



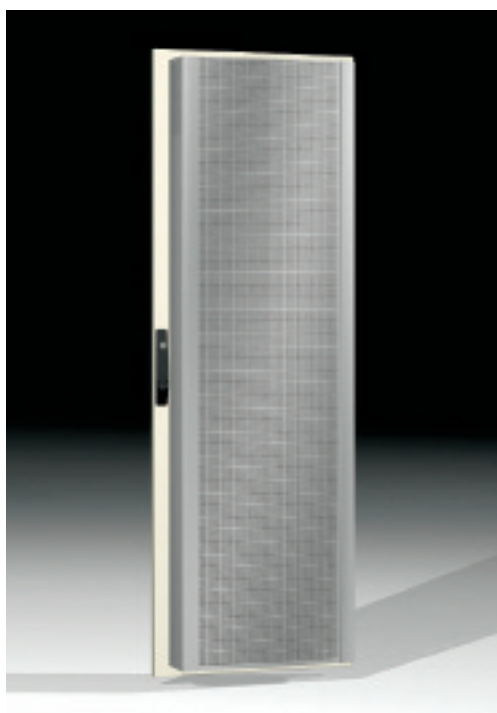
As being a leading Company in the international market for control panels, ETA deeply knows all the problems linked to control boards often lodging sophisticated electronic components. These components are exposed to high temperatures which threaten their endurance in perfect working order; besides they cannot be left outside, just to avoid any dangerous contact with polluted powder and air.

Starting from this point, it becomes necessary to maintain fresh and clean air inside the control panel and protect its components. This represents the best protection for those who want to avoid high costs deriving from stops of the working order and from frequent changes of the electronic components themselves.

ETA offers a wide range of cooling solutions able to meet different requirements:

- climate control doors
- click & fit filter fans and exhaust filters
- roof mounted fans
- heaters
- temperature regulators
- EMC filter fans.

climate control door



main features

Features at a glance:

- 4 cooling capacities available: 2500 W - 2000 W - 1500 W - 1000 W
- quick and easy installation
- temperature regulated by integrated thermostat
- two separate airflow circuits ensure that no air from the surrounding atmosphere enters the switch cabinet
- effective refrigeration capacity thanks to the great distance between air inlet and outlet
- power cable with fault contact line provided with the standard supply
- high reliability and functionality thanks to the sturdy control equipment inside the cooling unit
- UL approval
- ozone friendly thanks to the use of R134a refrigerant
- powerful radial fans
- high flexibility thanks to the wide range of combinations of cooling units, front metal covers and doors.

characteristics

Cover manufactured in sheet steel 2mm thick.

paint finish

ETA standard epoxy polyester powder coating.

Cover: silver RAL 9007.

Door: RAL 7032 textured finish.

composition

When ordering, please specify:

- the size of door or cabinet, to be ordered separately, where the cooling unit together with front cover will be fitted.

conformity and approval



protection degree

- IP 54 against the switch cabinet
- IP 21 against the environment.

cooling unit

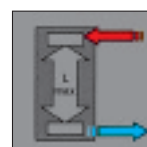
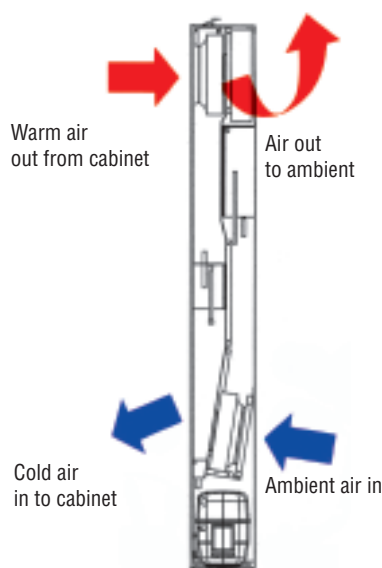
code		power
mod.	art.	
WIPC	001000	1000 W
WIPC	001500	1500 W
WIPC	052000	2000 W
WIPC	052500	2500 W

cover

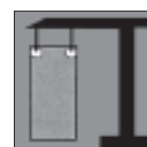
code		height
mod.	art.	
WIPC	060180	1700
WIPC	060200	1900



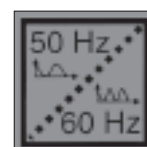
climate control door technical data



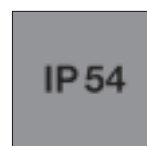
Max. distance between air inlet and -outlet



Prepared installation eyelets



50 Hz/60 Hz compatible



Ingress protection against the switch cabinet (IEC 60529)



Optional



UL - Approval

COOLING DATA	2500W	2000W	1500W	1000W
Cooling capacity A35/A35*	2500 W	2000 W	1500 W	1000 W
Cooling capacity A50/A35*	1800 W	1440 W	1200 W	780 W
Refrigerant type	R134a	R134a	R134a	R134a
Refrigerant amount	850 g	850 g	500 g	500 g
Thermostat setting	adjustable within a range of 25 °C to 45 °C (adjusted by the manufacturer at 35 °C)			
Ambient air temperature	+15 °C...+55 °C	+15 °C...+55 °C	+15 °C...+55 °C	+15 °C...+55 °C
Internal temperature	+25 °C...+45 °C	+25 °C...+45 °C	+25 °C...+45 °C	+25 °C...+45 °C
Air flow volume (external)	1000 m³/h	1000 m³/h	660 m³/h	450 m³/h
Air flow volume (internal)	810 m³/h	760 m³/h	460 m³/h	270 m³/h
Condensate drain	PVC tube	PVC tube	PVC tube	PVC tube
Noise level (1m)	≤ 63 dB (A)	≤ 63 dB (A)	≤ 62 dB (A)	≤ 60 dB (A)

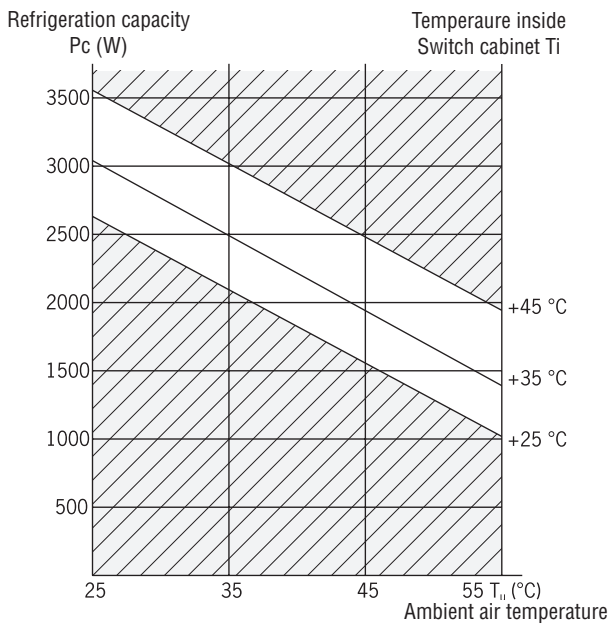
(*) Air conditioning according to EN 814

ELECTRICAL DATA	2500W	2000W	1500W	1000W
Rated voltage	400V	400V	230V	230V
Frequency	50Hz / 60Hz	50Hz / 60Hz	50Hz / 60Hz	50Hz / 60Hz
Operating range	360V...440V	360V...440V	198V...252V	198V...252V
Power consumption (A35/A35)	1140W / 1450W	880W / 1250W	800W / 1040W	740W / 910W
Current capacity at A50/A35	3,5A / 3,9A	3,2A / 3,7A	5,1A / 6,1A	3,7A / 4,4A
Start-up current	10,9A / 11,8A	10,5A / 11,2A	21,4A / 19,9A	11,5A / 18,5A
Type of connection	Terminal board	Terminal board	Terminal board	Terminal board

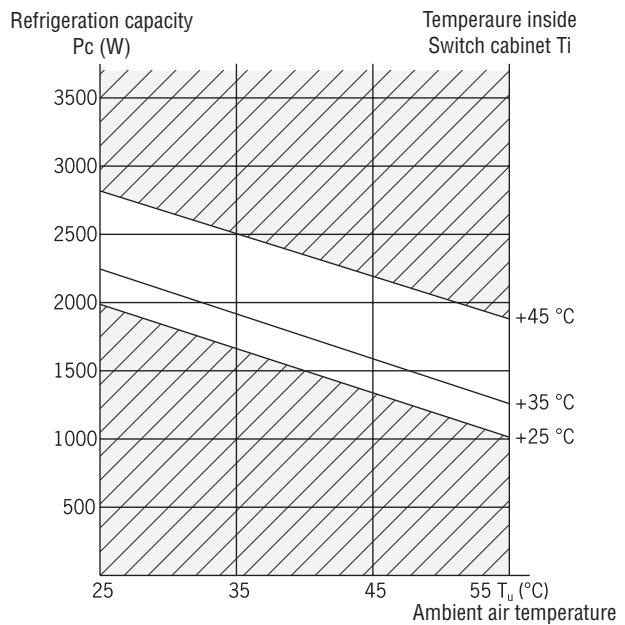
SUPPLEMENTARY DATA	2500W	2000W	1500W	1000W
Weight (without packaging)	58 Kg	55 Kg	45 Kg	45 Kg
Orientation	Vertical			
Climatic Data	Max Ambient temperature +55 °C Max. relative humidity 80%. A35 / A35 (EN814)			
Protection degree	IP54 against the switch cabinet (IEC60529), when used as recommended IP21 against the environment (IEC60529), when used as recommended			
Standard supply	Technical data sheet and user manual			

climate control door characteristic curves

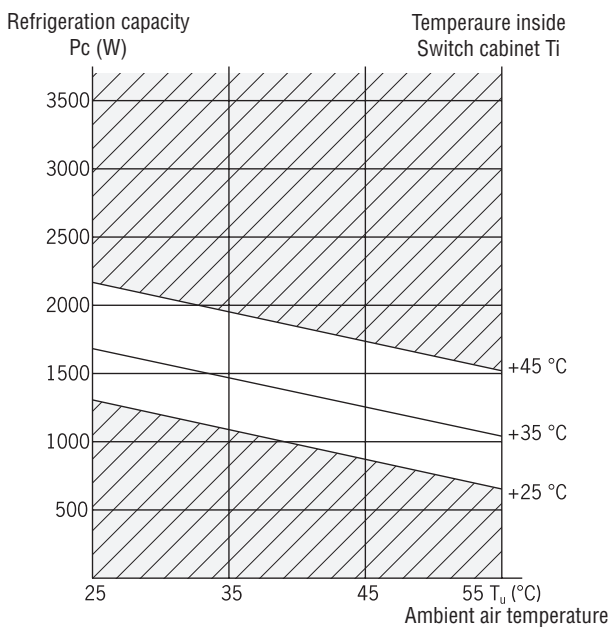
2500 W



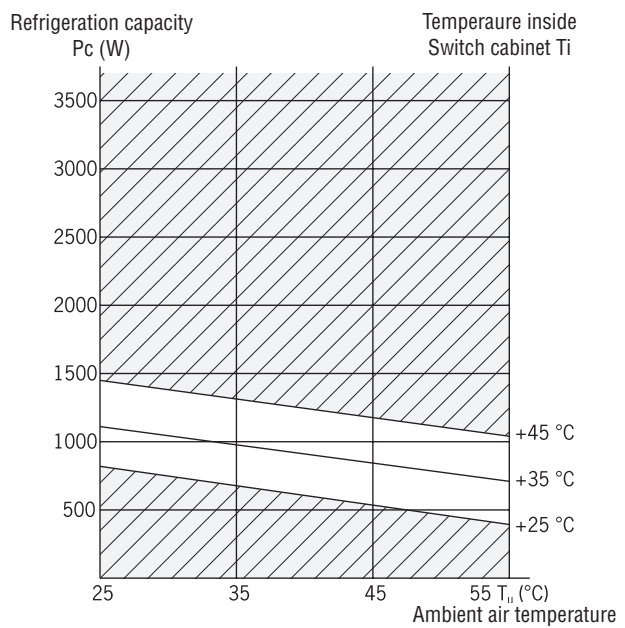
2000 W



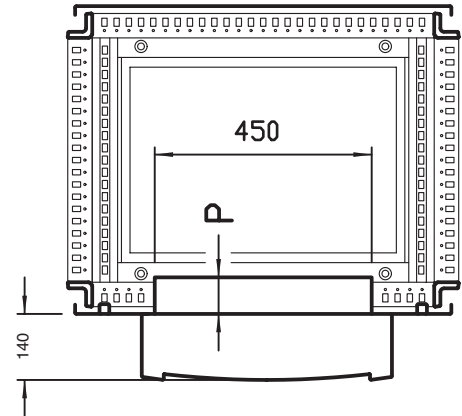
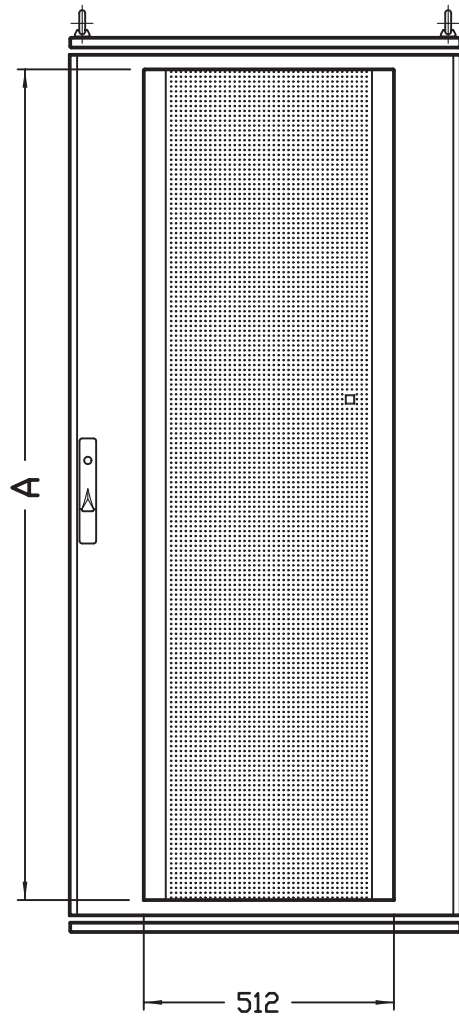
1500 W



1000 W



climate control door overall dimensions



climate control door overall dimensions

1000/1500W		2000/2500W	
A	P	A	P
1700	60	1700	120
1900	60	1900	120

Min. width door = 600 mm.

filter grids “click and fit”

The click & fit filter fans allow an easy fitting on the enclosure.

characteristics

Fans are of the axial type.

- operating temperature -10/+55 °C
- minimum working life guaranteed: 20.000 hours when used at +55 °C and 30.000 hours when used at +35 °C
- they can be used as suction or as blower fans (except WT - 315/315V).

grids and supports

Manufactured from thermoplastic material.

- heat resistance (-35 °C +80 °C)
- IEC/DIN 53480 KA 3 sliding currents resistance
- colour similar to RAL 7032 textured finish/RAL 7025
- sealing gasket to guarantee IP 54.

filtering panel

Manufactured from mixed polyester-modacrylic fibres.

- high filtering capacity
- max working temperature 130 °C
- easily removed
- good reutilization.

fan selection

The diagram shows how to choose the ventilation units.

Select the heat to be dissipated on the Y-axis, the intersection point obtained on the required ΔT line gives the necessary air flow on the X-axis.

conformity and approval



protection degree

IP 54.

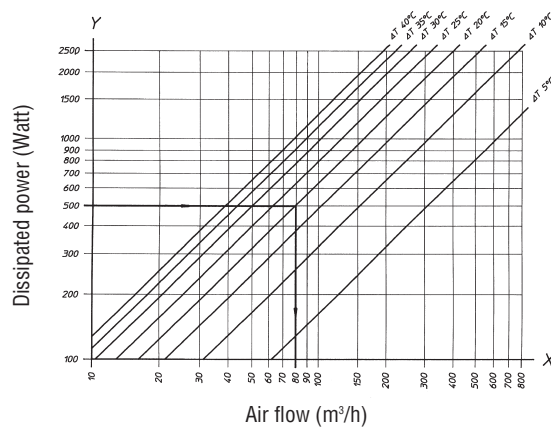
Example: $P = 500$ Watt, $\Delta T = 20$ °C, $V = 80$ m³/h
A WI 205 fan with $V = 97$ m³/h is required

Formula

$$V = 3.1 \frac{P}{\Delta T}$$

when:

V	= Air flow	m ³ /h
P	= Dissipated power	Watt
ΔT	= (Te - Ti)	
Te	= External temperature	°C
Ti	= Temperature requested inside the cabinet	°C

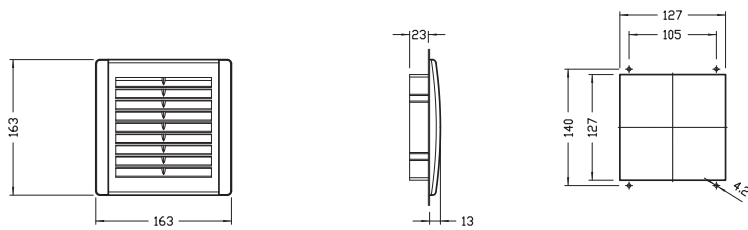


notes

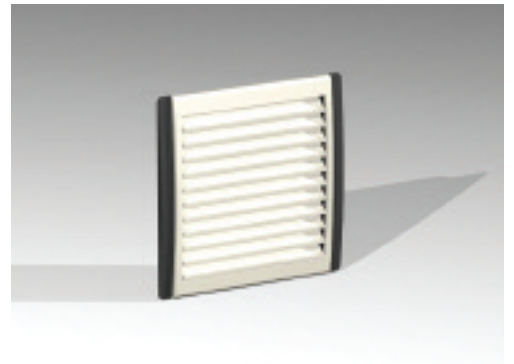
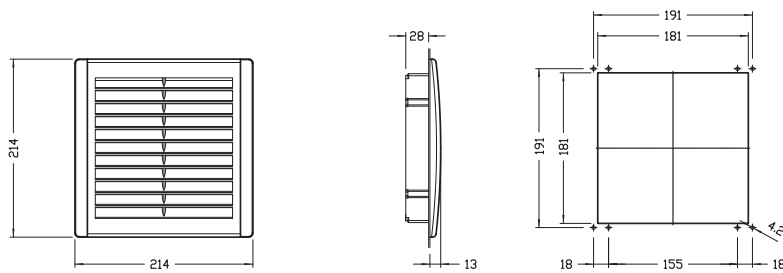
- it is worth choosing a fan with a 10/20% oversized fan to compensate for a dirty filter
- place fan and filters vertically as far apart as possible to create a good air flow.

filter grids “click and fit”

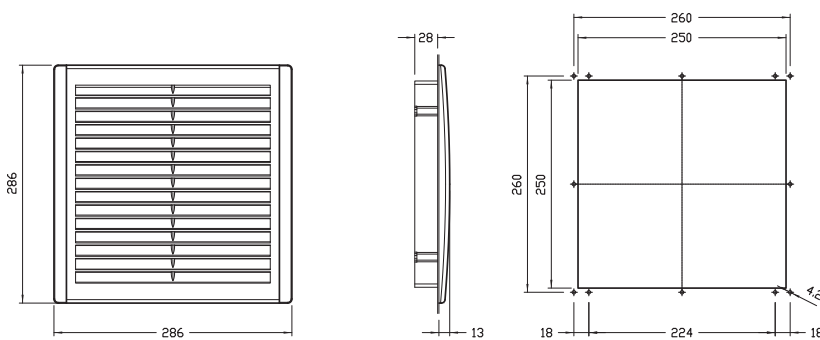
WT-330



WT-335



WT-340



filter grids

model	dimensions
WT 330	163 x 163
WT 335	214 x 214
WT 340	286 x 286

Spare filtering panels

WT 333: dimensions 120 x 120 - spare for WT 330/300

WT 338: dimensions 170 x 170 - spare for WT 335/305/308

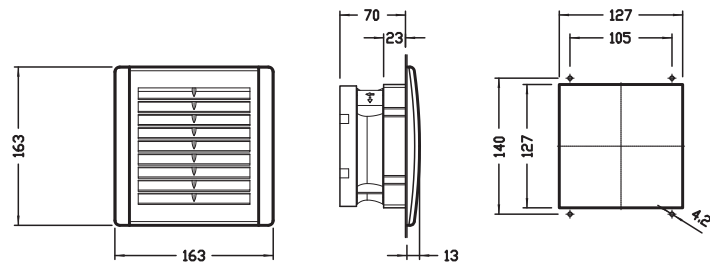
WT 343: dimensions 235 x 235 - spare for WT 340/310/315

Remark: the filtering panels are UL approved.

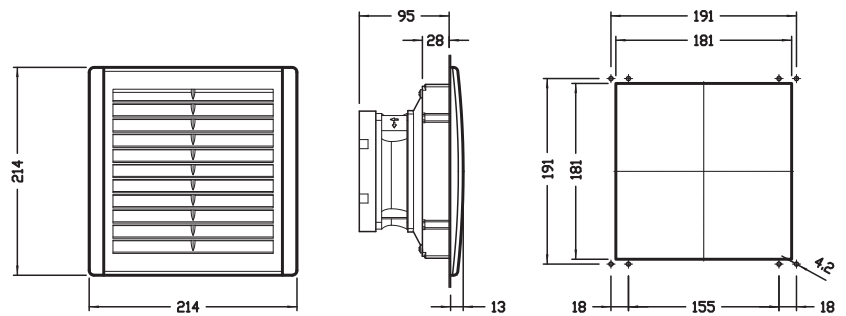
fans "click and fit"



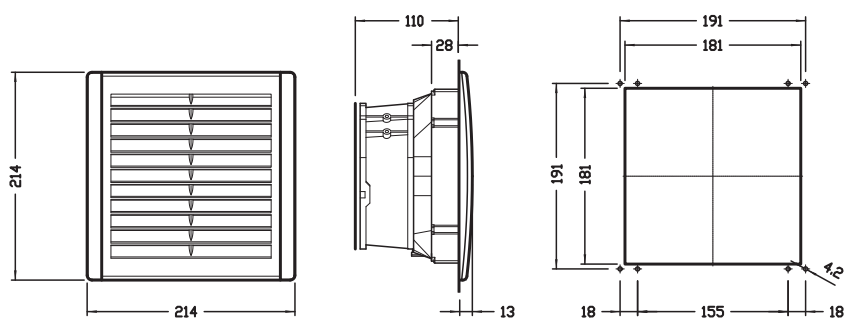
WT-300/WT-300V



WT-305/WT-305V

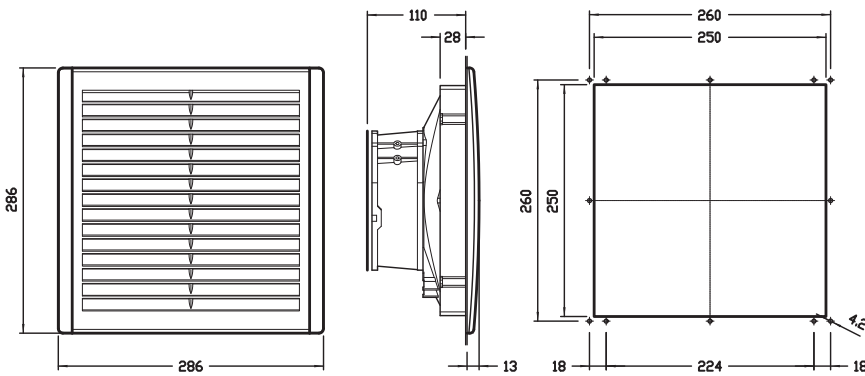


WT-308/WT-308V

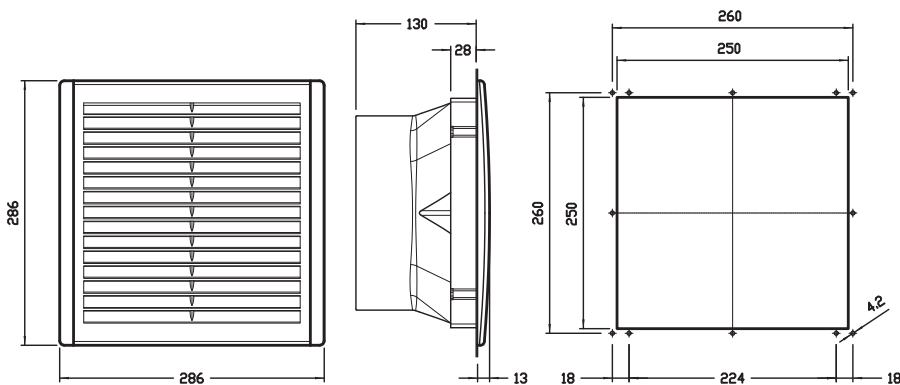
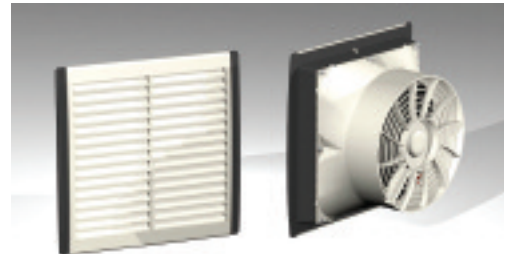


fans “click and fit”

WT-310/WT-310V



WT-315/WT-315V



fans with filter

model		WT 300	WT 300V	WT 305	WT 305V	WT 308	WT 308V	WT 310	WT 310V	WT 315	WT 315V
nominal voltage	V/Hz	230/50-60	115/50-60	230/50-60	115/50-60	230/50-60	115/50-60	230/50-60	115/50-60	230/50-60	115/60
power	Watt	18	18	18	18	47	47	54	54	84	84
air flow with filter	m ³ /h	44	50	97	115	205	225	295	330	485	568
unhindered air flow	m ³ /h	65	72	140	155	240	256	345	360	831	813
noise	dB(A)	46	50	46	50	57	60	57	60	65	68

filter fans screw fixing

characteristics

Fans are of the axial type.

- operating temperature -10/+55 °C
- minimum working life guaranteed: 20.000 hours when used at +55 °C and 30.000 hours when used at +35 °C
- they can be used as suction fans or as a blower fans.

grids and supports

Manufactured from thermoplastic material.

- heat resistance (-35 °C + 80°C)
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The diagram shows how to choose the ventilation units. Select the heat to be dissipated on the Y-axis, the intersection point obtained on the required ΔT line gives the necessary air flow on the X-axis.

conformity and approval



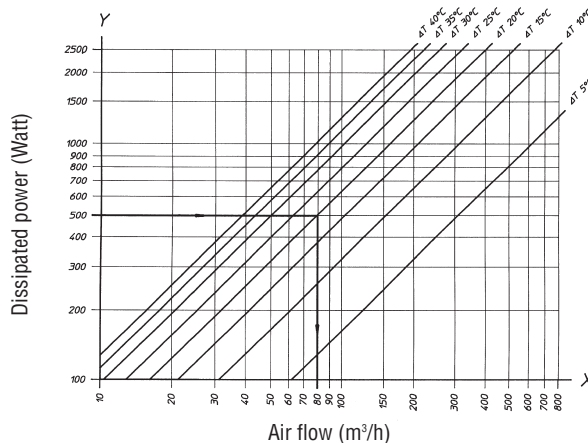
Example: $P = 500 \text{ Watt}$, $\Delta T = 20 \text{ }^\circ\text{C}$, $V = 80 \text{ m}^3/\text{h}$
AWI 205 fan with $V = 97 \text{ m}^3/\text{h}$ is required

Formula

$$V = 3.1 \frac{P}{\Delta T}$$

when:

V	= Air flow	m^3/h
P	= Dissipated power	Watt
ΔT	= (Te - Ti)	
Te	= External temperature	$^\circ\text{C}$
Ti	= Temperature requested inside the cabinet	$^\circ\text{C}$



notes

- it is worth choosing a fan with a 10/20% oversized fan to compensate for a dirty filter
- place fan and filters vertically as far apart as possible to create a good air flow.

filtering grids

model	dimensions
WI 230	129 x 129
WI 235	214 x 214
WI 240	286 x 286

Spare filtering panels.

WI 233: dimensions 120 x 120 - spare for WI 230

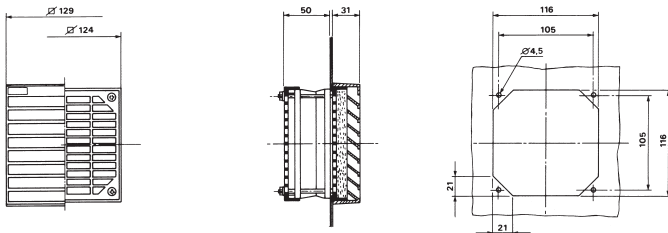
WI 238: dimensions 170 x 170 - spare for WI 235

WI 243: dimensions 235 x 235 - spare for WI 240

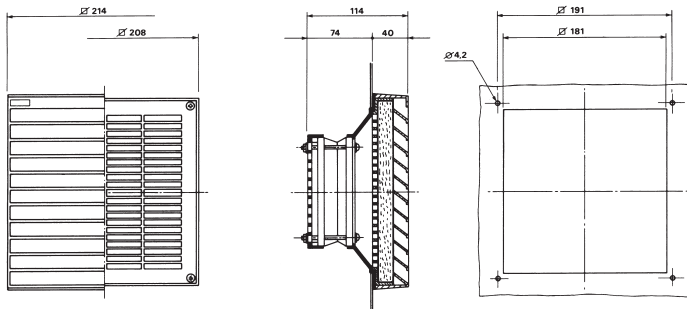
Remark: filtering panels are UL approved

filter fans screw fixing

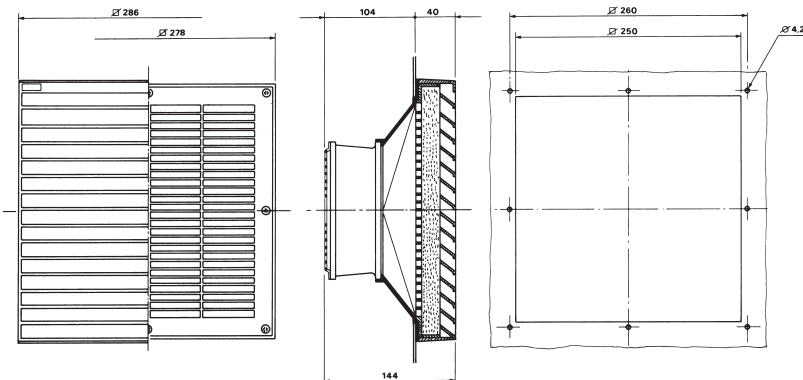
WI-200/WI-200V
Sealing gasket to guarantee IP 54.
Code OGP WI-200.



WI-205/WI-205V
Sealing gasket to guarantee IP 54.
Code OGP WI-205.



WI-210/WI-210V
Sealing gasket to guarantee IP 54.
Code OGP WI-210.



fans with filter

model		WI 200	WI 200V	WI 205	WI 205V	WI 210	WI 210V
nominal voltage	V/Hz	230/50-60	115/50-60	230/50-60	115/50-60	230/50-60	115/50-60
power	Watt	18	18	18	18	54	54
air flow with filter	m ³ /h	44	50	97	115	295	330
unhindered air flow	m ³ /h	65	72	140	155	345	360
noise	dB(A)	46	50	46	50	57	60

roof mounting fans



ROOF MOUNTING FAN WA-250

Structure, roof and fan ventilator manufactured from 1.5mm sheet steel.

paint finish

ETA standard epoxy polyester powder coating. Colour: RAL 7032 textured finish.

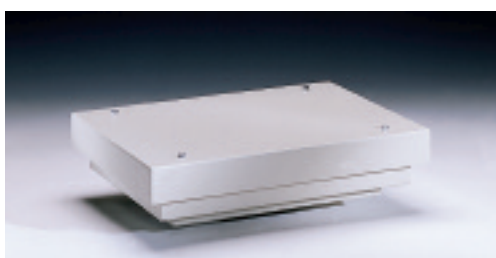
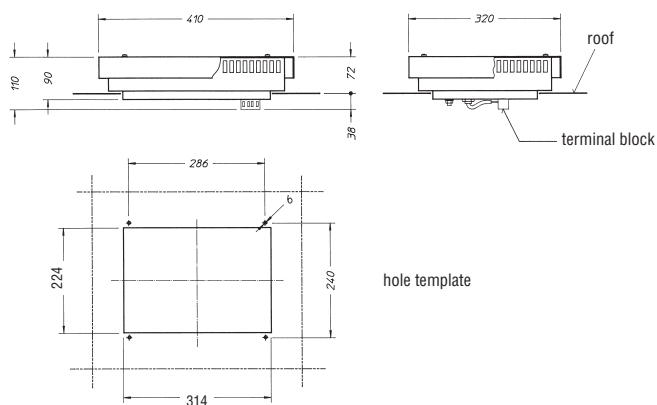
protection degree

IP 23.

composition

- structure, roof and fan support
- radial fan
- finger guard
- capacitor
- terminal block
- gasket
- mounting accessories.

model		WA 250
nominal voltage	V/Hz	220/50-60
power	Watt	75
air flow	m ³ /h	550
max head	Pa	320
condenser	μF	2
noise	dB(A)	62



ROOF MOUNTING WA-255

Structure, roof manufactured from 1.5mm sheet steel.

paint finish

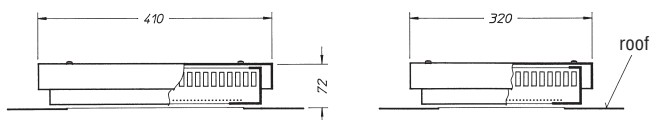
ETA standard epoxy polyester powder coating. Colour: RAL 7032 textured finish.

protection degree

IP 23.

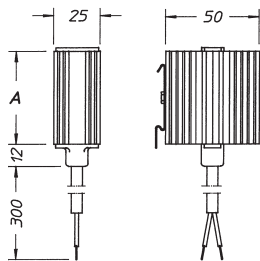
composition

- structure, roof
- sealing gasket
- mounting accessories.



heating units

Condensate accumulation is not frequent thanks to heat generated by electrical equipments working under load. However, when with equipment do not work, they become colder and fit the ambient temperature, going below the condensate point. That is the reason why the radiating panels heater allow condensate accumulation inside switch cabinets.



WI-271 WI-273 WI-274
heating element
PTC (semiconductor).
material
Manufactured from black anodized aluminium.
protection class
II. 4.000 V/3" test.
conformity and approval



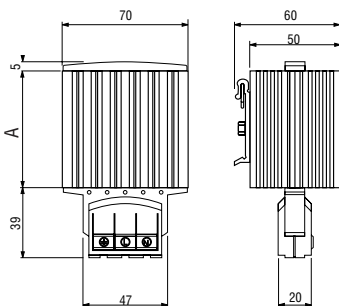
protection degree
IP 54.



heaters

code		power	tension	height
model	article	watt	V. AC/DC	A
WI	271	10	110-250	50
	273	20	110-250	60
	274	30	110-250	70

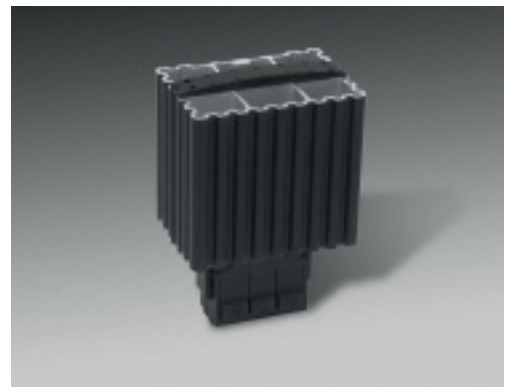
WI-250 WI-255 WI-260 WI-265 WI-270
heating element



PTC (semiconductor).
material
Manufactured from black anodized aluminium.
protection class
II. 4.000 V/3" test.
conformity and approval

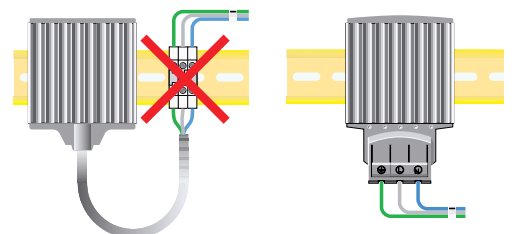


protection degree
IP 54.



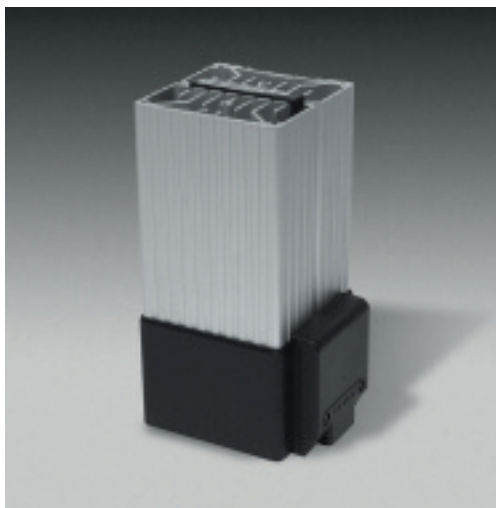
heaters

code		power	tension	height
model	article	watt	V. AC/DC	A
WI	250	15	110-250	65
	255	30	110-250	65
	260	45	110-250	65
	265	75	110-250	140
	270	150	110-250	220



Supply does not include the cable.

heating units



WI-277 WI-279

air flow

35 m³/h, 45 m³/h (50 Hz) and/or 54 m³/h (60 Hz).

surface temperature

About 75 °C.

heating element

Traditional resistance with protection device.

material

Manufactured from black anodized aluminium.

conformity and approval

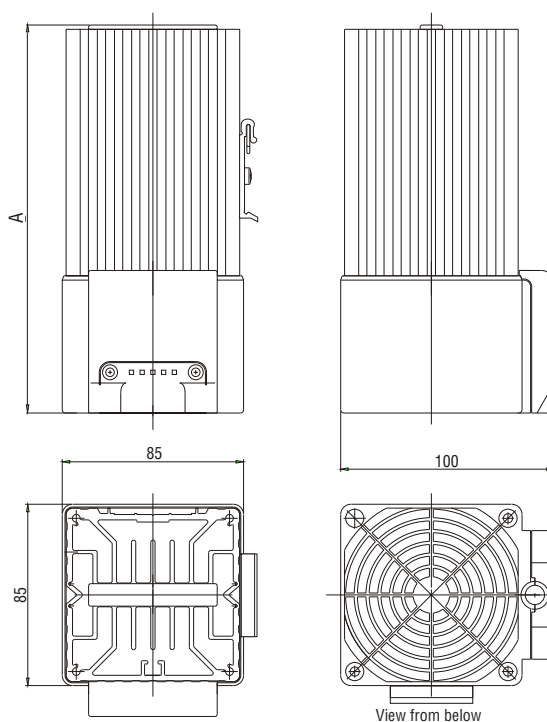


protection degree

IP 20.

heaters

code		power	tension	height
model	article	watt	V. AC/DC	A
WI	277	250	230/50-60	182
	279	400	230/50-60	222



heating units

HEATER WITH FAN AND THERMOSTAT WIRV-005

heating element material

Anodized aluminium.

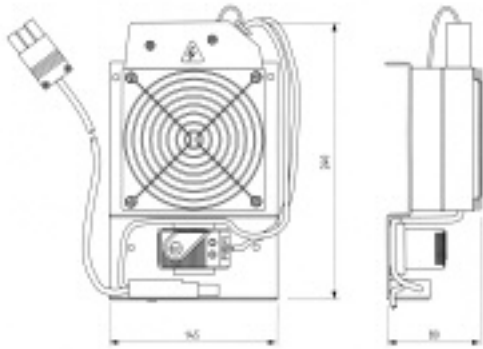
consumption
AC 230V 50-60 Hz/600W.

volume
108 m³/h.

time capacity
30.000 hours with TU=20°.

thermostat
0-60 adjustable, contacts NC.

protection degree
IP 20.



HEATER WITH FAN AND THERMOSTAT

heating element

PTC (semiconductor).

envelope/internal material

Plastic/aluminium.

protection class

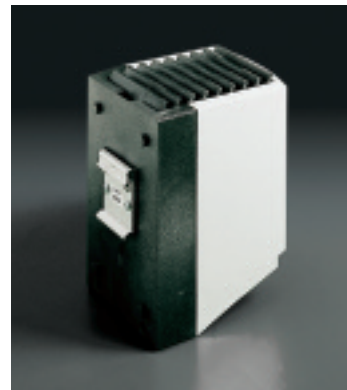
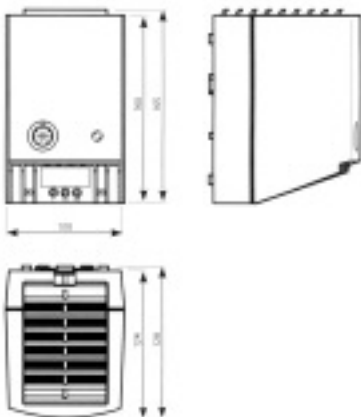
II (double insulation).

temperature adjustment
0-60°.

conformity and approval



protection degree
IP 20.

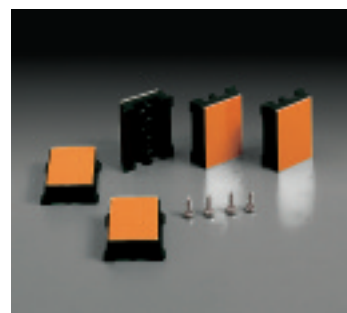


heaters

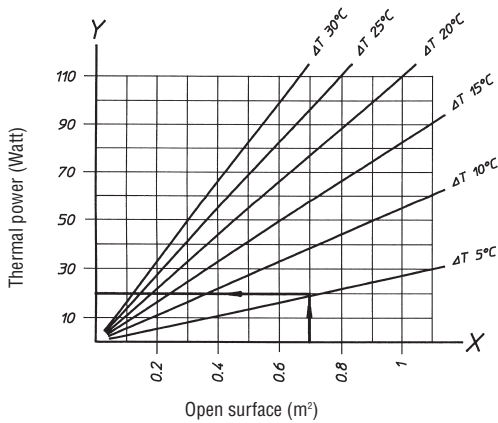
code		power watt	tension V. AC	height A	fan capacity
mod.	art.				
WIRV	010	350	230	7,5	35 m ³ /h
	010V	350	115	11	35 m ³ /h
	020	550	230	8,5	35 m ³ /h
	020V	550	115	12	35 m ³ /h

WI-295

Plastic plates with clips allowing cables fixing.
Zincpassivated screws or a self adhesive plate can be used for mounting.
Supply includes 5 pieces.



heating units



Example: $S = 0,7 \text{ m}^2$, $\Delta T = 5 \text{ }^\circ\text{C}$, $P = 20 \text{ Watt}$
1 WI 273 is required

notes on heating units:

Diagrams show heaters characteristics.
The cabinet (or enclosure) open surface must be determined on the X-axis, the intersection point on the ΔT line indicates the necessary thermal power on the Y-axis.

Formula:

$$P = K \times S \times \Delta T$$

where:

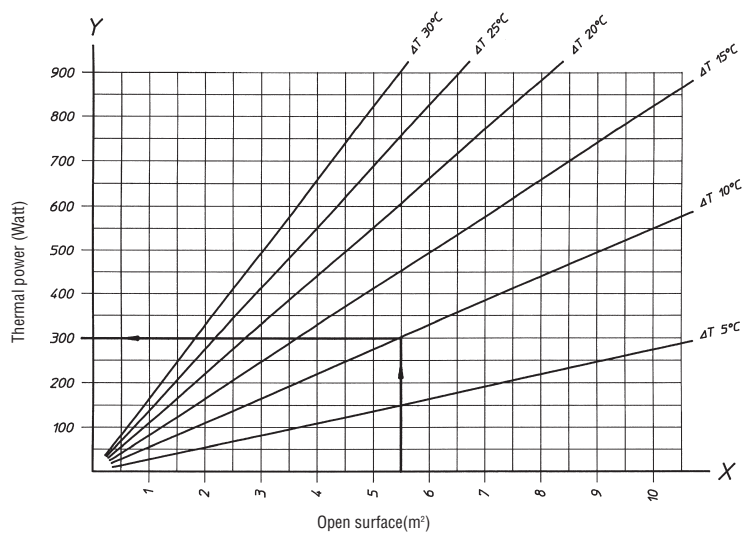
- P = dissipated thermal power
- K = heat dissipation coefficient
for painted sheet steel $K=5.5$
- S = open cabinet surface
- $\Delta T = (T_i - T_e)$
- T_i = required internal temperature
- T_e = ambient temperature

Watt

$\text{W/m}^2 \text{ }^\circ\text{C}$
 m^2

$^\circ\text{C}$

$^\circ\text{C}$



Example: $S = 5,5 \text{ m}^2$, $\Delta T = 10 \text{ }^\circ\text{C}$, $P = 300 \text{ Watt}$
2 WI 270 heaters are required



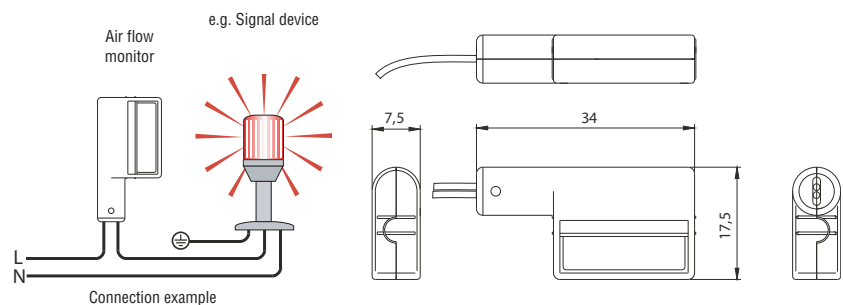
AIR FLOW MONITOR WI-297

The air-flow monitor is designed to control ventilators.
The monitor has a bi-directional switch which detects blowing or sucking air movement and registers if a fan is blocked or has stopped working.

conformity and approval



protection degree
IP 20.



temperature regulators

REGULATOR TEMPERATURE WI-280

Allow the regulation and limit the temperature inside cabinets.
They are used to control heaters, fans, heat exchangers, etc..

adjustment range
+10 +60 °C.

contact capacity
• close 5A/250 V AC
• open 10A/250 V AC.

noise protection
N (complying with VDE 0875).

connections
2,5 mm² 4 poles.

fixing
35 mm CLIP fixing on DIN rails.

housing
UL 94 V0 thermoplastic material.

dimensions
67 x 50 x 37 mm.

protection degree
IP 30.



ELECTRONIC TEMPERATURE/HUMIDITY CONTROLLER WI-290

Sensitive to air humidity and room temperature.
It allows the mounting of refrigerating or heating equipments.

temperature regulation
0° ÷ 60 °C.

intervention sensitivity
±2 °C.

respective humidity regulation
50% ÷ 90%.

response time
About 160".

feeding voltage
230 V/50-60 Hz.

exchange contact: AC 8A (4) / 250 V, DC 0,5A / 100 V, DC 8A / 12 V, DC 5A / 35 V.

working life
About 100.000 cycles.

on indicator
LED.

fixing
CLIP fixing on 3 5mm DIN rail.

dimensions
50 x 67 x 43 mm.

housing
UL 94 V0 thermoplastic material.

conformity and approval



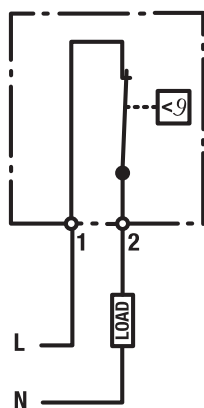
protection degree
IP 20.



thermostats



OPENING CONTACT



SMALL THERMOSTAT WI-282 WITH CONTACT NC

Small mechanical thermostat (NC) for temperature regulation in, for example, cooling equipment, filter fans and heat exchangers or for switching signal devices when temperature limit been exceeded.

To be used to control air temperature inside cabinets.

- heating
- ventilation
- signal transmissions.

adjustment range

0° ÷ 60 °C.

sensitive element

Bimetallic.

intervention sensitivity

±2 °C.

supply voltage

6A (1) 250 V AC.

noise protection

N (complying with VDE 0,875).

connections

2,5 mm² 2 poles.

fixing

35 mm CLIP fixing on DIN rails.

dimensions

60 x 33 x 35 mm.

housing

UL 94 V0 thermoplastic material.

conformity and approval



protection degree

IP 20.

thermostats

SMALL THERMOSTAT WI-284 WITH CONTACT NO

Small mechanical thermostat (NO) for temperature regulation in, for example, cooling equipment, filter fans and heat exchangers or for switching signal devices when temperature limit been exceeded.

To be used to control air temperature inside cabinets.

- heating
- ventilation
- signal transmissions.

adjustment range

0° ÷ 60 °C.

sensitive element

Bimetallic.

intervention sensitivity

±2 °C.

supply voltage

6A (1) 250 V AC.

noise protection

N (complying with VDE 0,875).

connections

2,5 mm² 2 poles.

fixing

35 mm CLIP fixing on DIN rails.

dimensions

60 x 33 x 35 mm.

housing

UL 94 V0 thermoplastic material.

conformity and approval

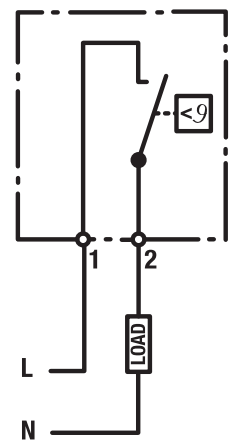


protection degree

IP 20.



CLOSING CONTACT



THERMOSTAT WI-286

Two thermostats in one casing:

- thermostat (contact breaker, normally closed) for regulation heaters
- thermostat (contact breaker, normally open) for regulation filter fans and meet exchangers or switching signal devices when temperature limit has been exceeded.

conformity and approval



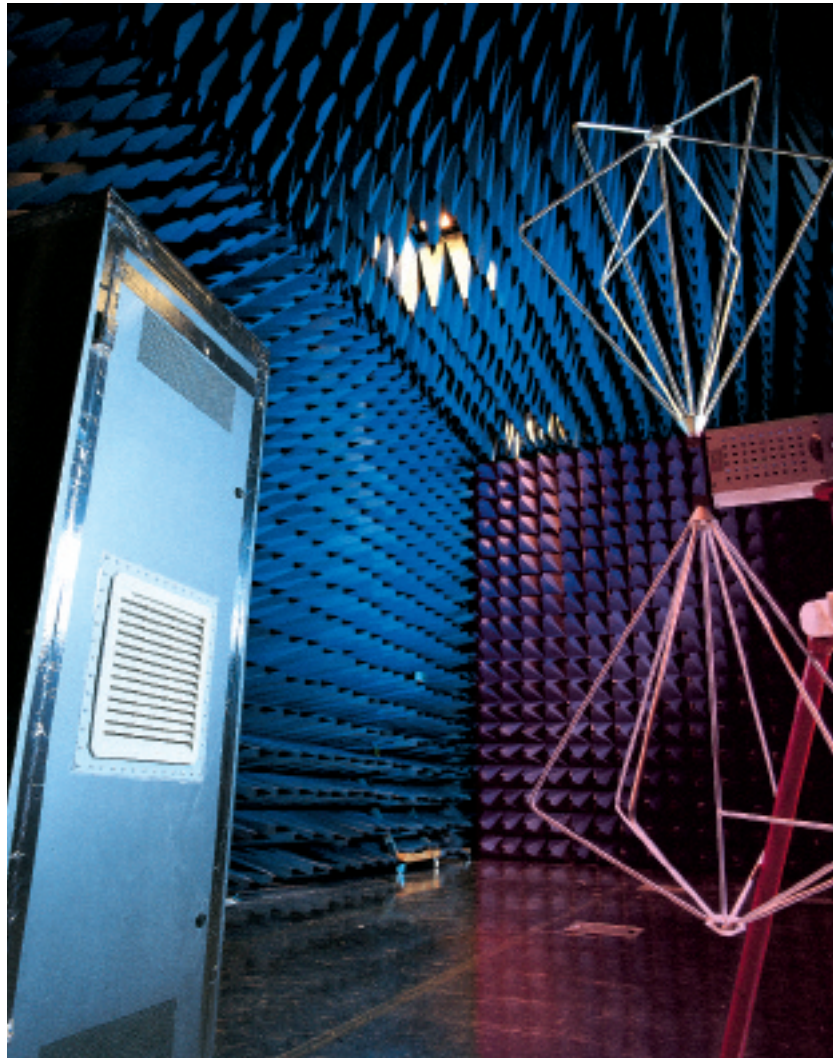
protection degree

IP 20.



EMC

- to meet EMC specific requirements, it is necessary to employ EMC shielded filters with fan which allow electromagnetic waves go through openings in the switch cabinet
- a wide range of requirements (flow volume between 50 m³/h and 625 m³/h) is met thanks to combination between fans with filters and EMC shielded filter grid
- ecological: components are made up of easy to recycle materials (avoiding material such as metalized plastic)



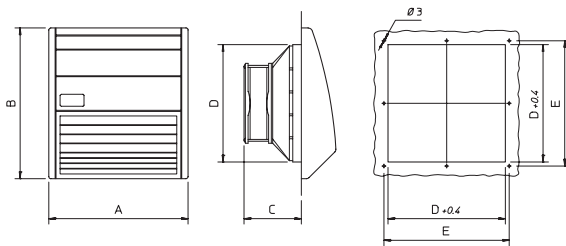
EMC

EMC means Electro Magnetic Compatibility, complying with a European directive. Electromagnetic compatibility refers to the possibility for an electric system to work correctly even if in presence of other electric system.

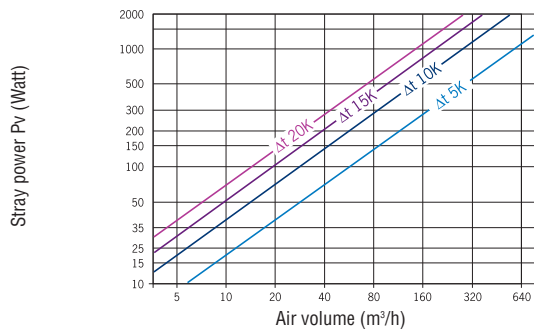
EMC fans

EMC FILTER FANS

- perfect sealing against electromagnetic interference, dust and water spray
- timing saving assembly and maintenance
- use of fine filter mats allows to achieve IP 54 protection degree.

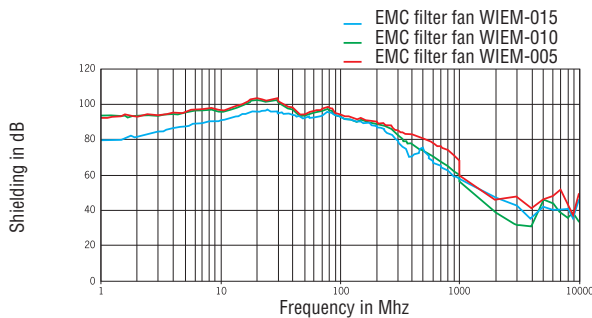


SELECTION DIAGRAM



V=required air volume (m³/h), Pv=stray power to be dissipated (Watt),
 Δt=temperature difference between surrounding air blown in (°C) and max. allowable interior temperature in Kelvin (K)

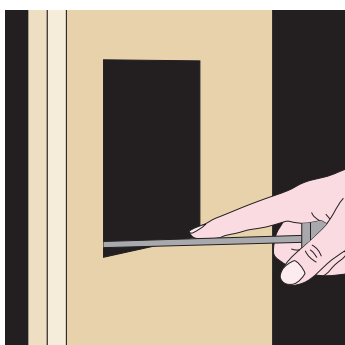
SHIELDING MEASUREMENT UP TO 10 GHz ACCORDING TO NSA 65-6



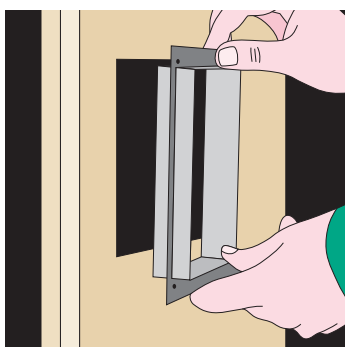
model		WIEM-005	WIEM-005V	WIEM-010	WIEM-010V	WIEM-015	WIEM-015V
nominal voltage	V/Hz	230/50	120/50	230/50	120/50	230/50	120/50
power	Watt	15	15	17	17	17	17
air flow without filter	m ³ /h	21	21	55	55	102	102
air flow with filter	m ³ /h	16	16	42	42	68	68
noise	dB	31	31	40	40	39	39
A	mm	129	129	157	157	209	209
B	mm	134	134	170	170	226	226
C	mm	45	45	58	58	86	86
D	mm	97	97	125	125	176	176
E	mm	109	109	137	137	188	188

EMC filters

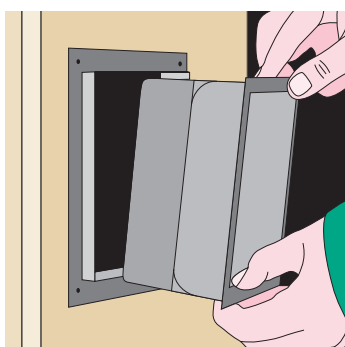
Remove paint from cut-out edge



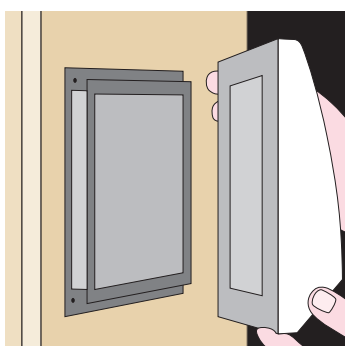
Insert mounting frame



Push in fan unit

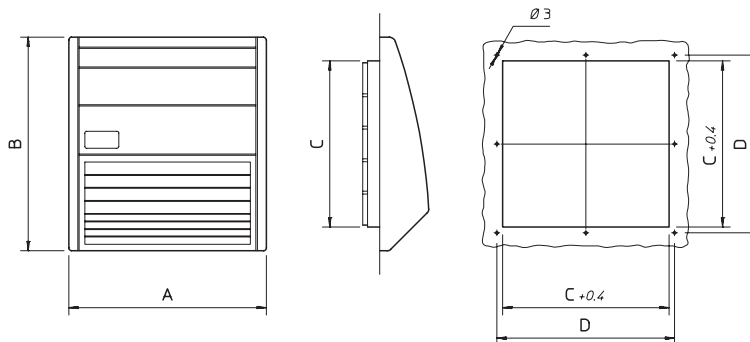
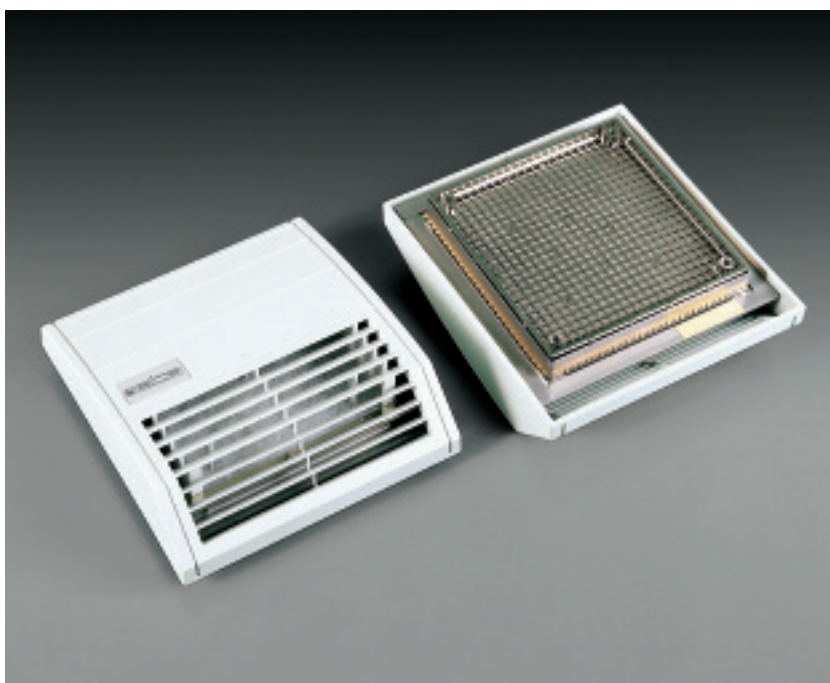


Clip on fan hood. Finished.



EMC FILTER

- synthetic fibre with progressive construction, temperature resistant to 100°C, self-extinguishing class F1. Moisture resistant to 100% RH. Cleaning by washing, vacuuming or beating out
- standard colour light grey RAL 7035
- the use of fine filters mats allows to achieve IP 54 protection degree.



model	WIEM-030	WIEM-035	WIEM-040
depth	16	16	16
A	129	157	209
B	134	170	226
C	97	125	176
D	109	137	188