

HEAT PUMP AIR CONDITIONERS

- Σ-HNBQ SERIES VRF AIR CONDITIONING SYSTEM-

Technical Catalogue for Outdoor Unit



Models

Outdoor Units:

RAS-8.0HNBBMQ	RAS-36HNBBMQ	RAS-64HNBBMQ
RAS-10HNBBMQ	RAS-38HNBBMQ	RAS-66HNBBMQ
RAS-12HNBBMQ	RAS-40HNBBMQ	RAS-68HNBBMQ
RAS-14HNBBMQ	RAS-42HNBBMQ	RAS-70HNBBMQ
RAS-16HNBBMQ	RAS-44HNBBMQ	RAS-72HNBBMQ
RAS-18HNBBMQ	RAS-46HNBBMQ	RAS-74HNBBMQ
RAS-20HNBBMQ	RAS-48HNBBMQ	RAS-76HNBBMQ
RAS-22HNBBMQ	RAS-50HNBBMQ	RAS-78HNBBMQ
RAS-24HNBBMQ	RAS-52HNBBMQ	RAS-80HNBBMQ
RAS-26HNBBMQ	RAS-54HNBBMQ	RAS-82HNBBMQ
RAS-28HNBBMQ	RAS-56HNBBMQ	RAS-84HNBBMQ
RAS-30HNBBMQ	RAS-58HNBBMQ	RAS-86HNBBMQ
RAS-32HNBBMQ	RAS-60HNBBMQ	RAS-88HNBBMQ
RAS-34HNBBMQ	RAS-62HNBBMQ	

IMPORTANT NOTICE

- Hitachi follows the policy of continuous improvement in design and performance of products. The right to change the specifications without notice is therefore reserved.
- Hitachi cannot anticipate every possible circumstance that might involve a potential hazard.
- This heat pump air conditioner is designed for standard air conditioning only. Do not use this heat pump air conditioner for other purpose such as drying clothes, refrigerating foods or for any other cooling or heating applications.
- Do not install the unit in the following places. It may cause a fire, deformation, corrosion or failure.
 - * Places where oil (including machinery oil) is present in high quantity.
 - * Places where a lot of sulfide gas drifts such as in hot spring.
 - * Places where inflammable gas may generate or flow.
 - * Places where strong salty wind blows such as coastal regions.
 - * Places with an atmosphere of acidity or alkalinity.
- Do not install the unit in the where silicon gas drifts. If the silicon gas attaches to the surface of heat exchanger, the fin surface will repel water. As a result, drain water splashes outside of the drain pan and runs inside the electrical box. It may cause, water leakage or electrical devices failure.
- Pay attention to the following points when the unit is installed in a hospital or other facilities where with medical and electrical equipments generating electromagnetic waves.
 - * Do not install the unit in the place where the electromagnetic wave is directly radiated to the electrical box, remote control cable or remote control switch.
 - * Install the unit at least 3 meters away from devices generating electromagnetic waves such as a radio.
- Do not install the unit in places where the exhaust air directly faces the animals and plants. It could adversely affect the animals and plants.
- The installation personal and system specialist shall secure against leakage according to local regulations or standards.
- No part of this manual may be reproduced without written permission.
- It is assumed that this heat pump air conditioner will be operated and serviced by English speaking people. If this is not the case, the customer should add safety, caution and operating signs in the native language.
- If you have any questions, contact your distributor or Hitachi dealer.
- This manual gives a common description and information for this heat pump air conditioner which you operate as well for other models.

- This heat pump air conditioner has been designed for the following temperatures. Operate the heat pump air conditioner within this range.
- This system can provide Heat Pump System:

Temperature		(°C)	
Range		Maximum	Minimum
Cooling Operation	Indoor	23 WB	15 WB
	Outdoor	52 DB (*)	-5 DB
Heating Operation	Indoor	27 DB	15 DB
	Outdoor	15 WB	-20 WB

DB: Dry Bulb, WB: Wet Bulb

(*) **Notes:**

1. Cooling operation at maximum 52°C DB (48°C~52°C interval operation) should be available, only if the outdoor air inlet temperature increase temporarily according to the installation condition.
2. If the units are install in a place where ambient temperature exceed 48°C continuously, the combination ratio must be lower 100%, operation indoor units capacity must be lower than outdoor unit capacity .
3. The cooling capacity deteriorates at high ambient temperature. Select a larger capacity outdoor unit compatible to building heat load.
4. The appropriate quantity (100%) of refrigerant must be charged. Excessive charging of refrigerant is forbidden and may cause alarm.
5. Avoided installing the units in places affected by direct sunlight, reflection and short circuit.
There may be the possibility to activate protection control and alarm system if install the units to inappropriate place. Also the life time of the products and parts must be considerably shortened.
6. Periodic maintenance (1/certain month) must be done to the heat exchanger fin to avoid adhesion of dirt and clogging of sand to the outdoor unit heat exchanger.
7. Refer to the technical catalogue for detail.

SAFETY SUMMARY

< Signal Words >

- Signal words are used to identify levels of hazard seriousness.
Definitions for identifying hazard levels are provided below with their respective signal words.



: DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.



: WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.



: CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



: NOTICE is used to address practices not related to personal injury.

NOTE

: **NOTE** is useful information for operation and/or maintenance.

SAFETY SUMMARY



- Do not perform installation work, refrigerant piping work, drain pump, drain piping and electrical wiring connection without referring to our installation manual. If the instructions are not followed, it may result in water leakage, electric shock or a fire.
- Use the specified non-flammable refrigerant (R410A) to charge the outdoor unit in the refrigerant cycle. Do not charge material other than R410A into the unit such as hydrocarbon refrigerants (propane or etc.), oxygen, flammable gases (acetylene or etc.) or poisonous gases when installing, maintaining and moving. These flammables are extremely dangerous and may cause explosion, fire, and injury.
- Do not pour water into the indoor or outdoor unit. These products are equipped with electrical parts. If poured, it will cause serious electrical shock.
- Do not open the service cover or access panel of the indoor or outdoor units without turning OFF the main power supply.
- Do not touch or adjust safety devices inside the indoor unit or outdoor units. If these devices are touched or readjusted, it may cause serious accident.
- Refrigerant leakage can cause difficulty with breathing due to insufficient air. Turn OFF the main switch, extinguish any naked flames and contact your service contractor, if refrigerant leakage occurs.
- Make sure that the refrigerant leakage test is performed.
Refrigerant (Fluorocarbon) for this unit is incombustible, non-toxic and odorless.
However if the refrigerant leaked and come in contact with fire, toxic gas will generate.
Also because the fluorocarbon is heavier than air, the floor surface will be filled with it, which could cause suffocation.
- The installation personal and system specialist shall secure safety against refrigerant leakage according to local regulations or standards.
- Use an ELB (Earth Leakage Breaker).
In the event of fault, there is a danger of electric shock or fire if it is not used.
- Do not install the outdoor unit where there is high level of oil mist, flammable gases, salty air or harmful gases such as sulfur.
- For installation, firmly connect the refrigerant pipe before the compressor starts operating.
For maintenance, relocation and disposal, remove the refrigerant pipe after the compressor stops.
- Do not short-circuit the protection device such as a pressure switch when operating.
It may cause fire and explosion.

SAFETY SUMMARY

WARNING

- Do not use any sprays such as insecticide, lacquer, hair spray or other flammable gases within approximately one (1) meter from the system.
- If circuit breaker or fuse is often activated, stop the system and contact your service contractor.
- Check that the ground wire is securely connected. If the unit is not correctly grounded, it may cause electric shock. Do not connect the ground wiring to gas piping, water piping, lighting conductor or ground wiring for telephone.
- Connect a fuse of specified capacity.
- Before performing any brazing work, check to ensure that there is no flammable material around. When using refrigerant, be sure to wear leather gloves to prevent cold injuries.
- Protect the wires, electrical parts, etc. from rats or other small animals. If not protected, rats may gnaw at unprotected parts and may lead to fire.
- Fix the cables securely. External forces on the terminals could lead to fire.
- Provide a sufficiently strong foundation. If not, the unit may fall down and lead to injuries.
- Do not install the unit in a place where oil, vapor, organic solvent and corrosive gas (ammonia, sulfur compound and acid) may be present in substantial quantities. It may cause refrigerant leakage due to corrosion, electrical shock, deteriorated performance and breakage.
- Perform electrical work according to Installation Manual and all the relevant regulation and standards. If the instructions are not followed, an electrical shock and fire may occur due to insufficient capacity and inadequate performance.
- Use specified cables between units and choose the cables correctly. If not, an electrical shock or fire may occur.
- Ensure that the wiring terminals are tightly secured with the specified torques. If not, fire or electrical shock may occur at the terminal connection.

CAUTION

- Do not step or put any material on the product.
- Do not put any foreign material on the unit or inside the unit.
- Provide a strong and correct foundation so that:
 - a. The outdoor unit is not on an inclined surface.
 - b. Abnormal sound does not occur.
 - c. The outdoor unit will not fall down due to a strong wind or earthquake.

SAFETY SUMMARY

NOTICE

- Do not install the indoor unit, outdoor unit, remote control switch and cable within approximately 3 meters from strong electromagnetic wave radiators such as medical equipment.
- Supply electrical power to the system to energize the oil heater for 12 hours before startup after a long shutdown.
- Make sure that the outdoor unit is not covered with snow or ice, before operation.
- In some cases, the packaged air conditioner may not operate normally under the following cases.
 - * In case that electrical power for the packaged air conditioner is supplied from the same power transformer as of the device*.
 - * In case that the power source wires of the device* and the packaged air conditioner are located close to each other.

Device*: (Ex) Lift, container crane, rectifier for electric railway, inverter power device, arc furnace, electric furnace, large-sized induction motor and large-sized switch.
It consumes a large quantity of electrical power.

Regarding the cases mentioned above, surge voltage may be inducted in the power supply wiring for the packaged air conditioner due to a rapid change in power consumption of the device and an activation of switch.

Therefore, check the field regulations and standards before performing electrical work in order to protect the power supply of the packaged air conditioner.

NOTE:

- It is recommended to ventilate the room every 3 to 4 hours.
- The heating capacity of the heat pump unit decreases according to the outdoor air temperature. Therefore, it is recommended that auxiliary heating equipment be used in the field when the unit is installed in a low temperature region.

- TABLE OF CONTENTS -

< Technical Data >

1. Features	1-11
2. General Data	1-26
3. Component Data	1-40
4. Dimensional Data	1-49
5. Selection Data	1-56
5.1 Capacity Characteristic Curve	1-56
5.2 Correction Factor According to Piping Length	1-58
5.3 Correction Factor According to Defrosting Operation	1-63
6. Electrical Data	1-64
7. Sound Data	1-65
8. Working Range	1-72
9. Optional Accessories	1-73
9.1. Piping Connection Kit	1-73
9.2. Multi-Kit	1-74
9.3. Drain Pipe Joint	1-74
10. Control System	1-75
10.1 Refrigeration Cycle	1-75
10.2 Control System	1-79
10.3 Standard Operation Sequence	1-90
10.4 Safety and Control Device Setting	1-106
11. Miscellaneous Notes	1-110
12. Standard Specifications	1-111
13. Caution for Refrigerant Leakage	1-112

< Selection Data >

1. Cooling.....	2-2
RAS-8.0HNBBMQ	2-2
RAS-10HNBBMQ	2-2
RAS-12HNBBMQ	2-3
RAS-14HNBBMQ	2-3
RAS-16HNBBMQ	2-4
RAS-18HNBBMQ	2-4
RAS-20HNBBMQ	2-5
RAS-22HNBBMQ	2-5
RAS-24HNBBMQ	2-6
RAS-26HNBBMQ	2-6
RAS-28HNBBMQ	2-7
RAS-30HNBBMQ	2-7
RAS-32HNBBMQ	2-8
RAS-34HNBBMQ	2-8
RAS-36HNBBMQ	2-9
RAS-38HNBBMQ	2-9
RAS-40HNBBMQ	2-10
RAS-42HNBBMQ	2-10
RAS-44HNBBMQ	2-11
RAS-46HNBBMQ	2-11
RAS-48HNBBMQ	2-12
RAS-50HNBBMQ	2-12
RAS-52HNBBMQ	2-13
RAS-54HNBBMQ	2-13
RAS-56HNBBMQ	2-14
RAS-58HNBBMQ	2-14
RAS-60HNBBMQ	2-15
RAS-62HNBBMQ	2-15
RAS-64HNBBMQ	2-16
RAS-66HNBBMQ	2-16
RAS-68HNBBMQ	2-17
RAS-70HNBBMQ	2-17
RAS-72HNBBMQ	2-18
RAS-74HNBBMQ	2-18
RAS-76HNBBMQ	2-19
RAS-78HNBBMQ	2-19
RAS-80HNBBMQ	2-20
RAS-82HNBBMQ	2-20
RAS-84HNBBMQ	2-21
RAS-86HNBBMQ	2-21
RAS-88HNBBMQ	2-22

2. Heating	2-23
RAS-8.0HNBBMQ	2-23
RAS-10HNBBMQ	2-23
RAS-12HNBBMQ	2-24
RAS-14HNBBMQ	2-24
RAS-16HNBBMQ	2-25
RAS-18HNBBMQ	2-25
RAS-20HNBBMQ	2-26
RAS-22HNBBMQ	2-26
RAS-24HNBBMQ	2-27
RAS-26HNBBMQ	2-27
RAS-28HNBBMQ	2-28
RAS-30HNBBMQ	2-28
RAS-32HNBBMQ	2-29
RAS-34HNBBMQ	2-29
RAS-36HNBBMQ	2-30
RAS-38HNBBMQ	2-30
RAS-40HNBBMQ	2-31
RAS-42HNBBMQ	2-31
RAS-44HNBBMQ	2-32
RAS-46HNBBMQ	2-32
RAS-48HNBBMQ	2-33
RAS-50HNBBMQ	2-33
RAS-52HNBBMQ	2-34
RAS-54HNBBMQ	2-34
RAS-56HNBBMQ	2-35
RAS-58HNBBMQ	2-35
RAS-60HNBBMQ	2-36
RAS-62HNBBMQ	2-36
RAS-64HNBBMQ	2-37
RAS-66HNBBMQ	2-37
RAS-68HNBBMQ	2-38
RAS-70HNBBMQ	2-38
RAS-72HNBBMQ	2-39
RAS-74HNBBMQ	2-39
RAS-76HNBBMQ	2-40
RAS-78HNBBMQ	2-40
RAS-80HNBBMQ	2-41
RAS-82HNBBMQ	2-41
RAS-84HNBBMQ	2-42
RAS-86HNBBMQ	2-42
RAS-88HNBBMQ	2-43
3. Part Load Performance.....	2-44

Technical Data

1. Features

New Σ-HNBQ Series VRF Air Conditioning System

Hitachi proudly introduces the New Σ-HNBQ Series VRF Air Conditioning System, the highly-efficient and reliable air-conditioning system. Recently, increased numbers of buildings are requiring "Intelligent" facilities - communication networks, office automation, and a comfortable environment. Particularly, comfortable space is required all the day through out the year in office buildings.

This multi-split system air conditioner, Σ-HNBQ Series can meet these requirements. The proven combination of the scroll compressor and the inverter provides the best air conditioning for small/medium office buildings.

■ **Σ-HNBQ Series VRF Air Conditioning System**

Hitachi has developed the VRF Air Conditioning System with its customers in mind always.

This system, which is unique in the world, allows the interconnection of the same indoor units for all the Hitachi systems.

This system provides the end user with greater flexibility for installation, which means that the air-conditioning systems will integrate better with the whole of the installations that make up the building.

■ **Wide Product Range of Outdoor Units**

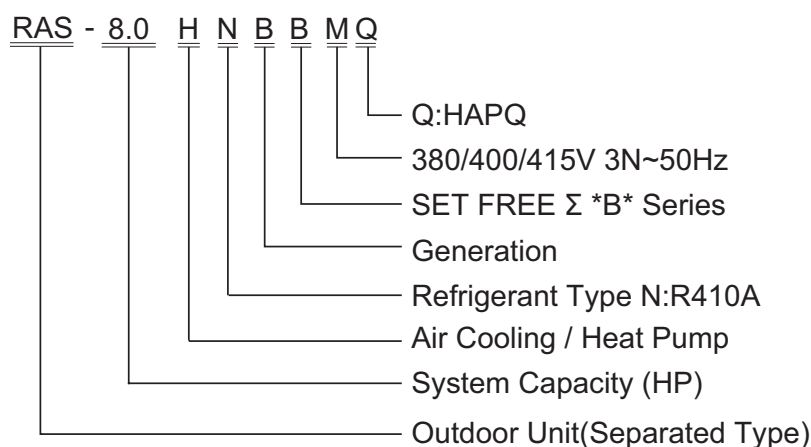
Space, structure and necessary functions, in line with evolution in building design, the requirements for air conditioning have also diversified.

New Σ-HNBQ series offers 8 module outdoor units.

Because the most suitable unit can be selected from a wide range of models for the type VRF, you can create a custom air conditioning environment to satisfy your specific building conditions.

■ **Line-Up**

This outdoor unit series "HNBQM" can increase the capacity from 24 to 88HP by combining maximum 4 outdoor units from 8 to 22HP.



Note:

380/400/415V 3N~50Hz must connect with 220/230/240V indoor unit.

<Base Module>

HP	8	10	12	14	16
Model	RAS-8.0HNBBMQ	RAS-10HNBBMQ	RAS-12HNBBMQ	RAS-14HNBBMQ	RAS-16HNBBMQ

HP	18	20	22
Model	RAS-18HNBBMQ	RAS-20HNBBMQ	RAS-22HNBBMQ

<Combination Module> ※

HP	24	26	28	30	32
Model	RAS-24HNBBMQ	RAS-26HNBBMQ	RAS-28HNBBMQ	RAS-30HNBBMQ	RAS-32HNBBMQ
Combination	RAS-12HNBBMQ	RAS-12HNBBMQ	RAS-14HNBBMQ	RAS-14HNBBMQ	RAS-16HNBBMQ
	RAS-12HNBBMQ	RAS-14HNBBMQ	RAS-14HNBBMQ	RAS-16HNBBMQ	RAS-16HNBBMQ

HP	34	36	38	40
Model	RAS-34HNBBMQ	RAS-36HNBBMQ	RAS-38HNBBMQ	RAS-40HNBBMQ
Combination	RAS-16HNBBMQ	RAS-18HNBBMQ	RAS-18HNBBMQ	RAS-20HNBBMQ
	RAS-18HNBBMQ	RAS-18HNBBMQ	RAS-20HNBBMQ	RAS-20HNBBMQ

HP	42	44	46	48	50
Model	RAS-42HNBBMQ	RAS-44HNBBMQ	RAS-46HNBBMQ	RAS-48HNBBMQ	RAS-50HNBBMQ
Combination	RAS-14HNBBMQ	RAS-14HNBBMQ	RAS-14HNBBMQ	RAS-16HNBBMQ	RAS-16HNBBMQ
	RAS-14HNBBMQ	RAS-14HNBBMQ	RAS-16HNBBMQ	RAS-16HNBBMQ	RAS-16HNBBMQ
	RAS-14HNBBMQ	RAS-16HNBBMQ	RAS-16HNBBMQ	RAS-16HNBBMQ	RAS-18HNBBMQ

HP	52	54	56	58	60
Model	RAS-52HNBBMQ	RAS-54HNBBMQ	RAS-56HNBBMQ	RAS-58HNBBMQ	RAS-60HNBBMQ
Combination	RAS-16HNBBMQ	RAS-18HNBBMQ	RAS-18HNBBMQ	RAS-18HNBBMQ	RAS-20HNBBMQ
	RAS-18HNBBMQ	RAS-18HNBBMQ	RAS-18HNBBMQ	RAS-20HNBBMQ	RAS-20HNBBMQ
	RAS-18HNBBMQ	RAS-18HNBBMQ	RAS-20HNBBMQ	RAS-20HNBBMQ	RAS-20HNBBMQ

HP	62	64	66	68	70
Model	RAS-62HNBBMQ	RAS-64HNBBMQ	RAS-66HNBBMQ	RAS-68HNBBMQ	RAS-70HNBBMQ
Combination	RAS-14HNBBMQ	RAS-14HNBBMQ	RAS-14HNBBMQ	RAS-14HNBBMQ	RAS-16HNBBMQ
	RAS-14HNBBMQ	RAS-14HNBBMQ	RAS-16HNBBMQ	RAS-18HNBBMQ	RAS-18HNBBMQ
	RAS-16HNBBMQ	RAS-18HNBBMQ	RAS-18HNBBMQ	RAS-18HNBBMQ	RAS-18HNBBMQ
	RAS-18HNBBMQ	RAS-18HNBBMQ	RAS-18HNBBMQ	RAS-18HNBBMQ	RAS-18HNBBMQ

HP	72	74	76	78	80
Model	RAS-72HNBBMQ	RAS-74HNBBMQ	RAS-76HNBBMQ	RAS-78HNBBMQ	RAS-80HNBBMQ
Combination	RAS-18HNBBMQ	RAS-18HNBBMQ	RAS-18HNBBMQ	RAS-18HNBBMQ	RAS-20HNBBMQ
	RAS-18HNBBMQ	RAS-18HNBBMQ	RAS-18HNBBMQ	RAS-20HNBBMQ	RAS-20HNBBMQ
	RAS-18HNBBMQ	RAS-18HNBBMQ	RAS-20HNBBMQ	RAS-20HNBBMQ	RAS-20HNBBMQ
	RAS-18HNBBMQ	RAS-20HNBBMQ	RAS-20HNBBMQ	RAS-20HNBBMQ	RAS-20HNBBMQ

HP	82	84	86	88
Model	RAS-82HNBBMQ	RAS-84HNBBMQ	RAS-86HNBBMQ	RAS-88HNBBMQ
Combination	RAS-20HNBBMQ	RAS-20HNBBMQ	RAS-20HNBBMQ	RAS-22HNBBMQ
	RAS-20HNBBMQ	RAS-20HNBBMQ	RAS-22HNBBMQ	RAS-22HNBBMQ
	RAS-20HNBBMQ	RAS-22HNBBMQ	RAS-22HNBBMQ	RAS-22HNBBMQ
	RAS-22HNBBMQ	RAS-22HNBBMQ	RAS-22HNBBMQ	RAS-22HNBBMQ

※: The outdoor units from 24 to 88HP consists of the combination of 2 to 4 base units.
The combinations except those in the above table are not available.

Base Unit Outer Dimension:

RAS-8.0 - 10HNBBMQ (8-10HP)
H1725 x W958 x D782 mm



RAS-12 - 16HNBBMQ (12-16HP)
H1725 x W1218 x D782 mm



RAS-18 - 22HNBBMQ (18-22HP)
H1725 x W1608 x D782 mm



Combination of Base Units

RAS-24 - 32HNBBMQ (24-32HP)



RAS-34HNBBMQ (34HP)



RAS-36 - 40HNBBMQ (36-40HP)



RAS-42 - 48HNBBMQ (42-48HP)



RAS-50HNBBMQ (50HP)



FEATURES

RAS-52HNBBMQ (52HP)



RAS-54 - 60HNBBMQ (54-60HP)



RAS-62HNBBMQ (62HP)



RAS-64 - 66HNBBMQ (64-66HP)



RAS-68 - 70HNBBMQ (68-70HP)



RAS-72 - 88HNBBMQ (72-88HP)



Able to Connect a Set of Outdoor Unit with up to 64 Indoor Units

- The number of indoor units connectable to Σ-HNBQ series VRF Air Conditioning System series outdoor unit is as follows.
Comply with the following conditions when installing the unit.
- A maximum total capacity of 140% for HNBBMQ and a minimum total capacity of 50% against the nominal outdoor unit capacity can be obtained by combination of the indoor units.

< HNBBMQ >

Outdoor Unit	Minimum Unit Operating Capacity (100W)	Maximum Quantity of Indoor Units That Can be Connected	Recommended Number of Indoor Units	Combined Capacity
RAS-8.0HNBBMQ	18	14	10	50%~140%
RAS-10HNBBMQ		17	10	
RAS-12HNBBMQ		21	16	
RAS-14HNBBMQ		24	16	
RAS-16HNBBMQ		28	16	
RAS-18HNBBMQ		31	18	
RAS-20HNBBMQ		35	20	
RAS-22HNBBMQ		38	26	
RAS-24HNBBMQ		42	26	
RAS-26HNBBMQ		45	32	
RAS-28HNBBMQ		49	32	
RAS-30HNBBMQ		52	32	
RAS-32HNBBMQ		56	32	
RAS-34HNBBMQ		59	32	
RAS-36HNBBMQ		63	38	
RAS-38HNBBMQ		64	38	
RAS-40HNBBMQ		64	38	
RAS-42HNBBMQ		64	38	
RAS-44HNBBMQ		64	38	
RAS-46HNBBMQ		64	38	
RAS-48HNBBMQ		64	38	
RAS-50HNBBMQ		64	38	
RAS-52HNBBMQ		64	38	
RAS-54HNBBMQ		64	38	
RAS-56HNBBMQ		64	38	
RAS-58HNBBMQ		64	38	
RAS-60HNBBMQ		64	38	
RAS-62HNBBMQ		64	38	
RAS-64HNBBMQ		64	38	
RAS-66HNBBMQ		64	38	
RAS-68HNBBMQ		64	38	
RAS-70HNBBMQ		64	38	
RAS-72HNBBMQ		64	38	
RAS-74HNBBMQ		64	38	
RAS-76HNBBMQ		64	38	
RAS-78HNBBMQ		64	38	
RAS-80HNBBMQ		64	38	
RAS-82HNBBMQ		64	38	
RAS-84HNBBMQ		64	38	
RAS-86HNBBMQ		64	38	
RAS-88HNBBMQ		64	38	

Notes:

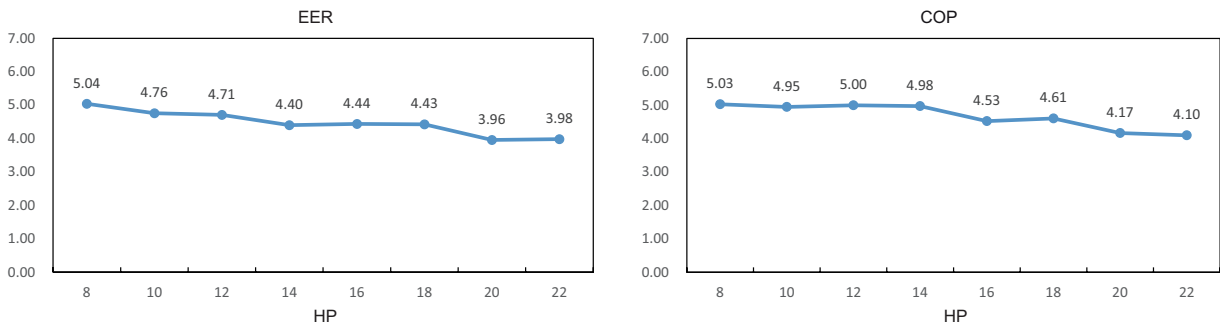
1. In a system, where all the indoor units are operating, the capacity of the total indoor units should be less than or equal to the combined capacity of the outdoor unit. Otherwise, overloaded operation may occur in case of harsh working conditions or in narrow operation range.
2. For systems where all the indoor units are not operating at the same time, the total capacity of the indoor units can be allowed to be up to 140% of the total capacity of the outdoor unit.
3. If the system is used in cold areas (where ambient temperature below -10°C) or high heat load environment, total capacity of the indoor units should be less than the total capacity of outdoor unit, and the total pipe length should be less than 300m.
4. Indoor unit models with a capacity range of 18~36 have much more air flow per unit cooling capacity than 40 and above models of the unit. If the system uses more indoor units with model of 18~36, user can feel cold wind blow. At this time, the recommended number of connectable indoor units is a benchmark.
5. For air conditioner with outdoor fresh air handling, the number of indoor units must be within the recommended number of connectable indoor units.
6. If the indoor unit capacity exceeds 100%, but remains less than 140%, please refer to the Technical Bulletin for details.
7. If the temperature in the installation place of the outdoor unit continuously exceeds 48°C , the total running capacity of the indoor units should be less than the total capacity of the outdoor units.

High Efficiency and Energy Saving

(1) High EER / COP Design

The new Σ -HNBQ series has achieved high EER/COP and considerable energy saving by improving the performance of compressor and optimizing refrigerant cycle system.

The graphs below show the EER/COP of single units:



Note:

The above values indicate the EER/COP per outdoor unit when it is combined with test indoor units.

< Performance Specifications >

HP		8	10	12	14	16	18	20	22	24	26	28
Cooling	Capacity (kW)	22.4	28.0	33.5	40.0	45.0	50.0	56.0	61.5	67.0	73.5	80.0
	Power Input(kW)	4.44	5.88	7.11	9.09	10.14	11.29	14.14	15.45	14.22	16.20	18.18
	EER	5.04	4.76	4.71	4.40	4.44	4.43	3.96	3.98	4.71	4.54	4.40
Heating	Capacity (kW)	25.0	31.5	37.5	45.0	50.0	56.0	63.0	69.0	75.0	82.5	90.0
	Power Input(kW)	4.97	6.36	7.50	9.04	11.04	12.15	15.11	16.83	15.00	16.54	18.08
	COP	5.03	4.95	5.00	4.98	4.53	4.61	4.17	4.10	5.00	4.99	4.98

HP		30	32	34	36	38	40	42	44	46	48	50
Cooling	Capacity (kW)	85.0	90.0	95.0	100.0	106.0	112.0	120.0	125.0	130.0	135.0	140.0
	Power Input(kW)	19.23	20.28	21.43	22.58	25.43	28.28	27.27	28.32	29.37	30.42	31.57
	EER	4.42	4.44	4.43	4.43	4.17	3.96	4.40	4.41	4.43	4.44	4.43
Heating	Capacity (kW)	95.0	100.0	106.0	112.0	119.0	126.0	135.0	140.0	145.0	150.0	156.0
	Power Input(kW)	20.08	22.08	23.19	24.30	27.26	30.22	27.12	29.12	31.12	33.12	34.23
	COP	4.73	4.53	4.57	4.61	4.37	4.17	4.98	4.81	4.66	4.53	4.56

HP		52	54	56	58	60	62	64	66	68	70	72
Cooling	Capacity (kW)	145.0	150.0	156.0	162.0	168.0	175.0	180.0	185.0	190.0	195.0	200.0
	Power Input(kW)	32.72	33.87	36.72	39.57	42.42	39.61	40.76	41.81	42.86	44.01	45.16
	EER	4.43	4.43	4.25	4.09	3.96	4.42	4.42	4.42	4.43	4.43	4.43
Heating	Capacity (kW)	162.0	168.0	175.0	182.0	189.0	196.0	202.0	207.0	213.0	218.0	224.0
	Power Input(kW)	35.34	36.45	39.41	42.37	45.33	41.27	42.38	44.38	46.38	47.49	48.60
	COP	4.58	4.61	4.44	4.30	4.17	4.75	4.77	4.66	4.59	4.59	4.61

HP		74	76	78	80	82	84	86	88
Cooling	Capacity (kW)	206.0	212.0	218.0	224.0	229.5	235.0	240.5	246.0
	Power Input(kW)	48.01	50.86	53.71	56.56	57.87	59.18	60.49	61.80
	EER	4.29	4.17	4.06	3.96	3.97	3.97	3.98	3.98
Heating	Capacity (kW)	231.0	238.0	245.0	252.0	258.0	264.0	270.0	276.0
	Power Input(kW)	51.56	54.52	57.48	60.44	62.16	63.88	65.60	67.32
	COP	4.48	4.37	4.26	4.17	4.15	4.13	4.12	4.10

Notes

1. The cooling and heating performances are the values when combined with our specified indoor units.

Piping Length: 7.5 Meters

Piping Lift: 0 Meter

Cooling Operation Conditions:

Heating Operation Conditions:

Indoor Air Inlet Temperature: 27°C DB 19°C WB

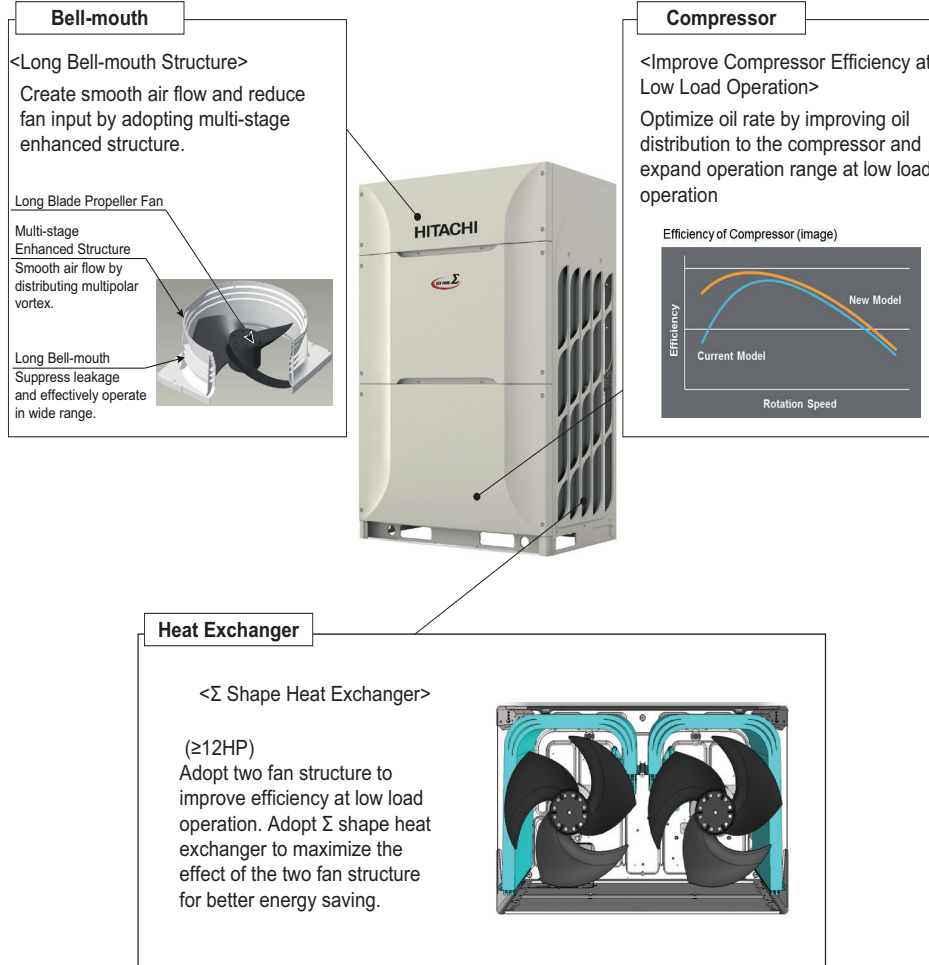
Indoor Air Inlet Temperature: 20°C DB

Outdoor Air Inlet Temperature: 35°C DB

Outdoor Air Inlet Temperature: 7°C DB 6 °C WB

2. The above values indicate the EER/COP per outdoor unit when it is combined with test indoor units.

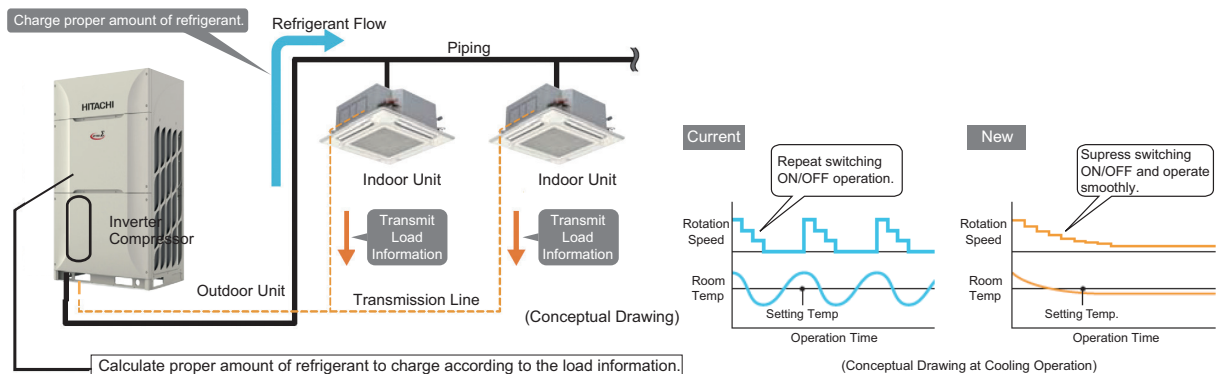
(2) Energy Saving Technology



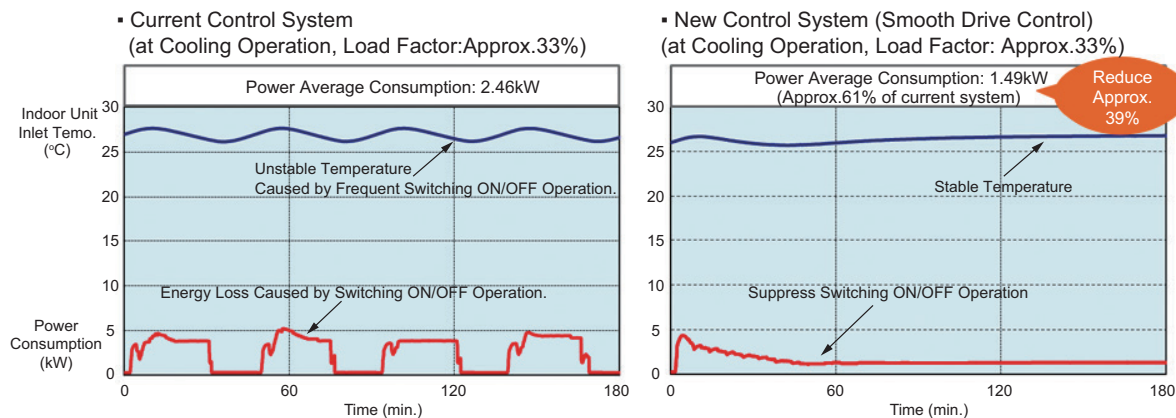
Operation Control

- Smooth Drive Control System:
Calculate the quantity of refrigerant to be charged based on the load information from the indoor units. Control inverter compressor rotation speed and charge proper quantity of refrigerant to indoor unit at each loading condition. Suppress compressor switching ON/OFF at low load operation for better energy efficiency with smooth operation.

◆ Concept of Smooth Drive Control

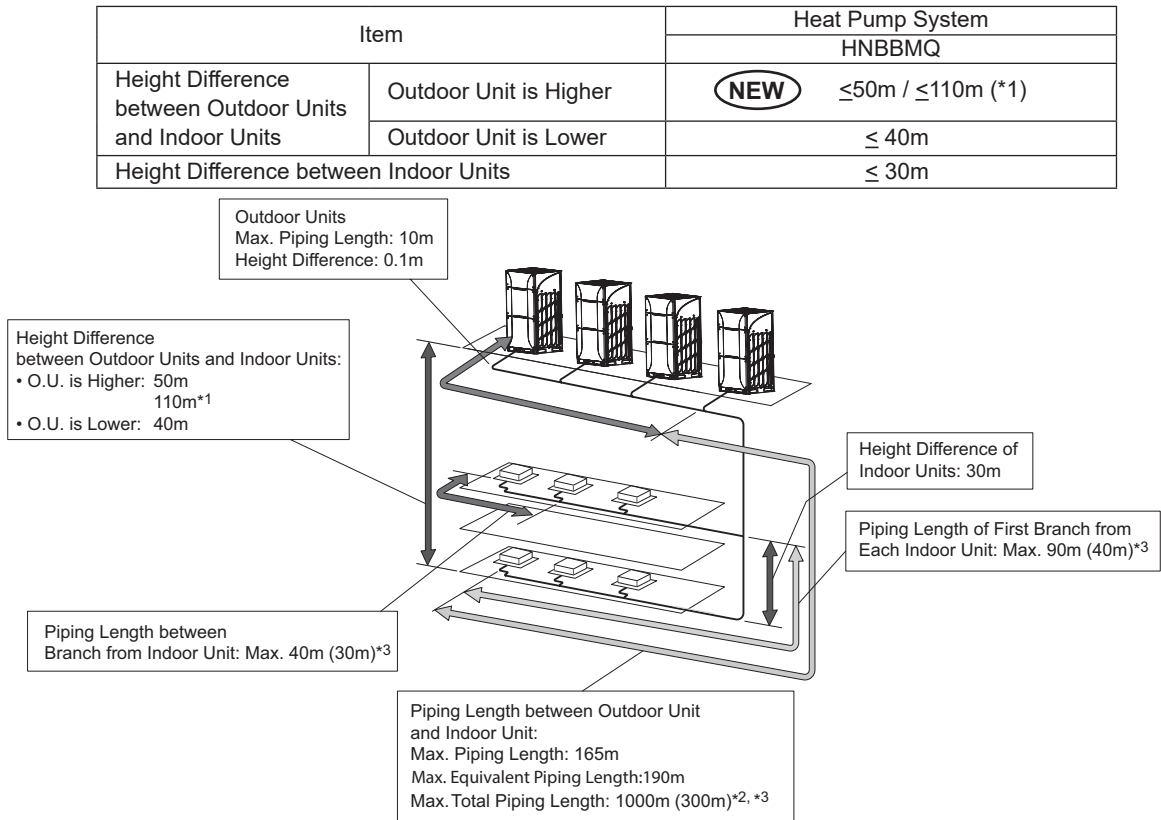


- Verification Result of Energy Saving Effect from Smooth Drive Control**
 The verification result of energy saving effect at part load testing chamber is shown below. The “Smooth Drive Control System” suppresses the compressor switching ON/OFF operation and keeps room temperature stable. The reduction of power consumption has been verified.



Flexibility of Facility Design

- Improvement of Piping Installation**
 Height difference between the outdoor units and indoor units and height difference between the indoor units have been changed as shown below.



Notes:

- *1: When the height difference between indoor and outdoor units is greater than 50m (8-48HP: up to 110m, 50-88HP:up to 90m), contact your local dealer or distributor.
- *2: Allowable total piping length may not exceed 1000m because of the limitation of maximum additional refrigerant amount as described in the following table. make sure that the additional refrigerant volume does not exceed the maximum additional quantity as shown below.

HP	8 to 10	12 to 22	24 to 60	62 to 80	82 to 88
Max. Additional Refrigerant Charge (kg)	36	40	63	73	93

If the system is used in cold areas (where ambient temperature below -10°C) or in high heat load environment, total capacity of the indoor units should be less than the total capacity of outdoor unit, and the total pipe length should be less than 300m.

- *3: If the piping length exceeds the figure in () *, the number of connectable indoor units should be less than recommended number.

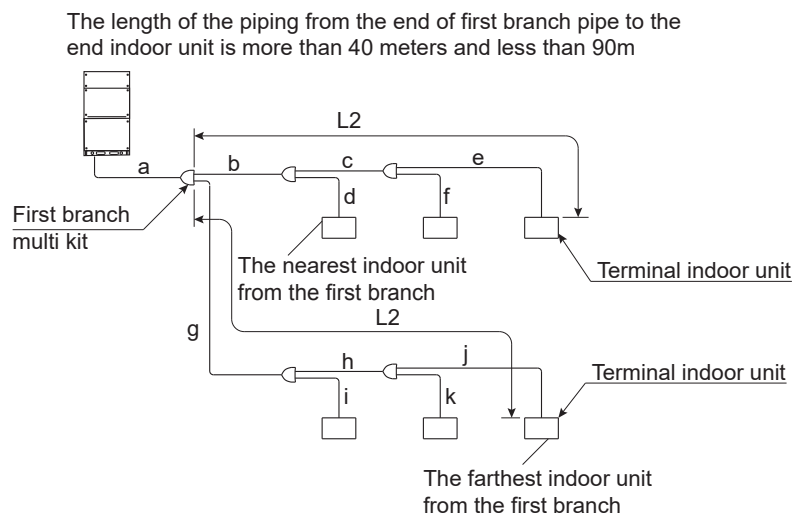
■ Limitation of piping branch

If the length of the pipe from the first branch pipe to the farthest indoor unit is more than 40m, follow the following conditions during installation:

Example 1:

In case the piping length L2 from 1st branch pipe to the farthest indoor unit exceeds 40m, perform the construction by following the conditions mentioned below:

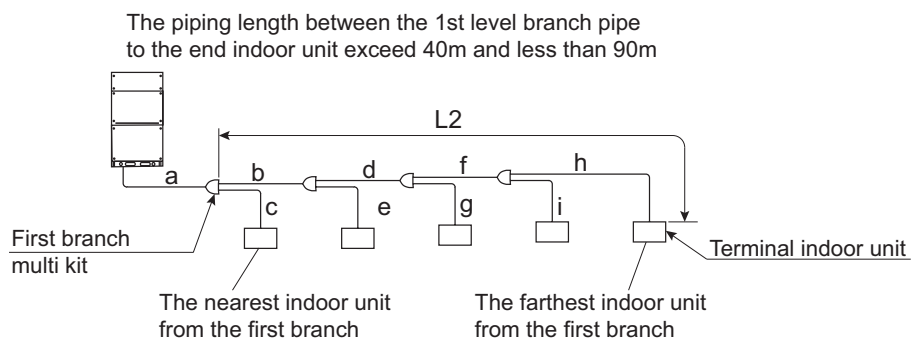
- (1) When the piping distance L2 exceeds 40m, the b, c or g, h and the piping diameters of the gas and liquid side are all required to be enlarged by one gauge using an adapter. If you increase the diameter and a diameter is less than b and g, then increase a diameter to be same as b and g.
- (2) Piping length difference between piping from farthest indoor unit to the first branch and piping from nearest indoor unit to the first branch should be less than 40m.
 $(g + h + j) - (b + d) \leq 40m$.



Example 2:

The piping length from the first branch of the main sub-manifold to the end indoor unit piping length of more than 40m and less than 90m:

- (1) When the piping distance L2 exceeds 40m, the pipe diameter of the b, d, f gas and the liquid side is enlarged by one gauge using an adapter. By increasing the diameter, if a diameter is less than b, then increase a to match with b.



Wide Range of Indoor Unit Connection

The number of connectable indoor units with Σ-HNBQ series outdoor unit is as follows.

Comply with the following condition during installation.

Maximum Number of Connectable Indoor Units and Range of Combination Capacity

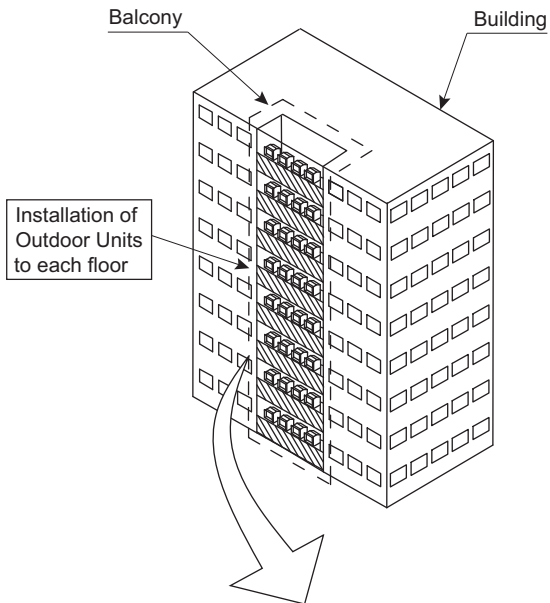
Outdoor Unit Capacity (HP)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38 - 88
Range of Combination Capacity	50% to 140%															
Connectable Indoor Units Q'ty	14	17	21	24	28	31	35	38	42	45	49	52	56	59	63	64
Recommended Connectable Indoor Units Q'ty	10		16			18	20	26			32				38	

Notes:

1. The connectable indoor unit capacity ratio can be calculated as follows:
Connectable Indoor Unit Capacity Ratio = Total Indoor Unit Capacity / Total Outdoor Unit Capacity
2. For the system under which all the indoor units are supposed to operate simultaneously, the total indoor unit capacity should be less than outdoor unit capacity. Otherwise, it may cause a decrease in operating performance and operating limit due to overloaded operation.
3. For the system under which all the indoor units are not supposed to operate simultaneously, the total indoor unit capacity is available up to 140% against the outdoor unit capacity.
4. When operating the outdoor unit in cold areas with temperatures of -10°C, or under the high heating load conditions, the total indoor unit capacity should be less than 100% against the outdoor unit capacity and the total piping length should be less than 300m.
5. Indoor unit of model with the type of capacity range of 18~36 have much more air flow per unit cooling capacity than 40 and above models of the unit. If the system uses more indoor units with model of 18~36, user can feel of cold wind blow. At this time, refer to the recommended number of connectable indoor units.
6. For air conditioner with outdoor fresh air handling, the number of indoor units must be within the recommended number of connectable indoor units.
7. If the indoor unit capacity exceeds 100%, but less than 140%, please refer to the Technical Bulletin for details.

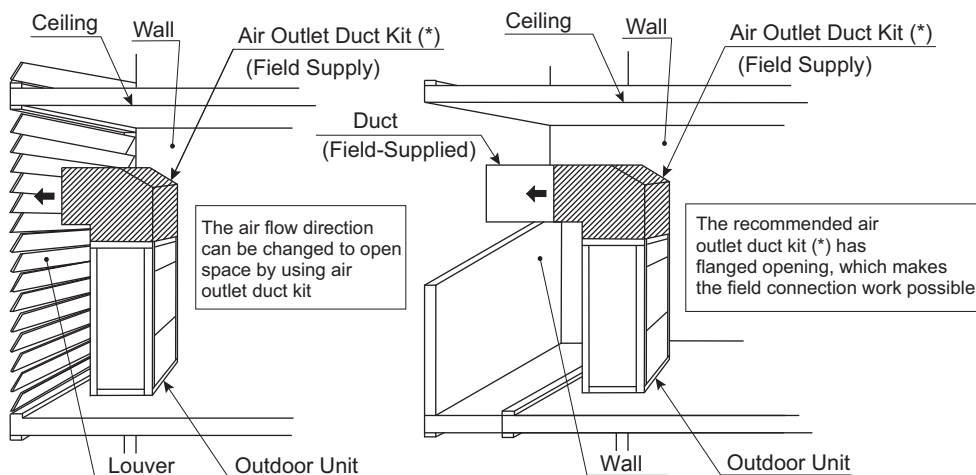
3. Installation Flexibility for Expand External Static Pressure

For installation spaces such as the balcony or floor where external static pressure such as a louver or a duct is required to be secured, the 3 steps external static pressure (80Pa, 60Pa and 30Pa) by the dip switch setting (DSW8) is adopted.



Setting for External Static Pressure	DSW8		
	#1	#2	#3
0Pa	OFF	OFF	OFF
Max.30Pa	ON	OFF	OFF
Max.60Pa	OFF	ON	OFF
Max.80Pa	ON	ON	OFF

Case where the Open Space is Louver Case where the Open Space is Wall

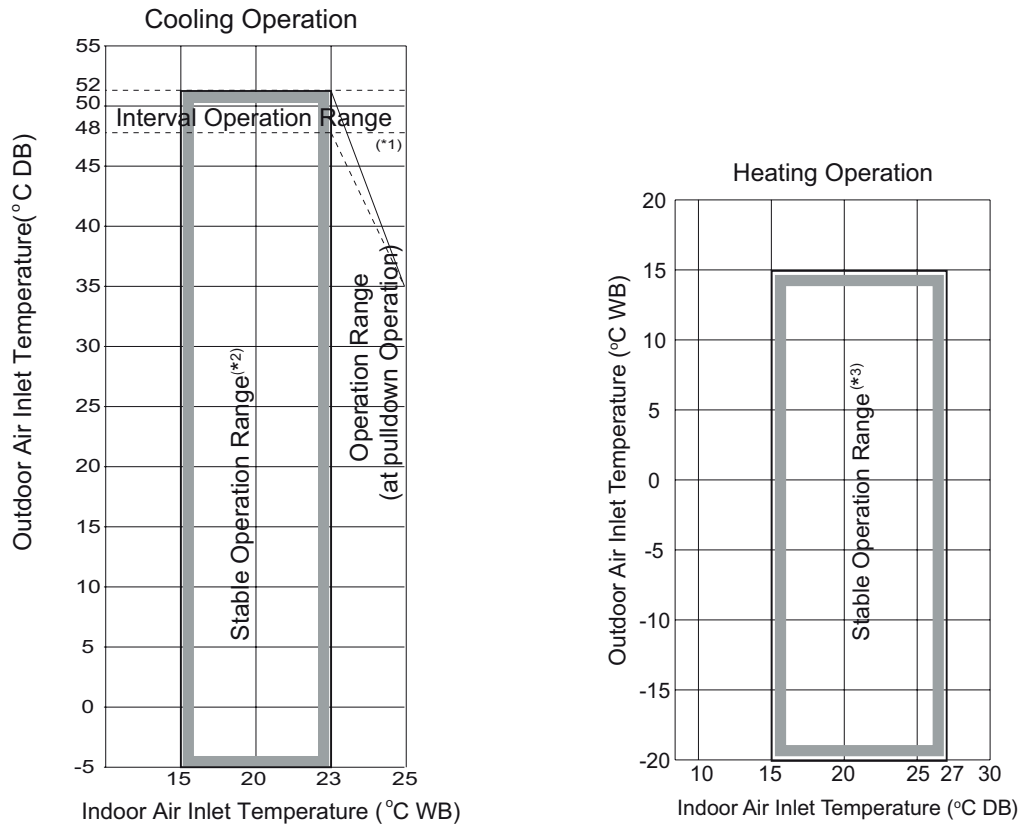


Notes:

1. Pay attention to the following case at the design and the installation. If the outlet air intakes by short-circuit, the operation range is limited due to increasing high pressure in the cooling operation or decreasing low pressure in the heating operation so that may cause failure of unit.
2. (*): Air outlet duct kit is field supplied.
3. Refer to section "Wide Operation Range" on page 1-23 for details.

Wide Operation Range

This unit has been designed for cooling operation under low ambient temperatures down to -5°C. This feature enables cooling to be obtained even in winter in buildings with high internal heat gains due to lighting, people and machines, particularly in areas such as shops, lecture rooms, data processing areas etc. And the heating operation under low ambient temperature down to -20°C can also be performed.



	Cooling Operation	Heating Operation
Indoor Air Inlet Temperature	15 to 23 °C WB	15 to 27°C DB
Outdoor Air Inlet Temperature	-5 to 52°C DB (*1)	-20 to 15°C WB

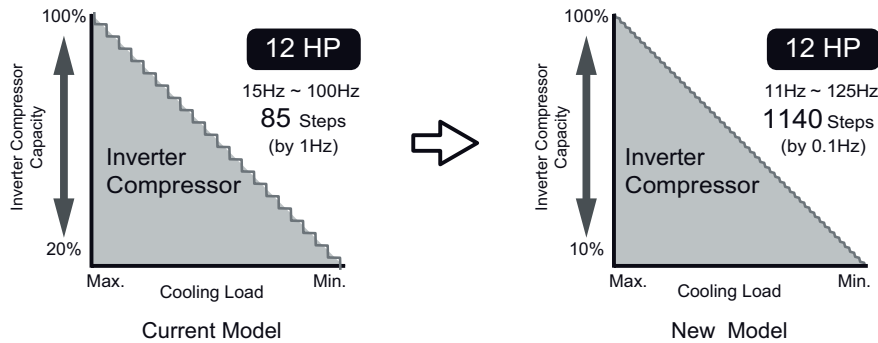
Notes:

- *1. (1) Cooling operation at maximum 52°C DB (48°C~52°C interval operation) is available only if the outdoor air inlet temperature increases temporarily according to the installation condition.
- (2) If the units are installed in a place where ambient temperature exceeds 48°C continuously, the combination ratio must be lower than 100%, operation indoor units capacity must be lower than outdoor unit capacity .
- (3) The cooling capacity deteriorates at high ambient temperature. Select a larger capacity outdoor unit than compatible with building heat load.
- (4) The appropriate quantity (100%) of refrigerant must be charged. Excessive charging of refrigerant is forbidden and may cause alarm.
- (5) Avoid to installing the units in places affected by direct sunlight, reflection and short circuit. There is a the possibility of protection control and alarm system activation if the units are installed in inappropriate place. Also the life time of the products and parts will be considerably shortened.
- (6) Periodic maintenance (1/certain month) must be done to the heat exchanger fin to avoid adhesion of dirt and clogging of sand to the outdoor unit heat exchanger.
- *2. There is a possibility of thermo-OFF when cooling load is low and outdoor air inlet temperature is 10°C DB or lower to prevent frost formation on indoor unit heat exchanger.
- *3. There is a possibility of thermo-OFF when heating load is low and outdoor air inlet temperature is high (higher than 15°C DB) to prevent the outdoor unit. The outdoor unit operation stops when outdoor air inlet temperature exceeds 26°C DB.
- 4. Operational range is different when connected to All Fresh Air Unit and other special indoor units. Refer to the technical catalogue of indoor unit for the details.

Other Advance Technologies

- Capacity Control by 0.1Hz

The highly improved performance as well as greater energy saving is achieved by adopting newly developed high efficiency DC inverter compressor, with outstandingly precise control technology of 0.1Hz increments inverter frequency. Another feature is the dramatically extended working range, enabled by expanding the compressor's operating frequency band, both upwards and downwards.



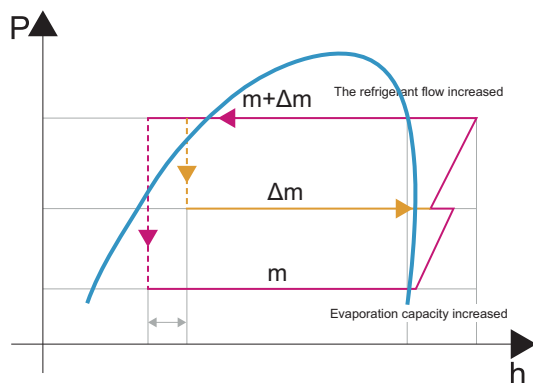
- Wide Working Range for Cooling Operation

Type	Current Model	New Model
Σ-HNBQ series	-5°C~43°C	-5°C~52°C ^(*)

Notes:

^(*)Refer to section "Wide Operation Range" on page 1-23 for the details.

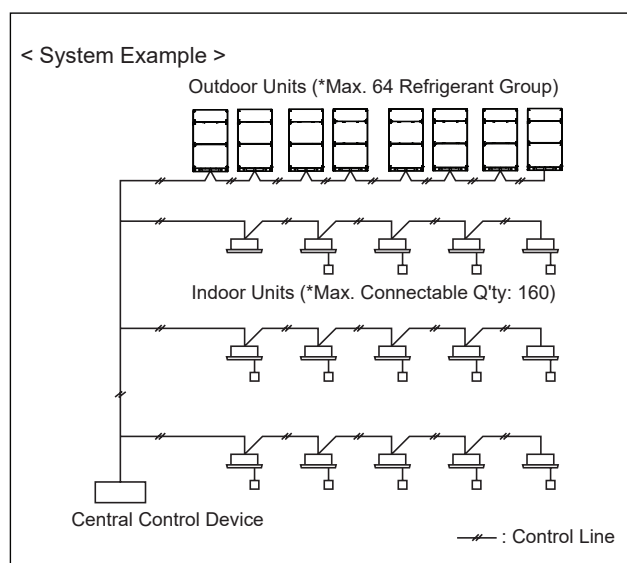
- EVI (Enhanced Vapor Injection) Technology
 - To increase heating capacity at low ambient heating compared to without EVI function;
 - To improve EER/COP at rated running conditions;



For example, in heating mode, when the outdoor ambient temperature is very low, the performance of outdoor unit decreases, and the refrigerant volume decreases in the compressor suction port. But with EVI technology, the intermediate pressure refrigerant would be injected to compressor, and will increase the discharge volume so the mass flow of the refrigerant cycle will also get increased, keeping sufficient heating capacity in low ambient condition.

Corresponding to H-LINK II System

This Σ-HNBQ Series VRF Air Conditioning System series outdoor units corresponds to the H-LINK II transmission system. Maximum of 64 refrigerant systems and a maximum of 160 indoor units can be controlled by only one central control device when the equipments (central control device, indoor units, remote control switch) in the same transmission system all correspond to H-LINK II.



Item	H-LINK II
Number of Max. Ref. Group / System	64
Address Setting Range of Indoor Units / Ref. Group	0 to 63
Number of Max. Indoor Unit / System	160
Total Q'ty of Central Control Devices in the same H-LINK	200
Max. Wiring Length	Total 1,000m

■ H-LINK II System

The H-LINK II wiring system requires only two transmission wires to connect each indoor unit and outdoor unit for up to 64 refrigerant cycles, and to connect wires for all indoor units and outdoor units.

<Specifications>

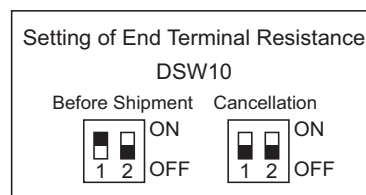
- * Transmission Wire: 2-Wire
- * Polarity of Transmission Wire: Non-Polar Wire
- * Maximum Outdoor Units to be Connected: 64 Units per System
- * Maximum Indoor Units to be Connected: 160 Units per H-LINK II System
- * Maximum Wiring Length: Total 1,000m
- * Recommended Cable: Twist-Pair Cable with Shield, more than 0.75mm²
- * Voltage: DC5V

Note:

In case of using H-LINK II system, it is required to set the of dip switch for outdoor unit and indoor unit. If the dip switches are not set or set incorrectly, the alarm may occur due to a transmission failure.

■ Setting of End Terminal Resistance

Before shipment, No.1 pin of DSW10 is set to "ON" position.
In case that the number of outdoor units in the same H-LINK is 2 or more, set No.1 pin of DSW10 to "OFF" from the 2nd unit.
If only one outdoor unit is used, no setting is required.



2. General Data

Model		RAS-8.0HNBBMQ	RAS-10HNBBMQ	RAS-12HNBBMQ
Power Supply		380/400/415V±10% 3N~50Hz		
Nominal Cooling Capacity	kW	22.4	28.0	33.5
Nominal Heating Capacity	kW	25.0	31.5	37.5
Cabinet Color		Natural White		
Sound Pressure Level	dB(A)	60	61	62
Outer Dimensions Height x Width x Depth	mm	1725 x 958 x 782	1725 x 958 x 782	1725 x 1218 x 782
Net Weight	kg	248	248	308
Refrigerant		R410A		
Flow Control		Micro-Computer Controlled Expansion Valve		
Compressor		Hermetic (Scroll)		
Compressor Model		DC80PHDG	DC80PHDG	DC80PHDG
Compressor Quantity		1	1	1
Compressor Motor Output	kW	7.4	7.4	9.3
Refrigeration Oil Type		FV68H		
Charge	L/Unit	6.0	6.0	6.9
Heat Exchanger		Multi-Pass Cross-Finned Tube		
Condenser Fan		Propeller Fan		
Fan Quantity		1	1	2
Air Flow Rate	m³/min	171	171	239
Fan Motor Output	kW	0.31	0.31	0.33 x 2
Liquid Line	mm (in.)	Ø12.7 (1/2)	Ø12.7 (1/2)	Ø12.7 (1/2)
Gas Line	mm (in.)	Ø25.4 (1)	Ø25.4 (1)	Ø25.4 (1)
Refrigerant Charge (before Shipment)	kg	7.2	7.2	8.9

Notes:

- The cooling and heating performances are the values when combined with our test indoor units.

Piping Length: 7.5 Meters

Piping Lift: 0 Meter

Cooling Operation Conditions:

Heating Operation Conditions:

Indoor Air Inlet Temperature: 27°C DB 19°C WB

Indoor Air Inlet Temperature: 20°C DB

Outdoor Air Inlet Temperature: 35°C DB

Outdoor Air Inlet Temperature: 7°C DB 6°C WB

- The sound pressure is based on the following conditions.

1 Meter from the unit service cover surface, and 1.36 Meters from floor level.

The above data is based on the cooling mode. In case of heating mode, the sound pressure level increases by approximately 1~2 dB(A). The above data was measured in an semi anechoic chamber so the reflected sound should be taken into consideration in the field.

Model		RAS-14HNBBMQ	RAS-16HNBBMQ	RAS-18HNBBMQ
Power Supply		380/400/415V±10% 3N~50Hz		
Nominal Cooling Capacity	kW	40.0	45.0	50.0
Nominal Heating Capacity	kW	45.0	50.0	56.0
Cabinet Color		Natural White		
Sound Pressure Level	dB(A)	63	64	64
Outer Dimensions Height x Width x Depth	mm	1725 x 1218 x 782	1725 x 1218 x 782	1725 x 1608 x 782
Net Weight	kg	356	356	390
Refrigerant		R410A		
Flow Control		Micro-Computer Controlled Expansion Valve		
Compressor		Hermetic (Scroll)		
Compressor Model		AA50PHDG + AA50PHDG	AA50PHDG + AA50PHDG	AA50PHDG + AA50PHDG
Compressor Quantity		2	2	2
Compressor Motor Output	kW	6.4 x 2	6.4 x 2	6.5 x 2
Refrigeration Oil Type		FV68H		
Charge	L/Unit	7.9	7.9	8.4
Heat Exchanger		Multi-Pass Cross-Finned Tube		
Condenser Fan		Propeller Fan		
Fan Quantity		2	2	2
Air Flow Rate	m³/min	256	256	329
Fan Motor Output	kW	0.39 x 2	0.39 x 2	0.48 x 2
Liquid Line	mm (in.)	Ø15.88 (5/8)	Ø15.88 (5/8)	Ø15.88 (5/8)
Gas Line	mm (in.)	Ø28.58 (1-1/8)	Ø28.58 (1-1/8)	Ø28.58 (1-1/8)
Refrigerant Charge (before Shipment)	kg	10.7	10.7	11.3

Notes:

- The cooling and heating performances are the values when combined with our test indoor units.

Piping Length: 7.5 Meters

Piping Lift: 0 Meter

Cooling Operation Conditions:

Heating Operation Conditions:

Indoor Air Inlet Temperature: 27°C DB 19°C WB

Indoor Air Inlet Temperature: 20°C DB

Outdoor Air Inlet Temperature: 35°C DB

Outdoor Air Inlet Temperature: 7°C DB 6°C WB

- The sound pressure is based on the following conditions.

1 Meter from the unit service cover surface, and 1.36 Meters from floor level.

The above data is based on the cooling mode. In case of heating mode, the sound pressure level increases by approximately 1~2 dB(A). The above data was measured in an semi anechoic chamber so the reflected sound should be taken into consideration in the field.

GENERAL DATA

Model		RAS-20HNBBMQ	RAS-22HNBBMQ
Power Supply		380/400/415V±10% 3N~50Hz	
Nominal Cooling Capacity	kW	56.0	61.5
Nominal Heating Capacity	kW	63.0	69.0
Cabinet Color		Natural White	
Sound Pressure Level	dB(A)	65	66
Outer Dimensions Height x Width x Depth	mm	1725 x 1608 x 782	1725 x 1608 x 782
Net Weight	kg	415	416
Refrigerant		R410A	
Flow Control		Micro-Computer Controlled Expansion Valve	
Compressor		Hermetic (Scroll)	
Compressor Model		DC80PHDG + DC80PHDG	DC80PHDG + DC80PHDG
Compressor Quantity		2	2
Compressor Motor Output	kW	7.5 x 2	8.6 x 2
Refrigeration Oil Type		FV68H	
Charge	L/Unit	8.4	8.4
Heat Exchanger		Multi-Pass Cross-Finned Tube	
Condenser Fan		Propeller Fan	
Fan Quantity		2	2
Air Flow Rate	m³/min	329	348
Fan Motor Output	kW	0.48 x 2	0.56 x 2
Liquid Line	mm (in.)	Ø15.88 (5/8)	Ø15.88 (5/8)
Gas Line	mm (in.)	Ø28.58 (1-1/8)	Ø28.58 (1-1/8)
Refrigerant Charge (before Shipment)	kg	11.3	12.6

Notes:

- The cooling and heating performances are the values when combined with our test indoor units.

Piping Length: 7.5 Meters

Piping Lift: 0 Meter

Cooling Operation Conditions:

Indoor Air Inlet Temperature: 27°C DB 19°C WB

Outdoor Air Inlet Temperature: 35°C DB

Heating Operation Conditions:

Indoor Air Inlet Temperature: 20°C DB

Outdoor Air Inlet Temperature: 7°C DB 6°C WB

- The sound pressure is based on the following conditions.

1 Meter from the unit service cover surface, and 1.36 Meters from floor level.

The above data is based on the cooling mode. In case of heating mode, the sound pressure level increases by approximately 1~2 dB(A). The above data was measured in an semi anechoic chamber so the reflected sound should be taken into consideration in the field.

Model		RAS-24HNBBMQ	RAS-26HNBBMQ	RAS-28HNBBMQ
Combination of Base Unit		RAS-12HNBBMQ RAS-12HNBBMQ	RAS-12HNBBMQ RAS-14HNBBMQ	RAS-14HNBBMQ RAS-14HNBBMQ
Power Supply		380/400/415V±10% 3N~50Hz		
Nominal Cooling Capacity	kW	67.0	73.5	80.0
Nominal Heating Capacity	kW	75.0	82.5	90.0
Cabinet Color		Natural White		
Sound Pressure Level	dB(A)	65	66	66
Outer Dimensions Height x Width x Depth	mm	1725 x 1218 x 782 + 1725 x 1218 x 782	1725 x 1218 x 782 + 1725 x 1218 x 782	1725 x 1218 x 782 + 1725 x 1218 x 782
Net Weight	kg	616	664	712
Refrigerant		R410A		
Flow Control		Micro-Computer Controlled Expansion Valve		
Compressor		Hermetic (Scroll)		
Compressor Model		DC80PHDG + DC80PHDG	DC80PHDG + AA50PHDG + AA50PHDG	AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG
Compressor Quantity		2	3	4
Compressor Motor Output	kW	9.3 + 9.3	9.3 + 6.4 x 2	6.4 x 2 + 6.4 x 2
Refrigeration Oil Type		FV68H		
Charge	L/Unit	13.8	14.8	15.8
Heat Exchanger		Multi-Pass Cross-Finned Tube		
Condenser Fan		Propeller Fan		
Fan Quantity		4	4	4
Air Flow Rate	m³/min	239 + 239	239 + 256	256 + 256
Fan Motor Output	kW	0.33 x 2 + 0.33 x 2	0.33 x 2 + 0.39 x 2	0.39 x 2 + 0.39 x 2
Liquid Line	mm (in.)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)
Gas Line	mm (in.)	Ø31.75 (1-1/4)	Ø31.75 (1-1/4)	Ø38.1 (1-1/2)
Refrigerant Charge (before Shipment)	kg	17.8	19.6	21.4

Notes:

1. The cooling and heating performances are the values when combined with our test indoor units.

Piping Length: 7.5 Meters

Piping Lift: 0 Meter

Cooling Operation Conditions:

Indoor Air Inlet Temperature: 27°C DB 19.0°C WB

Outdoor Air Inlet Temperature: 35°C DB

Heating Operation Conditions:

Indoor Air Inlet Temperature: 20°C DB

Outdoor Air Inlet Temperature: 7°C DB 6°C WB

2. The sound pressure is based on the following conditions.

1 Meter from the unit service cover surface, and 1.36 Meters from floor level.

The above data is based on the cooling mode. In case of heating mode, the sound pressure level increases by approximately 1~2 dB(A). The above data was measured in an semi anechoic chamber so the reflected sound should be taken into consideration in the field.

3. Except for the test combination in the table (24~88HP), there is no other combination of the base unit.

GENERAL DATA

Model		RAS-30HNBBMQ	RAS-32HNBBMQ	RAS-34HNBBMQ
Combination of Base Unit		RAS-14HNBBMQ RAS-16HNBBMQ	RAS-16HNBBMQ RAS-16HNBBMQ	RAS-16HNBBMQ RAS-18HNBBMQ
Power Supply		380/400/415V±10% 3N~50Hz		
Nominal Cooling Capacity	kW	85.0	90.0	95.0
Nominal Heating Capacity	kW	95.0	100.0	106.0
Cabinet Color		Natural White		
Sound Pressure Level	dB(A)	67	67	67
Outer Dimensions Height x Width x Depth	mm	1725 x 1218 x 782 + 1725 x 1218 x 782	1725 x 1218 x 782 + 1725 x 1218 x 782	1725 x 1218 x 782 + 1725 x 1608 x 782
Net Weight	kg	712	712	746
Refrigerant		R410A		
Flow Control		Micro-Computer Controlled Expansion Valve		
Compressor		Hermetic (Scroll)		
Compressor Model		AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG	AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG	AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG
Compressor Quantity		4	4	4
Compressor Motor Output	kW	6.4 x 2 + 6.4 x 2	6.4 x 2 + 6.4 x 2	6.4 x 2 + 6.5 x 2
Refrigeration Oil Type		FV68H		
Charge	L/Unit	15.8	15.8	16.3
Heat Exchanger		Multi-Pass Cross-Finned Tube		
Condenser Fan		Propeller Fan		
Fan Quantity		4	4	4
Air Flow Rate	m³/min	256 + 256	256 + 256	256 + 329
Fan Motor Output	kW	0.39 x 2 + 0.39 x 2	0.39 x 2 + 0.39 x 2	0.39 x 2 + 0.48 x 2
Liquid Line	mm (in.)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)
Gas Line	mm (in.)	Ø38.1 (1-1/2)	Ø38.1 (1-1/2)	Ø38.1 (1-1/2)
Refrigerant Charge (before Shipment)	kg	21.4	21.4	22.0

Notes:

- The cooling and heating performances are the values when combined with our test indoor units.
 Piping Length: 7.5 Meters
 Cooling Operation Conditions:
 Indoor Air Inlet Temperature: 27°C DB 19°C WB
 Outdoor Air Inlet Temperature: 35°C DB
 Piping Lift: 0 Meter
 Heating Operation Conditions:
 Indoor Air Inlet Temperature: 20°C DB
 Outdoor Air Inlet Temperature: 7°C DB 6°C WB
- The sound pressure is based on the following conditions.
 1 Meter from the unit service cover surface, and 1.36 Meters from floor level.
 The above data is based on the cooling mode. In case of heating mode, the sound pressure level increases by approximately 1~2 dB(A). The above data was measured in an semi anechoic chamber so the reflected sound should be taken into consideration in the field.
- Except for the test combination in the table (24~88HP), there is no other combination of the base unit.

Model		RAS-36HNBBMQ	RAS-38HNBBMQ	RAS-40HNBBMQ
Combination of Base Unit		RAS-18HNBBMQ RAS-18HNBBMQ	RAS-18HNBBMQ RAS-20HNBBMQ	RAS-20HNBBMQ RAS-20HNBBMQ
Power Supply		380/400/415V±10% 3N~50Hz		
Nominal Cooling Capacity	kW	100.0	106.0	112.0
Nominal Heating Capacity	kW	112.0	119.0	126.0
Cabinet Color		Natural White		
Sound Pressure Level	dB(A)	67	68	68
Outer Dimensions Height x Width x Depth	mm	1725 x 1608 x 782 + 1725 x 1608 x 782	1725 x 1608 x 782 + 1725 x 1608 x 782	1725 x 1608 x 782 + 1725 x 1608 x 782
Net Weight	kg	780	805	830
Refrigerant		R410A		
Flow Control		Micro-Computer Controlled Expansion Valve		
Compressor		Hermetic (Scroll)		
Compressor Model		AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG	AA50PHDG + AA50PHDG + DC80PHDG + DC80PHDG	DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG
Compressor Quantity		4	4	4
Compressor Motor Output	kW	6.5 x 2 + 6.5 x 2	6.5 x 2 + 7.5 x 2	7.5 x 2 + 7.5 x 2
Refrigeration Oil Type		FV68H		
Charge	L/Unit	16.8	16.8	16.8
Heat Exchanger		Multi-Pass Cross-Finned Tube		
Condenser Fan		Propeller Fan		
Fan Quantity		4	4	4
Air Flow Rate	m³/min	329 + 329	329 + 329	329 + 329
Fan Motor Output	kW	0.48 x 2 + 0.48 x 2	0.48 x 2 + 0.48 x 2	0.48 x 2 + 0.48 x 2
Liquid Line	mm (in.)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)
Gas Line	mm (in.)	Ø38.1 (1-1/2)	Ø38.1 (1-1/2)	Ø38.1 (1-1/2)
Refrigerant Charge (before Shipment)	kg	22.6	22.6	22.6

Notes:

- The cooling and heating performances are the values when combined with our test indoor units.
 Piping Length: 7.5 Meters
 Cooling Operation Conditions:
 Indoor Air Inlet Temperature: 27°C DB 19°C WB
 Outdoor Air Inlet Temperature: 35°C DB
 Piping Lift: 0 Meter
 Heating Operation Conditions:
 Indoor Air Inlet Temperature: 20°C DB
 Outdoor Air Inlet Temperature: 7°C DB 6°C WB
- The sound pressure is based on the following conditions.
 1 Meter from the unit service cover surface, and 1.36 Meters from floor level.
 The above data is based on the cooling mode. In case of heating mode, the sound pressure level increases by approximately 1~2 dB(A). The above data was measured in an semi anechoic chamber so the reflected sound should be taken into consideration in the field.
- Except for the test combination in the table (24~88HP), there is no other combination of the base unit.

GENERAL DATA

Model		RAS-42HNBBMQ	RAS-44HNBBMQ	RAS-46HNBBMQ
Combination of Base Unit		RAS-14HNBBMQ RAS-14HNBBMQ RAS-14HNBBMQ	RAS-14HNBBMQ RAS-14HNBBMQ RAS-16HNBBMQ	RAS-14HNBBMQ RAS-16HNBBMQ RAS-16HNBBMQ
Power Supply		380/400/415V±10% 3N~50Hz		
Nominal Cooling Capacity	kW	120.0	125.0	130.0
Nominal Heating Capacity	kW	135.0	140.0	145.0
Cabinet Color		Natural White		
Sound Pressure Level	dB(A)	68	68	68
Outer Dimensions Height x Width x Depth	mm	1725 x 1218 x 782 + 1725 x 1218 x 782 + 1725 x 1218 x 782	1725 x 1218 x 782 + 1725 x 1218 x 782 + 1725 x 1218 x 782	1725 x 1218 x 782 + 1725 x 1218 x 782 + 1725 x 1218 x 782
Net Weight	kg	1068	1068	1068
Refrigerant		R410A		
Flow Control		Micro-Computer Controlled Expansion Valve		
Compressor		Hermetic (Scroll)		
Compressor Model		AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG	AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG	AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG
Compressor Quantity		6	6	6
Compressor Motor Output	kW	6.4 x 2 + 6.4 x 2 + 6.4 x 2	6.4 x 2 + 6.4 x 2 + 6.4 x 2	6.4 x 2 + 6.4 x 2 + 6.4 x 2
Refrigeration Oil Type		FV68H		
Charge	L/Unit	23.7	23.7	23.7
Heat Exchanger		Multi-Pass Cross-Finned Tube		
Condenser Fan		Propeller Fan		
Fan Quantity		6	6	6
Air Flow Rate	m³/min	256 + 256 + 256	256 + 256 + 256	256 + 256 + 256
Fan Motor Output	kW	0.39 x 2 + 0.39 x 2 + 0.39 x 2	0.39 x 2 + 0.39 x 2 + 0.39 x 2	0.39 x 2 + 0.39 x 2 + 0.39 x 2
Liquid Line	mm (in.)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)
Gas Line	mm (in.)	Ø38.1 (1-1/2)	Ø38.1 (1-1/2)	Ø38.1 (1-1/2)
Refrigerant Charge (before Shipment)	kg	23.7	23.7	23.7

Notes:

- The cooling and heating performances are the values when combined with our test indoor units.

Piping Length: 7.5 Meters

Piping Lift: 0 Meter

Cooling Operation Conditions:

Indoor Air Inlet Temperature: 27°C DB 19°C WB

Outdoor Air Inlet Temperature: 35°C DB

Heating Operation Conditions:

Indoor Air Inlet Temperature: 20°C DB

Outdoor Air Inlet Temperature: 7°C DB 6°C WB

- The sound pressure is based on the following conditions.

1 Meter from the unit service cover surface, and 1.36 Meters from floor level.

The above data is based on the cooling mode. In case of heating mode, the sound pressure level increases by approximately 1~2 dB(A). The above data was measured in an semi anechoic chamber so the reflected sound should be taken into consideration in the field.

- Except for the test combination in the table (24~88HP), there is no other combination of the base unit.

Model		RAS-48HNBBMQ	RAS-50HNBBMQ	RAS-52HNBBMQ
Combination of Base Unit		RAS-16HNBBMQ RAS-16HNBBMQ RAS-16HNBBMQ	RAS-16HNBBMQ RAS-16HNBBMQ RAS-18HNBBMQ	RAS-16HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ
Power Supply		380/400/415V±10% 3N~50Hz		
Nominal Cooling Capacity	kW	135.0	140.0	145.0
Nominal Heating Capacity	kW	150.0	156.0	162.0
Cabinet Color		Natural White		
Sound Pressure Level	dB(A)	69	69	69
Outer Dimensions Height x Width x Depth	mm	1725 x 1218 x 782 + 1725 x 1218 x 782 + 1725 x 1218 x 782	1725 x 1218 x 782 + 1725 x 1218 x 782 + 1725 x 1608 x 782	1725 x 1218 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782
Net Weight	kg	1068	1102	1136
Refrigerant		R410A		
Flow Control		Micro-Computer Controlled Expansion Valve		
Compressor		Hermetic (Scroll)		
Compressor Model		AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG	AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG	AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG
Compressor Quantity		6	6	6
Compressor Motor Output	kW	6.4 x 2 + 6.4 x 2 + 6.4 x 2	6.4 x 2 + 6.4 x 2 + 6.5 x 2	6.4 x 2 + 6.5 x 2 + 6.5 x 2
Refrigeration Oil Type		FV68H		
Charge	L/Unit	23.7	24.2	24.7
Heat Exchanger		Multi-Pass Cross-Finned Tube		
Condenser Fan		Propeller Fan		
Fan Quantity		6	6	6
Air Flow Rate	m³/min	256 + 256 + 256	256 + 256 + 329	256 + 329 + 329
Fan Motor Output	kW	0.39 x 2 + 0.39 x 2 + 0.39 x 2	0.39 x 2 + 0.39 x 2 + 0.48 x 2	0.39 x 2 + 0.48 x 2 + 0.48 x 2
Liquid Line	mm (in.)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)
Gas Line	mm (in.)	Ø38.1 (1-1/2)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)
Refrigerant Charge (before Shipment)	kg	23.7	24.2	24.7

Notes:

1. The cooling and heating performances are the values when combined with our test indoor units.

Piping Length: 7.5 Meters

Piping Lift: 0 Meter

Cooling Operation Conditions:

Indoor Air Inlet Temperature: 27°C DB 19°C WB

Outdoor Air Inlet Temperature: 35°C DB

Heating Operation Conditions:

Indoor Air Inlet Temperature: 20°C DB

Outdoor Air Inlet Temperature: 7°C DB 6°C WB

2. The sound pressure is based on the following conditions.

1 Meter from the unit service cover surface, and 1.36 Meters from floor level.

The above data is based on the cooling mode. In case of heating mode, the sound pressure level increases by approximately 1~2 dB(A). The above data was measured in an semi anechoic chamber so the reflected sound should be taken into consideration in the field.

3. Except for the test combination in the table (24~88HP), there is no other combination of the base unit.

GENERAL DATA

Model		RAS-54HNBBMQ	RAS-56HNBBMQ	RAS-58HNBBMQ
Combination of Base Unit		RAS-18HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ	RAS-18HNBBMQ RAS-18HNBBMQ RAS-20HNBBMQ	RAS-18HNBBMQ RAS-20HNBBMQ RAS-20HNBBMQ
Power Supply		380/400/415V±10% 3N~50Hz		
Nominal Cooling Capacity	kW	150.0	156.0	162.0
Nominal Heating Capacity	kW	168.0	175.0	182.0
Cabinet Color		Natural White		
Sound Pressure Level	dB(A)	69	69	69
Outer Dimensions Height x Width x Depth	mm	1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782	1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782	1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782
Net Weight	kg	1170	1195	1220
Refrigerant		R410A		
Flow Control		Micro-Computer Controlled Expansion Valve		
Compressor		Hermetic (Scroll)		
Compressor Model		AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG	AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + DC80PHDG + DC80PHDG	AA50PHDG + AA50PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG
Compressor Quantity		6	6	6
Compressor Motor Output	kW	6.5 x 2 + 6.5 x 2 + 6.5 x 2	6.5 x 2 + 6.5 x 2 + 7.5 x 2	6.5 x 2 + 7.5 x 2 + 7.5 x 2
Refrigeration Oil Type		FV68H		
Charge	L/Unit	25.2	25.2	25.2
Heat Exchanger		Multi-Pass Cross-Finned Tube		
Condenser Fan		Propeller Fan		
Fan Quantity		6	6	6
Air Flow Rate	m³/min	329 + 329 + 329	329 + 329 + 329	329 + 329 + 329
Fan Motor Output	kW	0.48 x 2 + 0.48 x 2 + 0.48 x 2	0.48 x 2 + 0.48 x 2 + 0.48 x 2	0.48 x 2 + 0.48 x 2 + 0.48 x 2
Liquid Line	mm (in.)	Ø19.05 (3/4)	Ø19.05 (3/4)	Ø19.05 (3/4)
Gas Line	mm (in.)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)	Ø44.45 (1-3/4)
Refrigerant Charge (before Shipment)	kg	25.2	25.2	25.2

Notes:

- The cooling and heating performances are the values when combined with our test indoor units.
 Piping Length: 7.5 Meters
 Cooling Operation Conditions:
 Indoor Air Inlet Temperature: 27°C DB 19°C WB
 Outdoor Air Inlet Temperature: 35°C DB
 Piping Lift: 0 Meter
 Heating Operation Conditions:
 Indoor Air Inlet Temperature: 20°C DB
 Outdoor Air Inlet Temperature: 7°C DB 6°C WB
- The sound pressure is based on the following conditions.
 1 Meter from the unit service cover surface, and 1.36 Meters from floor level.
 The above data is based on the cooling mode. In case of heating mode, the sound pressure level increases by approximately 1~2 dB(A). The above data was measured in an semi anechoic chamber so the reflected sound should be taken into consideration in the field.
- Except for the test combination in the table (24~88HP), there is no other combination of the base unit.

Model		RAS-60HNBBMQ	RAS-62HNBBMQ	RAS-64HNBBMQ
Combination of Base Unit		RAS-20HNBBMQ RAS-20HNBBMQ RAS-20HNBBMQ	RAS-14HNBBMQ RAS-14HNBBMQ RAS-16HNBBMQ RAS-18HNBBMQ	RAS-14HNBBMQ RAS-14HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ
Power Supply		380/400/415V±10% 3N~50Hz		
Nominal Cooling Capacity	kW	168.0	175.0	180.0
Nominal Heating Capacity	kW	189.0	196.0	202.0
Cabinet Color		Natural White		
Sound Pressure Level	dB(A)	70	70	70
Outer Dimensions Height x Width x Depth	mm	1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782	1725 x 1218 x 782 + 1725 x 1218 x 782 + 1725 x 1218 x 782 + 1725 x 1608 x 782	1725 x 1218 x 782 + 1725 x 1218 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782
Net Weight	kg	1245	1458	1492
Refrigerant		R410A		
Flow Control		Micro-Computer Controlled Expansion Valve		
Compressor		Hermetic (Scroll)		
Compressor Model		DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG	AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG	AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG
Compressor Quantity		6	8	8
Compressor Motor Output	kW	7.5 x 2 + 7.5 x 2 + 7.5 x 2	6.4 x 2 + 6.4 x 2 + 6.4 x 2 + 6.5 x 2	6.4 x 2 + 6.4 x 2 + 6.5 x 2 + 6.5 x 2
Refrigeration Oil Type		FV68H		
Charge	L/Unit	25.2	32.1	32.6
Heat Exchanger		Multi-Pass Cross-Finned Tube		
Condenser Fan		Propeller Fan		
Fan Quantity		6	8	8
Air Flow Rate	m³/min	329 + 329 + 329	256 + 256 + 256 + 329	256 + 256 + 329 + 329
Fan Motor Output	kW	0.48 x 2 + 0.48 x 2 + 0.48 x 2	0.39 x 2 + 0.39 x 2 + 0.39 x 2 + 0.48 x 2	0.39 x 2 + 0.39 x 2 + 0.48 x 2 + 0.48 x 2
Liquid Line	mm (in.)	Ø19.05 (3/4)	Ø22.2 (7/8)	Ø22.2 (7/8)
Gas Line	mm (in.)	Ø44.45 (1-3/4)	Ø50.8 (2)	Ø50.8 (2)
Refrigerant Charge (before Shipment)	kg	33.9	43.4	44.0

Notes:

1. The cooling and heating performances are the values when combined with our test indoor units.

Piping Length: 7.5 Meters

Piping Lift: 0 Meter

Cooling Operation Conditions:

Indoor Air Inlet Temperature: 27°C DB 19°C WB

Outdoor Air Inlet Temperature: 35°C DB

Heating Operation Conditions:

Indoor Air Inlet Temperature: 20°C DB

Outdoor Air Inlet Temperature: 7°C DB 6°C WB

2. The sound pressure is based on the following conditions.

1 Meter from the unit service cover surface, and 1.36 Meters from floor level.

The above data is based on the cooling mode. In case of heating mode, the sound pressure level increases by approximately 1~2 dB(A). The above data was measured in an semi anechoic chamber so the reflected sound should be taken into consideration in the field.

3. Except for the test combination in the table (24~88HP), there is no other combination of the base unit.

GENERAL DATA

Model		RAS-66HNBBMQ	RAS-68HNBBMQ	RAS-70HNBBMQ
Combination of Base Unit		RAS-14HNBBMQ RAS-16HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ	RAS-14HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ	RAS-16HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ
Power Supply		380/400/415V±10% 3N~50Hz		
Nominal Cooling Capacity	kW	185.0	190.0	195.0
Nominal Heating Capacity	kW	207.0	213.0	218.0
Cabinet Color		Natural White		
Sound Pressure Level	dB(A)	70	70	70
Outer Dimensions Height x Width x Depth	mm	1725 x 1218 x 782 + 1725 x 1218 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782	1725 x 1218 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782	1725 x 1218 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782
Net Weight	kg	1492	1526	1526
Refrigerant		R410A		
Flow Control		Micro-Computer Controlled Expansion Valve		
Compressor		Hermetic (Scroll)		
Compressor Model		AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG	AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG	AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG
Compressor Quantity		8	8	8
Compressor Motor Output	kW	6.4 x 2 + 6.4 x 2 + 6.5 x 2 + 6.5 x 2	6.4 x 2 + 6.5 x 2 + 6.5 x 2 + 6.5 x 2	6.4 x 2 + 6.5 x 2 + 6.5 x 2 + 6.5 x 2
Refrigeration Oil Type		FV68H		
Charge	L/Unit	32.6	33.1	33.1
Heat Exchanger		Multi-Pass Cross-Finned Tube		
Condenser Fan		Propeller Fan		
Fan Quantity		8	8	8
Air Flow Rate	m³/min	256 + 256 + 329 + 329	256 + 329 + 329 + 329	256 + 329 + 329 + 329
Fan Motor Output	kW	0.39 x 2 + 0.39 x 2 + 0.48 x 2 + 0.48 x 2	0.39 x 2 + 0.48 x 2 + 0.48 x 2 + 0.48 x 2	0.39 x 2 + 0.48 x 2 + 0.48 x 2 + 0.48 x 2
Liquid Line	mm (in.)	Ø22.2 (7/8)	Ø22.2 (7/8)	Ø22.2 (7/8)
Gas Line	mm (in.)	Ø50.8 (2)	Ø50.8 (2)	Ø50.8 (2)
Refrigerant Charge (before Shipment)	kg	44.0	44.6	44.6

Notes:

- The cooling and heating performances are the values when combined with our test indoor units.
 Piping Length: 7.5 Meters
 Piping Lift: 0 Meter
Cooling Operation Conditions:
 Indoor Air Inlet Temperature: 27°C DB 19°C WB
 Outdoor Air Inlet Temperature: 35°C DB
Heating Operation Conditions:
 Indoor Air Inlet Temperature: 20°C DB
 Outdoor Air Inlet Temperature: 7°C DB 6°C WB
- The sound pressure is based on the following conditions.
 1 Meter from the unit service cover surface, and 1.36 Meters from floor level.
 The above data is based on the cooling mode. In case of heating mode, the sound pressure level increases by approximately 1~2 dB(A). The above data was measured in an semi anechoic chamber so the reflected sound should be taken into consideration in the field.
- Except for the test combination in the table (24~88HP), there is no other combination of the base unit.

Model		RAS-72HNBBMQ	RAS-74HNBBMQ	RAS-76HNBBMQ
Combination of Base Unit		RAS-18HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ	RAS-18HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ RAS-20HNBBMQ RAS-20HNBBMQ	RAS-18HNBBMQ RAS-18HNBBMQ RAS-20HNBBMQ RAS-20HNBBMQ
Power Supply		380/400/415V±10% 3N~50Hz		
Nominal Cooling Capacity	kW	200.0	206.0	212.0
Nominal Heating Capacity	kW	224.0	231.0	238.0
Cabinet Color		Natural White		
Sound Pressure Level	dB(A)	70	70	71
Outer Dimensions Height x Width x Depth	mm	1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782	1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782	1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782
Net Weight	kg	1560	1585	1610
Refrigerant		R410A		
Flow Control		Micro-Computer Controlled Expansion Valve		
Compressor		Hermetic (Scroll)		
Compressor Model		AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG	AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + DC80PHDG + DC80PHDG	AA50PHDG + AA50PHDG + AA50PHDG + AA50PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG
Compressor Quantity		8	8	8
Compressor Motor Output	kW	6.5 x 2 + 6.5 x 2 + 6.5 x 2 + 6.5 x 2	6.5 x 2 + 6.5 x 2 + 6.5 x 2 + 7.5 x 2	6.5 x 2 + 6.5 x 2 + 7.5 x 2 + 7.5 x 2
Refrigeration Oil Type		FV68H		
Charge	L/Unit	33.6	33.6	33.6
Heat Exchanger		Multi-Pass Cross-Finned Tube		
Condenser Fan		Propeller Fan		
Fan Quantity		8	8	8
Air Flow Rate	m³/min	329 + 329 + 329 + 329	329 + 329 + 329 + 329	329 + 329 + 329 + 329
Fan Motor Output	kW	0.48 x 2 + 0.48 x 2 + 0.48 x 2 + 0.48 x 2	0.48 x 2 + 0.48 x 2 + 0.48 x 2 + 0.48 x 2	0.48 x 2 + 0.48 x 2 + 0.48 x 2 + 0.48 x 2
Liquid Line	mm (in.)	Ø22.2 (7/8)	Ø22.2 (7/8)	Ø22.2 (7/8)
Gas Line	mm (in.)	Ø50.8 (2)	Ø50.8 (2)	Ø50.8 (2)
Refrigerant Charge (before Shipment)	kg	45.2	45.2	45.2

Notes:

- The cooling and heating performances are the values when combined with our test indoor units.
 Piping Length: 7.5 Meters
 Piping Lift: 0 Meter
Cooling Operation Conditions:
 Indoor Air Inlet Temperature: 27°C DB 19°C WB
 Outdoor Air Inlet Temperature: 35°C DB
Heating Operation Conditions:
 Indoor Air Inlet Temperature: 20°C DB
 Outdoor Air Inlet Temperature: 7°C DB 6°C WB
- The sound pressure is based on the following conditions.
 1 Meter from the unit service cover surface, and 1.36 Meters from floor level.
 The above data is based on the cooling mode. In case of heating mode, the sound pressure level increases by approximately 1~2 dB(A). The above data was measured in an semi anechoic chamber so the reflected sound should be taken into consideration in the field.
- Except for the test combination in the table (24~88HP), there is no other combination of the base unit.

GENERAL DATA

Model		RAS-78HNBBMQ	RAS-80HNBBMQ	RAS-82HNBBMQ
Combination of Base Unit		RAS-18HNBBMQ RAS-20HNBBMQ RAS-20HNBBMQ RAS-20HNBBMQ	RAS-20HNBBMQ RAS-20HNBBMQ RAS-20HNBBMQ RAS-20HNBBMQ	RAS-20HNBBMQ RAS-20HNBBMQ RAS-20HNBBMQ RAS-22HNBBMQ
Power Supply		380/400/415V±10% 3N~50Hz		
Nominal Cooling Capacity	kW	218.0	224.0	229.5
Nominal Heating Capacity	kW	245.0	252.0	258.0
Cabinet Color		Natural White		
Sound Pressure Level	dB(A)	71	71	71
Outer Dimensions Height x Width x Depth	mm	1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782	1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782	1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782
Net Weight	kg	1635	1660	1661
Refrigerant		R410A		
Flow Control		Micro-Computer Controlled Expansion Valve		
Compressor		Hermetic (Scroll)		
Compressor Model		AA50PHDG + AA50PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG	DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG	DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG
Compressor Quantity		8	8	8
Compressor Motor Output	kW	6.5 x 2 + 7.5 x 2 + 7.5 x 2 + 7.5 x 2	7.5 x 2 + 7.5 x 2 + 7.5 x 2 + 7.5 x 2	7.5 x 2 + 7.5 x 2 + 7.5 x 2 + 8.6 x 2
Refrigeration Oil Type		FV68H		
Charge	L/Unit	33.6	33.6	33.6
Heat Exchanger		Multi-Pass Cross-Finned Tube		
Condenser Fan		Propeller Fan		
Fan Quantity		8	8	8
Air Flow Rate	m³/min	329 + 329 + 329 + 329	329 + 329 + 329 + 329	329 + 329 + 329 + 348
Fan Motor Output	kW	0.48 x 2 + 0.48 x 2 + 0.48 x 2 + 0.48 x 2	0.48 x 2 + 0.48 x 2 + 0.48 x 2 + 0.48 x 2	0.48 x 2 + 0.48 x 2 + 0.48 x 2 + 0.56 x 2
Liquid Line	mm (in.)	Ø22.2 (7/8)	Ø22.2 (7/8)	Ø25.4 (1)
Gas Line	mm (in.)	Ø50.8 (2)	Ø50.8 (2)	Ø50.8 (2)
Refrigerant Charge (before Shipment)	kg	45.2	45.2	46.5

Notes:

- The cooling and heating performances are the values when combined with our test indoor units.
 Piping Length: 7.5 Meters
 Piping Lift: 0 Meter
Cooling Operation Conditions:
 Indoor Air Inlet Temperature: 27°C DB 19°C WB
 Outdoor Air Inlet Temperature: 35°C DB
Heating Operation Conditions:
 Indoor Air Inlet Temperature: 20°C DB
 Outdoor Air Inlet Temperature: 7°C DB 6°C WB
- The sound pressure is based on the following conditions.
 1 Meter from the unit service cover surface, and 1.36 Meters from floor level.
 The above data is based on the cooling mode. In case of heating mode, the sound pressure level increases by approximately 1~2 dB(A). The above data was measured in an semi anechoic chamber so the reflected sound should be taken into consideration in the field.
- Except for the test combination in the table (24~88HP), there is no other combination of the base unit.

Model		RAS-84HNBBMQ	RAS-86HNBBMQ	RAS-88HNBBMQ
Combination of Base Unit		RAS-20HNBBMQ RAS-20HNBBMQ RAS-22HNBBMQ RAS-22HNBBMQ	RAS-20HNBBMQ RAS-22HNBBMQ RAS-22HNBBMQ RAS-22HNBBMQ	RAS-22HNBBMQ RAS-22HNBBMQ RAS-22HNBBMQ RAS-22HNBBMQ
Power Supply		380/400/415V±10% 3N~50Hz		
Nominal Cooling Capacity	kW	235.0	240.5	246.0
Nominal Heating Capacity	kW	264.0	270.0	276.0
Cabinet Color		Natural White		
Sound Pressure Level	dB(A)	72	72	72
Outer Dimensions Height x Width x Depth	mm	1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782	1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782	1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782 + 1725 x 1608 x 782
Net Weight	kg	1662	1663	1664
Refrigerant		R410A		
Flow Control		Micro-Computer Controlled Expansion Valve		
Compressor		Hermetic (Scroll)		
Compressor Model		DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG	DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG	DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG + DC80PHDG
Compressor Quantity		8	8	8
Compressor Motor Output	kW	7.5 x 2 + 7.5 x 2 + 8.6 x 2 + 8.6 x 2	7.5 x 2 + 8.6 x 2 + 8.6 x 2 + 8.6 x 2	8.6 x 2 + 8.6 x 2 + 8.6 x 2 + 8.6 x 2
Refrigeration Oil Type		FV68H		
Charge	L/Unit	33.6	33.6	33.6
Heat Exchanger		Multi-Pass Cross-Finned Tube		
Condenser Fan		Propeller Fan		
Fan Quantity		8	8	8
Air Flow Rate	m³/min	329 + 329 + 348 + 348	329 + 348 + 348 + 348	348 + 348 + 348 + 348
Fan Motor Output	kW	0.48 x 2 + 0.48 x 2 + 0.56 x 2 + 0.56 x 2	0.48 x 2 + 0.56 x 2 + 0.56 x 2 + 0.56 x 2	0.56 x 2 + 0.56 x 2 + 0.56 x 2 + 0.56 x 2
Liquid Line	mm (in.)	Ø25.4 (1)	Ø25.4 (1)	Ø25.4 (1)
Gas Line	mm (in.)	Ø50.8 (2)	Ø50.8 (2)	Ø50.8 (2)
Refrigerant Charge (before Shipment)	kg	47.8	49.1	50.4

Notes:

- The cooling and heating performances are the values when combined with our test indoor units.
 Piping Length: 7.5 Meters
 Piping Lift: 0 Meter
Cooling Operation Conditions:
 Indoor Air Inlet Temperature: 27°C DB 19°C WB
 Outdoor Air Inlet Temperature: 35°C DB
Heating Operation Conditions:
 Indoor Air Inlet Temperature: 20°C DB
 Outdoor Air Inlet Temperature: 7°C DB 6°C WB
- The sound pressure is based on the following conditions.
 1 Meter from the unit service cover surface, and 1.36 Meters from floor level.
 The above data is based on the cooling mode. In case of heating mode, the sound pressure level increases by approximately 1~2 dB(A). The above data was measured in an semi anechoic chamber so the reflected sound should be taken into consideration in the field.
- Except for the test combination in the table (24~88HP), there is no other combination of the base unit.

3. Component Data

Model		RAS-8.0HNBBMQ	RAS-10HNBBMQ	RAS-12HNBBMQ	RAS-14HNBBMQ
Heat Exchanger Type		Multi-Pass Cross Finned Tube			
Tube Material		Copper Tube			
Outer Diameter	Ømm	7	7	7	7
Rows		3	3	3	3
Number of Tube/ Coil		180	180	180	180
Maximum Operating Pressure	MPa	4.15	4.15	4.15	4.15
Fin Material		Aluminum			
Pitch	mm	1.7	1.7	1.7	1.7
Total Face Area	m ²	2.36	2.36	3.12	3.12
Number of Coil/ Unit		1	1	2	2
Outdoor Fan		Large Diameter Fan (Propeller Fan)			
Number/Unit		1	1	2	2
Outer Diameter	mm	644	644	544 + 544	544 + 544
Revolution	rpm	803	803	1116 + 1116	1194 + 1194
Nominal Air Flow	m ³ /min	171	171	239	256
Outdoor Fan Motor		Drip-Proof Type Enclosure			
Starting Method		DC Motor			
Nominal Output	W	310	310	330 + 330	390 + 390
Quantity		1	1	2	2
Insulation Class		E	E	E	E

Model		RAS-16HNBBMQ	RAS-18HNBBMQ	RAS-20HNBBMQ	RAS-22HNBBMQ
Heat Exchanger Type		Multi-Pass Cross Finned Tube			
Tube Material		Copper Tube			
Outer Diameter	Ømm	7	7	7	7
Rows		3	3	3	3
Number of Tube/ Coil		180	180	180	180
Maximum Operating Pressure	MPa	4.15	4.15	4.15	4.15
Fin Material		Aluminum			
Pitch	mm	1.7	1.7	1.7	1.7
Total Face Area	m ²	3.12	3.58	3.58	3.58
Number of Coil/ Unit		2	2	2	2
Outdoor Fan		Large Diameter Fan (Propeller Fan)			
Number/Unit		2	2	2	2
Outer Diameter	mm	544 + 544	644 + 644	644 + 644	644 + 644
Revolution	rpm	1194 + 1194	888 + 888	888 + 888	936 + 936
Nominal Air Flow	m ³ /min	256	329	329	348
Outdoor Fan Motor		Drip-Proof Type Enclosure			
Starting Method		DC Motor			
Nominal Output	W	390 + 390	480 + 480	480 + 480	560 + 560
Quantity		2	2	2	2
Insulation Class		E	E	E	E

COMPONENT DATA

Model		RAS-24HNBBMQ	RAS-26HNBBMQ	RAS-28HNBBMQ	RAS-30HNBBMQ	RAS-32HNBBMQ
Combination of Base Unit		RAS-12HNBBMQ RAS-12HNBBMQ	RAS-12HNBBMQ RAS-14HNBBMQ	RAS-14HNBBMQ RAS-14HNBBMQ	RAS-14HNBBMQ RAS-16HNBBMQ	RAS-16HNBBMQ RAS-16HNBBMQ
Heat Exchanger Type		Multi-Pass Cross Finned Tube				
Tube Material		Copper Tube				
Outer Diameter	Ømm	7	7	7	7	7
Rows		3 + 3	3 + 3	3 + 3	3 + 3	3 + 3
Number of Tube/ Coil		180 + 180	180 + 180	180 + 180	180 + 180	180 + 180
Maximum Operating Pressure	MPa	4.15	4.15	4.15	4.15	4.15
Fin Material		Aluminium				
Pitch	mm	1.7	1.7	1.7	1.7	1.7
Total Face Area	m ²	3.12 + 3.12	3.12 + 3.12	3.12 + 3.12	3.12 + 3.12	3.12 + 3.12
Number of Coil/ Unit		4	4	4	4	4
Outdoor Fan		Large Diameter Fan (Propeller Fan)				
Number/Unit		4	4	4	4	4
Outer Diameter	mm	544 + 544 + 544 + 544	544 + 544 + 544 + 544	544 + 544 + 544 + 544	544 + 544 + 544 + 544	544 + 544 + 544 + 544
Revolution	rpm	1116 + 1116 + 1116 + 1116	1116 + 1116 + 1194 + 1194	1194 + 1194 + 1194 + 1194	1194 + 1194 + 1194 + 1194	1194 + 1194 + 1194 + 1194
Nominal Air Flow	m ³ /min	239 + 239	239 + 256	256 + 256	256 + 256	256 + 256
Outdoor Fan Motor		Drip-Proof Type Enclosure				
Starting Method		DC Motor				
Nominal Output	W	330 + 330 + 330 + 330	330 + 330 + 390 + 390	390 + 390 + 390 + 390	390 + 390 + 390 + 390	390 + 390 + 390 + 390
Quantity		4	4	4	4	4
Insulation Class		E + E	E + E	E + E	E + E	E + E

Model		RAS-34HNBBMQ	RAS-36HNBBMQ	RAS-38HNBBMQ	RAS-40HNBBMQ	RAS-42HNBBMQ
Combination of Base Unit		RAS-16HNBBMQ RAS-18HNBBMQ	RAS-18HNBBMQ RAS-18HNBBMQ	RAS-18HNBBMQ RAS-20HNBBMQ	RAS-20HNBBMQ RAS-20HNBBMQ	RAS-14HNBBMQ RAS-14HNBBMQ RAS-14HNBBMQ
Heat Exchanger Type		Multi-Pass Cross Finned Tube				
Tube Material		Copper Tube				
Outer Diameter	Ømm	7	7	7	7	7
Rows		3 + 3	3 + 3	3 + 3	3 + 3	3 + 3 + 3
Number of Tube/ Coil		180 + 180	180 + 180	180 + 180	180 + 180	180 + 180 + 180
Maximum Operating Pressure	MPa	4.15	4.15	4.15	4.15	4.15
Fin Material		Aluminium				
Pitch	mm	1.7	1.7	1.7	1.7	1.7
Total Face Area	m ²	3.12 + 3.58	3.58 + 3.58	3.58 + 3.58	3.58 + 3.58	3.12 + 3.12 + 3.12
Number of Coil/ Unit		4	4	4	4	6
Outdoor Fan		Large Diameter Fan (Propeller Fan)				
Number/Unit		4	4	4	4	6
Outer Diameter	mm	544 + 544 + 644 + 644	644 + 644 + 644 + 644	644 + 644 + 644 + 644	644 + 644 + 644 + 644	544 + 544 + 544 + 544 + 544 + 544
Revolution	rpm	888 + 888 + 1194 + 1194	888 + 888 + 888 + 888	888 + 888 + 888 + 888	888 + 888 + 888 + 888	1194 + 1194 + 1194 + 1194 + 1194 + 1194
Nominal Air Flow	m ³ /min	256 + 329	329 + 329	329 + 329	329 + 329	256 + 256 + 256
Outdoor Fan Motor		Drip-Proof Type Enclosure				
Starting Method		DC Motor				
Nominal Output	W	390 + 390 + 480 + 480	480 + 480 + 480 + 480	480 + 480 + 480 + 480	480 + 480 + 480 + 480	390 + 390 + 390 + 390 + 390 + 390
Quantity		4	4	4	4	6
Insulation Class		E + E	E + E	E + E	E + E	E + E + E

COMPONENT DATA

Model		RAS-44HNBBMQ	RAS-46HNBBMQ	RAS-48HNBBMQ	RAS-50HNBBMQ	RAS-52HNBBMQ
Combination of Base Unit		RAS-14HNBBMQ RAS-14HNBBMQ RAS-16HNBBMQ	RAS-14HNBBMQ RAS-16HNBBMQ RAS-16HNBBMQ	RAS-16HNBBMQ RAS-16HNBBMQ RAS-16HNBBMQ	RAS-16HNBBMQ RAS-16HNBBMQ RAS-18HNBBMQ	RAS-16HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ
Heat Exchanger Type		Multi-Pass Cross Finned Tube				
Tube Material		Copper Tube				
Outer Diameter	Ømm	7	7	7	7	7
Rows		3 + 3 + 3	3 + 3 + 3	3 + 3 + 3	3 + 3 + 3	3 + 3 + 3
Number of Tube/ Coil		180 + 180 + 180	180 + 180 + 180	180 + 180 + 180	180 + 180 + 180	180 + 180 + 180
Maximum Operating Pressure	MPa	4.15	4.15	4.15	4.15	4.15
Fin Material		Aluminum				
Pitch	mm	1.7	1.7	1.7	1.7	1.7
Total Face Area	m ²	3.12 + 3.12 + 3.12	3.12 + 3.12 + 3.12	3.12 + 3.12 + 3.12	3.12 + 3.12 + 3.58	3.12 + 3.58 + 3.58
Number of Coil/ Unit		6	6	6	6	6
Outdoor Fan		Large Diameter Fan (Propeller Fan)				
Number/Unit		6	6	6	6	6
Outer Diameter	mm	544 + 544 + 544 + 544 + 544 + 544	544 + 544 + 544 + 544 + 544 + 544	544 + 544 + 544 + 544 + 544 + 544	544 + 544 + 544 + 544 + 644 + 644	544 + 544 + 644 + 644 + 644 + 644
Revolution	rpm	1194 + 1194 + 1194 + 1194 + 1194 + 1194	1194 + 1194 + 1194 + 1194 + 1194 + 1194	1194 + 1194 + 1194 + 1194 + 1194 + 1194	1194 + 1194 + 1194 + 1194 + 888 + 888	1194 + 1194 + 888 + 888 + 888 + 888
Nominal Air Flow	m ³ /min	256 + 256 + 256	256 + 256 + 256	256 + 256 + 256	256 + 256 + 329	256 + 329 + 329
Outdoor Fan Motor		Drip-Proof Type Enclosure				
Starting Method		DC Motor				
Nominal Output	W	390 + 390 + 390 + 390 + 390 + 390	390 + 390 + 390 + 390 + 390 + 390	390 + 390 + 390 + 390 + 390 + 390	390 + 390 + 390 + 390 + 480 + 480	390 + 390 + 480 + 480 + 480 + 480
Quantity		6	6	6	6	6
Insulation Class		E + E + E	E + E + E	E + E + E	E + E + E	E + E + E

Model		RAS-54HNBBMQ	RAS-56HNBBMQ	RAS-58HNBBMQ	RAS-60HNBBMQ	RAS-62HNBBMQ
Combination of Base Unit		RAS-18HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ	RAS-18HNBBMQ RAS-18HNBBMQ RAS-20HNBBMQ	RAS-18HNBBMQ RAS-20HNBBMQ RAS-20HNBBMQ	RAS-20HNBBMQ RAS-20HNBBMQ RAS-20HNBBMQ	RAS-14HNBBMQ RAS-14HNBBMQ RAS-16HNBBMQ RAS-18HNBBMQ
Heat Exchanger Type		Multi-Pass Cross Finned Tube				
Tube Material		Copper Tube				
Outer Diameter	Ømm	7	7	7	7	7
Rows		3 + 3 + 3	3 + 3 + 3	3 + 3 + 3	3 + 3 + 3	3 + 3 + 3 + 3
Number of Tube/ Coil		180 + 180 + 180	180 + 180 + 180	180 + 180 + 180	180 + 180 + 180	180 + 180 + 180 + 180
Maximum Operating Pressure	MPa	4.15	4.15	4.15	4.15	4.15
Fin Material		Aluminum				
Pitch	mm	1.7	1.7	1.7	1.7	1.7
Total Face Area	m ²	3.58 + 3.58 + 3.58	3.58 + 3.58 + 3.58	3.58 + 3.58 + 3.58	3.58 + 3.58 + 3.58	3.12 + 3.12 + 3.12 + 3.58
Number of Coil/ Unit		6	6	6	6	8
Outdoor Fan		Large Diameter Fan (Propeller Fan)				
Number/Unit		6	6	6	6	8
Outer Diameter	mm	644 + 644 + 644 + 644 + 644 + 644	644 + 644 + 644 + 644 + 644 + 644	644 + 644 + 644 + 644 + 644 + 644	644 + 644 + 644 + 644 + 644 + 644	544 + 544 + 544 + 544 + 544 + 544 + 644 + 644
Revolution	rpm	888 + 888 + 888 + 888 + 888 + 888	888 + 888 + 888 + 888 + 888 + 888	888 + 888 + 888 + 888 + 888 + 888	888 + 888 + 888 + 888 + 888 + 888	1194 + 1194 + 1194 + 1194 + 1194 + 1194 + 888 + 888
Nominal Air Flow	m ³ /min	329 + 329 + 329	329 + 329 + 329	329 + 329 + 329	329 + 329 + 329	256 + 256 + 256 + 329
Outdoor Fan Motor		Drip-Proof Type Enclosure				
Starting Method		DC Motor				
Nominal Output	W	480 + 480 + 480 + 480 + 480 + 480	480 + 480 + 480 + 480 + 480 + 480	480 + 480 + 480 + 480 + 480 + 480	480 + 480 + 480 + 480 + 480 + 480	390 + 390 + 390 + 390 + 390 + 390 + 480 + 480
Quantity		6	6	6	6	8
Insulation Class		E + E + E	E + E + E	E + E + E	E + E + E	E + E + E + E

COMPONENT DATA

Model		RAS-64HNBBMQ	RAS-66HNBBMQ	RAS-68HNBBMQ	RAS-70HNBBMQ	RAS-72HNBBMQ
Combination of Base Unit		RAS-14HNBBMQ RAS-14HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ	RAS-14HNBBMQ RAS-16HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ	RAS-14HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ	RAS-16HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ	RAS-18HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ
Heat Exchanger Type		Multi-Pass Cross Finned Tube				
Tube Material		Copper Tube				
Outer Diameter	Ømm	7	7	7	7	7
Rows		3 + 3 + 3 + 3	3 + 3 + 3 + 3	3 + 3 + 3 + 3	3 + 3 + 3 + 3	3 + 3 + 3 + 3
Number of Tube/ Coil		180 + 180 + 180 + 180	180 + 180 + 180 + 180	180 + 180 + 180 + 180	180 + 180 + 180 + 180	180 + 180 + 180 + 180
Maximum Operating Pressure	MPa	4.15	4.15	4.15	4.15	4.15
Fin Material		Aluminum				
Pitch	mm	1.7	1.7	1.7	1.7	1.7
Total Face Area	m ²	3.12 + 3.12 + 3.58 + 3.58	3.12 + 3.12 + 3.58 + 3.58	3.12 + 3.58 + 3.58 + 3.58	3.12 + 3.58 + 3.58 + 3.58	3.58 + 3.58 + 3.58 + 3.58
Number of Coil/ Unit		8	8	8	8	8
Outdoor Fan		Large Diameter Fan (Propeller Fan)				
Number/Unit		8	8	8	8	8
Outer Diameter	mm	544 + 544 + 544 + 544 + 644 + 644 + 644 + 644	544 + 544 + 544 + 544 + 644 + 644 + 644 + 644	544 + 544 + 644 + 644 + 644 + 644 + 644 + 644	544 + 544 + 644 + 644 + 644 + 644 + 644 + 644	644 + 644 + 644 + 644 + 644 + 644 + 644 + 644
Revolution	rpm	1194 + 1194 + 1194 + 1194 + 888 + 888 + 888 + 888	1194 + 1194 + 1194 + 1194 + 888 + 888 + 888 + 888	1194 + 1194 + 888 + 888 + 888 + 888 + 888 + 888	1194 + 1194 + 888 + 888 + 888 + 888 + 888 + 888	888 + 888 + 888 + 888 + 888 + 888 + 888 + 888
Nominal Air Flow	m ³ /min	256 + 256 + 329 + 329	256 + 256 + 329 + 329	256 + 329 + 329 + 329	256 + 329 + 329 + 329	329 + 329 + 329 + 329
Outdoor Fan Motor		Drip-Proof Type Enclosure				
Starting Method		DC Motor				
Nominal Output	W	390 + 390 + 390 + 390 + 480 + 480 + 480 + 480	390 + 390 + 390 + 390 + 480 + 480 + 480 + 480	390 + 390 + 480 + 480 + 480 + 480 + 480 + 480	390 + 390 + 480 + 480 + 480 + 480 + 480 + 480	480 + 480 + 480 + 480 + 480 + 480 + 480 + 480
Quantity		8	8	8	8	8
Insulation Class		E + E + E + E	E + E + E + E	E + E + E + E	E + E + E + E	E + E + E + E

Model		RAS-74HNBBMQ	RAS-76HNBBMQ	RAS-78HNBBMQ	RAS-80HNBBMQ	RAS-82HNBBMQ
Combination of Base Unit		RAS-18HNBBMQ RAS-18HNBBMQ RAS-18HNBBMQ RAS-20HNBBMQ	RAS-18HNBBMQ RAS-18HNBBMQ RAS-20HNBBMQ RAS-20HNBBMQ	RAS-18HNBBMQ RAS-20HNBBMQ RAS-20HNBBMQ RAS-20HNBBMQ	RAS-20HNBBMQ RAS-20HNBBMQ RAS-20HNBBMQ RAS-20HNBBMQ	RAS-20HNBBMQ RAS-20HNBBMQ RAS-20HNBBMQ RAS-22HNBBMQ
Heat Exchanger Type		Multi-Pass Cross Finned Tube				
Tube Material		Copper Tube				
Outer Diameter	Ømm	7	7	7	7	7
Rows		3 + 3 + 3 + 3	3 + 3 + 3 + 3	3 + 3 + 3 + 3	3 + 3 + 3 + 3	3 + 3 + 3 + 3
Number of Tube/ Coil		180 + 180 + 180 + 180	180 + 180 + 180 + 180	180 + 180 + 180 + 180	180 + 180 + 180 + 180	180 + 180 + 180 + 180
Maximum Operating Pressure	MPa	4.15	4.15	4.15	4.15	4.15
Fin Material		Aluminum				
Pitch	mm	1.7	1.7	1.7	1.7	1.7
Total Face Area	m ²	3.58 + 3.58 + 3.58 + 3.58	3.58 + 3.58 + 3.58 + 3.58	3.58 + 3.58 + 3.58 + 3.58	3.58 + 3.58 + 3.58 + 3.58	3.58 + 3.58 + 3.58 + 3.58
Number of Coil/ Unit		8	8	8	8	8
Outdoor Fan		Large Diameter Fan (Propeller Fan)				
Number/Unit		8	8	8	8	8
Outer Diameter	mm	644 + 644 + 644 + 644 + 644 + 644 + 644 + 644	644 + 644 + 644 + 644 + 644 + 644 + 644 + 644	644 + 644 + 644 + 644 + 644 + 644 + 644 + 644	644 + 644 + 644 + 644 + 644 + 644 + 644 + 644	644 + 644 + 644 + 644 + 644 + 644 + 644 + 644
Revolution	rpm	888 + 888 + 888 + 888 + 888 + 888 + 888 + 888	888 + 888 + 888 + 888 + 888 + 888 + 888 + 888	888 + 888 + 888 + 888 + 888 + 888 + 888 + 888	888 + 888 + 888 + 888 + 888 + 888 + 888 + 888	888 + 888 + 888 + 888 + 888 + 888 + 936 + 936
Nominal Air Flow	m ³ /min	329 + 329 + 329 + 329	329 + 329 + 329 + 329	329 + 329 + 329 + 329	329 + 329 + 329 + 329	329 + 329 + 329 + 348
Outdoor Fan Motor		Drip-Proof Type Enclosure				
Starting Method		DC Motor				
Nominal Output	W	480 + 480 + 480 + 480 + 480 + 480 + 480 + 480	480 + 480 + 480 + 480 + 480 + 480 + 480 + 480	480 + 480 + 480 + 480 + 480 + 480 + 480 + 480	480 + 480 + 480 + 480 + 480 + 480 + 480 + 480	480 + 480 + 480 + 480 + 480 + 480 + 560 + 560
Quantity		8	8	8	8	8
Insulation Class		E + E + E + E	E + E + E + E	E + E + E + E	E + E + E + E	E + E + E + E

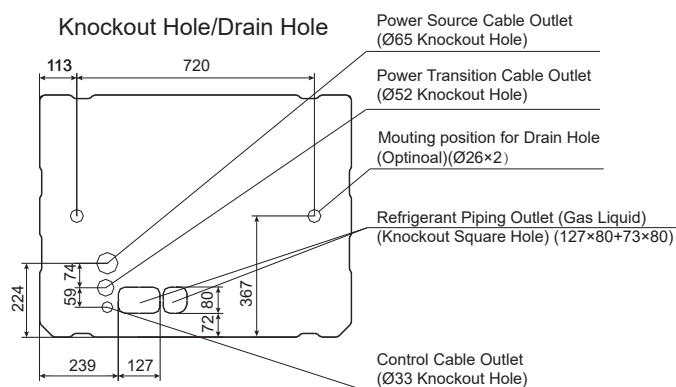
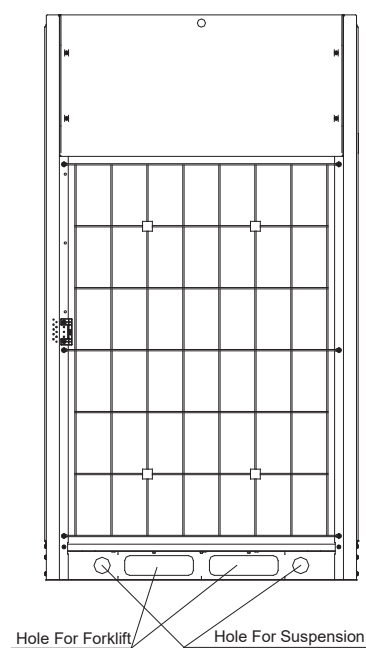
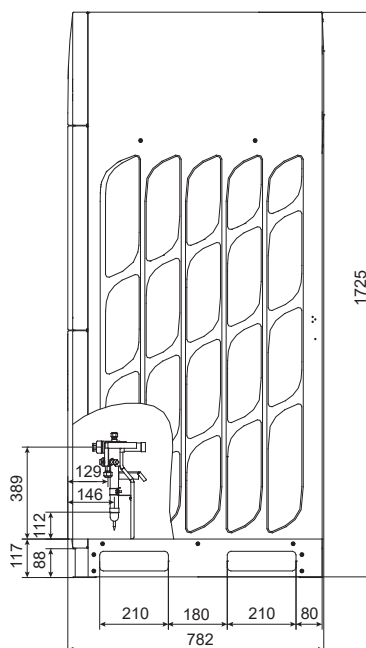
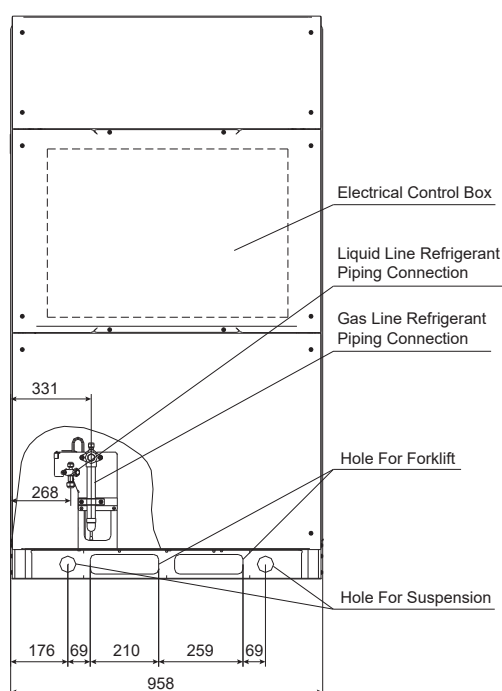
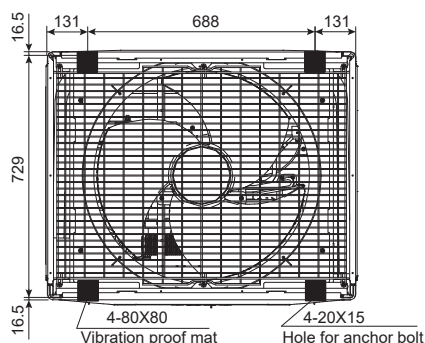
COMPONENT DATA

Model		RAS-84HNBBMQ	RAS-86HNBBMQ	RAS-88HNBBMQ
Combination of Base Unit		RAS-20HNBBMQ RAS-20HNBBMQ RAS-22HNBBMQ RAS-22HNBBMQ	RAS-20HNBBMQ RAS-22HNBBMQ RAS-22HNBBMQ RAS-22HNBBMQ	RAS-22HNBBMQ RAS-22HNBBMQ RAS-22HNBBMQ RAS-22HNBBMQ
Heat Exchanger Type		Multi-Pass Cross Finned Tube		
Tube Material		Copper Tube		
Outer Diameter	Ømm	7	7	7
Rows		3 + 3 + 3 + 3	3 + 3 + 3 + 3	3 + 3 + 3 + 3
Number of Tube/ Coil		180 + 180 + 180 + 180	180 + 180 + 180 + 180	180 + 180 + 180 + 180
Maximum Operating Pressure	MPa	4.15	4.15	4.15
Fin Material		Aluminum		
Pitch	mm	1.7	1.7	1.7
Total Face Area	m ²	3.58 + 3.58 + 3.58 + 3.58	3.58 + 3.58 + 3.58 + 3.58	3.58 + 3.58 + 3.58 + 3.58
Number of Coil/ Unit		8	8	8
Outdoor Fan		Large Diameter Fan (Propeller Fan)		
Number/Unit		8	8	8
Outer Diameter	mm	644 + 644 + 644 + 644 + 644 + 644 + 644 + 644	644 + 644 + 644 + 644 + 644 + 644 + 644 + 644	644 + 644 + 644 + 644 + 644 + 644 + 644 + 644
Revolution	rpm	888 + 888 + 888 + 888 + 936 + 936 + 936 + 936	888 + 888 + 936 + 936 + 936 + 936 + 936 + 936	936 + 936 + 936 + 936 + 936 + 936 + 936 + 936
Nominal Air Flow	m ³ /min	329 + 329 + 348 + 348	329 + 348 + 348 + 348	348 + 348 + 348 + 348
Outdoor Fan Motor		Drip-Proof Type Enclosure		
Starting Method		DC Motor		
Nominal Output	W	480 + 480 + 480 + 480 + 560 + 560 + 560 + 560	480 + 480 + 560 + 560 + 560 + 560 + 560 + 560	560 + 560 + 560 + 560 + 560 + 560 + 560 + 560
Quantity		8	8	8
Insulation Class		E + E + E + E	E + E + E + E	E + E + E + E

4. Dimensional Data

Model: RAS-8.0HNBBMQ and RAS-10HNBBMQ

Unit: mm



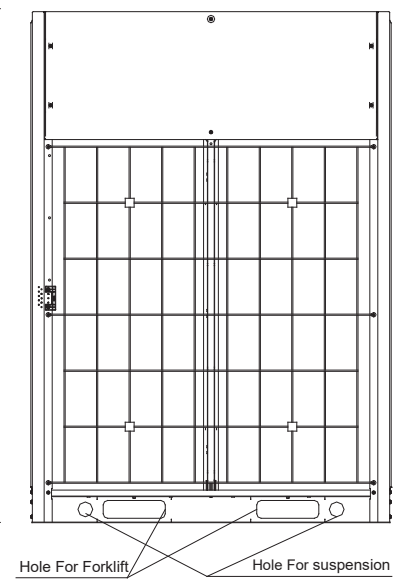
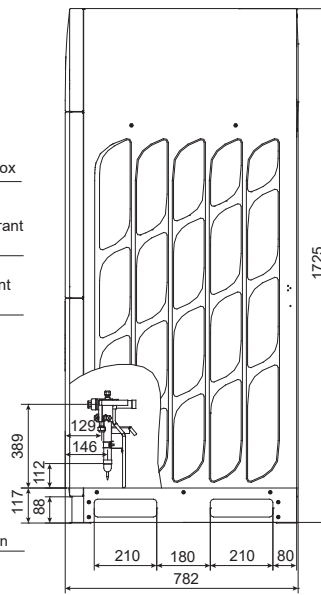
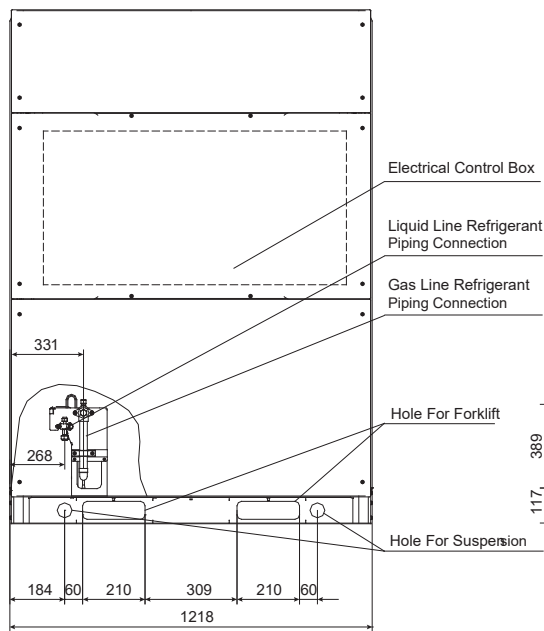
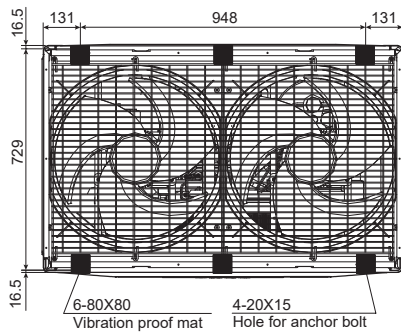
Notes:

1. Refer to "System Pipe Drawing" for diameters.
2. Drainage to come out during heating or defrost operation and rain water too.
Choose a well drained place to install units or provide a ditch to drain.

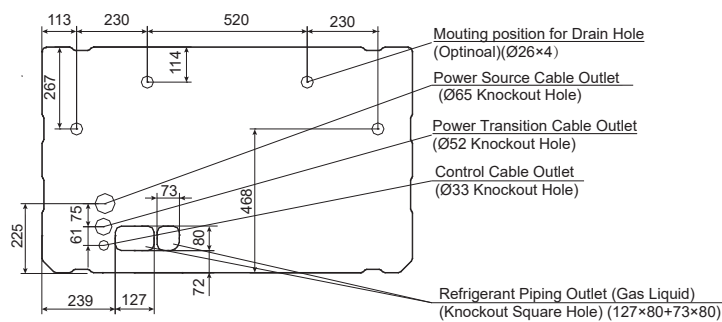
DIMENSIONAL DATA

Model: RAS-12HNBBMQ, RAS-14HNBBMQ, and RAS-16HNBBMQ

Unit: mm



Knockout Hole/Drain Hole



NOTES:

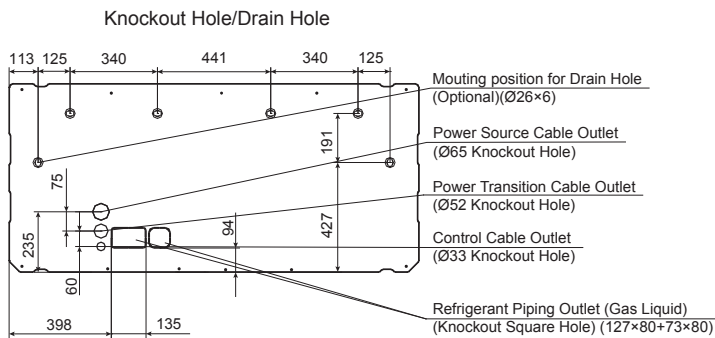
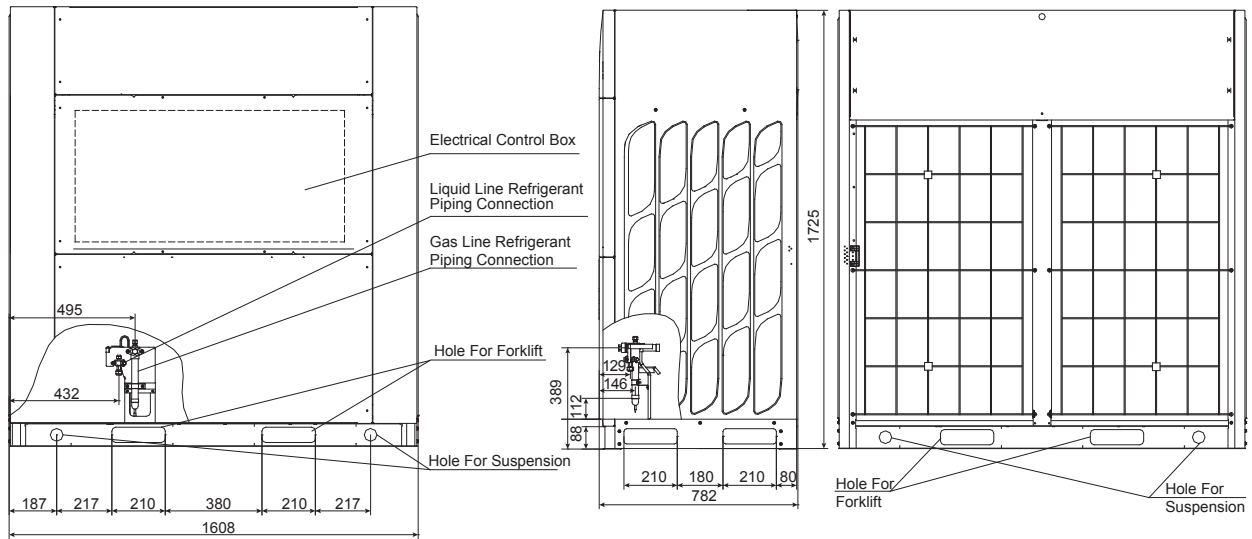
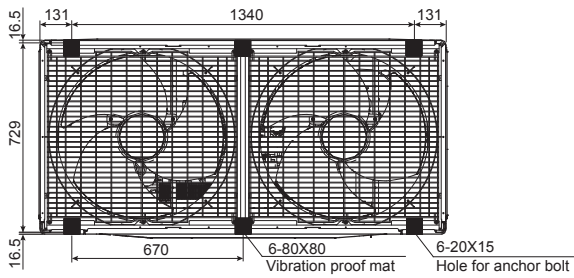
1. Refer to "System Pipe Drawing" for diameters.
2. Drainage to come out during heating or defrost operation and rain water too. Choose a well drained place to install units or provide a ditch to drain.

Notes:

1. Refer to "System Pipe Drawing" for diameters.
2. Drainage to come out during heating or defrost operation and rain water too. Choose a well drained place to install units or provide a ditch to drain.

Model: RAS-18HNBBMQ, RAS-20HNBBMQ, and RAS-22HNBBMQ

Unit: mm



NOTES:

1. Refer to "System Pipe Drawing" for diameters.
2. Drainage to come out during heating or defrost operation and rain water too. Choose a well drained place to install units or provide a ditch to drain.

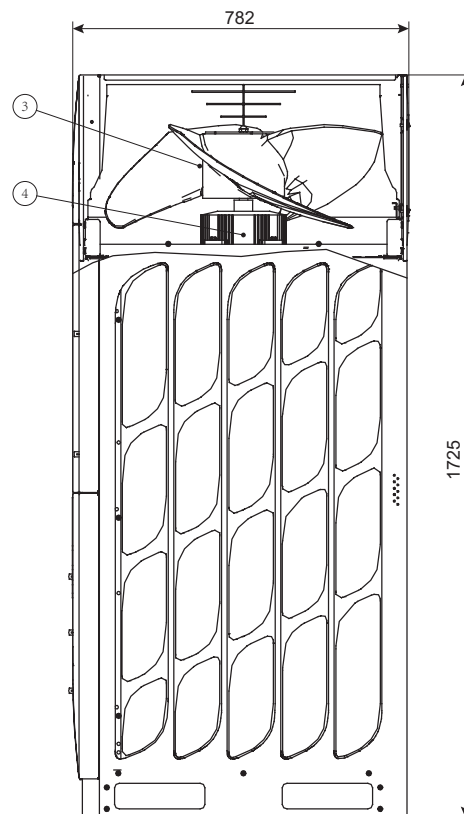
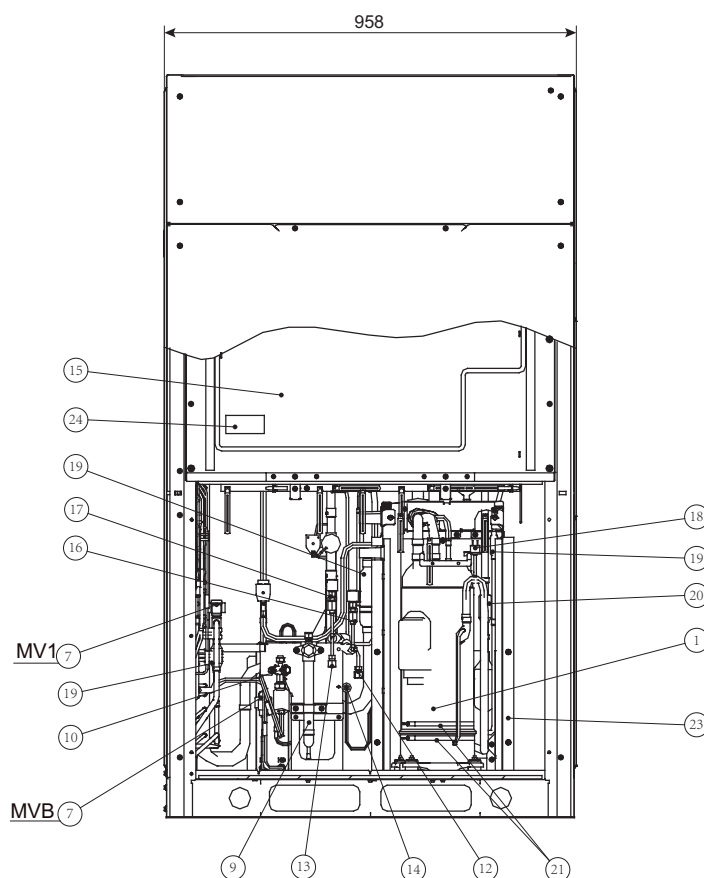
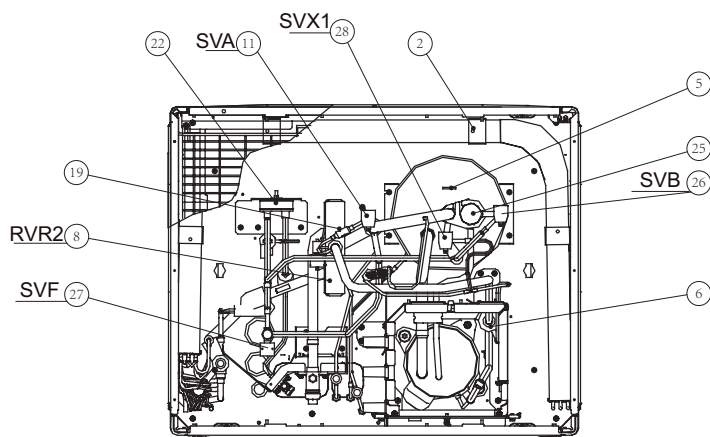
Notes:

1. Refer to "System Pipe Drawing" for diameters.
2. Drainage to come out during heating or defrost operation and rain water too. Choose a well drained place to install units or provide a ditch to drain.

DIMENSIONAL DATA

RAS-8.0-10HNBBMQ

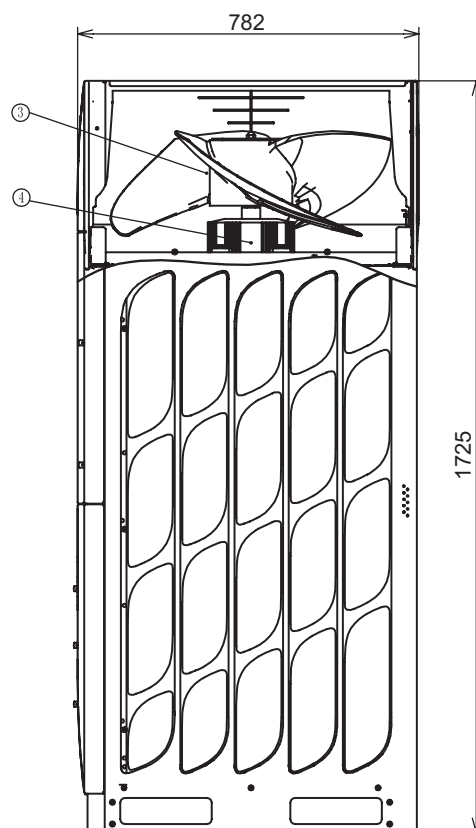
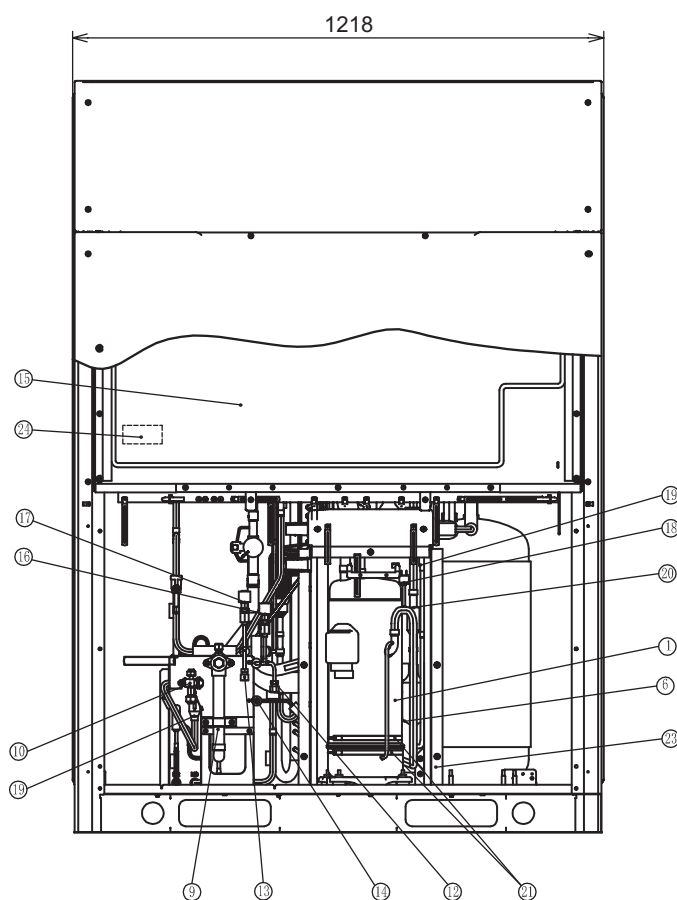
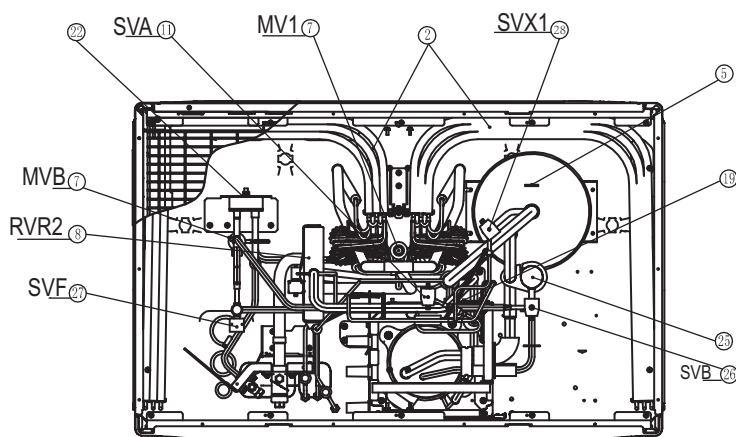
Unit: mm



Item	Part Name	Item	Part Name
1	Compressor (Inverter)	15	Electrical Control Box
2	Heat Exchanger	16	Low Pressure Sensor
3	Propeller Fan	17	High Pressure Sensor
4	Fan Motor	18	High Pressure Switch for Protection
5	Accumulator (Pressure Vessel)	19	Strainer
6	Oil Separator (Not Pressure Vessel)	20	Check Valve
7	Micro-computer Controlled Expansion Valve (2 pcs)	21	Crankcase Heater (2pcs)
8	4-Way Valve	22	Plate Heat Exchanger
9	Stop Valve (Gas)	23	Compressor Cover
10	Stop Valve (Liquid)	24	Terminal Block Box
11	Hot Gas Bypass Solenoid Valve (SVA)	25	Injection Muffler
12	Check Joint (Low)	26	Injection Solenoid Valve (SVB)
13	Check Joint (High)	27	Injection Solenoid Valve (SVF)
14	Check Joint (For Oil)	28	Solenoid Valve (SVX1)

RAS-12HNBBMQ

Unit: mm

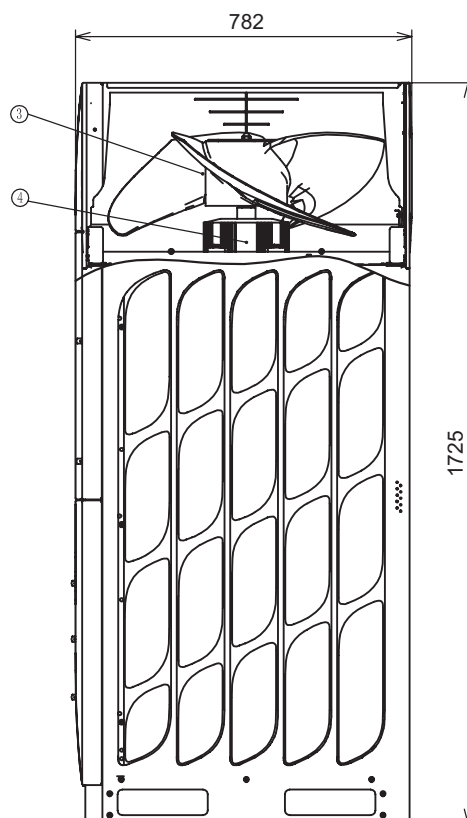
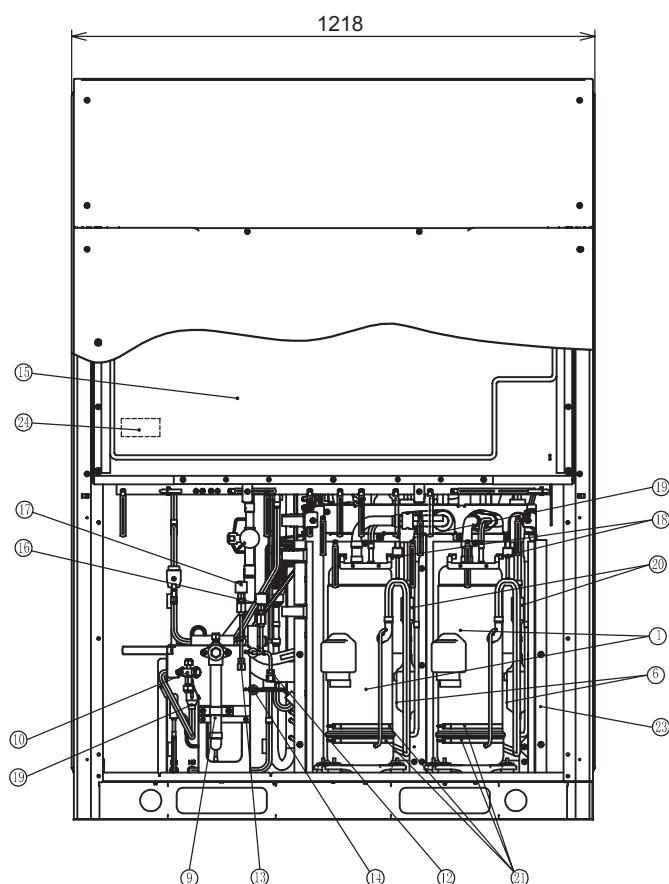
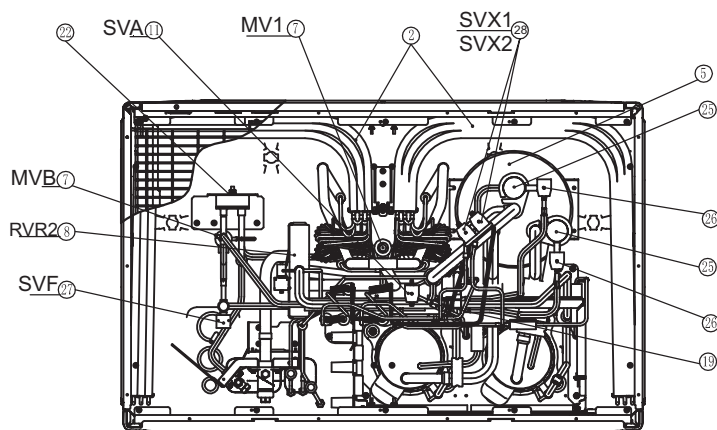


Item	Part Name	Item	Part Name
1	Compressor (Inverter)	15	Electrical Control Box
2	Heat Exchanger	16	Low Pressure Sensor
3	Propeller Fan	17	High Pressure Sensor
4	Fan Motor	18	High Pressure Switch for Protection
5	Accumulator (Pressure Vessel)	19	Strainer
6	Oil Separator (Not Pressure Vessel)	20	Check Valve
7	Micro-computer Controlled Expansion Valve (2 pcs)	21	Crankcase Heater (2pcs)
8	4-Way Valve	22	Plate Heat Exchanger
9	Stop Valve (Gas)	23	Compressor Cover
10	Stop Valve (Liquid)	24	Terminal Block Box
11	Hot Gas Bypass Solenoid Valve (SVA)	25	Injection Muffler
12	Check Joint (Low)	26	Injection Solenoid Valve (SVB)
13	Check Joint (High)	27	Injection Solenoid Valve (SVF)
14	Check Joint (For Oil)	28	Solenoid Valve (SVX1)

DIMENSIONAL DATA

RAS-14 - 16HNBBMQ

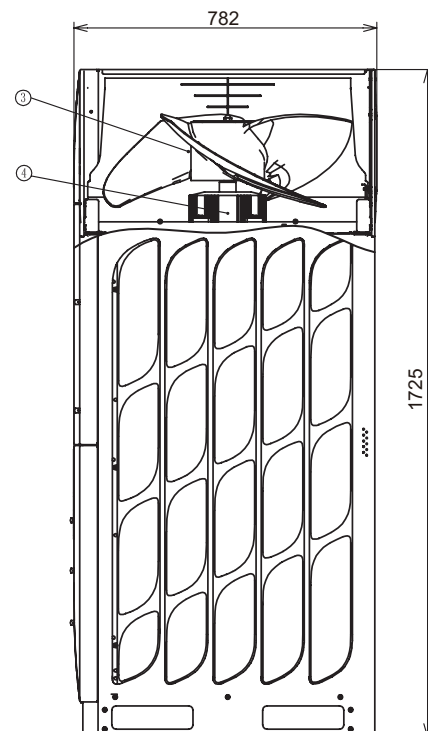
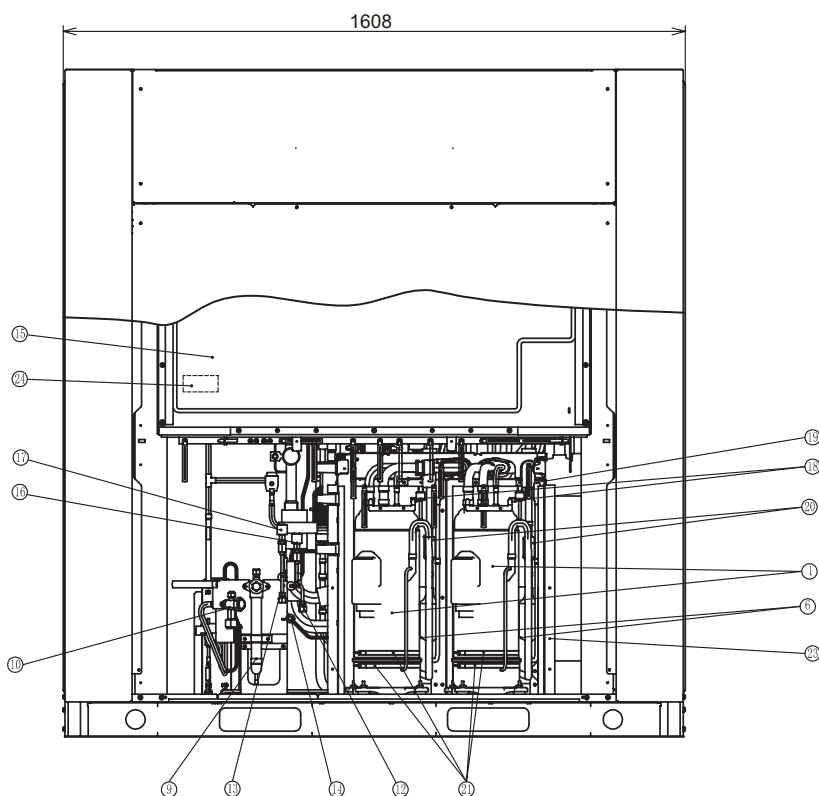
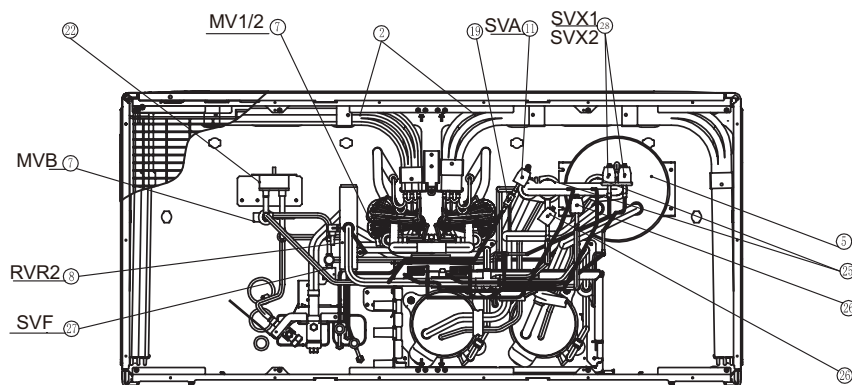
Unit: mm



Item	Part Name	Item	Part Name
1	Compressor (Inverter) (2pcs)	15	Electrical Control Box
2	Heat Exchanger	16	Low Pressure Sensor
3	Propeller Fan	17	High Pressure Sensor
4	Fan Motor	18	High Pressure Switch for Protection
5	Accumulator (Pressure Vessel)	19	Strainer
6	Oil Separator (Not Pressure Vessel) (2 pcs)	20	Check Valve
7	Micro-computer Controlled Expansion Valve (2 pcs)	21	Crankcase Heater (4 pcs)
8	4-Way Valve	22	Plate Heat Exchanger
9	Stop Valve (Gas)	23	Compressor Cover
10	Stop Valve (Liquid)	24	Terminal Block Box
11	Hot Gas Bypass Solenoid Valve (SVA)	25	Injection Muffler(2pcs)
12	Check Joint (Low)	26	Injection Solenoid Valve (SVB/SVC)
13	Check Joint (High)	27	Injection Solenoid Valve (SVF)
14	Check Joint (For Oil)	28	Solenoid Valve (SVX1/SVX2)

RAS-18 - 22HNBBMQ

Unit: mm



Item	Part Name	Item	Part Name
1	Compressor (Inverter) (2pcs)	15	Electrical Control Box
2	Heat Exchanger	16	Low Pressure Sensor
3	Propeller Fan	17	High Pressure Sensor
4	Fan Motor	18	High Pressure Switch for Protection (2 pcs)
5	Accumulator (Pressure Vessel)	19	Strainer
6	Oil Separator (Not Pressure Vessel) (2pcs)	20	Check Valve (2 pcs)
7	Micro-computer Controlled Expansion Valve (3 pcs)	21	Crankcase Heater (4 pcs)
8	4-Way Valve	22	Plate Heat Exchanger
9	Stop Valve (Gas)	23	Compressor Cover
10	Stop Valve (Liquid)	24	Terminal Block Box
11	Hot Gas Bypass Solenoid Valve (SVA)	25	Injection Muffler (2 pcs)
12	Check Joint (Low)	26	Injection Solenoid Valve (SVB/SVC)
13	Check Joint (High)	27	Injection Solenoid Valve (SVF)
14	Check Joint (For Oil)	28	Solenoid Valve (SVX1/SVX2)

5. Selection Data

5.1 Capacity Characteristic Curve

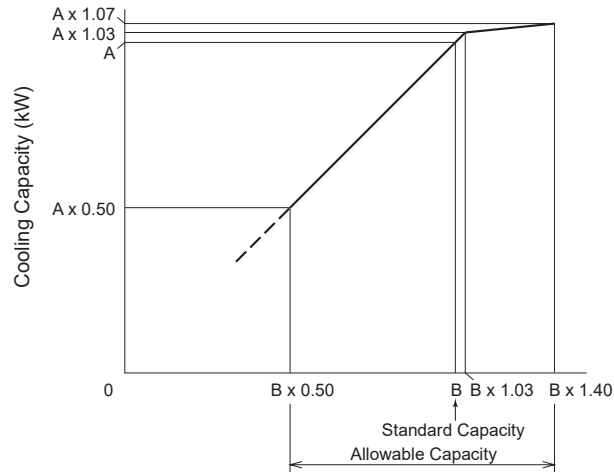
The following charts show the characteristics of outdoor unit capacity corresponding to the with total horsepower of combined indoor unit, based on standard condition that horizontal refrigerant piping length is 7.5m .

< Cooling Capacity >

• Condition

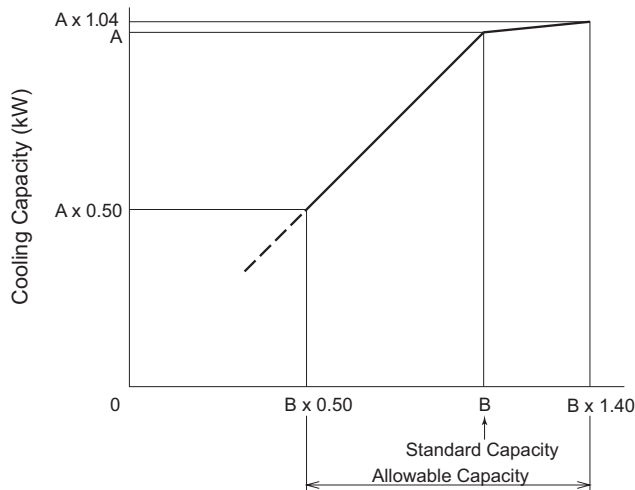
Indoor Air Inlet Temperature: 27.0°C DB (80.0°F DB), 19.0°C WB (66.2°F WB)

Outdoor Air Inlet Temperature: 35.0°C DB (95.0°F DB)



Total Capacity of Combined Indoor Units (HP)

Model	A (kW)	B (HP)	Model	A (kW)	B (HP)
RAS-8.0HNBBMQ	22.4	8	RAS-48HNBBMQ	135.0	48
RAS-10HNBBMQ	28.0	10	RAS-50HNBBMQ	140.0	50
RAS-12HNBBMQ	33.5	12	RAS-52HNBBMQ	145.0	52
RAS-14HNBBMQ	40.0	14	RAS-54HNBBMQ	150.0	54
RAS-16HNBBMQ	45.0	16	RAS-56HNBBMQ	156.0	56
RAS-18HNBBMQ	50.0	18	RAS-58HNBBMQ	162.0	58
RAS-20HNBBMQ	56.0	20	RAS-60HNBBMQ	168.0	60
RAS-24HNBBMQ	67.0	24	RAS-62HNBBMQ	175.0	62
RAS-26HNBBMQ	73.5	26	RAS-64HNBBMQ	180.0	64
RAS-28HNBBMQ	80.0	28	RAS-66HNBBMQ	185.0	66
RAS-30HNBBMQ	85.0	30	RAS-68HNBBMQ	190.0	68
RAS-32HNBBMQ	90.0	32	RAS-70HNBBMQ	195.0	70
RAS-34HNBBMQ	95.0	34	RAS-72HNBBMQ	200.0	72
RAS-36HNBBMQ	100.0	36	RAS-74HNBBMQ	206.0	74
RAS-38HNBBMQ	106.0	38	RAS-76HNBBMQ	212.0	76
RAS-40HNBBMQ	112.0	40	RAS-78HNBBMQ	218.0	78
RAS-42HNBBMQ	120.0	42	RAS-80HNBBMQ	224.0	80
RAS-44HNBBMQ	125.0	44	RAS-82HNBBMQ	229.5	82
RAS-46HNBBMQ	130.0	46			



Total Capacity of Combined Indoor Units (HP)

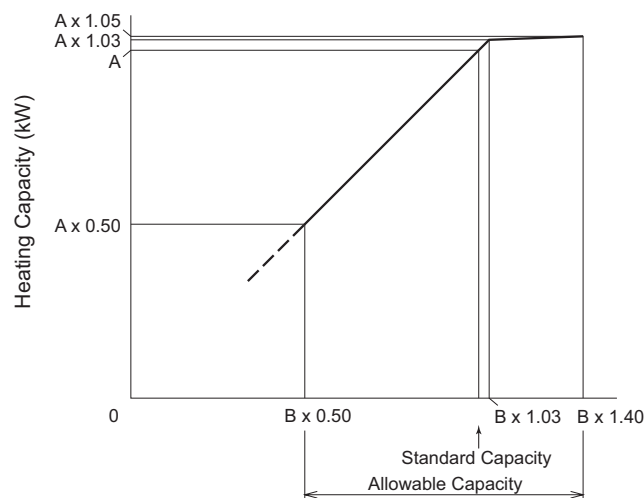
Model	A (kW)	B (HP)
RAS-22HNBBMQ	61.5	22
RAS-84HNBBMQ	235.0	84
RAS-86HNBBMQ	240.5	86
RAS-88HNBBMQ	246.0	88

< Heating Capacity >

• Condition

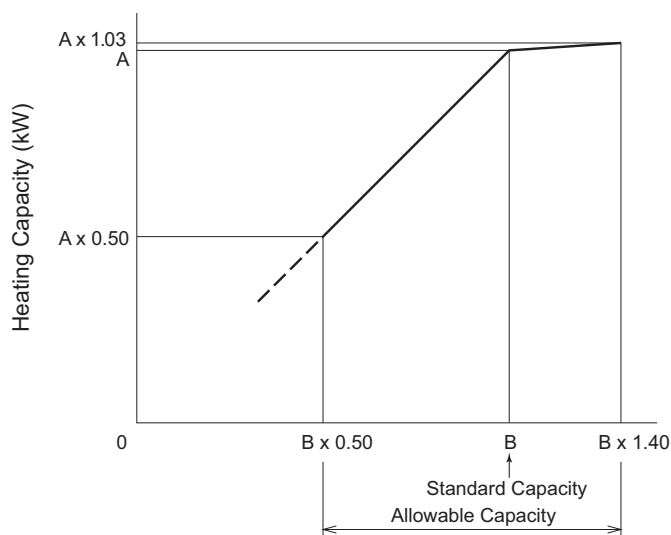
Indoor Air Inlet Temperature: 20.0°C DB (68.0°F DB)

Outdoor Air Inlet Temperature: 7.0°C DB (45.0°F DB), 6.0°C WB (43.0°F WB)



Total Capacity of Combined Indoor Units (HP)

Model	A (kW)	B (HP)	Model	A (kW)	B (HP)
RAS-8.0HNBBMQ	25.0	8	RAS-48HNBBMQ	150.0	48
RAS-10HNBBMQ	31.5	10	RAS-50HNBBMQ	156.0	50
RAS-12HNBBMQ	37.5	12	RAS-52HNBBMQ	162.0	52
RAS-14HNBBMQ	45.0	14	RAS-54HNBBMQ	168.0	54
RAS-16HNBBMQ	50.0	16	RAS-56HNBBMQ	175.0	56
RAS-18HNBBMQ	56.0	18	RAS-58HNBBMQ	182.0	58
RAS-20HNBBMQ	63.0	20	RAS-60HNBBMQ	189.0	60
RAS-24HNBBMQ	75.0	24	RAS-62HNBBMQ	196.0	62
RAS-26HNBBMQ	82.5	26	RAS-64HNBBMQ	202.0	64
RAS-28HNBBMQ	90.0	28	RAS-66HNBBMQ	207.0	66
RAS-30HNBBMQ	95.0	30	RAS-68HNBBMQ	213.0	68
RAS-32HNBBMQ	100.0	32	RAS-70HNBBMQ	218.0	70
RAS-34HNBBMQ	106.0	34	RAS-72HNBBMQ	224.0	72
RAS-36HNBBMQ	112.0	36	RAS-74HNBBMQ	231.0	74
RAS-38HNBBMQ	119.0	38	RAS-76HNBBMQ	238.0	76
RAS-40HNBBMQ	126.0	40	RAS-78HNBBMQ	245.0	78
RAS-42HNBBMQ	135.0	42	RAS-80HNBBMQ	252.0	80
RAS-44HNBBMQ	140.0	44	RAS-82HNBBMQ	258.0	82
RAS-46HNBBMQ	145.0	46			



Total Capacity of Combined Indoor Units (HP)

Model	A (kW)	B (HP)
RAS-22HNBBMQ	69.0	22
RAS-84HNBBMQ	264.0	84
RAS-86HNBBMQ	270.0	86
RAS-88HNBBMQ	276.0	88

5.2 Correction Factor According to Piping Length

< Cooling Capacity >

Correction Factor for Cooling Capacity According to Piping Length

The cooling capacity should be corrected according to the following formula:

$$CCA = CC \times F$$

CCA: Actual Corrected Cooling Capacity

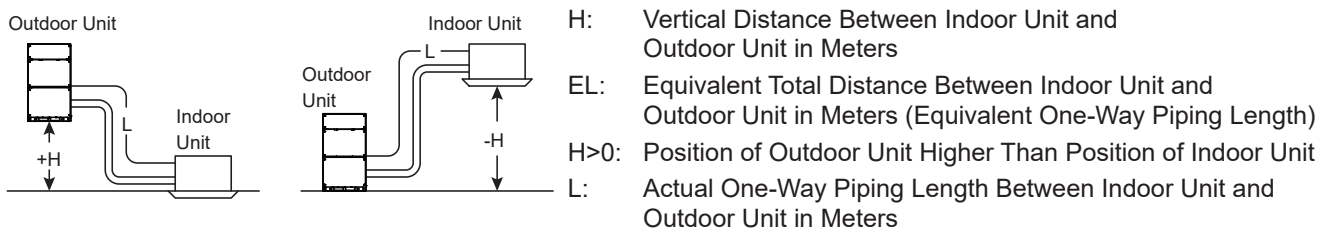
CC: Cooling Capacity in the Performance Table

F: Correction Factor Based on the Equivalent Piping Length

The correction factors are shown in the following figure.

Equivalent Piping Length for

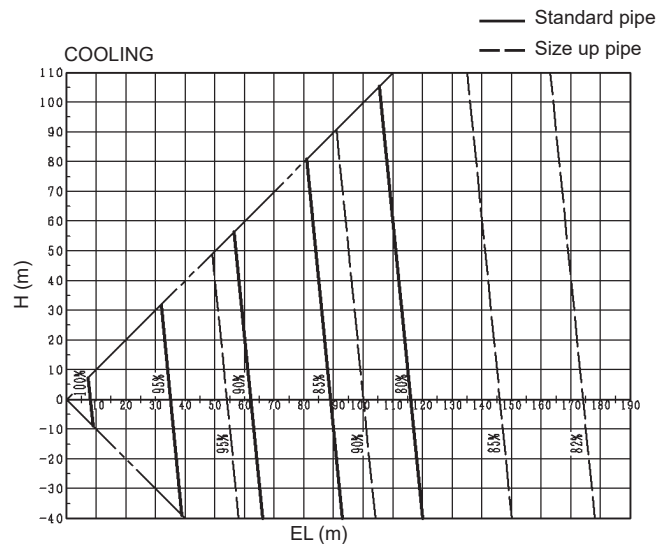
- One 90° Elbow is 0.5m.
- One 180° Bend is 1.5m.
- One Multi-Kit is 0.5m.



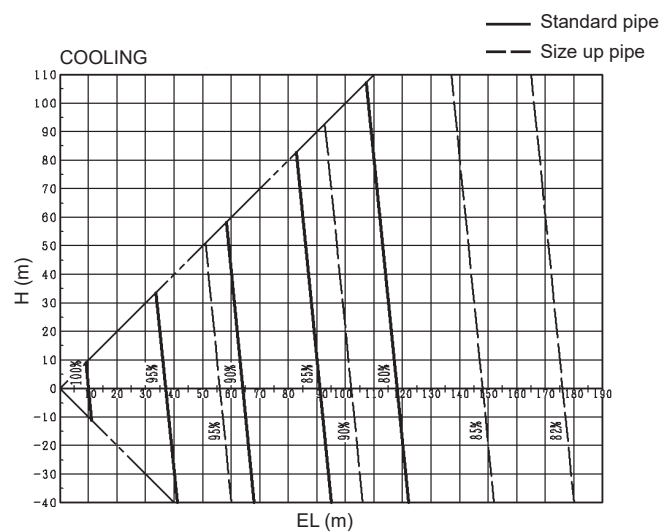
Note:

If L is more than 100m, increase both Liquid Pipe and Gas Pipe .

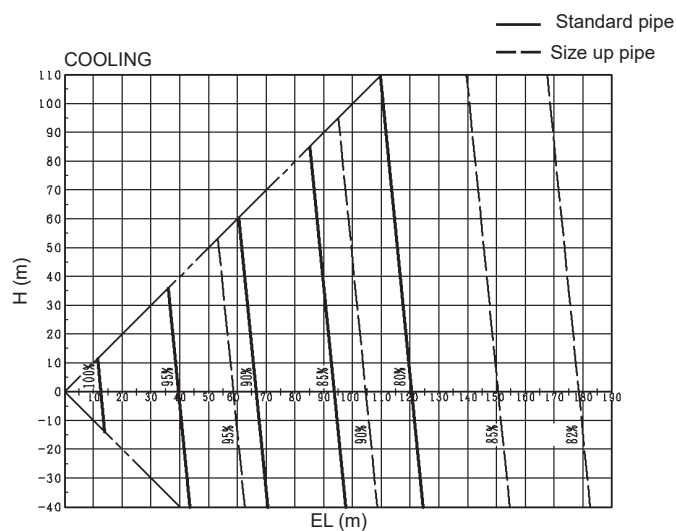
MODELS: RAS-8.0HNBBMQ, RAS-10HNBBMQ, RAS-12HNBBMQ, RAS-14HNBBMQ, RAS-16HNBBMQ



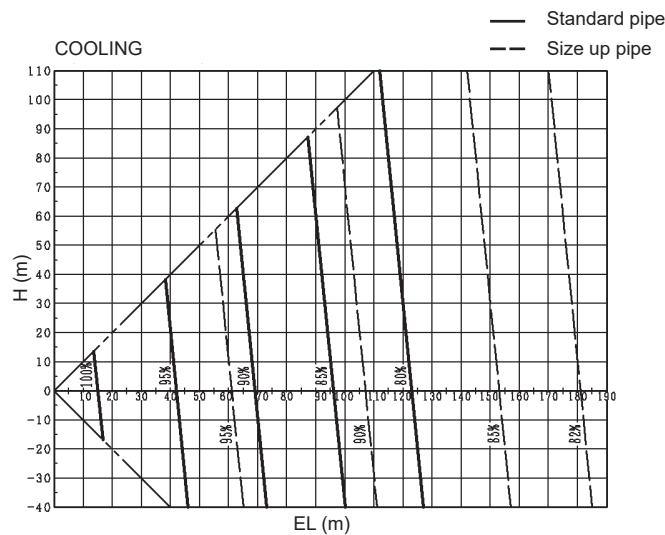
MODELS: RAS-18HNBBMQ, RAS-20HNBBMQ, RAS-22HNBBMQ, RAS-24HNBBMQ



MODELS: RAS-26HNBBMQ, RAS-28HNBBMQ, RAS-30HNBBMQ, RAS-32HNBBMQ, RAS-34HNBBMQ, RAS-36HNBBMQ, RAS-38HNBBMQ, RAS-40HNBBMQ

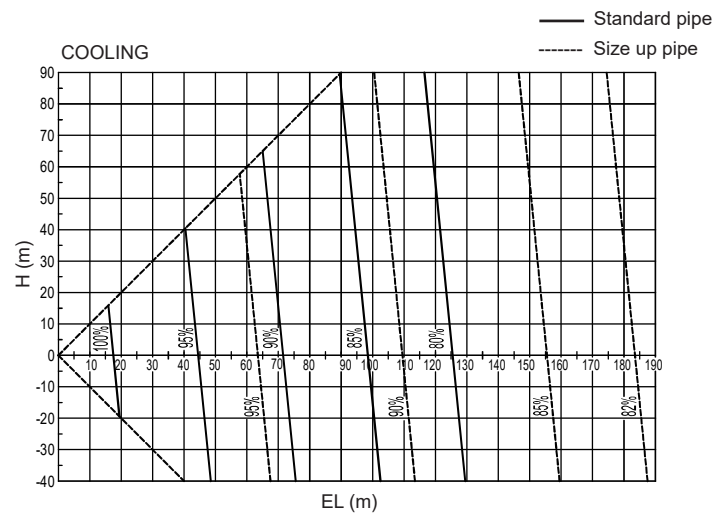


MODELS: RAS-42HNBBMQ, RAS-44HNBBMQ, RAS-46HNBBMQ, RAS-48HNBBMQ

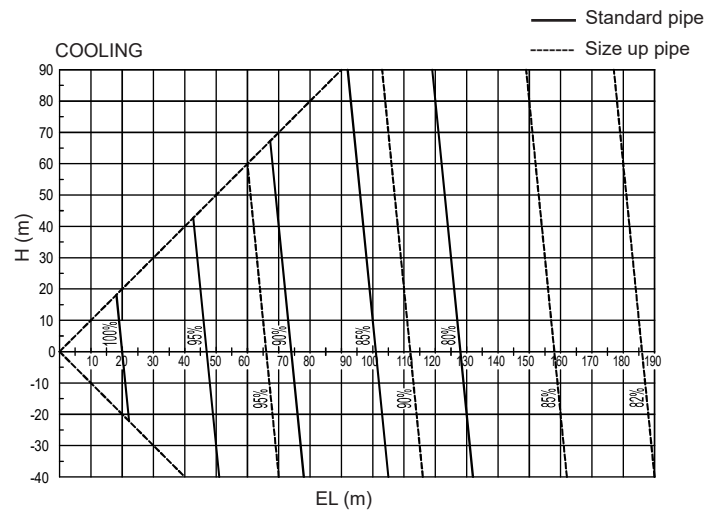


SELECTION DATA

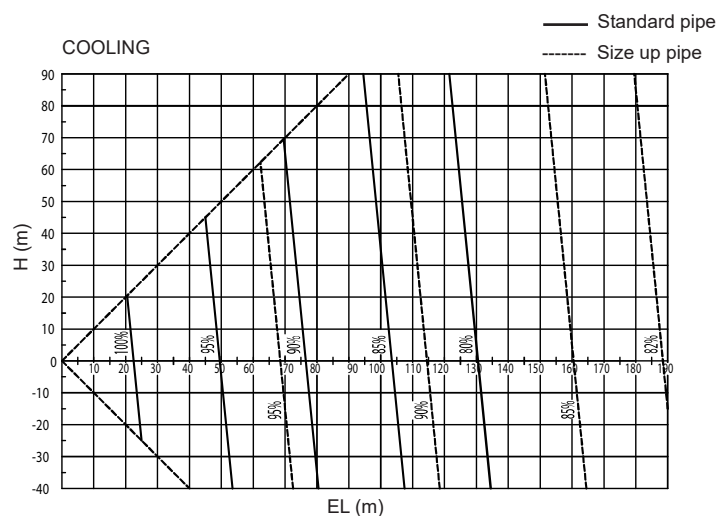
MODELS: RAS-50HNBBMQ, RAS-52HNBBMQ, RAS-54HNBBMQ, RAS-56HNBBMQ, RAS-58HNBBMQ, RAS-60HNBBMQ



MODELS: RAS-62HNBBMQ, RAS-64HNBBMQ, RAS-66HNBBMQ, RAS-68HNBBMQ, RAS-70HNBBMQ, RAS-72HNBBMQ, RAS-74HNBBMQ, RAS-76HNBBMQ



MODELS: RAS-78HNBBMQ, RAS-80HNBBMQ, RAS-82HNBBMQ, RAS-84HNBBMQ, RAS-86HNBBMQ, RAS-88HNBBMQ



< Heating Capacity >

Correction Factor for Heating Capacity According to Piping Length

The heating capacity should be corrected according to the following formula:

$$HCA = HC \times F$$

HCA: Actual Corrected Heating Capacity

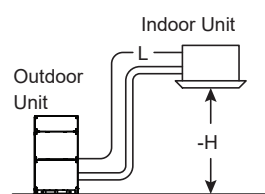
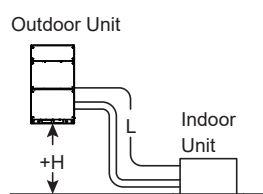
HC: Heating Capacity in the Performance Table

F: Correction Factor Based on the Equivalent Piping Length

The correction factors are shown in the following figure.

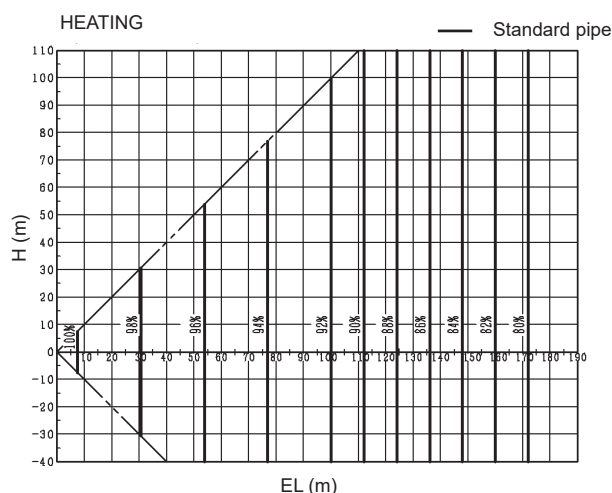
Equivalent Piping Length for

- One 90° Elbow is 0.5m.
- One 180° Bend is 1.5m.
- One Multi-Kit is 0.5m.

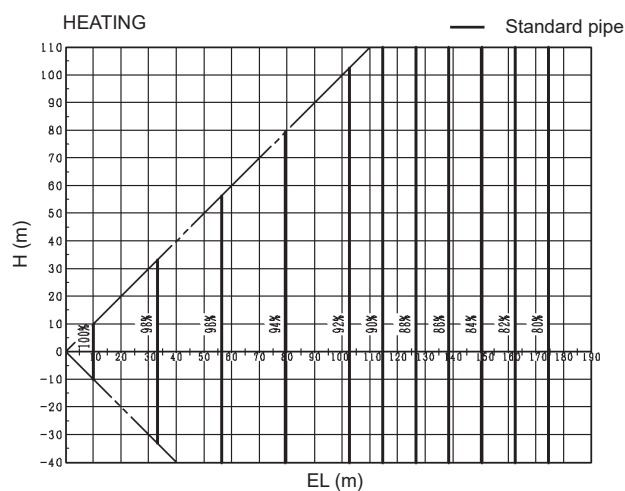


H: Vertical Distance Between Indoor Unit and Outdoor Unit in Meters
 EL: Equivalent Total Distance Between Indoor Unit and Outdoor Unit in Meters (Equivalent One-Way Piping Length)
 H>0: Position of Outdoor Unit Higher Than Position of Indoor Unit
 L: Actual One-Way Piping Length Between Indoor Unit and Outdoor Unit in Meters

MODELS: RAS-8.0HNBBMQ, RAS-10HNBBMQ, RAS-12HNBBMQ, RAS-14HNBBMQ, RAS-16HNBBMQ

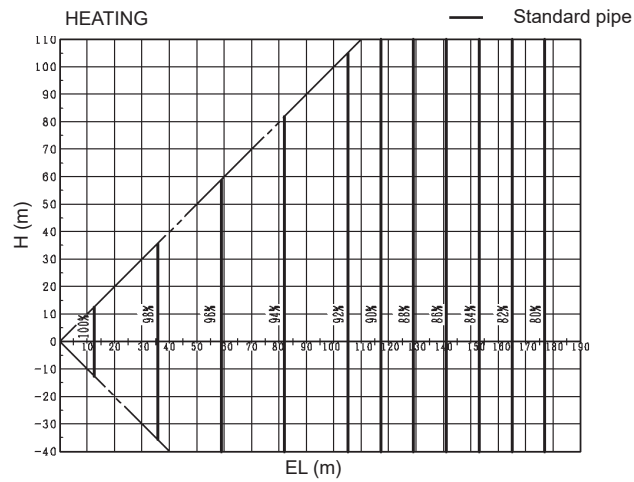


MODELS: RAS-18HNBBMQ, RAS-20HNBBMQ, RAS-22HNBBMQ, RAS-24HNBBMQ

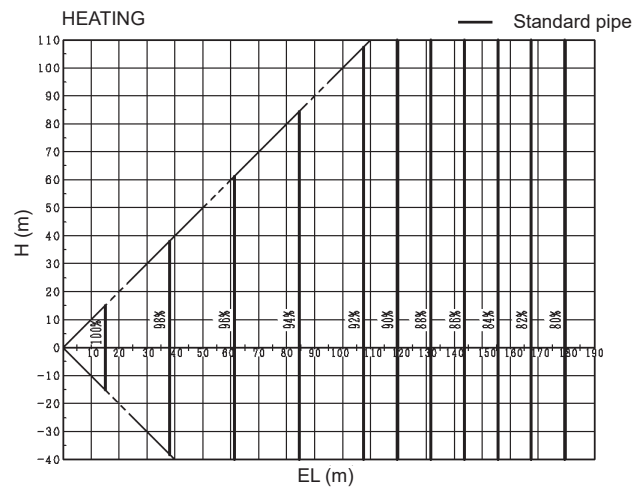


SELECTION DATA

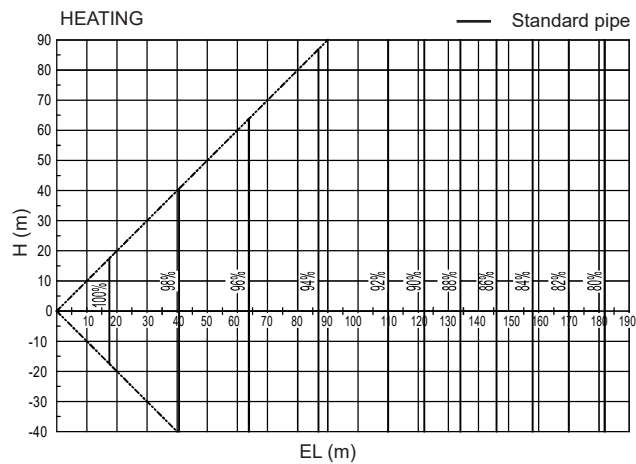
MODELS: RAS-26HNBBMQ, RAS-28HNBBMQ, RAS-30HNBBMQ, RAS-32HNBBMQ, RAS-34HNBBMQ,
RAS-36HNBBMQ, RAS-38HNBBMQ, RAS-40HNBBMQ



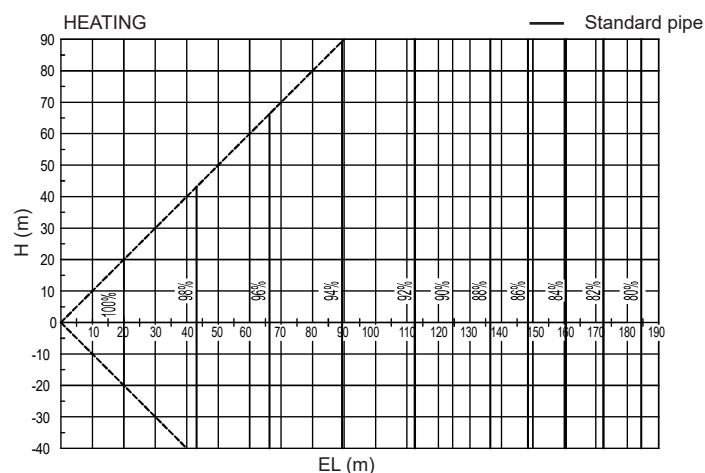
MODELS: RAS-42HNBBMQ, RAS-44HNBBMQ, RAS-46HNBBMQ, RAS-48HNBBMQ



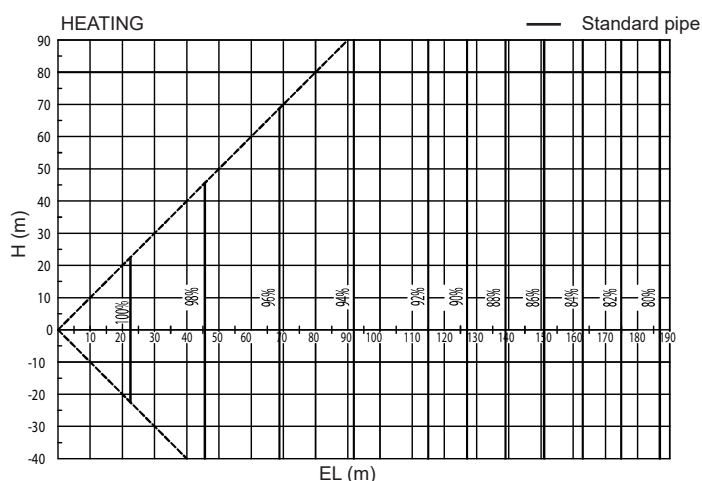
MODELS: RAS-50HNBBMQ, RAS-52HNBBMQ, RAS-54HNBBMQ, RAS-56HNBBMQ, RAS-58HNBBMQ,
RAS-60HNBBMQ



MODELS: RAS-62HNBBMQ, RAS-64HNBBMQ, RAS-66HNBBMQ, RAS-68HNBBMQ, RAS-70HNBBMQ, RAS-72HNBBMQ, RAS-74HNBBMQ, RAS-76HNBBMQ



MODELS: RAS-78HNBBMQ, RAS-80HNBBMQ, RAS-82HNBBMQ, RAS-84HNBBMQ, RAS-86HNBBMQ, RAS-88HNBBMQ



5.3 Correction Factor According to Defrosting Operation

The heating capacity in the preceding paragraph, excludes the condition of the frost or the defrosting operation period.

By considering of the frost or the defrosting operation, the heating capacity is corrected by the equation below.

Corrected Heating Capacity = Correction Factor x Heating Capacity

Outdoor Inlet Air Temp. (°C DB) (Humidity=85% RH)	-7	-5	-3	0	3	5	7
Correction Factor	0.95	0.93	0.88	0.85	0.87	0.90	1.0

Note:

The correction factor is not available for special conditions like snowfall or operation in a transitional period.

6. Electrical Data

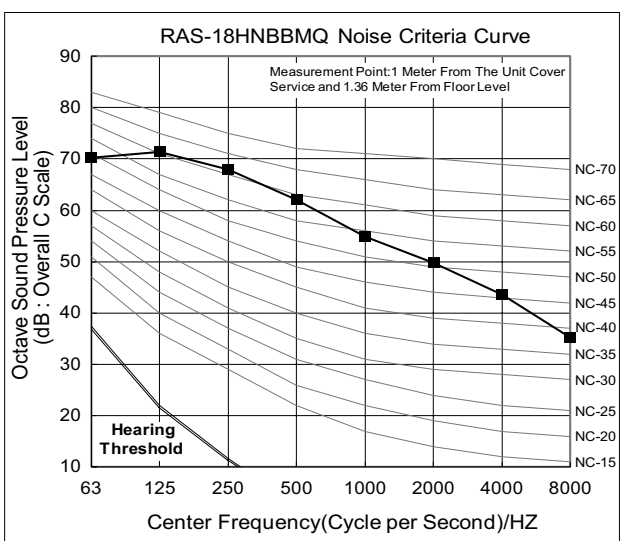
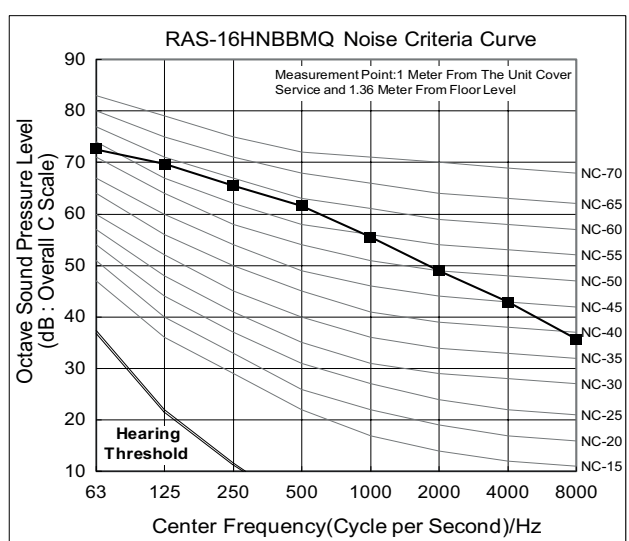
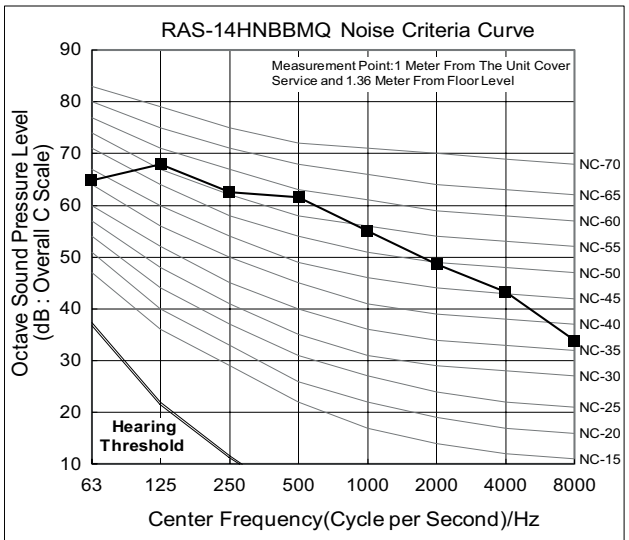
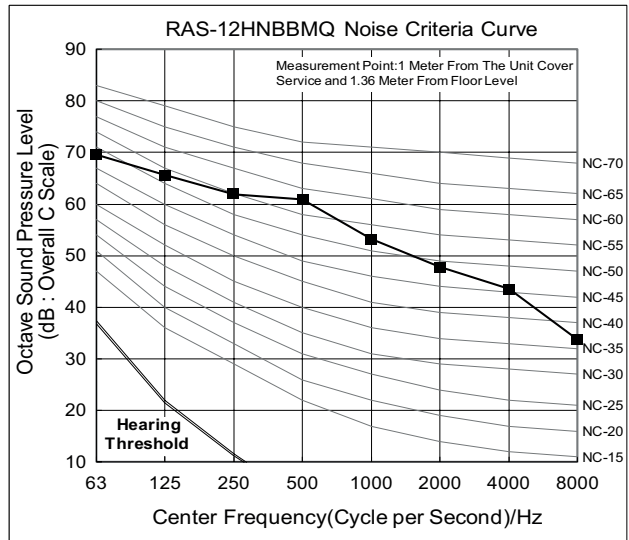
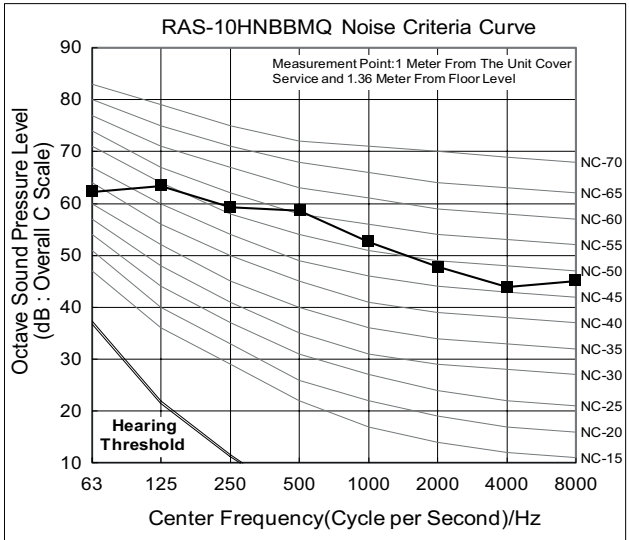
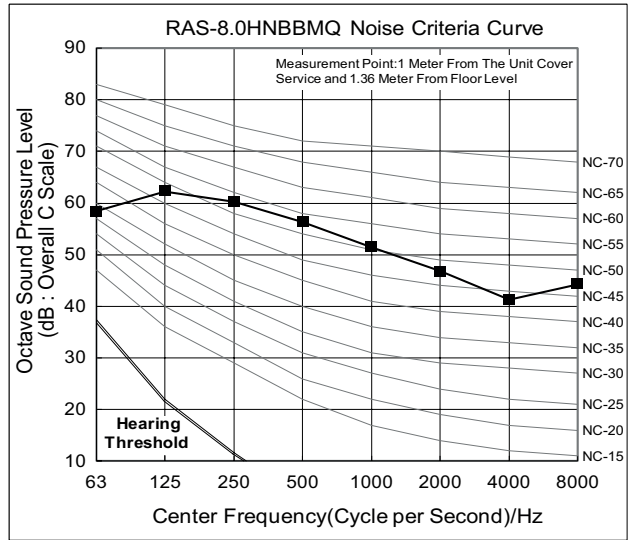
Model	Unit Main Power			Applicable Voltage		Cooling Operation		Heating Operation		Maximum Current(A)
	VOL	PH	HZ	Maximum	Minimum	RNC	IPT	RNC	IPT	
RAS-8.0HNBBMQ	380/ 400/ 415V	3	50	456V	342V	7.0	4.44	7.8	4.97	27.0
RAS-10HNBBMQ						9.2	5.88	10.0	6.36	27.0
RAS-12HNBBMQ						11.2	7.11	12.0	7.50	31.5
RAS-14HNBBMQ						14.6	9.09	14.3	9.04	43.5
RAS-16HNBBMQ						16.1	10.14	17.7	11.04	43.5
RAS-18HNBBMQ						17.9	11.29	19.3	12.15	45.0
RAS-20HNBBMQ						22.5	14.14	24.0	15.11	52.0
RAS-22HNBBMQ						25.0	15.45	26.7	16.83	61.5

VOL: Rated Unit Power Supply Voltage (Plated)(V)	PH: Phase
HZ: Frequency (Hz)	IPT: Input (kW)
RNC: Running Current (A)	

Notes:

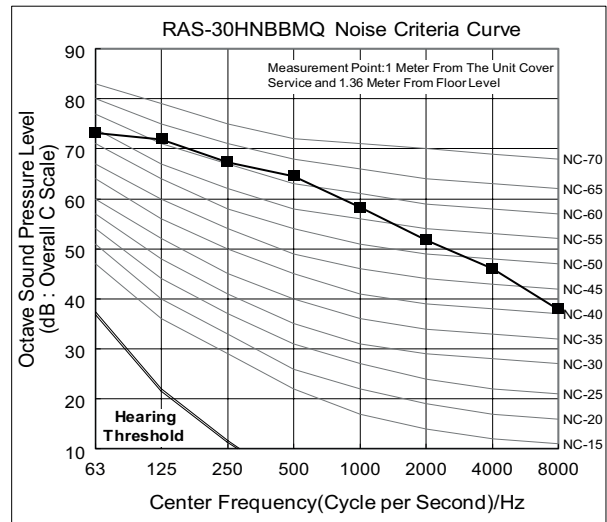
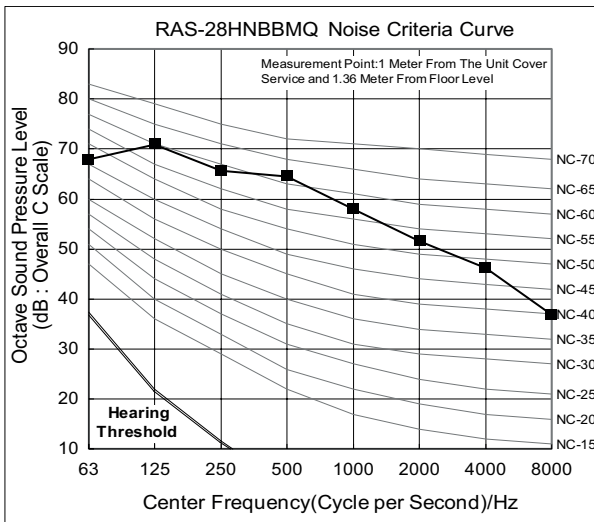
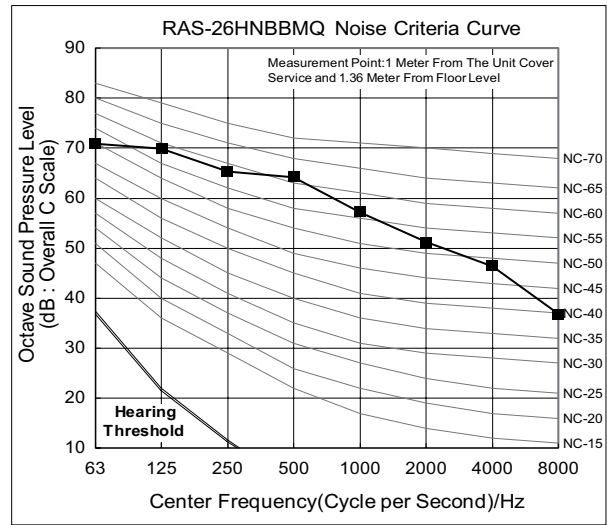
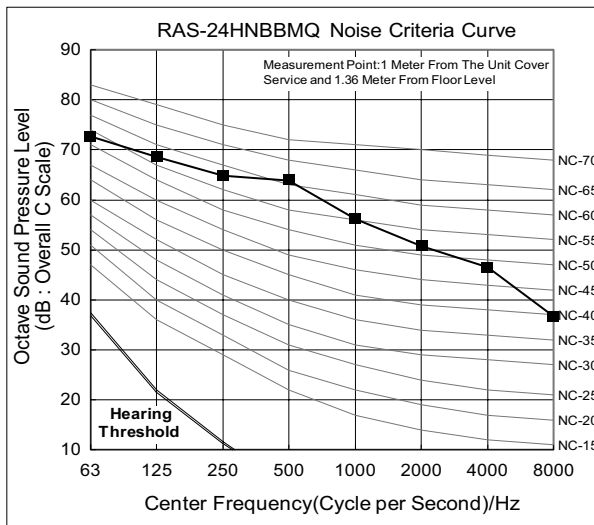
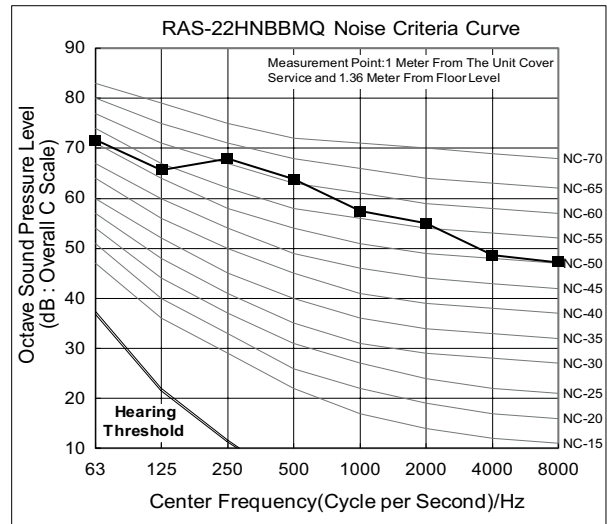
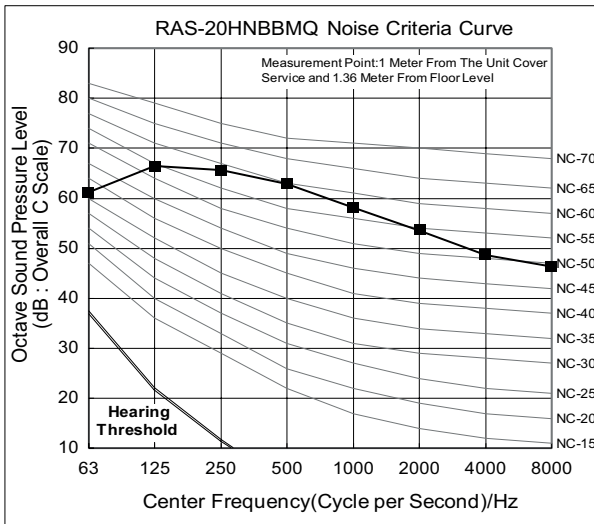
1. The above compressor data is based on 100% capacity combination of the indoor units at rated operating frequency.
2. The above performance data is based on 7.5m equivalent piping length and 0m piping lift.
3. These data are based on the same conditions as the nominal heating and cooling capacities.
4. The compressor is started by an inverter, resulting in extremely low starting current.

7. Sound Data



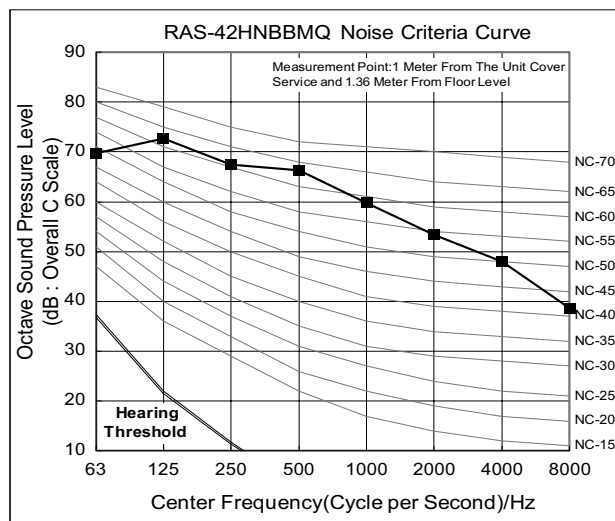
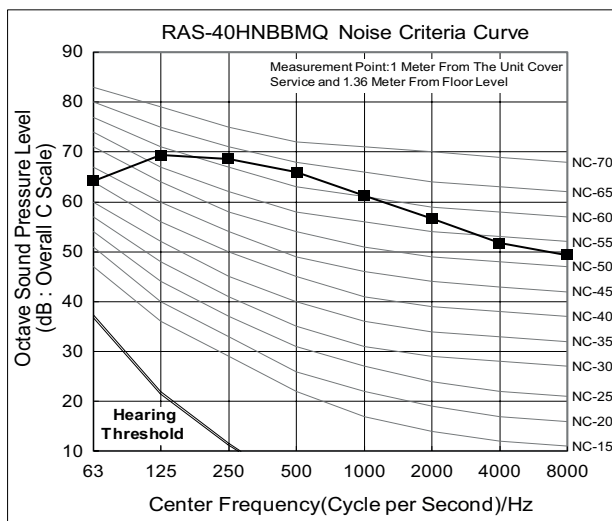
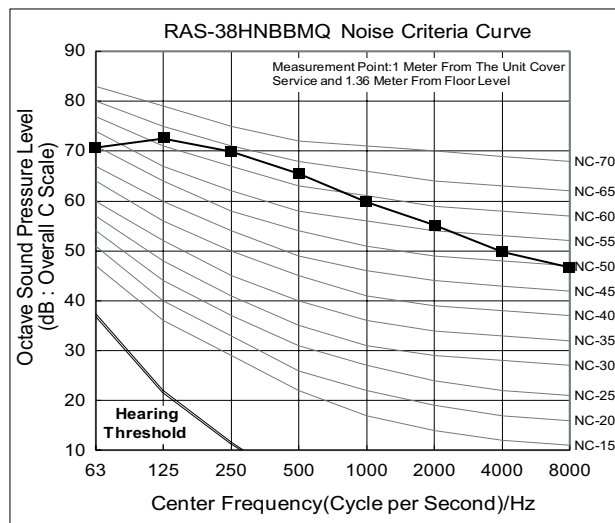
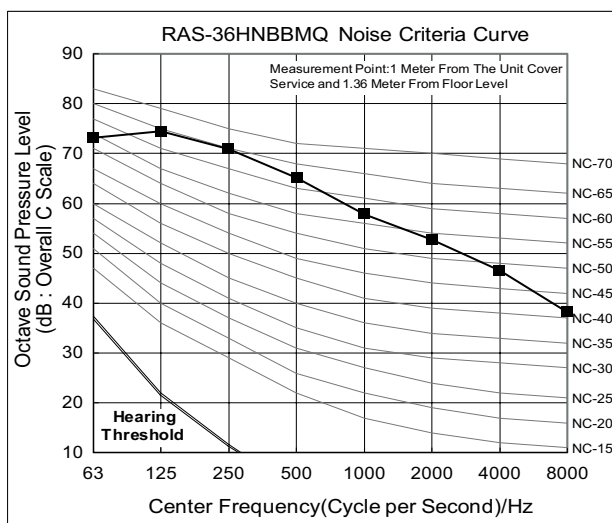
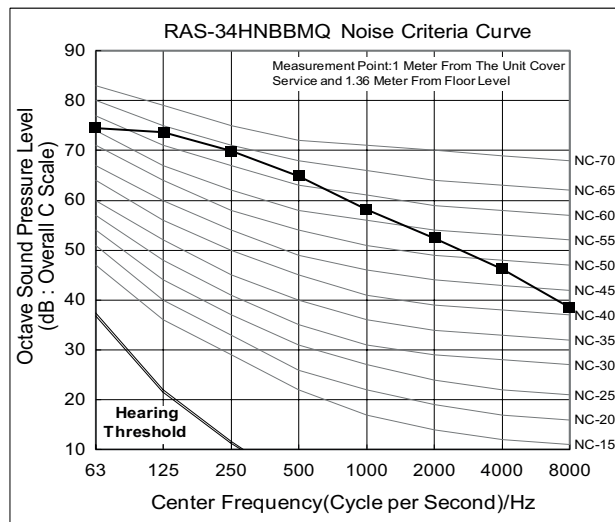
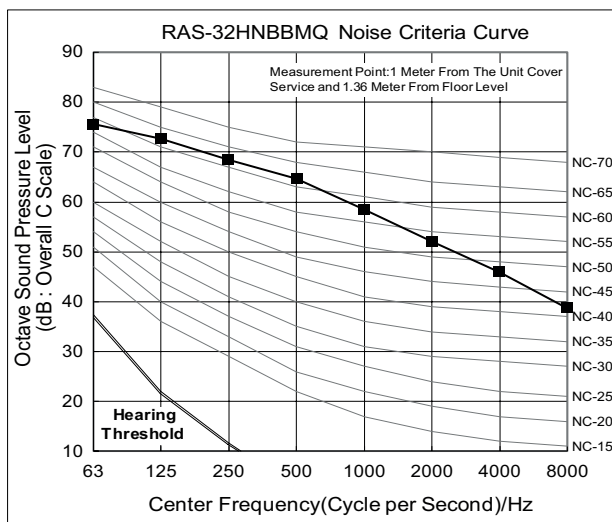
Note:

The readings were taken in an anechoic chamber. Sound in actual surrounding may be higher due to surrounding noise or echo. Take noise source into consideration to look for proper installation location.
(Noise on the back surface will be 6 to 7dB(A) higher than the front surface)



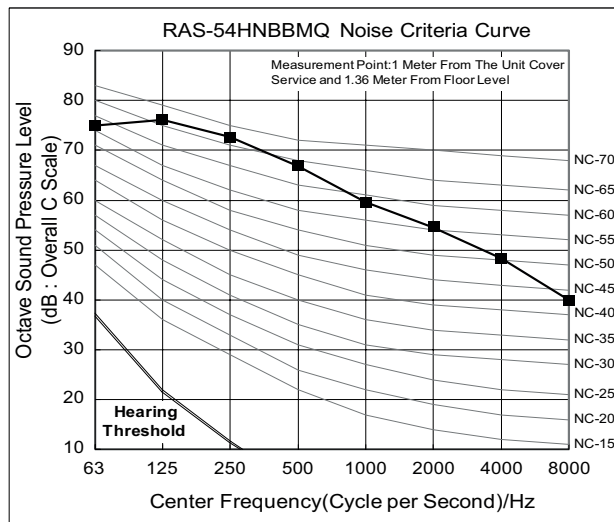
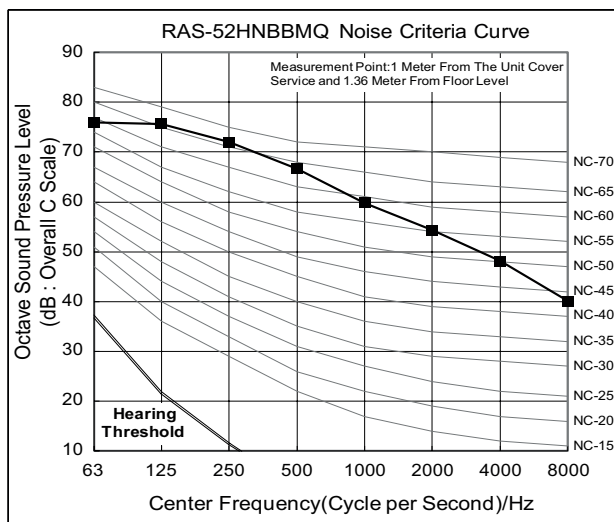
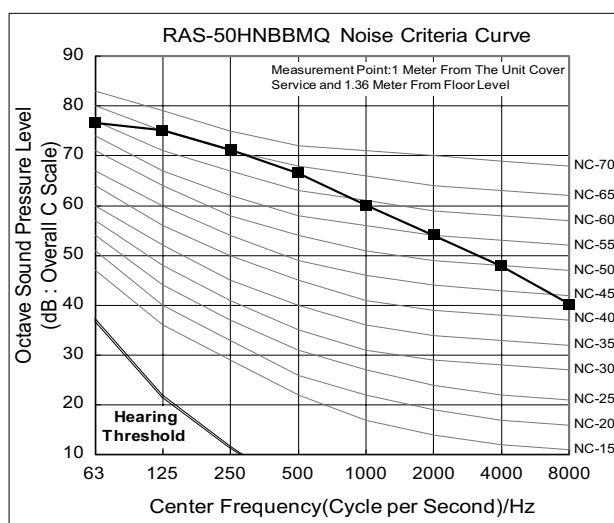
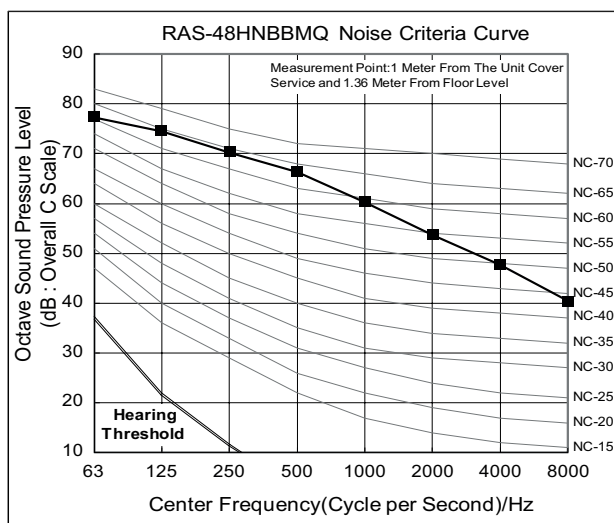
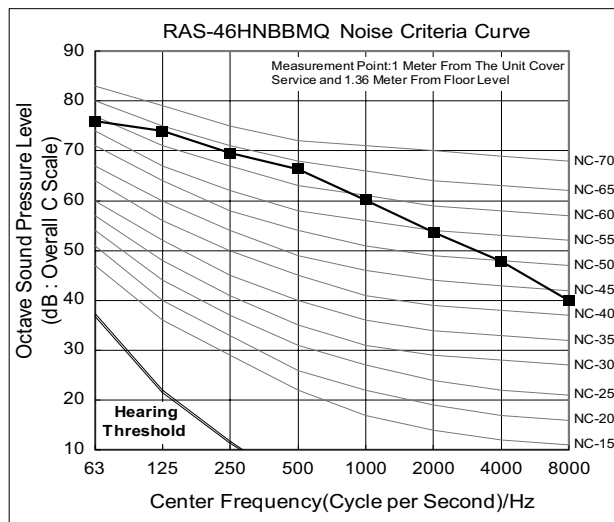
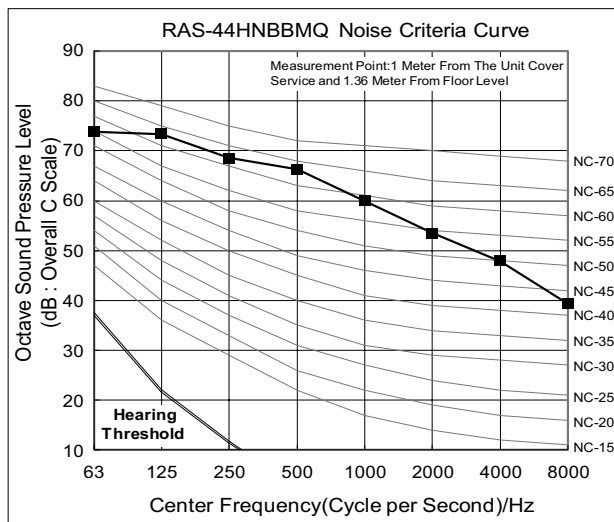
Note:

The readings were taken in an anechoic chamber. Sound in actual surrounding may be higher due to surrounding noise or echo. Take noise source into consideration to look for proper installation location.
(Noise on the back surface will be 6 to 7dB(A) higher than the front surface)



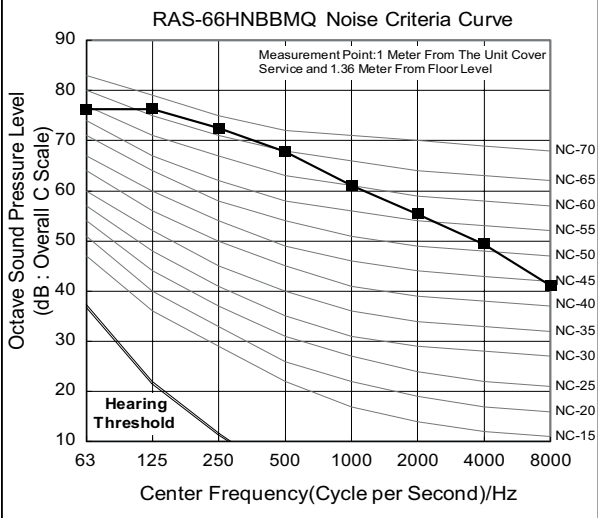
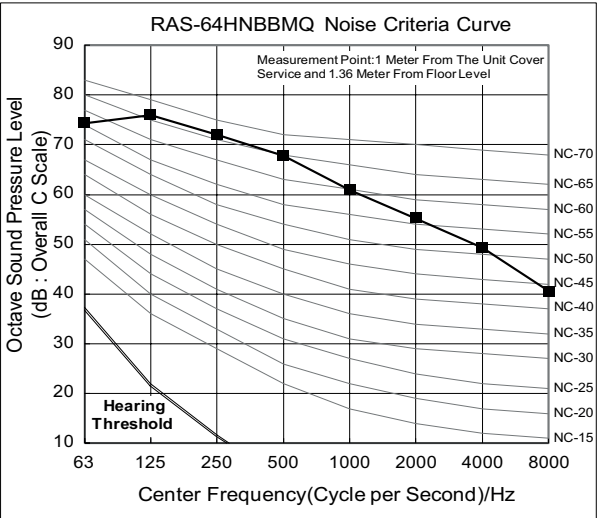
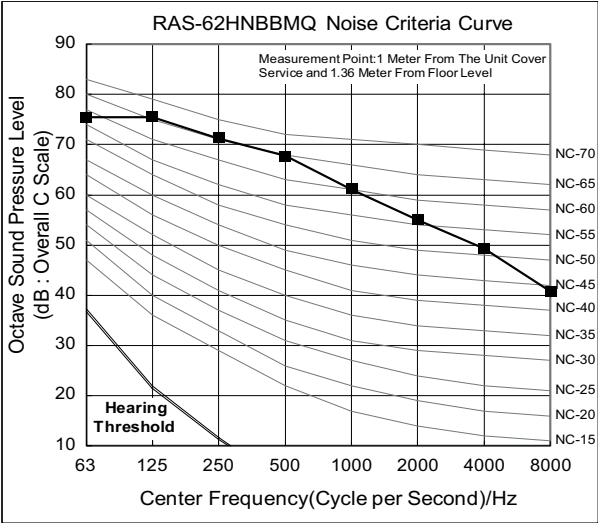
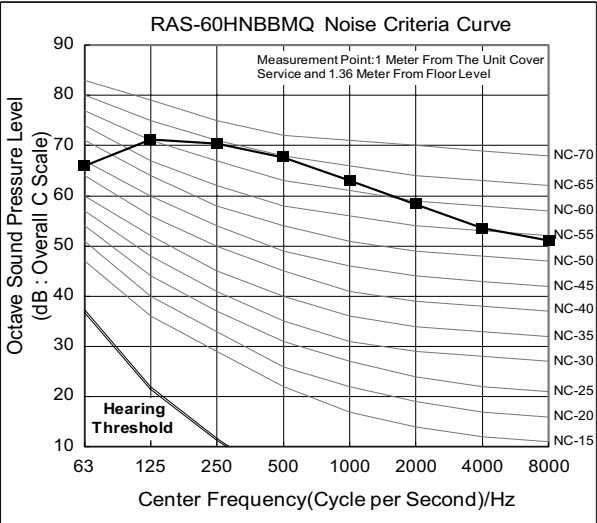
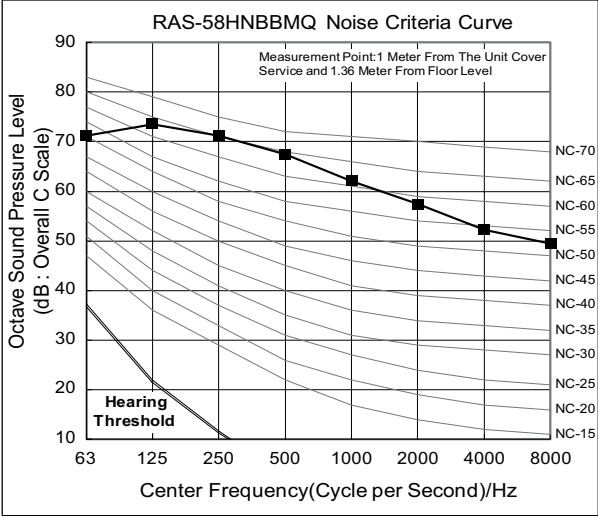
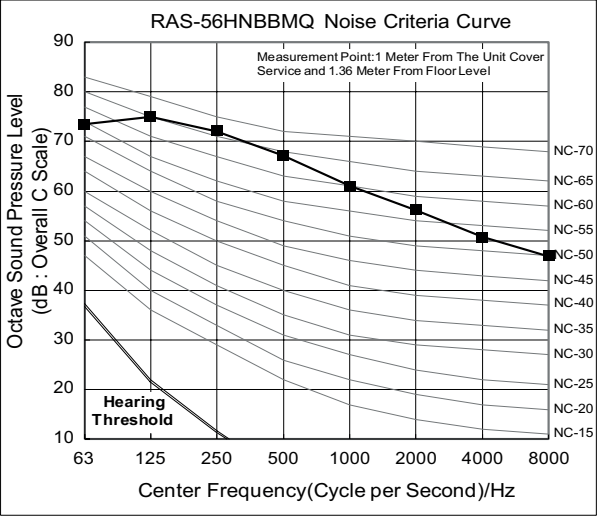
Note:

The readings were taken in an anechoic chamber. Sound in actual surrounding may be higher due to surrounding noise or echo. Take noise source into consideration to look for proper installation location.
(Noise on the back surface will be 6 to 7dB(A) higher than the front surface)



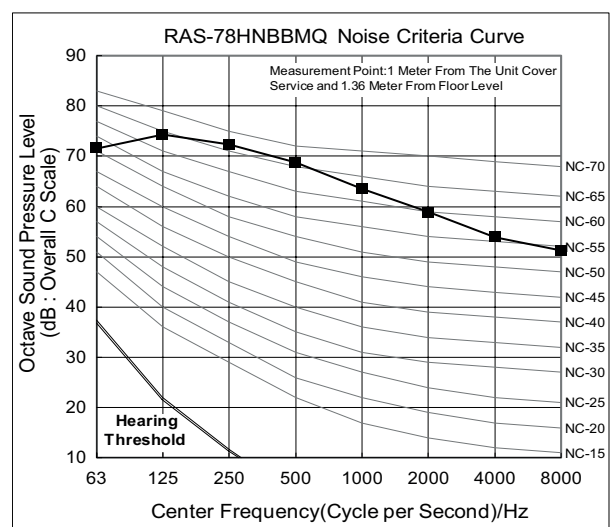
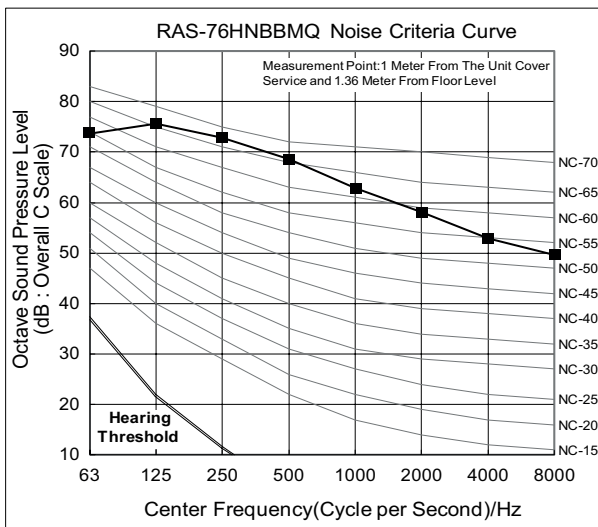
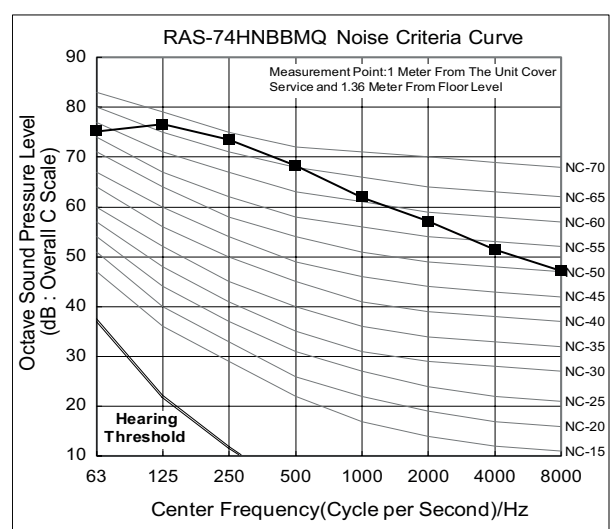
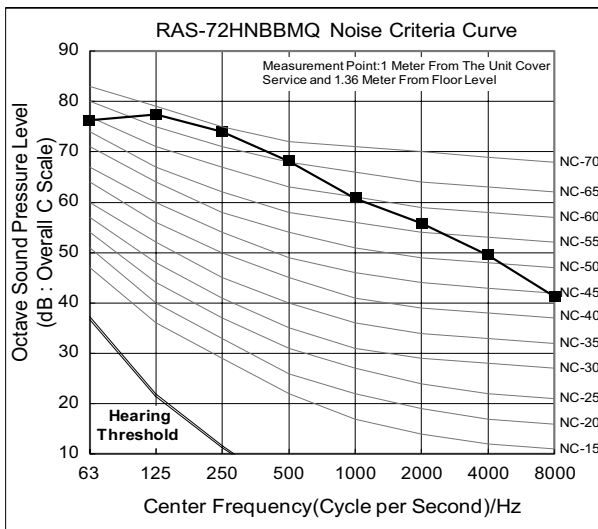
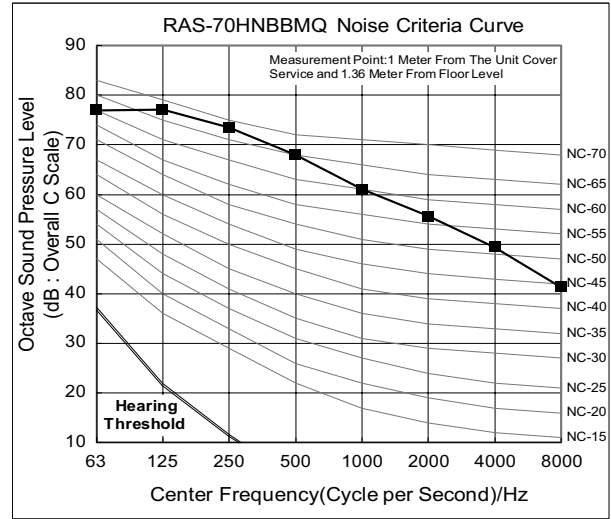
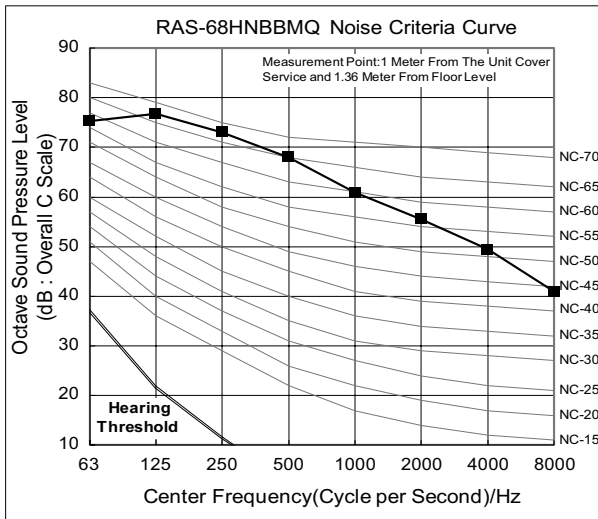
Note:

The readings were taken in an anechoic chamber. Sound in actual surrounding may be higher due to surrounding noise or echo. Take noise source into consideration to look for proper installation location.
(Noise on the back surface will be 6 to 7dB(A) higher than the front surface)



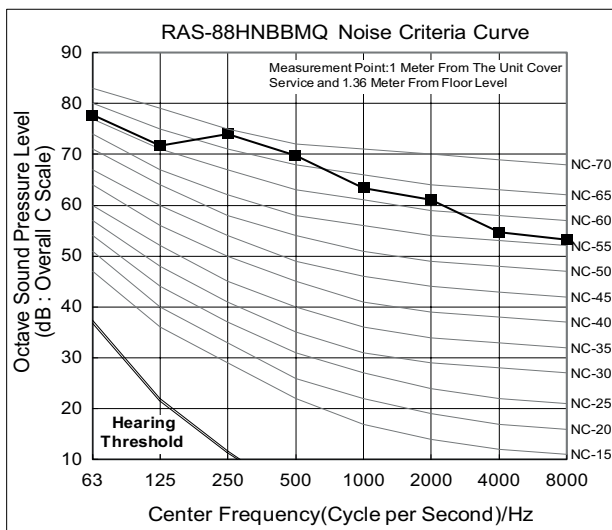
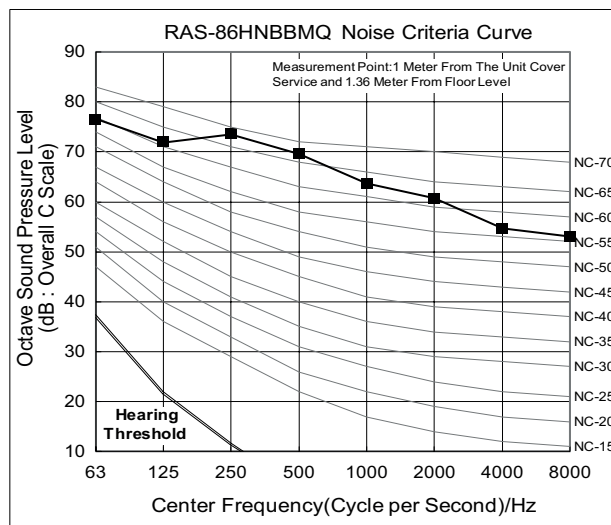
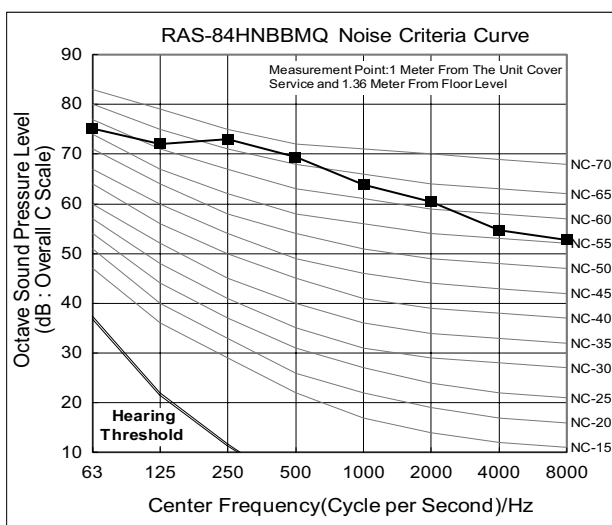
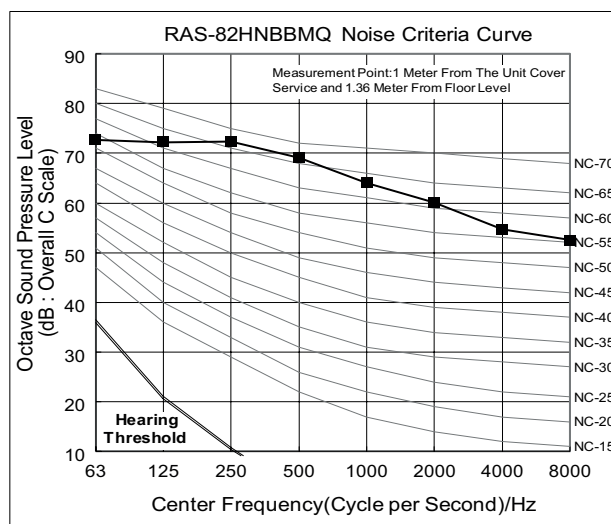
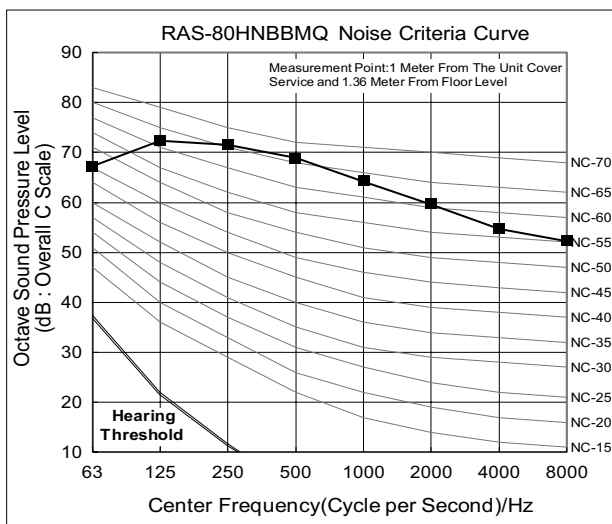
Note:

The readings were taken in an anechoic chamber. Sound in actual surrounding may be higher due to surrounding noise or echo. Take noise source into consideration to look for proper installation location.
(Noise on the back surface will be 6 to 7dB(A) higher than the front surface)



Note:

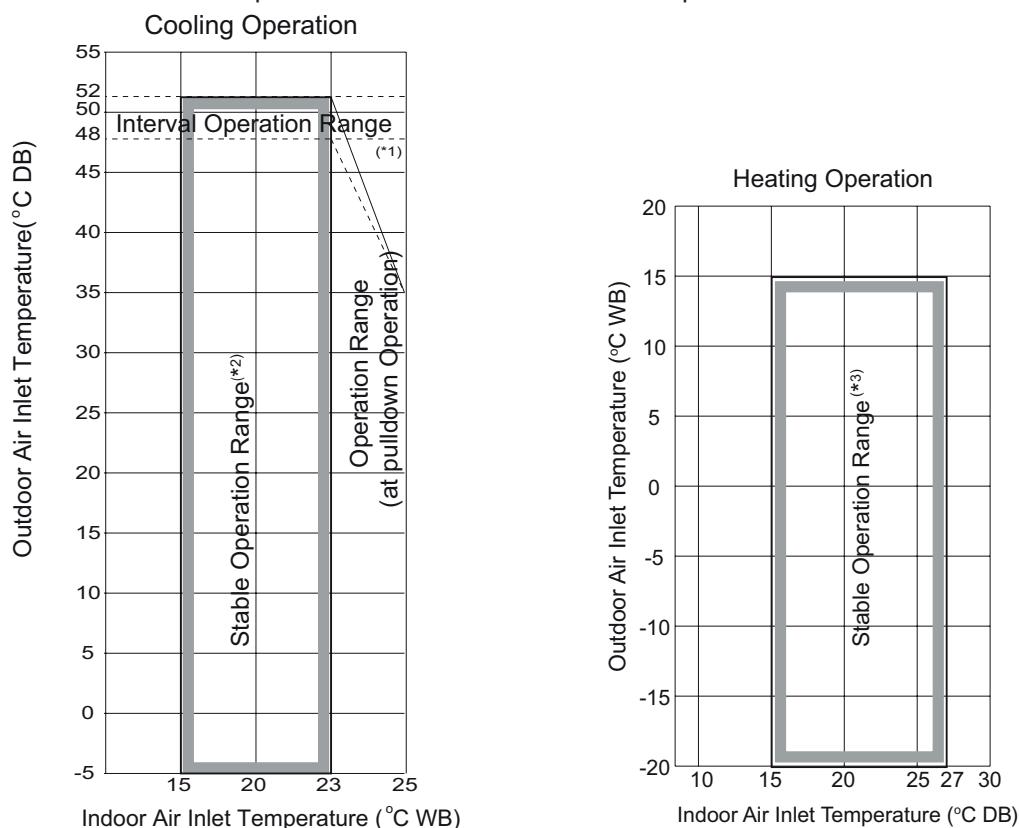
The readings were taken in an anechoic chamber. Sound in actual surrounding may be higher due to surrounding noise or echo. Take noise source into consideration to look for proper installation location.
(Noise on the back surface will be 6 to 7dB(A) higher than the front surface)

**Note:**

The readings were taken in an anechoic chamber. Sound in actual surrounding may be higher bigger due to surrounding noise or echo. Take noise source into consideration to look for proper installation location.
(Noise on the back surface will be 6 to 7dB(A) higher than the front surface)

8. Working Range

This unit has been designed for cooling operation under low ambient temperatures down to -5°C. This feature enables cooling to be obtained even in winter in buildings with high internal heat gains due to lighting, people and machines, particularly in areas such as shops, lecture rooms, data processing areas etc. And the heating operation under low ambient temperature down to -20°C can also be performed.



	Cooling Operation	Heating Operation
Indoor Air Inlet Temperature	15 to 23 °C WB	15 to 27°C DB
Outdoor Air Inlet Temperature	-5 to 52°C DB (*1)	-20 to 15°C WB

Notes:

- *1. (1) Cooling operation at maximum 52°C DB (48°C~52°C interval operation) is available only if the outdoor air inlet temperature increase temporarily according to the installation condition.
- (2) If the units are installed in a place where ambient temperature exceeds 48°C continuously, the combination ratio must be lower 100%, operation indoor units capacity must be lower than outdoor unit capacity .
- (3) The cooling capacity deteriorates at high ambient temperature. Select larger capacity outdoor unit compatible with building heat load.
- (4) The appropriate amount (100%) of refrigerant must be charged. Excessive charging of refrigerant is forbidden and may cause alarm.
- (5) Avoided installing the units in places affected by direct sunlight, reflection and short circuit. There is a possibility of protection control and alarm system activation if the units are installed in inappropriate place. Also the life time of the products and parts considerably shortened.
- (6) Periodic maintenance (1/certain month) must be done to the heat exchanger fin to avoid adhesion of dirt and clogging of sand to the outdoor unit heat exchanger.
- *2. There is a possibility of thermo-OFF when cooling load is low and outdoor air inlet temperature is 10°C DB or lower to prevent frost formation on indoor unit heat exchanger.
- *3. There is a possibility of thermo-OFF when heating load is low and outdoor air inlet temperature is high (higher than 15°C DB) to prevent the outdoor unit. The outdoor unit operation stops when outdoor air inlet temperature exceeds 26°C DB.
4. Operational range is different when connected to All Fresh Air Unit, and other special indoor units. Refer to the technical catalogue for the details.

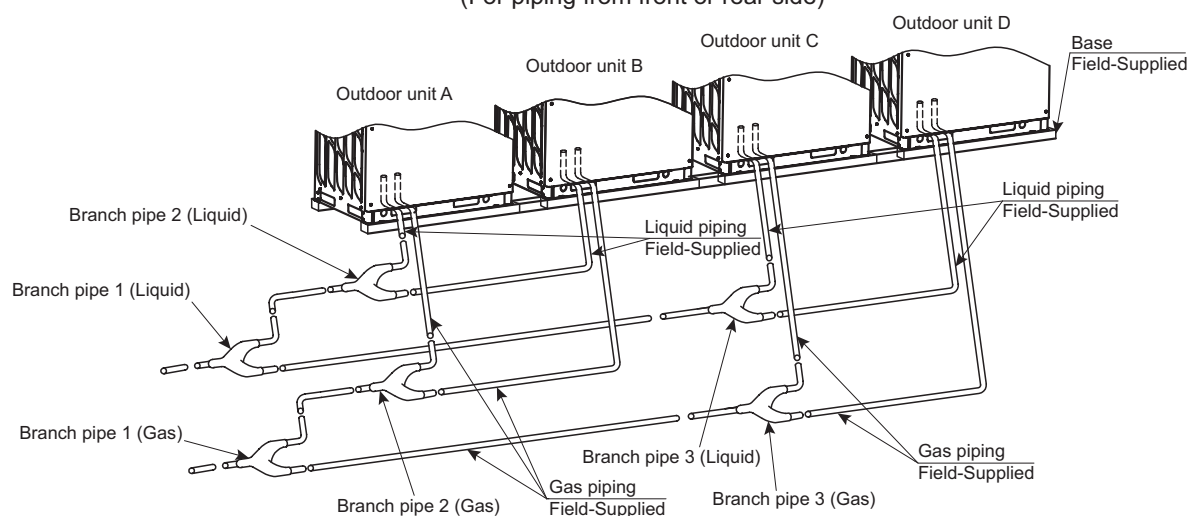
9. Optional Accessories

9.1. Piping Connection Kit

Item	Outdoor Combination		Branch Pipe Type	Remarks
	Outdoor Unit Capacity	Number of Outdoor Units		
Piping Connection Kit	24HP ~ 26HP	2	M-30SNQ	
	28HP ~ 40HP	2	M-46SNQ	
	42HP ~ 48HP	3	M-46SNQ + M-30SNQ	
	50HP ~ 60HP	3	M-68SNQ + M-30SNQ	
	62HP ~ 88HP	4	M-68SNQ + M-30SNQ + M-30SNQ	

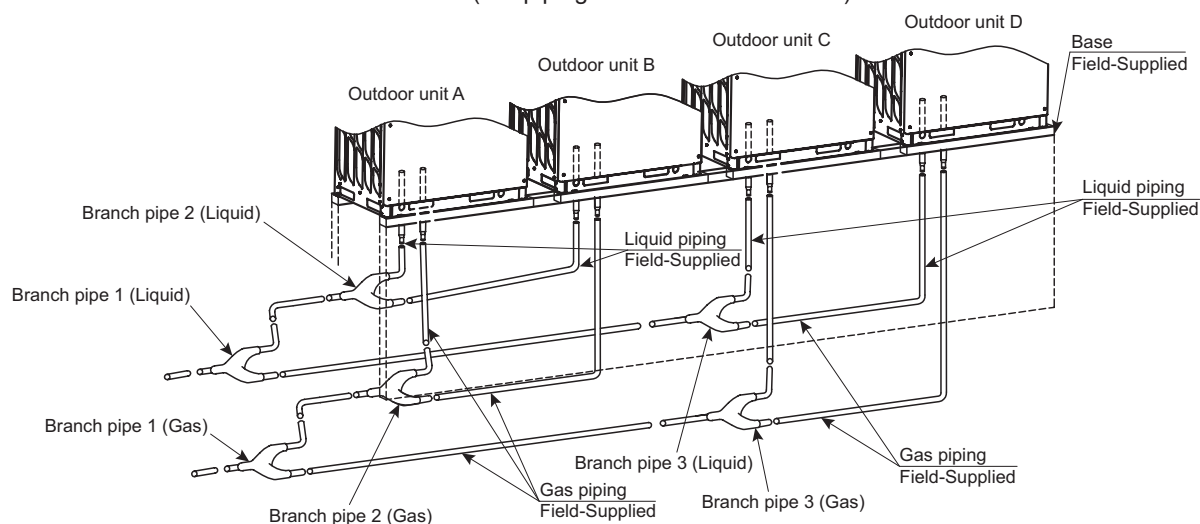
Construction Example : for 4 Units Combination

(For piping from front or rear side)



Note: Branch piping should be installed with the ground level (horizontal tilt angle ≤ 15 degrees)

(For piping from front or lower side)



Note: Branch piping should be installed with the ground level (horizontal tilt angle ≤ 15 degrees)

Notes:

1. Perform the piping connection between outdoor units according to this figure.
2. Refer to Installation and Maintenance Manual of the Outdoor unit for the dimension and distance between outdoor units and between connection kits.

9.2. Multi-Kit

Multi-Kit for Heat Pump System

1) The first branch pipe selection

Max. Piping Length < 100m		Max. Piping Length ≥ 100m	
Outdoor Unit Capacity	Multi-kit Type	Outdoor Unit Capacity	Multi-kit Type
8~12HP	E-162SN	8~12HP	E-242SN
14~22HP	E-242SN	14~22HP	E-302SN
24~48HP	E-302SN	24~48HP	E-462SN
50~60HP	E-462SN	50~88HP	E-682SN
62~88HP	E-682SN		

2) Piping connection from each first branch pipe to each indoor unit

Indoor Unit Machine capacity (kW)	Gas Pipe (mm)	Liquid Pipe (mm)	Multi-kit Type
$Q \leq 15.9$	15.88	9.52	E-102SN
$16 \leq Q < 25$	19.05	9.52	
$25 \leq Q < 33.5$	22.2	9.52	
$33.5 \leq Q < 45$	25.4	12.7	E-162SN
$45 \leq Q < 50$	28.58	12.7	
$50 \leq Q < 72.9$	28.58	15.88	E-242SN
$72.9 \leq Q < 100.8$	31.75	19.05	E-302SN
$100.8 \leq Q < 156.8$	38.1	19.05	
$156.8 \leq Q < 190.4$	44.45	19.05	E-462SN
$190.4 \leq Q < 207.2$	44.45	22.2	
$207.2 \leq Q < 252$	50.8	22.2	E-682SN
$252 \leq Q < 274.4$	50.8	25.4	
$274.4 \leq Q < 349.5$	50.8	28.58	

9.3. Drain Pipe Joint

Drain pipe joint is a drain connection device when the outdoor unit chassis is used a water tray.

Name	Model
Drain pipe joint	DC-01Q

Drain pipe connection components:

Model	Part Name	Quantity	Usage
DC-01Q	Drain pipe joint	1	Connect the drain connection
	Drain pipe cap	1	Blocking the water pipe mouth
	Rubber cap	4	Sealed drain connection and drain cap

Drain Water Treatment

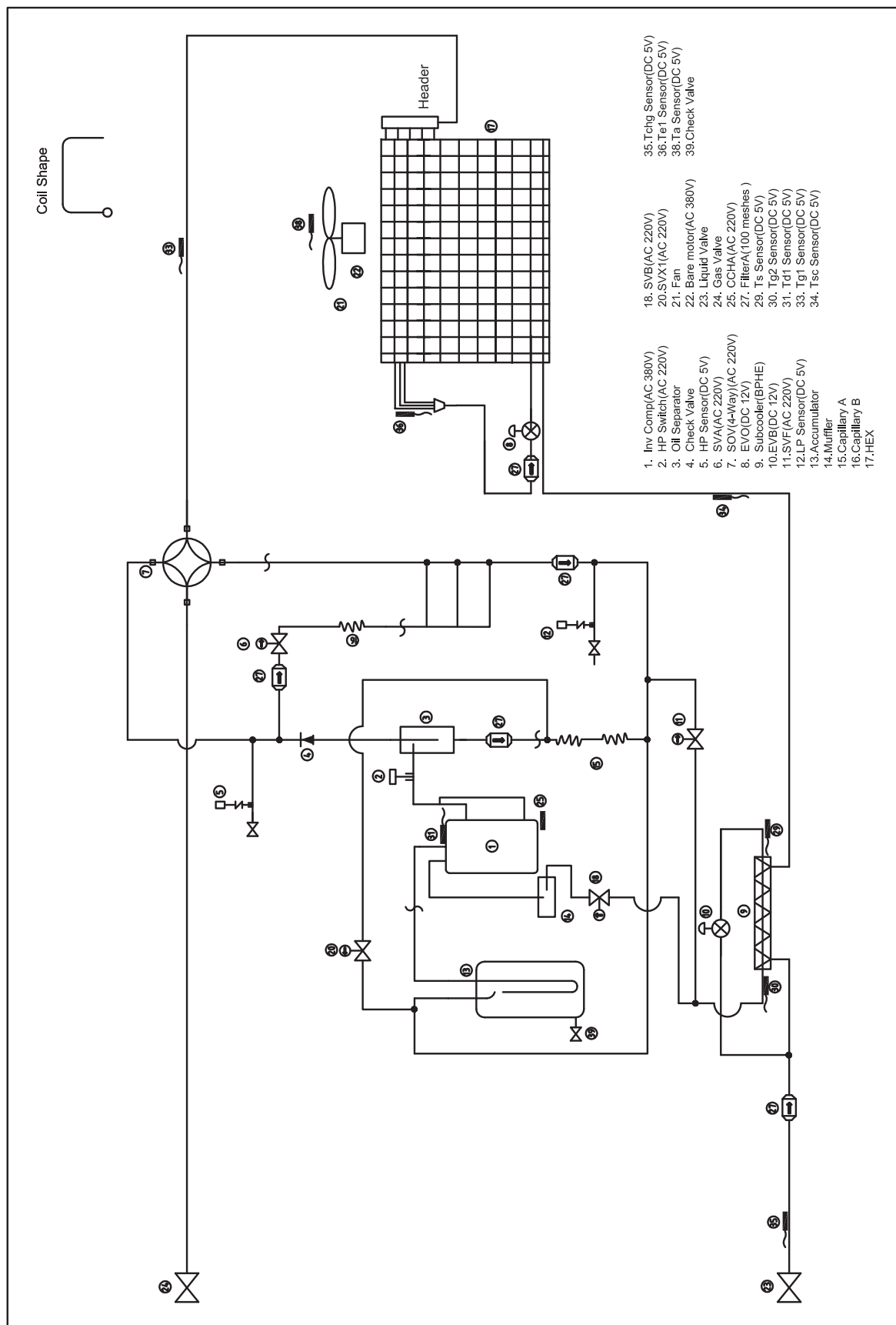
Drain water is discharged during heating and defrosting operation. (Rain water is also discharged). Pay attention to the following:

- (1) Choose a place where proper drainage is available or provide a drain ditch.
- (2) Do not install the unit over the walkways. Condensed water may fall on people. In case of installing the unit in such places, provide additional drain pan.
- (3) Do not use drain boss in the cold area. The drain water in the drain pipe may freeze and cause then the drain pipe to crack.

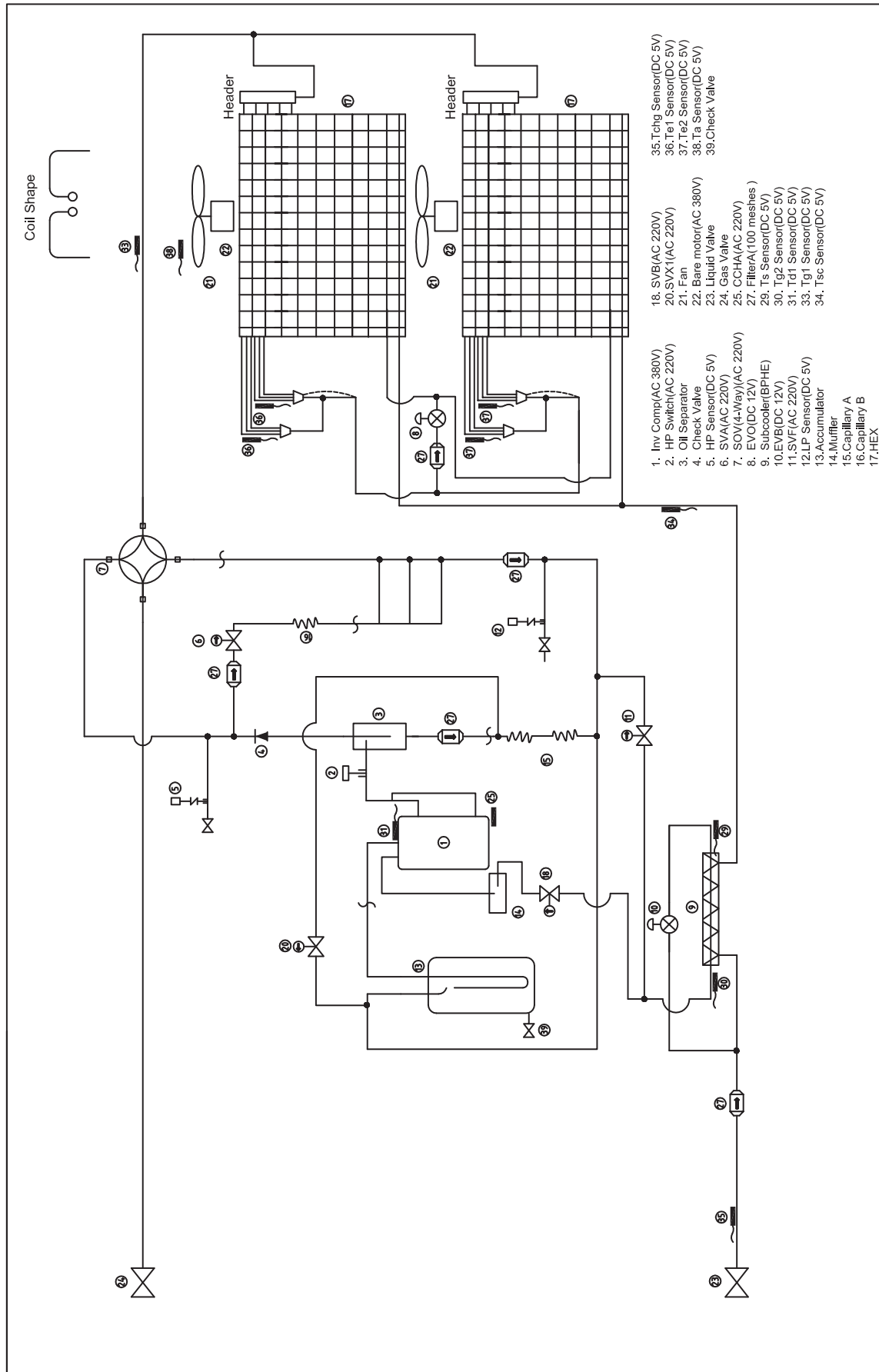
10. Control System

10.1 Refrigeration Cycle

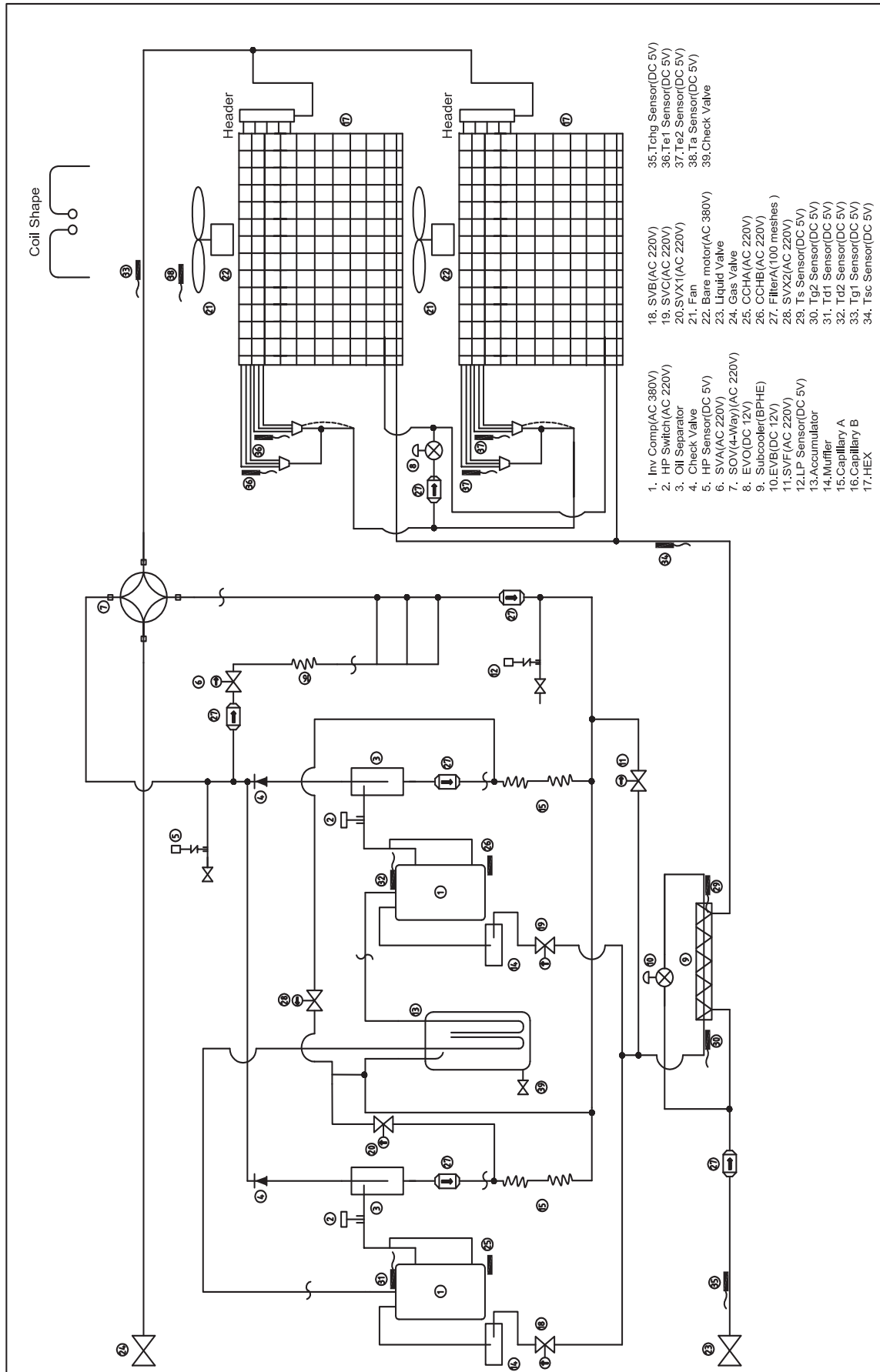
Model: RAS-8.0HNBBMQ, RAS-10HNBBMQ



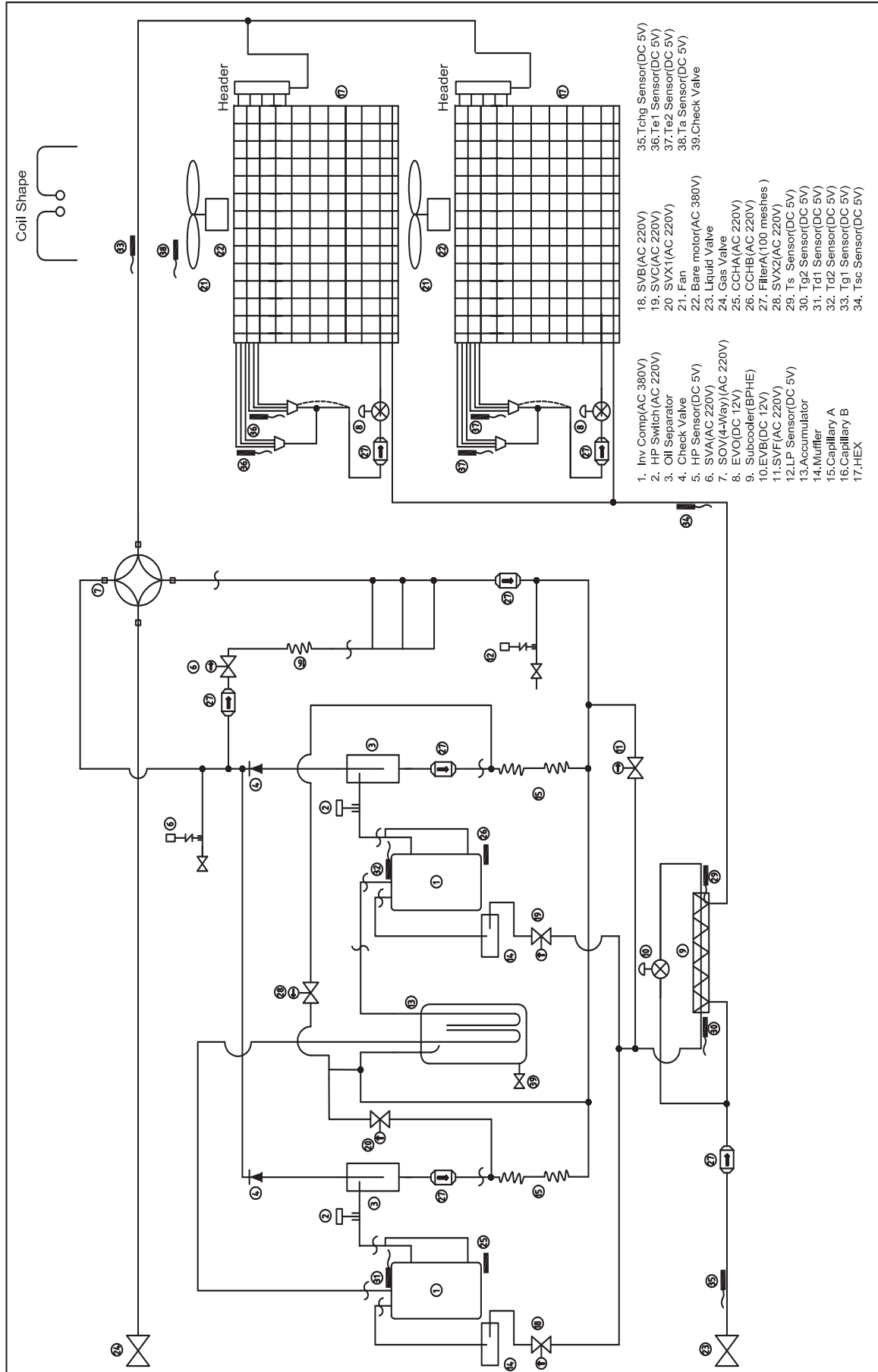
Model: RAS-12HNBBMQ



Model: RAS-14HNBBMQ, RAS-16HNBBMQ



Model: RAS-18HNBBMQ, RAS-20HNBBMQ, RAS-22HNBBMQ



10.2 Control System

■ Cycle Control

Control Device	Control				
	Cooling Operation *		Heating Operation		Defrosting
	Control Category	Purpose of Control	Control Category	Purpose of Control	Condition
Inverter Frequency of Compressor	Total I.U. Operating Capacity	Inverter Frequency Control is carried out to make I.U. air inlet temperature to temperature setpoint.	Total I.U. Operating Capacity	Inverter Frequency Control is carried out to make I.U. air inlet temperature to temperature setpoint.	All of the compressors: ON
Electronic Expansion Valve for O.U. Heat Exchanger	Capacity Control	Fully open	O.U. Heat Exchanger SH	PI control is carried out to achieve the targeted value of O.U. heat exchanger SH.	Fully open
Electronic Expansion Valve for Supercooling Heat Exchanger (Injection OFF)	Tsc - Tchg	PI Control is carried out to achieve the target value of Tsc - Tchg.	Tchg - Tsc	PI Control is carried out to achieve the target value of Tchg - Tsc.	Tsc - Tchg
Electronic Expansion Valve for Supercooling Heat Exchanger (Injection ON)	Tg ₂ - Ts	PI Control is carried out to achieve the target value of Tg ₂ - Ts.	Tg ₂ - Ts	PI Control is carried out to achieve the target value of Tg ₂ - Ts.	Tg ₂ - Ts
Electronic Expansion Valve for I.U. Heat Exchanger	I.U. Heat Exchanger SH	PI control is carried out to achieve the targeted value of I.U. heat exchanger SH.	I.U. Heat Exchanger SC	Controls supercooling of I.U. liquid thermistor to achieve the targeted value.	I.U. Heat Exchanger SH Control
Outdoor Fan	Pd Control	PI control is carried out to achieve the targeted value of Pd.	Ps Control	PI control is carried out to achieve the targeted value of Ps.	Stop
Gas Bypass Valve (SVA)	1. Pd Increase Protection 2. Ps Decrease Protection	1. Pd>3.6MPa: Open 2. Ps<0.2MPa: Open	1. Pd Increase Protection 2. Ps Decrease Protection	1. Pd>3.5MPa: Open 2. Ps<0.1MPa: Open	Closed

(*): Dry operation is included in the cooling operation.

Pd: Discharge Pressure

Ps: Suction Pressure

SH: Superheat

Tsc: Subcooler Temperature

Tchg: Liquid Stop Valve Temperature

I.U.: Indoor Unit

O.U.: Outdoor Unit

■ Compressor Operation Control

(1) Compressor Rotation Control

This compressor rotation control is performed in order to make the operation duration of compressor equal for each outdoor unit.

This control is performed during the outdoor unit thermo-OFF or switch OFF.

When turning ON the outdoor unit, the inverter compressor with the shortest operating time (average operating time for the outdoor unit installed two inverter compressors) will operate preferentially.

At least 2 outdoor units are required for this function.

The operating sequence of compressor rotation control is as follows.

RAS-24HNBBMQ

< Compressor Operating Sequence >

	Outdoor Unit A	Outdoor Unit B
	Inverter Compressor	
Last Time	1	2
This Time	2	1
Next Time	1	2

RAS-26HNBBMQ

< Compressor Operating Sequence >

	Outdoor Unit A		Outdoor Unit B
	Inverter Compressor 1	Inverter Compressor 2	Inverter Compressor
Last Time	1	3	2
This Time	2	3	1
Next Time	1	3	2

Note:

When turning ON the outdoor unit A, the inverter compressor 1 or 2 with the shortest operating time will operate preferentially.

RAS-28, 30, 32, 34, 36, 38, 40HNBBMQ

< Compressor Operating Sequence >

	Outdoor Unit A		Outdoor Unit B	
	Inverter Compressor 1	Inverter Compressor 2	Inverter Compressor 1	Inverter Compressor 2
Last Time	1	3	2	3
This Time	2	3	1	3
Next Time	1	3	2	3

Note:

When turning ON the outdoor units, the inverter compressor of each outdoor unit with the shortest operating time will operate preferentially.

RAS-42, 44, 46, 48, 50, 52, 54, 56, 58, 60HNBBMQ

< Compressor Operating Sequence >

	Outdoor Unit A		Outdoor Unit B		Outdoor Unit C	
	Inverter Compressor 1	Inverter Compressor 2	Inverter Compressor 1	Inverter Compressor 2	Inverter Compressor 1	Inverter Compressor 2
Last Time	1	4	2	4	3	4
This Time	3	4	1	4	2	4
Next Time	2	4	3	4	1	4

Note:

When turning ON the outdoor units, the inverter compressor of each outdoor unit with the shortest operating time will operate preferentially.

RAS-62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88HNBBMQ

< Compressor Operating Sequence >

	Outdoor Unit A		Outdoor Unit B		Outdoor Unit C		Outdoor Unit D	
	Inverter Compressor 1	Inverter Compressor 2	Inverter Compressor 1	Inverter Compressor 2	Inverter Compressor 1	Inverter Compressor 2	Inverter Compressor 1	Inverter Compressor 2
Last Time	1	5	2	5	3	5	4	5
This Time	4	5	1	5	2	5	3	5
Next Time	3	5	4	5	1	5	2	5
And Next Time	2	5	3	5	4	5	1	5

(2) Compressor Frequency Control

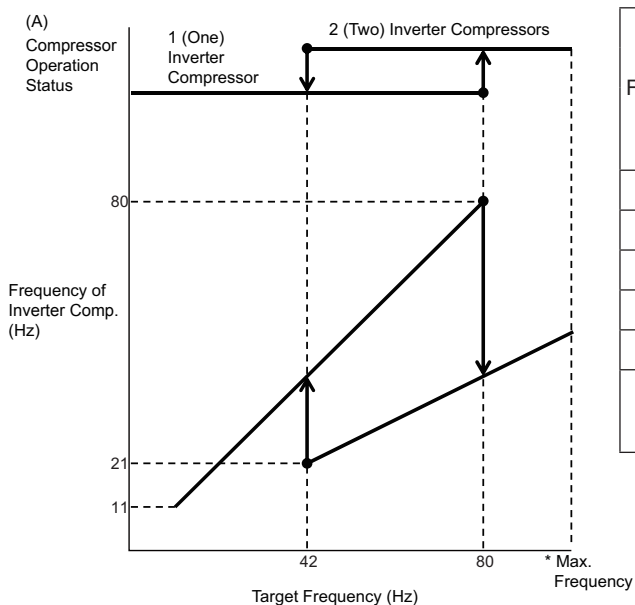
Compressor Operation Control is to adjust the output frequency of an Inverter Compressor according to Target Frequency.

(Target Frequency is determined by capacity control according to cooling and heating loads.)

Therefore, when the load is smaller, all compressors may not operate.

■ In case of single outdoor unit with two inverter compressors installed

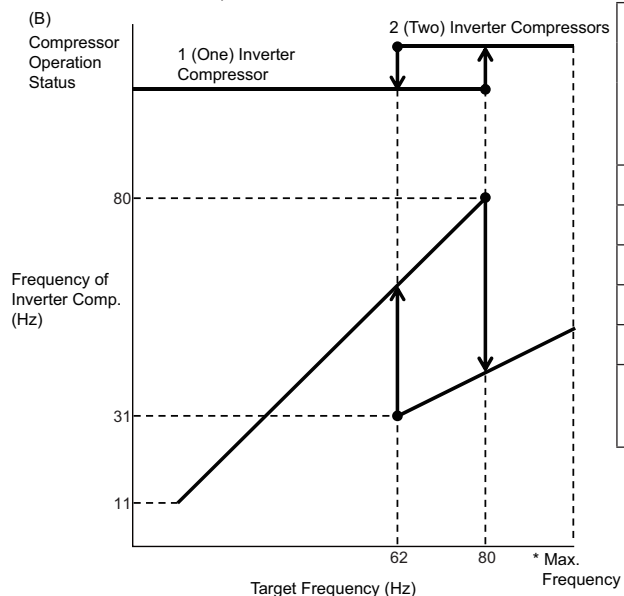
RAS-14HNBBMQ to RAS-18HNBBMQ



Target Frequency [Hz]	Each Compressor Frequency [Hz]					
	Increase Direction			Decrease Direction		
	Comp. Operation Status	No.1 Comp.	No.2 Comp.	Comp. Operation Status	No.1 Comp.	No.2 Comp.
11.0	1	11.0	—	1	11.0	—
41.0	1	41.0	—	1	41.0	—
42.0	1	42.0	—	2	21.0	21.0
80.0	1	80.0	—	2	40.0	40.0
81.0	2	40.5	40.5	2	40.5	40.5
⋮	⋮	⋮	⋮	⋮	⋮	⋮

Note:

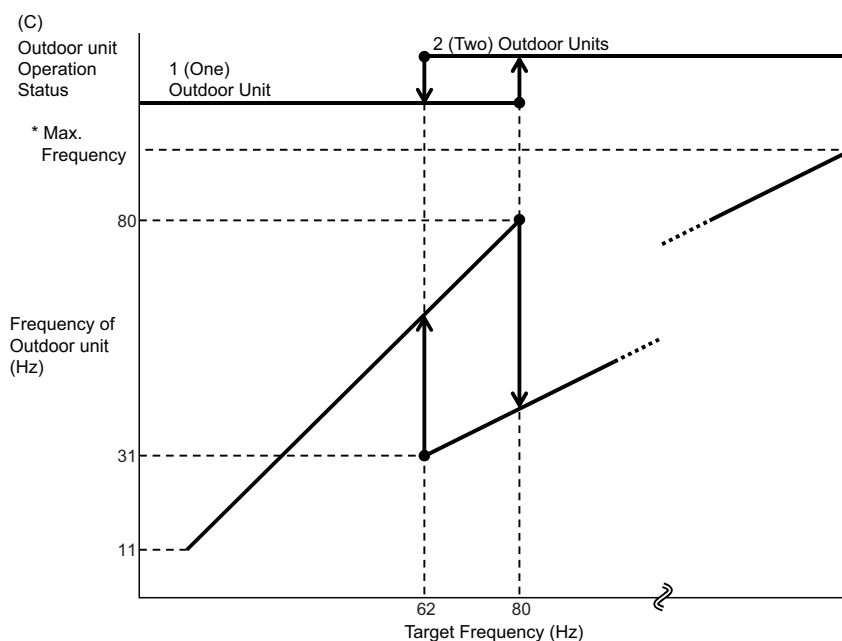
Refer to page 1- 85 for the maximum frequency.

RAS-20HNBBMQ, RAS-22HNBBMQ


Target Frequency [Hz]	Each Compressor Frequency [Hz]					
	Increase Direction			Decrease Direction		
	Comp. Operation Status	No.1 Comp.	No.2 Comp.	Comp. Operation Status	No.1 Comp.	No.2 Comp.
11.0	1	11.0	—	1	11.0	—
61.0	1	61.0	—	1	61.0	—
62.0	1	62.0	—	2	31.0	31.0
80.0	1	80.0	—	2	40.0	40.0
81.0	2	40.5	40.5	2	40.5	40.5
⋮	⋮	⋮	⋮	⋮	⋮	⋮

Note:

Refer to page 1- 85 for the maximum frequency.

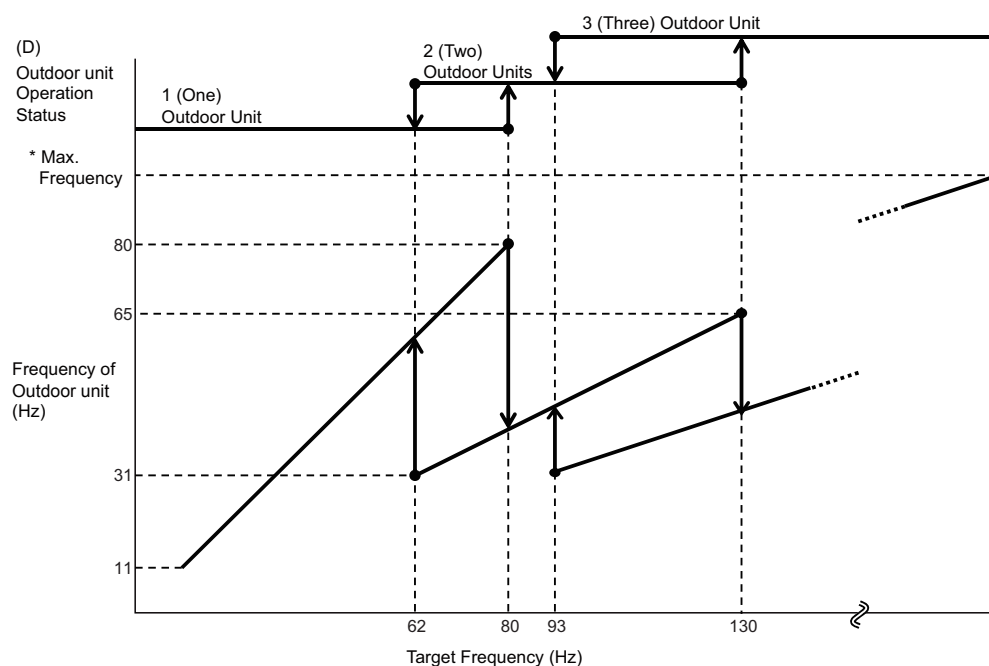
■ In case of multiple outdoor units
RAS-24HNBBMQ to RAS-40HNBBMQ


Target Frequency [Hz]	Each Outdoor Unit Frequency [Hz]					
	Increase Direction			Decrease Direction		
	Outdoor unit Operation Status	Outdoor Unit (A)	Outdoor Unit (B)	Outdoor unit Operation Status	Outdoor Unit (A)	Outdoor Unit (B)
11.0	1	11.0	—	1	11.0	—
61.0	1	61.0	—	1	61.0	—
62.0	1	62.0	—	2	31.0	31.0
80.0	1	80.0	—	2	40.0	40.0
81.0	2	40.5	40.5	2	40.5	40.5
⋮	⋮	⋮	⋮	⋮	⋮	⋮

Note:

Refer to page 1- 85 for the maximum frequency.

RAS-42HNBBMQ to RAS-60HNBBMQ

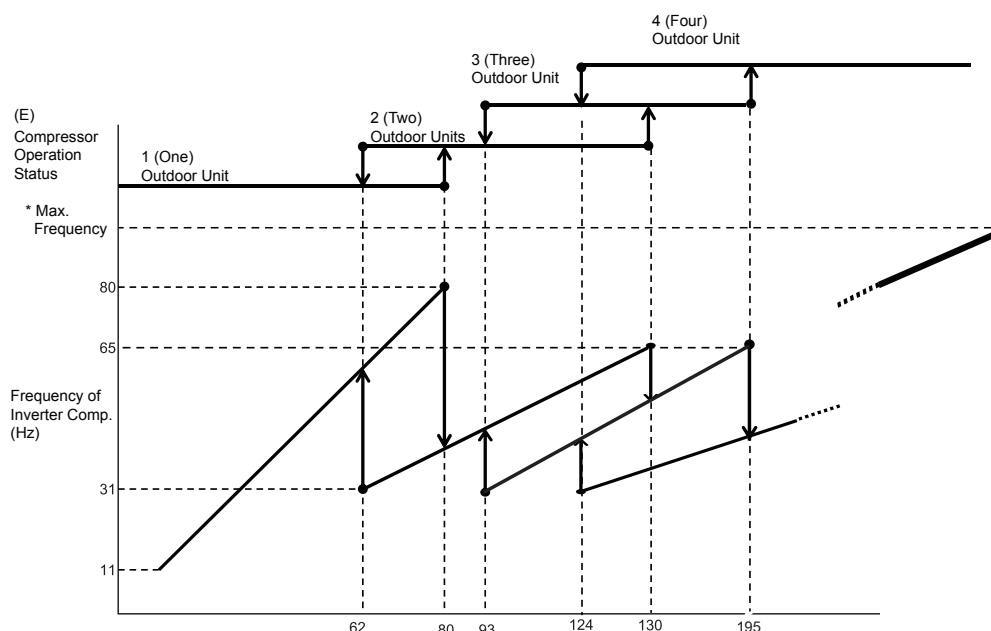


Target Frequency [Hz]	Each Outdoor Unit Frequency [Hz]							
	Increase Direction				Decrease Direction			
	Outdoor unit Operation Status	Outdoor Unit (A)	Outdoor Unit (B)	Outdoor Unit (C)	Outdoor unit Operation Status	Outdoor Unit (A)	Outdoor Unit (B)	Outdoor Unit (C)
11.0	1	11.0	—	—	1	11.0	—	—
61.0	1	61.0	—	—	1	61.0	—	—
62.0	1	62.0	—	—	2	31.0	31.0	—
80.0	1	80.0	—	—	2	40.0	40.0	—
81.0	2	40.5	40.5	—	2	40.5	40.5	—
92.0	2	46.0	46.0	—	2	46.0	46.0	—
93.0	2	46.5	46.5	—	3	31.0	31.0	31.0
130.0	2	65.0	65.0	—	3	43.3	43.3	43.3
131.0	3	43.6	43.6	43.6	3	43.6	43.6	43.6
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

Note:

Refer to page 1- 85 for the maximum frequency.

RAS-62HNBBMQ to RAS-88HNBBMQ



Target Frequency [Hz]	Each Outdoor Unit Frequency [Hz]									
	Increase Direction					Decrease Direction				
	Outdoor unit Operation Status	Outdoor Unit (A)	Outdoor Unit (B)	Outdoor Unit (C)	Outdoor Unit (D)	Outdoor unit Operation Status	Outdoor Unit (A)	Outdoor Unit (B)	Outdoor Unit (C)	Outdoor Unit (D)
11.0	1	11.0				1	11.0			
61.0	1	61.0				1	61.0			
62.0	1	62.0				2	31.0	31.0		
80.0	1	80.0				2	40.0	40.0		
81.0	2	40.5	40.5			2	40.5	40.5		
92.0	2	46.0	46.0			2	46.0	46.0		
93.0	2	46.5	46.5			3	31.0	31.0	31.0	
123.0	2	61.5	61.5			3	41.0	41.0	41.0	
124.0	2	62.0	62.0			4	31.0	31.0	31.0	31.0
130.0	2	65.0	65.0			4	32.5	32.5	32.5	32.5
131.0	3	43.6	43.6	43.6		4	32.8	32.8	32.8	32.8
195.0	3	65.0	65.0	65.0		4	48.8	48.8	48.8	48.8
196.0	4	49.0	49.0	49.0	49.0	4	49.0	49.0	49.0	49.0
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

Note:

Refer to page 1- 85 for the maximum frequency.

Combination of Base Units and Maximum Frequency

Model	Combination of Base Units	Maximum Frequency [Hz]
RAS-24HNBBMQ	12	125
	12	125
RAS-26HNBBMQ	12	125
	14	200
RAS-28HNBBMQ	14	200
	14	200
RAS-30HNBBMQ	14	200
	16	200
RAS-32HNBBMQ	16	200
	16	200
RAS-34HNBBMQ	16	200
	18	200
RAS-36HNBBMQ	18	200
	18	200
RAS-38HNBBMQ	18	200
	20	250
RAS-40HNBBMQ	20	250
	20	250
RAS-42HNBBMQ	14	200
	14	200
	14	200
RAS-44HNBBMQ	14	200
	14	200
	16	200
RAS-46HNBBMQ	14	200
	16	200
	16	200
RAS-48HNBBMQ	16	200
	16	200
	16	200
RAS-50HNBBMQ	16	200
	18	200
	18	200
RAS-52HNBBMQ	18	200
	18	200
	18	200
RAS-54HNBBMQ	18	200
	18	200
	18	200
RAS-56HNBBMQ	18	200
	20	250
	20	250
RAS-58HNBBMQ	20	250
	20	250
	20	250
RAS-60HNBBMQ	20	250
	20	250
	20	250
RAS-62HNBBMQ	14	200
	14	200
	16	200
	18	200

Model	Combination of Base Units	Maximum Frequency [Hz]
RAS-64HNBBMQ	14	200
	14	200
	18	200
	18	200
RAS-66HNBBMQ	14	200
	16	200
	18	200
	18	200
RAS-68HNBBMQ	14	200
	18	200
	18	200
	18	200
RAS-70HNBBMQ	16	200
	18	200
	18	200
	18	200
RAS-72HNBBMQ	18	200
	18	200
	18	200
	18	200
RAS-74HNBBMQ	18	200
	18	200
	18	200
	20	250
RAS-76HNBBMQ	18	200
	18	200
	20	250
	20	250
RAS-78HNBBMQ	18	200
	20	250
	20	250
	20	250
RAS-80HNBBMQ	20	250
	20	250
	20	250
	20	250
RAS-82HNBBMQ	20	250
	20	250
	20	250
	22	260
RAS-84HNBBMQ	20	250
	20	250
	22	260
	22	260
RAS-86HNBBMQ	20	250
	22	260
	22	260
	22	260
RAS-88HNBBMQ	22	260
	22	260
	22	260
	22	260

Note:

The frequency in the table above indicates the total frequency of a outdoor unit if the unit is installed two compressors.

(3) Compressor Capacity Control

The operating speed of the compressor is determined according to the temperature difference (ΔT) between setting temperature and indoor unit air inlet temperature detected by each indoor unit under cooling/heating thermo-ON operation and the variation of ΔT to control compressor frequency.

The frequency is calculated as follows:

Current Frequency x Coefficient Based on the Temperature

(for Cooling Operation)

The coefficient becomes larger when the value of ΔT (the temperature difference between setting temperature and air inlet temperature is large) or variation of ΔT is larger.

The coefficient becomes smaller when the value of ΔT (the temperature difference between setting temperature and air inlet temperature is small) or variation of ΔT is smaller.

(for Heating Operation)

The coefficient becomes larger when the value of ΔT (the temperature difference between setting temperature and air inlet temperature is large) or variation of ΔT is larger.

The coefficient becomes smaller when the value of ΔT (the temperature difference between setting temperature and air inlet temperature is small) or variation of ΔT is smaller.

Note:

The temperature of the thermistor in the wired controller is utilized instead of indoor unit air inlet temperature when the thermistor in the wired controller is set by functional setting mode.

■ Heat Exchanger Mode Control

In accordance with the connected indoor unit operation mode, the outdoor unit heat exchanger will be switched as shown in the table below.

O.U. Heat Exchanger Mode at Cooling: Condenser **COND**

O.U. Heat Exchanger Mode at Heating: Evaporator **EVAP**

(1) The Number of Outdoor Unit: 1 (one)

Heat Exchanger Mode		Cooling Mode	Heating Mode	Defrosting Mode
		COND	EVAP	DEF1
Heat Exchanger Condition		COND	EVAP	COND
Reversing Valve	RVR2	OFF	ON	OFF
Expansion Valve	MV1	Fully Open	Heat Exchanger SH	Fully Open
	MVB	(Tsc - Tchg) Or (Tg ₂ - Ts)	(Tchg - Tsc) Or (Tg ₂ - Ts)	(Tsc - Tchg) Or (Tg ₂ - Ts)

(2) The Number of Outdoor Unit: 2 (two)

Heat Exchanger Mode			Cooling Mode	Heating Mode	Defrosting Mode
			COND	EVAP	DEF1
Main Outdoor Unit	Heat Exchanger Condition		COND	EVAP	COND
	Reversing Valve	RVR2	OFF	ON	OFF
	Expansion Valve	MV1	Fully Open	Heat Exchanger SH	Fully Open
		MVB	(Tsc - Tchg) Or (Tg ₂ - Ts)	(Tchg - Tsc) Or (Tg ₂ - Ts)	(Tsc - Tchg) Or (Tg ₂ - Ts)
Sub Outdoor Unit	Heat Exchanger Condition		COND	EVAP	COND
	Reversing Valve	RVR2	OFF	ON	OFF
	Expansion Valve	MV1	Fully Open	Heat Exchanger SHf	Fully Open
		MVB	(Tsc - Tchg) Or (Tg ₂ - Ts)	(Tchg - Tsc) Or (Tg ₂ - Ts)	(Tsc - Tchg) Or (Tg ₂ - Ts)

(3) The Number of Outdoor Unit: 3 (three)

Heat Exchanger Mode			Cooling Mode	Heating Mode	Defrosting Mode
			COND	EVAP	DEF1
Main Outdoor Unit	Heat Exchanger Condition		COND	EVAP	COND
	Reversing Valve	RVR2	OFF	ON	OFF
	Expansion Valve	MV1	Fully Open	Heat Exchanger SH	Fully Open
		MVB	(Tsc - Tchg) Or (Tg ₂ - Ts)	(Tchg - Tsc) Or (Tg ₂ - Ts)	(Tsc - Tchg) Or (Tg ₂ - Ts)
Sub Outdoor Unit 1	Heat Exchanger Condition		COND	EVAP	COND
	Reversing Valve	RVR2	OFF	ON	OFF
	Expansion Valve	MV1	Fully Open	Heat Exchanger SH	Fully Open
		MVB	(Tsc - Tchg) Or (Tg ₂ - Ts)	(Tchg - Tsc) Or (Tg ₂ - Ts)	(Tsc - Tchg) Or (Tg ₂ - Ts)
Sub Outdoor Unit 2	Heat Exchanger Condition		COND	EVAP	COND
	Reversing Valve	RVR2	OFF	ON	OFF
	Expansion Valve	MV1	Fully Open	Heat Exchanger SH	Fully Open
		MVB	(Tsc - Tchg) Or (Tg ₂ - Ts)	(Tchg - Tsc) Or (Tg ₂ - Ts)	(Tsc - Tchg) Or (Tg ₂ - Ts)

(4) The Number of Outdoor Unit: 4 (four)

Heat Exchanger Mode			Cooling Mode	Heating Mode	Defrosting Mode
			COND	EVAP	DEF1
Main Outdoor Unit	Heat Exchanger Condition		COND	EVAP	COND
	Reversing Valve	RVR2	OFF	ON	OFF
	Expansion Valve	MV1	Fully Open	Heat Exchanger SH	Fully Open
		MVB	(Tsc - Tchg) Or (Tg ₂ - Ts)	(Tchg - Tsc) Or (Tg ₂ - Ts)	(Tsc - Tchg) Or (Tg ₂ - Ts)
Sub Outdoor Unit 1	Heat Exchanger Condition		COND	EVAP	COND
	Reversing Valve	RVR2	OFF	ON	OFF
	Expansion Valve	MV1	Fully Open	Heat Exchanger SH	Fully Open
		MVB	(Tsc - Tchg) Or (Tg ₂ - Ts)	(Tchg - Tsc) Or (Tg ₂ - Ts)	(Tsc - Tchg) Or (Tg ₂ - Ts)
Sub Outdoor Unit 2	Heat Exchanger Condition		COND	EVAP	COND
	Reversing Valve	RVR2	OFF	ON	OFF
	Expansion Valve	MV1	Fully Open	Heat Exchanger SH	Fully Open
		MVB	(Tsc - Tchg) Or (Tg ₂ - Ts)	(Tchg - Tsc) Or (Tg ₂ - Ts)	(Tsc - Tchg) Or (Tg ₂ - Ts)
Sub Outdoor Unit 3	Heat Exchanger Condition		COND	EVAP	COND
	Reversing Valve	RVR2	OFF	ON	OFF
	Expansion Valve	MV1	Fully Open	Heat Exchanger SH	Fully Open
		MVB	(Tsc - Tchg) Or (Tg ₂ - Ts)	(Tchg - Tsc) Or (Tg ₂ - Ts)	(Tsc - Tchg) Or (Tg ₂ - Ts)

Notes:

- Condition of Heat Exchanger

COND : Use as Condenser

EVAP : Use as Evaporator

- Control Method of Expansion Valve

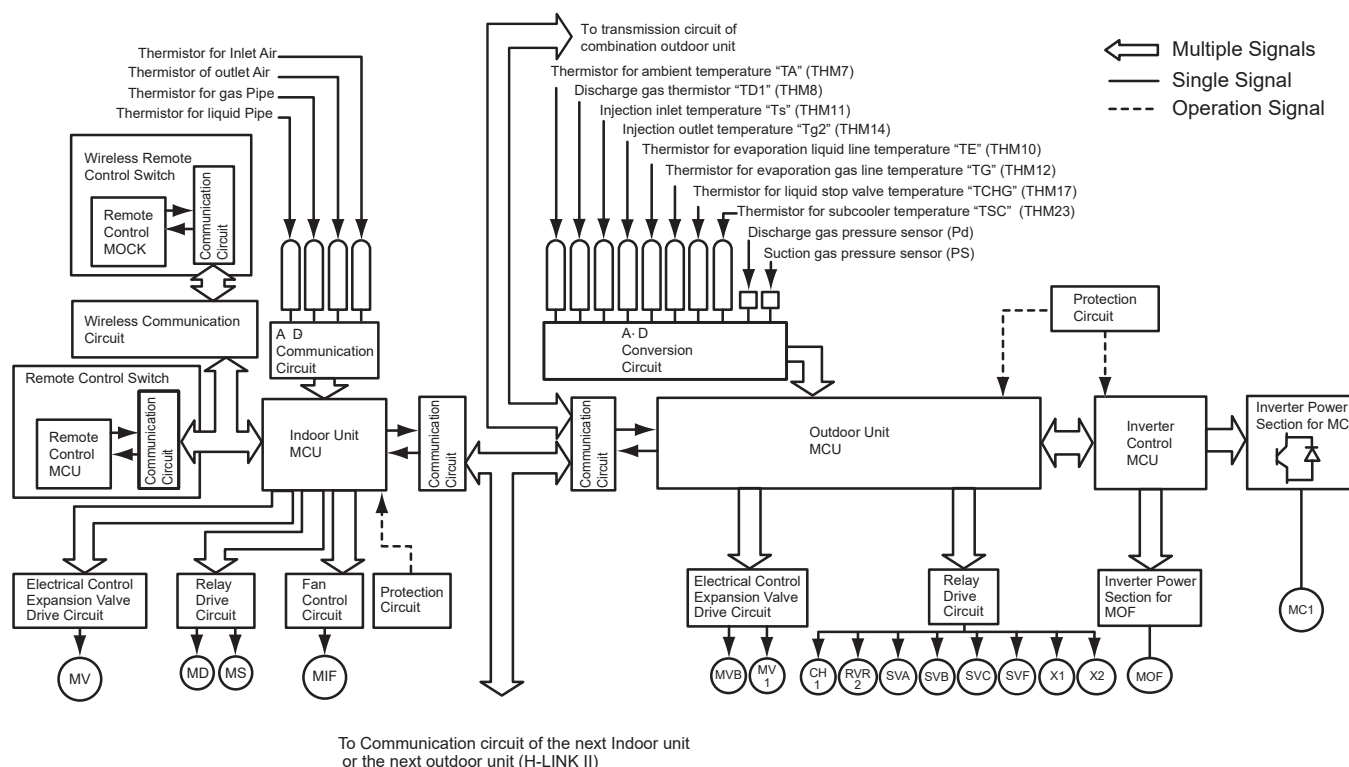
Tsc - Tchg and Tchg - Tsc: PI control is carried out to achieve the target value of temperature difference between Tsc and Tchg when injection is OFF.

Tg₂ - Ts: PI control is carried out to achieve the target value of temperature difference between Tg₂ and Ts when injection is ON.

Heat Exchanger SH: PI control is carried out to achieve the targeted value of outdoor heat exchanger SH.

The figure below is a representation of the control system.

Example: Combination of Base Units, RAS-8.0HNBBMQ, RAS-10HNBBMQ / Indoor Unit



Indoor Unit

Outdoor Unit

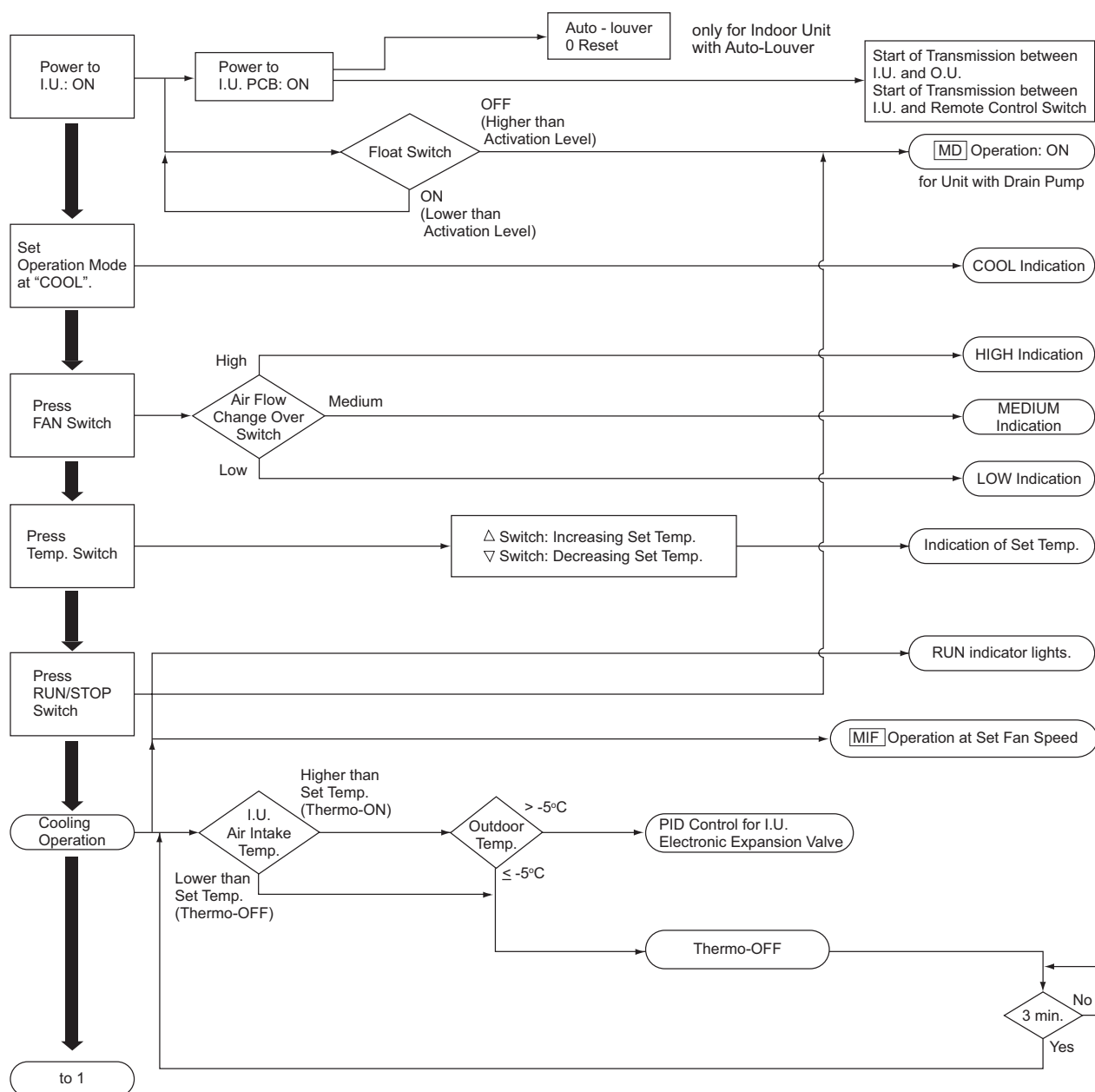
Symbol	Name
THM	Thermistor
MCU	Microcontroller
MC ₁	DC Motor (for Inverter Compressor)
MOF	DC Motor (for Outdoor Fan)
MIF	Motor (for Indoor Fan)
MS	Motor (for Auto-Louver)
MD	Motor (for Drain Pump)
MV	Electronic Expansion Valve (for Indoor Unit)
MV ₁	Electronic Expansion Valve (for Outdoor Unit)
MVB	Electronic Expansion Valve for Supercooling Heat Exchanger
SVA	Solenoid Valve
RVR ₂	Reversing Valve
CH ₁	Crankcase Heater
SVB	Solenoid Valve
SVC	Solenoid Valve (*)
SVF	Solenoid Valve
X ₁	Solenoid Valve
X ₂	Solenoid Valve (*)

(*) 14 to 22HP only

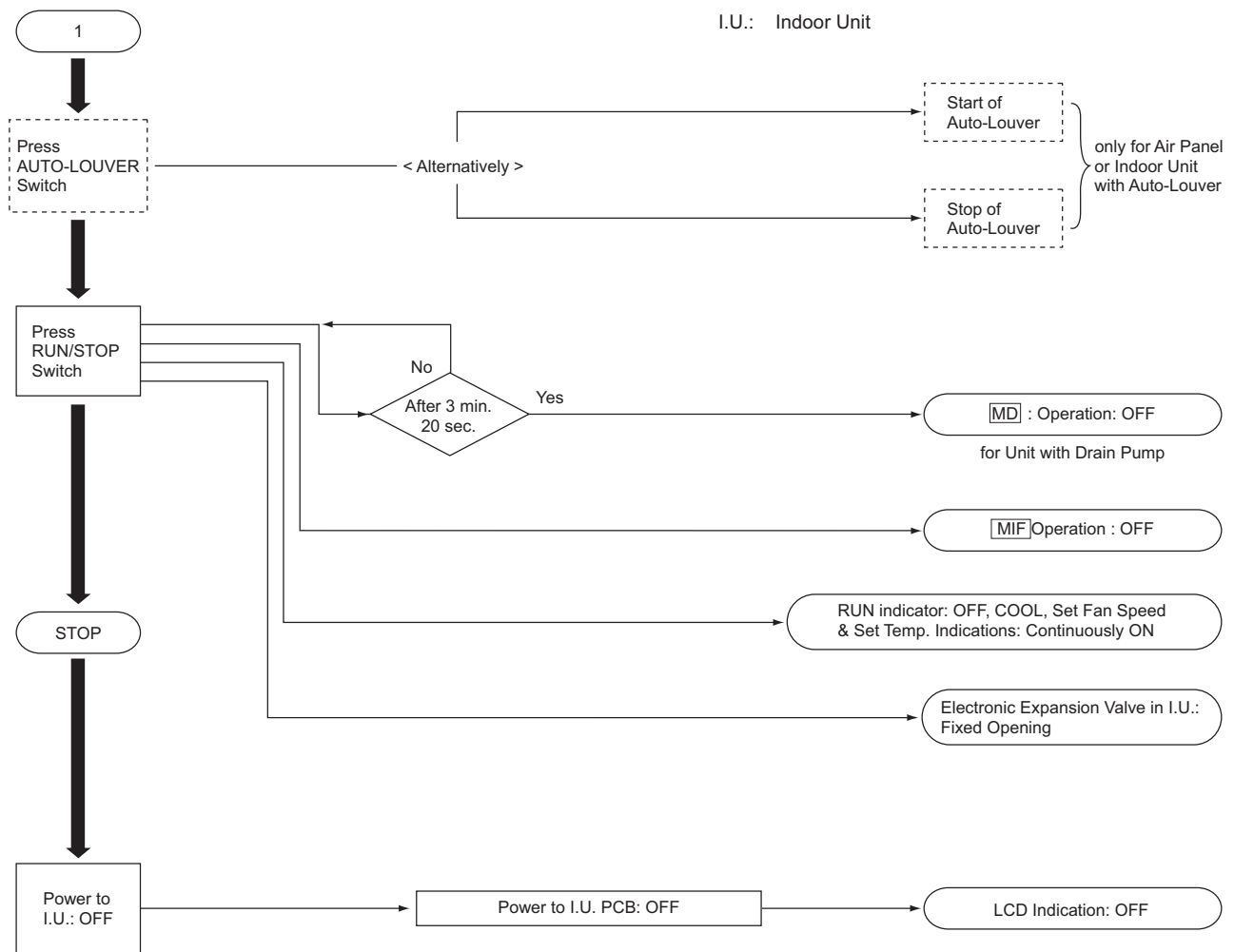
10.3 Standard Operation Sequence

- Cooling Operation

I.U.: Indoor Unit
O.U.: Outdoor Unit

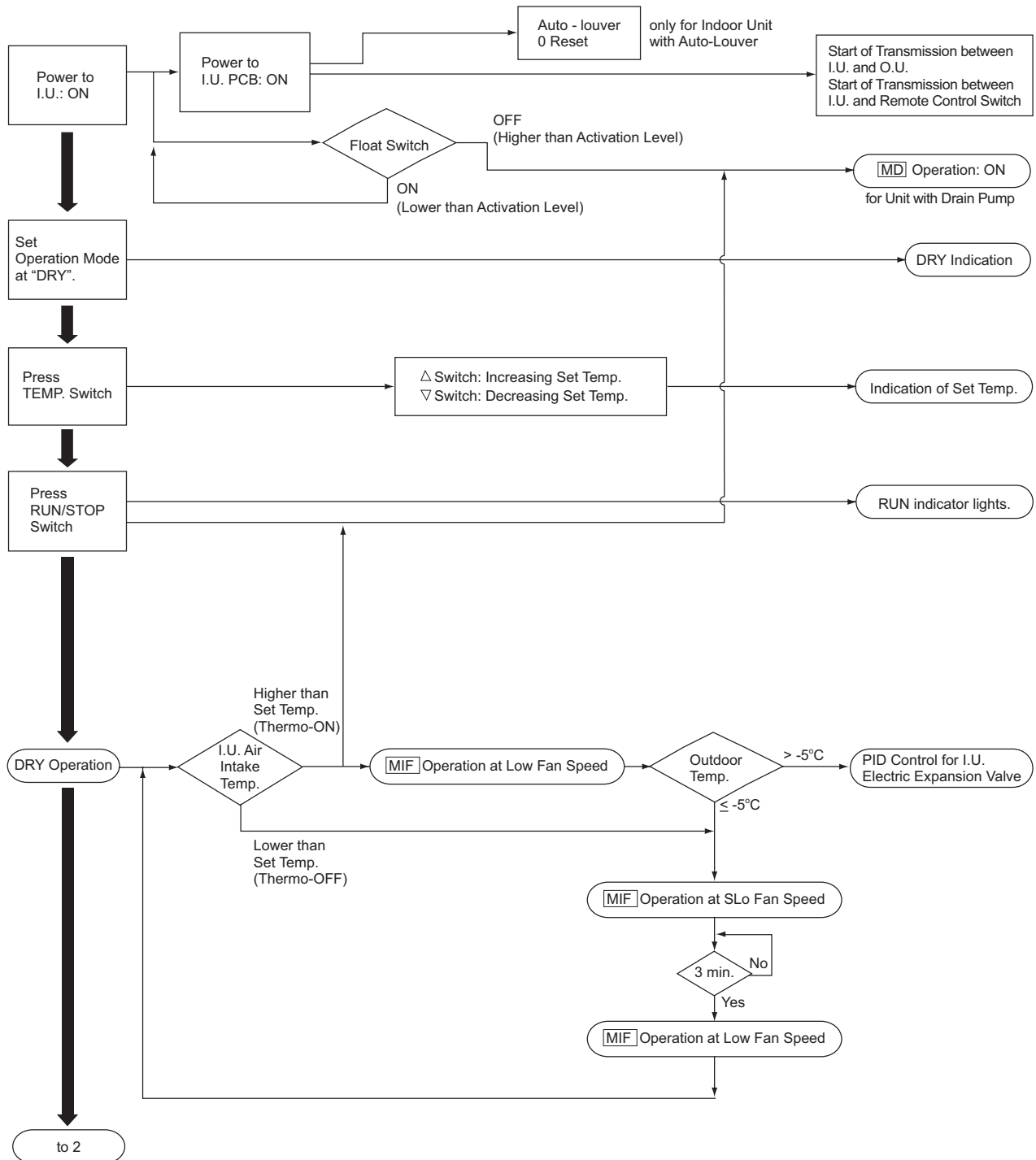


■ Cooling Operation

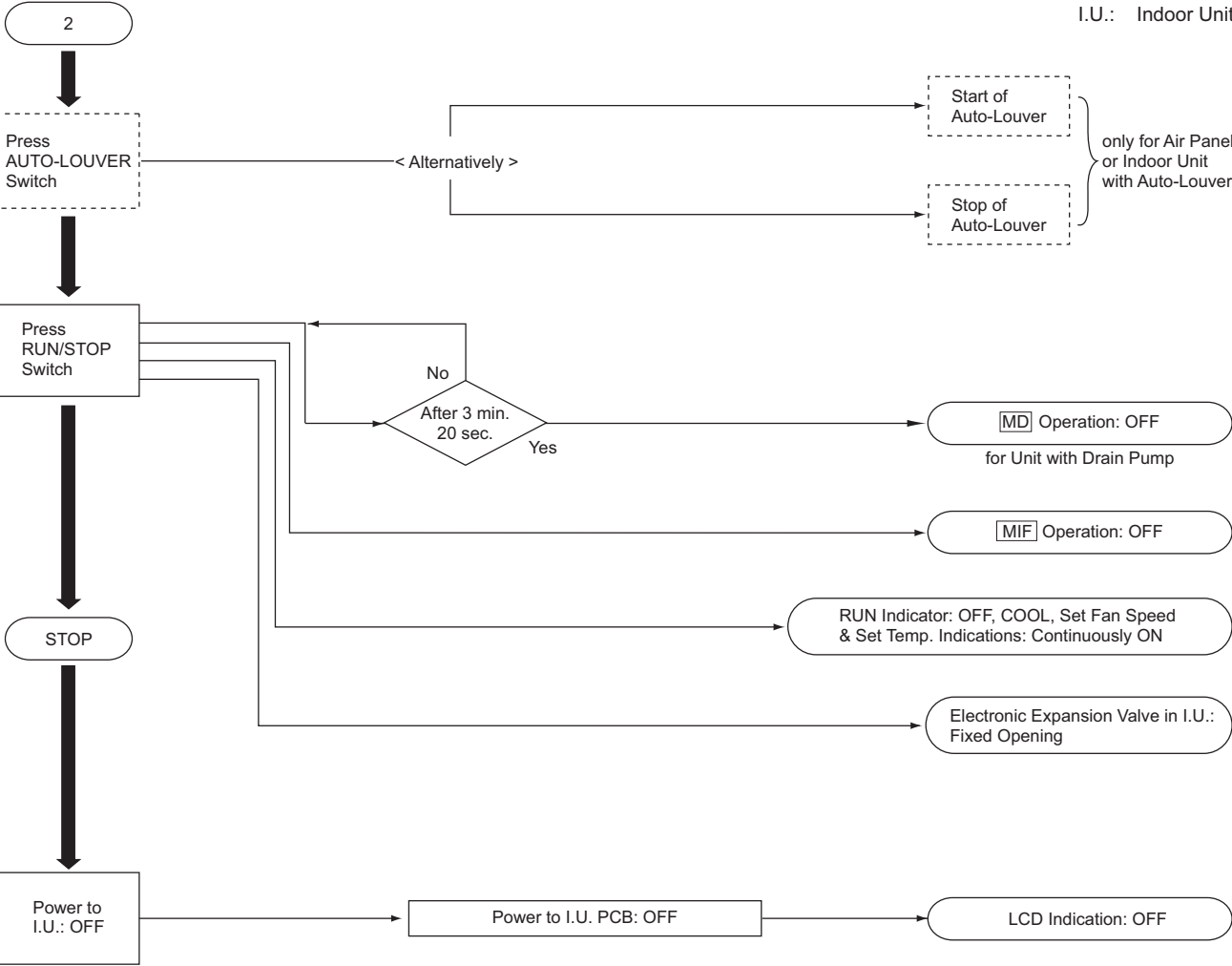


■ Dry Operation

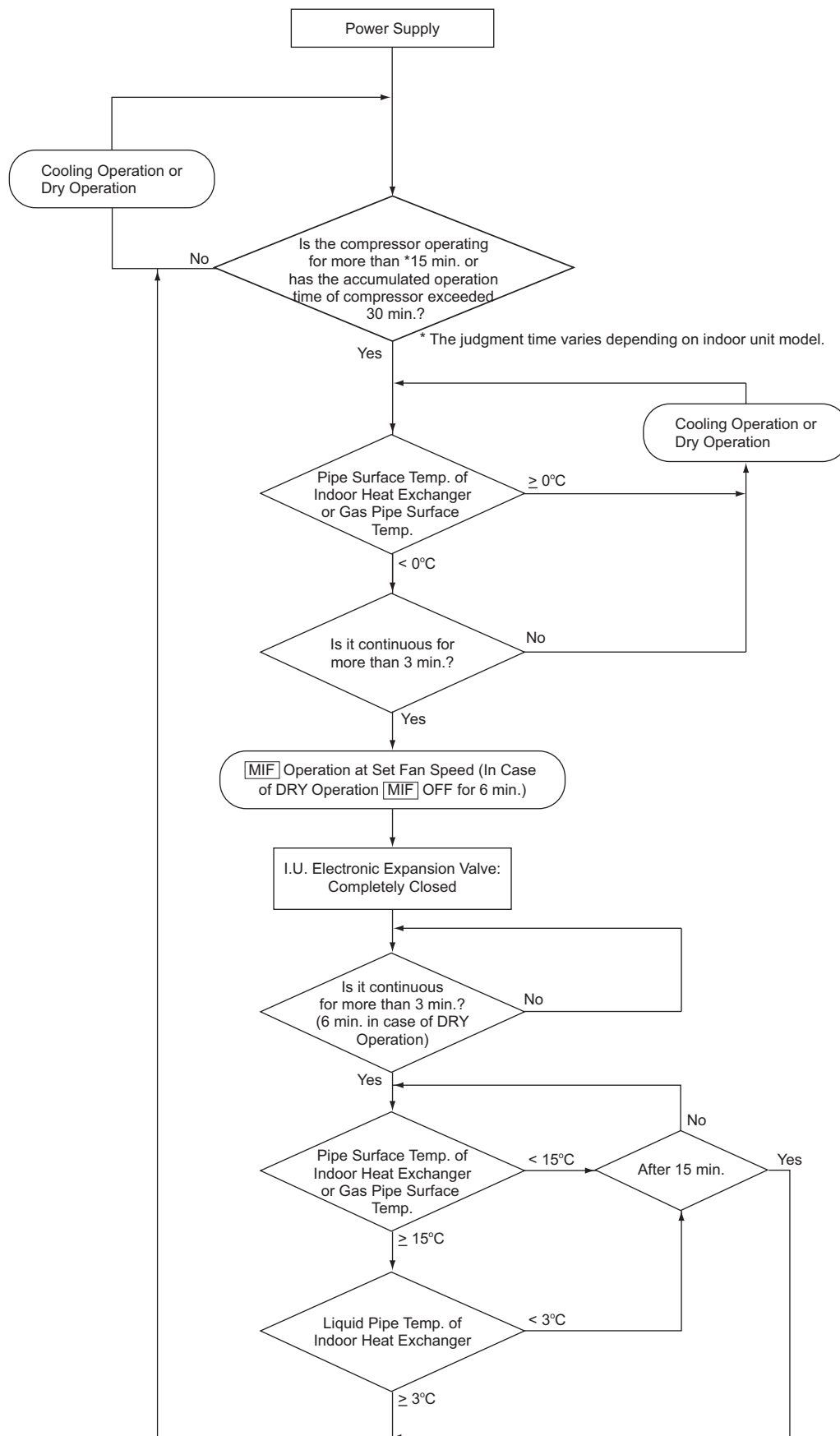
I.U.: Indoor Unit
O.U.: Outdoor Unit



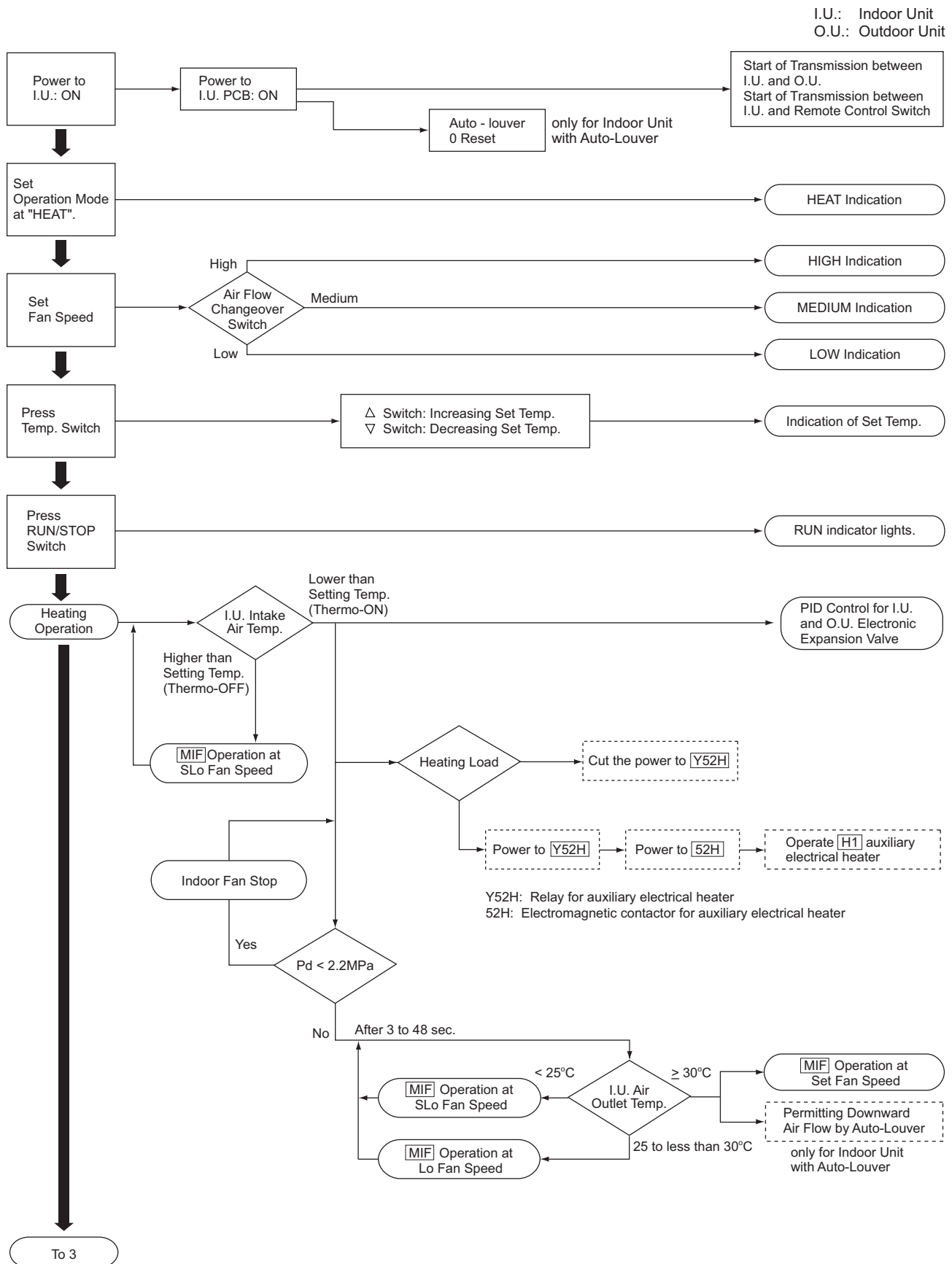
■ Dry Operation



■ Freezing Protection Control during Cooling or Dry Operation

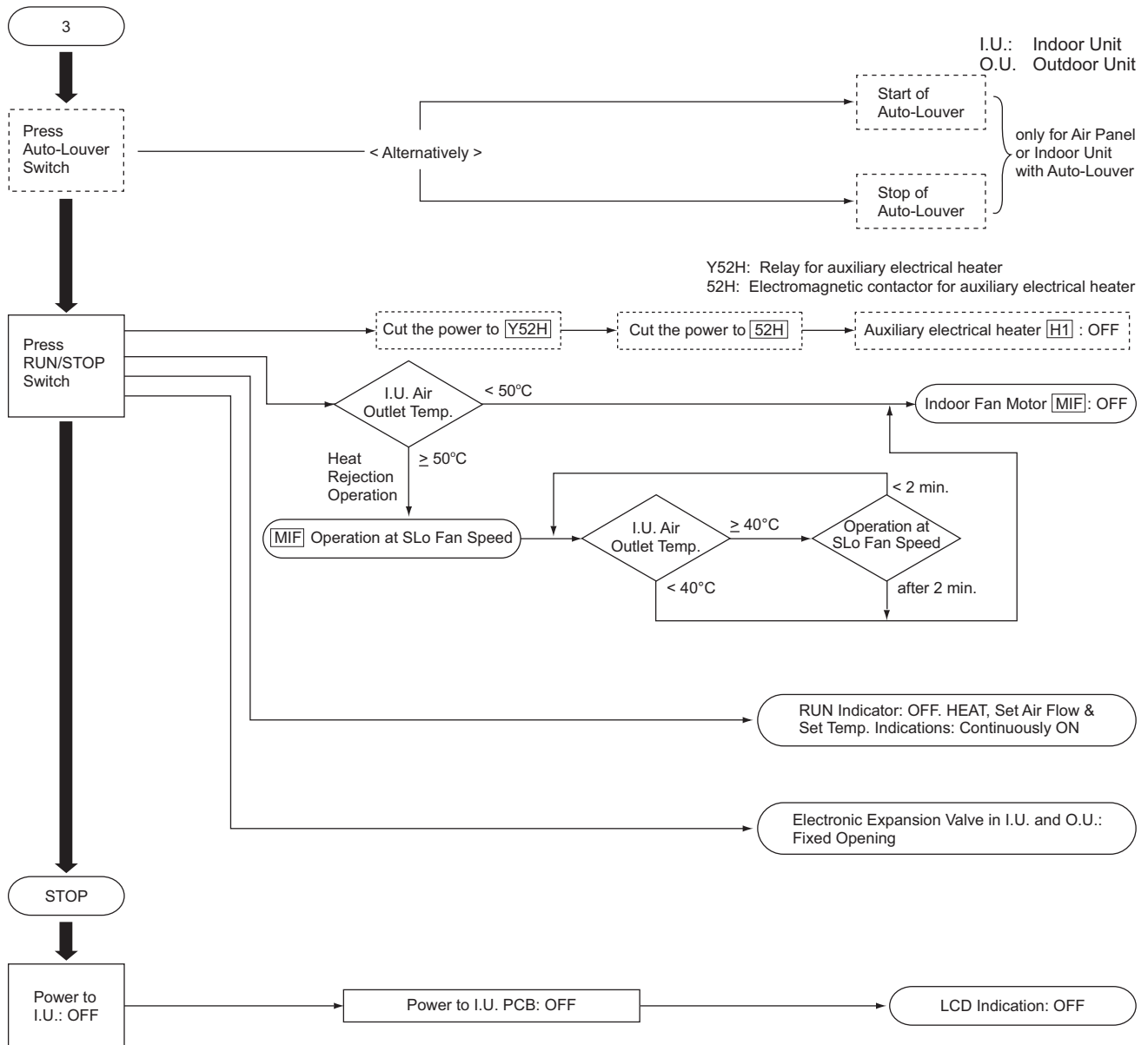


■ Heating Operation

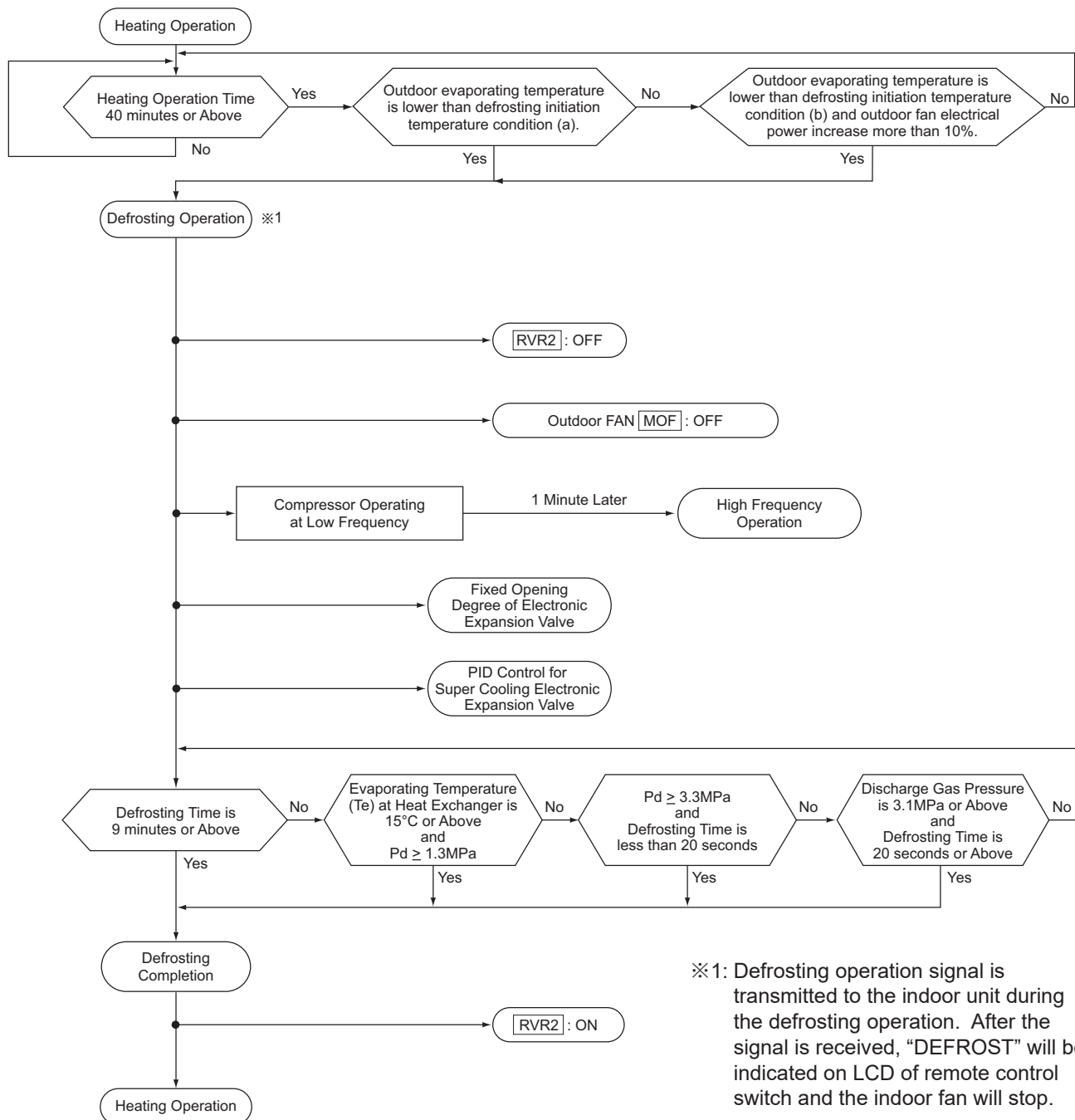


CONTROL SYSTEM

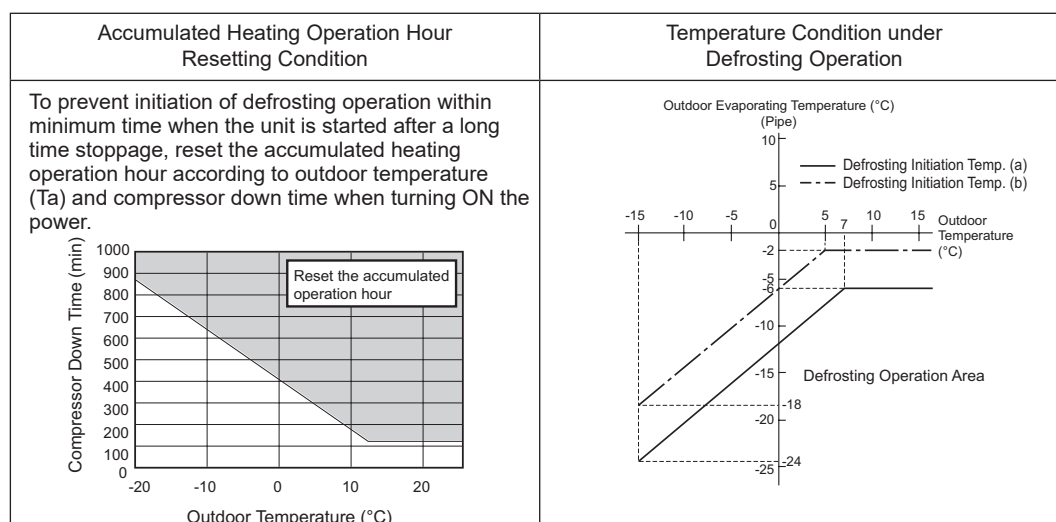
■ Heating Operation



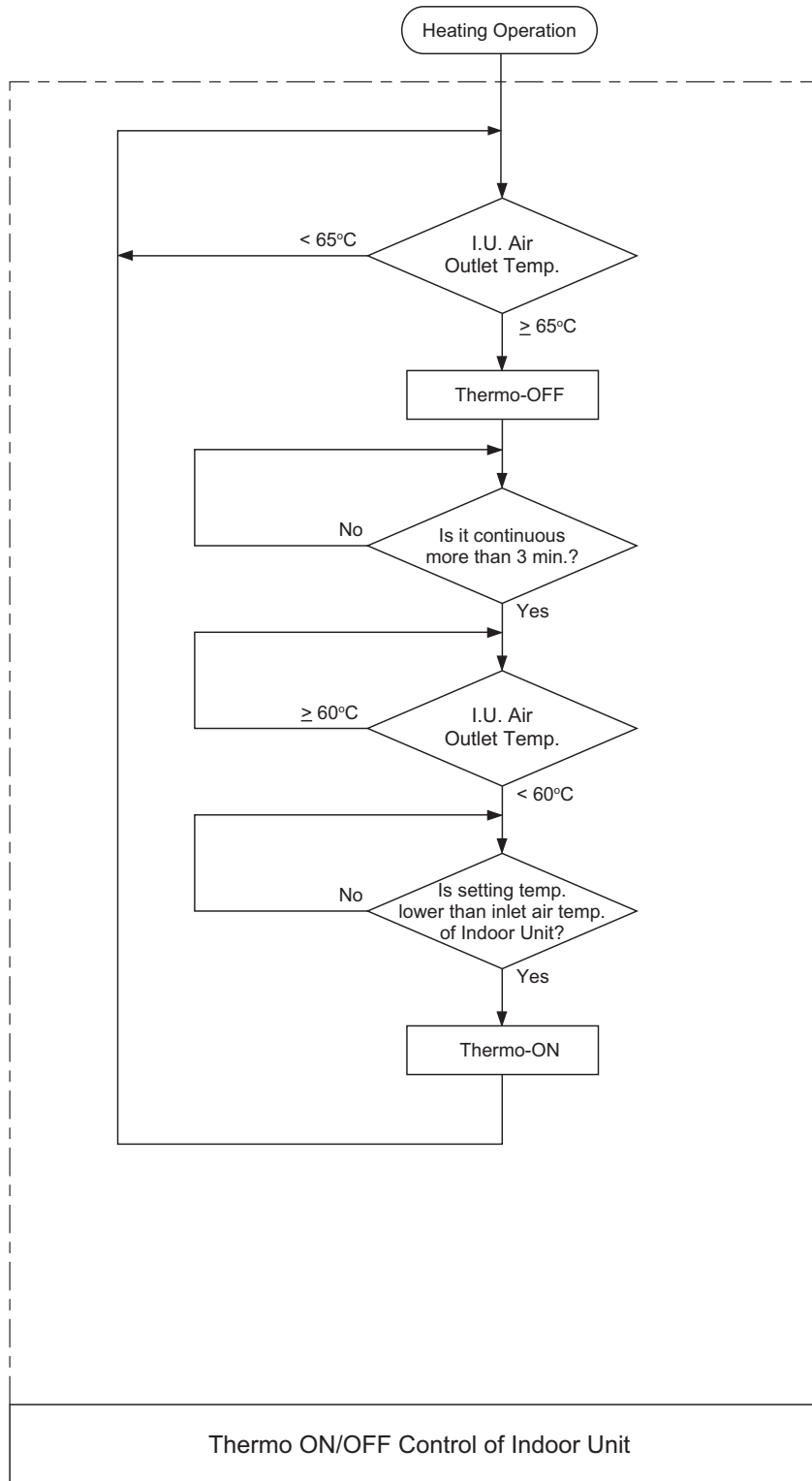
Defrosting Operation



※1: Defrosting operation signal is transmitted to the indoor unit during the defrosting operation. After the signal is received, “DEFROST” will be indicated on LCD of remote control switch and the indoor fan will stop.



■ Prevention Control for Excessively High Discharge Air Temperature



■ Protection Control

- Whenever protection control sequences are activated, the corresponding code is displayed on the 7-segment LED array of the main control board.
- Protection control code is displayed when a unit protection mode has been initiated. The code will disappear once the cause of protection is addressed.

Indicated Contents

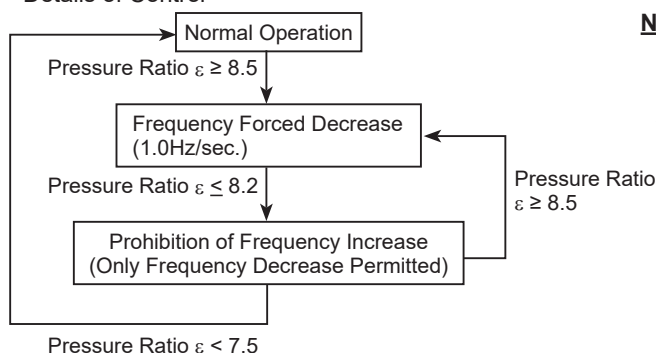
Indication	Protection Control Contents	Code During Degeneration Control
P01	Pressure Ratio Protection Control	Pc1
P02	High Pressure Increase Protection Control	Pc2
P03	Inverter Current Protection Control	Pc3
P04	Inverter Fin Temperature Increase Protection Control	Pc4
P05	Discharge Temperature Increase Protection Control	Pc5
P06	Low Pressure Decrease Protection Control	—
P09	High Pressure Decrease Protection Control	
P0A	Demand Current Control	
P0d	Low Pressure Increase Protection Control	

(1) P01: Pressure Ratio Protection Control

(a) Pressure Ratio Increase Protection Control

Pressure Ratio Increase Protection Control is performed in order to protect the compressor from an increase of pressure ratio.

<Details of Control>



Notes:

1. With a combination of base units, the control in the figure is performed for all the connected outdoor units.
2. The pressure ratio is calculated for each outdoor unit, and this control uses the maximum value.

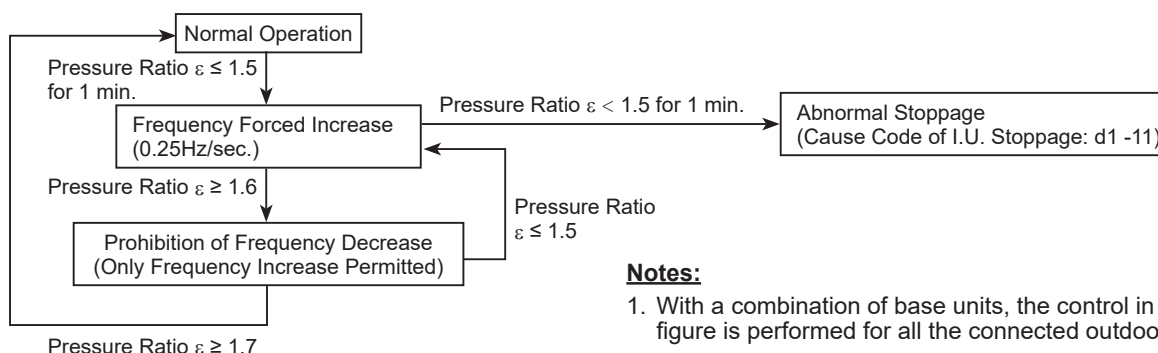
$$\varepsilon = (Pd \text{ [MPa]} + 0.1) / (Ps \text{ [MPa]} + 0.06)$$

$$\varepsilon = (Pd \text{ [psi]} + 15) / (Ps \text{ [psi]} + 9)$$
 Pd: Detected Value of High Pressure Sensor [MPa (psi)]
 Ps: Detected Value of Low Pressure Sensor [MPa (psi)]

(b) Low Compression Ratio Protection Function

This function is activated to protect the compressor during occurrences of low compression ratio.

<Details of Control>



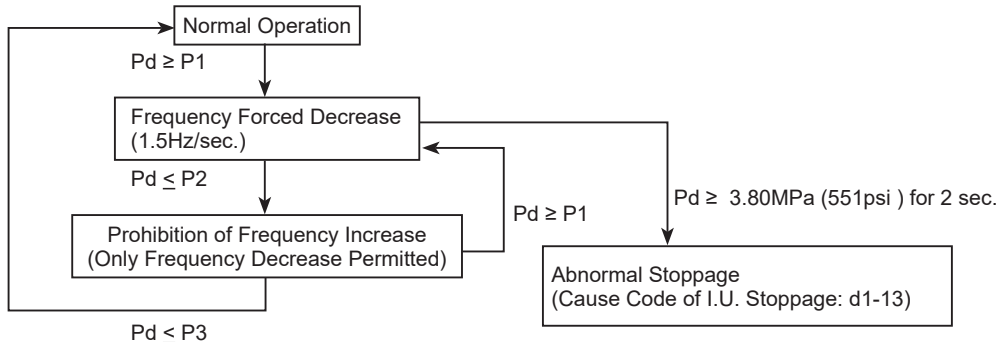
Notes:

1. With a combination of base units, the control in the figure is performed for all the connected outdoor units.
2. The pressure ratio is calculated for in each outdoor unit, and this control uses the minimum value.

(2) P02: High Pressure Increase Protection Control

High Pressure Protection Control is performed in order to prevent activation of protection device caused by a high pressure increase during an abnormality and to protect the compressor from an excessive increase of discharge pressure.

<Details of Control>



Control Value	[MPa(psi)]		
Operation Mode	P1	P2	P3
Cooling	3.45 (500)	3.40 (493)	3.20 (464)
Heating	3.35 (486)	3.30 (479)	3.10 (450)

Notes:

1. With a combination of base units, the control in the figure is performed for all the connected outdoor units.
2. High pressure is detected in each outdoor unit, and this control uses the maximum value.

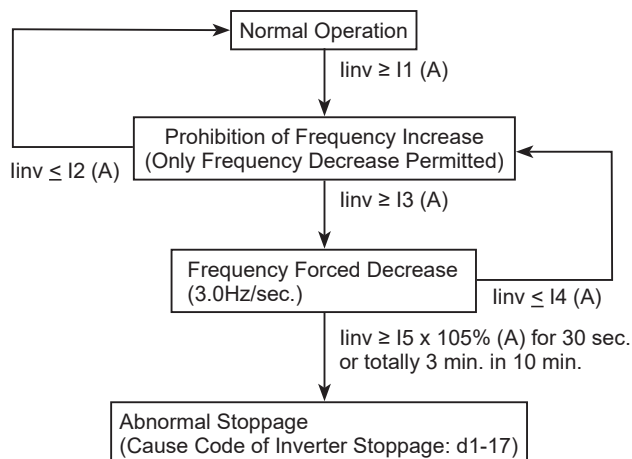
Pd: Detected Value of High Pressure Sensor
[MPa(psi)]

(3) P03: Inverter Current Protection Control

Inverter Current Protection Control is performed in order to prevent inverter trip caused by an increase of inverter secondary current value.

(a) Inverter Secondary Current Protection

<Details of Control>



Control Value

<380/400/415V>

Model	I1	I2	I3	I4	I5
RAS-8.0HNBBMQ RAS-10HNBBMQ RAS-12HNBBMQ RAS-20HNBBMQ RAS-22HNBBMQ	36.2	35.7	37.2	36.7	37.2
RAS-14HNBBMQ RAS-16HNBBMQ RAS-18HNBBMQ	22.8	22.3	23.8	23.3	23.8

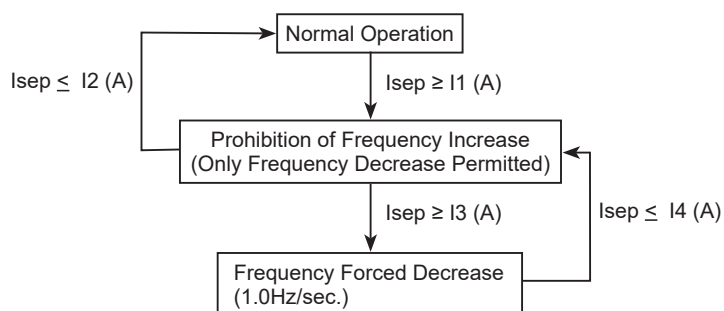
Notes:

1. With a combination of base units, the control in the figure is performed for each outdoor unit connected. When there is outdoor unit in Prohibition of Frequency Increase, all the outdoor units in operation are prohibited to increase frequency. When there is outdoor unit in Frequency Forced Decrease, all the outdoor units in operation are forced to decrease frequency.
2. In case of two inverter PCB installed in an outdoor unit, the max. current value detected at each inverter PCB is utilized.

Iinv: Detected Value of Inverter Secondary Current Sensor[A]

(b) Primary Current Protection for each Inverter PCB

<Details of Control>



Control Value

<380/400/415V>

Model	I1	I2	I3	I4
RAS-8.0HNBBMQ RAS-10HNBBMQ RAS-12HNBBMQ RAS-20HNBBMQ RAS-22HNBBMQ	39.1	38.1	39.6	39.1
RAS-14HNBBMQ RAS-16HNBBMQ RAS-18HNBBMQ	24.7	23.7	25.2	24.7

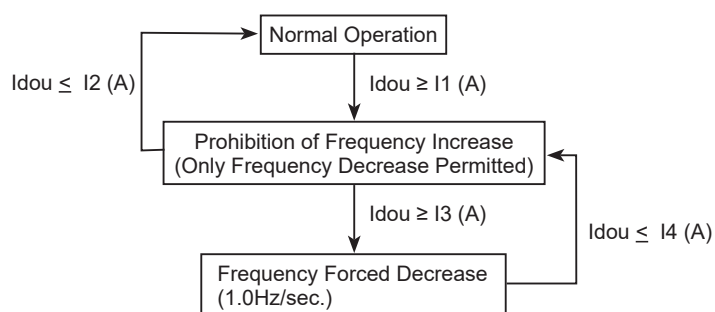
Notes:

1. With a combination of base units, the control in the figure is performed for each outdoor unit connected. When there is outdoor unit in Prohibition of Frequency Increase, all the outdoor units in operation are prohibited to increase frequency. When there is outdoor unit in Frequency Forced Decrease, all the outdoor units in operation are forced to decrease frequency.
2. In case of two inverter PCB installed in an outdoor unit, the max. current value detected at each inverter PCB is utilized.

Isep: Inverter Primary Current[A]

(c) Primary Current Protection for each Outdoor Unit

<Details of Control>



Control Value

<380/400/415V>

Model	I1	I2	I3	I4
RAS-8.0HNBBMQ	24.4	23.4	24.9	24.4
RAS-10HNBBMQ	24.4	23.4	24.9	24.4
RAS-12HNBBMQ	28.6	27.6	29.1	28.6
RAS-14HNBBMQ	41.6	40.6	42.1	41.6
RAS-16HNBBMQ	41.6	40.6	42.1	41.6
RAS-18HNBBMQ	41.6	40.6	42.1	41.6
RAS-20HNBBMQ	48.2	47.2	48.7	48.2
RAS-22HNBBMQ	57.0	56.0	57.5	57.0

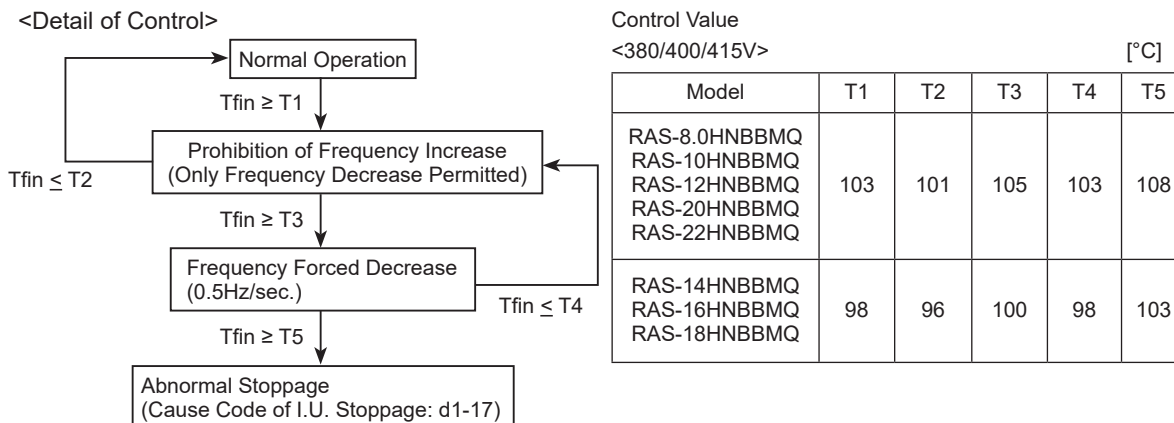
Note:

1. With a combination of base units, the control in the figure is performed for each outdoor unit connected. When there is outdoor unit in Prohibition of Frequency Increase, all the outdoor units in operation are prohibited to increase frequency. When there is outdoor unit in Frequency Forced Decrease, all the outdoor units in operation are forced to decrease frequency.

Idou: Total Value of Primary Current of all the Inverter PCB in an Outdoor Unit[A]

(4) P04: Inverter Fin Temperature Increase Protection Control

Inverter Fin Temperature Increase Protection Control is performed in order to prevent inverter trip caused by a temperature increase of the inverter fin.



Notes:

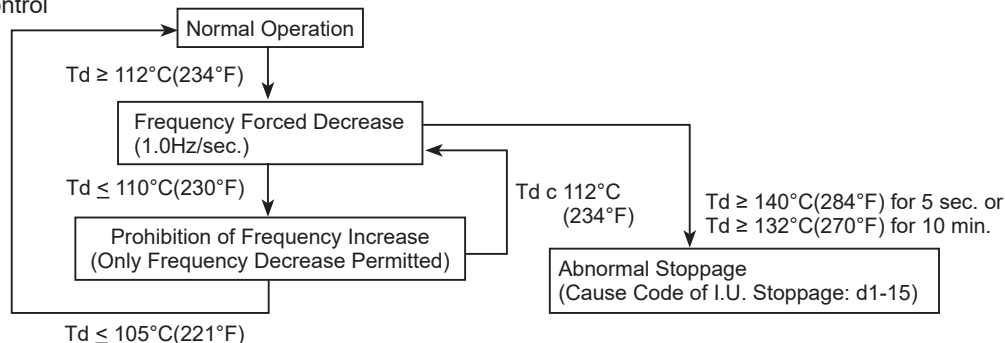
- In case of combination of base units, the control in the figure is performed for each outdoor unit connected. When there is outdoor unit in Prohibition of Frequency Increase, all the outdoor units in operation are prohibited to increase frequency. When there is outdoor unit in Frequency Forced Decrease, all the outdoor units in operation are forced to decrease frequency.
- In case of two inverter PCB installed in an outdoor unit, the max. temperature detected at each inverter PCB is utilized.

Tfin: Inverter Fin Temperature Sensor Detected Value [°C]

(5) P05: Discharge Temperature Increase Protection Control

Discharge Temperature Increase Protection Control is performed in order to protect the compressor motor coil from an increase of discharge temperature during an abnormality.

Details of Control



Notes:

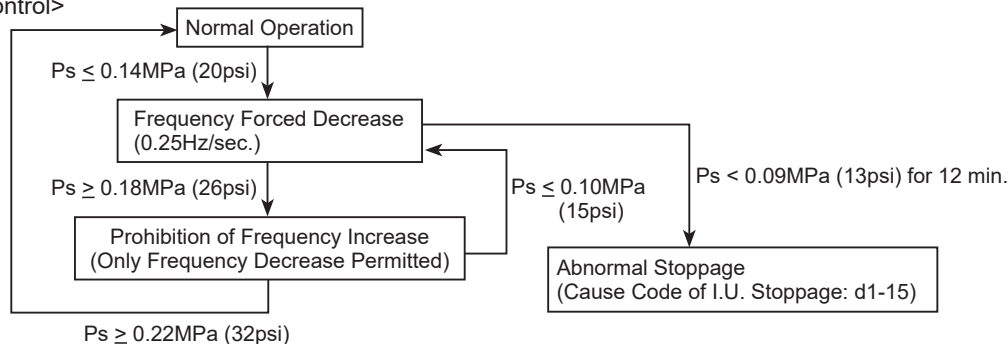
- With a combination of base units, the control in the figure is performed for the entire number of outdoor units to be connected.
- Discharge temperature is detected in each outdoor unit, and this control uses the maximum value.
- In case of two inverter compressors installed in an outdoor unit, the max. temperature detected at each inverter compressor is utilized.

Td: Detected Value of Discharge Gas Thermistor [°C]

(6) P06: Low Pressure Decrease Protection Control

Low Pressure Decrease Protection Control is performed in order to protect the compressor from a transitional decrease of suction pressure.

<Details of Control>



Notes:

- With a combination of base units, the control in the figure is performed for the entire number of outdoor units to be connected.
- Low pressure is detected in each outdoor unit, and this control uses the minimum value.

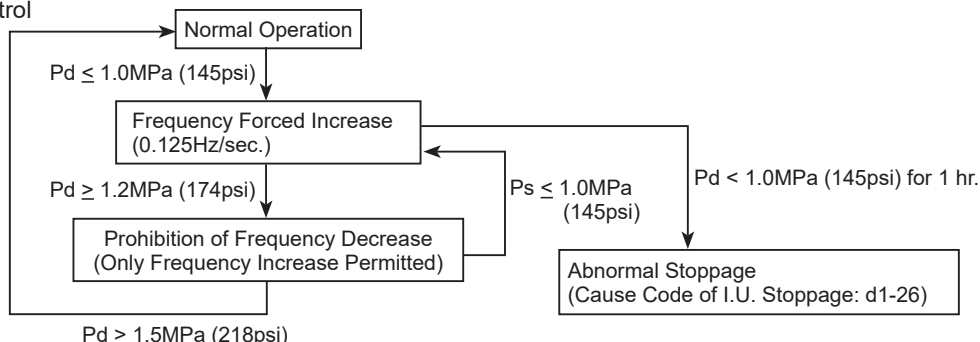
Ps: Detected Value of Low Pressure Sensor [MPa(psi)]

(7) P09: High Pressure Decrease Protection Control

When decreasing high pressure, the compressor operation frequency is controlled by this protection control for the following purposes.

- To prevent insufficient refrigerant supply to indoor units installed at varying height and locations.
- To maintain the refrigerant oil supply in the compressor.

Details of Control



Notes:

1. With a combination of base units, the control in the figure is performed for the entire number of outdoor units to be connected.
2. High pressure is detected in each outdoor unit, and this control uses the minimum value.
Pd: Detected Value of High Pressure Sensor [MPa (psi)]

(8) P0A: Demand Current Control

The compressor operation frequency is controlled to set at the setting value of the outdoor unit inverter primary current (40% to 100% of rated current of cooling operation). This function is detailed in the "External Input and Output Setting". Refer to the Service Manual for details.

Operating Conditions

The demand current control can be performed under the following conditions.

- (a) The demand signal is input from the centralized operation controller.
- (b) The demand signal is input at the external input terminals of the outdoor unit from external equipment such as a building management system or a utility with a smart meter.
- (c) The demand function settings are set from the outdoor unit PCB.
- (d) The wave function is set from the outdoor unit PCB.
- (e) The demand signal is input from the indoor unit (wired controller).

If the operation current exceeds each setting function value, the compressor operation frequency is controlled.

Cancellation Condition

The input signal is stopped at each condition (a) to (e).

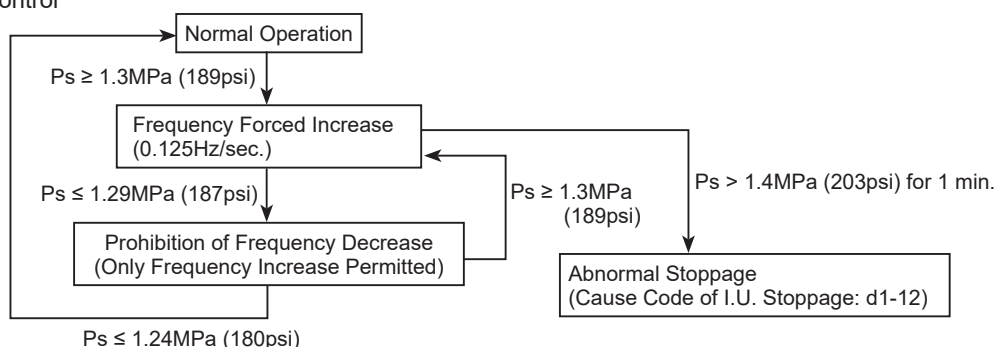
Note:

This function is unavailable when the compressor starts or during defrosting operation.

(9) P0d: Low Pressure Increase Protection Control

The compressor operation frequency is controlled to protect the compressor from suction pressure transitional increase.

Details of Control



Notes:

1. With a combination of base units, the control in the figure is performed for the entire number of outdoor units to be connected.
2. Low pressure is detected in each outdoor unit, and this control uses the maximum value.
Ps: Detected Value of Low Pressure Sensor [MPa(psi)]

(10) Priority of Protection Control

If two or more protection controls meet a condition, the protection controls perform according to the following.

Rank Order.	Indication	Protection Control Performed
1	P01	Pressure Ratio Protection Control
2	P02	High Pressure Increase Protection Control
3	P03	Inverter Current Protection Control
4	P04	Inverter Fin Temperature Increase Protection Control
5	P05	Discharge Temperature Increase Protection Control
6	P06	Low Pressure Decrease Protection Control
7	P0A	Demand Current Control
8	P0d	Low Pressure Increase Protection Control
9	P09	High Pressure Decrease Protection Control

		② Lower Rank Order of Protection Control Function			
		Forced Decrease	Forced Increase	Prohibition of Increase	Prohibition of Decrease
① Higher Rank Order of Protection Control Function	Forced Decrease	①	①	①	①
	Forced Increase	①	①	①	①
	Prohibited Increase	②	①	②*	①
	Prohibited Decrease	②	②	②	②

*: Discharge Temperature Increase Protection Control (P05) is higher than the following protection controls.

- a) Low Pressure Decrease Protection Control (P06)
- b) Demand Current Control (P0A)

(11) Degeneration Control

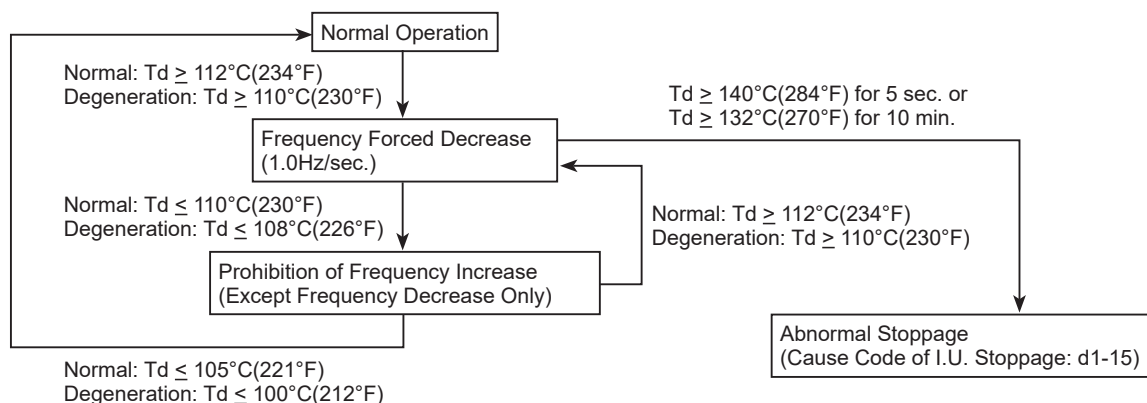
Degeneration Control is performed to change the protection control range.

This control sequence will suppress re-occurring alarms in response to repeated equipment restarts during protection control conditions listed below.

Related Protection Control

- (1) Pressure Ratio Decrease Protection Control (P01)
- (2) High Pressure Increase Protection Control (P02)
- (3) Inverter Current Protection Control (P03)
- (4) Inverter Fin Temperature Increase Protection Control (P04)
- (5) Discharge Temperature Increase Protection Control (P05)

<Example of Discharge Temperature Increase Protection Control>



(12) Oil Return Control

Oil return control is performed in order to avoid insufficient oil supply to the compressor caused by long time low frequency operation. This control is utilized to return the oil flow out to the indoor unit side from the compressor.

<Activating Condition>

This control function is started if the compressor runs below the specified speed for 1 hour continuously (refer to the table below).

<Compressor Speed for Oil Return Control>

Type of Unit	Cooling Operation	Heating Operation
8HP	50	54
10HP	50	54
12HP	50	54
14HP to 22HP	66	72
24HP to 32HP	96	108
34HP to 48HP	132	156
50HP to 60HP	176	190
62HP to 88HP	240	240

<Detail of Control>

Compressor:

Increase the compressor speed above the required value to return the oil to the compressor

Expansion Valve:

(In the Case of Cooling Operation) Open the expansion valve of the indoor unit under thermo-ON.

(In the Case of Heating Operation) Open the expansion valve of the outdoor unit.

<Deactivating Condition>

This control function is canceled when the oil return control continues for more than 60 sec. (for cooling operation) /120sec. (for heating operation).

10.4 Safety and Control Device Setting

- Compressor Protection

The compressor is protected by the following devices and their combinations.

- (1) High Pressure Switch: This switch cuts out the operation of the compressor when the discharge pressure exceeds the setting.
- (2) Oil Heater: This band type heater protects against oil foaming during cold start, as it is energized even when the compressor is stopped.

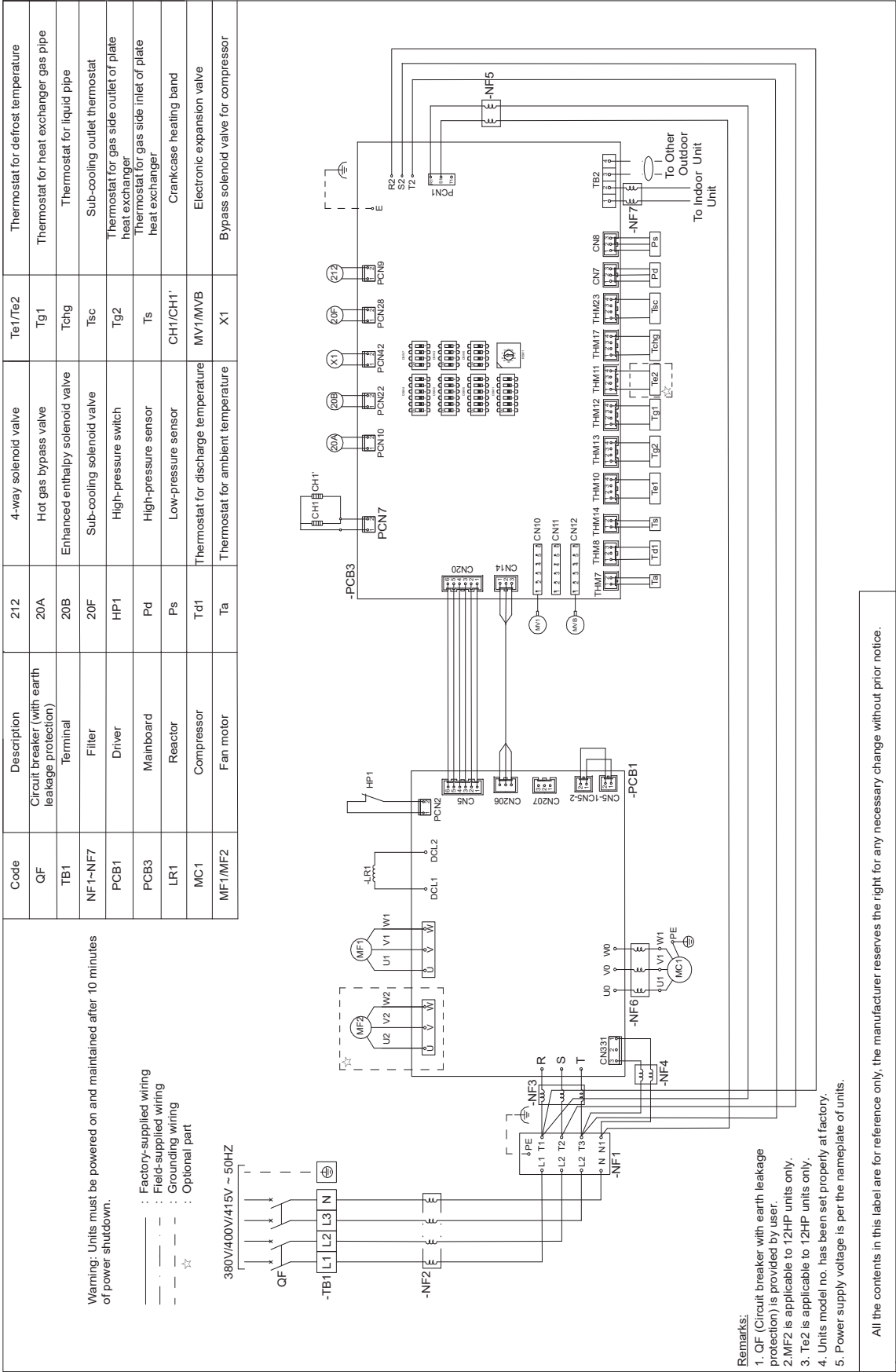
< HNBBMQ >

Model			RAS-8.0HNBBMQ	RAS-10HNBBMQ	RAS-12HNBBMQ
Compressor			Automatic reset, not adjustable		
Pressure Switch			1 pcs per compressor		
High Pressure	Cut-out	Mpa	$4.15_{-0.15}^{-0.05}$	$4.15_{-0.15}^{-0.05}$	$4.15_{-0.15}^{-0.05}$
	Cut-in	Mpa	3.20 ± 0.15	3.20 ± 0.15	3.20 ± 0.15
Fuse capacity		A	32	32	40
Crankcase heating capacity		W	40 x 2	40 x 2	40 x 2
CCP timer setting time		min	3	3	3

Model			RAS-14HNBBMQ	RAS-16HNBBMQ	RAS-18HNBBMQ
Compressor			Automatic reset, not adjustable		
Pressure Switch			1 pcs per compressor		
High Pressure	Cut-out	Mpa	$4.15_{-0.15}^{-0.05}$	$4.15_{-0.15}^{-0.05}$	$4.15_{-0.15}^{-0.05}$
	Cut-in	Mpa	3.20 ± 0.15	3.20 ± 0.15	3.20 ± 0.15
Fuse capacity		A	50	50	63
Crankcase heating capacity		W	40 x 4	40 x 4	40 x 4
CCP timer setting time		min	3	3	3

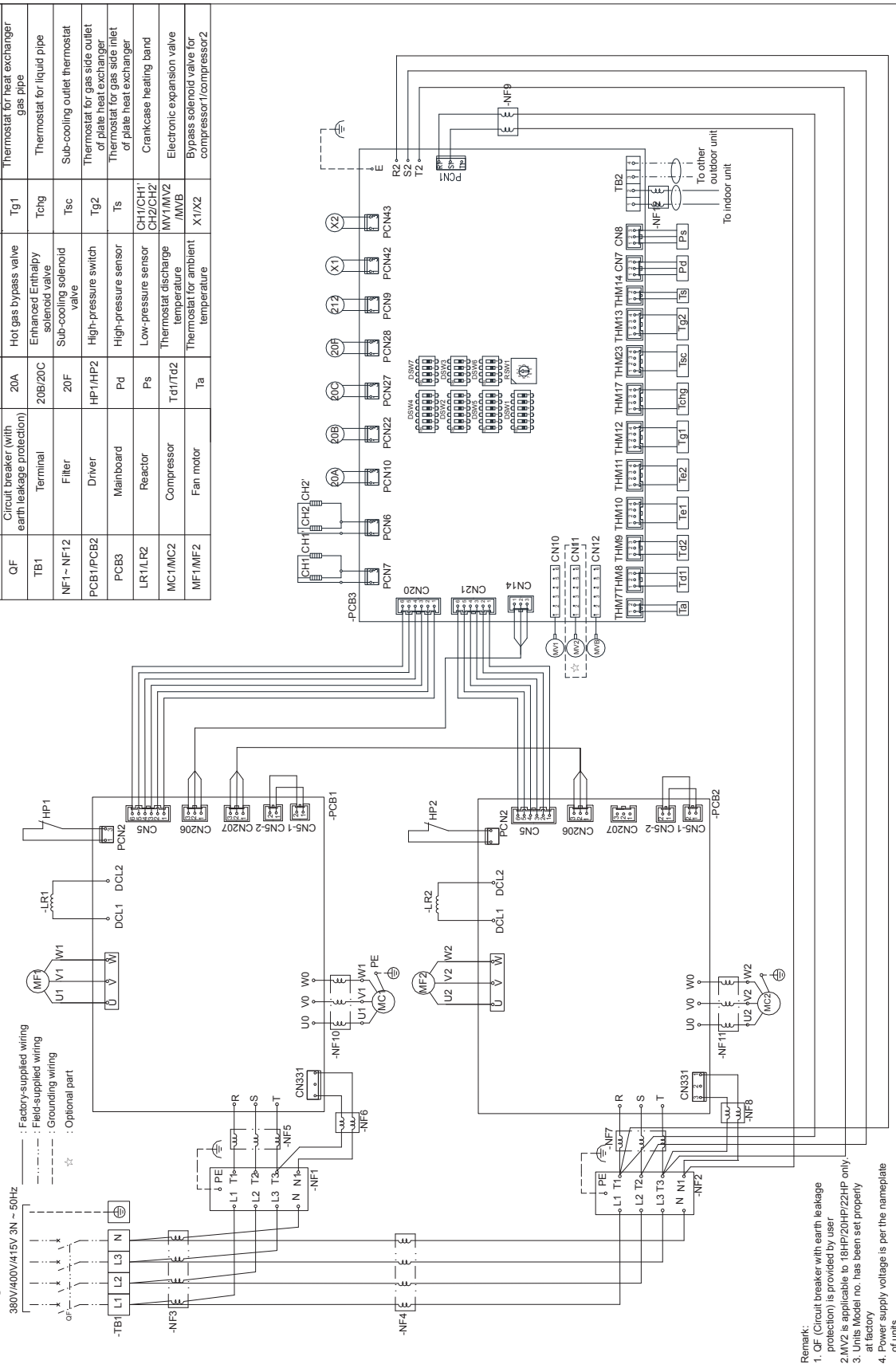
Model			RAS-20HNBBMQ	RAS-22HNBBMQ
Compressor			Automatic reset, not adjustable	
Pressure Switch			1 pcs per compressor	
High Pressure	Cut-out	Mpa	$4.15_{-0.15}^{-0.05}$	$4.15_{-0.15}^{-0.05}$
	Cut-in	Mpa	3.20 ± 0.15	3.20 ± 0.15
Fuse capacity		A	63	80
Crankcase heating capacity		W	40 x 4	40 x 4
CCP timer setting time		min	3	3

8-12HP



14-22HP

Warning: Units must be powered on and maintained after 10 minutes of power shutdown



All the contents in this label are for reference only, the manufacturer reserves the right for any necessary change without prior notice.

8-22HP

Electric box layout

8-12HP Electric box layout

NF1

PCB1

PCB3

TB1

LR1

14-16HP Electric box layout

NF1

PCB1

PCB3

TB1

LR1

18-24HP Electric box layout

NF1

PCB1

PCB3

TB1

LR1

NF2

PCB2

DIP Switch pattern

DSW1 (Refrigerant system tens digit setting)

Factory setting

ON

1

2

3

4

5

6

DSW3 (Other function setting)

Domestic (China)

ON

1

2

3

4

RSW1 (Refrigerant system single digit setting)

Factory setting

1

2

3

4

5

6

DSW2 (Capacity setting)

JTOH080VPEMBQ

ON

1

2

3

4

5

6

JTOH100VPEMBQ

ON

1

2

3

4

5

6

JTOH120VPEMBQ

ON

1

2

3

4

5

6

JTOH140VPEMBQ

ON

1

2

3

4

5

6

JTOH160VPEMBQ

ON

1

2

3

4

5

6

JTOH180VPEMBQ

ON

1

2

3

4

5

6

JTOH200VPEMBQ

ON

1

2

3

4

5

6

JTOH220VPEMBQ

ON

1

2

3

4

5

6

DSW10 (Used for transmission)

Factory setting

ON

1

2

No setting for terminal resistance

ON

1

2

SW1 (Driver DIP)

#1 driver (Left driver)

ON

1

2

3

4

5

6

#2 driver (Right driver)

ON

1

2

3

4

5

6

DSW6 (Outdoor unit setting)

Factory setting

ON

1

2

3

4

Main unit

ON

1

2

3

4

#1 Auxiliary-unit

ON

1

2

3

4

#2 Auxiliary-unit

ON

1

2

3

4

#3 Auxiliary-unit

ON

1

2

3

4

DSW7 (Voltage setting)

Factory setting

ON

1

2

3

4

380 Voltage

ON

1

2

3

4

400 Voltage

ON

1

2

3

4

415 Voltage

ON

1

2

3

4

DSW8 (Unit function setting)

Factory setting

ON

1

2

3

High ESP setting (30Pa)

ON

1

2

3

High ESP setting (60Pa)

ON

1

2

3

High ESP setting (80Pa)

ON

1

2

3

Forced available of LO type signal

ON

1

2

3

DSW5 (Emergency operation setting)

Factory setting

ON

1

2

3

4

5

6

INV Except #1 compressor

ON

1

2

3

4

5

6

INV Except #2 compressor

ON

1

2

3

4

5

6

All the contents in this label are for reference only, the manufacturer reserves the right for any necessary change without prior notice.

Sheet 1 of 1

Label drawing

H7C05992

11. Miscellaneous Notes

Special Notes

1. Provide a service access door near the unit piping connection part on the false ceiling for the cassette type units.
2. Consider the air distribution from the unit to entire space of the room, and select a suitable location so that uniform air temperature can be maintained with room.
Cassette and Ceiling Types - Avoid unit installation in a room where the ceiling height (distance between the floor to the false ceiling) exceeds three meters. If the indoor unit is installed in a room with ceiling more than three meters in height, it is recommended that an air circulation fan be installed separately to obtain uniform air temperature in the room, especially during the heating operation.
3. Check to ensure that the ceiling slab is strong enough and the false ceiling is flat and level.
4. Avoid obstacles which may hamper the flow of the air intake or discharge.
5. Do not install the unit in a machine shop or kitchen where vapor from oil or its mist can enter the unit.
The oil will deposit on the heat exchanger, which may reduce the unit performance, cause deformation, and in worst case, break the plastic parts of the unit.
6. Pay attention to the following points when the unit is installed in a hospital or other facilities where electromagnetic wave is generated from medical/electrical equipment.
 - (A) Do not install the unit where the electromagnetic wave is directly radiated to the electrical box, remote control cable or remote control switch.
 - (B) Install the unit and components as far as possible from the electromagnetic wave radiator (at least three meters).
 - (C) Prepare a steel box and install the remote control switch in it. Prepare a steel conduit pipe and wire the remote control cable in it. And then, connect earth wire with the box and the pipe.
 - (D) Install a noise filter when the power supply emits harmful noise.
7. Do not install the units in an acidic or alkaline environment, as the heat exchanger will be damaged by corrosion. In the case that outdoor units are installed in locations near sea, it is recommended that optional corrosion-resistant-type outdoor unit be used.
8. Do not install the units in flammable environment, as there is a danger of explosion.
9. For cassette type indoor units, consider the direct and reflected sound level, when selecting the unit for spaces where extremely low sound is required.
10. During heating operation, the outdoor heat exchanger produces dew condensation or melted frost water.
Install the outdoor unit where such water can be drained, or provide a drain passage.
11. Heating Performance: The heating capacity normally decreases when outdoor temperatures decrease. Therefore, provide an auxiliary heating unit if outdoor temperatures are very low.
12. In case that outdoor temperature is low and humidity is high, the outdoor heat exchanger will be covered with frost, resulting in lower heating capacity. In order to remove the frost, the unit operation mode automatically changes to defrosting mode. During this defrosting operation, the unit stops for approximately 3 to 10 minutes.
13. As this unit is heat pump type circulating hot air to the whole room space, it takes some time to raise the room temperature.
14. The operating sound data is based on an anechoic chamber. Therefore, the actual operating sound will be higher due to sound reflected from the floor and wall.
15. In case that the unit is operated for a long time at an indoor temperature of over 27°C DB, or at an indoor humidity of over 80%, dew condensation may occur on the cabinets, resulting in dew drops.
If dew condensation occurs, it is required to add thermal insulator on the cabinets.
16. Provide snow-protection hoods to prevent snow from clogging the outdoor heat exchanger.
If the unit is operated in an area where it snows heavily, provide a base under the outdoor unit, which should be 50cm higher than the presumable maximum snow height.
17. It is recommended that periodical service and maintenance be performed by authorized service engineers before air conditioning seasons, in order to avoid performance decrease due to dust or dirt.
18. This heat pump air conditioner has been designed for normal air conditioning for human being. Do not use the product for other purposes such as for food, animals, plants, high precision machines or work of art. Also do not use the product for vehicles or vessels. It will result in water leakage or electrical leakage.
19. It is recommended that the system be installed by authorized engineers. If not, it may cause water leakage, electric shock or fire.
20. In a place where fibers or dusts are floating, the air filter or heat exchangers or the drain pipe may be clogged, resulting in water leakage from the drain pan.

12. Standard Specifications

UNIT - The unit shall be a multi-split system inverter-driven heat pump air conditioner for application with R410A refrigerants, and shall be composed of 4-way cassette type indoor units, or in-the-ceiling type indoor units, 2-way cassette type indoor units, ceiling type indoor units, wall type indoor units, floor type indoor units and an outdoor unit, with a distributed refrigeration cycle, electrical components and enclosing cabinets. Optional accessories shall also be provided upon customer request. The indoor unit shall be constructed for installation, and the outdoor unit shall be completely weather-proofed for outdoor installation. Both indoor unit and the outdoor unit shall be properly assembled, internally piped and wired, thoroughly tested, and charged with R410A refrigerant at the factory and shall comply with Japanese Industrial Standards and other Japanese standardization statutes.

CAPACITY - The total capacity of the multi-split system inverter-driven heat pump air conditioner shall be ____kW or greater with ____°C air inlet dry bulb, ____°C air inlet wet bulb, ____°C outdoor air inlet temperature and ____m³/min. indoor air flow. The total compressor power input shall not exceed ____kW. The total heating capacity of the split-type air conditioners shall be ____kW or greater, with ____°C indoor heat exchanger air inlet dry bulb, ____°C outdoor heat exchanger air inlet dry bulb, ____°C outdoor heat exchanger air inlet wet bulb, and ____m³/min. indoor air flow. The total compressor power input shall not exceed ____kW.

OUTDOOR UNIT

CABINET - The cabinet shall be made of galvanized steel sheet, baked or painted with synthetic resin paint. The service panel shall be easily removable to enable for service access to the electrical components and the compressor section.

REFRIGERATION CYCLE - Each refrigeration cycle shall be equipped with (a) scroll compressor(s), a solenoid valve, a heat exchanger, an accumulator, a 4-Way valve and flare connection parts.

COMPRESSOR PROTECTION - The compressor shall be protected against breakdown by a quick response overcurrent relay, a high pressure switch, a wrap-around type oil heater and a discharge gas thermistor.

OUTDOOR FAN AND FAN MOTOR - The outdoor fan(s) shall be plastic propeller type, dynamically balanced, and the fan shall be directly driven by a ____W motor for vertical-flow air discharge. The fan motor shall be permanently lubricated and be protected from ingress of water.

OUTDOOR HEAT EXCHANGER - The heat exchanger shall be multi-pass, cross-finned tube type, equipped with highly-efficient aluminum fins, mechanically bonded to oxygen-free copper tubes. The coil shall be cleaned, dehydrated and tested for leakage at the factory.

CONTROL - All electrical control devices, shall be enclosed in the indoor and outdoor units.

In addition to the compressor protection devices, the indoor fan motor shall be equipped with an internal thermostat. The outdoor fan motor shall be protected by an internal thermostat. The power supply for indoor fan motor shall be directly from the control circuit. The functions of these control devices shall compose an electrical sequence of manual starting and stopping, automatic continuous operation whenever the room thermostat requires, and the protection devices allow the operation.

CABINET - The cabinet shall be made of galvanized steel sheet.

REFRIGERATION CYCLE - The refrigeration cycle shall be equipped with solenoid valves and flare connections to changeover the cycle in mediating between outdoor unit and indoor unit.

13. Caution for Refrigerant Leakage

In the room where the packaged air conditioner is installed, the concentration of refrigerant gas should be controlled within the limit in case of refrigerant leakage.

The refrigerant R410A, which is incombustible and non-toxic is adopted with this unit. If the refrigerant gas leaks and fills in the room, it may cause suffocation.

Especially for the Σ -HNBQ series, the outdoor unit is multi-type air conditioner with multiple indoor units connected with long distance piping. Accordingly, the refrigerant charging quantity is higher than general individual unit. Before the indoor unit installation, confirm if the room can maintain the gas concentration lower than the permissible limits. This is to ensure counter measures can be taken in case of gas leakage.

◆ Calculation of Refrigerant Concentration

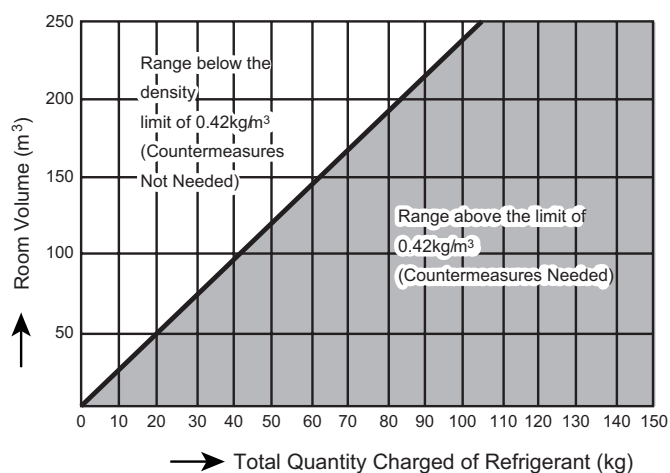
- (1) Calculate the total quantity of refrigerant R (kg) charged in the system including the indoor units of rooms to be air-conditioned.
- (2) Calculate the room Volume V (m³) of each room.
- (3) Calculate the refrigerant concentration C (kg/m³) of the room according to the following equation.

$$\frac{\text{R: Total Quantity of Charged Refrigerant (kg)}}{\text{V: Room Volume (m}^3\text{)}} = \text{C: Refrigerant Concentration} \leq 0.42 \text{ (kg/ m}^3\text{) for R410A}$$

! WARNING

The refrigerant R410A is non-toxic and inflammable in its original state.

However, in consideration refrigerant leakage in the room, measures against refrigerant leaks must be taken in small rooms where the tolerable level could be exceeded. Take counter measures by installing ventilation devices, etc.



Selection Data

1. Cooling

RAS-8.0HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	18.14	3.33	19.26	3.37	21.50	3.60	22.40	3.64	23.52	3.73	24.64	3.77	25.09	3.82	25.76
12	18.14	3.33	19.26	3.37	21.50	3.60	22.40	3.64	23.52	3.73	24.64	3.77	25.09	3.82	25.76	3.82	
14	18.14	3.33	19.26	3.42	21.50	3.60	22.40	3.64	23.30	3.73	24.64	3.77	25.09	3.82	25.76	3.86	
16	18.14	3.37	19.26	3.42	21.50	3.64	22.40	3.69	23.30	3.77	24.64	3.77	25.09	3.86	25.76	3.86	
18	18.14	3.37	19.26	3.46	21.50	3.64	22.40	3.69	23.30	3.77	24.64	3.82	25.09	3.86	25.76	3.91	
20	18.14	3.42	19.26	3.46	21.50	3.69	22.40	3.73	23.30	3.82	24.64	3.86	25.09	3.91	25.54	3.91	
22	18.14	3.46	19.26	3.51	21.50	3.73	22.40	3.77	23.30	3.86	24.64	3.91	25.09	3.95	25.54	4.00	
24	18.14	3.51	19.26	3.55	21.50	3.77	22.40	3.82	23.30	3.91	24.64	3.95	25.09	4.00	25.54	4.04	
25	17.92	3.55	19.26	3.60	21.50	3.82	22.40	3.86	23.30	3.95	24.64	4.00	25.09	4.04	25.54	4.08	
26	17.92	3.55	19.26	3.64	21.50	3.86	22.40	3.91	23.30	4.00	24.64	4.04	25.09	4.08	25.54	4.08	
28	17.92	3.60	19.26	3.69	21.50	3.91	22.40	3.95	23.30	4.04	24.64	4.08	25.09	4.13	25.54	4.13	
30	17.92	3.69	19.26	3.73	21.50	3.95	22.40	4.00	23.30	4.08	24.64	4.13	25.09	4.17	25.54	4.17	
32	17.92	3.82	19.26	3.91	21.50	4.13	22.40	4.17	23.30	4.26	24.64	4.31	25.09	4.35	25.54	4.35	
34	17.92	4.00	19.26	4.08	21.50	4.31	22.40	4.35	23.30	4.44	24.64	4.48	25.09	4.53	25.54	4.53	
35	17.92	4.08	19.26	4.17	21.50	4.40	22.40	4.44	23.30	4.53	24.64	4.57	25.09	4.62	25.54	4.62	
36	17.92	4.17	19.26	4.26	21.28	4.48	22.18	4.53	23.07	4.62	24.19	4.66	24.86	4.71	25.54	4.71	
38	17.70	4.40	19.04	4.48	21.06	4.66	21.73	4.75	22.62	4.80	23.52	4.84	24.19	4.88	24.86	4.93	
40	17.47	4.57	18.82	4.66	20.61	4.84	21.28	4.93	21.95	4.97	22.85	5.06	23.30	5.06	24.19	5.11	
43	16.80	4.88	18.14	4.93	19.71	5.11	20.38	5.19	21.06	5.24	21.95	5.33	22.40	5.33	23.30	5.37	
46	16.70	4.79	17.91	4.96	19.55	5.14	20.04	5.22	20.70	5.27	21.68	5.37	22.01	5.37	22.82	5.38	
48	13.92	3.95	14.80	4.08	16.03	4.20	16.39	4.28	16.85	4.31	17.69	4.39	17.95	4.39	18.53	4.39	
RAS-10HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	22.68	4.41	24.08	4.47	26.88	4.76	28.00	4.82	29.40	4.94	30.80	5.00	31.64	5.06	32.20
12	22.68	4.41	24.08	4.47	26.88	4.76	28.00	4.82	29.12	4.94	30.80	5.00	31.36	5.06	32.20	5.06	
14	22.68	4.41	24.08	4.53	26.88	4.76	28.00	4.82	29.12	4.94	30.80	5.00	31.36	5.06	32.20	5.12	
16	22.68	4.47	24.08	4.53	26.88	4.82	28.00	4.88	29.12	5.00	30.80	5.06	31.36	5.12	32.20	5.12	
18	22.68	4.47	24.08	4.59	26.88	4.82	28.00	4.88	29.12	5.00	30.80	5.06	31.36	5.12	32.20	5.17	
20	22.68	4.53	24.08	4.59	26.88	4.88	28.00	4.94	29.12	5.06	30.80	5.12	31.36	5.17	31.92	5.17	
22	22.68	4.59	24.08	4.65	26.88	4.94	28.00	5.00	29.12	5.12	30.80	5.17	31.36	5.23	31.92	5.29	
24	22.68	4.65	24.08	4.70	26.88	5.00	28.00	5.06	29.12	5.17	30.80	5.23	31.36	5.29	31.92	5.35	
25	22.40	4.70	24.08	4.76	26.88	5.06	28.00	5.12	29.12	5.23	30.80	5.29	31.36	5.35	31.92	5.35	
26	22.40	4.70	24.08	4.82	26.88	5.12	28.00	5.17	29.12	5.29	30.80	5.35	31.36	5.41	31.92	5.41	
28	22.40	4.76	24.08	4.88	26.88	5.17	28.00	5.23	29.12	5.35	30.80	5.41	31.36	5.47	31.92	5.47	
30	22.40	4.88	24.08	4.94	26.88	5.23	28.00	5.29	29.12	5.41	30.80	5.47	31.36	5.53	31.92	5.59	
32	22.40	5.06	24.08	5.17	26.88	5.47	28.00	5.53	29.12	5.64	30.80	5.70	31.36	5.76	31.92	5.82	
34	22.40	5.29	24.08	5.41	26.88	5.70	28.00	5.76	29.12	5.88	30.80	5.94	31.36	6.00	31.92	6.06	
35	22.40	5.41	24.08	5.53	26.88	5.82	28.00	5.88	29.12	6.00	30.80	6.06	31.36	6.12	31.92	6.12	
36	22.40	5.59	24.08	5.64	26.60	5.94	27.72	6.00	28.84	6.12	30.24	6.17	31.08	6.23	31.64	6.29	
38	22.12	5.82	23.80	5.94	26.32	6.17	27.16	6.29	28.00	6.35	29.40	6.47	29.96	6.47	30.80	6.53	
40	21.84	6.06	23.52	6.17	25.76	6.41	26.60	6.53	27.44	6.59	28.56	6.70	29.12	6.70	30.24	6.76	
43	21.00	6.47	22.68	6.53	24.64	6.76	25.48	6.88	26.32	6.94	27.44	7.06	28.00	7.06	29.12	7.11	
46	20.87	6.34	22.46	6.57	24.43	6.80	24.97	6.93	25.87	6.98	26.95	7.10	27.59	7.10	28.53	7.12	
48	17.40	5.24	18.50	5.40	20.04	5.57	20.49	5.67	21.07	5.71	22.11	5.81	22.44	5.81	23.16	5.82	

RAS-12HNBBMQ

Indoor Ambient Temperature(WB °C)

Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10	27.14	5.33	28.81	5.40	32.16	5.76	33.50	5.83	35.18	5.97	37.19	6.04	37.52	6.11	38.53	6.11	
12	27.14	5.33	28.81	5.40	32.16	5.76	33.50	5.83	34.84	5.97	36.85	6.04	37.52	6.11	38.53	6.11	
14	27.14	5.33	28.81	5.47	32.16	5.76	33.50	5.83	34.84	5.97	36.85	6.04	37.52	6.11	38.53	6.19	
16	27.14	5.40	28.81	5.47	32.16	5.83	33.50	5.90	34.84	6.04	36.85	6.04	37.52	6.19	38.53	6.19	
18	27.14	5.40	28.81	5.55	32.16	5.83	33.50	5.90	34.84	6.04	36.85	6.11	37.52	6.19	38.53	6.26	
20	27.14	5.47	28.81	5.55	32.16	5.90	33.50	5.97	34.84	6.11	36.85	6.19	37.52	6.26	38.19	6.33	
22	27.14	5.55	28.81	5.62	32.16	5.97	33.50	6.04	34.84	6.19	36.85	6.26	37.52	6.33	38.19	6.40	
24	27.14	5.62	28.81	5.69	32.16	6.04	33.50	6.11	34.84	6.26	36.85	6.33	37.52	6.40	38.19	6.47	
25	26.80	5.69	28.81	5.76	32.16	6.11	33.50	6.19	34.84	6.33	36.85	6.40	37.52	6.47	38.19	6.54	
26	26.80	5.69	28.81	5.83	32.16	6.19	33.50	6.26	34.84	6.40	36.85	6.47	37.52	6.54	38.19	6.54	
28	26.80	5.76	28.81	5.90	32.16	6.26	33.50	6.33	34.84	6.47	36.85	6.54	37.52	6.61	38.19	6.68	
30	26.80	5.90	28.81	5.97	32.16	6.33	33.50	6.40	34.84	6.54	36.85	6.61	37.52	6.68	38.19	6.75	
32	26.80	6.11	28.81	6.26	32.16	6.61	33.50	6.68	34.84	6.83	36.85	6.90	37.52	6.97	38.19	7.04	
34	26.80	6.40	28.81	6.54	32.16	6.90	33.50	6.97	34.84	7.11	36.85	7.18	37.52	7.25	38.19	7.32	
35	26.80	6.54	28.81	6.68	32.16	7.04	33.50	7.11	34.84	7.25	36.85	7.32	37.52	7.39	38.19	7.47	
36	26.80	6.68	28.81	6.83	31.83	7.18	33.17	7.25	34.51	7.39	36.52	7.47	36.85	7.54	37.86	7.61	
38	26.47	6.97	28.48	7.11	31.49	7.47	32.50	7.61	33.50	7.68	35.18	7.82	35.85	7.82	36.85	7.82	
40	26.13	7.32	28.14	7.47	30.82	7.75	31.83	7.89	32.83	7.96	34.17	8.11	34.84	8.11	36.18	8.11	
43	25.46	7.75	27.14	7.96	29.82	8.18	30.49	8.32	31.49	8.39	32.83	8.60	33.50	8.53	34.84	8.53	
46	25.35	7.94	27.20	8.21	29.70	8.50	30.32	8.64	31.47	8.71	32.83	8.86	33.56	8.86	34.64	8.91	
48	20.21	6.30	21.38	6.52	23.05	6.74	23.64	6.85	24.43	6.90	25.33	6.99	25.91	6.99	26.84	7.05	

RAS-14HNBBMQ

Indoor Ambient Temperature(WB °C)

Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10	32.40	6.82	34.40	6.91	38.40	7.36	40.00	7.45	42.00	7.64	44.40	7.73	44.80	7.82	46.00	7.82	
12	32.40	6.82	34.40	6.91	38.40	7.36	40.00	7.45	41.60	7.64	44.00	7.73	44.80	7.82	46.00	7.82	
14	32.40	6.82	34.40	7.00	38.40	7.36	40.00	7.45	41.60	7.64	44.00	7.73	44.80	7.82	46.00	7.91	
16	32.40	6.91	34.40	7.00	38.40	7.45	40.00	7.54	41.60	7.73	44.00	7.73	44.80	7.91	46.00	7.91	
18	32.40	6.91	34.40	7.09	38.40	7.45	40.00	7.54	41.60	7.73	44.00	7.82	44.80	7.91	46.00	8.00	
20	32.40	7.00	34.40	7.09	38.40	7.54	40.00	7.64	41.60	7.82	44.00	7.91	44.80	8.00	45.60	8.09	
22	32.40	7.09	34.40	7.18	38.40	7.64	40.00	7.73	41.60	7.91	44.00	8.00	44.80	8.09	45.60	8.18	
24	32.40	7.18	34.40	7.27	38.40	7.73	40.00	7.82	41.60	8.00	44.00	8.09	44.80	8.18	45.60	8.27	
25	32.00	7.27	34.40	7.36	38.40	7.82	40.00	7.91	41.60	8.09	44.00	8.18	44.80	8.27	45.60	8.36	
26	32.00	7.27	34.40	7.45	38.40	7.91	40.00	8.00	41.60	8.18	44.00	8.27	44.80	8.36	45.60	8.36	
28	32.00	7.36	34.40	7.54	38.40	8.00	40.00	8.09	41.60	8.27	44.00	8.36	44.80	8.45	45.60	8.54	
30	32.00	7.54	34.40	7.64	38.40	8.09	40.00	8.18	41.60	8.36	44.00	8.45	44.80	8.54	45.60	8.64	
32	32.00	7.82	34.40	8.00	38.40	8.45	40.00	8.54	41.60	8.73	44.00	8.82	44.80	8.91	45.60	9.00	
34	32.00	8.18	34.40	8.36	38.40	8.82	40.00	8.91	41.60	9.09	44.00	9.18	44.80	9.27	45.60	9.36	
35	32.00	8.36	34.40	8.54	38.40	9.00	40.00	9.09	41.60	9.27	44.00	9.36	44.80	9.45	45.60	9.54	
36	32.00	8.54	34.40	8.73	38.00	9.18	39.60	9.27	41.20	9.45	43.60	9.54	44.00	9.64	45.20	9.73	
38	31.60	8.91	34.00	9.09	37.60	9.54	38.80	9.73	40.00	9.82	42.00	10.00	42.80	10.00	44.00	10.00	
40	31.20	9.36	33.60	9.54	36.80	9.91	38.00	10.09	39.20	10.18	40.80	10.36	41.60	10.36	43.20	10.36	
43	30.40	9.91	32.40	10.18	35.60	10.45	36.40	10.64	37.60	10.73	39.20	11.00	40.00	10.91	41.60	10.91	
46	29.04	9.74	31.16	10.07	34.03	10.43	34.75	10.61	36.06	10.69	37.61	10.87	38.45	10.87	39.70	10.93	
48	23.16	7.73	24.50	8.00	26.41	8.27	27.09	8.41	27.99	8.47	29.02	8.58	29.69	8.58	30.75	8.65	

RAS-16HNBBMQ

Indoor Ambient Temperature(WB °C)

Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10	36.45	7.61	38.70	7.71	43.20	8.21	45.00	8.31	47.25	8.52	49.95	8.62	50.40	8.72	51.75	8.72	
12	36.45	7.61	38.70	7.71	43.20	8.21	45.00	8.31	46.80	8.52	49.50	8.62	50.40	8.72	51.75	8.72	
14	36.45	7.61	38.70	7.81	43.20	8.21	45.00	8.31	46.80	8.52	49.50	8.62	50.40	8.72	51.75	8.82	
16	36.45	7.71	38.70	7.81	43.20	8.31	45.00	8.42	46.80	8.62	49.50	8.62	50.40	8.82	51.75	8.82	
18	36.45	7.71	38.70	7.91	43.20	8.31	45.00	8.42	46.80	8.62	49.50	8.72	50.40	8.82	51.75	8.92	
20	36.45	7.81	38.70	7.91	43.20	8.42	45.00	8.52	46.80	8.72	49.50	8.82	50.40	8.92	51.30	9.02	
22	36.45	7.91	38.70	8.01	43.20	8.52	45.00	8.62	46.80	8.82	49.50	8.92	50.40	9.02	51.30	9.13	
24	36.45	8.01	38.70	8.11	43.20	8.62	45.00	8.72	46.80	8.92	49.50	9.02	50.40	9.13	51.30	9.23	
25	36.00	8.11	38.70	8.21	43.20	8.72	45.00	8.82	46.80	9.02	49.50	9.13	50.40	9.23	51.30	9.33	
26	36.00	8.11	38.70	8.31	43.20	8.82	45.00	8.92	46.80	9.13	49.50	9.23	50.40	9.33	51.30	9.33	
28	36.00	8.21	38.70	8.42	43.20	8.92	45.00	9.02	46.80	9.23	49.50	9.33	50.40	9.43	51.30	9.53	
30	36.00	8.42	38.70	8.52	43.20	9.02	45.00	9.13	46.80	9.33	49.50	9.43	50.40	9.53	51.30	9.63	
32	36.00	8.72	38.70	8.92	43.20	9.43	45.00	9.53	46.80	9.73	49.50	9.84	50.40	9.94	51.30	10.04	
34	36.00	9.13	38.70	9.33	43.20	9.84	45.00	9.94	46.80	10.14	49.50	10.24	50.40	10.34	51.30	10.44	
35	36.00	9.33	38.70	9.53	43.20	10.04	45.00	10.14	46.80	10.34	49.50	10.44	50.40	10.55	51.30	10.65	
36	36.00	9.53	38.70	9.73	42.75	10.24	44.55	10.34	46.35	10.55	49.05	10.65	49.50	10.75	50.85	10.85	
38	35.55	9.94	38.25	10.14	42.30	10.65	43.65	10.85	45.00	10.95	47.25	11.15	48.15	11.15	49.50	11.15	
40	35.10	10.44	37.80	10.65	41.40	11.05	42.75	11.26	44.10	11.36	45.90	11.56	46.80	11.56	48.60	11.56	
43	34.20	11.05	36.45	11.36	40.05	11.66	40.95	11.86	42.30	11.97	44.10	12.27	45.00	12.17	46.80	12.17	
46	32.67	10.86	35.06	11.23	38.28	11.63	39.09	11.83	40.57	11.93	42.31	12.13	43.25	12.13	44.66	12.19	
48	26.06	8.62	27.56	8.92	29.71	9.22	30.48	9.38	31.49	9.45	32.65	9.58	33.40	9.58	34.60	9.65	

RAS-18HNBBMQ

Indoor Ambient Temperature(WB °C)

Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10	40.50	8.35	43.00	8.47	48.00	8.81	50.00	9.03	52.50	9.60	55.00	9.26	56.00	9.37	57.50	9.48	
12	40.50	8.35	43.00	8.47	48.00	8.81	50.00	9.03	52.50	9.60	55.00	9.26	56.00	9.37	57.50	9.48	
14	40.50	8.35	43.00	8.47	48.00	8.92	50.00	9.03	52.00	9.60	55.00	9.26	56.00	9.37	57.50	9.48	
16	40.50	8.35	43.00	8.58	48.00	8.92	50.00	9.03	52.00	9.60	55.00	9.37	56.00	9.37	57.50	9.60	
18	40.50	8.47	43.00	8.58	48.00	9.03	50.00	9.14	52.00	9.71	55.00	9.48	56.00	9.48	57.50	9.60	
20	40.50	8.58	43.00	8.69	48.00	9.14	50.00	9.26	52.00	9.82	55.00	9.48	56.00	9.60	57.50	9.71	
22	40.50	8.58	43.00	8.81	48.00	9.14	50.00	9.37	52.00	9.94	55.00	9.60	56.00	9.71	57.50	9.82	
24	40.50	8.69	43.00	8.92	48.00	9.37	50.00	9.48	52.00	9.94	55.00	9.71	56.00	9.82	57.50	9.94	
25	40.00	8.81	43.00	9.03	48.00	9.37	50.00	9.48	52.00	10.05	55.00	9.82	56.00	9.94	57.00	10.05	
26	40.00	8.92	43.00	9.14	48.00	9.48	50.00	9.60	52.00	10.05	55.00	9.94	56.00	10.05	57.00	10.05	
28	40.00	9.03	43.00	9.37	48.00	9.82	50.00	9.82	52.00	10.16	55.00	10.27	56.00	10.39	57.00	10.39	
30	40.00	9.26	43.00	9.71	48.00	10.05	50.00	10.16	52.00	10.39	55.00	10.50	56.00	10.61	57.00	10.73	
32	40.00	9.71	43.00	10.16	48.00	10.50	50.00	10.61	52.00	10.84	55.00	10.95	56.00	11.06	57.00	11.06	
34	40.00	10.16	43.00	10.61	48.00	10.95	50.00	11.06	52.00	11.29	55.00	11.40	56.00	11.52	56.50	11.52	
35	40.00	10.39	43.00	10.84	48.00	11.18	50.00	11.29	52.00	11.52	55.00	11.63	56.00	11.74	56.50	11.74	
36	39.50	10.73	42.50	11.06	47.50	11.40	49.00	11.52	51.00	11.85	53.50	11.97	54.50	11.74	56.50	11.23	
38	39.00	11.18	42.00	11.63	45.93	11.85	47.89	11.97	48.50	12.19	52.84	11.13	53.61	10.74	54.07	10.35	
40	38.00	11.74	41.00	12.19	45.93	11.56	47.89	11.20	48.42	10.89	49.47	10.21	50.00	9.72	50.41	9.48	
43	37.17	9.30	38.99	9.09	40.80	8.80	41.92	8.50	42.43	7.97	43.16	7.90	43.58	7.62	44.01	7.28	
46	26.17	6.01	28.52	6.17	29.64	6.02	30.81	5.94	31.29	5.67	31.53	5.66	32.05	5.57	32.51	5.69	
48	12.63	3.76	13.16	4.10	13.63	4.21	14.15	4.33	14.74	4.32	15.26	4.43	15.20	4.39	15.95	4.30	

RAS-20HNBBMQ

Indoor Ambient Temperature(WB °C)

Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C																
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10	45.36	10.46	48.16	10.61	53.76	11.03	56.00	11.31	58.80	12.02	61.60	11.59	62.72	11.74	64.40	11.88	
12	45.36	10.46	48.16	10.61	53.76	11.03	56.00	11.31	58.80	12.02	61.60	11.59	62.72	11.74	64.40	11.88	
14	45.36	10.46	48.16	10.61	53.76	11.17	56.00	11.31	58.24	12.02	61.60	11.59	62.72	11.74	64.40	11.88	
16	45.36	10.46	48.16	10.75	53.76	11.17	56.00	11.31	58.24	12.02	61.60	11.74	62.72	11.74	64.40	12.02	
18	45.36	10.61	48.16	10.75	53.76	11.31	56.00	11.45	58.24	12.16	61.60	11.88	62.72	11.88	64.40	12.02	
20	45.36	10.75	48.16	10.89	53.76	11.45	56.00	11.59	58.24	12.30	61.60	11.88	62.72	12.02	64.40	12.16	
22	45.36	10.75	48.16	11.03	53.76	11.45	56.00	11.74	58.24	12.44	61.60	12.02	62.72	12.16	64.40	12.30	
24	45.36	10.89	48.16	11.17	53.76	11.74	56.00	11.88	58.24	12.44	61.60	12.16	62.72	12.30	64.40	12.44	
25	44.80	11.03	48.16	11.31	53.76	11.74	56.00	11.88	58.24	12.58	61.60	12.30	62.72	12.44	63.84	12.58	
26	44.80	11.17	48.16	11.45	53.76	11.88	56.00	12.02	58.24	12.58	61.60	12.44	62.72	12.58	63.84	12.58	
28	44.80	11.31	48.16	11.74	53.76	12.30	56.00	12.30	58.24	12.73	61.60	12.87	62.72	13.01	63.84	13.01	
30	44.80	11.59	48.16	12.16	53.76	12.58	56.00	12.73	58.24	13.01	61.60	13.15	62.72	13.29	63.84	13.43	
32	44.80	12.16	48.16	12.73	53.76	13.15	56.00	13.29	58.24	13.57	61.60	13.72	62.72	13.86	63.84	13.86	
34	44.80	12.73	48.16	13.29	53.76	13.72	56.00	13.86	58.24	14.14	61.60	14.28	62.72	14.42	63.28	14.42	
35	44.80	13.01	48.16	13.57	53.76	14.00	56.00	14.14	58.24	14.42	61.60	14.56	62.72	14.71	63.28	14.71	
36	44.24	13.43	47.60	13.86	53.20	14.28	54.88	14.42	57.12	14.85	59.92	14.99	61.04	14.71	61.42	14.03	
38	43.68	14.00	47.04	14.56	51.52	14.85	53.20	14.99	54.32	15.27	56.22	13.90	57.05	13.42	57.53	12.93	
40	42.56	14.71	45.92	15.27	49.84	14.45	50.96	13.99	51.52	13.60	52.64	12.76	53.20	12.14	53.64	11.84	
43	39.55	11.62	41.49	11.35	43.42	11.00	44.61	10.62	45.15	9.96	45.92	9.87	46.37	9.52	46.83	9.10	
46	27.85	7.50	30.34	7.71	31.53	7.52	32.78	7.43	33.30	7.09	33.54	7.07	34.10	6.95	34.59	7.11	
48	13.44	4.70	14.00	5.12	14.50	5.26	15.06	5.40	15.68	5.39	16.24	5.53	16.18	5.48	16.97	5.37	

RAS-22HNBBMQ

Indoor Ambient Temperature(WB °C)

Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C																
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10	49.20	11.28	52.89	11.59	59.04	12.05	61.50	12.21	64.58	12.98	67.65	12.67	68.88	12.82	70.73	12.98	
12	49.20	11.28	52.89	11.59	59.04	12.05	61.50	12.21	63.96	13.13	67.65	12.67	68.88	12.82	70.73	12.98	
14	49.20	11.28	52.89	11.59	59.04	12.21	61.50	12.36	63.96	13.13	67.65	12.82	68.88	12.82	70.73	12.98	
16	49.20	11.43	52.89	11.74	59.04	12.21	61.50	12.36	63.96	13.13	67.65	12.82	68.88	12.98	70.73	13.13	
18	49.20	11.43	52.89	11.74	59.04	12.36	61.50	12.51	63.96	13.29	67.65	12.98	68.88	12.98	70.73	13.13	
20	49.82	11.59	52.89	11.90	59.04	12.51	61.50	12.51	63.96	13.44	67.65	12.98	68.88	13.13	70.11	13.29	
22	49.82	11.74	52.89	12.05	59.04	12.51	61.50	12.67	63.96	13.60	67.65	13.13	68.88	13.29	70.73	13.44	
24	49.82	11.90	52.89	12.21	59.04	12.82	61.50	12.82	63.96	13.60	67.65	13.29	68.88	13.44	70.11	13.60	
25	49.20	11.90	52.89	12.36	59.04	12.82	61.50	12.98	63.96	13.75	67.65	13.44	68.88	13.60	70.11	13.75	
26	49.20	12.05	52.89	12.51	59.04	12.98	61.50	13.13	63.96	13.91	67.65	13.60	68.88	13.75	70.11	13.91	
28	49.20	12.36	52.89	12.82	59.04	13.44	61.50	13.60	63.96	14.06	67.65	14.06	68.88	14.21	70.11	14.37	
30	49.20	12.82	52.89	13.29	59.04	13.75	61.50	13.91	63.96	14.21	67.65	14.37	68.88	14.52	70.11	14.68	
32	49.20	13.44	52.89	13.91	59.04	14.37	61.50	14.52	63.96	14.99	67.65	14.99	68.88	15.14	70.11	15.30	
34	49.20	14.06	52.89	14.52	59.04	14.99	61.50	15.14	63.96	15.45	67.65	15.60	68.88	15.76	70.11	15.91	
35	49.20	14.37	52.89	14.83	59.04	15.30	61.50	15.45	63.96	15.76	67.65	15.91	68.88	16.07	70.11	16.22	
36	49.20	14.68	52.28	15.14	58.43	15.60	60.89	15.76	63.35	15.91	66.42	15.60	67.65	15.60	68.88	15.45	
38	47.97	15.45	51.66	15.91	56.58	16.22	58.43	16.38	60.27	16.53	62.73	14.68	63.96	14.37	65.19	14.21	
40	47.36	16.22	50.43	16.69	54.74	15.76	55.97	15.30	56.58	14.83	57.81	13.91	58.43	13.29	59.66	13.13	
43	43.67	12.82	45.51	12.36	47.36	11.90	49.20	11.59	49.82	10.82	50.43	10.82	51.05	10.35	52.28	10.20	
46	30.75	8.34	33.21	8.34	34.44	8.19	36.29	8.19	36.29	7.73	36.90	7.73	37.52	7.57	38.75	8.03	
48	15.38	5.25	15.38	5.56	15.99	5.72	16.61	5.87	17.22	5.87	17.84	6.03	17.84	6.03	19.07	6.03	

RAS-24HNBBMQ

Indoor Ambient Temperature(WB °C)

Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C																
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10	54.27	10.67	57.62	10.81	64.32	11.52	67.00	11.66	70.35	11.94	74.37	12.09	75.04	12.23	77.05	12.23	
12	54.27	10.67	57.62	10.81	64.32	11.52	67.00	11.66	69.68	11.94	73.70	12.09	75.04	12.23	77.05	12.23	
14	54.27	10.67	57.62	10.95	64.32	11.52	67.00	11.66	69.68	11.94	73.70	12.09	75.04	12.23	77.05	12.37	
16	54.27	10.81	57.62	10.95	64.32	11.66	67.00	11.80	69.68	12.09	73.70	12.09	75.04	12.37	77.05	12.37	
18	54.27	10.81	57.62	11.09	64.32	11.66	67.00	11.80	69.68	12.09	73.70	12.23	75.04	12.37	77.05	12.51	
20	54.27	10.95	57.62	11.09	64.32	11.80	67.00	11.94	69.68	12.23	73.70	12.37	75.04	12.51	76.38	12.66	
22	54.27	11.09	57.62	11.23	64.32	11.94	67.00	12.09	69.68	12.37	73.70	12.51	75.04	12.66	76.38	12.80	
24	54.27	11.23	57.62	11.38	64.32	12.09	67.00	12.23	69.68	12.51	73.70	12.66	75.04	12.80	76.38	12.94	
25	53.60	11.38	57.62	11.52	64.32	12.23	67.00	12.37	69.68	12.66	73.70	12.80	75.04	12.94	76.38	13.08	
26	53.60	11.38	57.62	11.66	64.32	12.37	67.00	12.51	69.68	12.80	73.70	12.94	75.04	13.08	76.38	13.08	
28	53.60	11.52	57.62	11.80	64.32	12.51	67.00	12.66	69.68	12.94	73.70	13.08	75.04	13.22	76.38	13.37	
30	53.60	11.80	57.62	11.94	64.32	12.66	67.00	12.80	69.68	13.08	73.70	13.22	75.04	13.37	76.38	13.51	
32	53.60	12.23	57.62	12.51	64.32	13.22	67.00	13.37	69.68	13.65	73.70	13.79	75.04	13.94	76.38	14.08	
34	53.60	12.80	57.62	13.08	64.32	13.79	67.00	13.94	69.68	14.22	73.70	14.36	75.04	14.50	76.38	14.65	
35	53.60	13.08	57.62	13.37	64.32	14.08	67.00	14.22	69.68	14.50	73.70	14.65	75.04	14.79	76.38	14.93	
36	53.60	13.37	57.62	13.65	63.65	14.36	66.33	14.50	69.01	14.79	73.03	14.93	73.70	15.07	75.71	15.22	
38	52.93	13.94	56.95	14.22	62.98	14.93	64.99	15.22	67.00	15.36	70.35	15.64	71.69	15.64	73.70	15.64	
40	52.26	14.65	56.28	14.93	61.64	15.50	63.65	15.78	65.66	15.93	68.34	16.21	69.68	16.21	72.36	16.21	
43	50.92	15.50	54.27	15.93	59.63	16.35	60.97	16.64	62.98	16.78	65.66	17.21	67.00	17.06	69.68	17.06	
46	50.70	15.87	54.40	16.41	59.40	16.99	60.65	17.28	62.94	17.43	65.65	17.72	67.11	17.72	69.29	17.81	
48	40.43	12.60	42.76	13.03	46.10	13.47	47.29	13.70	48.85	13.80	50.66	13.99	51.83	13.99	53.68	14.10	

RAS-26HNBBMQ

Indoor Ambient Temperature(WB °C)

Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C																
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10	59.54	12.15	63.21	12.31	70.56	13.12	73.50	13.28	77.18	13.61	81.59	13.77	82.32	13.93	84.53	13.93	
12	59.54	12.15	63.21	12.31	70.56	13.12	73.50	13.28	76.44	13.61	80.85	13.77	82.32	13.93	84.53	13.93	
14	59.54	12.15	63.21	12.47	70.56	13.12	73.50	13.28	76.44	13.61	80.85	13.77	82.32	13.93	84.53	14.09	
16	59.54	12.31	63.21	12.47	70.56	13.28	73.50	13.45	76.44	13.77	80.85	13.77	82.32	14.09	84.53	14.09	
18	59.54	12.31	63.21	12.64	70.56	13.28	73.50	13.45	76.44	13.77	80.85	13.93	82.32	14.09	84.53	14.26	
20	59.54	12.47	63.21	12.64	70.56	13.45	73.50	13.61	76.44	13.93	80.85	14.09	82.32	14.26	83.79	14.42	
22	59.54	12.64	63.21	12.80	70.56	13.61	73.50	13.77	76.44	14.09	80.85	14.26	82.32	14.42	83.79	14.58	
24	59.54	12.80	63.21	12.96	70.56	13.77	73.50	13.93	76.44	14.26	80.85	14.42	82.32	14.58	83.79	14.74	
25	58.80	12.96	63.21	13.12	70.56	13.93	73.50	14.09	76.44	14.42	80.85	14.58	82.32	14.74	83.79	14.90	
26	58.80	12.96	63.21	13.28	70.56	14.09	73.50	14.26	76.44	14.58	80.85	14.74	82.32	14.90	83.79	14.90	
28	58.80	13.12	63.21	13.45	70.56	14.26	73.50	14.42	76.44	14.74	80.85	14.90	82.32	15.07	83.79	15.23	
30	58.80	13.45	63.21	13.61	70.56	14.42	73.50	14.58	76.44	14.90	80.85	15.07	82.32	15.23	83.79	15.39	
32	58.80	13.93	63.21	14.26	70.56	15.07	73.50	15.23	76.44	15.55	80.85	15.71	82.32	15.88	83.79	16.04	
34	58.80	14.58	63.21	14.90	70.56	15.71	73.50	15.88	76.44	16.20	80.85	16.36	82.32	16.52	83.79	16.69	
35	58.80	14.90	63.21	15.23	70.56	16.04	73.50	16.20	76.44	16.52	80.85	16.69	82.32	16.85	83.79	17.01	
36	58.80	15.23	63.21	15.55	69.83	16.36	72.77	16.52	75.71	16.85	80.12	17.01	80.85	17.17	83.06	17.33	
38	58.07	15.88	62.48	16.20	69.09	17.01	71.30	17.33	73.50	17.50	77.18	17.82	78.65	17.82	80.85	17.82	
40	57.33	16.69	61.74	17.01	67.62	17.66	69.83	17.98	72.03	18.14	74.97	18.47	76.44	18.47	79.38	18.47	
43	55.86	17.66	59.54	18.14	65.42	18.63	66.89	18.95	69.09	19.12	72.03	19.60	73.50	19.44	76.44	19.44	
46	53.37	17.36	57.26	17.95	62.53	18.58	63.85	18.90	66.26	19.06	69.11	19.38	70.65	19.38	72.94	19.48	
48	42.56	13.78	45.01	14.25	48.52	14.73	49.78	14.98	51.43	15.09	53.33	15.30	54.56	15.30	56.51	15.41	

RAS-28HNBBMQ

Indoor Ambient Temperature(WB °C)

Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C																
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10	64.80	13.64	68.80	13.82	76.80	14.73	80.00	14.91	84.00	15.27	88.80	15.45	89.60	15.63	92.00	15.63	
12	64.80	13.64	68.80	13.82	76.80	14.73	80.00	14.91	83.20	15.27	88.00	15.45	89.60	15.63	92.00	15.63	
14	64.80	13.64	68.80	14.00	76.80	14.73	80.00	14.91	83.20	15.27	88.00	15.45	89.60	15.63	92.00	15.82	
16	64.80	13.82	68.80	14.00	76.80	14.91	80.00	15.09	83.20	15.45	88.00	15.45	89.60	15.82	92.00	15.82	
18	64.80	13.82	68.80	14.18	76.80	14.91	80.00	15.09	83.20	15.45	88.00	15.63	89.60	15.82	92.00	16.00	
20	64.80	14.00	68.80	14.18	76.80	15.09	80.00	15.27	83.20	15.63	88.00	15.82	89.60	16.00	91.20	16.18	
22	64.80	14.18	68.80	14.36	76.80	15.27	80.00	15.45	83.20	15.82	88.00	16.00	89.60	16.18	91.20	16.36	
24	64.80	14.36	68.80	14.54	76.80	15.45	80.00	15.63	83.20	16.00	88.00	16.18	89.60	16.36	91.20	16.54	
25	64.00	14.54	68.80	14.73	76.80	15.63	80.00	15.82	83.20	16.18	88.00	16.36	89.60	16.54	91.20	16.73	
26	64.00	14.54	68.80	14.91	76.80	15.82	80.00	16.00	83.20	16.36	88.00	16.54	89.60	16.73	91.20	16.73	
28	64.00	14.73	68.80	15.09	76.80	16.00	80.00	16.18	83.20	16.54	88.00	16.73	89.60	16.91	91.20	17.09	
30	64.00	15.09	68.80	15.27	76.80	16.18	80.00	16.36	83.20	16.73	88.00	16.91	89.60	17.09	91.20	17.27	
32	64.00	15.63	68.80	16.00	76.80	16.91	80.00	17.09	83.20	17.45	88.00	17.63	89.60	17.82	91.20	18.00	
34	64.00	16.36	68.80	16.73	76.80	17.63	80.00	17.82	83.20	18.18	88.00	18.36	89.60	18.54	91.20	18.73	
35	64.00	16.73	68.80	17.09	76.80	18.00	80.00	18.18	83.20	18.54	88.00	18.73	89.60	18.91	91.20	19.09	
36	64.00	17.09	68.80	17.45	76.00	18.36	79.20	18.54	82.40	18.91	87.20	19.09	88.00	19.27	90.40	19.45	
38	63.20	17.82	68.00	18.18	75.20	19.09	77.60	19.45	80.00	19.63	84.00	20.00	85.60	20.00	88.00	20.00	
40	62.40	18.73	67.20	19.09	73.60	19.82	76.00	20.18	78.40	20.36	81.60	20.73	83.20	20.73	86.40	20.73	
43	60.80	19.82	64.80	20.36	71.20	20.91	72.80	21.27	75.20	21.45	78.40	22.00	80.00	21.82	83.20	21.82	
46	58.09	19.48	62.33	20.14	68.06	20.85	69.49	21.21	72.12	21.39	75.22	21.74	76.90	21.74	79.39	21.86	
48	46.32	15.46	48.99	15.99	52.82	16.53	54.18	16.81	55.98	16.94	58.05	17.17	59.38	17.17	61.50	17.30	

RAS-30HNBBMQ

Indoor Ambient Temperature(WB °C)

Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C																
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10	68.85	14.42	73.10	14.61	81.60	15.58	85.00	15.77	89.25	16.15	94.35	16.35	95.20	16.54	97.75	16.54	
12	68.85	14.42	73.10	14.61	81.60	15.58	85.00	15.77	88.40	16.15	93.50	16.35	95.20	16.54	97.75	16.54	
14	68.85	14.42	73.10	14.81	81.60	15.58	85.00	15.77	88.40	16.15	93.50	16.35	95.20	16.54	97.75	16.73	
16	68.85	14.61	73.10	14.81	81.60	15.77	85.00	15.96	88.40	16.35	93.50	16.35	95.20	16.73	97.75	16.73	
18	68.85	14.61	73.10	15.00	81.60	15.77	85.00	15.96	88.40	16.35	93.50	16.54	95.20	16.73	97.75	16.92	
20	68.85	14.81	73.10	15.00	81.60	15.96	85.00	16.15	88.40	16.54	93.50	16.73	95.20	16.92	96.90	17.11	
22	68.85	15.00	73.10	15.19	81.60	16.15	85.00	16.35	88.40	16.73	93.50	16.92	95.20	17.11	96.90	17.31	
24	68.85	15.19	73.10	15.38	81.60	16.35	85.00	16.54	88.40	16.92	93.50	17.11	95.20	17.31	96.90	17.50	
25	68.00	15.38	73.10	15.58	81.60	16.54	85.00	16.73	88.40	17.11	93.50	17.31	95.20	17.50	96.90	17.69	
26	68.00	15.38	73.10	15.77	81.60	16.73	85.00	16.92	88.40	17.31	93.50	17.50	95.20	17.69	96.90	17.69	
28	68.00	15.58	73.10	15.96	81.60	16.92	85.00	17.11	88.40	17.50	93.50	17.69	95.20	17.88	96.90	18.08	
30	68.00	15.96	73.10	16.15	81.60	17.11	85.00	17.31	88.40	17.69	93.50	17.88	95.20	18.08	96.90	18.27	
32	68.00	16.54	73.10	16.92	81.60	17.88	85.00	18.08	88.40	18.46	93.50	18.65	95.20	18.85	96.90	19.04	
34	68.00	17.31	73.10	17.69	81.60	18.65	85.00	18.85	88.40	19.23	93.50	19.42	95.20	19.61	96.90	19.81	
35	68.00	17.69	73.10	18.08	81.60	19.04	85.00	19.23	88.40	19.61	93.50	19.81	95.20	20.00	96.90	20.19	
36	68.00	18.08	73.10	18.46	80.75	19.42	84.15	19.61	87.55	20.00	92.65	20.19	93.50	20.38	96.05	20.58	
38	67.15	18.85	72.25	19.23	79.90	20.19	82.45	20.58	85.00	20.77	89.25	21.15	90.95	21.15	93.50	21.15	
40	66.30	19.81	71.40	20.19	78.20	20.96	80.75	21.35	83.30	21.54	86.70	21.92	88.40	21.92	91.80	21.92	
43	64.60	20.96	68.85	21.54	75.65	22.11	77.35	22.50	79.90	22.69	83.30	23.27	85.00	23.08	88.40	23.08	
46	61.72	20.60	66.22	21.30	72.31	22.06	73.84	22.44	76.63	22.62	79.93	23.00	81.70	23.00	84.35	23.12	
48	49.22	16.35	52.05	16.92	56.12	17.49	57.57	17.79	59.47	17.92	61.68	18.16	63.10	18.16	65.35	18.30	

RAS-32HNBBMQ

Indoor Ambient Temperature(WB °C)

Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10	72.90	15.21	77.40	15.41	86.40	16.43	90.00	16.63	94.50	17.04	99.90	17.24	100.80	17.44	103.50	17.44	
12	72.90	15.21	77.40	15.41	86.40	16.43	90.00	16.63	93.60	17.04	99.00	17.24	100.80	17.44	103.50	17.44	
14	72.90	15.21	77.40	15.62	86.40	16.43	90.00	16.63	93.60	17.04	99.00	17.24	100.80	17.44	103.50	17.64	
16	72.90	15.41	77.40	15.62	86.40	16.63	90.00	16.83	93.60	17.24	99.00	17.24	100.80	17.64	103.50	17.64	
18	72.90	15.41	77.40	15.82	86.40	16.63	90.00	16.83	93.60	17.24	99.00	17.44	100.80	17.64	103.50	17.85	
20	72.90	15.62	77.40	15.82	86.40	16.83	90.00	17.04	93.60	17.44	99.00	17.64	100.80	17.85	102.60	18.05	
22	72.90	15.82	77.40	16.02	86.40	17.04	90.00	17.24	93.60	17.64	99.00	17.85	100.80	18.05	102.60	18.25	
24	72.90	16.02	77.40	16.22	86.40	17.24	90.00	17.44	93.60	17.85	99.00	18.05	100.80	18.25	102.60	18.45	
25	72.00	16.22	77.40	16.43	86.40	17.44	90.00	17.64	93.60	18.05	99.00	18.25	100.80	18.45	102.60	18.66	
26	72.00	16.22	77.40	16.63	86.40	17.64	90.00	17.85	93.60	18.25	99.00	18.45	100.80	18.66	102.60	18.66	
28	72.00	16.43	77.40	16.83	86.40	17.85	90.00	18.05	93.60	18.45	99.00	18.66	100.80	18.86	102.60	19.06	
30	72.00	16.83	77.40	17.04	86.40	18.05	90.00	18.25	93.60	18.66	99.00	18.86	100.80	19.06	102.60	19.27	
32	72.00	17.44	77.40	17.85	86.40	18.86	90.00	19.06	93.60	19.47	99.00	19.67	100.80	19.87	102.60	20.08	
34	72.00	18.25	77.40	18.66	86.40	19.67	90.00	19.87	93.60	20.28	99.00	20.48	100.80	20.69	102.60	20.89	
35	72.00	18.66	77.40	19.06	86.40	20.08	90.00	20.28	93.60	20.69	99.00	20.89	100.80	21.09	102.60	21.29	
36	72.00	19.06	77.40	19.47	85.50	20.48	89.10	20.69	92.70	21.09	98.10	21.29	99.00	21.50	101.70	21.70	
38	71.10	19.87	76.50	20.28	84.60	21.29	87.30	21.70	90.00	21.90	94.50	22.31	96.30	22.31	99.00	22.31	
40	70.20	20.89	75.60	21.29	82.80	22.11	85.50	22.51	88.20	22.71	91.80	23.12	93.60	23.12	97.20	23.12	
43	68.40	22.11	72.90	22.71	80.10	23.32	81.90	23.73	84.60	23.93	88.20	24.54	90.00	24.34	93.60	24.34	
46	65.35	21.73	70.12	22.47	76.57	23.26	78.18	23.66	81.13	23.86	84.63	24.26	86.51	24.26	89.32	24.39	
48	52.11	17.25	55.12	17.84	59.42	18.44	60.96	18.76	62.97	18.89	65.30	19.15	66.81	19.15	69.19	19.30	

RAS-34HNBBMQ

Indoor Ambient Temperature(WB °C)

Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10	76.95	15.86	81.70	16.07	91.20	16.72	95.00	17.14	99.75	18.22	104.50	17.57	106.40	17.79	109.25	18.00	
12	76.95	15.86	81.70	16.07	91.20	16.72	95.00	17.14	99.75	18.22	104.50	17.57	106.40	17.79	109.25	18.00	
14	76.95	15.86	81.70	16.07	91.20	16.93	95.00	17.14	98.80	18.22	104.50	17.57	106.40	17.79	109.25	18.00	
16	76.95	15.86	81.70	16.29	91.20	16.93	95.00	17.14	98.80	18.22	104.50	17.79	106.40	17.79	109.25	18.22	
18	76.95	16.07	81.70	16.29	91.20	17.14	95.00	17.36	98.80	18.43	104.50	18.00	106.40	18.00	109.25	18.22	
20	76.95	16.29	81.70	16.50	91.20	17.36	95.00	17.57	98.80	18.64	104.50	18.00	106.40	18.22	109.25	18.43	
22	76.95	16.29	81.70	16.72	91.20	17.36	95.00	17.79	98.80	18.86	104.50	18.22	106.40	18.43	109.25	18.64	
24	76.95	16.50	81.70	16.93	91.20	17.79	95.00	18.00	98.80	18.86	104.50	18.43	106.40	18.64	109.25	18.86	
25	76.00	16.72	81.70	17.14	91.20	17.79	95.00	18.00	98.80	19.07	104.50	18.64	106.40	18.86	108.30	19.07	
26	76.00	16.93	81.70	17.36	91.20	18.00	95.00	18.22	98.80	19.07	104.50	18.86	106.40	19.07	108.30	19.07	
28	76.00	17.14	81.70	17.79	91.20	18.64	95.00	18.64	98.80	19.29	104.50	19.50	106.40	19.72	108.30	19.72	
30	76.00	17.57	81.70	18.43	91.20	19.07	95.00	19.29	98.80	19.72	104.50	19.93	106.40	20.14	108.30	20.36	
32	76.00	18.43	81.70	19.29	91.20	19.93	95.00	20.14	98.80	20.57	104.50	20.79	106.40	21.00	108.30	21.00	
34	76.00	19.29	81.70	20.14	91.20	20.79	95.00	21.00	98.80	21.43	104.50	21.64	106.40	21.86	107.35	21.86	
35	76.00	19.72	81.70	20.57	91.20	21.22	95.00	21.43	98.80	21.86	104.50	22.07	106.40	22.29	107.35	22.29	
36	75.05	20.36	80.75	21.00	90.25	21.64	93.10	21.86	96.90	22.50	101.65	22.72	103.55	22.29	107.35	21.32	
38	74.10	21.22	79.80	22.07	87.27	22.50	91.00	22.72	92.15	23.14	100.40	21.12	101.87	20.39	102.73	19.65	
40	72.20	22.29	77.90	23.14	87.27	21.95	91.00	21.25	92.00	20.67	94.00	19.38	95.00	18.45	95.78	17.99	
43	70.63	17.66	74.09	17.25	77.53	16.71	79.65	16.14	80.62	15.14	82.00	15.00	82.81	14.46	83.62	13.82	
46	49.72	11.40	54.19	11.72	56.31	11.42	58.53	11.28	59.46	10.77	59.90	10.75	60.89	10.56	61.77	10.81	
48	24.00	7.14	25.00	7.78	25.89	8.00	26.89	8.21	28.00	8.19	29.00	8.41	28.89	8.33	30.31	8.16	

RAS-36HNBBMQ

Indoor Ambient Temperature(WB °C)

Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
10	81.00	16.71	86.00	16.94	96.00	17.61	100.00	18.06	105.00	19.19	110.00	18.52	112.00	18.74	115.00	18.97	
12	81.00	16.71	86.00	16.94	96.00	17.61	100.00	18.06	105.00	19.19	110.00	18.52	112.00	18.74	115.00	18.97	
14	81.00	16.71	86.00	16.94	96.00	17.84	100.00	18.06	104.00	19.19	110.00	18.52	112.00	18.74	115.00	18.97	
16	81.00	16.71	86.00	17.16	96.00	17.84	100.00	18.06	104.00	19.19	110.00	18.74	112.00	18.74	115.00	19.19	
18	81.00	16.94	86.00	17.16	96.00	18.06	100.00	18.29	104.00	19.42	110.00	18.97	112.00	18.97	115.00	19.19	
20	81.00	17.16	86.00	17.39	96.00	18.29	100.00	18.52	104.00	19.64	110.00	18.97	112.00	19.19	115.00	19.42	
22	81.00	17.16	86.00	17.61	96.00	18.29	100.00	18.74	104.00	19.87	110.00	19.19	112.00	19.42	115.00	19.64	
24	81.00	17.39	86.00	17.84	96.00	18.74	100.00	18.97	104.00	19.87	110.00	19.42	112.00	19.64	115.00	19.87	
25	80.00	17.61	86.00	18.06	96.00	18.74	100.00	18.97	104.00	20.10	110.00	19.64	112.00	19.87	114.00	20.10	
26	80.00	17.84	86.00	18.29	96.00	18.97	100.00	19.19	104.00	20.10	110.00	19.87	112.00	20.10	114.00	20.10	
28	80.00	18.06	86.00	18.74	96.00	19.64	100.00	19.64	104.00	20.32	110.00	20.55	112.00	20.77	114.00	20.77	
30	80.00	18.52	86.00	19.42	96.00	20.10	100.00	20.32	104.00	20.77	110.00	21.00	112.00	21.23	114.00	21.45	
32	80.00	19.42	86.00	20.32	96.00	21.00	100.00	21.23	104.00	21.68	110.00	21.90	112.00	22.13	114.00	22.13	
34	80.00	20.32	86.00	21.23	96.00	21.90	100.00	22.13	104.00	22.58	110.00	22.81	112.00	23.03	113.00	23.03	
35	80.00	20.77	86.00	21.68	96.00	22.35	100.00	22.58	104.00	23.03	110.00	23.26	112.00	23.48	113.00	23.48	
36	79.00	21.45	85.00	22.13	95.00	22.81	98.00	23.03	102.00	23.71	107.00	23.93	109.00	23.48	113.00	22.46	
38	78.00	22.35	84.00	23.26	91.87	23.71	95.79	23.93	97.00	24.39	105.68	22.25	107.23	21.48	108.13	20.70	
40	76.00	23.48	82.00	24.39	91.87	23.13	95.79	22.39	96.84	21.78	98.95	20.42	100.00	19.44	100.82	18.95	
43	74.34	18.61	77.98	18.18	81.61	17.61	83.84	17.01	84.86	15.95	86.32	15.81	87.17	15.23	88.02	14.56	
46	52.34	12.01	57.04	12.35	59.27	12.03	61.61	11.89	62.59	11.35	63.05	11.32	64.09	11.13	65.02	11.39	
48	25.26	7.52	26.32	8.20	27.25	8.42	28.30	8.65	29.47	8.63	30.53	8.86	30.41	8.78	31.90	8.60	

RAS-38HNBBMQ

Indoor Ambient Temperature(WB °C)

Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
10	85.86	18.82	91.16	19.07	101.76	19.84	106.00	20.34	111.30	21.62	116.60	20.85	118.72	21.11	121.90	21.36	
12	85.86	18.82	91.16	19.07	101.76	19.84	106.00	20.34	111.30	21.62	116.60	20.85	118.72	21.11	121.90	21.36	
14	85.86	18.82	91.16	19.07	101.76	20.09	106.00	20.34	110.24	21.62	116.60	20.85	118.72	21.11	121.90	21.36	
16	85.86	18.82	91.16	19.33	101.76	20.09	106.00	20.34	110.24	21.62	116.60	21.11	118.72	21.11	121.90	21.62	
18	85.86	19.07	91.16	19.33	101.76	20.34	106.00	20.60	110.24	21.87	116.60	21.36	118.72	21.36	121.90	21.62	
20	85.86	19.33	91.16	19.58	101.76	20.60	106.00	20.85	110.24	22.12	116.60	21.36	118.72	21.62	121.90	21.87	
22	85.86	19.33	91.16	19.84	101.76	20.60	106.00	21.11	110.24	22.38	116.60	21.62	118.72	21.87	121.90	22.12	
24	85.86	19.58	91.16	20.09	101.76	21.11	106.00	21.36	110.24	22.38	116.60	21.87	118.72	22.12	121.90	22.38	
25	84.80	19.84	91.16	20.34	101.76	21.11	106.00	21.36	110.24	22.63	116.60	22.12	118.72	22.38	120.84	22.63	
26	84.80	20.09	91.16	20.60	101.76	21.36	106.00	21.62	110.24	22.63	116.60	22.38	118.72	22.63	120.84	22.63	
28	84.80	20.34	91.16	21.11	101.76	22.12	106.00	22.12	110.24	22.89	116.60	23.14	118.72	23.40	120.84	23.40	
30	84.80	20.85	91.16	21.87	101.76	22.63	106.00	22.89	110.24	23.40	116.60	23.65	118.72	23.90	120.84	24.16	
32	84.80	21.87	91.16	22.89	101.76	23.65	106.00	23.90	110.24	24.41	116.60	24.67	118.72	24.92	120.84	24.92	
34	84.80	22.89	91.16	23.90	101.76	24.67	106.00	24.92	110.24	25.43	116.60	25.68	118.72	25.94	119.78	25.94	
35	84.80	23.40	91.16	24.41	101.76	25.18	106.00	25.43	110.24	25.94	116.60	26.19	118.72	26.45	119.78	26.45	
36	83.74	24.16	90.10	24.92	100.70	25.68	103.88	25.94	108.12	26.70	113.42	26.96	115.54	26.45	116.26	25.23	
38	82.68	25.18	89.04	26.19	97.52	26.70	100.70	26.96	102.82	27.46	106.42	25.00	107.98	24.13	108.89	23.26	
40	80.56	26.45	86.92	27.46	94.34	25.98	96.46	25.15	97.52	24.46	99.64	22.94	100.70	21.84	101.53	21.29	
43	74.86	20.90	78.53	20.42	82.18	19.78	84.43	19.11	85.45	17.92	86.92	17.75	87.78	17.11	88.64	16.36	
46	52.71	13.49	57.44	13.87	59.69	13.52	62.04	13.36	63.03	12.75	63.49	12.72	64.54	12.50	65.47	12.79	
48	25.44	8.45	26.50	9.21	27.44	9.46	28.50	9.72	29.68	9.70	30.74	9.95	30.62	9.86	32.13	9.66	

RAS-40HNBBMQ

Indoor Ambient Temperature(WB °C)

Outdoor Ambient DB°C	14		16		18		19		20		22		23		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	10	12	14	16	18	20	22	24	25	26	28	30	32	34	35	36
10	90.72	20.93	96.32	21.21	107.52	22.06	112.00	22.62	117.60	24.04	123.20	23.19	125.44	23.47	128.80	23.76
12	90.72	20.93	96.32	21.21	107.52	22.06	112.00	22.62	117.60	24.04	123.20	23.19	125.44	23.47	128.80	23.76
14	90.72	20.93	96.32	21.21	107.52	22.34	112.00	22.62	116.48	24.04	123.20	23.19	125.44	23.47	128.80	23.76
16	90.72	20.93	96.32	21.49	107.52	22.34	112.00	22.62	116.48	24.04	123.20	23.47	125.44	23.47	128.80	24.04
18	90.72	21.21	96.32	21.49	107.52	22.62	112.00	22.91	116.48	24.32	123.20	23.76	125.44	23.76	128.80	24.04
20	90.72	21.49	96.32	21.78	107.52	22.91	112.00	23.19	116.48	24.60	123.20	23.76	125.44	24.04	128.80	24.32
22	90.72	21.49	96.32	22.06	107.52	22.91	112.00	23.47	116.48	24.89	123.20	24.04	125.44	24.32	128.80	24.60
24	90.72	21.78	96.32	22.34	107.52	23.47	112.00	23.76	116.48	24.89	123.20	24.32	125.44	24.60	128.80	24.89
25	89.60	22.06	96.32	22.62	107.52	23.47	112.00	23.76	116.48	25.17	123.20	24.60	125.44	24.89	127.68	25.17
26	89.60	22.34	96.32	22.91	107.52	23.76	112.00	24.04	116.48	25.17	123.20	24.89	125.44	25.17	127.68	25.17
28	89.60	22.62	96.32	23.47	107.52	24.60	112.00	24.60	116.48	25.45	123.20	25.73	125.44	26.02	127.68	26.02
30	89.60	23.19	96.32	24.32	107.52	25.17	112.00	25.45	116.48	26.02	123.20	26.30	125.44	26.58	127.68	26.87
32	89.60	24.32	96.32	25.45	107.52	26.30	112.00	26.58	116.48	27.15	123.20	27.43	125.44	27.71	127.68	27.71
34	89.60	25.45	96.32	26.58	107.52	27.43	112.00	27.71	116.48	28.28	123.20	28.56	125.44	28.85	126.56	28.85
35	89.60	26.02	96.32	27.15	107.52	28.00	112.00	28.28	116.48	28.85	123.20	29.13	125.44	29.41	126.56	29.41
36	88.48	26.87	95.20	27.71	106.40	28.56	109.76	28.85	114.24	29.69	119.84	29.98	122.08	29.41	122.84	28.06
38	87.36	28.00	94.08	29.13	103.04	29.69	106.40	29.98	108.64	30.54	112.45	27.80	114.09	26.84	115.06	25.86
40	85.12	29.41	91.84	30.54	99.68	28.89	101.92	27.97	103.04	27.20	105.28	25.51	106.40	24.28	107.28	23.67
43	79.10	23.24	82.98	22.71	86.83	21.99	89.21	21.25	90.29	19.92	91.84	19.74	92.74	19.03	93.65	18.19
46	55.69	15.01	60.69	15.42	63.06	15.03	65.55	14.85	66.59	14.17	67.09	14.15	68.20	13.90	69.18	14.23
48	26.88	9.39	28.00	10.24	29.00	10.52	30.12	10.81	31.36	10.79	32.48	11.07	32.36	10.96	33.94	10.74

RAS-42HNBBMQ

Indoor Ambient Temperature(WB °C)

Outdoor Ambient DB°C	14		16		18		19		20		22		23		24	
	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	10	12	14	16	18	20	22	24	25	26	28	30	32	34	35	36
10	97.20	20.45	103.20	20.73	115.20	22.09	120.00	22.36	126.00	22.91	133.20	23.18	134.40	23.45	138.00	23.45
12	97.20	20.45	103.20	20.73	115.20	22.09	120.00	22.36	124.80	22.91	132.00	23.18	134.40	23.45	138.00	23.45
14	97.20	20.45	103.20	21.00	115.20	22.09	120.00	22.36	124.80	22.91	132.00	23.18	134.40	23.45	138.00	23.72
16	97.20	20.73	103.20	21.00	115.20	22.36	120.00	22.63	124.80	23.18	132.00	23.18	134.40	23.72	138.00	23.72
18	97.20	20.73	103.20	21.27	115.20	22.36	120.00	22.63	124.80	23.18	132.00	23.45	134.40	23.72	138.00	24.00
20	97.20	21.00	103.20	21.27	115.20	22.63	120.00	22.91	124.80	23.45	132.00	23.72	134.40	24.00	136.80	24.27
22	97.20	21.27	103.20	21.54	115.20	22.91	120.00	23.18	124.80	23.72	132.00	24.00	134.40	24.27	136.80	24.54
24	97.20	21.54	103.20	21.82	115.20	23.18	120.00	23.45	124.80	24.00	132.00	24.27	134.40	24.54	136.80	24.82
25	96.00	21.82	103.20	22.09	115.20	23.45	120.00	23.72	124.80	24.27	132.00	24.54	134.40	24.82	136.80	25.09
26	96.00	21.82	103.20	22.36	115.20	23.72	120.00	24.00	124.80	24.54	132.00	24.82	134.40	25.09	136.80	25.09
28	96.00	22.09	103.20	22.63	115.20	24.00	120.00	24.27	124.80	24.82	132.00	25.09	134.40	25.36	136.80	25.63
30	96.00	22.63	103.20	22.91	115.20	24.27	120.00	24.54	124.80	25.09	132.00	25.36	134.40	25.63	136.80	25.91
32	96.00	23.45	103.20	24.00	115.20	25.36	120.00	25.63	124.80	26.18	132.00	26.45	134.40	26.72	136.80	27.00
34	96.00	24.54	103.20	25.09	115.20	26.45	120.00	26.72	124.80	27.27	132.00	27.54	134.40	27.82	136.80	28.09
35	96.00	25.09	103.20	25.63	115.20	27.00	120.00	27.27	124.80	27.82	132.00	28.09	134.40	28.36	136.80	28.63
36	96.00	25.63	103.20	26.18	114.00	27.54	118.80	27.82	123.60	28.36	130.80	28.63	132.00	28.91	135.60	29.18
38	94.80	26.72	102.00	27.27	112.80	28.63	116.40	29.18	120.00	29.45	126.00	30.00	128.40	30.00	132.00	30.00
40	93.60	28.09	100.80	28.63	110.40	29.72	114.00	30.27	117.60	30.54	122.40	31.09	124.80	31.09	129.60	31.09
43	91.20	29.72	97.20	30.54	106.80	31.36	109.20	31.91	112.80	32.18	117.60	33.00	120.00	32.72	124.80	32.72
46	87.13	29.22	93.49	30.21	102.09	31.28	104.24	31.82	108.18	32.08	112.84	32.62	115.34	32.62	119.09	32.79
48	69.48	23.19	73.49	23.99	79.22	24.80	81.28	25.22	83.96	25.41	87.07	25.75	89.08	25.75	92.26	25.95

RAS-44HNBBMQ

Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10	101.25	21.24	107.50	21.52	120.00	22.94	125.00	23.22	131.25	23.79	138.75	24.07	140.00	24.36	143.75	24.36	
12	101.25	21.24	107.50	21.52	120.00	22.94	125.00	23.22	130.00	23.79	137.50	24.07	140.00	24.36	143.75	24.36	
14	101.25	21.24	107.50	21.81	120.00	22.94	125.00	23.22	130.00	23.79	137.50	24.07	140.00	24.36	143.75	24.64	
16	101.25	21.52	107.50	21.81	120.00	23.22	125.00	23.51	130.00	24.07	137.50	24.07	140.00	24.64	143.75	24.64	
18	101.25	21.52	107.50	22.09	120.00	23.22	125.00	23.51	130.00	24.07	137.50	24.36	140.00	24.64	143.75	24.92	
20	101.25	21.81	107.50	22.09	120.00	23.51	125.00	23.79	130.00	24.36	137.50	24.64	140.00	24.92	142.50	25.20	
22	101.25	22.09	107.50	22.37	120.00	23.79	125.00	24.07	130.00	24.64	137.50	24.92	140.00	25.20	142.50	25.49	
24	101.25	22.37	107.50	22.66	120.00	24.07	125.00	24.36	130.00	24.92	137.50	25.20	140.00	25.49	142.50	25.77	
25	100.00	22.66	107.50	22.94	120.00	24.36	125.00	24.64	130.00	25.20	137.50	25.49	140.00	25.77	142.50	26.05	
26	100.00	22.66	107.50	23.22	120.00	24.64	125.00	24.92	130.00	25.49	137.50	25.77	140.00	26.05	142.50	26.05	
28	100.00	22.94	107.50	23.51	120.00	24.92	125.00	25.20	130.00	25.77	137.50	26.05	140.00	26.34	142.50	26.62	
30	100.00	23.51	107.50	23.79	120.00	25.20	125.00	25.49	130.00	26.05	137.50	26.34	140.00	26.62	142.50	26.90	
32	100.00	24.36	107.50	24.92	120.00	26.34	125.00	26.62	130.00	27.19	137.50	27.47	140.00	27.75	142.50	28.04	
34	100.00	25.49	107.50	26.05	120.00	27.47	125.00	27.75	130.00	28.32	137.50	28.60	140.00	28.89	142.50	29.17	
35	100.00	26.05	107.50	26.62	120.00	28.04	125.00	28.32	130.00	28.89	137.50	29.17	140.00	29.45	142.50	29.74	
36	100.00	26.62	107.50	27.19	118.75	28.60	123.75	28.89	128.75	29.45	136.25	29.74	137.50	30.02	141.25	30.30	
38	98.75	27.75	106.25	28.32	117.50	29.74	121.25	30.30	125.00	30.59	131.25	31.15	133.75	31.15	137.50	31.15	
40	97.50	29.17	105.00	29.74	115.00	30.87	118.75	31.44	122.50	31.72	127.50	32.28	130.00	32.28	135.00	32.28	
43	95.00	30.87	101.25	31.72	111.25	32.57	113.75	33.13	117.50	33.42	122.50	34.27	125.00	33.98	130.00	33.98	
46	90.76	30.34	97.39	31.37	106.34	32.48	108.58	33.04	112.69	33.32	117.54	33.87	120.15	33.87	124.05	34.05	
48	72.38	24.08	76.55	24.91	82.53	25.75	84.66	26.19	87.46	26.39	90.70	26.74	92.79	26.74	96.10	26.95	

RAS-46HNBBMQ

Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10	105.30	22.03	111.80	22.32	124.80	23.79	130.00	24.08	136.50	24.67	144.30	24.96	145.60	25.26	149.50	25.26	
12	105.30	22.03	111.80	22.32	124.80	23.79	130.00	24.08	135.20	24.67	143.00	24.96	145.60	25.26	149.50	25.26	
14	105.30	22.03	111.80	22.61	124.80	23.79	130.00	24.08	135.20	24.67	143.00	24.96	145.60	25.26	149.50	25.55	
16	105.30	22.32	111.80	22.61	124.80	24.08	130.00	24.38	135.20	24.96	143.00	24.96	145.60	25.55	149.50	25.55	
18	105.30	22.32	111.80	22.91	124.80	24.08	130.00	24.38	135.20	24.96	143.00	25.26	145.60	25.55	149.50	25.85	
20	105.30	22.61	111.80	22.91	124.80	24.38	130.00	24.67	135.20	25.26	143.00	25.55	145.60	25.85	148.20	26.14	
22	105.30	22.91	111.80	23.20	124.80	24.67	130.00	24.96	135.20	25.55	143.00	25.85	145.60	26.14	148.20	26.43	
24	105.30	23.20	111.80	23.50	124.80	24.96	130.00	25.26	135.20	25.85	143.00	26.14	145.60	26.43	148.20	26.73	
25	104.00	23.50	111.80	23.79	124.80	25.26	130.00	25.55	135.20	26.14	143.00	26.43	145.60	26.73	148.20	27.02	
26	104.00	23.50	111.80	24.08	124.80	25.55	130.00	25.85	135.20	26.43	143.00	26.73	145.60	27.02	148.20	27.02	
28	104.00	23.79	111.80	24.38	124.80	25.85	130.00	26.14	135.20	26.73	143.00	27.02	145.60	27.31	148.20	27.61	
30	104.00	24.38	111.80	24.67	124.80	26.14	130.00	26.43	135.20	27.02	143.00	27.31	145.60	27.61	148.20	27.90	
32	104.00	25.26	111.80	25.85	124.80	27.31	130.00	27.61	135.20	28.20	143.00	28.49	145.60	28.78	148.20	29.08	
34	104.00	26.43	111.80	27.02	124.80	28.49	130.00	28.78	135.20	29.37	143.00	29.66	145.60	29.96	148.20	30.25	
35	104.00	27.02	111.80	27.61	124.80	29.08	130.00	29.37	135.20	29.96	143.00	30.25	145.60	30.54	148.20	30.84	
36	104.00	27.61	111.80	28.20	123.50	29.66	128.70	29.96	133.90	30.54	141.70	30.84	143.00	31.13	146.90	31.43	
38	102.70	28.78	110.50	29.37	122.20	30.84	126.10	31.43	130.00	31.72	136.50	32.31	139.10	32.31	143.00	32.31	
40	101.40	30.25	109.20	30.84	119.60	32.01	123.50	32.60	127.40	32.89	132.60	33.48	135.20	33.48	140.40	33.48	
43	98.80	32.01	105.30	32.89	115.70	33.78	118.30	34.36	122.20	34.66	127.40	35.54	130.00	35.24	135.20	35.24	
46	94.39	31.47	101.28	32.54	110.60	33.69	112.93	34.27	117.19	34.55	122.24	35.13	124.96	35.13	129.01	35.32	
48	75.27	24.98	79.61	25.84	85.83	26.71	88.05	27.16	90.96	27.36	94.33	27.73	96.50	27.73	99.94	27.95	

RAS-48HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	109.35	22.82	116.10	23.12	129.60	24.64	135.00	24.94	141.75	25.55	149.85	25.86	151.20	26.16	155.25
12	109.35	22.82	116.10	23.12	129.60	24.64	135.00	24.94	140.40	25.55	148.50	25.86	151.20	26.16	155.25	26.16	
14	109.35	22.82	116.10	23.42	129.60	24.64	135.00	24.94	140.40	25.55	148.50	25.86	151.20	26.16	155.25	26.47	
16	109.35	23.12	116.10	23.42	129.60	24.94	135.00	25.25	140.40	25.86	148.50	25.86	151.20	26.47	155.25	26.47	
18	109.35	23.12	116.10	23.73	129.60	24.94	135.00	25.25	140.40	25.86	148.50	26.16	151.20	26.47	155.25	26.77	
20	109.35	23.42	116.10	23.73	129.60	25.25	135.00	25.55	140.40	26.16	148.50	26.47	151.20	26.77	153.90	27.07	
22	109.35	23.73	116.10	24.03	129.60	25.55	135.00	25.86	140.40	26.47	148.50	26.77	151.20	27.07	153.90	27.38	
24	109.35	24.03	116.10	24.34	129.60	25.86	135.00	26.16	140.40	26.77	148.50	27.07	151.20	27.38	153.90	27.68	
25	108.00	24.34	116.10	24.64	129.60	26.16	135.00	26.47	140.40	27.07	148.50	27.38	151.20	27.68	153.90	27.99	
26	108.00	24.34	116.10	24.94	129.60	26.47	135.00	26.77	140.40	27.38	148.50	27.68	151.20	27.99	153.90	27.99	
28	108.00	24.64	116.10	25.25	129.60	26.77	135.00	27.07	140.40	27.68	148.50	27.99	151.20	28.29	153.90	28.59	
30	108.00	25.25	116.10	25.55	129.60	27.07	135.00	27.38	140.40	27.99	148.50	28.29	151.20	28.59	153.90	28.90	
32	108.00	26.16	116.10	26.77	129.60	28.29	135.00	28.59	140.40	29.20	148.50	29.51	151.20	29.81	153.90	30.12	
34	108.00	27.38	116.10	27.99	129.60	29.51	135.00	29.81	140.40	30.42	148.50	30.72	151.20	31.03	153.90	31.33	
35	108.00	27.99	116.10	28.59	129.60	30.12	135.00	30.42	140.40	31.03	148.50	31.33	151.20	31.64	153.90	31.94	
36	108.00	28.59	116.10	29.20	128.25	30.72	133.65	31.03	139.05	31.64	147.15	31.94	148.50	32.25	152.55	32.55	
38	106.65	29.81	114.75	30.42	126.90	31.94	130.95	32.55	135.00	32.85	141.75	33.46	144.45	33.46	148.50	33.46	
40	105.30	31.33	113.40	31.94	124.20	33.16	128.25	33.77	132.30	34.07	137.70	34.68	140.40	34.68	145.80	34.68	
43	102.60	33.16	109.35	34.07	120.15	34.98	122.85	35.59	126.90	35.90	132.30	36.81	135.00	36.50	140.40	36.50	
46	98.02	32.59	105.18	33.70	114.85	34.89	117.27	35.49	121.70	35.79	126.94	36.38	129.76	36.38	133.97	36.58	
48	78.17	25.87	82.67	26.76	89.13	27.66	91.44	28.14	94.46	28.34	97.96	28.73	100.21	28.73	103.79	28.94	
RAS-50HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	113.40	23.36	120.40	23.68	134.40	24.62	140.00	25.26	147.00	26.83	154.00	25.89	156.80	26.20	161.00
12	113.40	23.36	120.40	23.68	134.40	24.62	140.00	25.26	147.00	26.83	154.00	25.89	156.80	26.20	161.00	26.52	
14	113.40	23.36	120.40	23.68	134.40	24.94	140.00	25.26	145.60	26.83	154.00	25.89	156.80	26.20	161.00	26.52	
16	113.40	23.36	120.40	23.99	134.40	24.94	140.00	25.26	145.60	26.83	154.00	26.20	156.80	26.20	161.00	26.83	
18	113.40	23.68	120.40	23.99	134.40	25.26	140.00	25.57	145.60	27.15	154.00	26.52	156.80	26.52	161.00	26.83	
20	113.40	23.99	120.40	24.31	134.40	25.57	140.00	25.89	145.60	27.47	154.00	26.52	156.80	26.83	161.00	27.15	
22	113.40	23.99	120.40	24.62	134.40	25.57	140.00	26.20	145.60	27.78	154.00	26.83	156.80	27.15	161.00	27.47	
24	113.40	24.31	120.40	24.94	134.40	26.20	140.00	26.52	145.60	27.78	154.00	27.15	156.80	27.47	161.00	27.78	
25	112.00	24.62	120.40	25.26	134.40	26.20	140.00	26.52	145.60	28.10	154.00	27.47	156.80	27.78	159.60	28.10	
26	112.00	24.94	120.40	25.57	134.40	26.52	140.00	26.83	145.60	28.10	154.00	27.78	156.80	28.10	159.60	28.10	
28	112.00	25.26	120.40	26.20	134.40	27.47	140.00	27.47	145.60	28.41	154.00	28.73	156.80	29.04	159.60	29.04	
30	112.00	25.89	120.40	27.15	134.40	28.10	140.00	28.41	145.60	29.04	154.00	29.36	156.80	29.68	159.60	29.99	
32	112.00	27.15	120.40	28.41	134.40	29.36	140.00	29.68	145.60	30.31	154.00	30.62	156.80	30.94	159.60	30.94	
34	112.00	28.41	120.40	29.68	134.40	30.62	140.00	30.94	145.60	31.57	154.00	31.89	156.80	32.20	158.20	32.20	
35	112.00	29.04	120.40	30.31	134.40	31.25	140.00	31.57	145.60	32.20	154.00	32.52	156.80	32.83	158.20	32.83	
36	110.60	29.99	119.00	30.94	133.00	31.89	137.20	32.20	142.80	33.15	149.80	33.46	152.60	32.83	158.20	31.41	
38	109.20	31.25	117.60	32.52	128.61	33.15	134.10	33.46	135.80	34.10	147.96	31.11	150.12	30.04	151.39	28.95	
40	106.40	32.83	114.80	34.10	128.61	32.34	134.10	31.31	135.58	30.45	138.53	28.55	140.00	27.18	141.15	26.50	
43	104.08	26.01	109.18	25.41	114.25	24.62	117.38	23.78	118.80	22.30	120.85	22.10	122.03	21.30	123.23	20.36	
46	73.28	16.80	79.85	17.26	82.98	16.82	86.26	16.62	87.62	15.86	88.27	15.83	89.73	15.56	91.02	15.92	
48	35.37	10.51	36.84	11.46	38.15	11.78	39.63	12.09	41.26	12.07	42.74	12.39	42.57	12.27	44.66	12.02	

RAS-52HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	117.45	24.21	124.70	24.54	139.20	25.52	145.00	26.18	152.25	27.81	159.50	26.83	162.40	27.16	166.75
12	117.45	24.21	124.70	24.54	139.20	25.52	145.00	26.18	152.25	27.81	159.50	26.83	162.40	27.16	166.75	27.48	
14	117.45	24.21	124.70	24.54	139.20	25.85	145.00	26.18	150.80	27.81	159.50	26.83	162.40	27.16	166.75	27.48	
16	117.45	24.21	124.70	24.87	139.20	25.85	145.00	26.18	150.80	27.81	159.50	27.16	162.40	27.16	166.75	27.81	
18	117.45	24.54	124.70	24.87	139.20	26.18	145.00	26.50	150.80	28.14	159.50	27.48	162.40	27.48	166.75	27.81	
20	117.45	24.87	124.70	25.19	139.20	26.50	145.00	26.83	150.80	28.47	159.50	27.48	162.40	27.81	166.75	28.14	
22	117.45	24.87	124.70	25.52	139.20	26.50	145.00	27.16	150.80	28.79	159.50	27.81	162.40	28.14	166.75	28.47	
24	117.45	25.19	124.70	25.85	139.20	27.16	145.00	27.48	150.80	28.79	159.50	28.14	162.40	28.47	166.75	28.79	
25	116.00	25.52	124.70	26.18	139.20	27.16	145.00	27.48	150.80	29.12	159.50	28.47	162.40	28.79	165.30	29.12	
26	116.00	25.85	124.70	26.50	139.20	27.48	145.00	27.81	150.80	29.12	159.50	28.79	162.40	29.12	165.30	29.12	
28	116.00	26.18	124.70	27.16	139.20	28.47	145.00	28.47	150.80	29.45	159.50	29.78	162.40	30.10	165.30	30.10	
30	116.00	26.83	124.70	28.14	139.20	29.12	145.00	29.45	150.80	30.10	159.50	30.43	162.40	30.76	165.30	31.08	
32	116.00	28.14	124.70	29.45	139.20	30.43	145.00	30.76	150.80	31.41	159.50	31.74	162.40	32.07	165.30	32.07	
34	116.00	29.45	124.70	30.76	139.20	31.74	145.00	32.07	150.80	32.72	159.50	33.05	162.40	33.37	163.85	33.37	
35	116.00	30.10	124.70	31.41	139.20	32.39	145.00	32.72	150.80	33.37	159.50	33.70	162.40	34.03	163.85	34.03	
36	114.55	31.08	123.25	32.07	137.75	33.05	142.10	33.37	147.90	34.36	155.15	34.68	158.05	34.03	163.85	32.55	
38	113.10	32.39	121.80	33.70	133.21	34.36	138.89	34.68	140.65	35.34	153.24	32.25	155.48	31.13	156.79	30.00	
40	110.20	34.03	118.90	35.34	133.21	33.52	138.89	32.45	140.42	31.56	143.47	29.59	145.00	28.17	146.19	27.46	
43	107.80	26.96	113.08	26.34	118.33	25.51	121.58	24.65	123.05	23.11	125.16	22.90	126.39	22.08	127.63	21.11	
46	75.89	17.41	82.70	17.89	85.94	17.44	89.34	17.23	90.75	16.44	91.43	16.41	92.94	16.13	94.28	16.50	
48	36.63	10.90	38.16	11.88	39.51	12.21	41.04	12.53	42.74	12.51	44.26	12.84	44.09	12.72	46.26	12.46	
RAS-54HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	121.50	25.06	129.00	25.40	144.00	26.42	150.00	27.10	157.50	28.79	165.00	27.77	168.00	28.11	172.50
12	121.50	25.06	129.00	25.40	144.00	26.42	150.00	27.10	157.50	28.79	165.00	27.77	168.00	28.11	172.50	28.45	
14	121.50	25.06	129.00	25.40	144.00	26.76	150.00	27.10	156.00	28.79	165.00	27.77	168.00	28.11	172.50	28.45	
16	121.50	25.06	129.00	25.74	144.00	26.76	150.00	27.10	156.00	28.79	165.00	28.11	168.00	28.11	172.50	28.79	
18	121.50	25.40	129.00	25.74	144.00	27.10	150.00	27.43	156.00	29.13	165.00	28.45	168.00	28.45	172.50	28.79	
20	121.50	25.74	129.00	26.08	144.00	27.43	150.00	27.77	156.00	29.47	165.00	28.45	168.00	28.79	172.50	29.13	
22	121.50	25.74	129.00	26.42	144.00	27.43	150.00	28.11	156.00	29.81	165.00	28.79	168.00	29.13	172.50	29.47	
24	121.50	26.08	129.00	26.76	144.00	28.11	150.00	28.45	156.00	29.81	165.00	29.13	168.00	29.47	172.50	29.81	
25	120.00	26.42	129.00	27.10	144.00	28.11	150.00	28.45	156.00	30.14	165.00	29.47	168.00	29.81	171.00	30.14	
26	120.00	26.76	129.00	27.43	144.00	28.45	150.00	28.79	156.00	30.14	165.00	29.81	168.00	30.14	171.00	30.14	
28	120.00	27.10	129.00	28.11	144.00	29.47	150.00	29.47	156.00	30.48	165.00	30.82	168.00	31.16	171.00	31.16	
30	120.00	27.77	129.00	29.13	144.00	30.14	150.00	30.48	156.00	31.16	165.00	31.50	168.00	31.84	171.00	32.18	
32	120.00	29.13	129.00	30.48	144.00	31.50	150.00	31.84	156.00	32.52	165.00	32.85	168.00	33.19	171.00	33.19	
34	120.00	30.48	129.00	31.84	144.00	32.85	150.00	33.19	156.00	33.87	165.00	34.21	168.00	34.55	169.50	34.55	
35	120.00	31.16	129.00	32.52	144.00	33.53	150.00	33.87	156.00	34.55	165.00	34.89	168.00	35.22	169.50	35.22	
36	118.50	32.18	127.50	33.19	142.50	34.21	147.00	34.55	153.00	35.56	160.50	35.90	163.50	35.22	169.50	33.69	
38	117.00	33.53	126.00	34.89	137.80	35.56	143.68	35.90	145.50	36.58	158.53	33.38	160.84	32.23	162.20	31.06	
40	114.00	35.22	123.00	36.58	137.80	34.69	143.68	33.59	145.26	32.66	148.42	30.63	150.00	29.16	151.24	28.43	
43	111.52	27.91	116.98	27.27	122.41	26.41	125.77	25.51	127.29	23.92	129.48	23.71	130.75	22.85	132.03	21.85	
46	78.51	18.02	85.56	18.52	88.91	18.05	92.42	17.83	93.88	17.02	94.58	16.99	96.14	16.70	97.53	17.08	
48	37.89	11.28	39.47	12.30	40.88	12.64	42.46	12.98	44.21	12.95	45.79	13.29	45.61	13.16	47.85	12.89	

RAS-56HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	126.36	27.17	134.16	27.54	149.76	28.64	156.00	29.38	163.80	31.21	171.60	30.11	174.72	30.48	179.40
12	126.36	27.17	134.16	27.54	149.76	28.64	156.00	29.38	163.80	31.21	171.60	30.11	174.72	30.48	179.40	30.84	
14	126.36	27.17	134.16	27.54	149.76	29.01	156.00	29.38	162.24	31.21	171.60	30.11	174.72	30.48	179.40	30.84	
16	126.36	27.17	134.16	27.91	149.76	29.01	156.00	29.38	162.24	31.21	171.60	30.48	174.72	30.48	179.40	31.21	
18	126.36	27.54	134.16	27.91	149.76	29.38	156.00	29.74	162.24	31.58	171.60	30.84	174.72	30.84	179.40	31.21	
20	126.36	27.91	134.16	28.27	149.76	29.74	156.00	30.11	162.24	31.95	171.60	30.84	174.72	31.21	179.40	31.58	
22	126.36	27.91	134.16	28.64	149.76	29.74	156.00	30.48	162.24	32.31	171.60	31.21	174.72	31.58	179.40	31.95	
24	126.36	28.27	134.16	29.01	149.76	30.48	156.00	30.84	162.24	32.31	171.60	31.58	174.72	31.95	179.40	32.31	
25	124.80	28.64	134.16	29.38	149.76	30.48	156.00	30.84	162.24	32.68	171.60	31.95	174.72	32.31	177.84	32.68	
26	124.80	29.01	134.16	29.74	149.76	30.84	156.00	31.21	162.24	32.68	171.60	32.31	174.72	32.68	177.84	32.68	
28	124.80	29.38	134.16	30.48	149.76	31.95	156.00	31.95	162.24	33.05	171.60	33.42	174.72	33.78	177.84	33.78	
30	124.80	30.11	134.16	31.58	149.76	32.68	156.00	33.05	162.24	33.78	171.60	34.15	174.72	34.52	177.84	34.88	
32	124.80	31.58	134.16	33.05	149.76	34.15	156.00	34.52	162.24	35.25	171.60	35.62	174.72	35.99	177.84	35.99	
34	124.80	33.05	134.16	34.52	149.76	35.62	156.00	35.99	162.24	36.72	171.60	37.09	174.72	37.45	176.28	37.45	
35	124.80	33.78	134.16	35.25	149.76	36.35	156.00	36.72	162.24	37.45	171.60	37.82	174.72	38.19	176.28	38.19	
36	123.24	34.88	132.60	35.99	148.20	37.09	152.88	37.45	159.12	38.56	166.92	38.92	170.04	38.19	171.10	36.44	
38	121.68	36.35	131.04	37.82	143.52	38.56	148.20	38.92	151.32	39.66	156.62	36.10	158.91	34.85	160.26	33.58	
40	118.56	38.19	127.92	39.66	138.84	37.52	141.96	36.32	143.52	35.32	146.64	33.13	148.20	31.53	149.42	30.74	
43	110.18	30.18	115.57	29.48	120.95	28.56	124.26	27.59	125.76	25.87	127.93	25.64	129.18	24.71	130.45	23.62	
46	77.57	19.49	84.53	20.03	87.84	19.52	91.31	19.28	92.76	18.40	93.44	18.37	94.99	18.05	96.36	18.47	
48	37.44	12.20	39.00	13.30	40.39	13.67	41.95	14.03	43.68	14.01	45.24	14.37	45.07	14.23	47.28	13.94	
RAS-58HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	131.22	29.28	139.32	29.68	155.52	30.86	162.00	31.66	170.10	33.63	178.20	32.45	181.44	32.84	186.30
12	131.22	29.28	139.32	29.68	155.52	30.86	162.00	31.66	170.10	33.63	178.20	32.45	181.44	32.84	186.30	33.24	
14	131.22	29.28	139.32	29.68	155.52	31.26	162.00	31.66	168.48	33.63	178.20	32.45	181.44	32.84	186.30	33.24	
16	131.22	29.28	139.32	30.07	155.52	31.26	162.00	31.66	168.48	33.63	178.20	32.84	181.44	32.84	186.30	33.63	
18	131.22	29.68	139.32	30.07	155.52	31.66	162.00	32.05	168.48	34.03	178.20	33.24	181.44	33.24	186.30	33.63	
20	131.22	30.07	139.32	30.47	155.52	32.05	162.00	32.45	168.48	34.43	178.20	33.24	181.44	33.63	186.30	34.03	
22	131.22	30.07	139.32	30.86	155.52	32.05	162.00	32.84	168.48	34.82	178.20	33.63	181.44	34.03	186.30	34.43	
24	131.22	30.47	139.32	31.26	155.52	32.84	162.00	33.24	168.48	34.82	178.20	34.03	181.44	34.43	186.30	34.82	
25	129.60	30.86	139.32	31.66	155.52	32.84	162.00	33.24	168.48	35.22	178.20	34.43	181.44	34.82	184.68	35.22	
26	129.60	31.26	139.32	32.05	155.52	33.24	162.00	33.63	168.48	35.22	178.20	34.82	181.44	35.22	184.68	35.22	
28	129.60	31.66	139.32	32.84	155.52	34.43	162.00	34.43	168.48	35.61	178.20	36.01	181.44	36.40	184.68	36.40	
30	129.60	32.45	139.32	34.03	155.52	35.22	162.00	35.61	168.48	36.40	178.20	36.80	181.44	37.20	184.68	37.59	
32	129.60	34.03	139.32	35.61	155.52	36.80	162.00	37.20	168.48	37.99	178.20	38.38	181.44	38.78	184.68	38.78	
34	129.60	35.61	139.32	37.20	155.52	38.38	162.00	38.78	168.48	39.57	178.20	39.97	181.44	40.36	183.06	40.36	
35	129.60	36.40	139.32	37.99	155.52	39.17	162.00	39.57	168.48	40.36	178.20	40.76	181.44	41.15	183.06	41.15	
36	127.98	37.59	137.70	38.78	153.90	39.97	158.76	40.36	165.24	41.55	173.34	41.94	176.58	41.15	177.68	39.26	
38	126.36	39.17	136.08	40.76	149.04	41.55	153.90	41.94	157.14	42.74	162.65	38.90	165.02	37.55	166.42	36.19	
40	123.12	41.15	132.84	42.74	144.18	40.43	147.42	39.14	149.04	38.06	152.28	35.70	153.90	33.98	155.17	33.13	
43	114.42	32.52	120.02	31.77	125.60	30.77	129.04	29.73	130.60	27.88	132.85	27.63	134.15	26.63	135.46	25.46	
46	80.55	21.00	87.78	21.58	91.22	21.03	94.82	20.78	96.32	19.83	97.04	19.79	98.64	19.46	100.06	19.91	
48	38.88	13.14	40.50	14.33	41.94	14.73	43.56	15.12	45.36	15.09	46.98	15.49	46.80	15.34	49.10	15.02	

RAS-60HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	136.08	31.39	144.48	31.82	161.28	33.09	168.00	33.94	176.40	36.06	184.80	34.78	188.16	35.21	193.20
12	136.08	31.39	144.48	31.82	161.28	33.09	168.00	33.94	176.40	36.06	184.80	34.78	188.16	35.21	193.20	35.63	
14	136.08	31.39	144.48	31.82	161.28	33.51	168.00	33.94	174.72	36.06	184.80	34.78	188.16	35.21	193.20	35.63	
16	136.08	31.39	144.48	32.24	161.28	33.51	168.00	33.94	174.72	36.06	184.80	35.21	188.16	35.21	193.20	36.06	
18	136.08	31.82	144.48	32.24	161.28	33.94	168.00	34.36	174.72	36.48	184.80	35.63	188.16	35.63	193.20	36.06	
20	136.08	32.24	144.48	32.66	161.28	34.36	168.00	34.78	174.72	36.91	184.80	35.63	188.16	36.06	193.20	36.48	
22	136.08	32.24	144.48	33.09	161.28	34.36	168.00	35.21	174.72	37.33	184.80	36.06	188.16	36.48	193.20	36.91	
24	136.08	32.66	144.48	33.51	161.28	35.21	168.00	35.63	174.72	37.33	184.80	36.48	188.16	36.91	193.20	37.33	
25	134.40	33.09	144.48	33.94	161.28	35.21	168.00	35.63	174.72	37.75	184.80	36.91	188.16	37.33	191.52	37.75	
26	134.40	33.51	144.48	34.36	161.28	35.63	168.00	36.06	174.72	37.75	184.80	37.33	188.16	37.75	191.52	37.75	
28	134.40	33.94	144.48	35.21	161.28	36.91	168.00	36.91	174.72	38.18	184.80	38.60	188.16	39.03	191.52	39.03	
30	134.40	34.78	144.48	36.48	161.28	37.75	168.00	38.18	174.72	39.03	184.80	39.45	188.16	39.87	191.52	40.30	
32	134.40	36.48	144.48	38.18	161.28	39.45	168.00	39.87	174.72	40.72	184.80	41.15	188.16	41.57	191.52	41.57	
34	134.40	38.18	144.48	39.87	161.28	41.15	168.00	41.57	174.72	42.42	184.80	42.84	188.16	43.27	189.84	43.27	
35	134.40	39.03	144.48	40.72	161.28	42.00	168.00	42.42	174.72	43.27	184.80	43.69	188.16	44.12	189.84	44.12	
36	132.72	40.30	142.80	41.57	159.60	42.84	164.64	43.27	171.36	44.54	179.76	44.97	183.12	44.12	184.26	42.09	
38	131.04	42.00	141.12	43.69	154.56	44.54	159.60	44.97	162.96	45.81	168.67	41.70	171.14	40.26	172.58	38.80	
40	127.68	44.12	137.76	45.81	149.52	43.34	152.88	41.96	154.56	40.81	157.92	38.27	159.60	36.43	160.91	35.51	
43	118.65	34.86	124.46	34.06	130.25	32.99	133.82	31.87	135.44	29.88	137.77	29.62	139.12	28.55	140.48	27.29	
46	83.54	22.51	91.03	23.13	94.60	22.55	98.33	22.28	99.89	21.26	100.63	21.22	102.29	20.86	103.77	21.34	
48	40.32	14.09	42.00	15.36	43.49	15.79	45.17	16.21	47.04	16.18	48.72	16.60	48.53	16.44	50.92	16.11	
RAS-62HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	141.75	29.31	150.50	29.71	168.00	30.90	175.00	31.69	183.75	33.67	192.50	32.48	196.00	32.88	201.25
12	141.75	29.31	150.50	29.71	168.00	30.90	175.00	31.69	183.75	33.67	192.50	32.48	196.00	32.88	201.25	33.27	
14	141.75	29.31	150.50	29.71	168.00	31.29	175.00	31.69	182.00	33.67	192.50	32.48	196.00	32.88	201.25	33.27	
16	141.75	29.31	150.50	30.10	168.00	31.29	175.00	31.69	182.00	33.67	192.50	32.88	196.00	32.88	201.25	33.67	
18	141.75	29.71	150.50	30.10	168.00	31.69	175.00	32.08	182.00	34.06	192.50	33.27	196.00	33.27	201.25	33.67	
20	141.75	30.10	150.50	30.50	168.00	32.08	175.00	32.48	182.00	34.46	192.50	33.27	196.00	33.67	201.25	34.06	
22	141.75	30.10	150.50	30.90	168.00	32.08	175.00	32.88	182.00	34.86	192.50	33.67	196.00	34.06	201.25	34.46	
24	141.75	30.50	150.50	31.29	168.00	32.88	175.00	33.27	182.00	34.86	192.50	34.06	196.00	34.46	201.25	34.86	
25	140.00	30.90	150.50	31.69	168.00	32.88	175.00	33.27	182.00	35.25	192.50	34.46	196.00	34.86	199.50	35.25	
26	140.00	31.29	150.50	32.08	168.00	33.27	175.00	33.67	182.00	35.25	192.50	34.86	196.00	35.25	199.50	35.25	
28	140.00	31.69	150.50	32.88	168.00	34.46	175.00	34.46	182.00	35.65	192.50	36.05	196.00	36.44	199.50	36.44	
30	140.00	32.48	150.50	34.06	168.00	35.25	175.00	35.65	182.00	36.44	192.50	36.84	196.00	37.23	199.50	37.63	
32	140.00	34.06	150.50	35.65	168.00	36.84	175.00	37.23	182.00	38.03	192.50	38.42	196.00	38.82	199.50	38.82	
34	140.00	35.65	150.50	37.23	168.00	38.42	175.00	38.82	182.00	39.61	192.50	40.01	196.00	40.40	197.75	40.40	
35	140.00	36.44	150.50	38.03	168.00	39.21	175.00	39.61	182.00	40.40	192.50	40.80	196.00	41.19	197.75	41.19	
36	138.25	37.63	148.75	38.82	166.25	40.01	171.50	40.40	178.50	41.59	187.25	41.99	190.75	41.19	197.75	39.40	
38	136.50	39.21	147.00	40.80	160.77	41.59	167.63	41.99	169.75	42.78	184.95	39.04	187.65	37.69	189.24	36.32	
40	133.00	41.19	143.50	42.78	160.77	40.57	167.63	39.28	169.47	38.20	173.16	35.83	175.00	34.10	176.44	33.24	
43	130.10	32.64	136.47	31.89	142.82	30.88	146.73	29.84	148.51	27.98	151.06	27.73	152.54	26.72	154.04	25.55	
46	91.60	21.07	99.82	21.66	103.72	21.11	107.82	20.86	109.53	19.90	110.34	19.86	112.16	19.52	113.78	19.98	
48	44.21	13.19	46.05	14.38	47.69	14.78	49.53	15.17	51.58	15.15	53.42	15.54	53.22	15.39	55.83	15.08	

RAS-64HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	145.80	30.16	154.80	30.57	172.80	31.79	180.00	32.61	189.00	34.65	198.00	33.42	201.60	33.83	207.00
12	145.80	30.16	154.80	30.57	172.80	31.79	180.00	32.61	189.00	34.65	198.00	33.42	201.60	33.83	207.00	34.24	
14	145.80	30.16	154.80	30.57	172.80	32.20	180.00	32.61	187.20	34.65	198.00	33.42	201.60	33.83	207.00	34.24	
16	145.80	30.16	154.80	30.98	172.80	32.20	180.00	32.61	187.20	34.65	198.00	33.83	201.60	33.83	207.00	34.65	
18	145.80	30.57	154.80	30.98	172.80	32.61	180.00	33.02	187.20	35.05	198.00	34.24	201.60	34.24	207.00	34.65	
20	145.80	30.98	154.80	31.39	172.80	33.02	180.00	33.42	187.20	35.46	198.00	34.24	201.60	34.65	207.00	35.05	
22	145.80	30.98	154.80	31.79	172.80	33.02	180.00	33.83	187.20	35.87	198.00	34.65	201.60	35.05	207.00	35.46	
24	145.80	31.39	154.80	32.20	172.80	33.83	180.00	34.24	187.20	35.87	198.00	35.05	201.60	35.46	207.00	35.87	
25	144.00	31.79	154.80	32.61	172.80	33.83	180.00	34.24	187.20	36.28	198.00	35.46	201.60	35.87	205.20	36.28	
26	144.00	32.20	154.80	33.02	172.80	34.24	180.00	34.65	187.20	36.28	198.00	35.87	201.60	36.28	205.20	36.28	
28	144.00	32.61	154.80	33.83	172.80	35.46	180.00	35.46	187.20	36.68	198.00	37.09	201.60	37.50	205.20	37.50	
30	144.00	33.42	154.80	35.05	172.80	36.28	180.00	36.68	187.20	37.50	198.00	37.91	201.60	38.31	205.20	38.72	
32	144.00	35.05	154.80	36.68	172.80	37.91	180.00	38.31	187.20	39.13	198.00	39.54	201.60	39.94	205.20	39.94	
34	144.00	36.68	154.80	38.31	172.80	39.54	180.00	39.94	187.20	40.76	198.00	41.17	201.60	41.58	203.40	41.58	
35	144.00	37.50	154.80	39.13	172.80	40.35	180.00	40.76	187.20	41.58	198.00	41.98	201.60	42.39	203.40	42.39	
36	142.20	38.72	153.00	39.94	171.00	41.17	176.40	41.58	183.60	42.80	192.60	43.21	196.20	42.39	203.40	40.55	
38	140.40	40.35	151.20	41.98	165.36	42.80	172.42	43.21	174.60	44.02	190.23	40.17	193.01	38.78	194.64	37.37	
40	136.80	42.39	147.60	44.02	165.36	41.75	172.42	40.42	174.32	39.31	178.10	36.87	180.00	35.09	181.48	34.21	
43	133.82	33.58	140.37	32.81	146.90	31.78	150.92	30.70	152.75	28.79	155.38	28.53	156.90	27.50	158.44	26.29	
46	94.21	21.69	102.67	22.29	106.69	21.72	110.90	21.46	112.66	20.48	113.49	20.44	115.37	20.09	117.03	20.56	
48	45.47	13.57	47.37	14.80	49.05	15.21	50.95	15.61	53.05	15.59	54.95	15.99	54.74	15.84	57.42	15.52	
RAS-66HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	149.85	30.94	159.10	31.36	177.60	32.61	185.00	33.45	194.25	35.54	203.50	34.28	207.20	34.70	212.75
12	149.85	30.94	159.10	31.36	177.60	32.61	185.00	33.45	194.25	35.54	203.50	34.28	207.20	34.70	212.75	35.12	
14	149.85	30.94	159.10	31.36	177.60	33.03	185.00	33.45	192.40	35.54	203.50	34.28	207.20	34.70	212.75	35.12	
16	149.85	30.94	159.10	31.78	177.60	33.03	185.00	33.45	192.40	35.54	203.50	34.70	207.20	34.70	212.75	35.54	
18	149.85	31.36	159.10	31.78	177.60	33.45	185.00	33.87	192.40	35.96	203.50	35.12	207.20	35.12	212.75	35.54	
20	149.85	31.78	159.10	32.19	177.60	33.87	185.00	34.28	192.40	36.37	203.50	35.12	207.20	35.54	212.75	35.96	
22	149.85	31.78	159.10	32.61	177.60	33.87	185.00	34.70	192.40	36.79	203.50	35.54	207.20	35.96	212.75	36.37	
24	149.85	32.19	159.10	33.03	177.60	34.70	185.00	35.12	192.40	36.79	203.50	35.96	207.20	36.37	212.75	36.79	
25	148.00	32.61	159.10	33.45	177.60	34.70	185.00	35.12	192.40	37.21	203.50	36.37	207.20	36.79	210.90	37.21	
26	148.00	33.03	159.10	33.87	177.60	35.12	185.00	35.54	192.40	37.21	203.50	36.79	207.20	37.21	210.90	37.21	
28	148.00	33.45	159.10	34.70	177.60	36.37	185.00	36.37	192.40	37.63	203.50	38.05	207.20	38.47	210.90	38.47	
30	148.00	34.28	159.10	35.96	177.60	37.21	185.00	37.63	192.40	38.47	203.50	38.88	207.20	39.30	210.90	39.72	
32	148.00	35.96	159.10	37.63	177.60	38.88	185.00	39.30	192.40	40.14	203.50	40.56	207.20	40.97	210.90	40.97	
34	148.00	37.63	159.10	39.30	177.60	40.56	185.00	40.97	192.40	41.81	203.50	42.23	207.20	42.65	209.05	42.65	
35	148.00	38.47	159.10	40.14	177.60	41.39	185.00	41.81	192.40	42.65	203.50	43.06	207.20	43.48	209.05	43.48	
36	146.15	39.72	157.25	40.97	175.75	42.23	181.30	42.65	188.70	43.90	197.95	44.32	201.65	43.48	209.05	41.59	
38	144.30	41.39	155.40	43.06	169.95	43.90	177.21	44.32	179.45	45.15	195.52	41.21	198.37	39.78	200.05	38.34	
40	140.60	43.48	151.70	45.15	169.95	42.83	177.21	41.46	179.16	40.32	183.05	37.82	185.00	35.99	186.52	35.09	
43	137.54	34.45	144.27	33.66	150.98	32.60	155.11	31.49	156.99	29.53	159.69	29.27	161.26	28.21	162.84	26.97	
46	96.83	22.24	105.52	22.86	109.65	22.28	113.98	22.01	115.79	21.01	116.65	20.97	118.57	20.61	120.28	21.09	
48	46.74	13.92	48.68	15.18	50.42	15.60	52.36	16.02	54.53	15.99	56.47	16.41	56.26	16.25	59.02	15.92	

RAS-68HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	153.90	31.72	163.40	32.15	182.40	33.43	190.00	34.29	199.50	36.43	209.00	35.15	212.80	35.57	218.50
12	153.90	31.72	163.40	32.15	182.40	33.43	190.00	34.29	199.50	36.43	209.00	35.15	212.80	35.57	218.50	36.00	
14	153.90	31.72	163.40	32.15	182.40	33.86	190.00	34.29	197.60	36.43	209.00	35.15	212.80	35.57	218.50	36.00	
16	153.90	31.72	163.40	32.57	182.40	33.86	190.00	34.29	197.60	36.43	209.00	35.57	212.80	35.57	218.50	36.43	
18	153.90	32.15	163.40	32.57	182.40	34.29	190.00	34.72	197.60	36.86	209.00	36.00	212.80	36.00	218.50	36.43	
20	153.90	32.57	163.40	33.00	182.40	34.72	190.00	35.15	197.60	37.29	209.00	36.00	212.80	36.43	218.50	36.86	
22	153.90	32.57	163.40	33.43	182.40	34.72	190.00	35.57	197.60	37.72	209.00	36.43	212.80	36.86	218.50	37.29	
24	153.90	33.00	163.40	33.86	182.40	35.57	190.00	36.00	197.60	37.72	209.00	36.86	212.80	37.29	218.50	37.72	
25	152.00	33.43	163.40	34.29	182.40	35.57	190.00	36.00	197.60	38.15	209.00	37.29	212.80	37.72	216.60	38.15	
26	152.00	33.86	163.40	34.72	182.40	36.00	190.00	36.43	197.60	38.15	209.00	37.72	212.80	38.15	216.60	38.15	
28	152.00	34.29	163.40	35.57	182.40	37.29	190.00	37.29	197.60	38.57	209.00	39.00	212.80	39.43	216.60	39.43	
30	152.00	35.15	163.40	36.86	182.40	38.15	190.00	38.57	197.60	39.43	209.00	39.86	212.80	40.29	216.60	40.72	
32	152.00	36.86	163.40	38.57	182.40	39.86	190.00	40.29	197.60	41.15	209.00	41.57	212.80	42.00	216.60	42.00	
34	152.00	38.57	163.40	40.29	182.40	41.57	190.00	42.00	197.60	42.86	209.00	43.29	212.80	43.72	214.70	43.72	
35	152.00	39.43	163.40	41.15	182.40	42.43	190.00	42.86	197.60	43.72	209.00	44.15	212.80	44.57	214.70	44.57	
36	150.10	40.72	161.50	42.00	180.50	43.29	186.20	43.72	193.80	45.00	203.30	45.43	207.10	44.57	214.70	42.64	
38	148.20	42.43	159.60	44.15	174.55	45.00	182.00	45.43	184.30	46.29	200.80	42.24	203.73	40.78	205.46	39.30	
40	144.40	44.57	155.80	46.29	174.55	43.90	182.00	42.50	184.00	41.34	188.00	38.77	190.00	36.90	191.56	35.97	
43	141.25	35.32	148.17	34.50	155.06	33.42	159.31	32.29	161.23	30.27	164.01	30.00	165.62	28.92	167.24	27.65	
46	99.45	22.80	108.37	23.43	112.61	22.84	117.06	22.57	118.92	21.54	119.80	21.49	121.78	21.13	123.53	21.62	
48	48.00	14.27	50.00	15.56	51.78	15.99	53.78	16.42	56.00	16.39	58.00	16.82	57.78	16.66	60.61	16.31	
RAS-70HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	157.95	32.57	167.70	33.01	187.20	34.33	195.00	35.21	204.75	37.41	214.50	36.09	218.40	36.53	224.25
12	157.95	32.57	167.70	33.01	187.20	34.33	195.00	35.21	204.75	37.41	214.50	36.09	218.40	36.53	224.25	36.97	
14	157.95	32.57	167.70	33.01	187.20	34.77	195.00	35.21	202.80	37.41	214.50	36.09	218.40	36.53	224.25	36.97	
16	157.95	32.57	167.70	33.45	187.20	34.77	195.00	35.21	202.80	37.41	214.50	36.53	218.40	36.53	224.25	37.41	
18	157.95	33.01	167.70	33.45	187.20	35.21	195.00	35.65	202.80	37.85	214.50	36.97	218.40	36.97	224.25	37.41	
20	157.95	33.45	167.70	33.89	187.20	35.65	195.00	36.09	202.80	38.29	214.50	36.97	218.40	37.41	224.25	37.85	
22	157.95	33.45	167.70	34.33	187.20	35.65	195.00	36.53	202.80	38.73	214.50	37.41	218.40	37.85	224.25	38.29	
24	157.95	33.89	167.70	34.77	187.20	36.53	195.00	36.97	202.80	38.73	214.50	37.85	218.40	38.29	224.25	38.73	
25	156.00	34.33	167.70	35.21	187.20	36.53	195.00	36.97	202.80	39.17	214.50	38.29	218.40	38.73	222.30	39.17	
26	156.00	34.77	167.70	35.65	187.20	36.97	195.00	37.41	202.80	39.17	214.50	38.73	218.40	39.17	222.30	39.17	
28	156.00	35.21	167.70	36.53	187.20	38.29	195.00	38.29	202.80	39.61	214.50	40.05	218.40	40.49	222.30	40.49	
30	156.00	36.09	167.70	37.85	187.20	39.17	195.00	39.61	202.80	40.49	214.50	40.93	218.40	41.37	222.30	41.81	
32	156.00	37.85	167.70	39.61	187.20	40.93	195.00	41.37	202.80	42.25	214.50	42.69	218.40	43.13	222.30	43.13	
34	156.00	39.61	167.70	41.37	187.20	42.69	195.00	43.13	202.80	44.01	214.50	44.45	218.40	44.89	220.35	44.89	
35	156.00	40.49	167.70	42.25	187.20	43.57	195.00	44.01	202.80	44.89	214.50	45.33	218.40	45.77	220.35	45.77	
36	154.05	41.81	165.75	43.13	185.25	44.45	191.10	44.89	198.90	46.21	208.65	46.65	212.55	45.77	220.35	43.78	
38	152.10	43.57	163.80	45.33	179.14	46.21	186.79	46.65	189.15	47.53	206.08	43.37	209.09	41.87	210.86	40.35	
40	148.20	45.77	159.90	47.53	179.14	45.08	186.79	43.64	188.84	42.44	192.95	39.81	195.00	37.89	196.61	36.94	
43	144.97	36.26	152.07	35.43	159.14	34.31	163.50	33.15	165.48	31.08	168.32	30.81	169.97	29.69	171.64	28.39	
46	102.06	23.41	111.22	24.06	115.58	23.45	120.14	23.17	122.05	22.11	122.95	22.07	124.98	21.69	126.78	22.20	
48	49.26	14.66	51.32	15.98	53.14	16.42	55.19	16.86	57.47	16.83	59.53	17.27	59.30	17.10	62.21	16.75	

RAS-72HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	162.00	33.42	172.00	33.87	192.00	35.22	200.00	36.13	210.00	38.39	220.00	37.03	224.00	37.48	230.00
12	162.00	33.42	172.00	33.87	192.00	35.22	200.00	36.13	210.00	38.39	220.00	37.03	224.00	37.48	230.00	37.93	
14	162.00	33.42	172.00	33.87	192.00	35.68	200.00	36.13	208.00	38.39	220.00	37.03	224.00	37.48	230.00	37.93	
16	162.00	33.42	172.00	34.32	192.00	35.68	200.00	36.13	208.00	38.39	220.00	37.48	224.00	37.48	230.00	38.39	
18	162.00	33.87	172.00	34.32	192.00	36.13	200.00	36.58	208.00	38.84	220.00	37.93	224.00	37.93	230.00	38.39	
20	162.00	34.32	172.00	34.77	192.00	36.58	200.00	37.03	208.00	39.29	220.00	37.93	224.00	38.39	230.00	38.84	
22	162.00	34.32	172.00	35.22	192.00	36.58	200.00	37.48	208.00	39.74	220.00	38.39	224.00	38.84	230.00	39.29	
24	162.00	34.77	172.00	35.68	192.00	37.48	200.00	37.93	208.00	39.74	220.00	38.84	224.00	39.29	230.00	39.74	
25	160.00	35.22	172.00	36.13	192.00	37.48	200.00	37.93	208.00	40.19	220.00	39.29	224.00	39.74	228.00	40.19	
26	160.00	35.68	172.00	36.58	192.00	37.93	200.00	38.39	208.00	40.19	220.00	39.74	224.00	40.19	228.00	40.19	
28	160.00	36.13	172.00	37.48	192.00	39.29	200.00	39.29	208.00	40.64	220.00	41.10	224.00	41.55	228.00	41.55	
30	160.00	37.03	172.00	38.84	192.00	40.19	200.00	40.64	208.00	41.55	220.00	42.00	224.00	42.45	228.00	42.90	
32	160.00	38.84	172.00	40.64	192.00	42.00	200.00	42.45	208.00	43.35	220.00	43.81	224.00	44.26	228.00	44.26	
34	160.00	40.64	172.00	42.45	192.00	43.81	200.00	44.26	208.00	45.16	220.00	45.61	224.00	46.06	226.00	46.06	
35	160.00	41.55	172.00	43.35	192.00	44.71	200.00	45.16	208.00	46.06	220.00	46.51	224.00	46.97	226.00	46.97	
36	158.00	42.90	170.00	44.26	190.00	45.61	196.00	46.06	204.00	47.42	214.00	47.87	218.00	46.97	226.00	44.92	
38	156.00	44.71	168.00	46.51	183.73	47.42	191.58	47.87	194.00	48.77	211.37	44.51	214.46	42.97	216.27	41.41	
40	152.00	46.97	164.00	48.77	183.73	46.26	191.58	44.78	193.68	43.55	197.89	40.85	200.00	38.88	201.65	37.90	
43	148.69	37.21	155.97	36.35	163.22	35.21	167.69	34.02	169.72	31.90	172.64	31.61	174.33	30.47	176.04	29.13	
46	104.68	24.03	114.08	24.69	118.54	24.07	123.22	23.78	125.18	22.69	126.10	22.65	128.19	22.26	130.03	22.78	
48	50.53	15.04	52.63	16.40	54.50	16.85	56.61	17.30	58.95	17.27	61.05	17.72	60.82	17.55	63.80	17.19	
RAS-74HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	166.86	35.53	177.16	36.01	197.76	37.45	206.00	38.41	216.30	40.81	226.60	39.37	230.72	39.85	236.90
12	166.86	35.53	177.16	36.01	197.76	37.45	206.00	38.41	216.30	40.81	226.60	39.37	230.72	39.85	236.90	40.33	
14	166.86	35.53	177.16	36.01	197.76	37.93	206.00	38.41	214.24	40.81	226.60	39.37	230.72	39.85	236.90	40.33	
16	166.86	35.53	177.16	36.49	197.76	37.93	206.00	38.41	214.24	40.81	226.60	39.85	230.72	39.85	236.90	40.81	
18	166.86	36.01	177.16	36.49	197.76	38.41	206.00	38.89	214.24	41.29	226.60	40.33	230.72	40.33	236.90	40.81	
20	166.86	36.49	177.16	36.97	197.76	38.89	206.00	39.37	214.24	41.77	226.60	40.33	230.72	40.81	236.90	41.29	
22	166.86	36.49	177.16	37.45	197.76	38.89	206.00	39.85	214.24	42.25	226.60	40.81	230.72	41.29	236.90	41.77	
24	166.86	36.97	177.16	37.93	197.76	39.85	206.00	40.33	214.24	42.25	226.60	41.29	230.72	41.77	236.90	42.25	
25	164.80	37.45	177.16	38.41	197.76	39.85	206.00	40.33	214.24	42.73	226.60	41.77	230.72	42.25	234.84	42.73	
26	164.80	37.93	177.16	38.89	197.76	40.33	206.00	40.81	214.24	42.73	226.60	42.25	230.72	42.73	234.84	42.73	
28	164.80	38.41	177.16	39.85	197.76	41.77	206.00	41.77	214.24	43.21	226.60	43.69	230.72	44.17	234.84	44.17	
30	164.80	39.37	177.16	41.29	197.76	42.73	206.00	43.21	214.24	44.17	226.60	44.65	230.72	45.13	234.84	45.61	
32	164.80	41.29	177.16	43.21	197.76	44.65	206.00	45.13	214.24	46.09	226.60	46.57	230.72	47.05	234.84	47.05	
34	164.80	43.21	177.16	45.13	197.76	46.57	206.00	47.05	214.24	48.01	226.60	48.49	230.72	48.97	232.78	48.97	
35	164.80	44.17	177.16	46.09	197.76	47.53	206.00	48.01	214.24	48.97	226.60	49.45	230.72	49.93	232.78	49.93	
36	162.74	45.61	175.10	47.05	195.70	48.49	201.88	48.97	210.12	50.41	220.42	50.89	224.54	49.93	225.93	47.64	
38	160.68	47.53	173.04	49.45	189.52	50.41	195.70	50.89	199.82	51.85	206.82	47.20	209.85	45.56	211.62	43.91	
40	156.56	49.93	168.92	51.85	183.34	49.05	187.46	47.49	189.52	46.18	193.64	43.31	195.70	41.23	197.31	40.19	
43	145.49	39.46	152.62	38.55	159.71	37.34	164.09	36.07	166.07	33.82	168.93	33.52	170.58	32.31	172.26	30.89	
46	102.43	25.48	111.62	26.18	115.99	25.52	120.57	25.21	122.48	24.06	123.39	24.02	125.43	23.61	127.24	24.15	
48	49.44	15.95	51.50	17.39	53.33	17.87	55.39	18.34	57.68	18.31	59.74	18.79	59.51	18.61	62.43	18.23	

RAS-76HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	171.72	37.64	182.32	38.15	203.52	39.67	212.00	40.69	222.60	43.23	233.20	41.71	237.44	42.21	243.80
12	171.72	37.64	182.32	38.15	203.52	39.67	212.00	40.69	222.60	43.23	233.20	41.71	237.44	42.21	243.80	42.72	
14	171.72	37.64	182.32	38.15	203.52	40.18	212.00	40.69	220.48	43.23	233.20	41.71	237.44	42.21	243.80	42.72	
16	171.72	37.64	182.32	38.65	203.52	40.18	212.00	40.69	220.48	43.23	233.20	42.21	237.44	42.21	243.80	43.23	
18	171.72	38.15	182.32	38.65	203.52	40.69	212.00	41.20	220.48	43.74	233.20	42.72	237.44	42.72	243.80	43.23	
20	171.72	38.65	182.32	39.16	203.52	41.20	212.00	41.71	220.48	44.25	233.20	42.72	237.44	43.23	243.80	43.74	
22	171.72	38.65	182.32	39.67	203.52	41.20	212.00	42.21	220.48	44.76	233.20	43.23	237.44	43.74	243.80	44.25	
24	171.72	39.16	182.32	40.18	203.52	42.21	212.00	42.72	220.48	44.76	233.20	43.74	237.44	44.25	243.80	44.76	
25	169.60	39.67	182.32	40.69	203.52	42.21	212.00	42.72	220.48	45.27	233.20	44.25	237.44	44.76	241.68	45.27	
26	169.60	40.18	182.32	41.20	203.52	42.72	212.00	43.23	220.48	45.27	233.20	44.76	237.44	45.27	241.68	45.27	
28	169.60	40.69	182.32	42.21	203.52	44.25	212.00	44.25	220.48	45.77	233.20	46.28	237.44	46.79	241.68	46.79	
30	169.60	41.71	182.32	43.74	203.52	45.27	212.00	45.77	220.48	46.79	233.20	47.30	237.44	47.81	241.68	48.32	
32	169.60	43.74	182.32	45.77	203.52	47.30	212.00	47.81	220.48	48.83	233.20	49.33	237.44	49.84	241.68	49.84	
34	169.60	45.77	182.32	47.81	203.52	49.33	212.00	49.84	220.48	50.86	233.20	51.37	237.44	51.88	239.56	51.88	
35	169.60	46.79	182.32	48.83	203.52	50.35	212.00	50.86	220.48	51.88	233.20	52.39	237.44	52.89	239.56	52.89	
36	167.48	48.32	180.20	49.84	201.40	51.37	207.76	51.88	216.24	53.40	226.84	53.91	231.08	52.89	232.51	50.47	
38	165.36	50.35	178.08	52.39	195.04	53.40	201.40	53.91	205.64	54.93	212.85	50.00	215.96	48.27	217.78	46.52	
40	161.12	52.89	173.84	54.93	188.68	51.97	192.92	50.31	195.04	48.93	199.28	45.88	201.40	43.67	203.06	42.58	
43	149.73	41.80	157.06	40.84	164.36	39.55	168.86	38.21	170.91	35.83	173.85	35.51	175.55	34.23	177.27	32.72	
46	105.41	26.99	114.87	27.74	119.37	27.04	124.09	26.71	126.05	25.49	126.99	25.44	129.08	25.01	130.95	25.59	
48	50.88	16.89	53.00	18.42	54.88	18.93	57.00	19.43	59.36	19.40	61.48	19.91	61.24	19.72	64.25	19.31	
RAS-78HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	176.58	39.75	187.48	40.28	209.28	41.89	218.00	42.97	228.90	45.65	239.80	44.04	244.16	44.58	250.70
12	176.58	39.75	187.48	40.28	209.28	41.89	218.00	42.97	228.90	45.65	239.80	44.04	244.16	44.58	250.70	45.12	
14	176.58	39.75	187.48	40.28	209.28	42.43	218.00	42.97	226.72	45.65	239.80	44.04	244.16	44.58	250.70	45.12	
16	176.58	39.75	187.48	40.82	209.28	42.43	218.00	42.97	226.72	45.65	239.80	44.58	244.16	44.58	250.70	45.65	
18	176.58	40.28	187.48	40.82	209.28	42.97	218.00	43.51	226.72	46.19	239.80	45.12	244.16	45.12	250.70	45.65	
20	176.58	40.82	187.48	41.36	209.28	43.51	218.00	44.04	226.72	46.73	239.80	45.12	244.16	45.65	250.70	46.19	
22	176.58	40.82	187.48	41.89	209.28	43.51	218.00	44.58	226.72	47.26	239.80	45.65	244.16	46.19	250.70	46.73	
24	176.58	41.36	187.48	42.43	209.28	44.58	218.00	45.12	226.72	47.26	239.80	46.19	244.16	46.73	250.70	47.26	
25	174.40	41.89	187.48	42.97	209.28	44.58	218.00	45.12	226.72	47.80	239.80	46.73	244.16	47.26	248.52	47.80	
26	174.40	42.43	187.48	43.51	209.28	45.12	218.00	45.65	226.72	47.80	239.80	47.26	244.16	47.80	248.52	47.80	
28	174.40	42.97	187.48	44.58	209.28	46.73	218.00	46.73	226.72	48.34	239.80	48.88	244.16	49.41	248.52	49.41	
30	174.40	44.04	187.48	46.19	209.28	47.80	218.00	48.34	226.72	49.41	239.80	49.95	244.16	50.49	248.52	51.02	
32	174.40	46.19	187.48	48.34	209.28	49.95	218.00	50.49	226.72	51.56	239.80	52.10	244.16	52.64	248.52	52.64	
34	174.40	48.34	187.48	50.49	209.28	52.10	218.00	52.64	226.72	53.71	239.80	54.25	244.16	54.78	246.34	54.78	
35	174.40	49.41	187.48	51.56	209.28	53.17	218.00	53.71	226.72	54.78	239.80	55.32	244.16	55.86	246.34	55.86	
36	172.22	51.02	185.30	52.64	207.10	54.25	213.64	54.78	222.36	56.40	233.26	56.93	237.62	55.86	239.10	53.29	
38	170.04	53.17	183.12	55.32	200.56	56.40	207.10	56.93	211.46	58.01	218.87	52.80	222.07	50.97	223.95	49.12	
40	165.68	55.86	178.76	58.01	194.02	54.88	198.38	53.13	200.56	51.67	204.92	48.46	207.10	46.12	208.81	44.96	
43	153.97	44.14	161.51	43.13	169.01	41.77	173.64	40.36	175.75	37.84	178.77	37.50	180.52	36.14	182.29	34.56	
46	108.40	28.50	118.13	29.29	122.75	28.55	127.60	28.21	129.62	26.92	130.58	26.87	132.74	26.41	134.65	27.02	
48	52.32	17.84	54.50	19.45	56.44	19.99	58.62	20.52	61.04	20.49	63.22	21.02	62.98	20.82	66.07	20.39	

RAS-80HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	181.44	41.85	192.64	42.42	215.04	44.12	224.00	45.25	235.20	48.08	246.40	46.38	250.88	46.94	257.60
12	181.44	41.85	192.64	42.42	215.04	44.12	224.00	45.25	235.20	48.08	246.40	46.38	250.88	46.94	257.60	47.51	
14	181.44	41.85	192.64	42.42	215.04	44.68	224.00	45.25	232.96	48.08	246.40	46.38	250.88	46.94	257.60	47.51	
16	181.44	41.85	192.64	42.99	215.04	44.68	224.00	45.25	232.96	48.08	246.40	46.94	250.88	46.94	257.60	48.08	
18	181.44	42.42	192.64	42.99	215.04	45.25	224.00	45.81	232.96	48.64	246.40	47.51	250.88	47.51	257.60	48.08	
20	181.44	42.99	192.64	43.55	215.04	45.81	224.00	46.38	232.96	49.21	246.40	47.51	250.88	48.08	257.60	48.64	
22	181.44	42.99	192.64	44.12	215.04	45.81	224.00	46.94	232.96	49.77	246.40	48.08	250.88	48.64	257.60	49.21	
24	181.44	43.55	192.64	44.68	215.04	46.94	224.00	47.51	232.96	49.77	246.40	48.64	250.88	49.21	257.60	49.77	
25	179.20	44.12	192.64	45.25	215.04	46.94	224.00	47.51	232.96	50.34	246.40	49.21	250.88	49.77	255.36	50.34	
26	179.20	44.68	192.64	45.81	215.04	47.51	224.00	48.08	232.96	50.34	246.40	49.77	250.88	50.34	255.36	50.34	
28	179.20	45.25	192.64	46.94	215.04	49.21	224.00	49.21	232.96	50.90	246.40	51.47	250.88	52.04	255.36	52.04	
30	179.20	46.38	192.64	48.64	215.04	50.34	224.00	50.90	232.96	52.04	246.40	52.60	250.88	53.17	255.36	53.73	
32	179.20	48.64	192.64	50.90	215.04	52.60	224.00	53.17	232.96	54.30	246.40	54.86	250.88	55.43	255.36	55.43	
34	179.20	50.90	192.64	53.17	215.04	54.86	224.00	55.43	232.96	56.56	246.40	57.13	250.88	57.69	253.12	57.69	
35	179.20	52.04	192.64	54.30	215.04	55.99	224.00	56.56	232.96	57.69	246.40	58.26	250.88	58.82	253.12	58.82	
36	176.96	53.73	190.40	55.43	212.80	57.13	219.52	57.69	228.48	59.39	239.68	59.95	244.16	58.82	245.68	56.12	
38	174.72	55.99	188.16	58.26	206.08	59.39	212.80	59.95	217.28	61.08	224.90	55.60	228.18	53.68	230.11	51.73	
40	170.24	58.82	183.68	61.08	199.36	57.79	203.84	55.95	206.08	54.41	210.56	51.03	212.80	48.57	214.55	47.35	
43	158.20	46.48	165.95	45.41	173.67	43.99	178.42	42.50	180.58	39.85	183.69	39.49	185.49	38.06	187.31	36.39	
46	111.38	30.01	121.38	30.85	126.13	30.07	131.11	29.70	133.19	28.35	134.18	28.29	136.39	27.81	138.36	28.46	
48	53.76	18.79	56.00	20.49	57.99	21.05	60.23	21.61	62.72	21.57	64.96	22.14	64.71	21.92	67.89	21.47	
RAS-82HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	183.60	42.25	197.37	43.40	220.32	45.14	229.50	45.72	240.98	48.61	252.45	47.45	257.04	48.03	263.93
12	183.60	42.25	197.37	43.40	220.32	45.14	229.50	45.72	238.68	49.19	252.45	47.45	257.04	48.03	263.93	48.61	
14	183.60	42.25	197.37	43.40	220.32	45.72	229.50	46.30	238.68	49.19	252.45	48.03	257.04	48.03	263.93	48.61	
16	183.60	42.82	197.37	43.98	220.32	45.72	229.50	46.30	238.68	49.19	252.45	48.03	257.04	48.61	263.93	49.19	
18	183.60	42.82	197.37	43.98	220.32	46.30	229.50	46.87	238.68	49.77	252.45	48.61	257.04	48.61	263.93	49.19	
20	185.90	43.40	197.37	44.56	220.32	46.87	229.50	46.87	238.68	50.35	252.45	48.61	257.04	49.19	261.63	49.77	
22	185.90	43.98	197.37	45.14	220.32	46.87	229.50	47.45	238.68	50.93	252.45	49.19	257.04	49.77	263.93	50.35	
24	185.90	44.56	197.37	45.72	220.32	48.03	229.50	48.03	238.68	50.93	252.45	49.77	257.04	50.35	261.63	50.93	
25	183.60	44.56	197.37	46.30	220.32	48.03	229.50	48.61	238.68	51.50	252.45	50.35	257.04	50.93	261.63	51.50	
26	183.60	45.14	197.37	46.87	220.32	48.61	229.50	49.19	238.68	52.08	252.45	50.93	257.04	51.50	261.63	52.08	
28	183.60	46.30	197.37	48.03	220.32	50.35	229.50	50.93	238.68	52.66	252.45	52.66	257.04	53.24	261.63	53.82	
30	183.60	48.03	197.37	49.77	220.32	51.50	229.50	52.08	238.68	53.24	252.45	53.82	257.04	54.40	261.63	54.98	
32	183.60	50.35	197.37	52.08	220.32	53.82	229.50	54.40	238.68	56.13	252.45	56.13	257.04	56.71	261.63	57.29	
34	183.60	52.66	197.37	54.40	220.32	56.13	229.50	56.71	238.68	57.87	252.45	58.45	257.04	59.03	261.63	59.61	
35	183.60	53.82	197.37	55.56	220.32	57.29	229.50	57.87	238.68	59.03	252.45	59.61	257.04	60.18	261.63	60.76	
36	183.60	54.98	195.08	56.71	218.03	58.45	227.21	59.03	236.39	59.61	247.86	58.45	252.45	58.45	257.04	57.87	
38	179.01	57.87	192.78	59.61	211.14	60.76	218.03	61.34	224.91	61.92	234.09	54.98	238.68	53.82	243.27	53.24	
40	176.72	60.76	188.19	62.50	204.26	59.03	208.85	57.29	211.14	55.56	215.73	52.08	218.03	49.77	222.62	49.19	
43	162.95	48.03	169.83	46.30	176.72	44.56	183.60	43.40	185.90	40.51	188.19	40.51	190.49	38.77	195.08	38.19	
46	114.75	31.25	123.93	31.25	128.52	30.67	135.41	30.67	135.41	28.94	137.70	28.94	140.00	28.36	144.59	30.09	
48	57.38	19.68	57.38	20.83	59.67	21.41	61.97	21.99	64.26	21.99	66.56	22.57	66.56	22.57	71.15	22.57	

RAS-84HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	188.00	43.20	202.10	44.39	225.60	46.16	235.00	46.75	246.75	49.71	258.50	48.53	263.20	49.12	270.25
12	188.00	43.20	202.10	44.39	225.60	46.16	235.00	46.75	244.40	50.30	258.50	48.53	263.20	49.12	270.25	49.71	
14	188.00	43.20	202.10	44.39	225.60	46.75	235.00	47.34	244.40	50.30	258.50	49.12	263.20	49.12	270.25	49.71	
16	188.00	43.79	202.10	44.98	225.60	46.75	235.00	47.34	244.40	50.30	258.50	49.12	263.20	49.71	270.25	50.30	
18	188.00	43.79	202.10	44.98	225.60	47.34	235.00	47.94	244.40	50.89	258.50	49.71	263.20	49.71	270.25	50.30	
20	190.35	44.39	202.10	45.57	225.60	47.94	235.00	47.94	244.40	51.49	258.50	49.71	263.20	50.30	267.90	50.89	
22	190.35	44.98	202.10	46.16	225.60	47.94	235.00	48.53	244.40	52.08	258.50	50.30	263.20	50.89	270.25	51.49	
24	190.35	45.57	202.10	46.75	225.60	49.12	235.00	49.12	244.40	52.08	258.50	50.89	263.20	51.49	267.90	52.08	
25	188.00	45.57	202.10	47.34	225.60	49.12	235.00	49.71	244.40	52.67	258.50	51.49	263.20	52.08	267.90	52.67	
26	188.00	46.16	202.10	47.94	225.60	49.71	235.00	50.30	244.40	53.26	258.50	52.08	263.20	52.67	267.90	53.26	
28	188.00	47.34	202.10	49.12	225.60	51.49	235.00	52.08	244.40	53.85	258.50	53.85	263.20	54.45	267.90	55.04	
30	188.00	49.12	202.10	50.89	225.60	52.67	235.00	53.26	244.40	54.45	258.50	55.04	263.20	55.63	267.90	56.22	
32	188.00	51.49	202.10	53.26	225.60	55.04	235.00	55.63	244.40	57.40	258.50	57.40	263.20	58.00	267.90	58.59	
34	188.00	53.85	202.10	55.63	225.60	57.40	235.00	58.00	244.40	59.18	258.50	59.77	263.20	60.36	267.90	60.96	
35	188.00	55.04	202.10	56.81	225.60	58.59	235.00	59.18	244.40	60.36	258.50	60.96	263.20	61.55	267.90	62.14	
36	188.00	56.22	199.75	58.00	223.25	59.77	232.65	60.36	242.05	60.96	253.80	59.77	258.50	59.77	263.20	59.18	
38	183.30	59.18	197.40	60.96	216.20	62.14	223.25	62.73	230.30	63.32	239.70	56.22	244.40	55.04	249.10	54.45	
40	180.95	62.14	192.70	63.91	209.15	60.36	213.85	58.59	216.20	56.81	220.90	53.26	223.25	50.89	227.95	50.30	
43	166.85	49.12	173.90	47.34	180.95	45.57	188.00	44.39	190.35	41.43	192.70	41.43	195.05	39.65	199.75	39.06	
46	117.50	31.96	126.90	31.96	131.60	31.37	138.65	31.37	138.65	29.59	141.00	29.59	143.35	29.00	148.05	30.77	
48	58.75	20.12	58.75	21.30	61.10	21.90	63.45	22.49	65.80	22.49	68.15	23.08	68.15	23.08	72.85	23.08	
RAS-86HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
		10	192.40	44.16	206.83	45.37	230.88	47.18	240.50	47.79	252.53	50.81	264.55	49.60	269.36	50.21	276.58
12	192.40	44.16	206.83	45.37	230.88	47.18	240.50	47.79	250.12	51.42	264.55	49.60	269.36	50.21	276.58	50.81	
14	192.40	44.16	206.83	45.37	230.88	47.79	240.50	48.39	250.12	51.42	264.55	50.21	269.36	50.21	276.58	50.81	
16	192.40	44.76	206.83	45.97	230.88	47.79	240.50	48.39	250.12	51.42	264.55	50.21	269.36	50.81	276.58	51.42	
18	192.40	44.76	206.83	45.97	230.88	48.39	240.50	49.00	250.12	52.02	264.55	50.81	269.36	50.81	276.58	51.42	
20	194.81	45.37	206.83	46.58	230.88	49.00	240.50	49.00	250.12	52.63	264.55	50.81	269.36	51.42	274.17	52.02	
22	194.81	45.97	206.83	47.18	230.88	49.00	240.50	49.60	250.12	53.23	264.55	51.42	269.36	52.02	276.58	52.63	
24	194.81	46.58	206.83	47.79	230.88	50.21	240.50	50.21	250.12	53.23	264.55	52.02	269.36	52.63	274.17	53.23	
25	192.40	46.58	206.83	48.39	230.88	50.21	240.50	50.81	250.12	53.84	264.55	52.63	269.36	53.23	274.17	53.84	
26	192.40	47.18	206.83	49.00	230.88	50.81	240.50	51.42	250.12	54.44	264.55	53.23	269.36	53.84	274.17	54.44	
28	192.40	48.39	206.83	50.21	230.88	52.63	240.50	53.23	250.12	55.05	264.55	55.05	269.36	55.65	274.17	56.26	
30	192.40	50.21	206.83	52.02	230.88	53.84	240.50	54.44	250.12	55.65	264.55	56.26	269.36	56.86	274.17	57.47	
32	192.40	52.63	206.83	54.44	230.88	56.26	240.50	56.86	250.12	58.68	264.55	58.68	269.36	59.28	274.17	59.89	
34	192.40	55.05	206.83	56.86	230.88	58.68	240.50	59.28	250.12	60.49	264.55	61.09	269.36	61.70	274.17	62.30	
35	192.40	56.26	206.83	58.07	230.88	59.89	240.50	60.49	250.12	61.70	264.55	62.30	269.36	62.91	274.17	63.51	
36	192.40	57.47	204.43	59.28	228.48	61.09	238.10	61.70	247.72	62.30	259.74	61.09	264.55	61.09	269.36	60.49	
38	187.59	60.49	202.02	62.30	221.26	63.51	228.48	64.12	235.69	64.72	245.31	57.47	250.12	56.26	254.93	55.65	
40	185.19	63.51	197.21	65.33	214.05	61.70	218.86	59.89	221.26	58.07	226.07	54.44	228.48	52.02	233.29	51.42	
43	170.76	50.21	177.97	48.39	185.19	46.58	192.40	45.37	194.81	42.34	197.21	42.34	199.62	40.53	204.43	39.92	
46	120.25	32.66	129.87	32.66	134.68	32.06	141.90	32.06	141.90	30.25	144.30	30.25	146.71	29.64	151.52	31.45	
48	60.13	20.57	60.13	21.78	62.53	22.38	64.94	22.99	67.34	22.99	69.75	23.59	69.75	23.59	74.56	23.59	

RAS-88HNBBMQ																	
Combination(%) (Cooling Capacity Index) 100%	Outdoor Ambient DB°C	Indoor Ambient Temperature(WB °C)															
		14		16		18		19		20		22		23		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10	196.80	45.11	211.56	46.35	236.16	48.20	246.00	48.82	258.30	51.91	270.60	50.68	275.52	51.29	282.90	51.91	
12	196.80	45.11	211.56	46.35	236.16	48.20	246.00	48.82	255.84	52.53	270.60	50.68	275.52	51.29	282.90	51.91	
14	196.80	45.11	211.56	46.35	236.16	48.82	246.00	49.44	255.84	52.53	270.60	51.29	275.52	51.29	282.90	51.91	
16	196.80	45.73	211.56	46.97	236.16	48.82	246.00	49.44	255.84	52.53	270.60	51.29	275.52	51.91	282.90	52.53	
18	196.80	45.73	211.56	46.97	236.16	49.44	246.00	50.06	255.84	53.15	270.60	51.91	275.52	51.91	282.90	52.53	
20	199.26	46.35	211.56	47.59	236.16	50.06	246.00	50.06	255.84	53.77	270.60	51.91	275.52	52.53	280.44	53.15	
22	199.26	46.97	211.56	48.20	236.16	50.06	246.00	50.68	255.84	54.38	270.60	52.53	275.52	53.15	282.90	53.77	
24	199.26	47.59	211.56	48.82	236.16	51.29	246.00	51.29	255.84	54.38	270.60	53.15	275.52	53.77	280.44	54.38	
25	196.80	47.59	211.56	49.44	236.16	51.29	246.00	51.91	255.84	55.00	270.60	53.77	275.52	54.38	280.44	55.00	
26	196.80	48.20	211.56	50.06	236.16	51.91	246.00	52.53	255.84	55.62	270.60	54.38	275.52	55.00	280.44	55.62	
28	196.80	49.44	211.56	51.29	236.16	53.77	246.00	54.38	255.84	56.24	270.60	56.24	275.52	56.86	280.44	57.47	
30	196.80	51.29	211.56	53.15	236.16	55.00	246.00	55.62	255.84	56.86	270.60	57.47	275.52	58.09	280.44	58.71	
32	196.80	53.77	211.56	55.62	236.16	57.47	246.00	58.09	255.84	59.95	270.60	59.95	275.52	60.56	280.44	61.18	
34	196.80	56.24	211.56	58.09	236.16	59.95	246.00	60.56	255.84	61.80	270.60	62.42	275.52	63.04	280.44	63.65	
35	196.80	57.47	211.56	59.33	236.16	61.18	246.00	61.80	255.84	63.04	270.60	63.65	275.52	64.27	280.44	64.89	
36	196.80	58.71	209.10	60.56	233.70	62.42	243.54	63.04	253.38	63.65	265.68	62.42	270.60	62.42	275.52	61.80	
38	191.88	61.80	206.64	63.65	226.32	64.89	233.70	65.51	241.08	66.13	250.92	58.71	255.84	57.47	260.76	56.86	
40	189.42	64.89	201.72	66.74	218.94	63.04	223.86	61.18	226.32	59.33	231.24	55.62	233.70	53.15	238.62	52.53	
43	174.66	51.29	182.04	49.44	189.42	47.59	196.80	46.35	199.26	43.26	201.72	43.26	204.18	41.41	209.10	40.79	
46	123.00	33.37	132.84	33.37	137.76	32.75	145.14	32.75	145.14	30.90	147.60	30.90	150.06	30.28	154.98	32.14	
48	61.50	21.01	61.50	22.25	63.96	22.87	66.42	23.48	68.88	23.48	71.34	24.10	71.34	24.10	76.26	24.10	

2. Heating

RAS-8.0HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		13.75	4.97	13.75	5.22	13.75	5.42	13.75	5.62	13.75	5.72	13.75	5.91
-17		15.25	5.02	15.25	5.27	15.25	5.47	15.25	5.67	15.25	5.77	15.25	5.96
-15		16.25	5.02	16.25	5.32	16.25	5.52	16.25	5.67	16.25	5.77	16.25	6.01
-13		17.25	5.02	17.25	5.32	17.25	5.52	17.25	5.67	17.25	5.77	17.25	6.01
-11		18.50	5.02	18.50	5.32	18.50	5.52	18.50	5.67	18.50	5.77	18.50	6.01
-10		19.00	5.02	19.00	5.32	19.00	5.52	19.00	5.67	19.00	5.77	19.00	6.01
-9		19.50	5.02	19.50	5.32	19.50	5.52	19.50	5.67	19.50	5.77	19.50	6.01
-7		20.75	5.02	20.50	5.32	20.50	5.52	20.50	5.67	20.50	5.77	20.50	6.01
-6		21.50	5.02	21.25	5.32	21.25	5.52	21.25	5.67	21.25	5.77	21.00	6.01
-5		22.00	5.02	21.75	5.32	21.75	5.52	21.75	5.67	21.75	5.77	21.50	6.01
-3		22.75	4.97	22.50	5.22	22.50	5.42	22.50	5.57	22.25	5.67	22.00	5.72
-1		23.25	4.92	23.25	5.12	23.25	5.32	23.25	5.42	23.00	5.52	22.00	5.42
0		23.50	4.87	23.50	5.07	23.50	5.27	23.50	5.37	23.25	5.47	22.00	5.27
1		24.00	4.87	24.00	5.07	24.00	5.22	23.75	5.27	23.50	5.32	22.00	5.10
3		24.75	4.92	24.50	5.12	24.25	5.17	24.00	5.12	23.75	5.07	22.00	4.76
5		25.00	4.92	24.75	5.12	24.50	5.07	24.25	4.92	23.75	4.72	22.00	4.37
6		26.25	4.92	25.75	5.12	25.00	4.97	24.50	4.82	23.75	4.62	22.00	4.27
7		26.50	4.92	26.00	5.07	25.25	4.87	24.75	4.72	23.75	4.57	22.00	4.17
9		27.25	4.92	26.50	4.97	25.50	4.72	24.75	4.62	23.75	4.42	22.00	4.03
10		27.50	4.92	26.75	4.92	25.50	4.67	24.75	4.52	23.75	4.32	22.00	3.98
11		27.75	4.92	27.00	4.87	25.50	4.62	24.75	4.47	23.75	4.27	22.00	3.93
14		28.25	4.87	27.00	4.67	25.50	4.37	24.75	4.22	23.75	4.08	22.00	3.73
15		28.25	4.87	27.00	4.62	25.50	4.32	24.75	4.17	23.75	4.03	22.00	3.68
RAS-10HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		17.33	6.36	17.33	6.68	17.33	6.93	17.33	7.12	17.33	7.25	17.33	7.57
-17		19.22	6.42	19.22	6.74	19.22	7.00	19.22	7.25	19.22	7.38	19.22	7.63
-15		20.48	6.42	20.48	6.81	20.48	7.06	20.48	7.25	20.48	7.44	20.48	7.70
-13		21.74	6.42	21.74	6.81	21.74	7.06	21.74	7.25	21.74	7.38	21.74	7.70
-11		23.00	6.42	23.00	6.81	23.00	7.06	23.00	7.25	23.00	7.38	23.00	7.70
-10		23.63	6.42	23.63	6.81	23.63	7.06	23.63	7.25	23.63	7.44	23.63	7.70
-9		24.57	6.42	24.57	6.81	24.57	7.06	24.57	7.25	24.57	7.38	24.26	7.70
-7		26.15	6.42	25.83	6.81	25.83	7.06	25.83	7.25	25.83	7.38	25.83	7.70
-6		26.78	6.42	26.78	6.81	26.78	7.06	26.78	7.25	26.78	7.38	26.46	7.70
-5		27.72	6.42	27.41	6.81	27.41	7.06	27.41	7.25	27.41	7.44	27.09	7.70
-3		28.35	6.36	28.35	6.68	28.35	6.93	28.35	7.12	28.04	7.25	27.41	7.31
-1		29.30	6.30	29.30	6.55	29.30	6.81	29.30	6.93	28.98	7.06	27.72	6.93
0		29.61	6.23	29.61	6.49	29.61	6.74	29.61	6.87	29.30	7.00	27.72	6.74
1		30.24	6.23	30.24	6.49	30.24	6.68	29.93	6.74	29.61	6.81	27.72	6.55
3		31.19	6.30	30.87	6.55	30.56	6.61	30.24	6.55	29.77	6.49	27.72	6.11
5		31.50	6.30	31.19	6.55	30.87	6.49	30.56	6.30	29.93	6.04	27.72	5.60
6		33.08	6.30	32.45	6.55	31.19	6.36	30.87	6.17	29.93	5.91	27.72	5.47
7		33.39	6.30	32.76	6.49	31.50	6.23	31.19	6.11	29.93	5.85	27.72	5.34
9		34.34	6.30	33.39	6.36	31.82	6.04	31.19	5.91	29.93	5.66	27.72	5.22
10		34.65	6.30	33.71	6.30	32.13	5.98	31.19	5.79	29.93	5.53	27.72	5.09
11		34.97	6.30	34.02	6.23	32.13	5.91	31.19	5.72	29.93	5.47	27.72	5.02
14		35.28	6.23	34.02	5.98	32.13	5.60	31.19	5.41	29.93	5.22	27.72	4.77
15		35.60	6.23	34.02	5.91	32.13	5.53	31.19	5.34	29.93	5.15	27.72	4.71

RAS-12HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		18.00	6.60	18.00	6.90	18.00	7.35	18.00	7.43	18.00	7.65	18.00	7.88
-17		20.25	6.68	20.25	6.98	20.25	7.43	20.25	7.50	20.25	7.73	20.25	7.95
-15		21.38	6.75	21.38	7.05	21.38	7.43	21.38	7.58	21.38	7.80	21.38	8.03
-13		22.88	6.75	22.88	7.05	22.88	7.43	22.88	7.58	22.88	7.80	22.88	8.03
-11		24.38	6.75	24.38	7.05	24.38	7.43	24.38	7.58	24.38	7.80	24.38	8.03
-10		25.13	6.75	25.13	7.05	25.13	7.43	25.13	7.58	25.13	7.80	25.13	8.03
-9		26.25	6.75	26.25	7.05	26.25	7.43	26.25	7.58	26.25	7.80	26.25	8.03
-7		27.75	6.75	27.75	7.05	27.75	7.43	27.75	7.58	27.75	7.80	27.75	8.03
-6		28.88	6.75	28.88	7.05	28.88	7.43	28.50	7.58	28.50	7.80	28.50	8.03
-5		29.63	6.75	29.63	7.05	29.63	7.43	29.25	7.58	29.25	7.80	29.25	8.03
-3		31.13	6.83	31.13	7.05	31.13	7.50	30.75	7.65	30.75	7.88	30.38	7.95
-1		32.63	6.83	32.63	7.13	32.63	7.58	32.25	7.73	31.88	7.88	31.50	7.95
0		33.00	6.90	33.00	7.20	33.00	7.58	33.00	7.80	32.63	7.95	31.88	7.95
1		34.13	6.98	34.13	7.28	34.13	7.65	34.13	7.80	33.75	7.80	32.63	7.73
3		36.38	6.98	36.38	7.43	36.38	7.73	36.00	7.73	35.63	7.65	33.00	7.28
5		36.75	6.98	36.75	7.35	36.75	7.58	36.38	7.50	35.63	7.20	33.00	6.60
6		38.25	6.98	38.25	7.28	37.50	7.50	36.75	7.28	35.63	6.98	33.00	6.38
7		39.00	6.98	38.63	7.28	37.88	7.35	37.13	7.13	35.63	6.83	33.00	6.30
9		40.13	7.05	39.38	7.28	38.25	7.05	37.13	6.83	35.63	6.60	33.00	6.08
10		40.50	7.05	39.75	7.28	38.25	6.90	37.13	6.68	35.63	6.45	33.00	5.93
11		40.88	7.05	40.13	7.20	38.25	6.83	37.13	6.60	35.63	6.38	33.00	5.85
14		42.00	7.20	40.50	6.90	38.25	6.45	37.13	6.23	35.63	6.00	33.00	5.48
15		42.38	7.20	40.50	6.83	38.25	6.38	37.13	6.15	35.63	5.93	33.00	5.40

RAS-14HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		21.60	8.05	21.60	8.50	21.60	8.86	21.60	9.04	21.60	9.31	21.60	9.85
-17		23.85	8.14	23.85	8.59	23.85	8.95	23.85	9.13	23.85	9.40	23.85	9.94
-15		25.65	8.23	25.65	8.59	25.65	9.04	25.65	9.22	25.65	9.49	25.65	9.94
-13		27.45	8.32	27.45	8.59	27.45	9.13	27.45	9.22	27.45	9.49	27.45	9.94
-11		29.70	8.32	29.70	8.68	29.70	9.13	29.70	9.31	29.70	9.49	29.70	10.03
-10		30.60	8.32	30.60	8.68	30.60	9.13	30.60	9.31	30.60	9.58	30.60	10.03
-9		31.05	8.32	31.05	8.68	31.05	9.13	31.05	9.31	31.05	9.58	31.05	10.03
-7		33.30	8.32	33.30	8.68	33.30	9.13	32.85	9.31	32.85	9.49	32.85	10.03
-6		34.20	8.32	34.20	8.68	34.20	9.13	33.75	9.31	33.75	9.49	33.75	10.03
-5		35.10	8.32	35.10	8.68	35.10	9.13	34.65	9.31	34.65	9.49	34.65	10.03
-3		36.90	8.32	36.90	8.77	36.90	9.13	36.45	9.40	36.45	9.67	36.00	10.03
-1		38.70	8.41	38.70	8.86	38.70	9.22	38.70	9.58	38.25	9.76	37.80	10.03
0		39.60	8.50	39.60	8.86	39.60	9.31	39.60	9.58	39.15	9.76	38.25	9.94
1		40.50	8.50	40.50	8.86	40.50	9.22	40.50	9.49	40.05	9.58	38.70	9.49
3		42.30	8.50	42.30	8.86	42.30	9.13	41.85	9.22	41.40	9.13	39.15	8.68
5		44.10	8.41	44.10	8.86	44.10	9.13	43.65	9.04	42.75	8.68	39.60	7.96
6		45.90	8.41	45.90	8.77	44.55	9.04	44.10	8.77	42.75	8.41	39.60	7.68
7		46.80	8.41	46.35	8.77	45.00	8.86	44.55	8.59	42.75	8.23	39.60	7.50
9		48.15	8.50	47.25	8.77	45.45	8.50	44.55	8.23	42.75	7.86	39.60	7.23
10		48.60	8.50	47.70	8.77	45.90	8.32	44.55	8.05	42.75	7.77	39.60	7.14
11		49.05	8.50	48.15	8.68	45.90	8.23	44.55	7.96	42.75	7.59	39.60	7.05
14		50.40	8.68	48.60	8.32	45.90	7.77	44.55	7.59	42.75	7.23	39.60	6.60
15		50.85	8.68	48.60	8.23	45.90	7.68	44.55	7.41	42.75	7.14	39.60	6.51

RAS-16HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		24.00	9.83	24.00	10.38	24.00	10.82	24.00	11.04	24.00	11.37	24.00	12.03
-17		26.50	9.94	26.50	10.49	26.50	10.93	26.50	11.15	26.50	11.48	26.50	12.14
-15		28.50	10.05	28.50	10.49	28.50	11.04	28.50	11.26	28.50	11.59	28.50	12.14
-13		30.50	10.16	30.50	10.49	30.50	11.15	30.50	11.26	30.50	11.59	30.50	12.14
-11		33.00	10.16	33.00	10.60	33.00	11.15	33.00	11.37	33.00	11.59	33.00	12.25
-10		34.00	10.16	34.00	10.60	34.00	11.15	34.00	11.37	34.00	11.70	34.00	12.25
-9		34.50	10.16	34.50	10.60	34.50	11.15	34.50	11.37	34.50	11.70	34.50	12.25
-7		37.00	10.16	37.00	10.60	37.00	11.15	36.50	11.37	36.50	11.59	36.50	12.25
-6		38.00	10.16	38.00	10.60	38.00	11.15	37.50	11.37	37.50	11.59	37.50	12.25
-5		39.00	10.16	39.00	10.60	39.00	11.15	38.50	11.37	38.50	11.59	38.50	12.25
-3		41.00	10.16	41.00	10.71	41.00	11.15	40.50	11.48	40.50	11.81	40.00	12.25
-1		43.00	10.27	43.00	10.82	43.00	11.26	43.00	11.70	42.50	11.92	42.00	12.25
0		44.00	10.38	44.00	10.82	44.00	11.37	44.00	11.70	43.50	11.92	42.50	12.14
1		45.00	10.38	45.00	10.82	45.00	11.26	45.00	11.59	44.50	11.70	43.00	11.59
3		47.00	10.38	47.00	10.82	47.00	11.15	46.50	11.26	46.00	11.15	43.50	10.60
5		49.00	10.27	49.00	10.82	49.00	11.15	48.50	11.04	47.50	10.60	44.00	9.72
6		51.00	10.27	51.00	10.71	49.50	11.04	49.00	10.71	47.50	10.27	44.00	9.38
7		52.00	10.27	51.50	10.71	50.00	10.82	49.50	10.49	47.50	10.05	44.00	9.16
9		53.50	10.38	52.50	10.71	50.50	10.38	49.50	10.05	47.50	9.60	44.00	8.83
10		54.00	10.38	53.00	10.71	51.00	10.16	49.50	9.83	47.50	9.49	44.00	8.72
11		54.50	10.38	53.50	10.60	51.00	10.05	49.50	9.72	47.50	9.27	44.00	8.61
14		56.00	10.60	54.00	10.16	51.00	9.49	49.50	9.27	47.50	8.83	44.00	8.06
15		56.50	10.60	54.00	10.05	51.00	9.38	49.50	9.05	47.50	8.72	44.00	7.95
RAS-18HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		26.88	10.81	26.88	11.30	26.88	11.91	26.88	12.15	26.88	12.64	26.88	13.00
-17		30.24	10.94	30.24	11.42	30.24	12.03	30.24	12.27	30.24	12.76	30.24	13.12
-15		31.92	11.06	31.92	11.54	31.92	12.15	31.92	12.39	31.92	12.76	31.92	13.12
-13		34.16	11.06	34.16	11.54	34.16	12.15	34.16	12.39	34.16	12.76	34.16	13.12
-11		36.96	11.06	36.96	11.54	36.96	12.15	36.96	12.39	36.96	12.76	36.96	13.12
-10		38.08	11.06	38.08	11.54	38.08	12.15	38.08	12.39	38.08	12.76	38.08	13.12
-9		39.76	11.06	39.76	11.54	39.76	12.15	39.76	12.39	39.76	12.76	39.76	13.12
-7		42.56	11.06	42.56	11.54	42.56	12.15	42.00	12.39	42.00	12.76	42.00	13.12
-6		43.68	11.06	43.68	11.54	43.68	12.15	43.12	12.39	43.12	12.76	43.12	13.12
-5		44.80	11.06	44.80	11.54	44.80	12.15	44.24	12.39	44.24	12.76	44.24	13.12
-3		46.48	11.18	46.48	11.54	46.48	12.27	46.48	12.64	45.92	12.88	45.36	13.24
-1		48.72	11.18	48.72	11.66	48.72	12.39	48.72	12.76	48.16	13.00	47.60	13.12
0		49.84	11.18	49.84	11.79	49.84	12.39	49.84	12.76	49.28	13.00	48.16	13.12
1		53.76	11.30	53.76	11.79	53.76	12.51	53.76	12.88	52.64	13.12	49.28	13.00
3		54.32	11.30	54.32	12.15	54.32	12.64	54.32	12.88	53.20	12.76	49.28	12.27
5		54.88	11.30	54.88	11.91	54.88	12.27	54.88	12.15	53.20	11.66	49.28	10.69
6		57.12	11.30	57.12	11.79	55.44	12.15	55.44	11.79	53.20	11.30	49.28	10.33
7		58.24	11.30	57.68	11.79	56.00	11.91	55.44	11.54	53.20	11.18	49.28	10.08
9		59.92	11.42	58.80	11.79	57.12	11.42	55.44	11.06	53.20	10.69	49.28	9.72
10		60.48	11.42	59.36	11.79	57.12	11.18	55.44	10.81	53.20	10.45	49.28	9.60
11		61.04	11.42	59.92	11.66	57.12	11.06	55.44	10.69	53.20	10.21	49.28	9.36
14		62.72	11.66	60.48	11.18	57.12	10.45	55.44	10.08	53.20	9.72	49.28	8.87
15		63.28	11.66	60.48	11.06	57.12	10.33	55.44	9.96	53.20	9.60	49.28	8.75

RAS-20HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		28.35	12.99	28.35	13.60	28.35	14.20	28.35	14.51	28.35	15.11	28.35	15.56
-17		31.50	12.99	31.50	13.75	31.50	14.35	31.50	14.66	31.50	15.26	31.50	15.56
-15		34.02	13.15	34.02	13.75	34.02	14.51	34.02	14.81	34.02	15.26	34.02	15.71
-13		35.91	13.15	35.91	13.75	35.91	14.51	35.91	14.81	35.91	15.26	35.91	15.71
-11		39.06	13.15	39.06	13.75	39.06	14.51	39.06	14.81	39.06	15.26	39.06	15.71
-10		40.32	13.15	40.32	13.75	40.32	14.51	40.32	14.81	40.32	15.26	40.32	15.71
-9		42.21	13.15	42.21	13.75	42.21	14.51	42.21	14.81	42.21	15.26	42.21	15.71
-7		44.73	13.15	44.73	13.75	44.73	14.51	44.10	14.81	44.10	15.26	44.10	15.71
-6		45.99	13.15	45.99	13.75	45.99	14.51	45.36	14.81	45.36	15.26	45.36	15.71
-5		47.25	13.15	47.25	13.75	47.25	14.51	46.62	14.81	46.62	15.26	46.62	15.71
-3		49.14	13.30	49.14	13.90	49.14	14.66	48.51	14.96	48.51	15.41	47.88	15.71
-1		51.66	13.45	51.66	13.90	51.66	14.81	51.66	15.26	51.03	15.56	49.77	15.71
0		52.92	13.45	52.92	14.05	52.92	14.81	52.92	15.26	52.29	15.56	51.03	15.71
1		56.70	13.60	56.70	14.05	56.70	14.96	56.70	15.26	56.07	15.56	54.18	15.41
3		59.22	13.90	59.22	14.51	59.22	15.11	58.59	15.41	57.96	15.26	54.81	14.66
5		61.74	14.05	61.74	14.81	61.74	15.26	61.11	15.11	59.85	14.51	55.44	13.30
6		64.26	14.05	64.26	14.66	62.37	15.11	61.74	14.66	59.85	14.05	55.44	12.84
7		65.52	14.05	64.89	14.66	63.00	14.81	62.37	14.35	59.85	13.90	55.44	12.54
9		67.41	14.20	66.15	14.66	64.26	14.20	62.37	13.75	59.85	13.30	55.44	12.09
10		68.04	14.20	66.78	14.66	64.26	13.90	62.37	13.45	59.85	12.99	55.44	11.94
11		68.67	14.20	67.41	14.51	64.26	13.75	62.37	13.30	59.85	12.69	55.44	11.63
14		70.56	14.51	68.04	13.90	64.26	12.99	62.37	12.54	59.85	12.09	55.44	11.03
15		71.19	14.51	68.04	13.75	64.26	12.84	62.37	12.39	59.85	11.94	55.44	10.88
RAS-22HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		31.05	14.47	31.05	15.15	31.05	15.82	31.05	16.33	31.05	16.83	31.05	17.33
-17		35.19	14.64	35.19	15.15	35.19	15.99	35.19	16.49	34.50	17.00	34.50	17.33
-15		37.26	14.64	37.26	15.32	37.26	16.16	37.26	16.49	37.26	17.00	37.26	17.50
-13		39.33	14.64	39.33	15.32	39.33	16.16	39.33	16.49	39.33	17.00	39.33	17.50
-11		42.78	14.64	42.78	15.32	42.78	16.16	42.78	16.49	42.78	17.00	42.78	17.50
-10		44.16	14.64	44.16	15.32	44.16	16.16	44.16	16.49	44.16	17.00	44.16	17.50
-9		46.23	14.64	46.23	15.32	46.23	16.16	46.23	16.49	46.23	17.00	46.23	17.50
-7		48.99	14.64	48.99	15.32	48.99	16.16	48.30	16.49	48.30	17.00	48.30	17.50
-6		50.37	14.64	50.37	15.32	50.37	16.16	49.68	16.49	49.68	17.00	49.68	17.50
-5		51.75	14.64	51.75	15.32	51.75	16.16	51.06	16.49	51.06	17.00	51.06	17.50
-3		53.82	14.81	53.82	15.32	53.82	16.33	53.82	16.83	53.13	17.17	52.44	17.50
-1		56.58	14.98	56.58	15.48	56.58	16.49	56.58	17.00	55.89	17.33	54.51	17.50
0		57.96	14.98	57.96	15.65	57.96	16.49	57.96	17.00	57.27	17.33	55.89	17.50
1		62.10	14.98	62.10	15.82	62.10	16.66	62.10	17.00	61.41	17.33	59.34	17.17
3		64.86	15.32	64.86	16.16	64.86	16.83	64.17	17.17	63.48	17.00	60.03	16.33
5		67.62	15.65	67.62	16.49	67.62	17.00	66.93	16.83	65.55	16.16	60.72	14.81
6		70.38	15.65	70.38	16.33	69.00	16.83	67.62	16.33	65.55	15.65	60.72	14.31
7		71.76	15.65	71.07	16.33	69.00	16.33	67.62	15.99	65.55	15.48	60.72	13.97
9		73.83	15.82	72.45	16.33	70.38	15.65	68.31	15.32	65.55	14.81	60.72	13.46
10		74.52	15.82	73.14	16.33	70.38	15.48	68.31	14.98	65.55	14.47	60.72	13.30
11		75.21	15.82	73.83	15.99	70.38	15.32	68.31	14.81	65.55	14.31	60.72	12.96
14		77.28	16.16	74.52	15.48	70.38	14.64	68.31	13.97	65.55	13.46	60.72	12.29
15		77.97	16.16	74.52	15.32	70.38	14.31	68.31	13.80	65.55	13.30	60.72	12.12

RAS-24HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20	36.00	13.20	36.00	13.80	36.00	14.70	36.00	14.85	36.00	15.30	36.00	15.75	
-17	40.50	13.35	40.50	13.95	40.50	14.85	40.50	15.00	40.50	15.45	40.50	15.90	
-15	42.75	13.50	42.75	14.10	42.75	14.85	42.75	15.15	42.75	15.60	42.75	16.05	
-13	45.75	13.50	45.75	14.10	45.75	14.85	45.75	15.15	45.75	15.60	45.75	16.05	
-11	48.75	13.50	48.75	14.10	48.75	14.85	48.75	15.15	48.75	15.60	48.75	16.05	
-10	50.25	13.50	50.25	14.10	50.25	14.85	50.25	15.15	50.25	15.60	50.25	16.05	
-9	52.50	13.50	52.50	14.10	52.50	14.85	52.50	15.15	52.50	15.60	52.50	16.05	
-7	55.50	13.50	55.50	14.10	55.50	14.85	55.50	15.15	55.50	15.60	55.50	16.05	
-6	57.75	13.50	57.75	14.10	57.75	14.85	57.00	15.15	57.00	15.60	57.00	16.05	
-5	59.25	13.50	59.25	14.10	59.25	14.85	58.50	15.15	58.50	15.60	58.50	16.05	
-3	62.25	13.65	62.25	14.10	62.25	15.00	61.50	15.30	61.50	15.75	60.75	15.90	
-1	65.25	13.65	65.25	14.25	65.25	15.15	64.50	15.45	63.75	15.75	63.00	15.90	
0	66.00	13.80	66.00	14.40	66.00	15.15	66.00	15.60	65.25	15.90	63.75	15.90	
1	68.25	13.95	68.25	14.55	68.25	15.30	68.25	15.60	67.50	15.60	65.25	15.45	
3	72.75	13.95	72.75	14.85	72.75	15.45	72.00	15.45	71.25	15.30	66.00	14.55	
5	73.50	13.95	73.50	14.70	73.50	15.15	72.75	15.00	71.25	14.40	66.00	13.20	
6	76.50	13.95	76.50	14.55	75.00	15.00	73.50	14.55	71.25	13.95	66.00	12.75	
7	78.00	13.95	77.25	14.55	75.75	14.70	74.25	14.25	71.25	13.65	66.00	12.60	
9	80.25	14.10	78.75	14.55	76.50	14.10	74.25	13.65	71.25	13.20	66.00	12.15	
10	81.00	14.10	79.50	14.55	76.50	13.80	74.25	13.35	71.25	12.90	66.00	11.85	
11	81.75	14.10	80.25	14.40	76.50	13.65	74.25	13.20	71.25	12.75	66.00	11.70	
14	84.00	14.40	81.00	13.80	76.50	12.90	74.25	12.45	71.25	12.00	66.00	10.95	
15	84.75	14.40	81.00	13.65	76.50	12.75	74.25	12.30	71.25	11.85	66.00	10.80	
RAS-26HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20	39.60	14.72	39.60	15.55	39.60	16.21	39.60	16.54	39.60	17.04	39.60	18.03	
-17	43.73	14.89	43.73	15.71	43.73	16.37	43.73	16.71	43.73	17.20	43.73	18.19	
-15	47.03	15.05	47.03	15.71	47.03	16.54	47.03	16.87	47.03	17.37	47.03	18.19	
-13	50.33	15.22	50.33	15.71	50.33	16.71	50.33	16.87	50.33	17.37	50.33	18.19	
-11	54.45	15.22	54.45	15.88	54.45	16.71	54.45	17.04	54.45	17.37	54.45	18.36	
-10	56.10	15.22	56.10	15.88	56.10	16.71	56.10	17.04	56.10	17.53	56.10	18.36	
-9	56.93	15.22	56.93	15.88	56.93	16.71	56.93	17.04	56.93	17.53	56.93	18.36	
-7	61.05	15.22	61.05	15.88	61.05	16.71	60.23	17.04	60.23	17.37	60.23	18.36	
-6	62.70	15.22	62.70	15.88	62.70	16.71	61.88	17.04	61.88	17.37	61.88	18.36	
-5	64.35	15.22	64.35	15.88	64.35	16.71	63.53	17.04	63.53	17.37	63.53	18.36	
-3	67.65	15.22	67.65	16.04	67.65	16.71	66.83	17.20	66.83	17.70	66.00	18.36	
-1	70.95	15.38	70.95	16.21	70.95	16.87	70.95	17.53	70.13	17.86	69.30	18.36	
0	72.60	15.55	72.60	16.21	72.60	17.04	72.60	17.53	71.78	17.86	70.13	18.19	
1	74.25	15.55	74.25	16.21	74.25	16.87	74.25	17.37	73.43	17.53	70.95	17.37	
3	77.55	15.55	77.55	16.21	77.55	16.71	76.73	16.87	75.90	16.71	71.78	15.88	
5	80.85	15.38	80.85	16.21	80.85	16.71	80.03	16.54	78.38	15.88	72.60	14.56	
6	84.15	15.38	84.15	16.04	81.68	16.54	80.85	16.04	78.38	15.38	72.60	14.06	
7	85.80	15.38	84.98	16.04	82.50	16.21	81.68	15.71	78.38	15.05	72.60	13.73	
9	88.28	15.55	86.63	16.04	83.33	15.55	81.68	15.05	78.38	14.39	72.60	13.23	
10	89.10	15.55	87.45	16.04	84.15	15.22	81.68	14.72	78.38	14.22	72.60	13.07	
11	89.93	15.55	88.28	15.88	84.15	15.05	81.68	14.56	78.38	13.89	72.60	12.90	
14	92.40	15.88	89.10	15.22	84.15	14.22	81.68	13.89	78.38	13.23	72.60	12.07	
15	93.23	15.88	89.10	15.05	84.15	14.06	81.68	13.56	78.38	13.07	72.60	11.91	

RAS-28HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		43.20	16.09	43.20	17.00	43.20	17.72	43.20	18.08	43.20	18.62	43.20	19.71
-17		47.70	16.27	47.70	17.18	47.70	17.90	47.70	18.26	47.70	18.80	47.70	19.89
-15		51.30	16.45	51.30	17.18	51.30	18.08	51.30	18.44	51.30	18.98	51.30	19.89
-13		54.90	16.63	54.90	17.18	54.90	18.26	54.90	18.44	54.90	18.98	54.90	19.89
-11		59.40	16.63	59.40	17.36	59.40	18.26	59.40	18.62	59.40	18.98	59.40	20.07
-10		61.20	16.63	61.20	17.36	61.20	18.26	61.20	18.62	61.20	19.16	61.20	20.07
-9		62.10	16.63	62.10	17.36	62.10	18.26	62.10	18.62	62.10	19.16	62.10	20.07
-7		66.60	16.63	66.60	17.36	66.60	18.26	65.70	18.62	65.70	18.98	65.70	20.07
-6		68.40	16.63	68.40	17.36	68.40	18.26	67.50	18.62	67.50	18.98	67.50	20.07
-5		70.20	16.63	70.20	17.36	70.20	18.26	69.30	18.62	69.30	18.98	69.30	20.07
-3		73.80	16.63	73.80	17.54	73.80	18.26	72.90	18.80	72.90	19.35	72.00	20.07
-1		77.40	16.81	77.40	17.72	77.40	18.44	77.40	19.16	76.50	19.53	75.60	20.07
0		79.20	17.00	79.20	17.72	79.20	18.62	79.20	19.16	78.30	19.53	76.50	19.89
1		81.00	17.00	81.00	17.72	81.00	18.44	81.00	18.98	80.10	19.16	77.40	18.98
3		84.60	17.00	84.60	17.72	84.60	18.26	83.70	18.44	82.80	18.26	78.30	17.36
5		88.20	16.81	88.20	17.72	88.20	18.26	87.30	18.08	85.50	17.36	79.20	15.91
6		91.80	16.81	91.80	17.54	89.10	18.08	88.20	17.54	85.50	16.81	79.20	15.37
7		93.60	16.81	92.70	17.54	90.00	17.72	89.10	17.18	85.50	16.45	79.20	15.01
9		96.30	17.00	94.50	17.54	90.90	17.00	89.10	16.45	85.50	15.73	79.20	14.46
10		97.20	17.00	95.40	17.54	91.80	16.63	89.10	16.09	85.50	15.55	79.20	14.28
11		98.10	17.00	96.30	17.36	91.80	16.45	89.10	15.91	85.50	15.19	79.20	14.10
14		100.80	17.36	97.20	16.63	91.80	15.55	89.10	15.19	85.50	14.46	79.20	13.20
15		101.70	17.36	97.20	16.45	91.80	15.37	89.10	14.83	85.50	14.28	79.20	13.02
RAS-30HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		45.60	17.87	45.60	18.88	45.60	19.68	45.60	20.08	45.60	20.68	45.60	21.89
-17		50.35	18.07	50.35	19.08	50.35	19.88	50.35	20.28	50.35	20.88	50.35	22.09
-15		54.15	18.27	54.15	19.08	54.15	20.08	54.15	20.48	54.15	21.08	54.15	22.09
-13		57.95	18.47	57.95	19.08	57.95	20.28	57.95	20.48	57.95	21.08	57.95	22.09
-11		62.70	18.47	62.70	19.28	62.70	20.28	62.70	20.68	62.70	21.08	62.70	22.29
-10		64.60	18.47	64.60	19.28	64.60	20.28	64.60	20.68	64.60	21.28	64.60	22.29
-9		65.55	18.47	65.55	19.28	65.55	20.28	65.55	20.68	65.55	21.28	65.55	22.29
-7		70.30	18.47	70.30	19.28	70.30	20.28	69.35	20.68	69.35	21.08	69.35	22.29
-6		72.20	18.47	72.20	19.28	72.20	20.28	71.25	20.68	71.25	21.08	71.25	22.29
-5		74.10	18.47	74.10	19.28	74.10	20.28	73.15	20.68	73.15	21.08	73.15	22.29
-3		77.90	18.47	77.90	19.48	77.90	20.28	76.95	20.88	76.95	21.49	76.00	22.29
-1		81.70	18.67	81.70	19.68	81.70	20.48	81.70	21.28	80.75	21.69	79.80	22.29
0		83.60	18.88	83.60	19.68	83.60	20.68	83.60	21.28	82.65	21.69	80.75	22.09
1		85.50	18.88	85.50	19.68	85.50	20.48	85.50	21.08	84.55	21.28	81.70	21.08
3		89.30	18.88	89.30	19.68	89.30	20.28	88.35	20.48	87.40	20.28	82.65	19.28
5		93.10	18.67	93.10	19.68	93.10	20.28	92.15	20.08	90.25	19.28	83.60	17.67
6		96.90	18.67	96.90	19.48	94.05	20.08	93.10	19.48	90.25	18.67	83.60	17.07
7		98.80	18.67	97.85	19.48	95.00	19.68	94.05	19.08	90.25	18.27	83.60	16.67
9		101.65	18.88	99.75	19.48	95.95	18.88	94.05	18.27	90.25	17.47	83.60	16.06
10		102.60	18.88	100.70	19.48	96.90	18.47	94.05	17.87	90.25	17.27	83.60	15.86
11		103.55	18.88	101.65	19.28	96.90	18.27	94.05	17.67	90.25	16.87	83.60	15.66
14		106.40	19.28	102.60	18.47	96.90	17.27	94.05	16.87	90.25	16.06	83.60	14.66
15		107.35	19.28	102.60	18.27	96.90	17.07	94.05	16.47	90.25	15.86	83.60	14.46

RAS-32HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20	48.00	19.65	48.00	20.76	48.00	21.64	48.00	22.08	48.00	22.74	48.00	24.07	
-17	53.00	19.87	53.00	20.98	53.00	21.86	53.00	22.30	53.00	22.96	53.00	24.29	
-15	57.00	20.09	57.00	20.98	57.00	22.08	57.00	22.52	57.00	23.18	57.00	24.29	
-13	61.00	20.31	61.00	20.98	61.00	22.30	61.00	22.52	61.00	23.18	61.00	24.29	
-11	66.00	20.31	66.00	21.20	66.00	22.30	66.00	22.74	66.00	23.18	66.00	24.51	
-10	68.00	20.31	68.00	21.20	68.00	22.30	68.00	22.74	68.00	23.40	68.00	24.51	
-9	69.00	20.31	69.00	21.20	69.00	22.30	69.00	22.74	69.00	23.40	69.00	24.51	
-7	74.00	20.31	74.00	21.20	74.00	22.30	73.00	22.74	73.00	23.18	73.00	24.51	
-6	76.00	20.31	76.00	21.20	76.00	22.30	75.00	22.74	75.00	23.18	75.00	24.51	
-5	78.00	20.31	78.00	21.20	78.00	22.30	77.00	22.74	77.00	23.18	77.00	24.51	
-3	82.00	20.31	82.00	21.42	82.00	22.30	81.00	22.96	81.00	23.63	80.00	24.51	
-1	86.00	20.53	86.00	21.64	86.00	22.52	86.00	23.40	85.00	23.85	84.00	24.51	
0	88.00	20.76	88.00	21.64	88.00	22.74	88.00	23.40	87.00	23.85	85.00	24.29	
1	90.00	20.76	90.00	21.64	90.00	22.52	90.00	23.18	89.00	23.40	86.00	23.18	
3	94.00	20.76	94.00	21.64	94.00	22.30	93.00	22.52	92.00	22.30	87.00	21.20	
5	98.00	20.53	98.00	21.64	98.00	22.30	97.00	22.08	95.00	21.20	88.00	19.43	
6	102.00	20.53	102.00	21.42	99.00	22.08	98.00	21.42	95.00	20.53	88.00	18.77	
7	104.00	20.53	103.00	21.42	100.00	21.64	99.00	20.98	95.00	20.09	88.00	18.33	
9	107.00	20.76	105.00	21.42	101.00	20.76	99.00	20.09	95.00	19.21	88.00	17.66	
10	108.00	20.76	106.00	21.42	102.00	20.31	99.00	19.65	95.00	18.99	88.00	17.44	
11	109.00	20.76	107.00	21.20	102.00	20.09	99.00	19.43	95.00	18.55	88.00	17.22	
14	112.00	21.20	108.00	20.31	102.00	18.99	99.00	18.55	95.00	17.66	88.00	16.12	
15	113.00	21.20	108.00	20.09	102.00	18.77	99.00	18.11	95.00	17.44	88.00	15.90	
RAS-34HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20	50.88	20.64	50.88	21.57	50.88	22.73	50.88	23.19	50.88	24.12	50.88	24.81	
-17	57.24	20.87	57.24	21.80	57.24	22.96	57.24	23.42	57.24	24.35	57.24	25.05	
-15	60.42	21.10	60.42	22.03	60.42	23.19	60.42	23.65	60.42	24.35	60.42	25.05	
-13	64.66	21.10	64.66	22.03	64.66	23.19	64.66	23.65	64.66	24.35	64.66	25.05	
-11	69.96	21.10	69.96	22.03	69.96	23.19	69.96	23.65	69.96	24.35	69.96	25.05	
-10	72.08	21.10	72.08	22.03	72.08	23.19	72.08	23.65	72.08	24.35	72.08	25.05	
-9	75.26	21.10	75.26	22.03	75.26	23.19	75.26	23.65	75.26	24.35	75.26	25.05	
-7	80.56	21.10	80.56	22.03	80.56	23.19	79.50	23.65	79.50	24.35	79.50	25.05	
-6	82.68	21.10	82.68	22.03	82.68	23.19	81.62	23.65	81.62	24.35	81.62	25.05	
-5	84.80	21.10	84.80	22.03	84.80	23.19	83.74	23.65	83.74	24.35	83.74	25.05	
-3	87.98	21.33	87.98	22.03	87.98	23.42	87.98	24.12	86.92	24.58	85.86	25.28	
-1	92.22	21.33	92.22	22.26	92.22	23.65	92.22	24.35	91.16	24.81	90.10	25.05	
0	94.34	21.33	94.34	22.49	94.34	23.65	94.34	24.35	93.28	24.81	91.16	25.05	
1	101.76	21.57	101.76	22.49	101.76	23.89	101.76	24.58	99.64	25.05	93.28	24.81	
3	102.82	21.57	102.82	23.19	102.82	24.12	102.82	24.58	100.70	24.35	93.28	23.42	
5	103.88	21.57	103.88	22.73	103.88	23.42	103.88	23.19	100.70	22.26	93.28	20.41	
6	108.12	21.57	108.12	22.49	104.94	23.19	104.94	22.49	100.70	21.57	93.28	19.71	
7	110.24	21.57	109.18	22.49	106.00	22.73	104.94	22.03	100.70	21.33	93.28	19.25	
9	113.42	21.80	111.30	22.49	108.12	21.80	104.94	21.10	100.70	20.41	93.28	18.55	
10	114.48	21.80	112.36	22.49	108.12	21.33	104.94	20.64	100.70	19.94	93.28	18.32	
11	115.54	21.80	113.42	22.26	108.12	21.10	104.94	20.41	100.70	19.48	93.28	17.86	
14	118.72	22.26	114.48	21.33	108.12	19.94	104.94	19.25	100.70	18.55	93.28	16.93	
15	119.78	22.26	114.48	21.10	108.12	19.71	104.94	19.02	100.70	18.32	93.28	16.70	

RAS-36HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		53.76	21.63	53.76	22.60	53.76	23.81	53.76	24.30	53.76	25.27	53.76	26.00
-17		60.48	21.87	60.48	22.84	60.48	24.06	60.48	24.54	60.48	25.52	60.48	26.24
-15		63.84	22.11	63.84	23.09	63.84	24.30	63.84	24.79	63.84	25.52	63.84	26.24
-13		68.32	22.11	68.32	23.09	68.32	24.30	68.32	24.79	68.32	25.52	68.32	26.24
-11		73.92	22.11	73.92	23.09	73.92	24.30	73.92	24.79	73.92	25.52	73.92	26.24
-10		76.16	22.11	76.16	23.09	76.16	24.30	76.16	24.79	76.16	25.52	76.16	26.24
-9		79.52	22.11	79.52	23.09	79.52	24.30	79.52	24.79	79.52	25.52	79.52	26.24
-7		85.12	22.11	85.12	23.09	85.12	24.30	84.00	24.79	84.00	25.52	84.00	26.24
-6		87.36	22.11	87.36	23.09	87.36	24.30	86.24	24.79	86.24	25.52	86.24	26.24
-5		89.60	22.11	89.60	23.09	89.60	24.30	88.48	24.79	88.48	25.52	88.48	26.24
-3		92.96	22.36	92.96	23.09	92.96	24.54	92.96	25.27	91.84	25.76	90.72	26.49
-1		97.44	22.36	97.44	23.33	97.44	24.79	97.44	25.52	96.32	26.00	95.20	26.24
0		99.68	22.36	99.68	23.57	99.68	24.79	99.68	25.52	98.56	26.00	96.32	26.24
1		107.52	22.60	107.52	23.57	107.52	25.03	107.52	25.76	105.28	26.24	98.56	26.00
3		108.64	22.60	108.64	24.30	108.64	25.27	108.64	25.76	106.40	25.52	98.56	24.54
5		109.76	22.60	109.76	23.81	109.76	24.54	109.76	24.30	106.40	23.33	98.56	21.38
6		114.24	22.60	114.24	23.57	110.88	24.30	110.88	23.57	106.40	22.60	98.56	20.66
7		116.48	22.60	115.36	23.57	112.00	23.81	110.88	23.09	106.40	22.36	98.56	20.17
9		119.84	22.84	117.60	23.57	114.24	22.84	110.88	22.11	106.40	21.38	98.56	19.44
10		120.96	22.84	118.72	23.57	114.24	22.36	110.88	21.63	106.40	20.90	98.56	19.20
11		122.08	22.84	119.84	23.33	114.24	22.11	110.88	21.38	106.40	20.41	98.56	18.71
14		125.44	23.33	120.96	22.36	114.24	20.90	110.88	20.17	106.40	19.44	98.56	17.74
15		126.56	23.33	120.96	22.11	114.24	20.66	110.88	19.93	106.40	19.20	98.56	17.50
RAS-38HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		53.55	23.44	53.55	24.53	53.55	25.62	53.55	26.17	53.55	27.26	53.55	28.08
-17		59.50	23.44	59.50	24.81	59.50	25.90	59.50	26.44	59.50	27.53	59.50	28.08
-15		64.26	23.72	64.26	24.81	64.26	26.17	64.26	26.71	64.26	27.53	64.26	28.35
-13		67.83	23.72	67.83	24.81	67.83	26.17	67.83	26.71	67.83	27.53	67.83	28.35
-11		73.78	23.72	73.78	24.81	73.78	26.17	73.78	26.71	73.78	27.53	73.78	28.35
-10		76.16	23.72	76.16	24.81	76.16	26.17	76.16	26.71	76.16	27.53	76.16	28.35
-9		79.73	23.72	79.73	24.81	79.73	26.17	79.73	26.71	79.73	27.53	79.73	28.35
-7		84.49	23.72	84.49	24.81	84.49	26.17	83.30	26.71	83.30	27.53	83.30	28.35
-6		86.87	23.72	86.87	24.81	86.87	26.17	85.68	26.71	85.68	27.53	85.68	28.35
-5		89.25	23.72	89.25	24.81	89.25	26.17	88.06	26.71	88.06	27.53	88.06	28.35
-3		92.82	23.99	92.82	25.08	92.82	26.44	91.63	26.99	91.63	27.81	90.44	28.35
-1		97.58	24.26	97.58	25.08	97.58	26.71	97.58	27.53	96.39	28.08	94.01	28.35
0		99.96	24.26	99.96	25.35	99.96	26.71	99.96	27.53	98.77	28.08	96.39	28.35
1		107.10	24.53	107.10	25.35	107.10	26.99	107.10	27.53	105.91	28.08	102.34	27.81
3		111.86	25.08	111.86	26.17	111.86	27.26	110.67	27.81	109.48	27.53	103.53	26.44
5		116.62	25.35	116.62	26.71	116.62	27.53	115.43	27.26	113.05	26.17	104.72	23.99
6		121.38	25.35	121.38	26.44	117.81	27.26	116.62	26.44	113.05	25.35	104.72	23.17
7		123.76	25.35	122.57	26.44	119.00	26.71	117.81	25.90	113.05	25.08	104.72	22.63
9		127.33	25.62	124.95	26.44	121.38	25.62	117.81	24.81	113.05	23.99	104.72	21.81
10		128.52	25.62	126.14	26.44	121.38	25.08	117.81	24.26	113.05	23.44	104.72	21.54
11		129.71	25.62	127.33	26.17	121.38	24.81	117.81	23.99	113.05	22.90	104.72	20.99
14		133.28	26.17	128.52	25.08	121.38	23.44	117.81	22.63	113.05	21.81	104.72	19.90
15		134.47	26.17	128.52	24.81	121.38	23.17	117.81	22.35	113.05	21.54	104.72	19.63

RAS-40HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20	56.70	25.99	56.70	27.20	56.70	28.41	56.70	29.01	56.70	30.22	56.70	31.13	
-17	63.00	25.99	63.00	27.50	63.00	28.71	63.00	29.31	63.00	30.52	63.00	31.13	
-15	68.04	26.29	68.04	27.50	68.04	29.01	68.04	29.62	68.04	30.52	68.04	31.43	
-13	71.82	26.29	71.82	27.50	71.82	29.01	71.82	29.62	71.82	30.52	71.82	31.43	
-11	78.12	26.29	78.12	27.50	78.12	29.01	78.12	29.62	78.12	30.52	78.12	31.43	
-10	80.64	26.29	80.64	27.50	80.64	29.01	80.64	29.62	80.64	30.52	80.64	31.43	
-9	84.42	26.29	84.42	27.50	84.42	29.01	84.42	29.62	84.42	30.52	84.42	31.43	
-7	89.46	26.29	89.46	27.50	89.46	29.01	88.20	29.62	88.20	30.52	88.20	31.43	
-6	91.98	26.29	91.98	27.50	91.98	29.01	90.72	29.62	90.72	30.52	90.72	31.43	
-5	94.50	26.29	94.50	27.50	94.50	29.01	93.24	29.62	93.24	30.52	93.24	31.43	
-3	98.28	26.59	98.28	27.80	98.28	29.31	97.02	29.92	97.02	30.82	95.76	31.43	
-1	103.32	26.90	103.32	27.80	103.32	29.62	103.32	30.52	102.06	31.13	99.54	31.43	
0	105.84	26.90	105.84	28.10	105.84	29.62	105.84	30.52	104.58	31.13	102.06	31.43	
1	113.40	27.20	113.40	28.10	113.40	29.92	113.40	30.52	112.14	31.13	108.36	30.82	
3	118.44	27.80	118.44	29.01	118.44	30.22	117.18	30.82	115.92	30.52	109.62	29.31	
5	123.48	28.10	123.48	29.62	123.48	30.52	122.22	30.22	119.70	29.01	110.88	26.59	
6	128.52	28.10	128.52	29.31	124.74	30.22	123.48	29.31	119.70	28.10	110.88	25.69	
7	131.04	28.10	129.78	29.31	126.00	29.62	124.74	28.71	119.70	27.80	110.88	25.08	
9	134.82	28.41	132.30	29.31	128.52	28.41	124.74	27.50	119.70	26.59	110.88	24.18	
10	136.08	28.41	133.56	29.31	128.52	27.80	124.74	26.90	119.70	25.99	110.88	23.87	
11	137.34	28.41	134.82	29.01	128.52	27.50	124.74	26.59	119.70	25.38	110.88	23.27	
14	141.12	29.01	136.08	27.80	128.52	25.99	124.74	25.08	119.70	24.18	110.88	22.06	
15	142.38	29.01	136.08	27.50	128.52	25.69	124.74	24.78	119.70	23.87	110.88	21.76	
RAS-42HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20	64.80	24.14	64.80	25.49	64.80	26.58	64.80	27.12	64.80	27.93	64.80	29.56	
-17	71.55	24.41	71.55	25.76	71.55	26.85	71.55	27.39	71.55	28.20	71.55	29.83	
-15	76.95	24.68	76.95	25.76	76.95	27.12	76.95	27.66	76.95	28.48	76.95	29.83	
-13	82.35	24.95	82.35	25.76	82.35	27.39	82.35	27.66	82.35	28.48	82.35	29.83	
-11	89.10	24.95	89.10	26.04	89.10	27.39	89.10	27.93	89.10	28.48	89.10	30.10	
-10	91.80	24.95	91.80	26.04	91.80	27.39	91.80	27.93	91.80	28.75	91.80	30.10	
-9	93.15	24.95	93.15	26.04	93.15	27.39	93.15	27.93	93.15	28.75	93.15	30.10	
-7	99.90	24.95	99.90	26.04	99.90	27.39	98.55	27.93	98.55	28.48	98.55	30.10	
-6	102.60	24.95	102.60	26.04	102.60	27.39	101.25	27.93	101.25	28.48	101.25	30.10	
-5	105.30	24.95	105.30	26.04	105.30	27.39	103.95	27.93	103.95	28.48	103.95	30.10	
-3	110.70	24.95	110.70	26.31	110.70	27.39	109.35	28.20	109.35	29.02	108.00	30.10	
-1	116.10	25.22	116.10	26.58	116.10	27.66	116.10	28.75	114.75	29.29	113.40	30.10	
0	118.80	25.49	118.80	26.58	118.80	27.93	118.80	28.75	117.45	29.29	114.75	29.83	
1	121.50	25.49	121.50	26.58	121.50	27.66	121.50	28.48	120.15	28.75	116.10	28.48	
3	126.90	25.49	126.90	26.58	126.90	27.39	125.55	27.66	124.20	27.39	117.45	26.04	
5	132.30	25.22	132.30	26.58	132.30	27.39	130.95	27.12	128.25	26.04	118.80	23.87	
6	137.70	25.22	137.70	26.31	133.65	27.12	132.30	26.31	128.25	25.22	118.80	23.05	
7	140.40	25.22	139.05	26.31	135.00	26.58	133.65	25.76	128.25	24.68	118.80	22.51	
9	144.45	25.49	141.75	26.31	136.35	25.49	133.65	24.68	128.25	23.59	118.80	21.70	
10	145.80	25.49	143.10	26.31	137.70	24.95	133.65	24.14	128.25	23.32	118.80	21.42	
11	147.15	25.49	144.45	26.04	137.70	24.68	133.65	23.87	128.25	22.78	118.80	21.15	
14	151.20	26.04	145.80	24.95	137.70	23.32	133.65	22.78	128.25	21.70	118.80	19.80	
15	152.55	26.04	145.80	24.68	137.70	23.05	133.65	22.24	128.25	21.42	118.80	19.53	

RAS-44HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		67.20	25.92	67.20	27.37	67.20	28.54	67.20	29.12	67.20	29.99	67.20	31.74
-17		74.20	26.21	74.20	27.66	74.20	28.83	74.20	29.41	74.20	30.28	74.20	32.03
-15		79.80	26.50	79.80	27.66	79.80	29.12	79.80	29.70	79.80	30.58	79.80	32.03
-13		85.40	26.79	85.40	27.66	85.40	29.41	85.40	29.70	85.40	30.58	85.40	32.03
-11		92.40	26.79	92.40	27.96	92.40	29.41	92.40	29.99	92.40	30.58	92.40	32.32
-10		95.20	26.79	95.20	27.96	95.20	29.41	95.20	29.99	95.20	30.87	95.20	32.32
-9		96.60	26.79	96.60	27.96	96.60	29.41	96.60	29.99	96.60	30.87	96.60	32.32
-7		103.60	26.79	103.60	27.96	103.60	29.41	102.20	29.99	102.20	30.58	102.20	32.32
-6		106.40	26.79	106.40	27.96	106.40	29.41	105.00	29.99	105.00	30.58	105.00	32.32
-5		109.20	26.79	109.20	27.96	109.20	29.41	107.80	29.99	107.80	30.58	107.80	32.32
-3		114.80	26.79	114.80	28.25	114.80	29.41	113.40	30.28	113.40	31.16	112.00	32.32
-1		120.40	27.08	120.40	28.54	120.40	29.70	120.40	30.87	119.00	31.45	117.60	32.32
0		123.20	27.37	123.20	28.54	123.20	29.99	123.20	30.87	121.80	31.45	119.00	32.03
1		126.00	27.37	126.00	28.54	126.00	29.70	126.00	30.58	124.60	30.87	120.40	30.58
3		131.60	27.37	131.60	28.54	131.60	29.41	130.20	29.70	128.80	29.41	121.80	27.96
5		137.20	27.08	137.20	28.54	137.20	29.41	135.80	29.12	133.00	27.96	123.20	25.63
6		142.80	27.08	142.80	28.25	138.60	29.12	137.20	28.25	133.00	27.08	123.20	24.75
7		145.60	27.08	144.20	28.25	140.00	28.54	138.60	27.66	133.00	26.50	123.20	24.17
9		149.80	27.37	147.00	28.25	141.40	27.37	138.60	26.50	133.00	25.33	123.20	23.30
10		151.20	27.37	148.40	28.25	142.80	26.79	138.60	25.92	133.00	25.04	123.20	23.00
11		152.60	27.37	149.80	27.96	142.80	26.50	138.60	25.63	133.00	24.46	123.20	22.71
14		156.80	27.96	151.20	26.79	142.80	25.04	138.60	24.46	133.00	23.30	123.20	21.26
15		158.20	27.96	151.20	26.50	142.80	24.75	138.60	23.88	133.00	23.00	123.20	20.97
RAS-46HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		69.60	27.70	69.60	29.25	69.60	30.50	69.60	31.12	69.60	32.05	69.60	33.92
-17		76.85	28.01	76.85	29.56	76.85	30.81	76.85	31.43	76.85	32.36	76.85	34.23
-15		82.65	28.32	82.65	29.56	82.65	31.12	82.65	31.74	82.65	32.68	82.65	34.23
-13		88.45	28.63	88.45	29.56	88.45	31.43	88.45	31.74	88.45	32.68	88.45	34.23
-11		95.70	28.63	95.70	29.88	95.70	31.43	95.70	32.05	95.70	32.68	95.70	34.54
-10		98.60	28.63	98.60	29.88	98.60	31.43	98.60	32.05	98.60	32.99	98.60	34.54
-9		100.05	28.63	100.05	29.88	100.05	31.43	100.05	32.05	100.05	32.99	100.05	34.54
-7		107.30	28.63	107.30	29.88	107.30	31.43	105.85	32.05	105.85	32.68	105.85	34.54
-6		110.20	28.63	110.20	29.88	110.20	31.43	108.75	32.05	108.75	32.68	108.75	34.54
-5		113.10	28.63	113.10	29.88	113.10	31.43	111.65	32.05	111.65	32.68	111.65	34.54
-3		118.90	28.63	118.90	30.19	118.90	31.43	117.45	32.36	117.45	33.30	116.00	34.54
-1		124.70	28.94	124.70	30.50	124.70	31.74	124.70	32.99	123.25	33.61	121.80	34.54
0		127.60	29.25	127.60	30.50	127.60	32.05	127.60	32.99	126.15	33.61	123.25	34.23
1		130.50	29.25	130.50	30.50	130.50	31.74	130.50	32.68	129.05	32.99	124.70	32.68
3		136.30	29.25	136.30	30.50	136.30	31.43	134.85	31.74	133.40	31.43	126.15	29.88
5		142.10	28.94	142.10	30.50	142.10	31.43	140.65	31.12	137.75	29.88	127.60	27.39
6		147.90	28.94	147.90	30.19	143.55	31.12	142.10	30.19	137.75	28.94	127.60	26.45
7		150.80	28.94	149.35	30.19	145.00	30.50	143.55	29.56	137.75	28.32	127.60	25.83
9		155.15	29.25	152.25	30.19	146.45	29.25	143.55	28.32	137.75	27.07	127.60	24.90
10		156.60	29.25	153.70	30.19	147.90	28.63	143.55	27.70	137.75	26.76	127.60	24.58
11		158.05	29.25	155.15	29.88	147.90	28.32	143.55	27.39	137.75	26.14	127.60	24.27
14		162.40	29.88	156.60	28.63	147.90	26.76	143.55	26.14	137.75	24.90	127.60	22.72
15		163.85	29.88	156.60	28.32	147.90	26.45	143.55	25.52	137.75	24.58	127.60	22.41

RAS-48HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		72.00	29.48	72.00	31.13	72.00	32.46	72.00	33.12	72.00	34.11	72.00	36.10
-17		79.50	29.81	79.50	31.46	79.50	32.79	79.50	33.45	79.50	34.44	79.50	36.43
-15		85.50	30.14	85.50	31.46	85.50	33.12	85.50	33.78	85.50	34.78	85.50	36.43
-13		91.50	30.47	91.50	31.46	91.50	33.45	91.50	33.78	91.50	34.78	91.50	36.43
-11		99.00	30.47	99.00	31.80	99.00	33.45	99.00	34.11	99.00	34.78	99.00	36.76
-10		102.00	30.47	102.00	31.80	102.00	33.45	102.00	34.11	102.00	35.11	102.00	36.76
-9		103.50	30.47	103.50	31.80	103.50	33.45	103.50	34.11	103.50	35.11	103.50	36.76
-7		111.00	30.47	111.00	31.80	111.00	33.45	109.50	34.11	109.50	34.78	109.50	36.76
-6		114.00	30.47	114.00	31.80	114.00	33.45	112.50	34.11	112.50	34.78	112.50	36.76
-5		117.00	30.47	117.00	31.80	117.00	33.45	115.50	34.11	115.50	34.78	115.50	36.76
-3		123.00	30.47	123.00	32.13	123.00	33.45	121.50	34.44	121.50	35.44	120.00	36.76
-1		129.00	30.80	129.00	32.46	129.00	33.78	129.00	35.11	127.50	35.77	126.00	36.76
0		132.00	31.13	132.00	32.46	132.00	34.11	132.00	35.11	130.50	35.77	127.50	36.43
1		135.00	31.13	135.00	32.46	135.00	33.78	135.00	34.78	133.50	35.11	129.00	34.78
3		141.00	31.13	141.00	32.46	141.00	33.45	139.50	33.78	138.00	33.45	130.50	31.80
5		147.00	30.80	147.00	32.46	147.00	33.45	145.50	33.12	142.50	31.80	132.00	29.15
6		153.00	30.80	153.00	32.13	148.50	33.12	147.00	32.13	142.50	30.80	132.00	28.15
7		156.00	30.80	154.50	32.13	150.00	32.46	148.50	31.46	142.50	30.14	132.00	27.49
9		160.50	31.13	157.50	32.13	151.50	31.13	148.50	30.14	142.50	28.81	132.00	26.50
10		162.00	31.13	159.00	32.13	153.00	30.47	148.50	29.48	142.50	28.48	132.00	26.16
11		163.50	31.13	160.50	31.80	153.00	30.14	148.50	29.15	142.50	27.82	132.00	25.83
14		168.00	31.80	162.00	30.47	153.00	28.48	148.50	27.82	142.50	26.50	132.00	24.18
15		169.50	31.80	162.00	30.14	153.00	28.15	148.50	27.16	142.50	26.16	132.00	23.85
RAS-50HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		74.88	30.46	74.88	31.83	74.88	33.55	74.88	34.23	74.88	35.60	74.88	36.63
-17		84.24	30.81	84.24	32.18	84.24	33.89	84.24	34.57	84.24	35.94	84.24	36.97
-15		88.92	31.15	88.92	32.52	88.92	34.23	88.92	34.91	88.92	35.94	88.92	36.97
-13		95.16	31.15	95.16	32.52	95.16	34.23	95.16	34.91	95.16	35.94	95.16	36.97
-11		102.96	31.15	102.96	32.52	102.96	34.23	102.96	34.91	102.96	35.94	102.96	36.97
-10		106.08	31.15	106.08	32.52	106.08	34.23	106.08	34.91	106.08	35.94	106.08	36.97
-9		110.76	31.15	110.76	32.52	110.76	34.23	110.76	34.91	110.76	35.94	110.76	36.97
-7		118.56	31.15	118.56	32.52	118.56	34.23	117.00	34.91	117.00	35.94	117.00	36.97
-6		121.68	31.15	121.68	32.52	121.68	34.23	120.12	34.91	120.12	35.94	120.12	36.97
-5		124.80	31.15	124.80	32.52	124.80	34.23	123.24	34.91	123.24	35.94	123.24	36.97
-3		129.48	31.49	129.48	32.52	129.48	34.57	129.48	35.60	127.92	36.28	126.36	37.31
-1		135.72	31.49	135.72	32.86	135.72	34.91	135.72	35.94	134.16	36.63	132.60	36.97
0		138.84	31.49	138.84	33.20	138.84	34.91	138.84	35.94	137.28	36.63	134.16	36.97
1		149.76	31.83	149.76	33.20	149.76	35.26	149.76	36.28	146.64	36.97	137.28	36.63
3		151.32	31.83	151.32	34.23	151.32	35.60	151.32	36.28	148.20	35.94	137.28	34.57
5		152.88	31.83	152.88	33.55	152.88	34.57	152.88	34.23	148.20	32.86	137.28	30.12
6		159.12	31.83	159.12	33.20	154.44	34.23	154.44	33.20	148.20	31.83	137.28	29.10
7		162.24	31.83	160.68	33.20	156.00	33.55	154.44	32.52	148.20	31.49	137.28	28.41
9		166.92	32.18	163.80	33.20	159.12	32.18	154.44	31.15	148.20	30.12	137.28	27.38
10		168.48	32.18	165.36	33.20	159.12	31.49	154.44	30.46	148.20	29.44	137.28	27.04
11		170.04	32.18	166.92	32.86	159.12	31.15	154.44	30.12	148.20	28.75	137.28	26.36
14		174.72	32.86	168.48	31.49	159.12	29.44	154.44	28.41	148.20	27.38	137.28	24.99
15		176.28	32.86	168.48	31.15	159.12	29.10	154.44	28.07	148.20	27.04	137.28	24.65

RAS-52HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		77.76	31.45	77.76	32.87	77.76	34.63	77.76	35.34	77.76	36.75	77.76	37.81
-17		87.48	31.81	87.48	33.22	87.48	34.99	87.48	35.69	87.48	37.11	87.48	38.17
-15		92.34	32.16	92.34	33.57	92.34	35.34	92.34	36.05	92.34	37.11	92.34	38.17
-13		98.82	32.16	98.82	33.57	98.82	35.34	98.82	36.05	98.82	37.11	98.82	38.17
-11		106.92	32.16	106.92	33.57	106.92	35.34	106.92	36.05	106.92	37.11	106.92	38.17
-10		110.16	32.16	110.16	33.57	110.16	35.34	110.16	36.05	110.16	37.11	110.16	38.17
-9		115.02	32.16	115.02	33.57	115.02	35.34	115.02	36.05	115.02	37.11	115.02	38.17
-7		123.12	32.16	123.12	33.57	123.12	35.34	121.50	36.05	121.50	37.11	121.50	38.17
-6		126.36	32.16	126.36	33.57	126.36	35.34	124.74	36.05	124.74	37.11	124.74	38.17
-5		129.60	32.16	129.60	33.57	129.60	35.34	127.98	36.05	127.98	37.11	127.98	38.17
-3		134.46	32.51	134.46	33.57	134.46	35.69	134.46	36.75	132.84	37.46	131.22	38.52
-1		140.94	32.51	140.94	33.93	140.94	36.05	140.94	37.11	139.32	37.81	137.70	38.17
0		144.18	32.51	144.18	34.28	144.18	36.05	144.18	37.11	142.56	37.81	139.32	38.17
1		155.52	32.87	155.52	34.28	155.52	36.40	155.52	37.46	152.28	38.17	142.56	37.81
3		157.14	32.87	157.14	35.34	157.14	36.75	157.14	37.46	153.90	37.11	142.56	35.69
5		158.76	32.87	158.76	34.63	158.76	35.69	158.76	35.34	153.90	33.93	142.56	31.10
6		165.24	32.87	165.24	34.28	160.38	35.34	160.38	34.28	153.90	32.87	142.56	30.04
7		168.48	32.87	166.86	34.28	162.00	34.63	160.38	33.57	153.90	32.51	142.56	29.33
9		173.34	33.22	170.10	34.28	165.24	33.22	160.38	32.16	153.90	31.10	142.56	28.27
10		174.96	33.22	171.72	34.28	165.24	32.51	160.38	31.45	153.90	30.39	142.56	27.92
11		176.58	33.22	173.34	33.93	165.24	32.16	160.38	31.10	153.90	29.69	142.56	27.21
14		181.44	33.93	174.96	32.51	165.24	30.39	160.38	29.33	153.90	28.27	142.56	25.80
15		183.06	33.93	174.96	32.16	165.24	30.04	160.38	28.98	153.90	27.92	142.56	25.44
RAS-54HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		80.64	32.44	80.64	33.90	80.64	35.72	80.64	36.45	80.64	37.91	80.64	39.00
-17		90.72	32.81	90.72	34.26	90.72	36.09	90.72	36.81	90.72	38.27	90.72	39.37
-15		95.76	33.17	95.76	34.63	95.76	36.45	95.76	37.18	95.76	38.27	95.76	39.37
-13		102.48	33.17	102.48	34.63	102.48	36.45	102.48	37.18	102.48	38.27	102.48	39.37
-11		110.88	33.17	110.88	34.63	110.88	36.45	110.88	37.18	110.88	38.27	110.88	39.37
-10		114.24	33.17	114.24	34.63	114.24	36.45	114.24	37.18	114.24	38.27	114.24	39.37
-9		119.28	33.17	119.28	34.63	119.28	36.45	119.28	37.18	119.28	38.27	119.28	39.37
-7		127.68	33.17	127.68	34.63	127.68	36.45	126.00	37.18	126.00	38.27	126.00	39.37
-6		131.04	33.17	131.04	34.63	131.04	36.45	129.36	37.18	129.36	38.27	129.36	39.37
-5		134.40	33.17	134.40	34.63	134.40	36.45	132.72	37.18	132.72	38.27	132.72	39.37
-3		139.44	33.53	139.44	34.63	139.44	36.81	139.44	37.91	137.76	38.64	136.08	39.73
-1		146.16	33.53	146.16	34.99	146.16	37.18	146.16	38.27	144.48	39.00	142.80	39.37
0		149.52	33.53	149.52	35.36	149.52	37.18	149.52	38.27	147.84	39.00	144.48	39.37
1		161.28	33.90	161.28	35.36	161.28	37.54	161.28	38.64	157.92	39.37	147.84	39.00
3		162.96	33.90	162.96	36.45	162.96	37.91	162.96	38.64	159.60	38.27	147.84	36.81
5		164.64	33.90	164.64	35.72	164.64	36.81	164.64	36.45	159.60	34.99	147.84	32.08
6		171.36	33.90	171.36	35.36	166.32	36.45	166.32	35.36	159.60	33.90	147.84	30.98
7		174.72	33.90	173.04	35.36	168.00	35.72	166.32	34.63	159.60	33.53	147.84	30.25
9		179.76	34.26	176.40	35.36	171.36	34.26	166.32	33.17	159.60	32.08	147.84	29.16
10		181.44	34.26	178.08	35.36	171.36	33.53	166.32	32.44	159.60	31.35	147.84	28.80
11		183.12	34.26	179.76	34.99	171.36	33.17	166.32	32.08	159.60	30.62	147.84	28.07
14		188.16	34.99	181.44	33.53	171.36	31.35	166.32	30.25	159.60	29.16	147.84	26.61
15		189.84	34.99	181.44	33.17	171.36	30.98	166.32	29.89	159.60	28.80	147.84	26.24

RAS-56HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		78.75	33.89	78.75	35.47	78.75	37.05	78.75	37.83	78.75	39.41	78.75	40.59
-17		87.50	33.89	87.50	35.86	87.50	37.44	87.50	38.23	87.50	39.80	87.50	40.59
-15		94.50	34.29	94.50	35.86	94.50	37.83	94.50	38.62	94.50	39.80	94.50	40.99
-13		99.75	34.29	99.75	35.86	99.75	37.83	99.75	38.62	99.75	39.80	99.75	40.99
-11		108.50	34.29	108.50	35.86	108.50	37.83	108.50	38.62	108.50	39.80	108.50	40.99
-10		112.00	34.29	112.00	35.86	112.00	37.83	112.00	38.62	112.00	39.80	112.00	40.99
-9		117.25	34.29	117.25	35.86	117.25	37.83	117.25	38.62	117.25	39.80	117.25	40.99
-7		124.25	34.29	124.25	35.86	124.25	37.83	122.50	38.62	122.50	39.80	122.50	40.99
-6		127.75	34.29	127.75	35.86	127.75	37.83	126.00	38.62	126.00	39.80	126.00	40.99
-5		131.25	34.29	131.25	35.86	131.25	37.83	129.50	38.62	129.50	39.80	129.50	40.99
-3		136.50	34.68	136.50	36.26	136.50	38.23	134.75	39.02	134.75	40.20	133.00	40.99
-1		143.50	35.07	143.50	36.26	143.50	38.62	143.50	39.80	141.75	40.59	138.25	40.99
0		147.00	35.07	147.00	36.65	147.00	38.62	147.00	39.80	145.25	40.59	141.75	40.99
1		157.50	35.47	157.50	36.65	157.50	39.02	157.50	39.80	155.75	40.59	150.50	40.20
3		164.50	36.26	164.50	37.83	164.50	39.41	162.75	40.20	161.00	39.80	152.25	38.23
5		171.50	36.65	171.50	38.62	171.50	39.80	169.75	39.41	166.25	37.83	154.00	34.68
6		178.50	36.65	178.50	38.23	173.25	39.41	171.50	38.23	166.25	36.65	154.00	33.50
7		182.00	36.65	180.25	38.23	175.00	38.62	173.25	37.44	166.25	36.26	154.00	32.71
9		187.25	37.05	183.75	38.23	178.50	37.05	173.25	35.86	166.25	34.68	154.00	31.53
10		189.00	37.05	185.50	38.23	178.50	36.26	173.25	35.07	166.25	33.89	154.00	31.13
11		190.75	37.05	187.25	37.83	178.50	35.86	173.25	34.68	166.25	33.10	154.00	30.35
14		196.00	37.83	189.00	36.26	178.50	33.89	173.25	32.71	166.25	31.53	154.00	28.77
15		197.75	37.83	189.00	35.86	178.50	33.50	173.25	32.32	166.25	31.13	154.00	28.38
RAS-58HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		81.90	36.44	81.90	38.13	81.90	39.83	81.90	40.68	81.90	42.37	81.90	43.64
-17		91.00	36.44	91.00	38.56	91.00	40.25	91.00	41.10	91.00	42.79	91.00	43.64
-15		98.28	36.86	98.28	38.56	98.28	40.68	98.28	41.52	98.28	42.79	98.28	44.06
-13		103.74	36.86	103.74	38.56	103.74	40.68	103.74	41.52	103.74	42.79	103.74	44.06
-11		112.84	36.86	112.84	38.56	112.84	40.68	112.84	41.52	112.84	42.79	112.84	44.06
-10		116.48	36.86	116.48	38.56	116.48	40.68	116.48	41.52	116.48	42.79	116.48	44.06
-9		121.94	36.86	121.94	38.56	121.94	40.68	121.94	41.52	121.94	42.79	121.94	44.06
-7		129.22	36.86	129.22	38.56	129.22	40.68	127.40	41.52	127.40	42.79	127.40	44.06
-6		132.86	36.86	132.86	38.56	132.86	40.68	131.04	41.52	131.04	42.79	131.04	44.06
-5		136.50	36.86	136.50	38.56	136.50	40.68	134.68	41.52	134.68	42.79	134.68	44.06
-3		141.96	37.29	141.96	38.98	141.96	41.10	140.14	41.95	140.14	43.22	138.32	44.06
-1		149.24	37.71	149.24	38.98	149.24	41.52	149.24	42.79	147.42	43.64	143.78	44.06
0		152.88	37.71	152.88	39.40	152.88	41.52	152.88	42.79	151.06	43.64	147.42	44.06
1		163.80	38.13	163.80	39.40	163.80	41.95	163.80	42.79	161.98	43.64	156.52	43.22
3		171.08	38.98	171.08	40.68	171.08	42.37	169.26	43.22	167.44	42.79	158.34	41.10
5		178.36	39.40	178.36	41.52	178.36	42.79	176.54	42.37	172.90	40.68	160.16	37.29
6		185.64	39.40	185.64	41.10	180.18	42.37	178.36	41.10	172.90	39.40	160.16	36.01
7		189.28	39.40	187.46	41.10	182.00	41.52	180.18	40.25	172.90	38.98	160.16	35.17
9		194.74	39.83	191.10	41.10	185.64	39.83	180.18	38.56	172.90	37.29	160.16	33.90
10		196.56	39.83	192.92	41.10	185.64	38.98	180.18	37.71	172.90	36.44	160.16	33.47
11		198.38	39.83	194.74	40.68	185.64	38.56	180.18	37.29	172.90	35.59	160.16	32.62
14		203.84	40.68	196.56	38.98	185.64	36.44	180.18	35.17	172.90	33.90	160.16	30.93
15		205.66	40.68	196.56	38.56	185.64	36.01	180.18	34.74	172.90	33.47	160.16	30.51

RAS-60HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		85.05	38.98	85.05	40.80	85.05	42.61	85.05	43.52	85.05	45.33	85.05	46.69
-17		94.50	38.98	94.50	41.25	94.50	43.06	94.50	43.97	94.50	45.78	94.50	46.69
-15		102.06	39.44	102.06	41.25	102.06	43.52	102.06	44.42	102.06	45.78	102.06	47.14
-13		107.73	39.44	107.73	41.25	107.73	43.52	107.73	44.42	107.73	45.78	107.73	47.14
-11		117.18	39.44	117.18	41.25	117.18	43.52	117.18	44.42	117.18	45.78	117.18	47.14
-10		120.96	39.44	120.96	41.25	120.96	43.52	120.96	44.42	120.96	45.78	120.96	47.14
-9		126.63	39.44	126.63	41.25	126.63	43.52	126.63	44.42	126.63	45.78	126.63	47.14
-7		134.19	39.44	134.19	41.25	134.19	43.52	132.30	44.42	132.30	45.78	132.30	47.14
-6		137.97	39.44	137.97	41.25	137.97	43.52	136.08	44.42	136.08	45.78	136.08	47.14
-5		141.75	39.44	141.75	41.25	141.75	43.52	139.86	44.42	139.86	45.78	139.86	47.14
-3		147.42	39.89	147.42	41.70	147.42	43.97	145.53	44.88	145.53	46.24	143.64	47.14
-1		154.98	40.34	154.98	41.70	154.98	44.42	154.98	45.78	153.09	46.69	149.31	47.14
0		158.76	40.34	158.76	42.16	158.76	44.42	158.76	45.78	156.87	46.69	153.09	47.14
1		170.10	40.80	170.10	42.16	170.10	44.88	170.10	45.78	168.21	46.69	162.54	46.24
3		177.66	41.70	177.66	43.52	177.66	45.33	175.77	46.24	173.88	45.78	164.43	43.97
5		185.22	42.16	185.22	44.42	185.22	45.78	183.33	45.33	179.55	43.52	166.32	39.89
6		192.78	42.16	192.78	43.97	187.11	45.33	185.22	43.97	179.55	42.16	166.32	38.53
7		196.56	42.16	194.67	43.97	189.00	44.42	187.11	43.06	179.55	41.70	166.32	37.62
9		202.23	42.61	198.45	43.97	192.78	42.61	187.11	41.25	179.55	39.89	166.32	36.26
10		204.12	42.61	200.34	43.97	192.78	41.70	187.11	40.34	179.55	38.98	166.32	35.81
11		206.01	42.61	202.23	43.52	192.78	41.25	187.11	39.89	179.55	38.08	166.32	34.90
14		211.68	43.52	204.12	41.70	192.78	38.98	187.11	37.62	179.55	36.26	166.32	33.09
15		213.57	43.52	204.12	41.25	192.78	38.53	187.11	37.17	179.55	35.81	166.32	32.64
RAS-62HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		94.08	36.73	94.08	38.38	94.08	40.44	94.08	41.27	94.08	42.92	94.08	44.16
-17		105.84	37.14	105.84	38.79	105.84	40.86	105.84	41.68	105.84	43.33	105.84	44.57
-15		111.72	37.56	111.72	39.21	111.72	41.27	111.72	42.10	111.72	43.33	111.72	44.57
-13		119.56	37.56	119.56	39.21	119.56	41.27	119.56	42.10	119.56	43.33	119.56	44.57
-11		129.36	37.56	129.36	39.21	129.36	41.27	129.36	42.10	129.36	43.33	129.36	44.57
-10		133.28	37.56	133.28	39.21	133.28	41.27	133.28	42.10	133.28	43.33	133.28	44.57
-9		139.16	37.56	139.16	39.21	139.16	41.27	139.16	42.10	139.16	43.33	139.16	44.57
-7		148.96	37.56	148.96	39.21	148.96	41.27	147.00	42.10	147.00	43.33	147.00	44.57
-6		152.88	37.56	152.88	39.21	152.88	41.27	150.92	42.10	150.92	43.33	150.92	44.57
-5		156.80	37.56	156.80	39.21	156.80	41.27	154.84	42.10	154.84	43.33	154.84	44.57
-3		162.68	37.97	162.68	39.21	162.68	41.68	162.68	42.92	160.72	43.75	158.76	44.98
-1		170.52	37.97	170.52	39.62	170.52	42.10	170.52	43.33	168.56	44.16	166.60	44.57
0		174.44	37.97	174.44	40.03	174.44	42.10	174.44	43.33	172.48	44.16	168.56	44.57
1		188.16	38.38	188.16	40.03	188.16	42.51	188.16	43.75	184.24	44.57	172.48	44.16
3		190.12	38.38	190.12	41.27	190.12	42.92	190.12	43.75	186.20	43.33	172.48	41.68
5		192.08	38.38	192.08	40.44	192.08	41.68	192.08	41.27	186.20	39.62	172.48	36.32
6		199.92	38.38	199.92	40.03	194.04	41.27	194.04	40.03	186.20	38.38	172.48	35.08
7		203.84	38.38	201.88	40.03	196.00	40.44	194.04	39.21	186.20	37.97	172.48	34.25
9		209.72	38.79	205.80	40.03	199.92	38.79	194.04	37.56	186.20	36.32	172.48	33.02
10		211.68	38.79	207.76	40.03	199.92	37.97	194.04	36.73	186.20	35.49	172.48	32.60
11		213.64	38.79	209.72	39.62	199.92	37.56	194.04	36.32	186.20	34.67	172.48	31.78
14		219.52	39.62	211.68	37.97	199.92	35.49	194.04	34.25	186.20	33.02	172.48	30.13
15		221.48	39.62	211.68	37.56	199.92	35.08	194.04	33.84	186.20	32.60	172.48	29.71

RAS-64HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20	96.96	37.72	96.96	39.41	96.96	41.53	96.96	42.38	96.96	44.08	96.96	45.35	
-17	109.08	38.14	109.08	39.84	109.08	41.96	109.08	42.80	109.08	44.50	109.08	45.77	
-15	115.14	38.57	115.14	40.26	115.14	42.38	115.14	43.23	115.14	44.50	115.14	45.77	
-13	123.22	38.57	123.22	40.26	123.22	42.38	123.22	43.23	123.22	44.50	123.22	45.77	
-11	133.32	38.57	133.32	40.26	133.32	42.38	133.32	43.23	133.32	44.50	133.32	45.77	
-10	137.36	38.57	137.36	40.26	137.36	42.38	137.36	43.23	137.36	44.50	137.36	45.77	
-9	143.42	38.57	143.42	40.26	143.42	42.38	143.42	43.23	143.42	44.50	143.42	45.77	
-7	153.52	38.57	153.52	40.26	153.52	42.38	151.50	43.23	151.50	44.50	151.50	45.77	
-6	157.56	38.57	157.56	40.26	157.56	42.38	155.54	43.23	155.54	44.50	155.54	45.77	
-5	161.60	38.57	161.60	40.26	161.60	42.38	159.58	43.23	159.58	44.50	159.58	45.77	
-3	167.66	38.99	167.66	40.26	167.66	42.80	167.66	44.08	165.64	44.92	163.62	46.19	
-1	175.74	38.99	175.74	40.68	175.74	43.23	175.74	44.50	173.72	45.35	171.70	45.77	
0	179.78	38.99	179.78	41.11	179.78	43.23	179.78	44.50	177.76	45.35	173.72	45.77	
1	193.92	39.41	193.92	41.11	193.92	43.65	193.92	44.92	189.88	45.77	177.76	45.35	
3	195.94	39.41	195.94	42.38	195.94	44.08	195.94	44.92	191.90	44.50	177.76	42.80	
5	197.96	39.41	197.96	41.53	197.96	42.80	197.96	42.38	191.90	40.68	177.76	37.29	
6	206.04	39.41	206.04	41.11	199.98	42.38	199.98	41.11	191.90	39.41	177.76	36.02	
7	210.08	39.41	208.06	41.11	202.00	41.53	199.98	40.26	191.90	38.99	177.76	35.18	
9	216.14	39.84	212.10	41.11	206.04	39.84	199.98	38.57	191.90	37.29	177.76	33.90	
10	218.16	39.84	214.12	41.11	206.04	38.99	199.98	37.72	191.90	36.45	177.76	33.48	
11	220.18	39.84	216.14	40.68	206.04	38.57	199.98	37.29	191.90	35.60	177.76	32.63	
14	226.24	40.68	218.16	38.99	206.04	36.45	199.98	35.18	191.90	33.90	177.76	30.94	
15	228.26	40.68	218.16	38.57	206.04	36.02	199.98	34.75	191.90	33.48	177.76	30.51	
RAS-66HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20	99.36	39.50	99.36	41.27	99.36	43.49	99.36	44.38	99.36	46.16	99.36	47.49	
-17	111.78	39.94	111.78	41.72	111.78	43.94	111.78	44.82	111.78	46.60	111.78	47.93	
-15	117.99	40.39	117.99	42.16	117.99	44.38	117.99	45.27	117.99	46.60	117.99	47.93	
-13	126.27	40.39	126.27	42.16	126.27	44.38	126.27	45.27	126.27	46.60	126.27	47.93	
-11	136.62	40.39	136.62	42.16	136.62	44.38	136.62	45.27	136.62	46.60	136.62	47.93	
-10	140.76	40.39	140.76	42.16	140.76	44.38	140.76	45.27	140.76	46.60	140.76	47.93	
-9	146.97	40.39	146.97	42.16	146.97	44.38	146.97	45.27	146.97	46.60	146.97	47.93	
-7	157.32	40.39	157.32	42.16	157.32	44.38	155.25	45.27	155.25	46.60	155.25	47.93	
-6	161.46	40.39	161.46	42.16	161.46	44.38	159.39	45.27	159.39	46.60	159.39	47.93	
-5	165.60	40.39	165.60	42.16	165.60	44.38	163.53	45.27	163.53	46.60	163.53	47.93	
-3	171.81	40.83	171.81	42.16	171.81	44.82	171.81	46.16	169.74	47.04	167.67	48.37	
-1	180.09	40.83	180.09	42.60	180.09	45.27	180.09	46.60	178.02	47.49	175.95	47.93	
0	184.23	40.83	184.23	43.05	184.23	45.27	184.23	46.60	182.16	47.49	178.02	47.93	
1	198.72	41.27	198.72	43.05	198.72	45.71	198.72	47.04	194.58	47.93	182.16	47.49	
3	200.79	41.27	200.79	44.38	200.79	46.16	200.79	47.04	196.65	46.60	182.16	44.82	
5	202.86	41.27	202.86	43.49	202.86	44.82	202.86	44.38	196.65	42.60	182.16	39.05	
6	211.14	41.27	211.14	43.05	204.93	44.38	204.93	43.05	196.65	41.27	182.16	37.72	
7	215.28	41.27	213.21	43.05	207.00	43.49	204.93	42.16	196.65	40.83	182.16	36.84	
9	221.49	41.72	217.35	43.05	211.14	41.72	204.93	40.39	196.65	39.05	182.16	35.50	
10	223.56	41.72	219.42	43.05	211.14	40.83	204.93	39.50	196.65	38.17	182.16	35.06	
11	225.63	41.72	221.49	42.60	211.14	40.39	204.93	39.05	196.65	37.28	182.16	34.17	
14	231.84	42.60	223.56	40.83	211.14	38.17	204.93	36.84	196.65	35.50	182.16	32.40	
15	233.91	42.60	223.56	40.39	211.14	37.72	204.93	36.39	196.65	35.06	182.16	31.95	

RAS-68HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		102.24	41.28	102.24	43.13	102.24	45.45	102.24	46.38	102.24	48.24	102.24	49.63
-17		115.02	41.74	115.02	43.60	115.02	45.92	115.02	46.84	115.02	48.70	115.02	50.09
-15		121.41	42.21	121.41	44.06	121.41	46.38	121.41	47.31	121.41	48.70	121.41	50.09
-13		129.93	42.21	129.93	44.06	129.93	46.38	129.93	47.31	129.93	48.70	129.93	50.09
-11		140.58	42.21	140.58	44.06	140.58	46.38	140.58	47.31	140.58	48.70	140.58	50.09
-10		144.84	42.21	144.84	44.06	144.84	46.38	144.84	47.31	144.84	48.70	144.84	50.09
-9		151.23	42.21	151.23	44.06	151.23	46.38	151.23	47.31	151.23	48.70	151.23	50.09
-7		161.88	42.21	161.88	44.06	161.88	46.38	159.75	47.31	159.75	48.70	159.75	50.09
-6		166.14	42.21	166.14	44.06	166.14	46.38	164.01	47.31	164.01	48.70	164.01	50.09
-5		170.40	42.21	170.40	44.06	170.40	46.38	168.27	47.31	168.27	48.70	168.27	50.09
-3		176.79	42.67	176.79	44.06	176.79	46.84	176.79	48.24	174.66	49.16	172.53	50.55
-1		185.31	42.67	185.31	44.52	185.31	47.31	185.31	48.70	183.18	49.63	181.05	50.09
0		189.57	42.67	189.57	44.99	189.57	47.31	189.57	48.70	187.44	49.63	183.18	50.09
1		204.48	43.13	204.48	44.99	204.48	47.77	204.48	49.16	200.22	50.09	187.44	49.63
3		206.61	43.13	206.61	46.38	206.61	48.24	206.61	49.16	202.35	48.70	187.44	46.84
5		208.74	43.13	208.74	45.45	208.74	46.84	208.74	46.38	202.35	44.52	187.44	40.81
6		217.26	43.13	217.26	44.99	210.87	46.38	210.87	44.99	202.35	43.13	187.44	39.42
7		221.52	43.13	219.39	44.99	213.00	45.45	210.87	44.06	202.35	42.67	187.44	38.50
9		227.91	43.60	223.65	44.99	217.26	43.60	210.87	42.21	202.35	40.81	187.44	37.10
10		230.04	43.60	225.78	44.99	217.26	42.67	210.87	41.28	202.35	39.89	187.44	36.64
11		232.17	43.60	227.91	44.52	217.26	42.21	210.87	40.81	202.35	38.96	187.44	35.71
14		238.56	44.52	230.04	42.67	217.26	39.89	210.87	38.50	202.35	37.10	187.44	33.86
15		240.69	44.52	230.04	42.21	217.26	39.42	210.87	38.03	202.35	36.64	187.44	33.39
RAS-70HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		104.64	42.27	104.64	44.17	104.64	46.54	104.64	47.49	104.64	49.39	104.64	50.81
-17		117.72	42.74	117.72	44.64	117.72	47.02	117.72	47.96	117.72	49.86	117.72	51.29
-15		124.26	43.22	124.26	45.12	124.26	47.49	124.26	48.44	124.26	49.86	124.26	51.29
-13		132.98	43.22	132.98	45.12	132.98	47.49	132.98	48.44	132.98	49.86	132.98	51.29
-11		143.88	43.22	143.88	45.12	143.88	47.49	143.88	48.44	143.88	49.86	143.88	51.29
-10		148.24	43.22	148.24	45.12	148.24	47.49	148.24	48.44	148.24	49.86	148.24	51.29
-9		154.78	43.22	154.78	45.12	154.78	47.49	154.78	48.44	154.78	49.86	154.78	51.29
-7		165.68	43.22	165.68	45.12	165.68	47.49	163.50	48.44	163.50	49.86	163.50	51.29
-6		170.04	43.22	170.04	45.12	170.04	47.49	167.86	48.44	167.86	49.86	167.86	51.29
-5		174.40	43.22	174.40	45.12	174.40	47.49	172.22	48.44	172.22	49.86	172.22	51.29
-3		180.94	43.69	180.94	45.12	180.94	47.96	180.94	49.39	178.76	50.34	176.58	51.76
-1		189.66	43.69	189.66	45.59	189.66	48.44	189.66	49.86	187.48	50.81	185.30	51.29
0		194.02	43.69	194.02	46.07	194.02	48.44	194.02	49.86	191.84	50.81	187.48	51.29
1		209.28	44.17	209.28	46.07	209.28	48.91	209.28	50.34	204.92	51.29	191.84	50.81
3		211.46	44.17	211.46	47.49	211.46	49.39	211.46	50.34	207.10	49.86	191.84	47.96
5		213.64	44.17	213.64	46.54	213.64	47.96	213.64	47.49	207.10	45.59	191.84	41.79
6		222.36	44.17	222.36	46.07	215.82	47.49	215.82	46.07	207.10	44.17	191.84	40.37
7		226.72	44.17	224.54	46.07	218.00	46.54	215.82	45.12	207.10	43.69	191.84	39.42
9		233.26	44.64	228.90	46.07	222.36	44.64	215.82	43.22	207.10	41.79	191.84	37.99
10		235.44	44.64	231.08	46.07	222.36	43.69	215.82	42.27	207.10	40.84	191.84	37.52
11		237.62	44.64	233.26	45.59	222.36	43.22	215.82	41.79	207.10	39.89	191.84	36.57
14		244.16	45.59	235.44	43.69	222.36	40.84	215.82	39.42	207.10	37.99	191.84	34.67
15		246.34	45.59	235.44	43.22	222.36	40.37	215.82	38.94	207.10	37.52	191.84	34.19

RAS-72HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20	107.52	43.25	107.52	45.20	107.52	47.63	107.52	48.60	107.52	50.54	107.52	52.00	
-17	120.96	43.74	120.96	45.68	120.96	48.11	120.96	49.09	120.96	51.03	120.96	52.49	
-15	127.68	44.23	127.68	46.17	127.68	48.60	127.68	49.57	127.68	51.03	127.68	52.49	
-13	136.64	44.23	136.64	46.17	136.64	48.60	136.64	49.57	136.64	51.03	136.64	52.49	
-11	147.84	44.23	147.84	46.17	147.84	48.60	147.84	49.57	147.84	51.03	147.84	52.49	
-10	152.32	44.23	152.32	46.17	152.32	48.60	152.32	49.57	152.32	51.03	152.32	52.49	
-9	159.04	44.23	159.04	46.17	159.04	48.60	159.04	49.57	159.04	51.03	159.04	52.49	
-7	170.24	44.23	170.24	46.17	170.24	48.60	168.00	49.57	168.00	51.03	168.00	52.49	
-6	174.72	44.23	174.72	46.17	174.72	48.60	172.48	49.57	172.48	51.03	172.48	52.49	
-5	179.20	44.23	179.20	46.17	179.20	48.60	176.96	49.57	176.96	51.03	176.96	52.49	
-3	185.92	44.71	185.92	46.17	185.92	49.09	185.92	50.54	183.68	51.52	181.44	52.97	
-1	194.88	44.71	194.88	46.66	194.88	49.57	194.88	51.03	192.64	52.00	190.40	52.49	
0	199.36	44.71	199.36	47.14	199.36	49.57	199.36	51.03	197.12	52.00	192.64	52.49	
1	215.04	45.20	215.04	47.14	215.04	50.06	215.04	51.52	210.56	52.49	197.12	52.00	
3	217.28	45.20	217.28	48.60	217.28	50.54	217.28	51.52	212.80	51.03	197.12	49.09	
5	219.52	45.20	219.52	47.63	219.52	49.09	219.52	48.60	212.80	46.66	197.12	42.77	
6	228.48	45.20	228.48	47.14	221.76	48.60	221.76	47.14	212.80	45.20	197.12	41.31	
7	232.96	45.20	230.72	47.14	224.00	47.63	221.76	46.17	212.80	44.71	197.12	40.34	
9	239.68	45.68	235.20	47.14	228.48	45.68	221.76	44.23	212.80	42.77	197.12	38.88	
10	241.92	45.68	237.44	47.14	228.48	44.71	221.76	43.25	212.80	41.80	197.12	38.39	
11	244.16	45.68	239.68	46.66	228.48	44.23	221.76	42.77	212.80	40.82	197.12	37.42	
14	250.88	46.66	241.92	44.71	228.48	41.80	221.76	40.34	212.80	38.88	197.12	35.48	
15	253.12	46.66	241.92	44.23	228.48	41.31	221.76	39.85	212.80	38.39	197.12	34.99	
RAS-74HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20	103.95	44.34	103.95	46.40	103.95	48.47	103.95	49.50	103.95	51.56	103.95	53.11	
-17	115.50	44.34	115.50	46.92	115.50	48.98	115.50	50.01	115.50	52.08	115.50	53.11	
-15	124.74	44.86	124.74	46.92	124.74	49.50	124.74	50.53	124.74	52.08	124.74	53.62	
-13	131.67	44.86	131.67	46.92	131.67	49.50	131.67	50.53	131.67	52.08	131.67	53.62	
-11	143.22	44.86	143.22	46.92	143.22	49.50	143.22	50.53	143.22	52.08	143.22	53.62	
-10	147.84	44.86	147.84	46.92	147.84	49.50	147.84	50.53	147.84	52.08	147.84	53.62	
-9	154.77	44.86	154.77	46.92	154.77	49.50	154.77	50.53	154.77	52.08	154.77	53.62	
-7	164.01	44.86	164.01	46.92	164.01	49.50	161.70	50.53	161.70	52.08	161.70	53.62	
-6	168.63	44.86	168.63	46.92	168.63	49.50	166.32	50.53	166.32	52.08	166.32	53.62	
-5	173.25	44.86	173.25	46.92	173.25	49.50	170.94	50.53	170.94	52.08	170.94	53.62	
-3	180.18	45.37	180.18	47.44	180.18	50.01	177.87	51.04	177.87	52.59	175.56	53.62	
-1	189.42	45.89	189.42	47.44	189.42	50.53	189.42	52.08	187.11	53.11	182.49	53.62	
0	194.04	45.89	194.04	47.95	194.04	50.53	194.04	52.08	191.73	53.11	187.11	53.62	
1	207.90	46.40	207.90	47.95	207.90	51.04	207.90	52.08	205.59	53.11	198.66	52.59	
3	217.14	47.44	217.14	49.50	217.14	51.56	214.83	52.59	212.52	52.08	200.97	50.01	
5	226.38	47.95	226.38	50.53	226.38	52.08	224.07	51.56	219.45	49.50	203.28	45.37	
6	235.62	47.95	235.62	50.01	228.69	51.56	226.38	50.01	219.45	47.95	203.28	43.83	
7	240.24	47.95	237.93	50.01	231.00	50.53	228.69	48.98	219.45	47.44	203.28	42.79	
9	247.17	48.47	242.55	50.01	235.62	48.47	228.69	46.92	219.45	45.37	203.28	41.25	
10	249.48	48.47	244.86	50.01	235.62	47.44	228.69	45.89	219.45	44.34	203.28	40.73	
11	251.79	48.47	247.17	49.50	235.62	46.92	228.69	45.37	219.45	43.31	203.28	39.70	
14	258.72	49.50	249.48	47.44	235.62	44.34	228.69	42.79	219.45	41.25	203.28	37.64	
15	261.03	49.50	249.48	46.92	235.62	43.83	228.69	42.28	219.45	40.73	203.28	37.12	

RAS-76HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		107.10	46.89	107.10	49.07	107.10	51.25	107.10	52.34	107.10	54.52	107.10	56.16
-17		119.00	46.89	119.00	49.61	119.00	51.79	119.00	52.88	119.00	55.07	119.00	56.16
-15		128.52	47.43	128.52	49.61	128.52	52.34	128.52	53.43	128.52	55.07	128.52	56.70
-13		135.66	47.43	135.66	49.61	135.66	52.34	135.66	53.43	135.66	55.07	135.66	56.70
-11		147.56	47.43	147.56	49.61	147.56	52.34	147.56	53.43	147.56	55.07	147.56	56.70
-10		152.32	47.43	152.32	49.61	152.32	52.34	152.32	53.43	152.32	55.07	152.32	56.70
-9		159.46	47.43	159.46	49.61	159.46	52.34	159.46	53.43	159.46	55.07	159.46	56.70
-7		168.98	47.43	168.98	49.61	168.98	52.34	166.60	53.43	166.60	55.07	166.60	56.70
-6		173.74	47.43	173.74	49.61	173.74	52.34	171.36	53.43	171.36	55.07	171.36	56.70
-5		178.50	47.43	178.50	49.61	178.50	52.34	176.12	53.43	176.12	55.07	176.12	56.70
-3		185.64	47.98	185.64	50.16	185.64	52.88	183.26	53.97	183.26	55.61	180.88	56.70
-1		195.16	48.52	195.16	50.16	195.16	53.43	195.16	55.07	192.78	56.16	188.02	56.70
0		199.92	48.52	199.92	50.70	199.92	53.43	199.92	55.07	197.54	56.16	192.78	56.70
1		214.20	49.07	214.20	50.70	214.20	53.97	214.20	55.07	211.82	56.16	204.68	55.61
3		223.72	50.16	223.72	52.34	223.72	54.52	221.34	55.61	218.96	55.07	207.06	52.88
5		233.24	50.70	233.24	53.43	233.24	55.07	230.86	54.52	226.10	52.34	209.44	47.98
6		242.76	50.70	242.76	52.88	235.62	54.52	233.24	52.88	226.10	50.70	209.44	46.34
7		247.52	50.70	245.14	52.88	238.00	53.43	235.62	51.79	226.10	50.16	209.44	45.25
9		254.66	51.25	249.90	52.88	242.76	51.25	235.62	49.61	226.10	47.98	209.44	43.62
10		257.04	51.25	252.28	52.88	242.76	50.16	235.62	48.52	226.10	46.89	209.44	43.07
11		259.42	51.25	254.66	52.34	242.76	49.61	235.62	47.98	226.10	45.80	209.44	41.98
14		266.56	52.34	257.04	50.16	242.76	46.89	235.62	45.25	226.10	43.62	209.44	39.80
15		268.94	52.34	257.04	49.61	242.76	46.34	235.62	44.71	226.10	43.07	209.44	39.25
RAS-78HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		110.25	49.43	110.25	51.73	110.25	54.03	110.25	55.18	110.25	57.48	110.25	59.20
-17		122.50	49.43	122.50	52.31	122.50	54.61	122.50	55.76	122.50	58.05	122.50	59.20
-15		132.30	50.01	132.30	52.31	132.30	55.18	132.30	56.33	132.30	58.05	132.30	59.78
-13		139.65	50.01	139.65	52.31	139.65	55.18	139.65	56.33	139.65	58.05	139.65	59.78
-11		151.90	50.01	151.90	52.31	151.90	55.18	151.90	56.33	151.90	58.05	151.90	59.78
-10		156.80	50.01	156.80	52.31	156.80	55.18	156.80	56.33	156.80	58.05	156.80	59.78
-9		164.15	50.01	164.15	52.31	164.15	55.18	164.15	56.33	164.15	58.05	164.15	59.78
-7		173.95	50.01	173.95	52.31	173.95	55.18	171.50	56.33	171.50	58.05	171.50	59.78
-6		178.85	50.01	178.85	52.31	178.85	55.18	176.40	56.33	176.40	58.05	176.40	59.78
-5		183.75	50.01	183.75	52.31	183.75	55.18	181.30	56.33	181.30	58.05	181.30	59.78
-3		191.10	50.58	191.10	52.88	191.10	55.76	188.65	56.91	188.65	58.63	186.20	59.78
-1		200.90	51.16	200.90	52.88	200.90	56.33	200.90	58.05	198.45	59.20	193.55	59.78
0		205.80	51.16	205.80	53.46	205.80	56.33	205.80	58.05	203.35	59.20	198.45	59.78
1		220.50	51.73	220.50	53.46	220.50	56.91	220.50	58.05	218.05	59.20	210.70	58.63
3		230.30	52.88	230.30	55.18	230.30	57.48	227.85	58.63	225.40	58.05	213.15	55.76
5		240.10	53.46	240.10	56.33	240.10	58.05	237.65	57.48	232.75	55.18	215.60	50.58
6		249.90	53.46	249.90	55.76	242.55	57.48	240.10	55.76	232.75	53.46	215.60	48.86
7		254.80	53.46	252.35	55.76	245.00	56.33	242.55	54.61	232.75	52.88	215.60	47.71
9		262.15	54.03	257.25	55.76	249.90	54.03	242.55	52.31	232.75	50.58	215.60	45.98
10		264.60	54.03	259.70	55.76	249.90	52.88	242.55	51.16	232.75	49.43	215.60	45.41
11		267.05	54.03	262.15	55.18	249.90	52.31	242.55	50.58	232.75	48.28	215.60	44.26
14		274.40	55.18	264.60	52.88	249.90	49.43	242.55	47.71	232.75	45.98	215.60	41.96
15		276.85	55.18	264.60	52.31	249.90	48.86	242.55	47.13	232.75	45.41	215.60	41.39

RAS-80HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20	113.40	51.98	113.40	54.40	113.40	56.81	113.40	58.02	113.40	60.44	113.40	62.25	
-17	126.00	51.98	126.00	55.00	126.00	57.42	126.00	58.63	126.00	61.04	126.00	62.25	
-15	136.08	52.58	136.08	55.00	136.08	58.02	136.08	59.23	136.08	61.04	136.08	62.86	
-13	143.64	52.58	143.64	55.00	143.64	58.02	143.64	59.23	143.64	61.04	143.64	62.86	
-11	156.24	52.58	156.24	55.00	156.24	58.02	156.24	59.23	156.24	61.04	156.24	62.86	
-10	161.28	52.58	161.28	55.00	161.28	58.02	161.28	59.23	161.28	61.04	161.28	62.86	
-9	168.84	52.58	168.84	55.00	168.84	58.02	168.84	59.23	168.84	61.04	168.84	62.86	
-7	178.92	52.58	178.92	55.00	178.92	58.02	176.40	59.23	176.40	61.04	176.40	62.86	
-6	183.96	52.58	183.96	55.00	183.96	58.02	181.44	59.23	181.44	61.04	181.44	62.86	
-5	189.00	52.58	189.00	55.00	189.00	58.02	186.48	59.23	186.48	61.04	186.48	62.86	
-3	196.56	53.19	196.56	55.60	196.56	58.63	194.04	59.84	194.04	61.65	191.52	62.86	
-1	206.64	53.79	206.64	55.60	206.64	59.23	206.64	61.04	204.12	62.25	199.08	62.86	
0	211.68	53.79	211.68	56.21	211.68	59.23	211.68	61.04	209.16	62.25	204.12	62.86	
1	226.80	54.40	226.80	56.21	226.80	59.84	226.80	61.04	224.28	62.25	216.72	61.65	
3	236.88	55.60	236.88	58.02	236.88	60.44	234.36	61.65	231.84	61.04	219.24	58.63	
5	246.96	56.21	246.96	59.23	246.96	61.04	244.44	60.44	239.40	58.02	221.76	53.19	
6	257.04	56.21	257.04	58.63	249.48	60.44	246.96	58.63	239.40	56.21	221.76	51.37	
7	262.08	56.21	259.56	58.63	252.00	59.23	249.48	57.42	239.40	55.60	221.76	50.17	
9	269.64	56.81	264.60	58.63	257.04	56.81	249.48	55.00	239.40	53.19	221.76	48.35	
10	272.16	56.81	267.12	58.63	257.04	55.60	249.48	53.79	239.40	51.98	221.76	47.75	
11	274.68	56.81	269.64	58.02	257.04	55.00	249.48	53.19	239.40	50.77	221.76	46.54	
14	282.24	58.02	272.16	55.60	257.04	51.98	249.48	50.17	239.40	48.35	221.76	44.12	
15	284.76	58.02	272.16	55.00	257.04	51.37	249.48	49.56	239.40	47.75	221.76	43.52	
RAS-82HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20	123.84	54.70	123.84	57.19	123.84	60.92	123.84	61.54	123.84	63.40	123.84	65.27	
-17	139.32	55.32	139.32	57.81	139.32	61.54	139.32	62.16	139.32	64.02	139.32	65.89	
-15	147.06	55.94	147.06	58.43	147.06	61.54	147.06	62.78	147.06	64.65	147.06	66.51	
-13	157.38	55.94	157.38	58.43	157.38	61.54	157.38	62.78	157.38	64.65	157.38	66.51	
-11	167.70	55.94	167.70	58.43	167.70	61.54	167.70	62.78	167.70	64.65	167.70	66.51	
-10	172.86	55.94	172.86	58.43	172.86	61.54	172.86	62.78	172.86	64.65	172.86	66.51	
-9	180.60	55.94	180.60	58.43	180.60	61.54	180.60	62.78	180.60	64.65	180.60	66.51	
-7	190.92	55.94	190.92	58.43	190.92	61.54	190.92	62.78	190.92	64.65	190.92	66.51	
-6	198.66	55.94	198.66	58.43	198.66	61.54	196.08	62.78	196.08	64.65	196.08	66.51	
-5	203.82	55.94	203.82	58.43	203.82	61.54	201.24	62.78	201.24	64.65	201.24	66.51	
-3	214.14	56.57	214.14	58.43	214.14	62.16	211.56	63.40	211.56	65.27	208.98	65.89	
-1	224.46	56.57	224.46	59.05	224.46	62.78	221.88	64.02	219.30	65.27	216.72	65.89	
0	227.04	57.19	227.04	59.67	227.04	62.78	227.04	64.65	224.46	65.89	219.30	65.89	
1	234.78	57.81	234.78	60.30	234.78	63.40	234.78	64.65	232.20	64.65	224.46	64.02	
3	250.26	57.81	250.26	61.54	250.26	64.02	247.68	64.02	245.10	63.40	227.04	60.30	
5	252.84	57.81	252.84	60.92	252.84	62.78	250.26	62.16	245.10	59.67	227.04	54.70	
6	263.16	57.81	263.16	60.30	258.00	62.16	252.84	60.30	245.10	57.81	227.04	52.84	
7	268.32	57.81	265.74	60.30	260.58	60.92	255.42	59.05	245.10	56.57	227.04	52.21	
9	276.06	58.43	270.90	60.30	263.16	58.43	255.42	56.57	245.10	54.70	227.04	50.35	
10	278.64	58.43	273.48	60.30	263.16	57.19	255.42	55.32	245.10	53.46	227.04	49.11	
11	281.22	58.43	276.06	59.67	263.16	56.57	255.42	54.70	245.10	52.84	227.04	48.48	
14	288.96	59.67	278.64	57.19	263.16	53.46	255.42	51.59	245.10	49.73	227.04	45.38	
15	291.54	59.67	278.64	56.57	263.16	52.84	255.42	50.97	245.10	49.11	227.04	44.76	

RAS-84HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		126.72	56.21	126.72	58.77	126.72	62.60	126.72	63.24	126.72	65.16	126.72	67.07
-17		142.56	56.85	142.56	59.41	142.56	63.24	142.56	63.88	142.56	65.80	142.56	67.71
-15		150.48	57.49	150.48	60.05	150.48	63.24	150.48	64.52	150.48	66.44	150.48	68.35
-13		161.04	57.49	161.04	60.05	161.04	63.24	161.04	64.52	161.04	66.44	161.04	68.35
-11		171.60	57.49	171.60	60.05	171.60	63.24	171.60	64.52	171.60	66.44	171.60	68.35
-10		176.88	57.49	176.88	60.05	176.88	63.24	176.88	64.52	176.88	66.44	176.88	68.35
-9		184.80	57.49	184.80	60.05	184.80	63.24	184.80	64.52	184.80	66.44	184.80	68.35
-7		195.36	57.49	195.36	60.05	195.36	63.24	195.36	64.52	195.36	66.44	195.36	68.35
-6		203.28	57.49	203.28	60.05	203.28	63.24	200.64	64.52	200.64	66.44	200.64	68.35
-5		208.56	57.49	208.56	60.05	208.56	63.24	205.92	64.52	205.92	66.44	205.92	68.35
-3		219.12	58.13	219.12	60.05	219.12	63.88	216.48	65.16	216.48	67.07	213.84	67.71
-1		229.68	58.13	229.68	60.69	229.68	64.52	227.04	65.80	224.40	67.07	221.76	67.71
0		232.32	58.77	232.32	61.32	232.32	64.52	232.32	66.44	229.68	67.71	224.40	67.71
1		240.24	59.41	240.24	61.96	240.24	65.16	240.24	66.44	237.60	66.44	229.68	65.80
3		256.08	59.41	256.08	63.24	256.08	65.80	253.44	65.80	250.80	65.16	232.32	61.96
5		258.72	59.41	258.72	62.60	258.72	64.52	256.08	63.88	250.80	61.32	232.32	56.21
6		269.28	59.41	269.28	61.96	264.00	63.88	258.72	61.96	250.80	59.41	232.32	54.30
7		274.56	59.41	271.92	61.96	266.64	62.60	261.36	60.69	250.80	58.13	232.32	53.66
9		282.48	60.05	277.20	61.96	269.28	60.05	261.36	58.13	250.80	56.21	232.32	51.74
10		285.12	60.05	279.84	61.96	269.28	58.77	261.36	56.85	250.80	54.94	232.32	50.47
11		287.76	60.05	282.48	61.32	269.28	58.13	261.36	56.21	250.80	54.30	232.32	49.83
14		295.68	61.32	285.12	58.77	269.28	54.94	261.36	53.02	250.80	51.10	232.32	46.63
15		298.32	61.32	285.12	58.13	269.28	54.30	261.36	52.38	250.80	50.47	232.32	45.99
RAS-86HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		129.60	57.73	129.60	60.35	129.60	64.29	129.60	64.94	129.60	66.91	129.60	68.88
-17		145.80	58.38	145.80	61.01	145.80	64.94	145.80	65.60	145.80	67.57	145.80	69.54
-15		153.90	59.04	153.90	61.66	153.90	64.94	153.90	66.26	153.90	68.22	153.90	70.19
-13		164.70	59.04	164.70	61.66	164.70	64.94	164.70	66.26	164.70	68.22	164.70	70.19
-11		175.50	59.04	175.50	61.66	175.50	64.94	175.50	66.26	175.50	68.22	175.50	70.19
-10		180.90	59.04	180.90	61.66	180.90	64.94	180.90	66.26	180.90	68.22	180.90	70.19
-9		189.00	59.04	189.00	61.66	189.00	64.94	189.00	66.26	189.00	68.22	189.00	70.19
-7		199.80	59.04	199.80	61.66	199.80	64.94	199.80	66.26	199.80	68.22	199.80	70.19
-6		207.90	59.04	207.90	61.66	207.90	64.94	205.20	66.26	205.20	68.22	205.20	70.19
-5		213.30	59.04	213.30	61.66	213.30	64.94	210.60	66.26	210.60	68.22	210.60	70.19
-3		224.10	59.70	224.10	61.66	224.10	65.60	221.40	66.91	221.40	68.88	218.70	69.54
-1		234.90	59.70	234.90	62.32	234.90	66.26	232.20	67.57	229.50	68.88	226.80	69.54
0		237.60	60.35	237.60	62.98	237.60	66.26	237.60	68.22	234.90	69.54	229.50	69.54
1		245.70	61.01	245.70	63.63	245.70	66.91	245.70	68.22	243.00	68.22	234.90	67.57
3		261.90	61.01	261.90	64.94	261.90	67.57	259.20	67.57	256.50	66.91	237.60	63.63
5		264.60	61.01	264.60	64.29	264.60	66.26	261.90	65.60	256.50	62.98	237.60	57.73
6		275.40	61.01	275.40	63.63	270.00	65.60	264.60	63.63	256.50	61.01	237.60	55.76
7		280.80	61.01	278.10	63.63	272.70	64.29	267.30	62.32	256.50	59.70	237.60	55.10
9		288.90	61.66	283.50	63.63	275.40	61.66	267.30	59.70	256.50	57.73	237.60	53.14
10		291.60	61.66	286.20	63.63	275.40	60.35	267.30	58.38	256.50	56.42	237.60	51.82
11		294.30	61.66	288.90	62.98	275.40	59.70	267.30	57.73	256.50	55.76	237.60	51.17
14		302.40	62.98	291.60	60.35	275.40	56.42	267.30	54.45	256.50	52.48	237.60	47.89
15		305.10	62.98	291.60	59.70	275.40	55.76	267.30	53.79	256.50	51.82	237.60	47.23

RAS-88HNBBMQ													
Combination(%) (Heating Capacity Index) 100%	Outdoor Ambient WB°C	Indoor Ambient Temperature(DB °C)											
		16		18		20		21		22		24	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
-20		132.48	59.24	132.48	61.93	132.48	65.97	132.48	66.65	132.48	68.67	132.48	70.69
-17		149.04	59.91	149.04	62.61	149.04	66.65	149.04	67.32	149.04	69.34	149.04	71.36
-15		157.32	60.59	157.32	63.28	157.32	66.65	157.32	67.99	157.32	70.01	157.32	72.03
-13		168.36	60.59	168.36	63.28	168.36	66.65	168.36	67.99	168.36	70.01	168.36	72.03
-11		179.40	60.59	179.40	63.28	179.40	66.65	179.40	67.99	179.40	70.01	179.40	72.03
-10		184.92	60.59	184.92	63.28	184.92	66.65	184.92	67.99	184.92	70.01	184.92	72.03
-9		193.20	60.59	193.20	63.28	193.20	66.65	193.20	67.99	193.20	70.01	193.20	72.03
-7		204.24	60.59	204.24	63.28	204.24	66.65	204.24	67.99	204.24	70.01	204.24	72.03
-6		212.52	60.59	212.52	63.28	212.52	66.65	209.76	67.99	209.76	70.01	209.76	72.03
-5		218.04	60.59	218.04	63.28	218.04	66.65	215.28	67.99	215.28	70.01	215.28	72.03
-3		229.08	61.26	229.08	63.28	229.08	67.32	226.32	68.67	226.32	70.69	223.56	71.36
-1		240.12	61.26	240.12	63.95	240.12	67.99	237.36	69.34	234.60	70.69	231.84	71.36
0		242.88	61.93	242.88	64.63	242.88	67.99	242.88	70.01	240.12	71.36	234.60	71.36
1		251.16	62.61	251.16	65.30	251.16	68.67	251.16	70.01	248.40	70.01	240.12	69.34
3		267.72	62.61	267.72	66.65	267.72	69.34	264.96	69.34	262.20	68.67	242.88	65.30
5		270.48	62.61	270.48	65.97	270.48	67.99	267.72	67.32	262.20	64.63	242.88	59.24
6		281.52	62.61	281.52	65.30	276.00	67.32	270.48	65.30	262.20	62.61	242.88	57.22
7		287.04	62.61	284.28	65.30	278.76	65.97	273.24	63.95	262.20	61.26	242.88	56.55
9		295.32	63.28	289.80	65.30	281.52	63.28	273.24	61.26	262.20	59.24	242.88	54.53
10		298.08	63.28	292.56	65.30	281.52	61.93	273.24	59.91	262.20	57.90	242.88	53.18
11		300.84	63.28	295.32	64.63	281.52	61.26	273.24	59.24	262.20	57.22	242.88	52.51
14		309.12	64.63	298.08	61.93	281.52	57.90	273.24	55.88	262.20	53.86	242.88	49.14
15		311.88	64.63	298.08	61.26	281.52	57.22	273.24	55.20	262.20	53.18	242.88	48.47

3. Part Load Performance

SELECTION DATA

RAS-8.0HNBBMQ								
Connected Indoor Unit Capacity Ratio(%)	30%	40%	50%	60%	70%	80%	90%	100%
Cooling Capacity(kW)	6.7	9.0	11.2	13.4	15.7	17.9	20.2	22.4
Input Power(kW)	0.90	1.20	1.54	2.04	2.58	3.11	3.78	4.44
EER	7.45	7.49	7.29	6.58	6.08	5.76	5.34	5.04
RAS-10HNBBMQ								
Connected Indoor Unit Capacity Ratio(%)	30%	40%	50%	60%	70%	80%	90%	100%
Cooling Capacity(kW)	8.4	11.2	14.0	16.8	19.6	22.4	25.2	28.0
Input Power(kW)	1.19	1.58	2.03	2.70	3.41	4.12	5.00	5.88
EER	7.04	7.08	6.88	6.21	5.75	5.44	5.04	4.76
RAS-12HNBBMQ								
Connected Indoor Unit Capacity Ratio(%)	30%	40%	50%	60%	70%	80%	90%	100%
Cooling Capacity(kW)	10.1	13.4	16.8	20.1	23.5	26.8	30.2	33.5
Input Power(kW)	1.44	1.91	2.46	3.27	4.12	4.98	6.04	7.11
EER	6.96	7.00	6.81	6.15	5.69	5.38	4.99	4.71
RAS-14HNBBMQ								
Connected Indoor Unit Capacity Ratio(%)	30%	40%	50%	60%	70%	80%	90%	100%
Cooling Capacity(kW)	12.0	16.0	20.0	24.0	28.0	32.0	36.0	40.0
Input Power(kW)	1.85	2.45	3.15	4.18	5.27	6.36	7.73	9.09
EER	6.50	6.54	6.36	5.74	5.31	5.03	4.66	4.40
RAS-16HNBBMQ								
Connected Indoor Unit Capacity Ratio(%)	30%	40%	50%	60%	70%	80%	90%	100%
Cooling Capacity(kW)	13.5	18.0	22.5	27.0	31.5	36.0	40.5	45.0
Input Power(kW)	2.06	2.73	3.51	4.66	5.88	7.10	8.62	10.14
EER	6.56	6.59	6.41	5.79	5.36	5.07	4.70	4.44
RAS-18HNBBMQ								
Connected Indoor Unit Capacity Ratio(%)	30%	40%	50%	60%	70%	80%	90%	100%
Cooling Capacity(kW)	15.0	20.0	25.0	30.0	35.0	40.0	45.0	50.0
Input Power(kW)	2.29	3.04	3.91	5.19	6.55	7.90	9.60	11.29
EER	6.54	6.58	6.40	5.78	5.34	5.06	4.69	4.43
RAS-20HNBBMQ								
Connected Indoor Unit Capacity Ratio(%)	30%	40%	50%	60%	70%	80%	90%	100%
Cooling Capacity(kW)	16.8	22.4	28.0	33.6	39.2	44.8	50.4	56.0
Input Power(kW)	2.87	3.81	4.89	6.50	8.20	9.90	12.02	14.14
EER	5.85	5.88	5.72	5.17	4.78	4.53	4.19	3.96
RAS-22HNBBMQ								
Connected Indoor Unit Capacity Ratio(%)	30%	40%	50%	60%	70%	80%	90%	100%
Cooling Capacity(kW)	18.5	24.6	30.8	36.9	43.1	49.2	55.4	61.5
Input Power(kW)	3.14	4.16	5.35	7.11	8.96	10.82	13.13	15.45
EER	5.88	5.91	5.75	5.19	4.80	4.55	4.21	3.98

Indoor air inlet temperature: 27°C DB 19°C WB.

Outdoor air inlet temperature: 35°C DB.

