

公司：昆山达瑞美电子有限公司
电话：18020207746
邮箱：danny@diamondelectronics.cn
网址：www.diamondelectronics.cn

Company:昆山达瑞美电子有限公司
Mobile:18020207746
Email:danny@diamondelectronics.cn
URL:www.diamondelectronics.cn

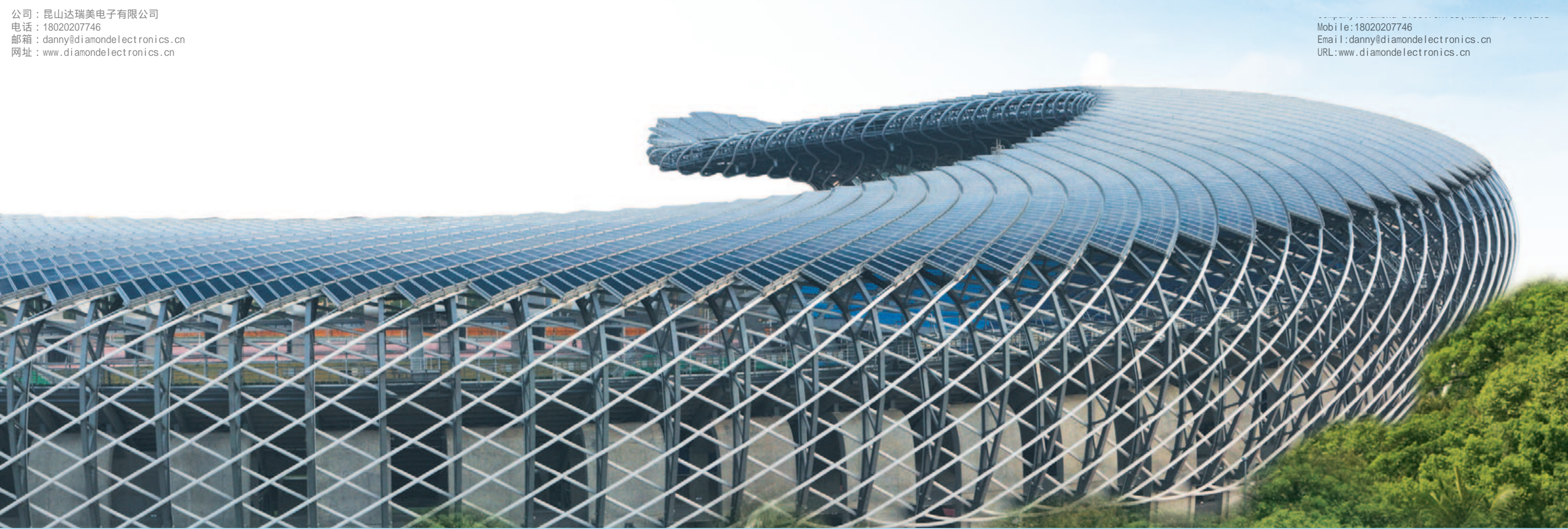


Air to Air Heat Exchanger Cooling Solutions

2011 Product Series

www.deltaww.com





ABOUT DELTA

Delta Group is the world's leading provider of power management and thermal management solutions, as well as a major source for components, visual displays, industrial automation, networking products, and renewable energy solutions. Delta Group has sales offices worldwide and manufacturing plants in Taiwan, China, Thailand, Japan, Mexico, India, Brazil, and Europe. As a global leader in power electronics, Delta's mission is, "To provide innovative, clean and efficient energy solutions for a better tomorrow." Delta is committed to environmental protection and has implemented green, lead-free production and waste management programs for many years.

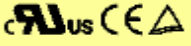
THE HEAT EXCHANGER

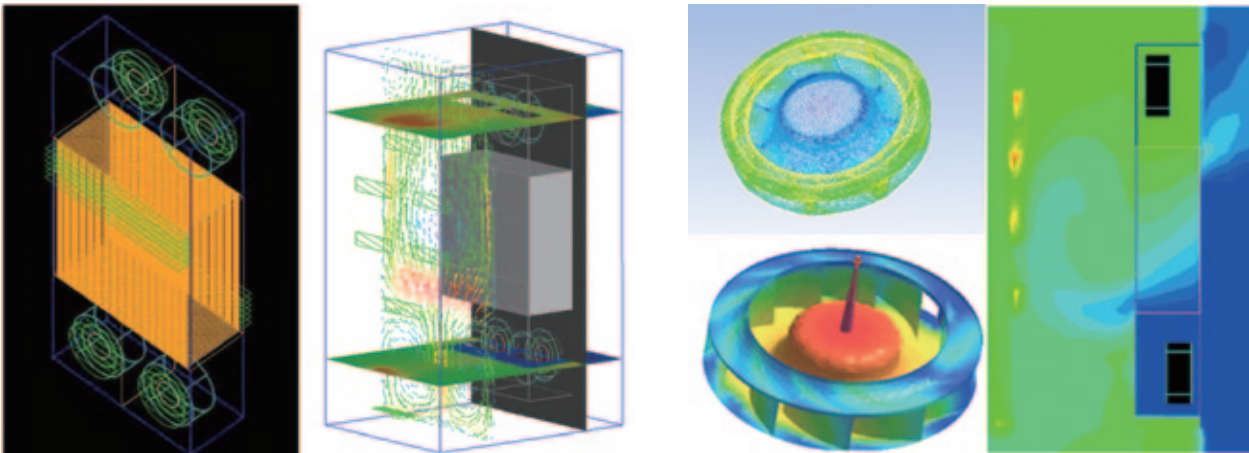
Dedicated to in renewable and high efficiency energy saving solutions, Delta has developed a series of Air to Air Heat Exchanger products for cooling enclosed outdoor cabinets. These products offer an energy saving and cost effective design for high density / high power enclosed cabinet cooling for Telecom communication, Power distribution and Industrial applications. Delta heat exchanger products completely prevent air contamination, dust and humidity issues caused by outside environments. Its free ambient cooling technology provides high efficiency operation, and high reliability so less maintenance is required. The heat exchangers meet customer thermal requirements as well as NEMA enclosure standards. Delta manufactures a wide range of standard heat exchangers for customer application options.



BENEFITS OF DELTA HEAT EXCHANGERS

- Total Quality Control from Fan module, Control Board to Heat Exchanger.
- Optimized Cooling performance and Economic Power consumption.
- Optimized Cooling Capacity with smaller dimension and Lighter Weight.
- Easy Installation and Simple Maintenance.
- High Reliability with IP55, GR 487 Standard.
- Optional control and detective function for easy maintenance and control.
- Short LT for Standard series products for easy selection and application.

Item	Level
Fan life	L ₁₀ =80000 hrs @ 40°C
Safety	
Water proof (external)	IEC 60529 IP55
Salt fog (external)	IEC 60068-2-52 severity 4 , 6 cycles
EMI	CISPR 22 class B
ESD	Air +/-15KV , contact +/-8KV , 10 times
Surge	+/-2KV line to ground , 10 times



HEAT EXCHANGER INTEGRATION EXPERTISE

Using highly automated manufacturing processes strict quality control, Delta production integration assures total module production effectiveness, high quality products, and optimal TCO for custom designed thermal solutions.

Value added from Delta Integration Expertise:

- 1. Design**
In the early design concept stage, Delta is dedicated to maximizing customers benefits for better cooling performance, cost efficiency, and ease of manufacture to meet customer applications for different industries.
- 2. Production**
With experience in high volume manufacturing, Delta's manufacturing and automation department implements continuous improvement for process control and increased manufacturing efficiency.
- 3. Testing and Quality**
Delta's manufacturing meets ISO 9001:2000 standards. In house reliability testing equipment for IP 55, IP56 ensures product quality, and long product life for your application.

Delta Heat Exchanger Standard Product Model

		HEX030PA	HEX050PA	HEX080PB
Cooling capacity (W/K)		30	50	80
Dimension HxWxD (mm)		620x164x148	500x445x152	850x500x160
Air Flow (CFM/CMH)	External	180/306	210/357	170/289
	Internal	180/306	210/357	210/357
Rated voltage (V)		48	48	48
Temperature range (°C)		-10 ~ +65	-10 ~ +65	-10 ~ +65
* Noise (dB-A)		70	65	68
Weight (kg)		6	10	14
Max. Power (W)		65	70	87
Fan Type		Axial	Axial	Axial
Safety		UL, cUL, TUV, CE	UL, cUL, TUV, CE	UL, cUL, TUV, CE
Environment protection		IP55	IP55	IP55
Mounting type		Internal Mount	Internal Mount	Internal Mount
Photo				

HEX080QA	HEX100PA	HEX200PA	HEX260PA-A
80	100	200	260
555x500x265	850x500x160	1100x500x194	1400x650x260
200/340	230/391	640/1087	640/1087
270/459	320/544	940/1597	940/1597
48	48	48	48
-10 ~ +65	-10 ~ +65	-10 ~ +65	-10 ~ +65
64	75	74	74
15	15	26	37
96	173	312	576
Axial	Axial	Axial	Blower
UL, cUL, TUV, CE	UL, cUL, TUV, CE	UL, cUL, TUV, CE	UL, cUL, TUV, CE
IP55	IP55	IP55	IP55
Roof Mount	Internal Mount	Internal Mount	Internal Mount
			

* Sound pressure measurement : 1.0 meter from center of external side of HEX.
** Delta reserves all rights for specification modification.

DELTA HEAT EXCHANGER BEYOND YOUR EXPECTATIONS

If current products do not satisfy your needs, you are invited to experience the benefits of Delta Heat Exchanger products.

Delta customized Heat Exchangers are at least **10%** smaller than heat exchangers currently on the market, while providing the same cooling capacity.

Delta Heat Exchangers use high efficiency and reliable fans for **Longer Life** applications.

Delta customized Heat Exchangers offer at least **20%** lower power consumption.

Heat Exchangers save energy and TCO.

Customized Solutions

Delta can satisfy all customer needs by either providing standard heat exchanger products, or customized heat exchanger products which meet specific customer requirements. As specialization is a trend for all business models, Delta offers trusted thermal management solution expertise to provide the best solution for current thermal design challenges. From design concept and prototype to verification and performance testing, to mass production quality control, Delta provides professional design and manufacturing systems to offer you lower cost, better performance and quality in less time.

Please contact your Delta Regional Service specialist for further support.



"To provide innovative, clean and efficient energy solutions for a better tomorrow" is Delta's corporate mission. Delta is committed to protecting the Earth's environment by developing eco-friendly and energy-saving products, adopting environmentally friendly practices and reducing our impact on the environment.

GLOBAL OPERATIONS

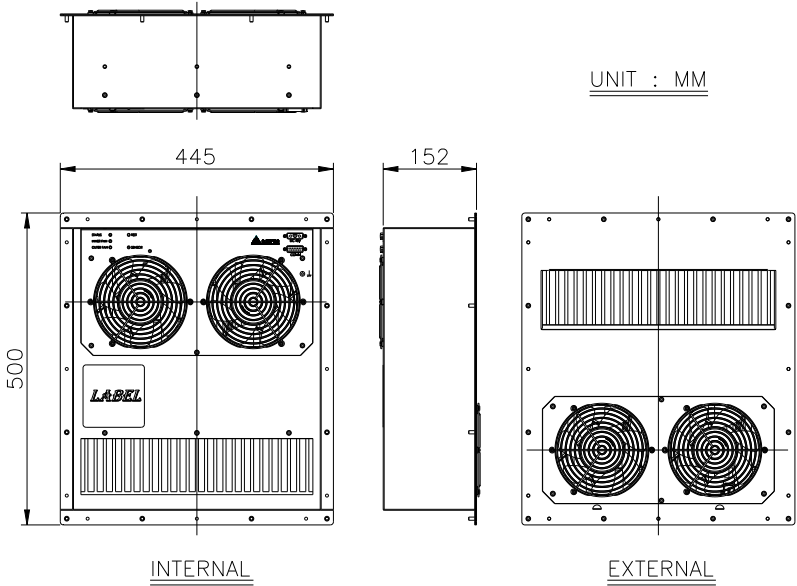




Door Mounting type

HEX050PA series

Dimension drawing



Features

- ◆ IP55 waterproof at external side
- ◆ "One touch" dry run test and dust cleaning
- ◆ Optional communication function design
- ◆ Easy installation and maintenance from internal side
- ◆ Clear LED status indicator
- ◆ High efficiency and reliable fan modules

Design

- ◆ Air to air heat exchange
- ◆ Door mounted
- ◆ Rated voltage at 48V
- ◆ Complete airtight design for outdoor application
- ◆ Drainage hole in the bottom
- ◆ Redundant fan quantity design

Main feature	Unit	Specification
Dimension (H x W x D)	mm	500 x 445 x 152
Cooling capacity	W/K	50 (MAX.) *Note
Rated voltage	Vdc	48 (TYP.)
Operating voltage range	Vdc	40 ~ 60
Rated current	A	1.44 (MAX.)
Power consumption	W	70.0 (MAX.)
Operating temperature range	°C	-10 ~ +65
Internal airflow	CFM	210
External airflow	CFM	210
Weight	Kg	10.0

* Note : The cooling capacity (W/K OR W/°C) is defined as $Q / (T_i - T_A)$

Q : Heat dissipation (W) from inside of cabinet

T_i : Return temperature of internal air circuit (K OR °C)

T_A : Ambient temperature of external air circuit (K OR °C)

* Specifications are subject to change without notice.

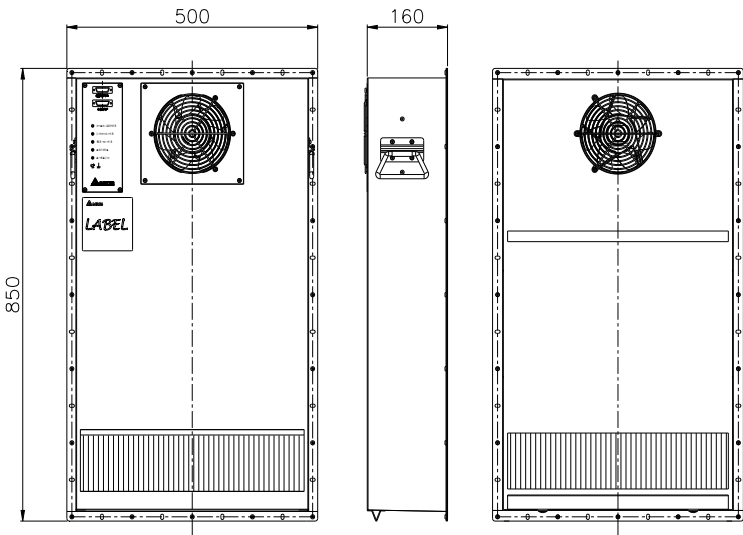


Door Mounting type



HEX080PB series

Dimension drawing



UNIT:MM

Internal

External

Features

- ◆ Advanced performance design for smaller dimension and lighter weight
- ◆ IP55 waterproof at external side
- ◆ "One touch" dry run test and dust cleaning
- ◆ Optional communication function design
- ◆ Easy installation and maintenance from internal side
- ◆ Clear LED status indicator
- ◆ High efficiency and reliable fan modules

Design

- ◆ Air to air heat exchange
- ◆ Door mounted
- ◆ Rated voltage at 48V
- ◆ Complete airtight design for outdoor application
- ◆ Drainage hole in the bottom

Main feature	Unit	Specification
Dimension (H x W x D)	mm	850 x 500 x 160
Cooling capacity	W/K	80 (MAX.) *Note
Rated voltage	Vdc	48 (TYP.)
Operating voltage range	Vdc	40 ~ 60
Rated current	A	1.8 (MAX.)
Power consumption	W	86.4 (MAX.)
Operating temperature range	°C	-10 ~ +65
Internal airflow	CFM	210
External airflow	CFM	170
Weight	Kg	14.0

* Note : The cooling capacity (W/K OR W/°C) is defined as $Q / (T_1 - T_A)$

Q : Heat dissipation (W) from inside of cabinet

T₁ : Return temperature of internal air circuit (K OR °C)

T_A : Ambient temperature of external air circuit (K OR °C)

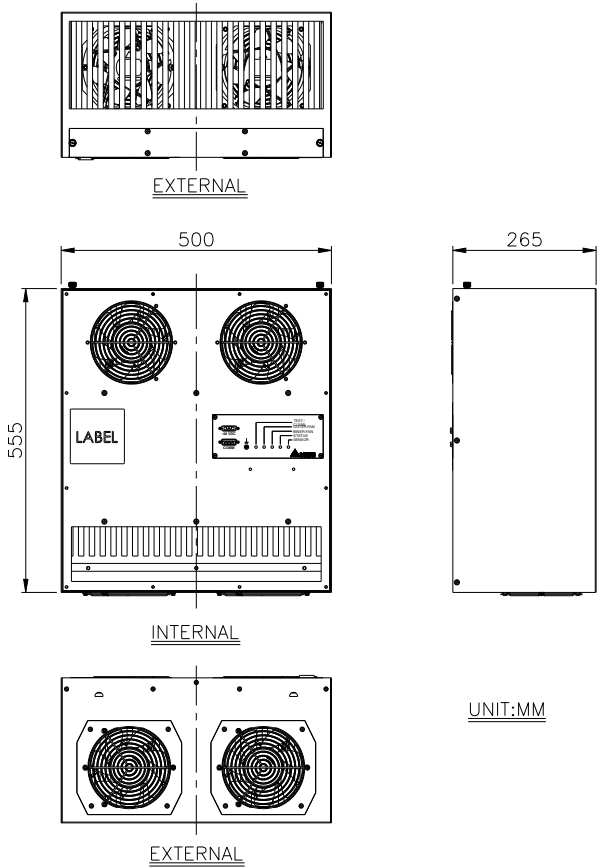


Roof Mounting type



HEX080QA series

Dimension drawing



Features

- ◆ IP55 waterproof at external side
- ◆ "One touch" dry run test and dust cleaning
- ◆ Optional communication function design
- ◆ Clear LED status indicator
- ◆ High efficiency and reliable fan modules

Design

- ◆ Air to air heat exchange
- ◆ Door mounted
- ◆ Rated voltage at 48V
- ◆ Complete airtight design for outdoor application
- ◆ Reduntant fan quantity design

Main feature	Unit	Specification
Dimension (H x W x D)	mm	555 x 500 x 265
Cooling capacity	W/K	80 (MAX.) *Note
Rated voltage	Vdc	48 (TYP.)
Operating voltage range	Vdc	40 ~ 60
Rated current	A	2.0 (MAX.)
Power consumption	W	96.0 (MAX.)
Operating temperature range	°C	-10 ~ +65
Internal airflow	CFM	270
External airflow	CFM	200
Weight	Kg	15.0

* Note : The cooling capacity (W/K OR W/°C) is defined as $Q / (T_i - T_A)$

Q : Heat dissipation (W) from inside of cabinet

T_i : Return temperature of internal air circuit (K OR °C)

T_A : Ambient temperature of external air circuit (K OR °C)

* Specifications are subject to change without notice.

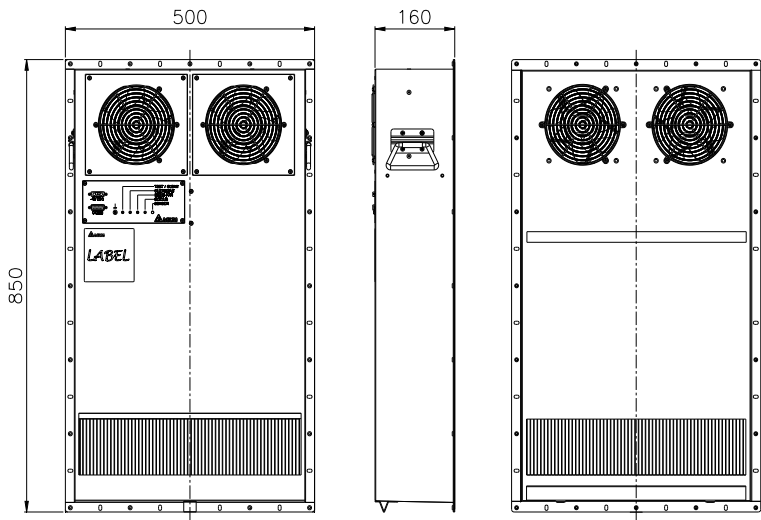


Door Mounting type



HEX100PA series

Dimension drawing



UNIT:MM

Internal

External

Features

- ◆ Advanced performance design for smaller dimension and lighter weight
- ◆ IP55 waterproof at external side
- ◆ "One touch" dry run test and dust cleaning
- ◆ Optional communication function design
- ◆ Easy installation and maintenance from internal side
- ◆ Clear LED status indicator
- ◆ High efficiency and reliable fan modules

Design

- ◆ Air to air heat exchange
- ◆ Door mounted
- ◆ Rated voltage at 48V
- ◆ Complete airtight design for outdoor application
- ◆ Drainage hole in the bottom
- ◆ Redantant fan quantity design

Main feature	Unit	Specification
Dimension (H x W x D)	mm	850 x 500 x 160
Cooling capacity	W/K	100 (MAX.) *Note
Rated voltage	Vdc	48 (TYP.)
Operating voltage range	Vdc	40 ~ 60
Rated current	A	3.6 (MAX.)
Power consumption	W	172.8 (MAX.)
Operating temperature range	°C	-10 ~ +65
Internal airflow	CFM	320
External airflow	CFM	230
Weight	Kg	15.0

* Note : The cooling capacity (W/K OR W/°C) is defined as $Q / (T_i - T_A)$

Q : Heat dissipation (W) from inside of cabinet

T_i : Return temperature of internal air circuit (K OR °C)

T_A : Ambient temperature of external air circuit (K OR °C)

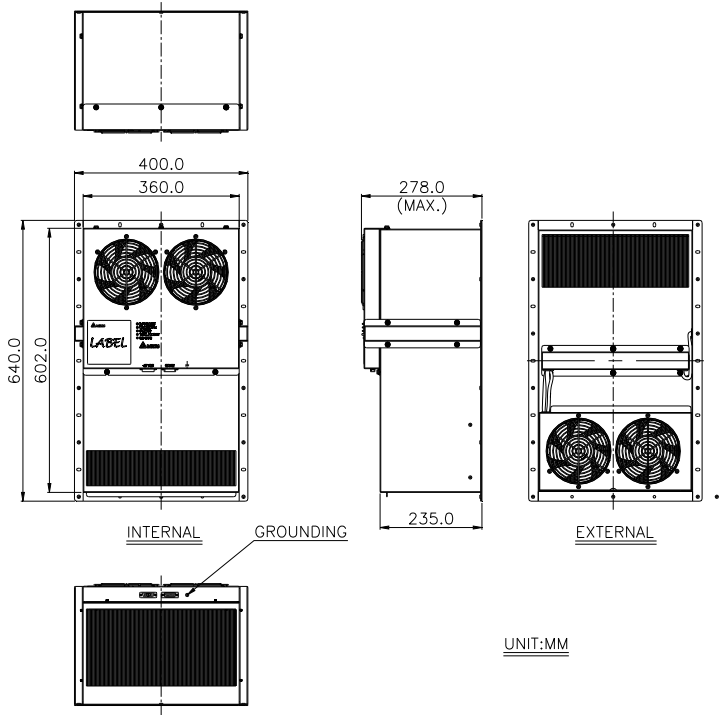


Door Mounting type



HEX100PB series

Dimension drawing



Features

- ◆ IP55 waterproof at external side
- ◆ "One touch" dry run test and dust cleaning
- ◆ Optional communication function design
- ◆ Easy installation and maintenance from internal side
- ◆ Clear LED status indicator
- ◆ High efficiency and reliable fan modules

Design

- ◆ Air to air heat exchange
- ◆ Door mounted
- ◆ Rated voltage at 48V
- ◆ Complete airtight design for outdoor application
- ◆ Drainage hole in the bottom
- ◆ Redundant fan quantity design

Main feature	Unit	Specification
Dimension (H x W x D)	mm	640 x 400 x 278
Cooling capacity	W/K	100 (MAX.) *Note
Rated voltage	Vdc	48 (TYP.)
Operating voltage range	Vdc	40 ~ 60
Rated current	A	3.75 (MAX.)
Power consumption	W	180.0 (MAX.)
Operating temperature range	°C	-10 ~ +65
Internal airflow	CFM	330
External airflow	CFM	420
Weight	Kg	16.0

* Note : The cooling capacity (W/K OR W/°C) is defined as $Q / (T_I - T_A)$

Q : Heat dissipation (W) from inside of cabinet

T_I : Return temperature of internal air circuit (K OR °C)

T_A : Ambient temperature of external air circuit (K OR °C)

* Specifications are subject to change without notice.



Door Mounting type



Features

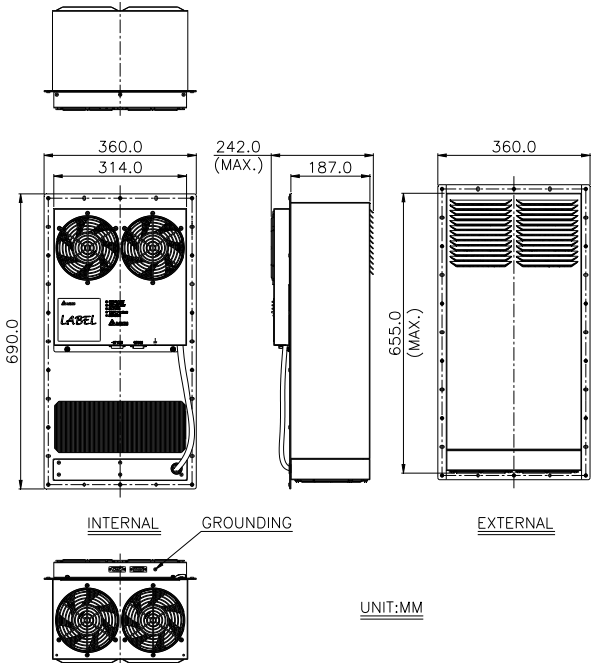
- ◆ IP55 waterproof at external side
- ◆ "One touch" dry run test and dust cleaning
- ◆ Optional communication function design
- ◆ Easy installation and maintenance from internal side
- ◆ Clear LED status indicator
- ◆ High efficiency and reliable fan modules

Design

- ◆ Air to air heat exchange
- ◆ Door mounted
- ◆ Rated voltage at 48V
- ◆ Complete airtight design for outdoor application
- ◆ Drainage hole in the bottom
- ◆ Reduntant fan quantity design

HEX100PC series

Dimension drawing



Main feature	Unit	Specification
Dimension (H x W x D)	mm	690 x 360 x 242
Cooling capacity	W/K	100 (MAX.) *Note
Rated voltage	Vdc	48 (TYP.)
Operating voltage range	Vdc	40 ~ 60
Rated current	A	3.75 (MAX.)
Power consumption	W	180.0 (MAX.)
Operating temperature range	°C	-10 ~ +65
Internal airflow	CFM	360
External airflow	CFM	325
Weight	Kg	12.5

* Note : The cooling capacity (W/K OR W/°C) is defined as $Q / (T_i - T_A)$

Q : Heat dissipation (W) from inside of cabinet

T_i : Return temperature of internal air circuit (K OR °C)

T_A : Ambient temperature of external air circuit (K OR °C)

* Specifications are subject to change without notice.

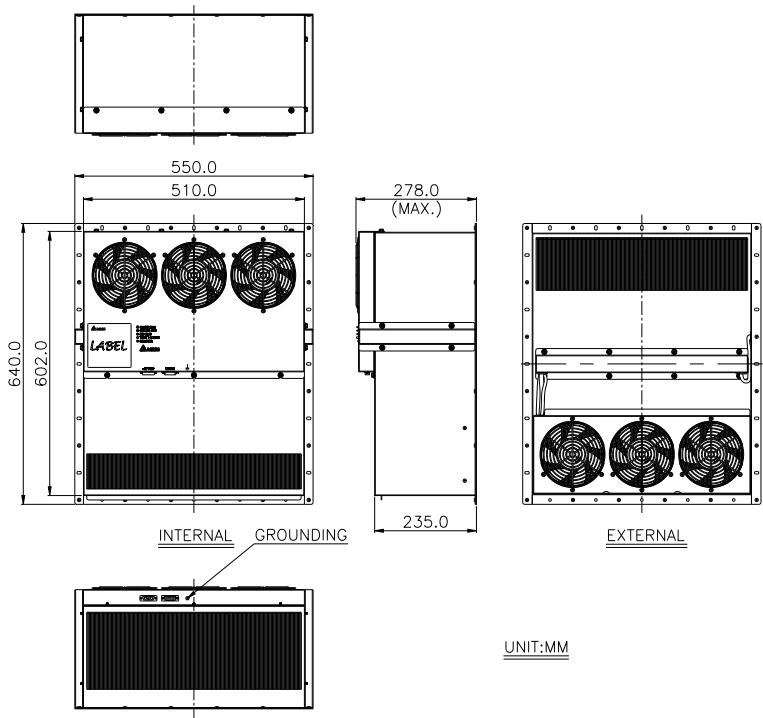


Door Mounting type



HEX150PB series

Dimension drawing



Features

- ◆ IP55 waterproof at external side
- ◆ "One touch" dry run test and dust cleaning
- ◆ Optional communication function design
- ◆ Easy installation and maintenance from internal side
- ◆ Clear LED status indicator
- ◆ High efficiency and reliable fan modules

Design

- ◆ Air to air heat exchange
- ◆ Door mounted
- ◆ Rated voltage at 48V
- ◆ Complete airtight design for outdoor application
- ◆ Drainage hole in the bottom
- ◆ Redundant fan quantity design

Main feature	Unit	Specification
Dimension (H x W x D)	mm	640 x 550 x 278
Cooling capacity	W/K	150 (MAX.) *Note
Rated voltage	Vdc	48 (TYP.)
Operating voltage range	Vdc	40 ~ 60
Rated current	A	5.8 (MAX.)
Power consumption	W	278.4 (MAX.)
Operating temperature range	°C	-10 ~ +65
Internal airflow	CFM	480
External airflow	CFM	630
Weight	Kg	20.0

* Note : The cooling capacity (W/K OR W/°C) is defined as $Q / (T_I - T_A)$
 Q : Heat dissipation (W) from inside of cabinet
 T_I : Return temperature of internal air circuit (K OR °C)
 T_A : Ambient temperature of external air circuit (K OR °C)
* Specifications are subject to change without notice.



Door Mounting type



Features

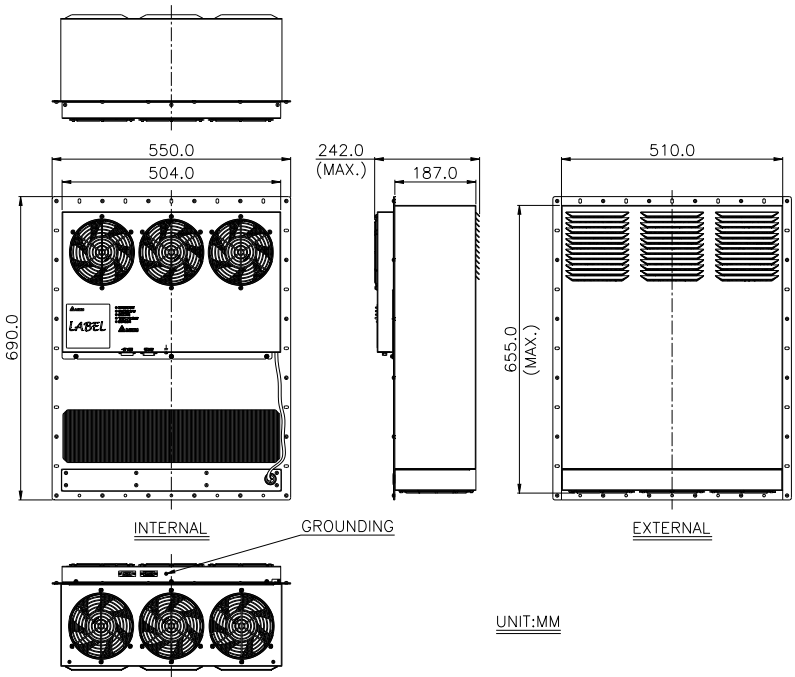
- ◆ IP55 waterproof at external side
- ◆ "One touch" dry run test and dust cleaning
- ◆ Optional communication function design
- ◆ Easy installation and maintenance from internal side
- ◆ Clear LED status indicator
- ◆ High efficiency and reliable fan modules

Design

- ◆ Air to air heat exchange
- ◆ Door mounted
- ◆ Rated voltage at 48V
- ◆ Complete airtight design for outdoor application
- ◆ Drainage hole in the bottom
- ◆ Reduntant fan quantity design

HEX150PC series

Dimension drawing



Main feature	Unit	Specification
Dimension (H x W x D)	mm	690 x 550 x 242
Cooling capacity	W/K	150 (MAX.) *Note
Rated voltage	Vdc	48 (TYP.)
Operating voltage range	Vdc	40 ~ 60
Rated current	A	5.8 (MAX.)
Power consumption	W	278.4 (MAX.)
Operating temperature range	°C	-10 ~ +65
Internal airflow	CFM	460
External airflow	CFM	410
Weight	Kg	20.0

* Note : The cooling capacity (W/K OR W/°C) is defined as $Q / (T_i - T_A)$

Q : Heat dissipation (W) from inside of cabinet

T_i : Return temperature of internal air circuit (K OR °C)

T_A : Ambient temperature of external air circuit (K OR °C)

* Specifications are subject to change without notice.

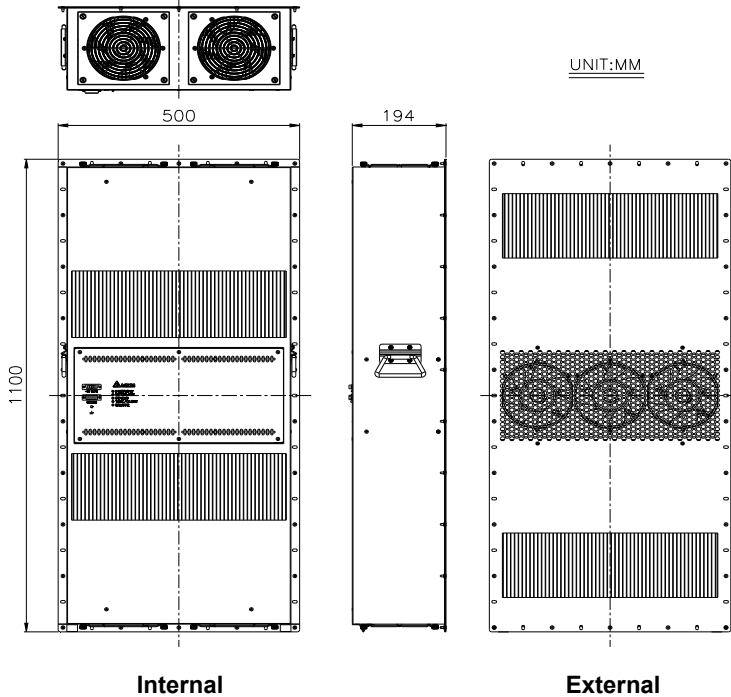


Door Mounting type



HEX200PA series

Dimension drawing



Features

- ◆ Central airflow design creat high cooling effeciency.
- ◆ IP55 waterproof at external side
- ◆ "One touch" dry run test and dust cleaning
- ◆ Optional communication function design
- ◆ Easy installation and maintenance from internal side
- ◆ Clear LED status indicator
- ◆ High efficiency and reliable fan modules

Design

- ◆ Air to air heat exchange
- ◆ Door mounted
- ◆ Rated voltage at 48V
- ◆ Complet airtight design for outdoor application
- ◆ Drainage hole in the bottom
- ◆ Redantant fan quantity design

Main feature	Unit	Specification
Dimension (H x W x D)	mm	1100 x 500 x 194
Cooling capacity	W/K	200 (MAX.) *Note
Rated voltage	Vdc	48 (TYP.)
Operating voltage range	Vdc	40 ~ 60
Rated current	A	6.6 (MAX.)
Power consumption	W	316.8 (MAX.)
Operating temperature range	°C	-10 ~ +65
Internal airflow	CFM	940
External airflow	CFM	640
Weight	Kg	26.0

* Note : The cooling capacity (W/K OR W/°C) is defined as $Q / (T_I - T_A)$

Q : Heat dissipation (W) from inside of cabinet

T_I : Return temperature of internal air circuit (K OR °C)

T_A : Ambient temperature of external air circuit (K OR °C)

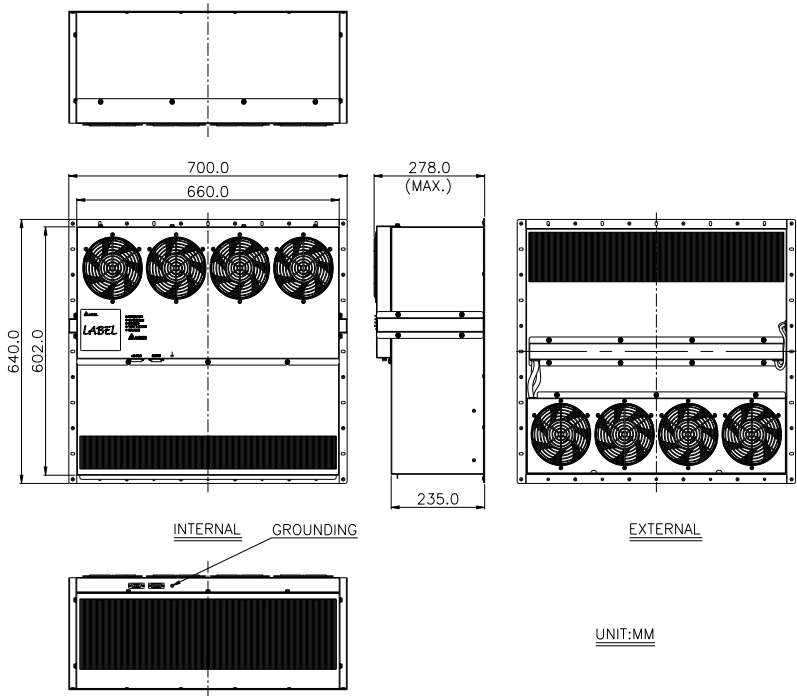


Door Mounting type



HEX200PB series

Dimension drawing



Features

- ◆ IP55 waterproof at external side
- ◆ "One touch" dry run test and dust cleaning
- ◆ Optional communication function design
- ◆ Easy installation and maintenance from internal side
- ◆ Clear LED status indicator
- ◆ High efficiency and reliable fan modules

Design

- ◆ Air to air heat exchange
- ◆ Door mounted
- ◆ Rated voltage at 48V
- ◆ Complete airtight design for outdoor application
- ◆ Drainage hole in the bottom
- ◆ Reduntant fan quantity design

Main feature	Unit	Specification
Dimension (H x W x D)	mm	640 x 700 x 278
Cooling capacity	W/K	200 (MAX.) *Note
Rated voltage	Vdc	48 (TYP.)
Operating voltage range	Vdc	40 ~ 60
Rated current	A	7.92 (MAX.)
Power consumption	W	380.2 (MAX.)
Operating temperature range	°C	-10 ~ +65
Internal airflow	CFM	690
External airflow	CFM	840
Weight	Kg	24.0

* Note : The cooling capacity (W/K OR W/°C) is defined as $Q / (T_I - T_A)$

Q : Heat dissipation (W) from inside of cabinet

T_I : Return temperature of internal air circuit (K OR °C)

T_A : Ambient temperature of external air circuit (K OR °C)

* Specifications are subject to change without notice.



Door Mounting type



Features

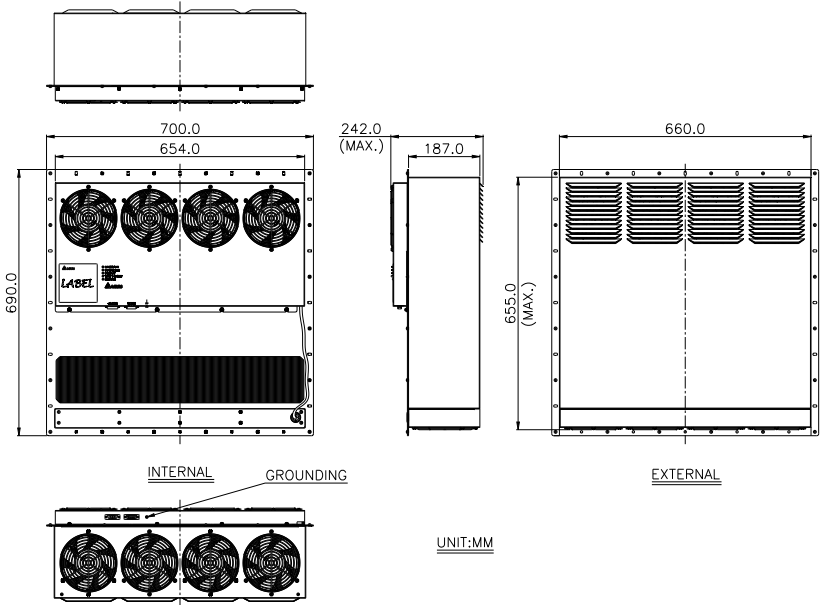
- ◆ IP55 waterproof at external side
- ◆ "One touch" dry run test and dust cleaning
- ◆ Optional communication function design
- ◆ Easy installation and maintenance from internal side
- ◆ Clear LED status indicator
- ◆ High efficiency and reliable fan modules

Design

- ◆ Air to air heat exchange
- ◆ Door mounted
- ◆ Rated voltage at 48V
- ◆ Complete airtight design for outdoor application
- ◆ Drainage hole in the bottom
- ◆ Redundant fan quantity design

HEX200PC series

Dimension drawing



Main feature	Unit	Specification
Dimension (H x W x D)	mm	690 x 700 x 242
Cooling capacity	W/K	200 (MAX.) *Note
Rated voltage	Vdc	48 (TYP.)
Operating voltage range	Vdc	40 ~ 60
Rated current	A	7.92 (MAX.)
Power consumption	W	380.2 (MAX.)
Operating temperature range	°C	-10 ~ +65
Internal airflow	CFM	610
External airflow	CFM	550
Weight	Kg	24.0

* Note : The cooling capacity (W/K OR W/°C) is defined as $Q / (T_I - T_A)$

Q : Heat dissipation (W) from inside of cabinet

T_I : Return temperature of internal air circuit (K OR °C)

T_A : Ambient temperature of external air circuit (K OR °C)

* Specifications are subject to change without notice.

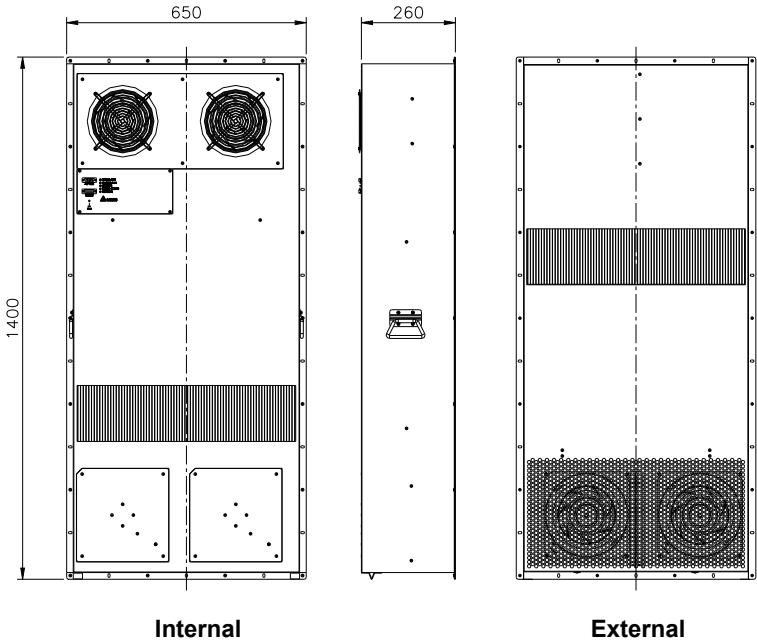


Door Mounting type



HEX260PA series

Dimension drawing



Features

- ◆ IP55 waterproof at external side
- ◆ "One touch" dry run test and dust cleaning
- ◆ Optional communication function design
- ◆ Easy installation and maintenance from internal side
- ◆ Clear LED status indicator
- ◆ High efficiency and reliable fan modules

Design

- ◆ Air to air heat exchange
- ◆ Door mounted
- ◆ Rated voltage at 48V
- ◆ Complete airtight design for outdoor application
- ◆ Drainage hole in the bottom
- ◆ Redantant fan quantity design

Main feature	Unit	Specification
Dimension (H x W x D)	mm	1400 x 650 x 260
Cooling capacity	W/K	260 (MAX.) *Note
Rated voltage	Vdc	48 (TYP.)
Operating voltage range	Vdc	40 ~ 60
Rated current	A	12.0 (MAX.)
Power consumption	W	576.0 (MAX.)
Operating temperature range	°C	-10 ~ +65
Internal airflow	CFM	940
External airflow	CFM	640
Weight	Kg	37

* Note : The cooling capacity (W/K OR W/°C) is defined as $Q / (T_1 - T_A)$

Q : Heat dissipation (W) from inside of cabinet

T₁ : Return temperature of internal air circuit (K OR °C)

T_A : Ambient temperature of external air circuit (K OR °C)