax +39 0321 96 32 96

info@fandis.it

COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV
= ISO 9001 =

For more information:
www.fandis.it

