· Certified as INNO-BIZ
· Certified as a Venture Company
· Certified as ISO 9001
· Certified as ISO 14001

Panel Air Conditioner

COOLZEN

Automatic protector to control
temperature inside electronic panel

WELTEM

Industrial Cooling System Innovator

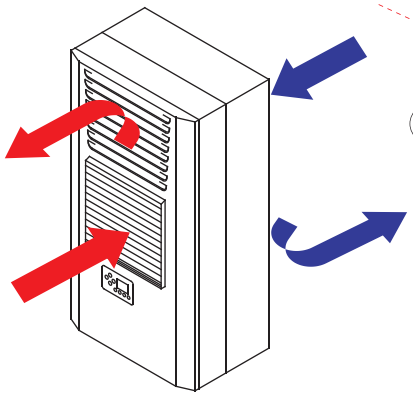
Necessity of panel air conditioner

High calorific value of highly effcient machine due to automatic control part of production facility.

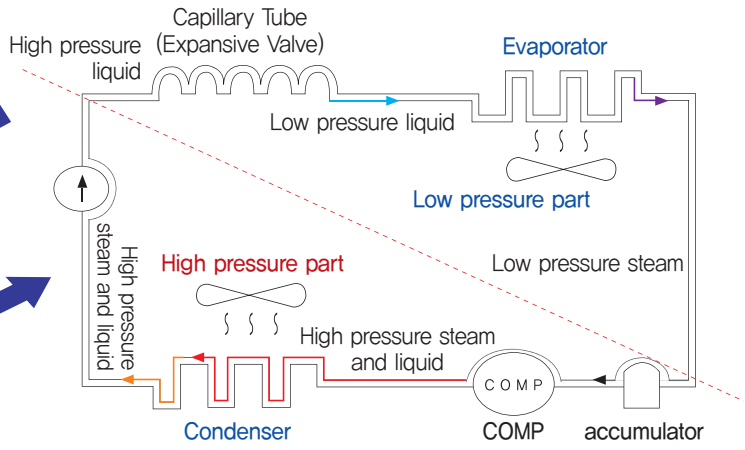
- Problem of production facility.
- Shortening life span of production facility.
- Cause of inferior product

Cooling principle and cycle

1. The compressor presses refrigerant and then sends to the condenser.
2. The compressed refrigerant passes the capillary tube
3. The compressed refrigerant absorbs the heat and decreases the temperature inside the panel. At this time, Humidity is also removed, the inflow of outside air is blocked so the inside control box always maintains set temperature.



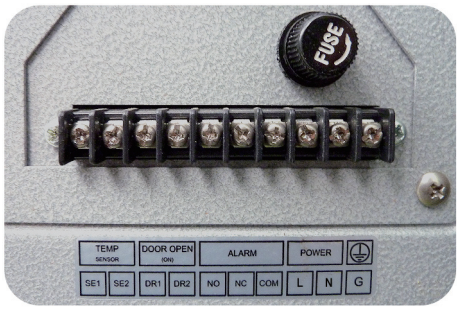
[Cooling Principal]



[Cooling cycle]

The features of product

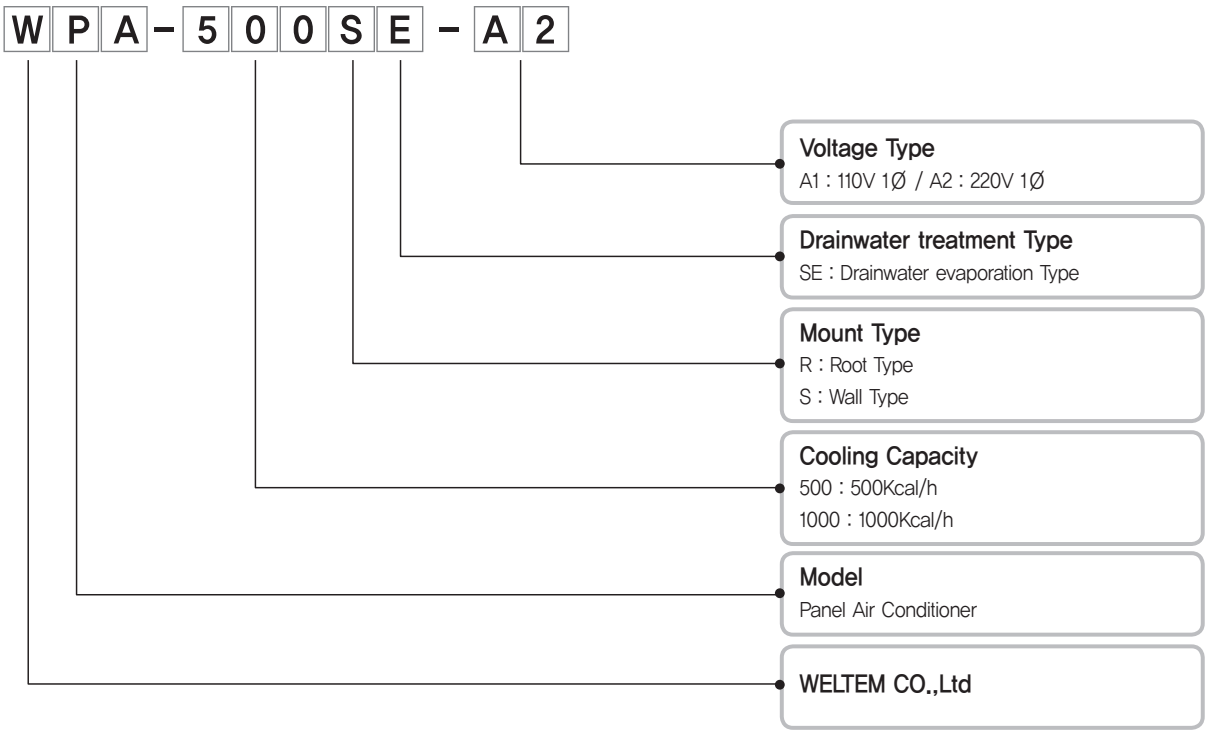
- **Function of abnormality output**
  - · Function of abnormality output
  - · output of high temperature alarm
  - · Low temperature alarm
  - · Abnormality alarm in compressor
  - · Indication of door open of control box
  - · Abnormality alarm of high/low pressure in refrigerant.
- **Digital temperature control indicator**
  - · User can see the operating situation easily.
- **Function of evaporation of condense water**
  - · PTC heater which has low power, high efficiency is used.
  - · PTC heater is very efficient electric power supplier because it operates with compressor.
- **Use of new refrigerant**
  - · R-134a/R-410a Whose ozone destroying index is Zero are used to all CoolZen model
- **Supply of spare part is easy and user can get after-sale service easily.**



SE1	SE2	DR1	DR2	NO	NC	COM	L	N	G
Sence		Door singal		Abnormality output			Power		

Terminal Board	Description
G	Power input contact
N	
L	
COM	Error output contact
NC	
NO	
DR2	Door signal input contact
DR1	
SE2	Temperature sensor input contact
SE1	

Recommend Air-con Model Selection Method



Model Specifications

Model	Type	Cooling Capacity		Current (50/60Hz)	Fuse	Usig evironment (RH40%)	Dimensions(W×D×H)
		50Hz	60Hz				
WPA-300	S	280 Kcal/h (1110 BTU)	320 Kcal/h (1260 BTU)	1.7A/1.9A	5A	20~45 ℃	280×180×494(mm)
	SE			3.68A/3.96A	10A		280×180×600(mm)
WPA-500	S	425 Kcal/h (1680 BTU)	510 Kcal/h (2020 BTU)	1.92A/1.68A	5A	20~50 ℃	320×205×600(mm)
	SE			3.9A/3.74A	10A		320×205×706(mm)
WPA-1000	S	910 Kcal/h (3610 BTU)	1000 Kcal/h (3960 BTU)	3.1A/3.9A	10A	20~50 ℃	380×205×770(mm)
	SE			5.08A/5.96A	10A		380×205×876(mm)
WPA-1500	S	1350 Kcal/h (5350 BTU)	1500 Kcal/h (5950 BTU)	4A/4.9A	10A	20~50 ℃	420×250×1050(mm)
	SE			8.02A/9.12A	15A		420×250×1156(mm)
WPA-2000	S	1850 Kcal/h (7300 BTU)	2000 Kcal/h (7930 BTU)	4.5A/5.4A	10A	20~50 ℃	420×250×1050(mm)
	SE			8.52A/9.62A	15A		420×250×1156(mm)
WPA-3000	S	2710 Kcal/h (10750 BTU)	3370 Kcal/h (13370 BTU)	5.8A/8A	15A	20~50 ℃	500×265×1450(mm)
	SE			9.82A/12.22A	20A		500×265×1556(mm)
HPA-500	S	413 Kcal/h (1630 BTU)	500 Kcal/h (1980 BTU)	1.9A	5A	20~50 ℃	350×180×443(mm)
	SE			3.88A/3.96A	10A		350×180×549(mm)
	R	413Kcal/h (1630 BTU)	500 Kcal/h (1980 BTU)	1.8A	5A		320×245×487(mm)
HPA-1000	S	910 Kcal/h (3610 BTU)	1000 Kcal/h (3960 BTU)	4A	10A	20~50 ℃	435×235×610(mm)
	SE			5.98A/6.02A	15A		435×235×716(mm)
	R	910Kcal/h (3610 BTU)	1000 Kcal/h (3960 BTU)	4A	10A		437×535×267(mm)

Selection of panel air conditioner

1. What is the maximum temperature(℃) of outside panel (To) and the targer temperture(℃) of inside panel?(Ti)
2. What is the temperature differences between To and Ti? (△T) △T = To−Ti
3. What is the Heat transfer coefficient(K) of the material of panel? (Kcal/h, ㎡ · ℃)
   K=5.5 (Painted metal), K=3.5 (Polyester), K=3.7 (Stainless steel), K=12 (Aluminum)
4. What is the surface area of outside panel? (Please refer below the pictures)
5. What is the infiltrative calorific value from outside panel? (Kcal/h) Qs=A × △T × K
6. What is the calorific value of machine parts inside panel? (Qi) (Please refer below the table for calorific value)
7. What is the required cooling capactiy(QN)? QN=(QS+Qi) × 1.2 (safety factor)
8. The conversion of heat value 1W/h → 0.86Kcal/h, (1Kcal/h → 4BTU/h)
9. The example of selection of CoolZen

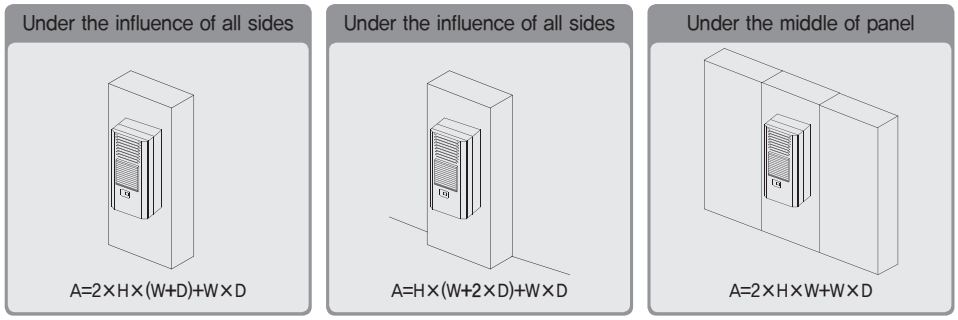
   700(W)×2000(H)×500(D), △T=5℃, K=4.0Kcal/h · ㎡ · ℃, Qi=800W

   A=2×H×(W+D)+W×D = 2×2×(0.7+0.5)+0.7×0.5 = 5.15㎡

   Qs=A×△T×K = 5.15×5℃×4.0Kcal/h · ㎡ · ℃ = 103Kcal/h

   QN = (Qs+Qi)×1.2 = (103Kcal/h+688Kcal/h)×1.2 = 949.2Kcal/h

   (Select model which is 1000Kcal/h in the CoolZen Model)



W=Width
H=Higth
D=Depth

※ Standard unit : meter(m)

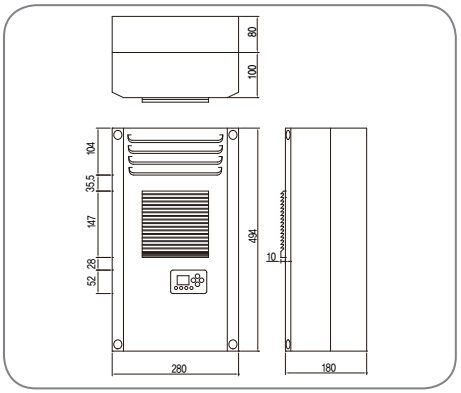
Information for selecting a panel air conditioner

Installing machine	Calorific value (standard criteria)	Notes
Transformer for controlling	※ Rating capacity – 10VA → 3Kcal/h – 100VA → 14Kcal/h – 1KVA → 61Kcal/h – 10KVA → 145Kcal/h	The smaller the size is, the higher the calorific rate is
Circuit breaker for wiring	※ Rating capacity – 5VA → 11Kcal/h – 100A → 18Kcal/h – 200A → 43Kcal/h – 400A → 72Kcal/h	Calorific value in a rated current (in the case of 3P)
Electronic contactor	※ Rating capacity – 4kW → 7Kcal/h – 30kW → 90Kcal/h	Calorific value in applying an rated current in maximum
Thermal Overload Relay	※ Rating capacity – 5VA → 11Kcal/h – 100A → 18Kcal/h – 200A → 43Kcal/h	Calorific value in the output of continuous rated current
Inverter	5~10% of the rated current output	Calorific value in the output of continuous rated current
Servo amp	3~6% of the rated current output	In the case of the maximum ouput in the output of rated current
Power Unit	5~10% of the rated current output	Calorific value in the rated current output

※ Calorific value of the table in not fixed, it is normal cafeteria.

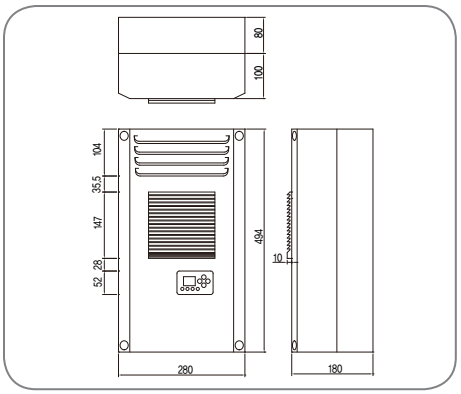
COOLZEN WPA-300S Type of Non Evaporation, Side Mounting, Half Insertion

Mounting method	Outside
Consumption	391W / 418W
Rated valtage	1ø 220V 50/60Hz
Rated current	1.7A / 1.9A
Refrigerant	R-134a
Cooling capacity	1,120BTU / 1,280BTU
Compressor	0.07kW(1/10Hp)
Weight	20kg
Dimension	280×180×494mm(WDH)



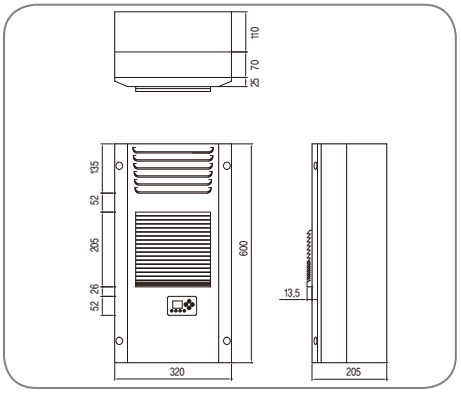
COOLZEN WPA-300SE Type of Evaporation, Side Mounting, Half Insertion

Mounting method	Outside
Consumption	851W / 868W
Rated valtage	1ø 220V 50/60Hz
Rated current	3.68A / 3.96A
Refrigerant	R-134a
Cooling capacity	1,120BTU / 1,280BTU
Compressor	0.07kW(1/10Hp)
Weight	23kg
Dimension	280×180×600mm(WDH)



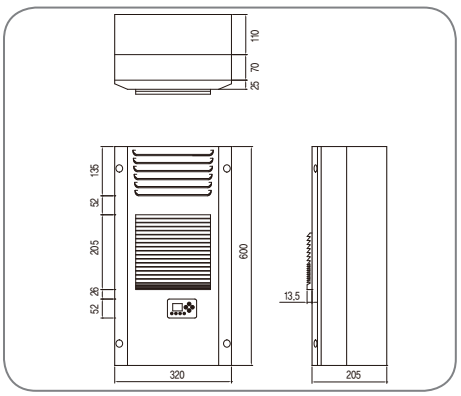
COOLZEN WPA-500S Type of Non Evaporation, Side Mounting, Half Insertion

Mounting method	Outside
Consumption	300W / 320W
Rated valtage	1ø 220V 50/60Hz
Rated current	1.92A / 1.68A
Refrigerant	R-134a
Cooling capacity	1,700 BTU / 2,040BTU
Compressor	0.15kW(1/5Hp)
Weight	24kg
Dimension	320×205×600mm(WDH)



COOLZEN WPA-500SE Type of Evaporation, Side Mounting, Half Insertion

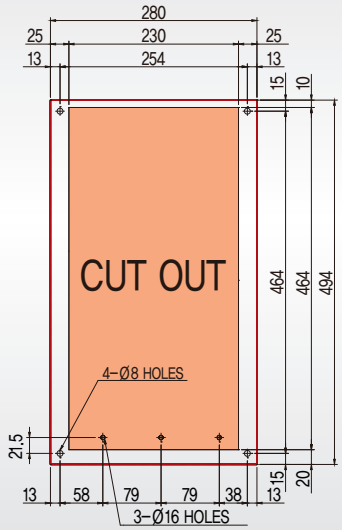
Mounting method	Outside
Consumption	760W / 770W
Rated valtage	1ø 220V 50/60Hz
Rated current	3.9 A / 3.74A
Refrigerant	R-134a
Cooling capacity	1,700BTU / 2,040BTU
Compressor	0.15kW(1/5Hp)
Weight	27kg
Dimension	320×205×706mm(WDH)



COOLZEN WPA-300 S/SE Installation drawing

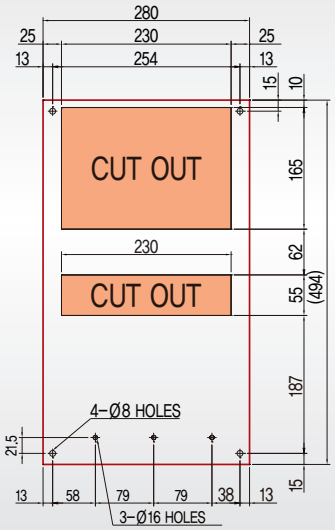
Outside panel installation

A.Whole cutting



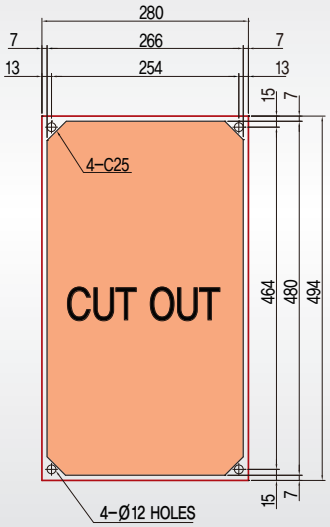
(This part is a head of bolt in the unit. Be careful not to interfere when installing after cutting)

B.Partial cutting



(This part is a head of bolt in the unit. Be careful not to interfere when installing after cutting)

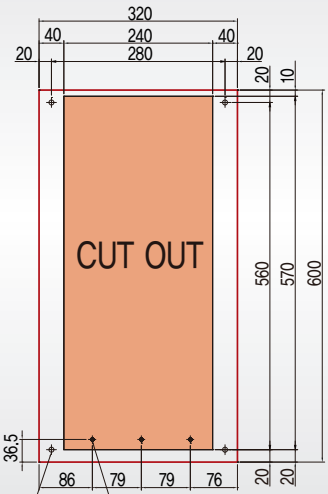
Half insertion installation



COOLZEN WPA-500 S/SE Installation drawing

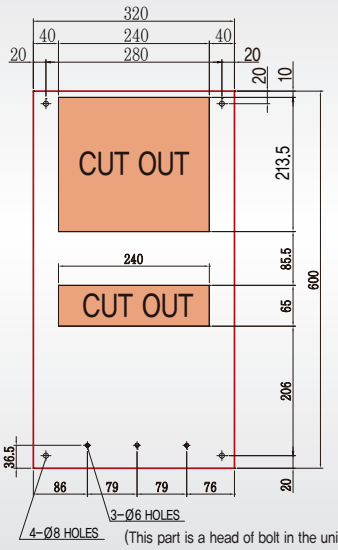
Outside panel installation

A.Whole cutting



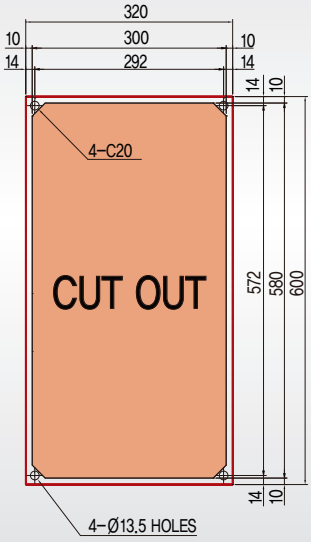
(This part is a head of bolt in the unit. Be careful not to interfere when installing after cutting)

B.Partial cutting



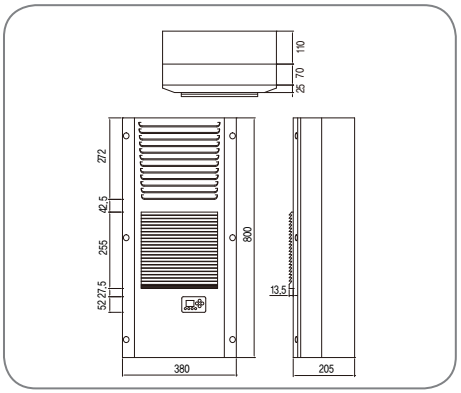
(This part is a head of bolt in the unit. Be careful not to interfere when installing after cutting)

Half insertion installation



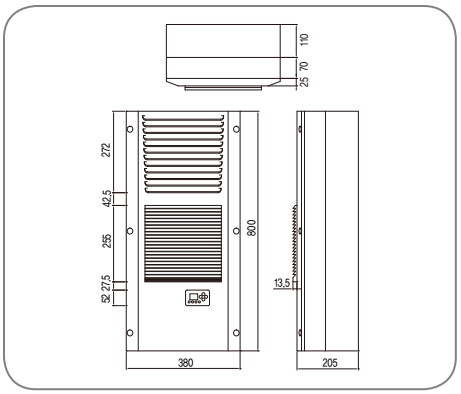
COOLZEN WPA-1000S Type of Non Evaporation, Side Mounting, Half Insertion

Mounting method	Outside
Consumption	713W / 858W
Rated valtage	1ø 220V 50/60Hz
Rated current	3.1A / 3.9A
Refrigerant	R-134a
Cooling capacity	3,640BTU / 4,000BTU
Compressor	0.25kW(1/3Hp)
Weight	35kg
Dimension	380×205×800mm(WDH)



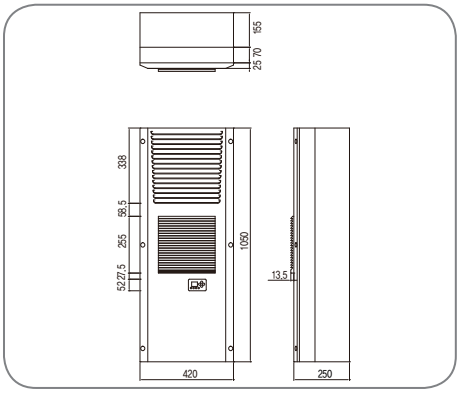
COOLZEN WPA-1000SE Type of Evaporation, Side Mounting, Half Insertion

Mounting method	Outside
Consumption	1,173W / 1,308W
Rated valtage	1ø 220V 50/60Hz
Rated current	5.08A / 5.96A
Refrigerant	R-134a
Cooling capacity	3,640BTU / 4,000BTU
Compressor	0.25kW(1/3Hp)
Weight	38.5kg
Dimension	380×205×906mm(WDH)



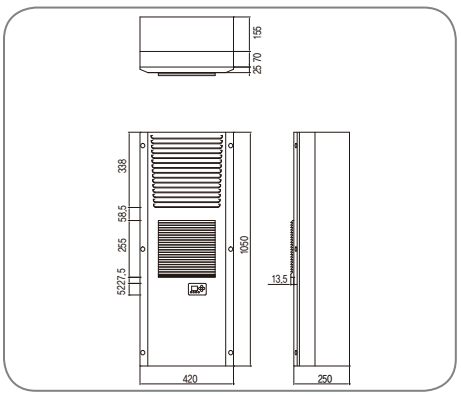
COOLZEN WPA-1500S Type of Non Evaporation, Side Mounting, Half Insertion

Mounting method	Outside
Consumption	920W / 1,078W
Rated valtage	1ø 220V 50/60Hz
Rated current	4A / 4.9A
Refrigerant	R-410a
Cooling capacity	5,400BTU / 6,000BTU
Compressor	0.40kW(1/2Hp)
Weight	48kg
Dimension	420×250×1059mm(WDH)



COOLZEN WPA-1500SE Type of Evaporation, Side Mounting, Half Insertion

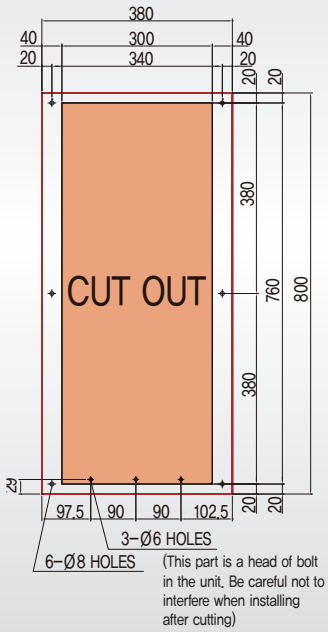
Mounting method	Outside
Consumption	1,860W / 2,058W
Rated valtage	1ø 220V 50/60Hz
Rated current	8.02A / 9.12A
Refrigerant	R-410a
Cooling capacity	5,400BTU / 6,000BTU
Compressor	0.40kW(1/2Hp)
Weight	52kg
Dimension	420×250×1156mm(WDH)



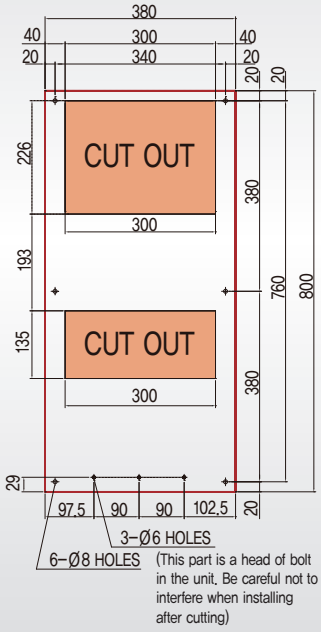
COOLZEN WPA-1000 S/SE Installation drawing

Outside panel installation

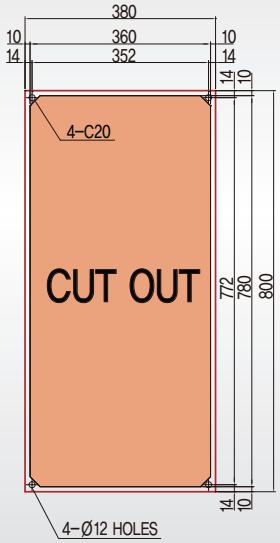
A.Whole cutting



B.Partial cutting



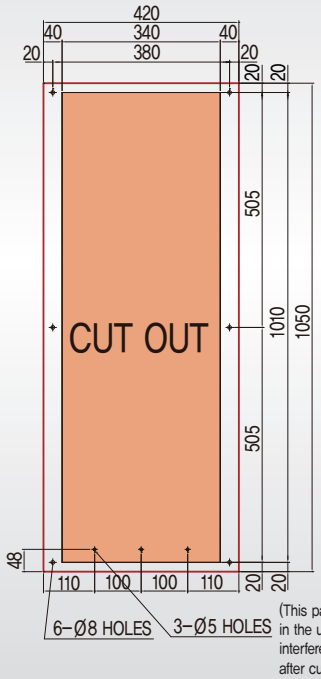
Half insertion installation



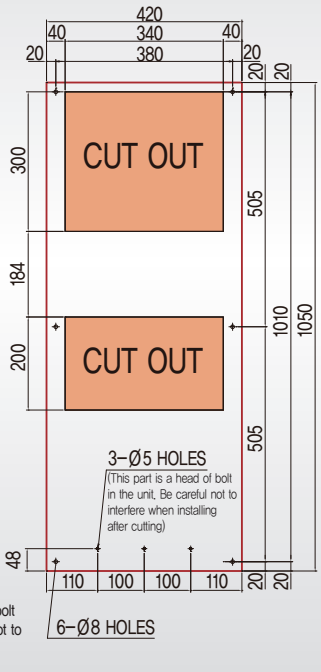
COOLZEN WPA-1500 S/SE Installation drawing

Outside panel installation

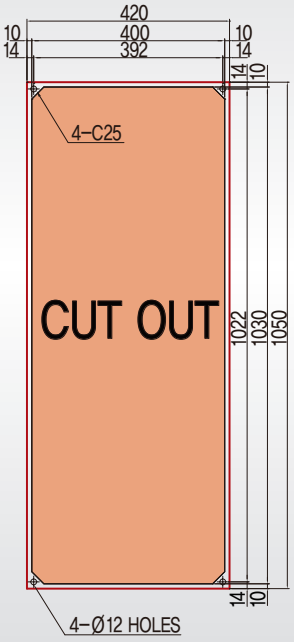
A.Whole cutting



B.Partial cutting

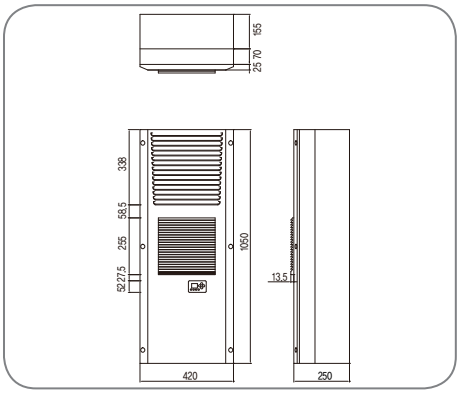


Half insertion installation



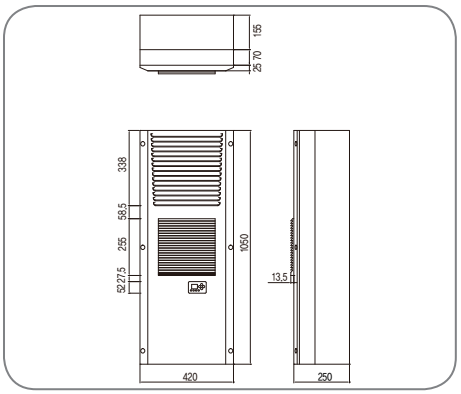
COOLZEN WPA-2000S Type of Non Evaporation, Side Mounting, Half Insertion

Mounting method	Outside
Consumption	1,035W / 1,188W
Rated valtage	1ø 220V 50/60Hz
Rated current	4.5A / 5.4A
Refrigerant	R-410a
Cooling capacity	7,400BTU / 8,000BTU
Compressor	0.45kW(3/5Hp)
Weight	48kg
Dimension	420×250×1050mm(WHD)



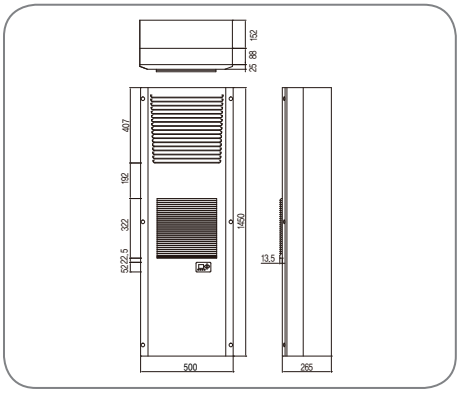
COOLZEN WPA-2000SE Type of Evaporation, Side Mounting, Half Insertion

Mounting method	Outside
Consumption	1,975W / 2,168W
Rated valtage	1ø 220V 50/60Hz
Rated current	8.52A / 9.62A
Refrigerant	R-410a
Cooling capacity	7,400BTU / 8,000BTU
Compressor	0.45kW(3/5Hp)
Weight	52kg
Dimension	420×250×1156mm(WHD)



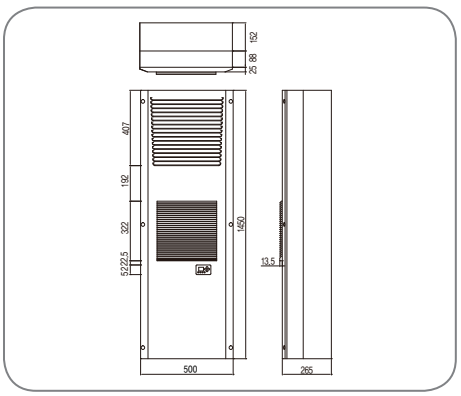
COOLZEN WPA-3000S Type of Non Evaporation, Side Mounting, Half Insertion

Mounting method	Outside
Consumption	1,334W / 1,760W
Rated valtage	1ø 220V 50/60Hz
Rated current	5.8A / 8A
Refrigerant	R-410a
Cooling capacity	10,840BTU / 13,480BTU
Compressor	0.75kW(1Hp)
Weight	65kg
Dimension	500×265×1450mm(WDH)



COOLZEN WPA-3000SE Type of Evaporation, Side Mounting, Half Insertion

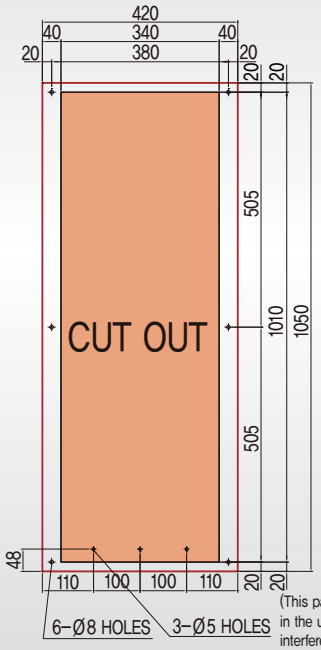
Mounting method	Outside
Consumption	2,274W / 2,740W
Rated valtage	1ø 220V 50/60Hz
Rated current	9.82A / 12.22A
Refrigerant	R-410a
Cooling capacity	10,840BTU / 13,480BTU
Compressor	0.75kW(1Hp)
Weight	69.5kg
Dimension	500×265×1556mm(WDH)



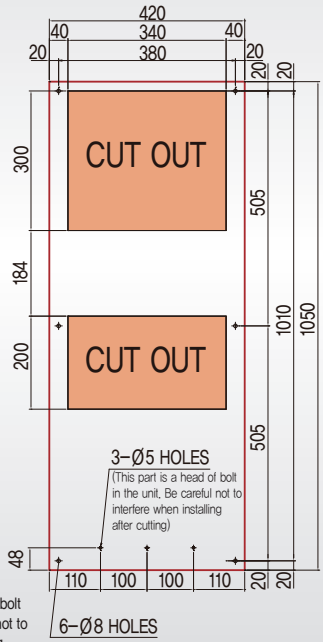
COOLZEN WPA-2000 S/SE Installation drawing

Outside panel installation

A.Whole cutting

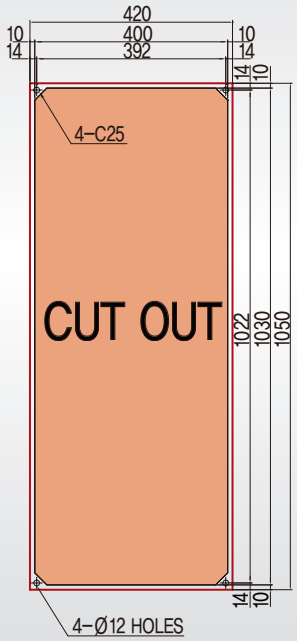


B.Partial cutting



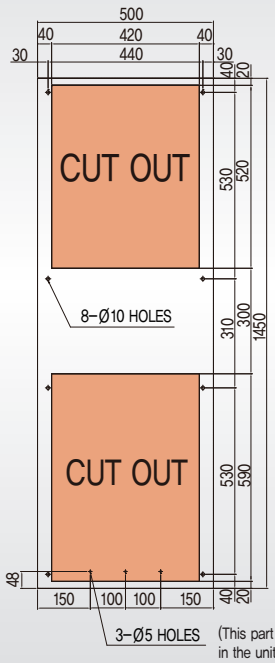
(This part is a head of bolt in the unit. Be careful not to interfere when installing after cutting)

Half insertion installation



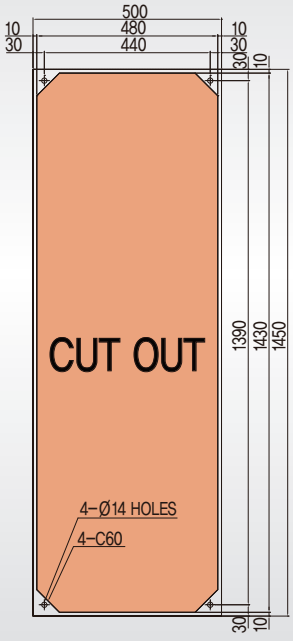
COOLZEN WPA-3000 S/SE Installation drawing

Outside panel installation



(This part is a head of bolt in the unit. Be careful not to interfere when installing after cutting)

Half insertion installation



COOLZEN HPA-500R Type of Non Evaporation, top mounting

Mounting method	Top of the enclosure
Consumption	416W / 396W
Rated valtage	1ø 220V 50/60Hz
Rated current	1.8A / 1.8A
Refrigerant	R-134a
Cooling capacity	1,652BTU / 2,000BTU
Compressor	0.15kW(1/5Hp)
Weight	25kg
Dimension	320×245×488mm(WDH)

COOLZEN HPA-500S Type of Non Evaporation, Side Mounting

Mounting method	Outside
Consumption	432W / 420W
Rated valtage	1ø 220V 50/60Hz
Rated current	1.9A / 1.9A
Refrigerant	R-134a
Cooling capacity	1,652BTU / 2,000BTU
Compressor	0.15kW(1/5Hp)
Weight	24kg
Dimension	350×180×443mm(WDH)

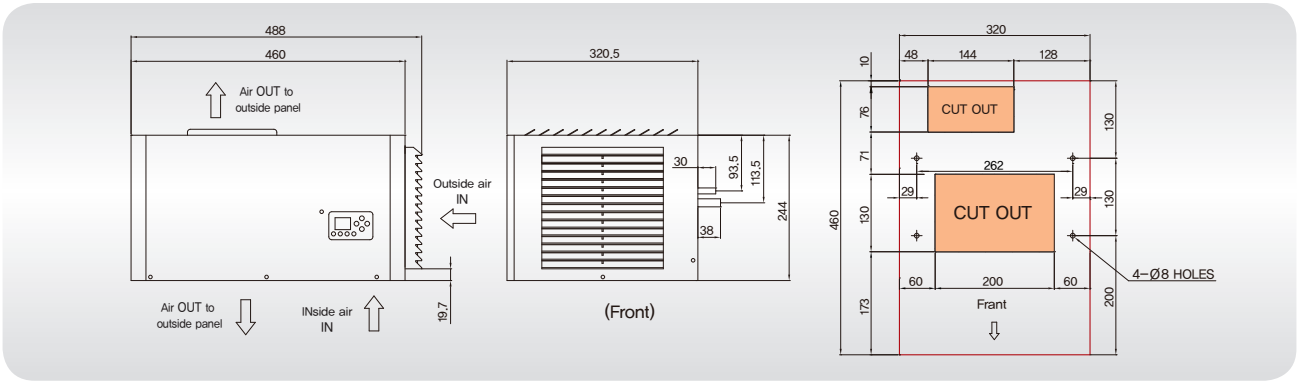
COOLZEN HPA-500SE Type of Evaporation, Side Mounting

Mounting method	Outside
Consumption	892W / 870W
Rated valtage	1ø 220V 50/60Hz
Rated current	3.88A / 3.96A
Refrigerant	R-134a
Cooling capacity	1,652BTU / 2,000BTU
Compressor	0.15kW(1/5Hp)
Weight	27kg
Dimension	350×208×443mm(WDH)

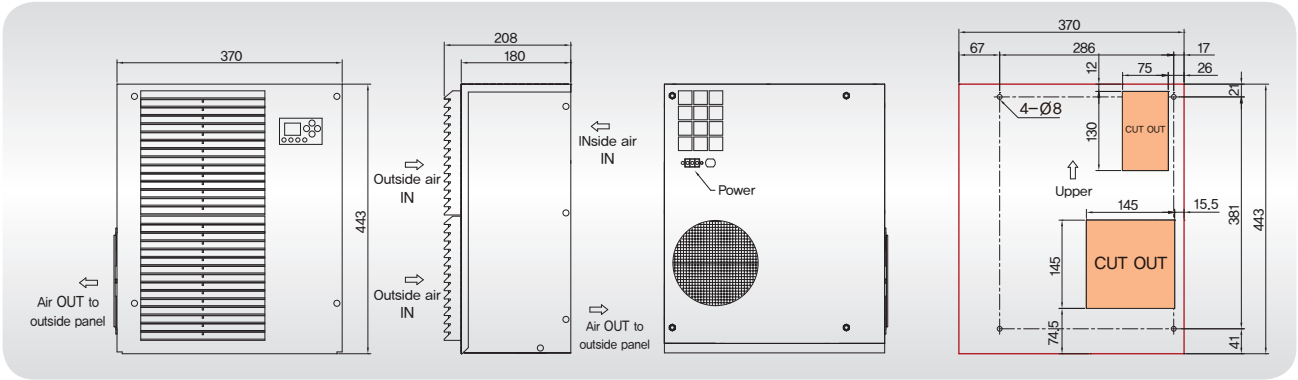
COOLZEN HPA-1000R Type of Non Evaporation, top mounting

Mounting method	Top of the enclosure
Consumption	908W / 869W
Rated valtage	1ø 220V 50/60Hz
Rated current	4A / 4A
Refrigerant	R-134a
Cooling capacity	3,640BTU / 4,000BTU
Compressor	0.25kW(1/3Hp)
Weight	37kg
Dimension	438×536×267mm(WDH)

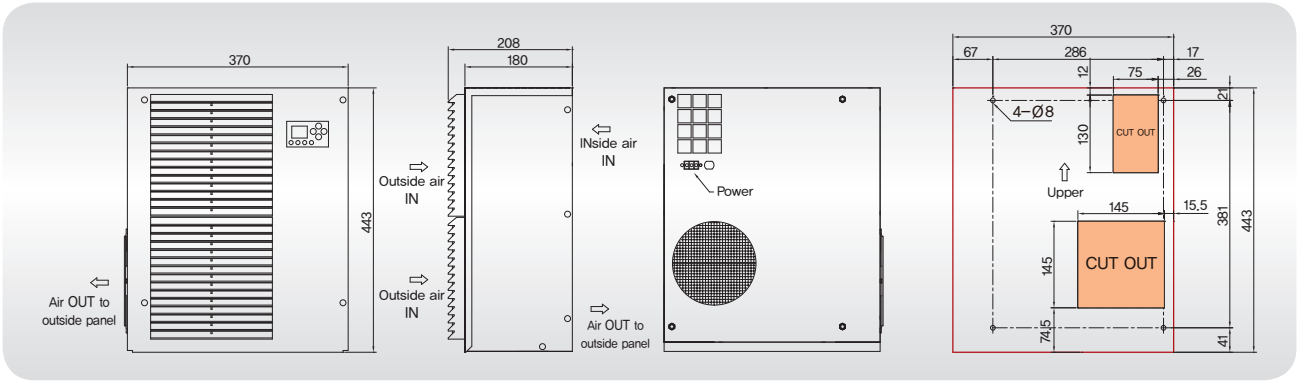
COOLZEN HPA-500R Installation drawing [Outside panel installation only]



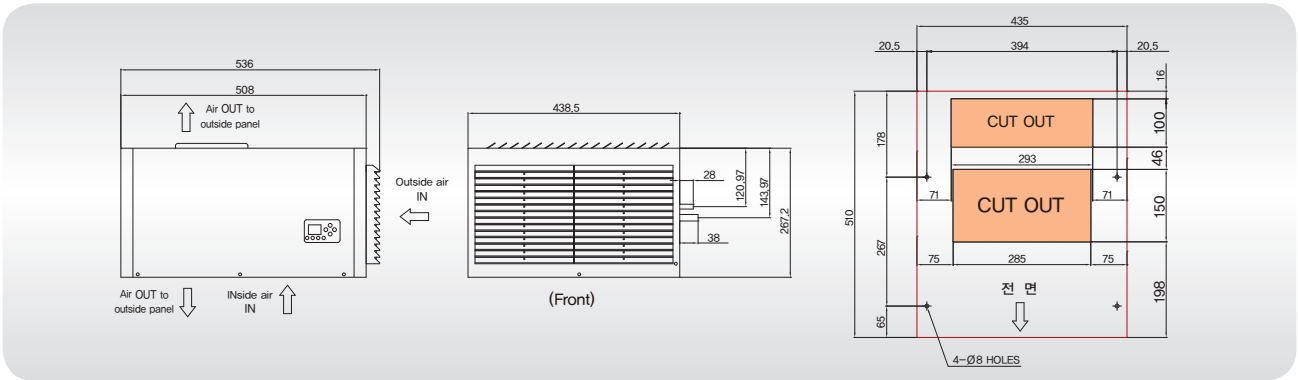
COOLZEN HPA-500S Installation drawing [Outside panel installation only]



COOLZEN HPA-500SE Installation drawing [Outside panel installation only]



COOLZEN HPA-1000R Installation drawing [Outside panel installation only]

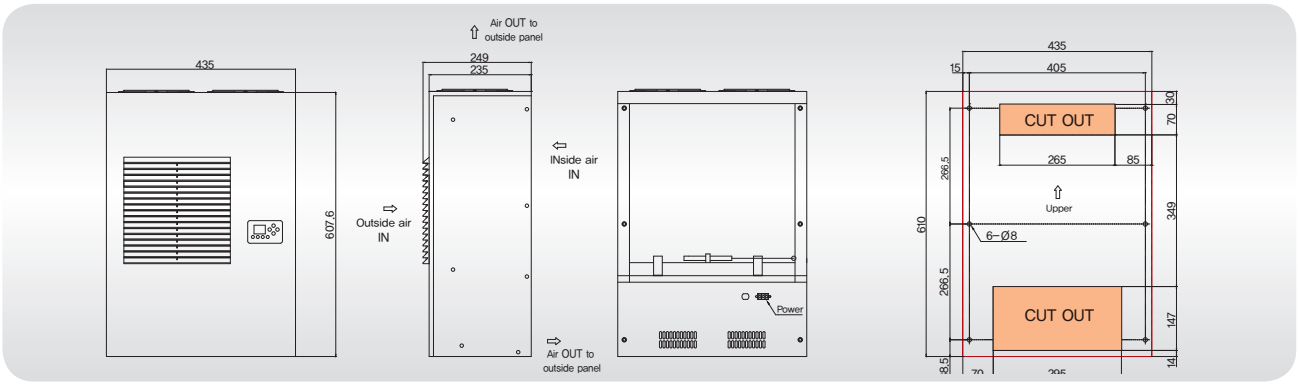


13

COOLZEN HPA-1000S Type of Non Evaporation, Side Mounting

Mounting method	Outside
Consumption	920W / 880W
Rated valtage	1ø 220V 50/60Hz
Rated current	4A / 4A
Refrigerant	R-134a
Cooling capacity	3,640BTU / 4,000BTU
Compressor	0.25kW(1/3Hp)
Weight	36kg
Dimension	435×235×610mm(WDH)

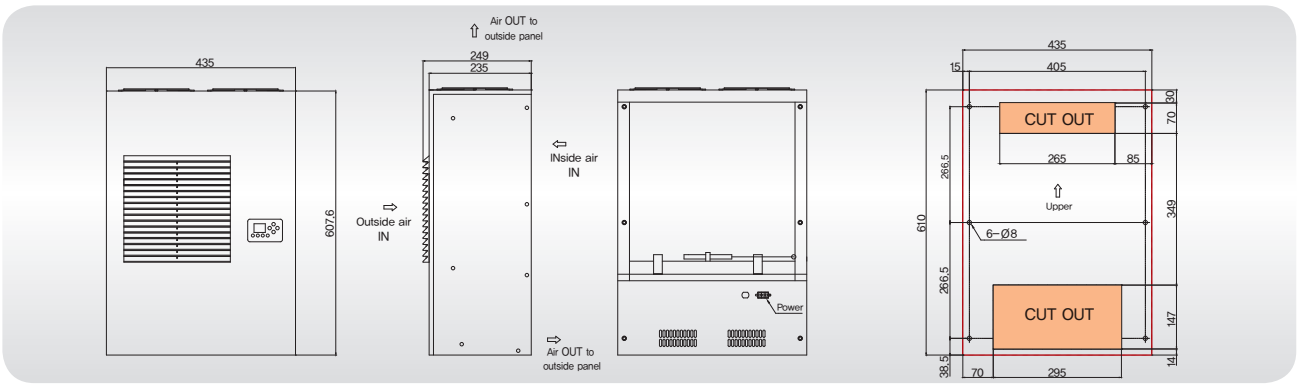
COOLZEN HPA-1000S Installation drawing [Outside panel installation only]



COOLZEN HPA-1000SE Type of Evaporation, Side Mounting

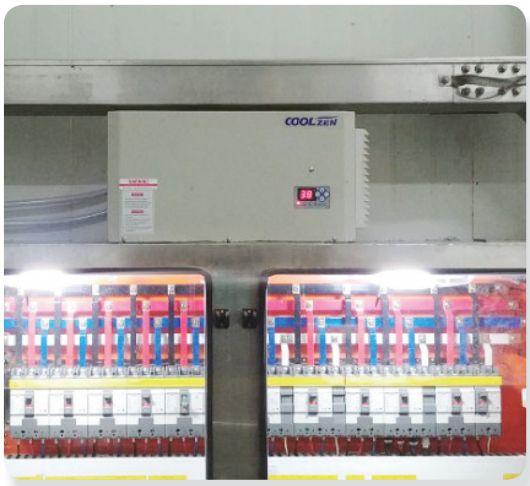
Mounting method	Outside
Consumption	1,380W / 1,330W
Rated valtage	1ø 220V 50/60Hz
Rated current	5.98A / 6.02A
Refrigerant	R-134a
Cooling capacity	3,640BTU / 4,000BTU
Compressor	0.25kW(1/3Hp)
Weight	40kg
Dimension	435×249×610mm(WDH)

COOLZEN HPA-1000SE Installation drawing [Outside panel installation only]



14

Applications



15

WELTEM

The exterior appearance, specification of products can be modified without notice for quality improvement,
Please receive the written guarantee for perfect after-sale service when you buy WELTEM's product

http://www.weltem.com

118, Jayumuyeok 3-gil, Masanhoewon-gu, Changwon-City, Gyeongsangnam-do, 51340 Korea
Tel : +82-55-294-9200(ext.2) Fax : +82-55-294-9220 E-mail : sale@weltem.com

Printing Updated October, 2018