



# VENTILATION FOR ELECTRICAL CABINETS AND THERMAL MANAGEMENT

## RC S



### Codes

Model	RC 12.15 S IP44	RC 14.25 S IP44	RC 20.32 S IP44	RC 12.15 S IP54	RC 14.25 S IP54	RC 20.32 S IP54
110-120 V Grey RAL 7032	0090932	0091432	0091132	0093332	0093532	0092232
220-240 V Grey RAL 7032	0092132	0092332	0093432	0099632	0099832	0099732
110-120 V Grey RAL 7035	0090935	0091435	0091135	0093335	0093535	0092235
220-240 V Grey RAL 7035	0092135	0092335	0093435	0099635	0099835	0099735
110-120 V Black RAL 9005	0090905	0091405	0091105	0093305	0093505	0092205
220-240 V Black RAL 9005	0092105	0092305	0093405	0099605	0099805	0099705



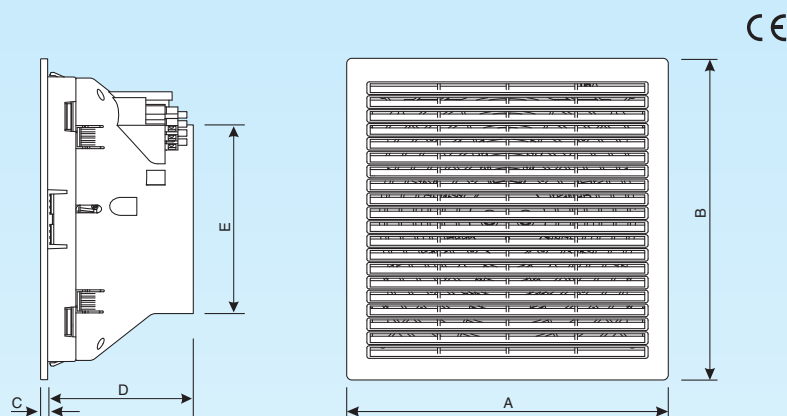
# VENTILATION FOR ELECTRICAL CABINETS AND THERMAL MANAGEMENT

## RC S

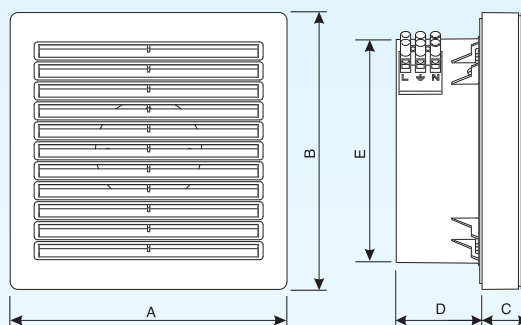
### Main features

- Functional design and "slim" grill.
- Axial fans for heat dissipation in enclosures supplied with filter of two different protection ratings (IP 44, IP 54), according to the cabinet specifications.
- Tests of IP protection performed on the product installed and working, using the kit filter + grille G S correspondent.
- Tests performed in accordance with European Standards EN 60529, EN 60335-2-80.
- The actual guarantee of the IP54 protection rating is certified by reliable laboratories and available upon request.
- Quick and functional assembly of the fan on the electrical cabinet through elastic click hooks and gasket pre-installed on the product.
- Operating temperature:  $-20^{\circ}\text{C}$   $+50^{\circ}\text{C}$ .
- Electrical connection through terminal board.
- Motor with ball bearing to assure long life of the fan assembly.
- Body made in ABS self extinguishing material, grey colour RAL 7032; grilles available in grey RAL 7032, grey RAL 7035, black RAL 9005.
- Recyclable materials.
- Easily removable grille to allow quick replacement of the filter.
- Slotted external grilles allow drainage of condensation.
- Fans in accordance with Standards CEI 17-13/1 (IEC 439-1), EN 60335-2-80.

### Dimensions



Model	A	B	C	D	ø E	Kg
<b>RC 12.15 S</b>	148	148	4,5	67	120	0,6
<b>RC 14.25 S</b>	250	250	5,5	113	147	1,1
<b>RC 20.32 S</b>	318,5	318,5	5,5	160	204	3



Model	A	B	C	D	ø E	Kg
<b>RC 12.15 S + D 15 S</b>	148	148	25,5	46	120	0,7

The performances have been attested by IMQ laboratories.

### Technical Data

Model	<b>RC 12.15 S IP 44</b>	<b>RC 12.15 S IP 54</b>	<b>RC 14.25 S IP 44</b>	<b>RC 14.25 S IP 54</b>	<b>RC 20.32 S IP 44</b>	<b>RC 20.32 S IP 54</b>
Hz	50/60	50/60	50/60	50/60	50/60	50/60
W	20	20	30	30	35	35
Nom. curr. in Amp.	0,2/0,1	0,2/0,1	0,4/0,2	0,4/0,2	0,3/0,15	0,3/0,15
dB (A) 2 m	42	42	50	50	63	63
Flow rate m <sup>3</sup> /h	55	50	150	130	450	400
Flow rate m <sup>3</sup> /h (no filter)	100		250		520	



# VENTILATION FOR ELECTRICAL CABINETS AND THERMAL MANAGEMENT

## FILTERS & GRILLES RC S

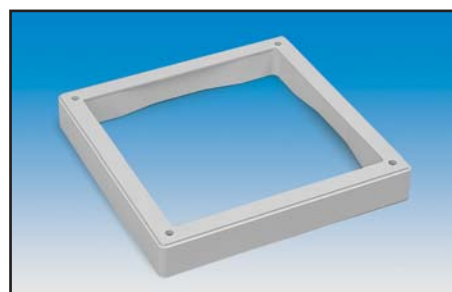
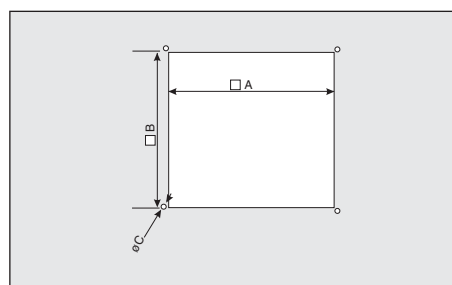
### Performances RCS + G

Model	RC 12.15 S + G 15 S IP 44	RC 12.15 S + G 15 S IP 54	RC 14.25 S + G 25 S IP 44	RC 14.25 S + G 25 S IP 54	RC 20.32 S + G 32 S IP 44	RC 20.32 S + G 32 S IP 54
Flow rate m <sup>3</sup> /h	46	27	124	96	311	179



### Filters for Grilles and Fan Assembly

Spare filters are sold in multiple packages.



### External exhaust grilles G S

External exhaust grilles complete with filter to maintain the protection rating (IP 44, IP54) according to the correspondent fans models RC S.

Completely made in self extinguishing material V0 conforming to UL94, resistant to temperature from -20°C to +50°C.

Model	Ref. RAL 7032	Ref. RAL 7035	Ref. RAL 9005	For Products
<b>G 15 S IP 44</b>	0089732	0089735	0089705	RC 12.15 S IP 44
<b>G 15 S IP 54</b>	0092632	0092635	0092605	RC 12.15 S IP 54
<b>G 25 S IP 44</b>	0090832	0090835	0090805	RC 14.25 S IP 44
<b>G 25 S IP 54</b>	0092832	0092835	0092805	RC 14.25 S IP 54
<b>G 32 S IP 44</b>	0089832	0089835	0089805	RC 20.32 S IP 44
<b>G 32 S IP 54</b>	0092732	0092735	0092705	RC 20.32 S IP 54

Model	Ref.	For Products
<b>F 15 S IP 44</b>	0088500	RC 12.15 S IP 44 e G 15 S IP 44
<b>F 15 S IP 54</b>	0088200	RC 12.15 S IP 54 e G 15 S IP 54
<b>F 25 S IP 44</b>	0088700	RC 14.25 S IP 44 e G 25 S IP 44
<b>F 25 S IP 54</b>	0088400	RC 14.25 S IP 54 e G 25 S IP 54
<b>F 32 S IP 44</b>	0088600	RC 20.32 S IP 44 e G 32 S IP 44
<b>F 32 S IP 54</b>	0088300	RC 20.32 S IP 54 e G 32 S IP 54

### Drilling scheme for Grilles and Fan Assembly

Model	A	B	∅ C
<b>RC 12.15 S</b>	125 x 125	131 x 131	4,5
<b>RC 14.25 S</b>	223 x 223	230 ÷ 234 x 230 ÷ 234	4,5
<b>RC 20.32 S</b>	291 x 291	302 x 302	4,5

### Thermostat

Automatically controls the ventilation inside the cabinet.

Temperature regulation: 20 °C ÷ 60 °C.

Model	Ref.	For Products
<b>TMS</b>	0097000	RC - RC S - SYSTEMA

### Spacer

Accessory suitable just for model RC 12.15 S which allows movement of the fan assembly towards the outside reducing the internal sizes of the fan to better satisfy any installation requirements.

Made in self extinguishing material V0, the spacer is click fixed on the support while the fan assembly is fixed on the cabinet through the screws provided.

Model	Ref.	For Products
<b>D 15 S</b>	0092900	RC 12.15 S



# VENTILATION FOR ELECTRICAL CABINETS AND THERMAL MANAGEMENT SYSTEMA

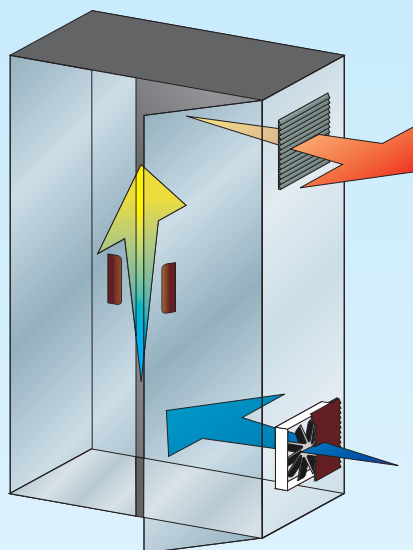
## Main features

- Ventilation systems designed for cooling electrical cabinets and enclosures.
- SYSTEMA is composed of: 1) Fan Kit including RC fan, grille and filter. 2) Grille for air exhaust. 3) Filter for exhaust grille.
- SYSTEMA maintains the original protection rating IP43 or IP44 or IP54 or IP55, of the electrical cabinet conforming to Standard EN 60529.
- The effective guarantee of the protection rating has been attested by reliable laboratories (IMQ, INTEK) who have performed tests on products installed and working.
- Grey colour RAL 7032.

CE



## Functioning



The outside air is filtered and drawn into the lower section of the electrical cabinet. After cooling the warm air is drawn out through a grille which is situated at the top of the cabinet. This process generates considerable advantages in terms of life and quality of the functioning of the fans.

The internal over-pressure prevents the possible entry of dust into the cabinets ensuring better performance of the electrical and electronic equipment fitted within.

Maintain as much distance between the fan and the grille as possible.

Ensure filters are cleaned on regular basis.



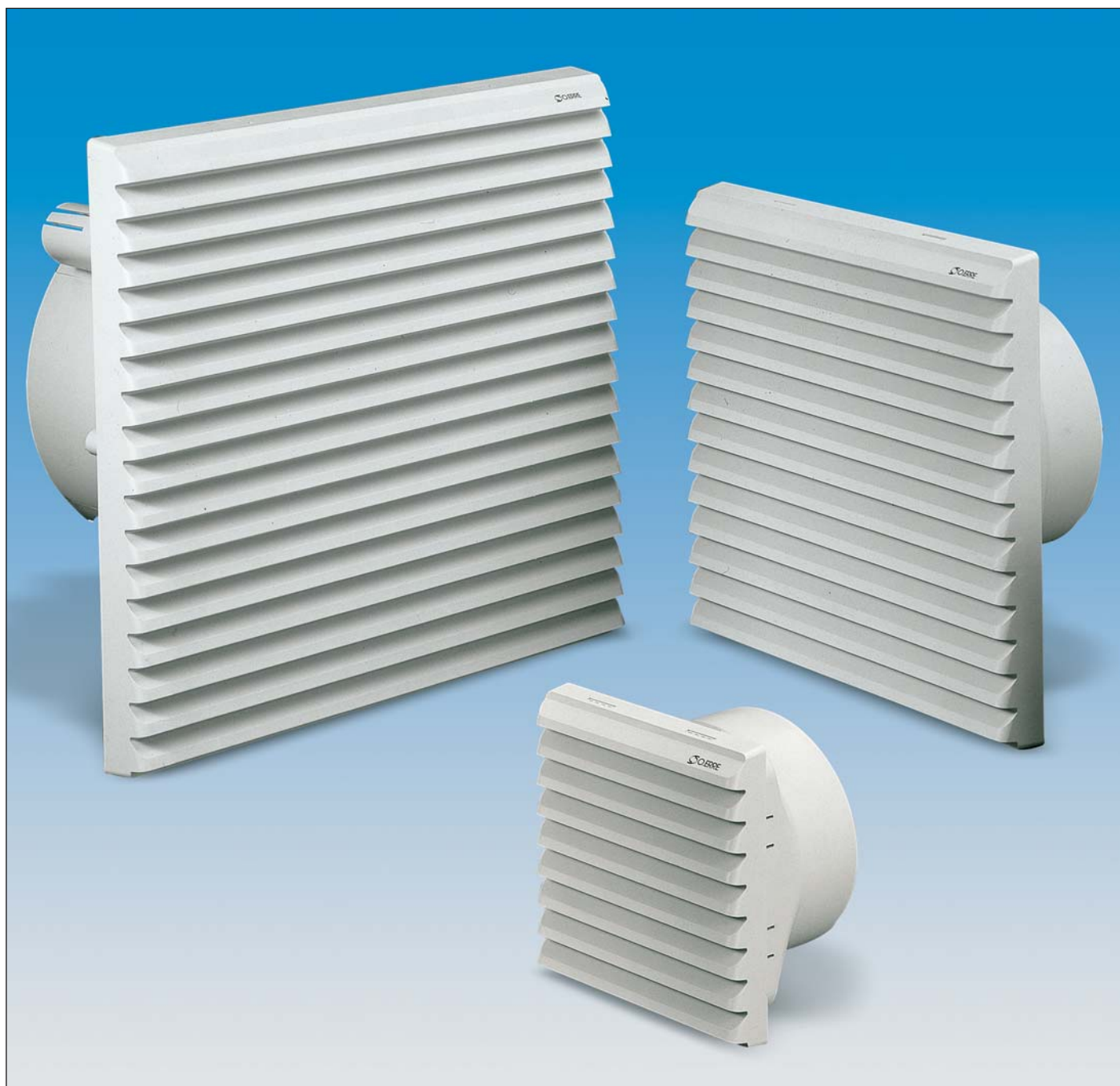
## Performances

Model	SYSTEMA 10.13 IP44	SYSTEMA 12.13 IP44	SYSTEMA 12.13 IP54	SYSTEMA 14.25 IP43	SYSTEMA 14.25 IP44	SYSTEMA 14.25 IP54	SYSTEMA 14.32 IP44	SYSTEMA 15.32 IP55	SYSTEMA 20.32 IP44	SYSTEMA 20.32 IP55
Ref./Cod. 110-120 V	0098300	0098400	0097300	0098500	0098600	0099300	0098700	0098800	0098900	0099000
Ref./Cod. 220-240 V	0097500	0097600	0097400	0097700	0097800	0099200	0097900	0098000	0098100	0098200
Flow rate m <sup>3</sup> /h	24	42	20	115	110	85	130	58	360	136



# VENTILATION FOR ELECTRICAL CABINETS AND THERMAL MANAGEMENT

## RC



### Codes

Model	RC 12.13 IP44	RC 14.25 IP44	RC 14.32 IP44	RC 20.32 IP44	RC 12.13 IP54	RC 14.25 IP54	RC 14.32 IP54	RC 20.32 IP54
110-120 V Grey RAL 7032	0095932	0090232	0097232	0096132	0090032	0090432	0089332	0089532
220-240 V Grey RAL 7032	0095532	0090332	0097132	0095732	0090132	0090632	0089432	0089632
110-120 V Grey RAL 7035	0095935	0090235	0097235	0096135	0090035	0090435	0089335	0089535
220-240 V Grey RAL 7035	0095535	0090335	0097135	0095735	0090135	0090635	0089435	0089635
110-120 V Black RAL 9005	0095905	0090205	0097205	0096105	0090005	0090405	0089305	0089505
220-240 V Black RAL 9005	0095505	0090305	0097105	0095705	0090105	0090605	0089405	0089605



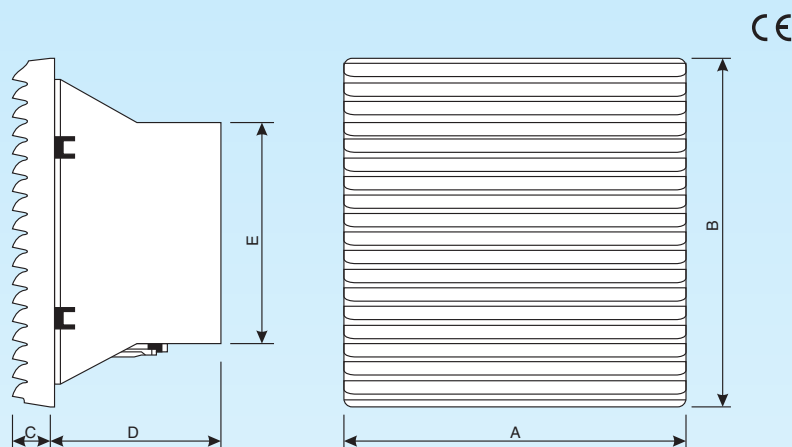
# VENTILATION FOR ELECTRICAL CABINETS AND THERMAL MANAGEMENT

## RC

### Main features

- Axial fans for heat dissipation in enclosures supplied with filter of two different protection ratings (IP 44, IP 54), according to the cabinet specifications.
- Tests of IP protection performed on the product installed and working, using the kit filter + grille G correspondent.
- Tests performed in accordance with European Standards EN 60529, EN 60335-2-80.
- The actual guarantee of the IP54 protection rating is certified by reliable laboratories and available upon request.
- Quick and functional assembly of the fan on the electrical cabinet through elastic click hooks and gasket pre-installed on the product.
- Operating temperature:  $-20^{\circ}\text{C} + 50^{\circ}\text{C}$ .
- Electrical connection through terminal board.
- Motor with ball bearing to assure long life of the fan assembly.
- Body made in ABS self extinguishing material, grey colour RAL 7032; grilles available in grey RAL 7032, grey RAL 7035, black RAL 9005.
- Recyclable materials.
- Easily removable grille to allow quick replacement of the filter.
- Slotted external grilles allow drainage of condensation.
- Fans in accordance with Standards CEI 17-13/1 (IEC 439-1), EN 60335-2-80.

### Dimensions



Model	A	B	C	D	ø E	Kg
<b>RC 10.13</b>	130	140	24	74	98	0,6
<b>RC 12.13</b>	130	140	24	74	114	0,6
<b>RC 14.25</b>	256	256	29	91	147	1,2
<b>RC 14.32</b>	323	322	34	145	147	1,6
<b>RC 15.32</b>	323	322	34	145	147	2,6
<b>RC 20.32</b>	323	322	34	140	204	3

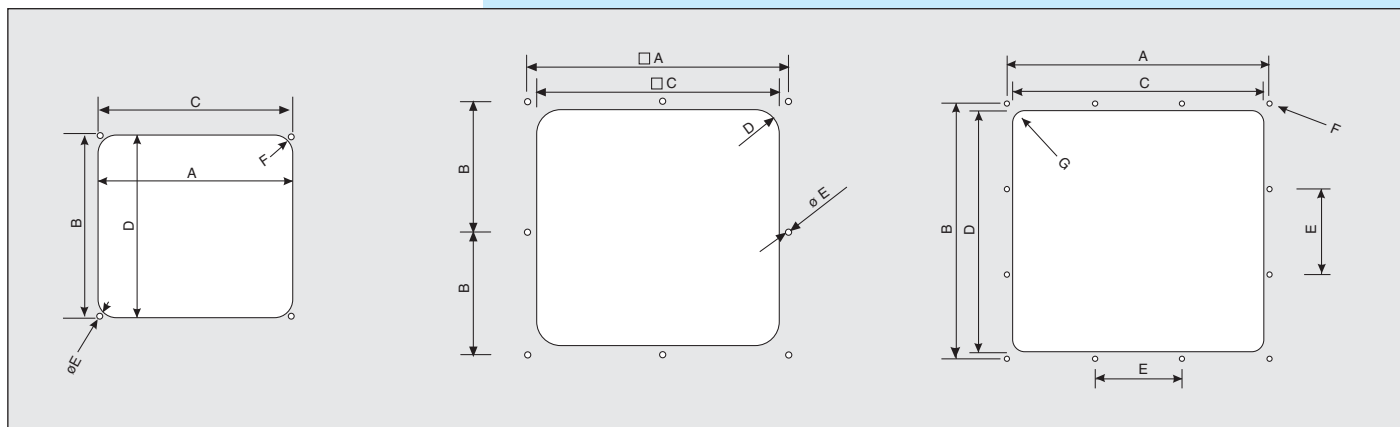
### Technical Data

Model	<b>RC 12.13 IP44</b>	<b>RC 12.13 IP54</b>	<b>RC 14.25 IP44</b>	<b>RC 14.25 IP54</b>	<b>RC 14.32 IP44</b>	<b>RC 14.32 IP54</b>	<b>RC 20.32 IP44</b>	<b>RC 20.32 IP54</b>
Hz	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
W	17	17	30	30	30	30	35	35
Nom. curr. in Amp.	0,22/0,11	0,22/0,11	0,44/0,22	0,44/0,22	0,44/0,22	0,44/0,22	0,30/0,15	0,30/0,15
dB (A) 2 m	42	42	50	50	50	50	63	63
Flow rate m <sup>3</sup> /h	50	30	150	100	180	150	450	400
Flow rate m <sup>3</sup> /h (no filter)	67		250		270		520	



# VENTILATION FOR ELECTRICAL CABINETS AND THERMAL MANAGEMENT FILTERS & GRILLES RC

## Drilling scheme for Fan Assembly and Grilles



RC 10.13 - RC 12.13 - G 13					
A	B	C	D	E (ø)	F (r)
117	123	115	125	3	12

RC 14.25 - G 25				
A	B	C	D (r)	E (ø)
232	116	220	15	3,5

RC 14.32 - RC 15.32 - RC 20.32 - G 32						
A	B	C	D	E	F (ø)	G (r)
302	297	287	281	100	3,5	12,5



Colour RAL 7032

## Filters for Grilles and Fan Assembly

High performance filters made of unbreakable synthetic fibre. Flame protection level F1 conforming to Standard DIN 53438.

The filter F32/5 allows a dust filtering up to 10µm granulometry.

Model	Ref.	For Products	Remarks
<b>F13/4</b>	0096200	RC 10.13 - RC 12.13 - G13	to keep IP44 protection
<b>F13/5</b>	0096900	RC 10.13 - RC 12.13 - G13	to keep IP54 protection
<b>F25/3</b>	0096700	RC 14.25 - G25	to keep IP43 protection
<b>F25/4</b>	0096800	RC 14.25 - G25	to keep IP44 protection
<b>F25/5</b>	0099100	RC 14.25 - G25	to keep IP54 protection
<b>F32/4</b>	0096300	RC 14.32 - RC 15.32 - RC 20.32 - G32	to keep IP44 protection
<b>F32/5</b>	0096400	RC 14.32 - RC 15.32 - RC 20.32 - G32	to keep IP55 protection

## External exhaust grilles

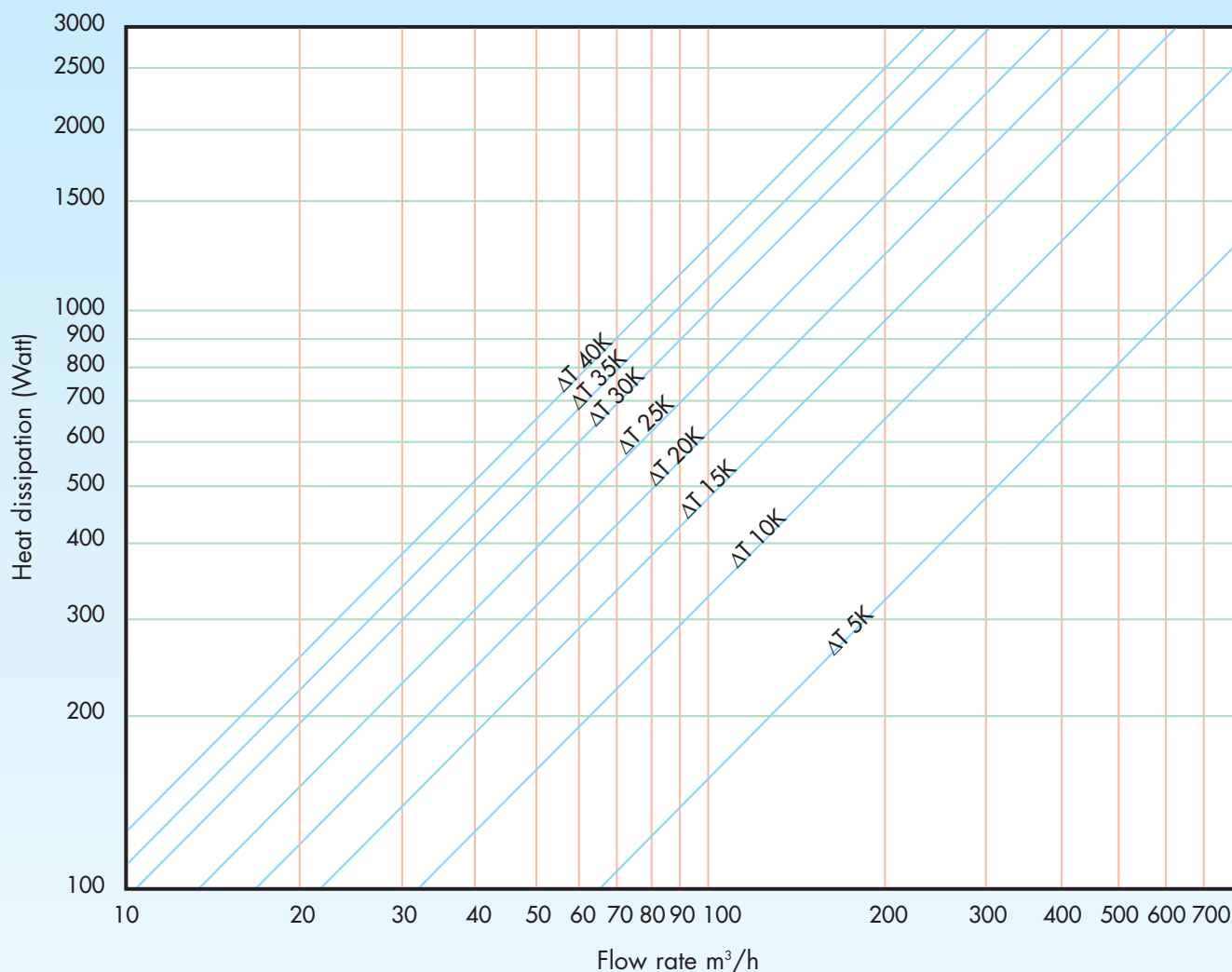
External exhaust grilles with variable protection grade according to the filter. Completely made in self extinguishing material VO conforming to UL94 resistant to temperature from -20°C to +50°C.

Model	Ref. RAL 7032	Ref. RAL 7035	Ref. RAL 9005
<b>G13 - IP44</b>	0096532	0096535	0096505
<b>G13 - IP54</b>	0092432	0092435	0092405
<b>G25 - IP44</b>	0095132	0095135	0095105
<b>G25 - IP54</b>	0092532	0092535	0092505
<b>G32 - IP44</b>	0099632	0099635	0099605
<b>G32 - IP54</b>	0089932	0089935	0089905



# SELECTION CHART FOR INSTALLATION

## Selection chart for installation



The correct air capacity for appropriate selection of the fan assembly can be determined by consulting the above diagram.

- First determine the following :
  - The thermal power dissipated by the electronic equipments.
  - The maximum temperature allowed inside the cabinet or enclosure.
  - The maximum ambient temperature foreseen outside the cabinet or enclosure.
- Calculate the  $\Delta T$  as the difference between the two temperatures.
- The point at which the horizontal frame line (green) of the dissipated thermal power bisects the diagonal line (blue) of the temperature difference ( $\Delta T$ ) will show the vertical line (red) indicating the air capacity required for the necessary dissipation in m<sup>3</sup>/h.
- Choose the correct fan on the performance table.

Natural heat loss through the cabinet walls should be taken into account.

In order to compensate the reduction of flow rate caused by dirty filters, an increase of 20% to the obtained value is advisable.



ROOF FANS FOR ELECTRICAL CABINETS AND THERMAL MANAGEMENT

**TXQ**





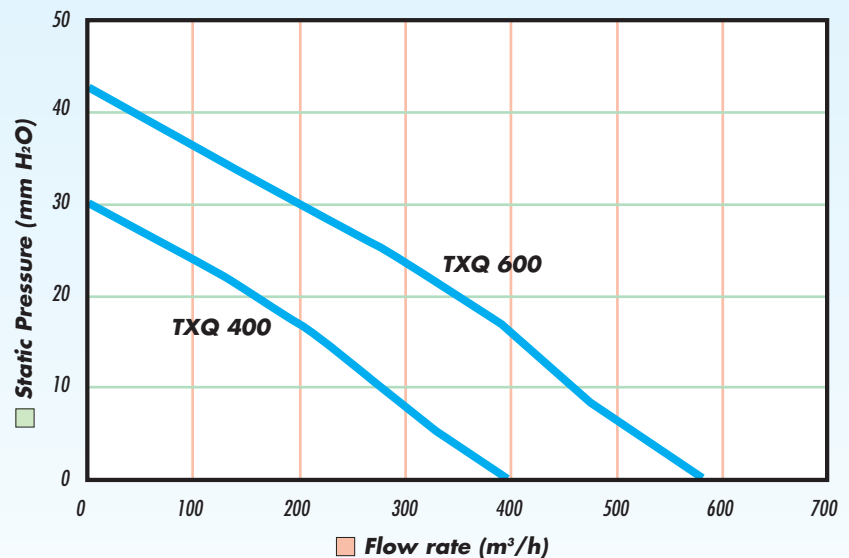
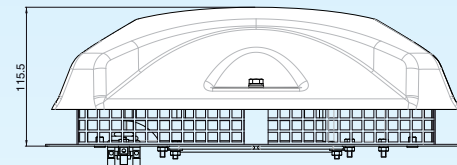
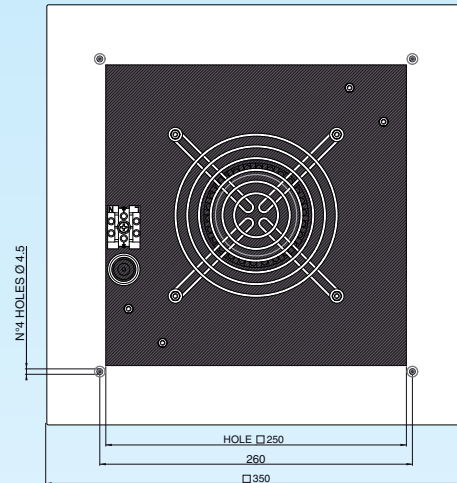
# ROOF FANS FOR ELECTRICAL CABINETS AND THERMAL MANAGEMENT

## TXQ

### Main features

- Roof fans to extract air directly to exterior.
- Suitable for heat dissipation in enclosures.
- Induction motor with ball bearings and thermal protection to assure long-life operation of the fan.
- Product protection type: IPX4.
- Protection type side cabinet: IP24.
- Max operating temperature: 70°C.
- design for quick and easy installation within the electrical cabinet.
- Low energy consumption and reduced noise level.
- Zinc plated steel body complete with plastic cover.
- Safety protection grille.
- Self-cleaning backward curved blade impeller.
- In accordance with the current european directives and with european standard EN 60335 – 2 -80.
- Can be speed regulated via controllers RGM 2 or RGE (both available as accessories).
- It is necessary to provide an air intake grille at the bottom of the cabinet.

### Dimensions



### Technical data

Model	Cod.	Volt 50/60 Hz	Flow rate m <sup>3</sup> /h	Max press. mm. H <sub>2</sub> O	W	Nom. curr.. in A	dB (A) 2 m
TXQ 400	0040610	220/240	400	30	50	0,26	52
TXQ 400	0040620	110/120	400	30	50	0,47	52
TXQ 600	0040710	220/240	580	43	75	0,4	53
TXQ 600	0040720	110/120	580	43	75	0,8	53
TXQ CA	0040630	HOOD WITHOUT MOTOR					



# EXTRA SLIM AXIAL FANS RQ





# EXTRA SLIM AXIAL FANS RQ

## Main features

- Extra slim axial fans in direct current (DC) and alternated current (AC).
- Induction motor fitted with ball bearings.
- Impedence protection on models RQ 50 and RQ 160. Thermal protection on model RQ 370.
- Specially designed for fitting in electrical and electronic equipment cabinets and provide the necessary cooling where spaces for fans are minimal.
- Body made in nylon reinforced with fiberglass for DC models, die-cast aluminium for AC models.
- Impeller made in nylon reinforced with fiberglass.
- Maximum ambient temperature ranging from -10°C to +70°C.
- In accordance with the essential requirements of the 89/392/CE directive concerning machines, and with European Standards EN 292. part I and II, EN 294 and IEC 204-1 and 2.

## Accessories:



**Filter** in poliurethane with grille in polypropylene.

Model	Ref.
<b>RQ 160</b>	OW 643 9

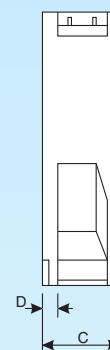
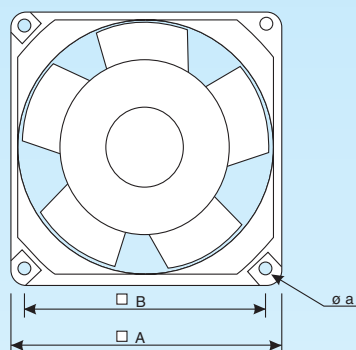


Model	Ref.
<b>RQ 50</b>	OW 108 3
<b>RQ 160</b>	OW 109 1
<b>RQ 370</b>	OW 642 1

## Protection Grille

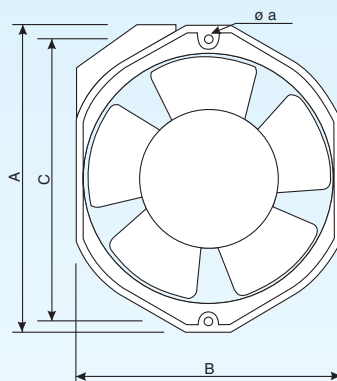
Safety Grille for fan protection against solid and external bodies.

## Dimensions



CE

Model	ø Hole	A	B	C	D	ø a	Kg
<b>RQ 50 AC</b>	78	80	71,4	38	3,4	4,3	0,27
<b>RQ 50 DC</b>	78	80	71,5	25	4	4,3	0,1
<b>RQ 160 AC</b>	117	119	105	38	3,2	4,3	0,55
<b>RQ 160 DC</b>	117	119	105	25,5	5	4,3	0,22



Model	ø Hole	A	B	C	D	E	ø a	Kg
<b>RQ 370 AC</b>	148	172	150	162	6	50	4,5	0,75

- The DC models are supplied with cables for a direct electrical connection, whilst the AC models are supplied with a terminal electrical block.

## Technical Data

Model	RQ 50 DC	RQ 50 DC	RQ 160 DC	RQ 160 DC	RQ 50 AC	RQ 50 AC	RQ 160 AC	RQ 160 AC	RQ 370 AC	RQ 370 AC
Ref.	OW 585 2	OW 586 0	OW 587 8	OW 588 6	OW 404 6	OW 401 2	OW 405 3	OW 402 0	OW 589 4	OW 584 5
Supply voltage	12 V	24 V	12 V	24 V	110-120 V	220-240 V	110-120 V	220-240 V	110-120 V	220-240 V
Max Flow rate m <sup>3</sup> /h	60	60	184	184	45	45	138	138	318	318
Hz	-	-	-	-	50/60	50/60	50/60	50/60	50/60	50/60
W	2	2	4	4	9	10	15	15	35	35
Nom. curr. in A.	0,17	0,08	0,40	0,18	0,14	0,07	0,22	0,12	0,38	0,19
dB (A) 2 m	26	26	33	33	31	31	34	32	52	48
rpm	3000	3000	2950	2950	2700	2700	2400	2400	2700	2700