FKL66 series Fan and Filter

Features

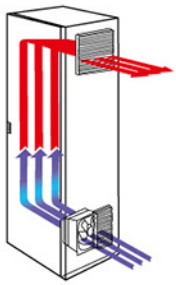
This is the most common type for the users. The shape is the same as FK66 series but with gasket on the back which improve the protection class to IP54 according to the EN60529/10.91.

Design

FKL66 series comply with the colour RAL7032 and RAL7035.The rang of filters are from 117mm to 323mm. The air flow is bigger than normal which up to 1350m^3/h.

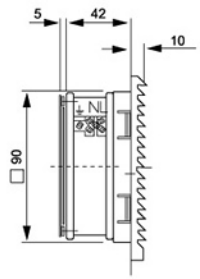
FKL6621

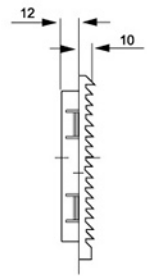
Certification	Material	Retardent Rating	IP rating
CE UL	ABS	UL94-V2	IP54

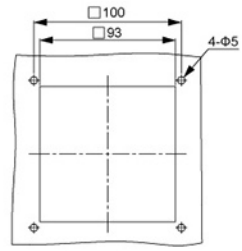


Available colors: RAL7035
RAL7032

Fans and filters FKL 6621....	Fans and filters FKL 6621.230	Exit filter FKL 6621.300	Drawing FKL 6621....



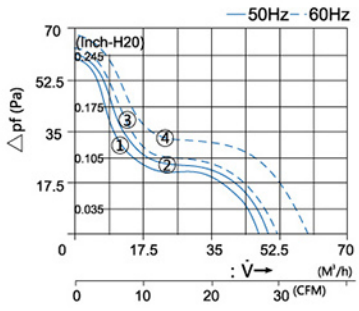




Technical data

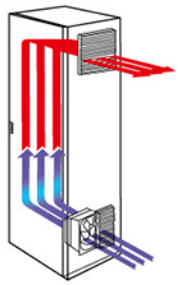
Model	FKL6621.230	FKL6621.115	FKL6621.024
Available colors	RAL7035/RAL7032	RAL7035/RAL7032	RAL7035/RAL7032
Order number	2013.001/2013.022	2013.002/2013.023	2013.003/2013.024
Standard fan	**F2E-92S-230**	**F2E-92S-115**	**F2E-92S-24**
Rated voltage (V / Hz)	230/50/60	115/50/60	24(DC)
Air flow, free blowing	20/25m³/h		
Air flow With export filters	1xFKL6621.300:15/18m³/h		
Axial Fan	Automatically shield pole motor		DC Motor
Rated current (A)	0.07/0.06	0.12/0.10	0.18
Power (W)	5.5/5.3	11/13	24
Noise level (dB)	36/38		
Operating temperature range	-10℃ to +55℃		
Exit filter	FKL6621.300 RAL7035(2013.004)/RAL7032(2013.025)		
Remarks	Special voltage needs can call the inquiry of the Company		

Performance
FKL 6621....



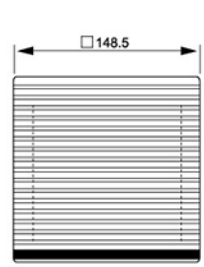
FKL6622

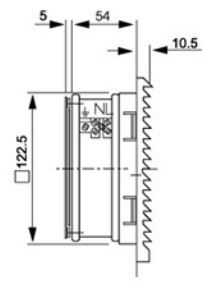
Certification	Material	Retardent Rating	IP rating
CE UL	ABS	UL94-V2	IP54

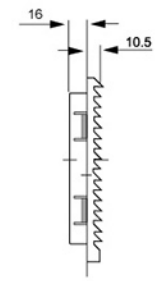


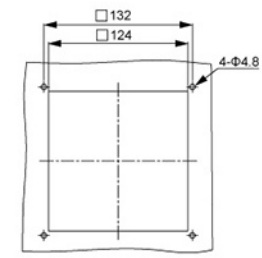
Available colors: RAL7035
RAL7032

Fans and filters FKL 6622....	Fans and filters FKL 6622.230	Exit filter FKL 6622.300	Drawing FKL 6622....





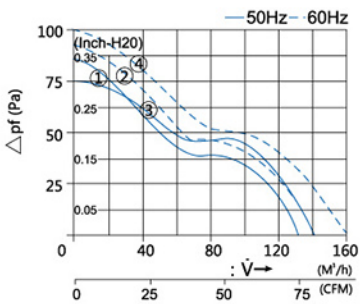




Technical data

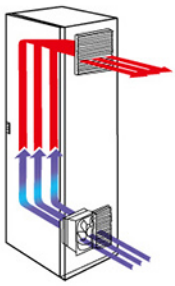
Model	FKL6622.230	FKL6622.115	FKL6622.024
Available colors	RAL7035/RAL7032	RAL7035/RAL7032	RAL7035/RAL7032
Order number	2013.005/2013.026	2013.006/2013.027	2013.007/2013.028
Standard fan	**F2E-120S-230**	**F2E-120S-115**	**F2E-120S-24**
Rated voltage (V / Hz)	230/50/60	115/50/60	24(DC)
Air flow, free blowing	55/66m³/h		
Air flow With export filters	1xFKL6622.300:43/50m³/h 2xFKL6622.300:48/55m³/h		
Axial Fan	Automatically shield pole motor		DC Motor
Rated current (A)	0.12/0.10	0.24/0.20	0.30
Power (W)	19/14	18/15	3.5
Noise level (dB)	50/52		
Operating temperature range	-10℃ to +55℃		
Exit filter	FKL6622.300 RAL7035(2013.008)/RAL7032(2013.029)		
Remarks	Special voltage needs can call the inquiry of the Company		

Performance
FKL 6622....



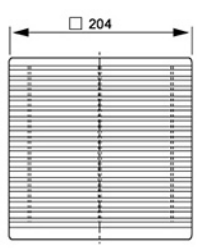
FKL6623

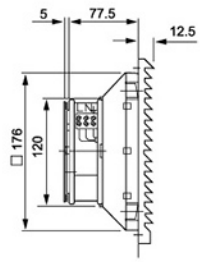
Certification	Material	Retardent Rating	IP rating
CE UL	ABS	UL94-V2	IP54

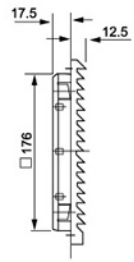


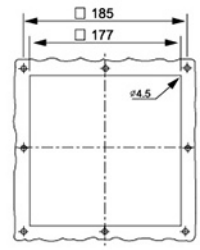
Available colors: RAL7035
RAL7032

Fans and filters FKL 6623....	Fans and filters FKL 6623.230	Exit filter FKL 6623.300	Drawing FKL 6623....

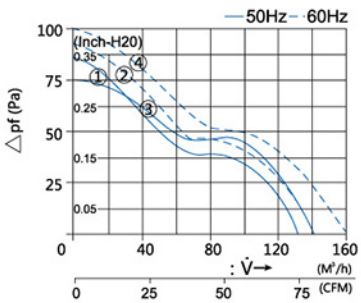








Performance
FKL 6623....

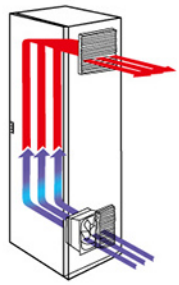


Technical data

Model	FKL6623.230	FKL6623.115	FKL6623.024
Available colors	RAL7035/RAL7032	RAL7035/RAL7032	RAL7035/RAL7032
Order number	2013.009/2013.030	2013.010/2013.031	2013.011/2013.032
Standard fan	F2E-120S-230	F2E-120S-115	F2E-120S-24
Rated voltage (V / Hz)	230/50/60	115/50/60	24(DC)
Air flow, free blowing	105/120m³/h		
Air flow With export filters	1xFKL6623.300:71/82m³/h 2xFKL6623.300:85/98m³/h		
Axial Fan	Automatically shield pole motor		DC Motor
Rated current (A)	0.12/0.10	0.24/0.20	0.30
Power (W)	19/14	18/15	3.5
Noise level (dB)	50/52		
Operating temperature range	-10℃ to +55℃		
Exit filter	FKL6623.300 RAL7035(2013.012)/RAL7032(2013.033)		
Remarks	Special voltage needs can call the inquiry of the Company		

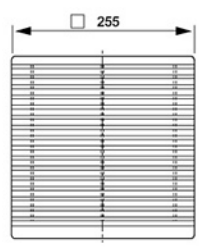
FKL6625

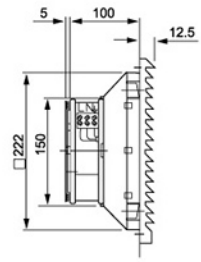
Certification	Material	Retardent Rating	IP rating
CE UL	ABS	UL94-V2	IP54

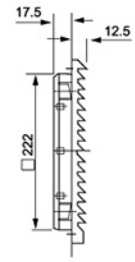


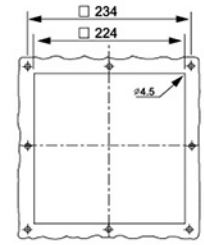
Available colors: RAL7035
RAL7032

Fans and filters FKL 6625....	Fans and filters FKL 6625.230	Exit filter FKL 6625.300	Drawing FKL 6625....





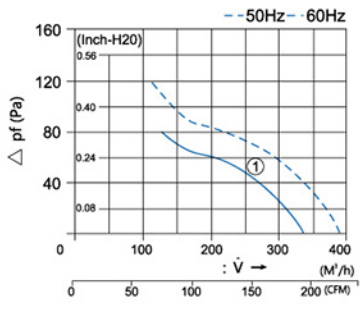




Technical data

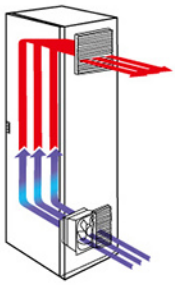
Model	FKL6625.230	FKL6625.115	FKL6625.024
Available colors	RAL7035/RAL7032	RAL7035/RAL7032	RAL7035/RAL7032
Order number	2013.034/2013.013	2013.035/2013.014	2013.036/2013.015
Standard fan	F2E-162B-230	F2E-162B-115	F2E-162B-24-B
Rated voltage (V / Hz)	230/50/60	115/50/60	24(DC)
Air flow, free blowing	230/265m³/h		
Air flow With export filters	1xFKL6625.300:170/205m³/h 2xFKL6625.300:200/230m³/h		
Axial Fan	Automatically shield pole motor		DC Motor
Rated current (A)	0.26/0.20	0.51/0.42	0.46
Power (W)	37/33	40/35	14
Noise level (dB)	48/52		
Operating temperature range	-10℃ to +55℃		
Exit filter	FKL6625.300 RAL7035(2013.037)/RAL7032(2013.016)		
Remarks	Special voltage needs can call the inquiry of the Company		

Performance FKL 6625....



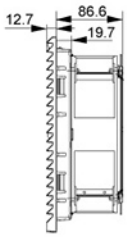
FKL6625-D

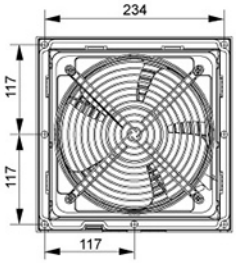
Certification	Material	Retardent Rating	IP rating
CE UL	ABS	UL94-V2	IP54

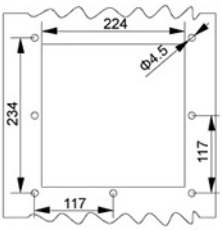


Available colors: RAL7035
RAL7032

Fans and filters FKL 6625....	Fans and filters FKL 6625.230-D	Exit filter FKL 6625.300	Drawing FKL 6625....





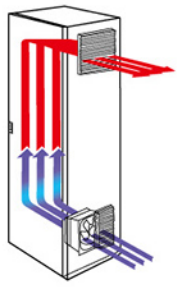


Technical data

Model	**FKL6625.230-D**
Available colors	RAL7035/RAL7032
Order number	2013.055/2013.056
Standard fan	**F2E-200B-230**
Rated voltage (V / Hz)	230/50/60
Air flow, free blowing	485/500m³/h
Air flow With export filters	1xFKL6625.300:170/205m³/h 2xFKL6625.300:200/230m³/h
Axial Fan	Electric capacitance
Rated current (A)	0.36/0.40
Power (W)	50/48
Noise level (dB)	63/67
Operating temperature range	-10℃ to +55℃
Exit filter	FKL6625.300 RAL7035(2013.016)/RAL7032(2013.017)
Remarks	Special voltage needs can call the inquiry of the Company

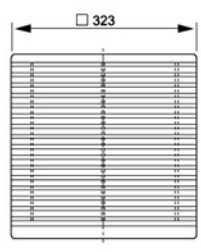
FKL6626

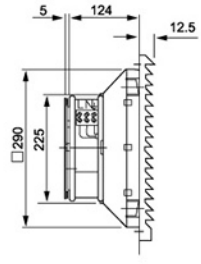
Certification	Material	Retardent Rating	IP rating
CE UL RoHS	ABS	UL94-V2	IP54

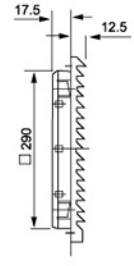


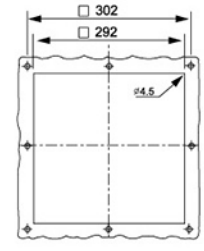
Available colors: RAL7035
RAL7032

Fans and filters FKL 6626....	Fans and filters FKL 6626.230	Exit filter FKL 6626.300	Drawing FKL 6626....





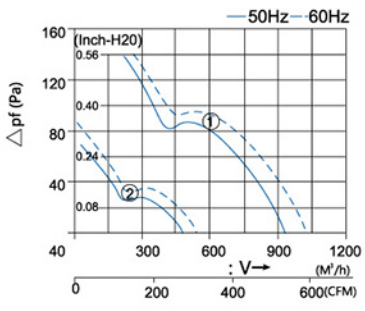




Technical data

Model	FKL6626.230	FKL6626.115
Available colors	RAL7035/RAL7032	RAL7035/RAL7032
Order number	2013.038/2013.017	2013.039/2013.018
Standard fan	F2E-260B-230	F2E-260B-115
Rated voltage (V / Hz)	230/50/60	115/50/60
Air flow, free blowing	500/560m³/h	
Air flow With export filters	1xFKL6626.300:360/390m³/h 2xFKL6626.300:440/495m³/h	
Axial Fan	Electric capacitance	
Rated current (A)	0.29/0.33	0.61/0.63
Power (W)	65/77	61/71
Noise level (dB)	62/64	
Operating temperature range	-10℃ to +55℃	
Exit filter	FKL6626.300 RAL7035(2013.040)/RAL7032(2013.019)	
Remarks	Special voltage needs can call the inquiry of the Company	

Performance FKL 6626....



Electrical cabinet heater Why should I use?

Electrical equipment produces heat under a load of work to prevent the accumulation of condensate, however, when the device stops working after cooling down gradually to adapt to ambient temperature, the temperature inside dropped to below the dew point. So this needs to trigger the radiant heat! Electrical cabinet heater temperature by increasing the external ambient temperature a few degrees higher than the counter method to prevent the formation of condensate.

- R Series heater covers the range from 10W-1200W.
- Supporting unit heater: temperature control, humidity control, pressure relief compensation devices.

Heater Selection

Calculated Prerequisites:

1. Electrical control cabinet dimensions (length, width, height)

2 By convention, we must understand the placement of electrical control cabinet (for example: a single counter, row counter) and the effective surface area of electrical cabinets

3. Electric cabinet cabinet material (for example: metal, plastic) of the heat exchange coefficient (W/m^2K)

4. Power set the cabinet temperature Ti (℃) and the cabinet outside temperature Tu (℃) (example: day - night, summer - winter, climate change) temperature difference △ T (K)

5. electrical cabinet interior electrical equipment (for example: transformers, relays and converters, etc.) the heat at work

Selection parameters were calculated

1. according to panel size to calculate the surface area

2. the placement of electrical cabinets (shown below)

Open space around a single

Single wall

Cabinet in the front row or the last unit, and the remaining open space

Cabinet in the front row or the last unit, the wall

The middle row of counter units, followed by open space

The middle row of counter unit against the wall

The middle row of counter unit against the wall above are covered

Panel surface area formula A (m^2)

(H high, W W, D D)

$A = 1.8 \times H \times (W + D) + 1.4 \times W \times D$

$A = 1.4 \times W \times (H + D) + 1.8 \times D \times H$

$A = 1.4 \times D \times (H + W) + 1.8 \times W \times H$

$A = 1.4 \times H \times (W + D) + 1.4 \times W \times D$

$A = 1.8 \times W \times H + 1.4 \times W \times D + D \times H$

$A = 1.4 \times W \times (H + D) + D \times H$

$A = 1.4 \times W \times H + 0.7 \times W \times D + D \times H$

Example: open space around the panel, 2000mm high / 800mm wide / 600mm deep, then A = 1.8 × 2.0 × (0.8 +0.6) +1.4 × 0.8 × 0.6 = 5.712m²

3. Electric cabinet cabinet material and heat transfer coefficient K (W/m²k)

Steel finish	5.5 W/m²k
Stainless steel	4.5W/m²k
Aluminum	12 W/m²k
Double layer aluminum	4.5W/m²k
Plastic plate	3.5W/m²k

4. cabinets inside and outside temperature difference △T (K)

△T=Ti -Tu

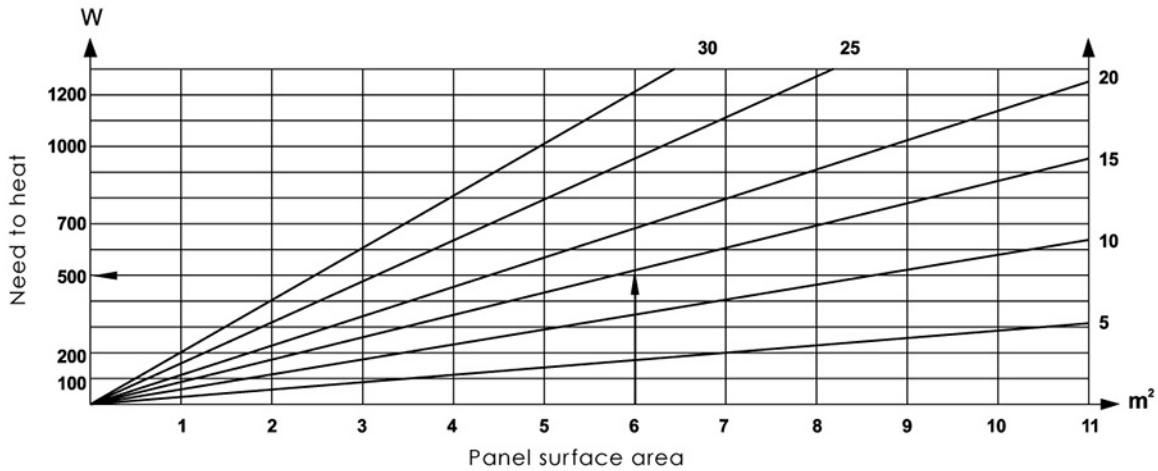
The formula for calculating the required heat (heater)

Need to heat P (W) = surface area of electrical cabinets A (m²) × cabinet material heat transfer coefficient K (W/m²k) × temperature difference △T (K)

Example: W = 5.712 m² × 5.5W/m²k × 15K = 471.24W

Results: The need to 500W of heat for the heater to meet the requirements, if the panel is located outdoors, the heater needs to be double the heat!

Experience through the following selection chart



5. If the electrical work, electrical equipment cabinets inside a fever, in the calculation of heat heater electrical equipment must be less heat.

Selection of the fan filter

According to the chart below select the appropriate experience of cooling equipment:

Calculated by formula to select the cooling equipment (filter fan)

Required air flow V (m³/h) = [to deal with the heat PV / cabinet temperature difference △T (K)] × air constant [3.3 m³K/Wh]

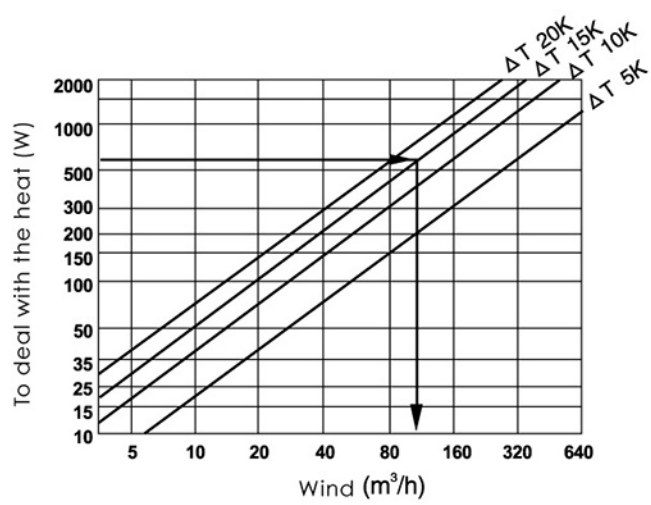
Example: V = [600W/15K] × 3.3m³K/Wh = 132 m³/h

Air constant value range:

PV (0-100) = 3.1 m³K/Wh PV (500-750) = 3.4 m³K/Wh

PV (100-250) = 3.3 m³K/Wh PV (750-1000) = 3.5 m³K/Wh

PV (250-500) = 3.3 m³K/Wh



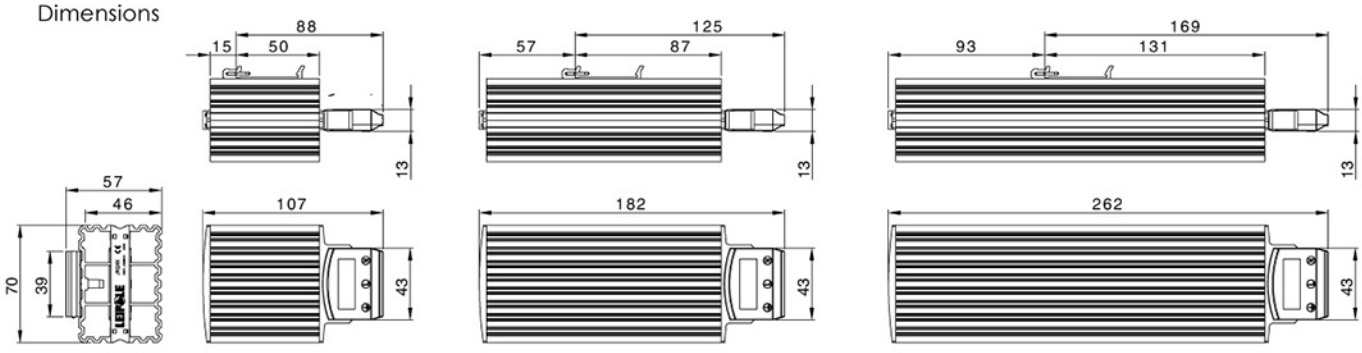
Cabinet Heater

JRQ15 ~ JRQ150 heater

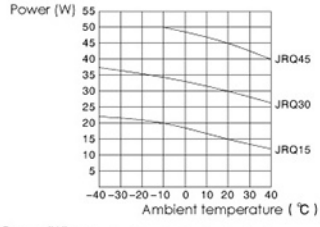
Certification	Case Material	Protection class
CE	Aluminum	IP20

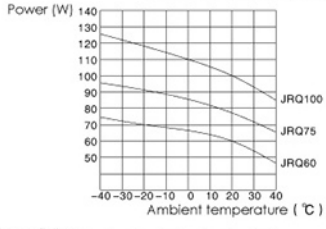
Heater for electrical cabinet wet applications in need of protection, or the temperature is not below a specified minimum number of occasions. Aluminum profile body design more stable form of the chimney effect of the release of heat. Pressure terminal connectors save time and be more simpler to install.

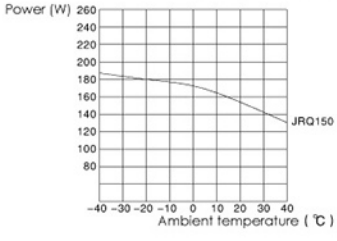
Dimensions



JRQ15-45 JRQ60-100 JRQ150







Voltage end of the 140V will be reduced by about 10% of the heat output

Model	Order	Heat output (W) 20 ℃ ambient temperature	Maximum Allowable Current (A)	surface temperature (C)	Rail thickness
JRQ15	2020.001	15-20	1.5	60	1.1
JRQ30	2020.002	30-35	2.5	90	1.1
JRQ45	2020.003	45-50	3	100	1.1
JRQ60	2020.004	60-65	3.5	100	1.1
JRQ75	2020.005	75-80	4	120	1.1
JRQ100	2020.006	100-110	4.5	125	1.1
JRQ150	2020.007	150-160	6	135	1.1

Technical data

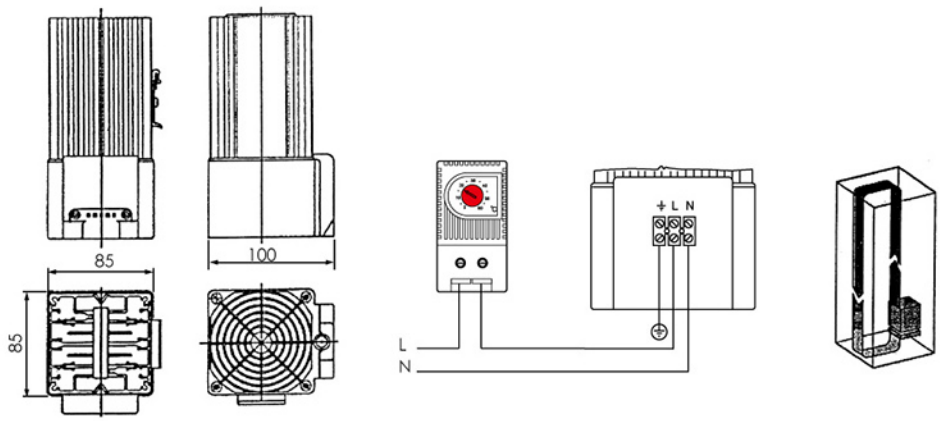
Operating Voltage	230VAC 50/60 Hz
Heating element	PTC, self-adjustment and temperature limits
Electrical connection	3 pressure line terminal, the standard line of 0.5-2.5mm²
Connection terminal	UL94V0
Installation Requirements	Vertical
Operating / storage temperature	-45℃ to +70℃

JRQ250 ~ JRQ350 heater

Certification	Case Material	Protection class
CE	Aluminum	IP20

Compact electrical cabinet heater protection against the erosion of wet, high-performance integrated axial fan provides powerful air circulation, ensuring a smooth control cabinet temperature environment, the built-in terminal connectors more secure.

Dimensions



Model	Order	Heat output (W)	W×H×D(mm)	Weight (kg)
JRQ250	2020.008	230-270	85×180×85	1.1
JRQ350	2020.009	320-380	85×222×85	1.4

Technical data

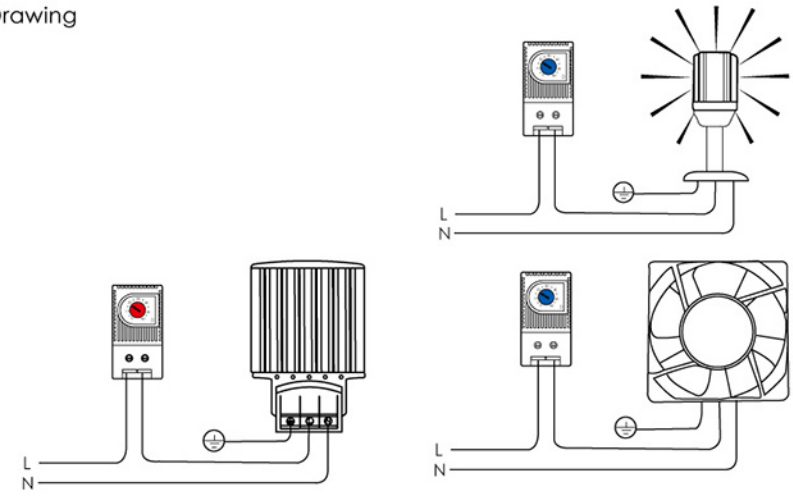
Operating Voltage	230VAC 50/60 Hz
Heating element	Nickel-chromium wire
Temperature safety protection	In the case of fan failure overheat protection
Axial Fan Ball	AC: 45m³ / h (50Hz) 54m³ / h (60Hz)
Electrical connection	R200: 3X0.75mm² standard line of 0.5-2.5mm² cable
Connection terminal	UL94V0
Installation Requirements	Vertical
Operating / storage temperature	-45℃ to +70℃

JWT 6011F/JWT 6011R Automatic Temperature Controller

Certification	Case Material	Protection class
CE	ABS	IP20

Commonly used in the monitoring filter fans, heat exchangers or a single temperature exceeds a set value, the closed circuit output signal.
JWT6011F Thermostat (normally open): commonly used in the monitoring filter fans, heat exchangers, or when the temperature exceeds the set value, the closed circuit output signal.
JWT6011R thermostat (normally closed): commonly used in connecting the heater, when the temperature reaches the set value, the broken line.

Drawing



Technical data

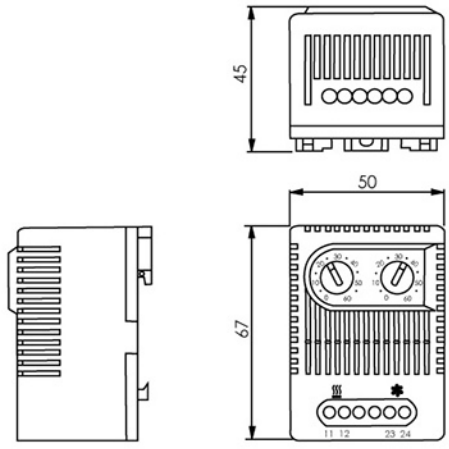
Model	JWT6011F	JWT6011R
Order	2021.002	2021.003
Temperature range	0-60℃	
Status	JWT6011F normally open (blue) JWT6011R normally closed (red)	
Switching temperature tolerance	7K (± 4K)	
Sensing element	Bimetallic	
Maximum switching capacity	250VAC, 10 (2) A / 120VAC, 15 (2) A / DC 30W	
Electrical connection	2-pole 2.5mm, 0.8Nm	
Installation	35mm DIN rail mounting	
Terminal	UL94V0	
Size	60X33X43mm	
Operating / storage areas	-5℃ to +80℃	

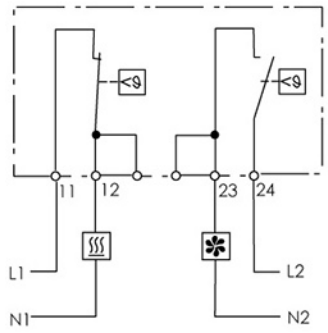
JWT6012 Double Temperature Controller

Certification	Case Material	Protection class	Order Code
CE	ABS	IP20	2021.004

A thermostat with two temperature settings.
Normally Open contact: commonly used in the monitoring filter fans, heat exchangers, or when the temperature exceeds the set value, the closed circuit output signal.
Normally Closed contact: commonly used in connecting the heater, when the temperature reaches the set value, the broken line.

Dimensions





Technical data

Temperature range	0-60℃
Switching temperature tolerance	7K (± 4K)
Sensing element	Bimetallic
Maximum switching capacity	250VAC, 10 (2) A / 120VAC, 15 (2) A / DC 30W
Electrical connection	4-pole 2.5mm, 0.8Nm
Installation	35mm DIN rail mounting
Terminal	UL94V0
Weight	90g
Size	69X50X46mm
Operating / storage areas	-5℃ to +80℃