Planning and Design Statement

25 Glenmore Road,
Belsize Park,
London NW3 4BY

August 2023

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Chapter 1

Introduction

1. Introduction

1.1. This statement has been prepared by WEA Planning on behalf of the property owner Yen Sum, to support the retrospective householder planning application for an air source heat pump unit situated in the garden of number 25 Glenmore Road, Belsize Park, London NW3 4BY, submitted under the Town and Country Planning Act 1990 (as amended).

1.2. This statement sets out the background to the development (including planning history), the design and justification for the proposal and its accordance with the development plan. The statement refers to the development plans which comprise:

- The London Plan 2021
- Camden Local Plan 2017
- Belsize Conservation Area Statement
- Camden Home Improvement SPG January 2021
- Camden Energy efficiency and adaptation SPG January 2021

1.3. The National Planning Policy Framework (NPPF) and the planning practice guidance to support the NPPF sets out the Government's policies and how they are expected to be applied.

Site Description

1.4. The application site is situated within the London Borough of Camden (herein referred to as LBC) at 25 Glenmore Road, Belsize Park, London NW3 4BY.

1.5. The property is a three-storey mid-terrace building in residential use. It is situated approximately halfway along Glenmore Road. The street is entirely residential, although it is a 2-minute walk to Haverstock Hill where Belsize Park Underground Station is located, along with various commercial and retail uses. There are several restaurants, cafes, and pubs in the immediate vicinity.

1.6. The site is located within the Belsize Conservation Area. It is not a listed building. The property is estimated to have been built in the late 19th century. It is built in a style typical of the wave of development at that time, on what was the open

countryside surrounding London, which has now become inner London. The terrace has been altered over the years, particularly at roof level and to the rear.

1.7. The property has recently undergone renovations to update it for modern living, including through the provision of a significantly more energy efficient system for heating and some cooling.

Planning History

1.8. The property has seen various planning applications in its history, as listed below.

2023/1733/T No Objection to Works to Tree(s) in CA
Notification of Intended Works to Tree(s) in a Conservation Area
REAR GARDEN: 1 x Silver Birch (T1) - Fell to ground level.

2017/2465/P Granted (May 31 2017) - Certificate of Lawfulness (Existing)
Installation of 4x rooflights to dwelling house (Use C3)

2013/7994/P Granted (Mar 19 2014) - Householder Application
Erection of a single storey rear infill extension following demolition of existing side extension and replacement of existing rear garden doors in connection with dwelling house.

2013/0494/P Withdrawn (Mar 20 2013)- Full Planning Permission
Excavation to create enlarged basement with front and rear lightwells, alterations to existing single-storey rear extension including new glazed roof, alterations to rear fenestration at ground and first floor level and erection of dormer window in rear roofslope all in connection with existing dwelling (Class C3).

2012/4330/P Withdrawn (Oct 9 2012)
Excavation to create enlarged basement with front and rear lightwells, alterations to existing single-storey rear extension including new glazed roof, alterations to rear fenestration at ground and first floor level and erection of dormer window in rear roofslope all in connection with existing dwelling (Class C3).

The proposed design

1.9. The applicant seeks retrospective householder planning permission from the London Borough of Camden Council for the installation of an air source heat pump unit in the garden at 25 Glenmore Road, Belsize Park, London NW3 4BY.

1.10. The description of the development is as follows:

Installation of air source heat pump within enclosure in rear garden

1.11. The air source heat pump is located within a well-designed acoustic enclosure including a secondary timber solid fence panel with two layers of dense sound matt insulation and a 225mm thick concrete wall on the rear boundary of the site. The unit is also well screened visually by the enclosure as well as by planting along the boundary fences to ensure its appearance is inconspicuous from neighbouring dwellings.

1.12. The purpose of the proposed development is to provide a modern system for primarily heating and occasional cooling of the dwelling, providing more comfortable living conditions for the occupants, in an energy efficient manner.

1.13. The main considerations for this proposal are the impacts on the character and appearance of the property and its surrounding area, the impacts in terms of neighbouring amenity, and the environmental sustainability of the unit.

1.14. The application submission addresses the relevant issues and will demonstrate the development is acceptable and makes a positive contribution in terms of character and appearance, as well as energy efficiency.

Similar Planning Applications

1.15. There are many examples of properties in Camden that have planning approval for heat pumps within enclosures. Some recent examples are listed below:

1.16. **3 Hampstead Hill Gardens London NW3 2PH (2023/0242/P)**
Installation of an air source heat pump and associated enclosure in the rear garden.

1.17. **5 West Cottages West End Lane London NW6 1RJ (2022/4143/P)**

Erection of single storey rear extension; installation of roof terrace with rooflights at first floor level with access door, railings, and privacy screen; installation of replacement doors and windows at front and rear; alterations to front dormer window and installation of solar panels on rear dormer; and installation of new air source heat pump with enclosure in rear garden.

1.18. **31 Lady Margaret Road London NW5 2NG (2022/5521/P)**

Erection of lower ground floor rear extension with green roof and rooflight; erection of new upper ground floor rear terrace with stairs to garden and bike store underneath and extended rear patio; installation of rooflights, air source heat pump and photovoltaic panels on valley roof; rooflight on rear wing; new garden boundary treatment; insulation and rendering of side elevation, new doors in flank elevation and front lightwell; and new bike store in front garden.

1.19. **20 Tanza Road London NW3 2UB (2022/5529/P)**

Installation of an air source heat pump within an acoustic enclosure on the rear elevation at ground floor level.

1.20. **18 Grafton Mews London W1T 5JG (2022/2516/P)**

Erection of an Air Source Heat Pump at rear roof level.

1.21. **21 Chalcot Square London NW1 8YA (2022/4762/P)**

Installation of an air source heat pump with enclosure with slatted timber cover on rear roof terrace.

1.22. **39 Flask Walk London Camden NW3 1HH (2022/5430/P)**

Demolition of the flat roof and sliding doors to the rear extension and replacement with a raised flat roof, steel windows and double doors. New doors to internal courtyard. Addition of greenhouse structure and heat pump to the rear garden.

Chapter 2

Planning Justification

2. Planning Justification

Policy Considerations

2.1. The decision to grant planning permission must have regard for the policies and proposals set out in the NPPF and the development plan.

National Planning Policy Framework (NPPF)

2.2. In so far as the National Planning Policy Framework (NPPF) is concerned, the proposals respond to the following guidelines:

- Local authorities should ensure that developments "*are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities)"* (paragraph 127).
- New development should also be planned for in ways that can "*help to reduce greenhouse gas emissions, such as through its location, orientation and design*" (paragraph 154).
- *"Planning policies and decisions should contribute to and enhance the natural and local environment by: e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability"* (paragraph 174).
- Development should be appropriate for its location taking into account the likely effects of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site. Decisions should "*mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life*" (paragraph 185).

2.3. The NPPF does not prescribe any assessment methodology or criteria to assess the adverse effect of noise however, it refers to the Noise Policy Statement for England (NPSE). The National Planning Practice Guidance (NPPG) on noise is also relevant, stating that "*Noise needs to be considered when new developments may create additional noise and when new developments would*

be sensitive to the prevailing acoustic environment." It provides generic guidance on how to determine the noise impact and what factors could be a concern.

The London Plan 2021

2.4. Policy D3 – Optimising site capacity though the design-led approach
Paragraph D of Policy D3 states "*development proposals should:*
11) respond to the existing character of a place by identifying the special and valued features and characteristics that are unique to the locality and respect, enhance and utilise the heritage assets and architectural features that contribute towards the local character
12) be of high quality, with architecture that pays attention to detail, and gives thorough consideration to the practicality of use, flexibility, safety and building lifespan through appropriate construction methods and the use of attractive, robust materials which weather and mature well"

2.5. Policy D4 aims to ensure that developments deliver good design and meet the design requirements of the London Plan. Policy D6 concerns housing quality, providing standards for internal and external space, as well as qualitative design aspects such as layout, orientation, and form.

2.6. Policy SI 4 (Managing heat risk) sets out a cooling hierarchy to reduce the potential for internal overheating and reliance on air conditioning systems:
1) reduce the amount of heat entering a building through orientation, shading, high albedo materials, fenestration, insulation, and the provision of green infrastructure
2) minimise internal heat generation through energy efficient design
3) manage the heat within the building through exposed internal thermal mass and high ceilings
4) provide passive ventilation
5) provide mechanical ventilation
6) provide active cooling systems.

Camden Local Plan 2017

2.7. Policy A1 is entitled 'Managing the impact of development' and sets the Council's objective to protect the quality of life of occupiers and neighbours. In order to

assess the impact of development, the Council will take into account visual privacy, outlook, noise and vibration levels, and odour, fumes and dust.

2.8. Policy D1 (Design) states: "*The Council will seek to secure high quality design in development. The Council will require that development: a. respects local context and character; e. comprises details and materials that are of high quality and complement the local character; n. for housing, provides a high standard of accommodation."*

2.9. Policy D2 (Heritage) states: "*In order to maintain the character of Camden's conservation areas, the Council will take account of conservation area statements, appraisals and management strategies when assessing applications within conservation areas. The Council will: e. require that development within conservation areas preserves or, where possible, enhances the character or appearance of the area; f. resist the total or substantial demolition of an unlisted building that makes a positive contribution to the character or appearance of a conservation area; g. resist development outside of a conservation area that causes harm to the character or appearance of that conservation area; and h. preserve trees and garden spaces which contribute to the character and appearance of a conservation area or which provide a setting for Camden's architectural heritage.*"

2.10. Policy CC1 relates to climate change mitigation and seeks to ensure that all development minimises the effects of climate change and meet the highest feasible environmental standards that are financially viable. Similarly, Policy CC2 requires development to adopt appropriate climate change adaptation measures including bio-diverse green roofs and energy efficiency measures. In relation to active cooling, paragraph 8.42 (which accompanies Policy CC2) notes that air conditioning will only be permitted where dynamic thermal modelling demonstrates there is a clear need for it after all the preferred measures are incorporated in line with the cooling hierarchy.

2.11. Policy A4 (Noise and vibration) seeks to ensure that noise and vibration is controlled and managed. It states that planning permission will not be granted for development likely to generate unacceptable noise and vibration impacts.

Camden Energy efficiency and adaptation guidance January 2021

2.12. Camden's Planning Guidance (CPG) on energy efficiency and adaptations supports Local Plan Policy CC1 by providing information on key energy and resource issues and how developments should manage such issues. In terms of making buildings more energy efficient, the key message of the CPG is that natural 'passive' measures should be prioritised over 'active' measures to reduce energy.

2.13. Paragraph 3.3 explains that energy efficient (passive) design measures should be considered prior to the inclusion of any active measures to ensure that the energy demand for developments is reduced as far as possible. Paragraph 3.4 sets out the requirement for applicants to demonstrate how the following passive design measures have been considered and incorporated in the development:

- Making the most of sunlight
- Making the most of daylight
- Preventing overheating
- Natural cooling
- Thermal performance

2.14. In relation to natural cooling, the CPG explains that this is a non-mechanical way of cooling a building. It uses an approach to design that controls the heat entering a building and encouraging dissipation (paragraph 3.7). Energy efficiency requirements, such as insulation, should exceed Building Regulations where possible (paragraph 3.8).

2.15. The CPG also recognises that when dealing with historic buildings a sensitive approach needs to be taken (paragraph 8.5), given that historic buildings have special features that need to be conserved. The council aims to balance the conservation of fuel and power against the need to conserve the fabric of the building.

Assessment

Design and appearance

2.16. The unit is located in the rear garden, entirely out of public view. It is within a wooden enclosure, painted in a dark colour, in keeping with the boundary fencing. It is also well screened from neighbouring properties by planting along the boundary fences, which will thicken as the plants mature. Overall, the unit is therefore of very limited visibility, and cannot be said to bring any unacceptable visual harm to the area.

2.17. The air source heat pump unit is a Daikin REYQ8U7Y1B. Details of the unit can be found at **Appendix 1**.

2.18. The enclosure in which it sits is 2.1m in height by 1.36m in width, with a depth of 1.2m. It does not significantly impact upon the setting or character of the building. The proposal maintains the existing openness of the rear yard and does not detract from its character. The unit preserves the character and appearance of the conservation area, and any impact would be negligible.

2.19. In the decision notice for an approved air source heat pump at the Grade II listed 3 Hampstead Hill Gardens (ref. 2023/0242/P, May 2023), the officer deemed the heat pump would not significantly impact upon the setting or character of the listed building given it would occupy a small area of the rear garden and would be hidden from view of neighbouring properties. Similarly, in an approved application for a heat pump at 20 Tanza Road (ref. 2022/5529/P, April 2023) the officer deemed the development acceptable given the limited visibility from neighbouring properties, also noting that the acoustic enclosure would surround the heat pump would have a black powder-coated finish which was considered to be an appropriate appearance.

2.20. The same considerations should be applied to the heat pump at 25 Glenmore Road. The enclosed unit will be visually unassuming in the garden. The dark colour helps to keep it discreet and unremarkable, with an appearance similar to a small storage shed. The visual impacts of the unit on the character and appearance of the host property and the conservation area are minimal and should be accepted.

Amenity impacts

2.21. In terms of noise, the assessment submitted with this application (KP Acoustics Ltd.; Reference 27080.PCR.01) explains the methodology and equipment that has been used to assess noise impacts of the air source heat pump unit. A 24-hour environmental noise survey has been undertaken on site in order to prepare a noise impact assessment in accordance with BS4142:2014. The background noise at the site was found to be typical of a suburban environment, with the dominant source being road traffic noise from the surrounding roads.

2.22. It is noted that the most sensitive receivers to noise are the first-floor windows of the property itself and the residential dwelling to the south. The impact on the neighbouring gardens has also been considered.

2.23. The findings of the noise assessment are that the noise source would not be dominant over the residual noise climate and the air source heat pump unit is therefore of a low impact at the noise-sensitive receivers when compared to the residual noise climate during both the day and night. The unit was tested on its most onerous setting, heating mode.

2.24. The air source heat pump unit is unlikely to cause any noise nuisance and is therefore acceptable in terms of amenity impacts. The noise assessment is conclusive that noise should not be considered a material constraint in determining the plant noise aspects of the planning application.

Passive measures

2.25. Recognising that natural ‘passive’ measures should be prioritised over ‘active’ measures to reduce energy use, the applicant has implemented various measures to help keep the property cool, as well as investigating the potential for further measures in accordance with the cooling hierarchy.

2.26. It should be noted that as an existing dwelling, many of the measures which may be appropriate for new developments cannot be incorporated at the property without undertaking a significant renovation which would not be compatible with the existing style of the property nor the heritage significance of the surrounding

area. For example, external wall insulation would have a significant negative impact on the appearance of the property and the street scene (an important consideration bearing in mind the property's location within the Belsize Conservation Area).

2.27. There is also little option to add thermal mass to the property as external walls at ground and first floor levels are already brickwork along with many of the existing partition walls. Bedrooms at first- and second-floor level could be improved by changing all of the windows to include solar glazing, however solar glazing would have a significant visual impact on the appearance of the property and would not be in keeping with the character of the conservation area. Furthermore, the windows have already been upgraded within the last 5 years and have good thermal properties. This is also the case for the existing roof windows which are relatively new and have good thermal values. Given the limited scope for upgraded passive measures, it is not considered that these options would be viable or proportionate.

2.28. Passive shading has already been added to the rear kitchen by way of a canopy above the patio doors which helps keep ground floor rooms cool. The building also incorporates various other features to improve its sustainability credentials and minimise internal heat generation through energy efficient design. The windows use double glazing, representing an improvement in thermal efficiency compared to the original windows which were single glazed and draughty. The openable windows provide natural ventilation and help to keep the house cool in the summer months. It should be noted that whilst the property already benefits from adequate passive ventilation with openable windows at all levels, these are restricted opening for safety. All lighting and appliances are low energy / high efficiency to avoid generating excess heat.

2.29. These measures ensure the proposed development supports Policies CC1 and CC2 of the Camden Local Plan and Policy SI 4 of the London Plan. The Camden Local Plan recognises the importance of climate change mitigation, noting that "*it is crucial that planning policy limits carbon dioxide emissions from new development wherever possible and supports sensitive energy efficiency improvements to existing buildings*" (Paragraph 8.3). The sustainability measures already incorporated in the building are substantial, and represent a high standard of energy efficiency, given the age of the building.

The requirement for cooling

2.30. During markedly hot periods, occupants are affected by the excessive temperatures in the bedrooms. An Overheating Risk Assessment (L2 Energy Consulting) has been submitted with this application which uses Dynamic Thermal Modelling to assess the property.

2.31. The Overheating Risk Assessment explains the criteria used to assess the potential for overheating. This includes a threshold of temperatures greater than 26°C for more than 1% of annual hours between 22:00 and 07:00. The results of the modelling show that all upper floor rooms of the property do not pass the requirements of benchmark of CIBSE TM59 (*Design methodology for the assessment of overheating risk in homes*, The Chartered Institution of Building Services Engineers).

2.32. It is noted that whilst openable windows are available to all occupied areas, these are restricted to 100mm for security at ground floor level and upper floor levels. The calculations have been re-run to include mechanical ventilation providing three air changes per hour to all bedroom areas (this significantly exceeds the building regulations recommendation for air changes). It is noted that this would not be a straightforward installation but may be the most viable of the alternative measures, albeit not a passive measure. However, the results show that all of bedrooms still overheat even with mechanical ventilation added.

2.33. Other alternative measures would involve significant works comprising changing all windows, which would be unlikely to make a significant difference, particularly given the restricted window openings for safety. The results of the thermal modelling indicate, to provide thermal comfort within the property, there is a requirement for active cooling to be introduced. The proposal is, therefore, in accordance with the requirements of Camden Local Plan Policy CC2 (in particular, paragraph 8.42 of the supporting text) and London Plan Policy SI 4 and there can be no justification in this instance for the imposition of a condition limiting the application of the unit for the purpose of heating only.

2.34. The proposed air source heat pump unit primarily provides an energy efficient alternative to a gas boiler for heating and also provides an electricity-based cooling system allowing for the procurement of renewably sourced electricity to

power the unit, which aligns with Camden's climate mitigation and adaptation policies CC1 and CC2.

2.35. The Daikin unit is 420% efficient in heating mode and 720% efficient in reverse (i.e. cooling mode). Any waste heat it outputs during cooling mode is therefore minimised due to this high level of efficiency. In relation to carbon emissions, the air source heat pump provides a substantial benefit over a gas boiler. For heating with gas, carbon emissions would be 0.21 KgCO2/KWh. In comparison, there will be 728% less emissions produced from the air source heat pump unit than a 90% efficient gas boiler.

2.36. The decision to install the heat pump was based on the intention to modernise the property to lower its carbon emissions and improve its thermal performance, all in a sympathetic way that does not harm the character of the host building.

2.37. The carbon emission reduction will be substantial during the colder months when heating is required, with the added benefit of keeping the property comfortable during excessively warm periods. The air source heat pump provides significant energy efficiency gains and will keep emissions as low as possible during these periods.

Chapter 3

Conclusion

3. Conclusion

3.1. This application seeks planning permission for an air source heat pump unit situated to the rear of 25 Glenmore Road, Belsize Park, London NW3 4BY.

3.2. In conclusion:

a. The retrospectively proposed air source heat pump unit primarily for heating is concealed within an acoustic enclosure and would not harm the character and appearance of the host property nor the character of the surrounding streets. It is hidden from public view or from neighbouring windows.
b. As discussed in the acoustic assessment, the unit produces a low level of noise in relation to the residual noise and would therefore not create any unacceptable impact on the amenity of the neighbouring properties.
c. The unit is discreet in its external appearance, yet it significantly improves the comfort of occupants within the property through energy efficient hearing and the provision of a cooling system for excessively hot periods. The cooling aspect of the system is only used when required.
d. A range of passive measures have been investigated however, these are unlikely to provide significant benefits beyond the existing situation which already includes modern windows and shading at ground floor level, for example. Alternative measures would also have negative impacts on the appearance of the property, particularly in the case of external wall insulation or solar glazing and would not be viable.
e. Dynamic thermal modelling has shown the need for active cooling in order to keep the temperature of the bedrooms at an acceptable level during excessively hot periods.

3.3. The development is compliant with the NPPF, the London Plan 2021 and development plan policies contained within the Camden Local Plan 2017. Planning permission should be granted, and we ask that the council therefore approve this application. We look forward to receiving your decision. Should you have any queries in respect of this submission, please do not hesitate to contact us.

Appendix 1 – Air Source Heat Pump Unit Specification

DAIKIN

Air Conditioning
Technical Data
REMQ-U, REYQ-U

> REMQ5U7Y1B
> REYQ8U7Y1B
> REYQ10U7Y1B
> REYQ12U7Y1B
> REYQ14U7Y1B
> REYQ16U7Y1B
> REYQ18U7Y1B
> REYQ20U7Y1B

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REMQ-U, REYQ-U

1 Features

1 - 1 REMQ-U

- Outdoor unit module for VRV IV heat recovery to create systems from 10 up to 13HP
- Free combination of outdoor units to meet installation space or efficiency requirements

INVERTER

Inverter

1 Features
1 - 2 REYQ-U

- Fully integrated solution with heat recovery for maximum efficiency with COPs of up to 8 !
- Covers all thermal needs of a building via a single point of contact: accurate temperature control, ventilation, hot water, air handling units and Biddle air curtains
- "Free" heating and hot water production provided by transferring heat from areas requiring cooling to areas requiring heating or hot water
- The perfect personal comfort for guests/tenants via simultaneous cooling and heating
- Incorporates VRV IV standards & technologies: Variable Refrigerant Temperature, continuous heating, VRV configurator, 7 segment display and full inverter compressors, 4-side heat exchanger, refrigerant cooled PCB, new DC fan motor
- Customize your VRV for best seasonal efficiency & comfort with the weather dependant Variable Refrigerant Temperature function. Increased seasonal efficiency with up to 28%. No more cold draft by supply of high outblow temperatures
- Continuous comfort: Unique continuous heating technology makes VRV IV the best alternative to traditional heating systems
- VRV configurator software for the fastest and most accurate commissioning, configuration and customisation
- Outdoor unit display for quick on-site settings and easy read out of errors together with the indication of service parameters for checking basic functions.
- Free combination of outdoor units to meet installation space or efficiency requirements
- Fits any building as also indoor installation is possible as a result of high external static pressure of up to 78.4 Pa. Indoor installation leads to less piping length, lower installation costs, increased efficiency and better visual aesthetics
- Simplified installation & guaranteed optimal efficiency with automatic charging & testing
- Easy compliance with F-gas regulation thanks to automated refrigerant containment check
- Wide piping flexibility: 30m indoor height difference, maximum piping length: 190m, total piping length: 1,000m
- Possibility to extend the operation range in cooling down to -20°C for technical cooling operation such as server rooms
- The ability to control each conditioned zone individually keeps VRV system running costs to an absolute minimum
- Spread your installation cost by phased installation
- Keep your system in top condition via the Daikin Cloud Service: 24/7 monitoring for maximum efficiency, extented lifetime and immediate service support thanks to failure prediction

Inverter

2 Specifications

2-1 Technical Specifications					REMQ5U	REYQ8U	REYQ10U	REYQ12U	REYQ14U	REYQ16U	REYQ18U	REYQ20U
Recommended combination					-	4 x FXFQ50AVEB	4 x FXFQ63AVEB	6 x FXFQ50AVEB	1 x FXFQ50AVEB + 5 x FXFQ63AVEB	4 x FXFQ63AVEB + 2 x FXFQ80AVEB	3 x FXFQ50AVEB + 5 x FXFQ63AVEB	2 x FXFQ50AVEB + 6 x FXFQ63AVEB
Recommended combination 2					-	4 x FXSQ50A2VEB	4 x FXSQ63A2VEB	6 x FXSQ50A2VEB	1 x FXSQ50A2VEB + 5 x FXSQ63A2VEB	4 x FXSQ63A2VEB + 2 x FXSQ80A2VEB	3 x FXSQ50A2VEB + 5 x FXSQ63A2VEB	2 x FXSQ50A2VEB + 6 x FXSQ63A2VEB
Recommended combination 3					-	4 x FXMQ50P7VEB	4 x FXMQ63P7VEB	6 x FXMQ50P7VEB	1 x FXMQ50P7VEB + 5 x FXMQ63P7VEB	4 x FXMQ63P7VEB + 2 x FXMQ80P7VEB	3 x FXMQ50P7VEB + 5 x FXMQ63P7VEB	2 x FXMQ50P7VEB + 6 x FXMQ63P7VEB
Cooling capacity	Prated,c			kW	14.0 (1)	22.4 (1)	28.0 (1)	33.5 (1)	40.0 (1)	45.0 (1)	50.4 (1)	52.0 (1)
Heating capacity	Prated,h			kW	-	13.7	16.0	18.4	20.6	23.2	27.9	31.0
	Max.	6°CWB		kW	16.0 (2)	25.0 (2)	31.5 (2)	37.5 (2)	45.0 (2)	50.0 (2)	56.5 (2)	63.0 (2)
SEER					-	7.2	6.7	6.5		6.2	6.3	6.2
SEER recommended combination 2					-	6.8		6.2	6.6	6.2	6.4	6.3
SEER recommended combination 3					-	7.2	6.7	6.6		6.1	6.4	6.3
SCOP					-	4.2	4.3	4.7	4.3		4.4	4.1
SCOP recommended combination 2					-	4.1	4.3	4.6	4.2		4.3	4.1
SCOP recommended combination 3					-	4.2		4.5	4.1		4.2	4.0
ηs,c				%	-	286.1	264.8	257.0	255.8	243.1	250.6	246.7
ηs,c recommended combination 2					-	270.2	270.4	246.6	259.4	244.5	251.9	249.6
ηs,c recommended combination 3					-	286.6	266.4	259.8	259.6	241.7	252.0	248.9
ηs,h				%	-	165.1	169.7	183.8	168.3	167.5	172.5	162.7
ηs,h recommended combination 2					-	160.9	169.4	179.5	166.1	164.4	170.0	161.4
ηs,h recommended combination 3					-	163.2	166.2	178.5	160.4	160.5	164.7	157.3
Capacity range				HP	5	8	10	12	14	16	18	20
Maximum number of connectable indoor units					64 (3)							
Indoor index connection	Min.				62.5	100.0	125.0	150.0	175.0	200.0	225.0	250.0
	Max.				162.5	260.0	325.0	390.0	455.0	520.0	585.0	650.0
Dimensions	Unit	Height		mm	1,685							
		Width		mm	930				1,240			
		Depth		mm	765							
	Packed unit	Height		mm	1,820							
		Width		mm	995				1,305			
		Depth		mm	860							
Weight	Unit			kg	230				314		317	
	Packed unit			kg	243				331		334	
Packing	Material				Carton							
	Weight			kg	1.8				2.2			
Packing 2	Material				Wood							
	Weight			kg	11.0				14.0			
Packing 3	Material				Plastic							
	Weight			kg	0.5				0.6			
Capacity control	Method				Inverter controlled							
Casing	Colour				Daikin White							
	Material				Painted galvanized steel plate							
Heat exchanger	Type				Cross fin coil							
	Indoor side				Air							
	Outdoor side				Air							
	Air flow rate	Cooling	Rated	m³/h	9,720		10,500	11,100	13,380	15,600	15,060	15,660
		Heating	Rated	m³/h	9,720		10,500	11,100	13,380	15,600	15,060	15,660
Compressor	Quantity				1				2			
	Type				Hermetically sealed scroll compressor							
	Crankcase heater			W	33							

2 Specifications

2-1 Technical Specifications					REMQ5U	REYQ8U	REYQ10U	REYQ12U	REYQ14U	REYQ16U	REYQ18U	REYQ20U
Fan	Quantity				1				2			
	External static pressure	Max.		Pa	78							
Fan motor	Quantity				1				2			
	Type				DC motor							
	Output			W	550				750			
Sound power level	Cooling	Nom.		dBA	78.0 (4)		79.1 (4)	83.4 (4)	80.9 (4)	85.6 (4)	83.8 (4)	87.9 (4)
	Heating	Nom.		dBA	62.7 (4)		64.8 (4)	64.9 (4)	68.3 (4)	68.6 (4)	66.3 (4)	67.0 (4)
Sound pressure level	Cooling	Nom.		dBA	57.0 (5)			61.0 (5)	60.0 (5)	63.0 (5)	62.0 (5)	65.0 (5)
Operation range	Cooling	Min.~Max.		°CDB	-5.0~43.0							
	Heating	Min.~Max.		°CWB	-20.0~15.5							
Refrigerant	Type				R-410A							
	GWP				2,087.5							
	Charge			TCO_2eq	20.2		20.5	20.7	24.6			
				kg	9.7		9.8	9.9	11.8			
Refrigerant oil	Type				Synthetic (ether) oil FVC68D							
Piping connections	Liquid	Type			Braze connection							
		OD		mm	9,52			12,7			15,9	
	Gas	Type			Braze connection							
		OD		mm	19.1		22.2	28.6				
	HP/LP gas	Type			Brazing connections							
		OD		mm	15.9		19.1		22.2			28.6
	Total piping length	System	Actual	m	-	1,000 (6)						
Defrost method					Reversed cycle							
Safety devices	Item	01			High pressure switch							
		02			Fan driver overload protector							
		03			Inverter overload protector							
		04			PC board fuse							
		05			Leakage current detector							
PED	Category				Category II							
	Most critical part	Name			Liquid receiver							
		Ps*V		Bar*l	564				672		824	
Space cooling	A Condition (35°C - 27/19)	EERd			-	3.2	2.7	2.5	2.8	2.2		
		Pdc		kW	-	22.4	28.0	33.5	40.0	45.0	50.4	52.0
	B Condition (30°C - 27/19)	EERd			-	5.3	5.1	4.7	4.8	4.6	4.5	4.4
		Pdc		kW	-	16.5	20.6	24.7	29.5	33.2	37.1	38.3
	C Condition (25°C - 27/19)	EERd			-	9.6	7.7	7.5	8.3	8.1	7.8	7.7
		Pdc		kW	-	10.6	13.3	15.9	18.9	21.3	23.9	24.6
	D Condition (20°C - 27/19)	EERd			-	13.1	14.1	15.1	11.3	11.2	15.0	14.6
		Pdc		kW	-	9.4	8.4	9.8	8.4	9.5	11.6	13.6
Space cooling recommended combination 2	A Condition (35°C - 27/19)	EERd			-	2.9	2.8	2.5	2.8	2.2		
		Pdc		kW	-	22.4	28.0	33.5	40.0	45.0	50.4	52.0
	B Condition (30°C - 27/19)	EERd			-	4.9	5.1	4.5	4.8	4.5	4.4	
		Pdc		kW	-	16.5	20.6	24.7	29.5	33.2	37.1	38.3
	C Condition (25°C - 27/19)	EERd			-	9.1	8.0	7.1	8.5	8.2	7.9	
		Pdc		kW	-	10.6	13.3	15.9	18.9	21.3	23.9	24.6
	D Condition (20°C - 27/19)	EERd			-	12.6	14.3	14.4	11.4	11.3	15.0	14.9
		Pdc		kW	-	9.2	8.5	9.6	8.4	9.5	11.6	13.6
Space cooling recommended combination 3	A Condition (35°C - 27/19)	EERd			-	3.1	2.7	2.5	2.8	2.2		
		Pdc		kW	-	22.4	28.0	33.5	40.0	45.0	50.4	52.0
	B Condition (30°C - 27/19)	EERd			-	5.4	5.1	4.7	4.8	4.5	4.4	
		Pdc		kW	-	16.5	20.6	24.7	29.5	33.2	37.1	38.3
	C Condition (25°C - 27/19)	EERd			-	9.6	7.9	7.8	8.5	8.0		7.9
		Pdc		kW	-	10.6	13.3	15.9	18.9	21.3	23.9	24.6
	D Condition (20°C - 27/19)	EERd			-	13.0	14.1	15.1	11.6	11.3	15.2	15.0
		Pdc		kW	-	9.4	8.5	9.9	8.4	9.5	11.8	13.6

2 Specifications

2-1 Technical Specifications				REMQ5U	REYQ8U	REYQ10U	REYQ12U	REYQ14U	REYQ16U	REYQ18U	REYQ20U
Space heating (Average climate)	TBivalent	COPd (declared COP)		-	2.3	2.2	2.3	2.2	2.1	2.6	2.4
		Pdh (declared heating cap)	kW	-	13.7	16.0	18.4	20.6	23.2	27.9	31.0
		Tbiv (bivalent temperature)	°C	-	-10						
	TOL	COPd (declared COP)		-	2.3	2.2	2.3	2.2	2.1	2.6	2.4
		Pdh (declared heating cap)	kW	-	13.7	16.0	18.4	20.6	23.2	27.9	31.0
		Tol (temperature operating limit)	°C	-	-10						
	A Condition (-7°C)	COPd (declared COP)		-	2.7	2.6	2.9	2.7		2.9	2.7
		Pdh (declared heating cap)	kW	-	12.1	14.2	16.3	18.2	20.5	24.7	27.4
	B Condition (2°C)	COPd (declared COP)		-	4.0		4.2	4.0	3.9	4.1	3.7
		Pdh (declared heating cap)	kW	-	7.4	8.6	9.9	11.1	12.5	15.0	16.7
	C Condition (7°C)	COPd (declared COP)		-	6.0	6.1	7.2	6.3	6.5	6.2	6.1
		Pdh (declared heating cap)	kW	-	5.7		6.6	7.1	8.0	9.7	10.7
	D Condition (12°C)	COPd (declared COP)		-	9.3	10.3	9.4	6.8	6.9	8.0	8.1
		Pdh (declared heating cap)	kW	-	8.8	7.0	7.7	5.4	5.5	8.2	
Space heating (Average climate) recommended combination 2	A Condition (-7°C)	COPd (declared COP)		-	2.6		2.8	2.7	2.6	2.9	2.7
		Pdh (declared heating cap)	kW	-	12.1	14.2	16.2	18.2	20.5	24.7	27.4
	B Condition (2°C)	COPd (declared COP)		-	3.9	4.0	4.1	4.0	3.9	4.0	3.7
		Pdh (declared heating cap)	kW	-	7.4	8.6	9.9	11.1	12.5	15.0	16.7
	C Condition (7°C)	COPd (declared COP)		-	5.8	6.1	7.0	6.2	6.4	6.0	6.1
		Pdh (declared heating cap)	kW	-	5.6		6.5	7.1	8.0	9.7	10.7
	D Condition (12°C)	COPd (declared COP)		-	9.0	10.3	9.1	6.6	6.7	7.9	
		Pdh (declared heating cap)	kW	-	8.7	6.9	7.6	5.2	5.3	8.0	
	TBivalent	COPd (declared COP)		-	2.2		2.3	2.1		2.5	2.4
		Pdh (declared heating cap)	kW	-	13.7	16.0	18.4	20.6	23.2	27.9	31.0
		Tbiv (bivalent temperature)	°C	-	-10						
	TOL	COPd (declared COP)		-	2.2		2.3	2.1		2.5	2.4
		Pdh (declared heating cap)	kW	-	13.7	16.0	18.4	20.6	23.2	27.9	31.0
		Tol (temperature operating limit)	°C	-	-10						

2 Specifications

2-1 Technical Specifications					REMQ5U	REYQ8U	REYQ10U	REYQ12U	REYQ14U	REYQ16U	REYQ18U	REYQ20U
Space heating (Average climate) recommended combination 3	A Condition (-7°C)	COPd (declared COP)			-	2.6	2.5	2.8	2.7	2.6	2.8	2.7
		Pdh (declared heating cap)		kW	-	12.1	14.2	16.3	18.2	20.5	24.7	27.4
	B Condition (2°C)	COPd (declared COP)			-	3.9		4.1	3.8		3.9	3.6
		Pdh (declared heating cap)		kW	-	7.4	8.6	9.9	11.1	12.5	15.0	16.7
	C Condition (7°C)	COPd (declared COP)			-	5.8	6.0	6.9	5.9	6.2	5.8	5.9
		Pdh (declared heating cap)		kW	-	5.5	5.6	6.4	7.1	8.0	9.7	10.7
	D Condition (12°C)	COPd (declared COP)			-	9.2	10.1	9.1	6.2	6.5	7.4	7.6
		Pdh (declared heating cap)		kW	-	8.7	6.9	7.4	4.9	5.1	7.6	7.7
	TBivalent	COPd (declared COP)			-	2.3	2.1	2.3	2.1		2.5	2.3
		Pdh (declared heating cap)		kW	-	13.7	16.0	18.4	20.6	23.2	27.9	31.0
		Tbiv (bivalent temperature)		°C	-	-10						
	TOL	COPd (declared COP)			-	2.3	2.1	2.3	2.1		2.5	2.3
		Pdh (declared heating cap)		kW	-	13.7	16.0	18.4	20.6	23.2	27.9	31.0
		Tol (temperature operating limit)		°C	-	-10						
Cooling	Cdc (Degradation cooling)				-	0.25						
Heating	Cdh (Degradation heating)				-	0.25						
Power consumption in other than active mode	Crankcase heater mode	Cooling	PCK	kW	-	0.000						
		Heating	PCK	kW	-	0.059			0.110		0.134	
	Off mode	Cooling	POFF	kW	-	0.052			0.120		0.118	
		Heating	POFF	kW	-	0.059			0.110		0.134	
	Standby mode	Cooling	PSB	kW	-	0.052			0.120		0.118	
		Heating	PSB	kW	-	0.059			0.110		0.134	
	Thermostat-off mode	Cooling	PTO	kW	-	0.003			0.006		0.012	
		Heating	PTO	kW	-	0.068			0.119		0.144	
Indication if the heater is equipped with a supplementary heater					-	no						
Supplementary heater	Back-up capacity	Heating	elbu	kW	-	0.0						

Standard Accessories : Installation and operation manual; Quantity : 1;

Standard Accessories : Connection pipes; Quantity : 1;

2-2 Electrical Specifications				REMQ5U	REYQ8U	REYQ10U	REYQ12U	REYQ14U	REYQ16U	REYQ18U	REYQ20U
Power supply	Name			Y1							
	Phase			3N~							
	Frequency		Hz	50							
	Voltage		V	380-415							
Voltage range	Min.		%	-10							
	Max.		%	10							
Current	Nominal running current (RLA) - 50Hz	Cooling	A	4.1 (7)	7.7 (7)	10.5 (7)	13.8 (7)	15.6 (7)	18.5 (7)	22.0 (7)	28.5 (7)
Current - 50Hz	Starting current (MSC) - remark			(8)							
	Zmax	List		No requirements							
	Minimum circuit amps (MCA)		A	16.1 (9)		22.0 (9)	24.0 (9)	27.0 (9)	31.0 (9)	35.0 (9)	39.0 (9)
	Maximum fuse amps (MFA)		A	20 (10)		25 (10)	32 (10)		40 (10)		50 (10)
	Full load amps (FLA)	Total	A	1.2 (11)		1.3 (11)	1.5 (11)	1.8 (11)	2.6 (11)		
Wiring connections - 50Hz	For power supply	Quantity		5G							
	For connection with indoor	Quantity		2							
		Remark		F1,F2							
Power supply intake				Both indoor and outdoor unit							

2 Specifications

Notes

(1) Cooling: indoor temp. 27°CDB, 19°CWB; outdoor temp. 35°CDB; equivalent piping length: 7.5m; level difference: 0m

(2) Heating: indoor temp. 20°CDB; outdoor temp. 7°CDB, 6°CWB; equivalent refrigerant piping: 7.5m; level difference: 0m

(3) Actual number of connectable indoor units depends on the indoor unit type and the connection ratio restriction for the system (50% ≤ CR ≤ 120%)

(4) Sound power level is an absolute value that a sound source generates.

(5) Sound pressure level is a relative value, depending on the distance and acoustic environment. For more details, please refer to the sound level drawings.

(6) Refer to refrigerant pipe selection or installation manual

(7) RLA is based on following conditions: indoor temp. 27°CDB, 19°CWB; outdoor temp. 35°CDB

(8) MSC means the maximum current during start up of the compressor. VRV IV uses only inverter compressors. Starting current is always ≤ max. running current.

(9) MCA must be used to select the correct field wiring size. The MCA can be regarded as the maximum running current.

(10) MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth leakage circuit breaker).

(11) FLA means the nominal running current of the fan

In accordance with EN/IEC 61000-3-12, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply wih Ssc ≥ minimum Ssc value

Maximum allowable voltage range variation between phases is 2%.

Voltage range: units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits.

The AUTOMATIC ESEER value corresponds with normal VRV4 Heat Recovery operation, taking into account advanced energy saving operation functionality (variable refrigerant temperature control operation)

The STANDARD ESEER value corresponds with normal VRV4 Heat Recovery operation, not taking into account advanced energy saving operation functionality

Sound values are measured in a semi-anechoic room.

Soundpressure system [dBA] = 10*log[10^(A/10)+10^(B/10)+10^(C/10)] , with Unit A = A dBA, Unit B = B dBA, Unit C = C dBA

EN/IEC 61000-3-12: European/international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current \> 16A and ≤ 75A per phase

Ssc: Short-circuit power

For detailed contents of standard accessories, see installation/operation manual

Multi combination (10~54HP) data is corresponding with the standard multi combination

2-3 Technical Specifications			REYQ10U	REYQ13U	REYQ16U	REYQ18U	REYQ20U	REYQ22U	REYQ24U	REYQ26U
System	Outdoor unit module 1		REMQ5U		REYQ8U			REYQ10U	REYQ8U	REYQ12U
	Outdoor unit module 2		REMQ5U	REYQ8U		REYQ10U	REYQ12U		REYQ16U	REYQ14U
Continuous heating			Yes							
Recommended combination			4 x FXFQ63AVEB	3 x FXFQ50AVEB + 3 x FXFQ63AVEB	4 x FXFQ63AVEB + 2 x FXFQ80AVEB	4 x FXFQ50AVEB + 4 x FXFQ63AVEB	10 x FXFQ50AVEB	6 x FXFQ50AVEB + 4 x FXFQ63AVEB	4 x FXFQ50AVEB + 4 x FXFQ63AVEB + 2 x FXFQ80AVEB	7 x FXFQ50AVEB + 5 x FXFQ63AVEB
Recommended combination 2			4 x FXSQ63A2VEB	3 x FXSQ50A2VEB + 3 x FXSQ63A2VEB	4 x FXSQ63A2VEB + 2 x FXSQ80A2VEB	4 x FXSQ50A2VEB + 4 x FXSQ63A2VEB	10 x FXSQ50A2VEB	6 x FXSQ50A2VEB + 4 x FXSQ63A2VEB	4 x FXSQ50A2VEB + 4 x FXSQ63A2VEB + 2 x FXSQ80A2VEB	7 x FXSQ50A2VEB + 5 x FXSQ63A2VEB
Recommended combination 3			4 x FXMQ63P7VEB	3 x FXMQ50P7VEB + 3 x FXMQ63P7VEB	4 x FXMQ63P7VEB + 2 x FXMQ80P7VEB	4 x FXMQ50P7VEB + 4 x FXMQ63P7VEB	10 x FXMQ50P7VEB	6 x FXMQ50P7VEB + 4 x FXMQ63P7VEB	4 x FXMQ50P7VEB + 4 x FXMQ63P7VEB + 2 x FXMQ80P7VEB	7 x FXMQ50P7VEB + 5 x FXMQ63P7VEB
Cooling capacity	Prated,c	kW	28.0 (1)	36.4 (1)	44.8 (1)	50.4 (1)	55.9 (1)	61.5 (1)	67.4 (1)	73.5 (1)

2 Specifications

2-3 Technical Specifications					REYQ10U	REYQ13U	REYQ16U	REYQ18U	REYQ20U	REYQ22U	REYQ24U	REYQ26U
Heating capacity	Prated,h			kW	16.0	21.7	23.2	27.9	31.0	34.4	36.9	37.1
	Max.	6°CWB		kW	32.0 (2)	41.0 (2)	50.0 (2)	56.5 (2)	62.5 (2)	69.0 (2)	75.0 (2)	82.5 (2)
SEER					7.0	7.6	7.3	6.9	6.7	6.6	6.5	
SEER recommended combination 2					7.1	7.5	7.3	6.8	6.4	6.5	6.4	
SEER recommended combination 3					6.9	7.4	7.1	6.9	6.8	6.6	6.5	6.6
SCOP					4.0	4.1	4.3		4.5		4.3	4.5
SCOP recommended combination 2					4.1	4.0	4.2		4.4	4.5	4.2	4.4
SCOP recommended combination 3					4.1	4.2	4.1	4.2	4.4		4.1	4.3
ηs,c				%	275.1	301.3	288.6	272.9	266.0	260.4	257.7	257.5
ηs,c recommended combination 2					280.4	296.3	290.6	269.4	252.4	256.8	253.7	254.1
ηs,c recommended combination 3					272.0	291.7	282.1	274.2	269.0	262.7	256.6	260.5
ηs,h				%	158.8	160.6	168.2	167.9	175.7	178.5	167.6	175.5
ηs,h recommended combination 2					160.2	157.6	164.5	166.0	173.3	176.4	164.3	172.5
ηs,h recommended combination 3					161.0	166.5	160.4	165.0	171.9	174.1	162.1	168.6
Capacity range				HP	10	13	16	18	20	22	24	26
Maximum number of connectable indoor units					64 (3)							
Indoor index connection	Min.				125.0	163.0	200.0	225.0	250.0	275.0	300.0	325.0
	Max.				325.0	423.0	520.0	585.0	650.0	715.0	780.0	845.0
Capacity control	Method				Inverter controlled							
Heat exchanger	Indoor side				Air							
	Outdoor side				Air							
	Air flow rate	Cooling	Rated	m³/h	19,440			20,220	20,820	21,600	25,320	24,480
		Heating	Rated	m³/h	19,440			20,220	20,820	21,600	25,320	24,480
Sound power level	Cooling	Nom.		dBA	81.0 (4)			81.6 (4)	84.5 (4)	84.8 (4)	86.3 (4)	85.3 (4)
	Heating	Nom.		dBA	65.7 (4)			66.9 (4)		67.8 (4)	69.6 (4)	69.9 (4)
Sound pressure level	Cooling	Nom.		dBA	60.0 (5)				62.5 (5)		64.0 (5)	63.5 (5)
Refrigerant	Type				R-410A							
	GWP				2,087.5							
Refrigerant oil	Type				Synthetic (ether) oil FVC68D							
Piping connections	Liquid	Type			Braze connection							
		OD		mm	9,52	12,7		15,9				19,1
	Gas	Type			Braze connection							
		OD		mm	22.2	28.6					34.9	
	HP/LP gas	Type			Brazing connections							
		OD		mm	19.1		22.2		28.6			
	Total piping length	System	Actual	m	500 (6)					1,000 (6)		
Defrost method					Reversed cycle							
PED	Category				Category II							
Space cooling	A Condition (35°C - 27/19)	EERd			3.5	3.3	3.0	2.9	2.7	2.6	2.5	2.7
		Pdc		kW	28.0	36.4	44.8	50.4	55.9	61.5	67.4	73.5
	B Condition (30°C - 27/19)	EERd			5.8	5.5	5.0	5.2	4.9		4.8	4.7
		Pdc		kW	20.6	26.8	33.0	37.1	41.2	45.3	49.7	54.2
	C Condition (25°C - 27/19)	EERd			8.4	9.8	9.1	8.5	8.3	7.6	8.5	7.9
		Pdc		kW	16.8	17.2	21.2	23.9	26.5	29.1	31.9	34.8
	D Condition (20°C - 27/19)	EERd			13.5	14.8	15.0	13.6	12.5	14.6	12.4	13.2
		Pdc		kW	9.6	10.0		17.8	11.8	18.2	17.3	17.6
Space cooling recommended combination 2	A Condition (35°C - 27/19)	EERd			3.6	3.2	3.0	2.8	2.7	2.6	2.4	2.7
		Pdc		kW	28.0	36.4	44.8	50.4	55.9	61.5	67.4	73.5
	B Condition (30°C - 27/19)	EERd			5.9	5.5	5.1	5.0	4.7			
		Pdc		kW	20.6	26.8	33.0	37.1	41.2	45.3	49.7	54.2
	C Condition (25°C - 27/19)	EERd			8.5	9.5	9.2	8.5	7.8	7.5	8.5	7.8
		Pdc		kW	17.0	17.2	21.2	23.9	26.5	29.1	31.9	34.8
	D Condition (20°C - 27/19)	EERd			13.9	14.7	15.1	13.3	11.7	14.4	12.1	13.0
		Pdc		kW	9.8	10.0	10.1	17.7	11.8	18.1	17.2	17.5

2 Specifications

2-3 Technical Specifications				REYQ10U	REYQ13U	REYQ16U	REYQ18U	REYQ20U	REYQ22U	REYQ24U	REYQ26U
Space cooling recommended combination 3	A Condition (35°C - 27/19)	EERd		3.5	3.3	3.0	2.9	2.7	2.6	2.5	2.7
		Pdc	kW	28.0	36.4	44.8	50.4	55.9	61.5	67.4	73.5
	B Condition (30°C - 27/19)	EERd		5.7	5.6	4.9	5.2	4.9		4.7	
		Pdc	kW	20.6	26.8	33.0	37.1	41.2	45.3	49.7	54.2
	C Condition (25°C - 27/19)	EERd		8.3	9.0	8.9	8.6	8.4	7.8	8.5	8.2
		Pdc	kW	16.8	18.8	21.2	23.9	26.5	29.1	31.9	34.8
	D Condition (20°C - 27/19)	EERd		13.0	14.5	14.9	13.5	12.7	14.6	12.4	13.4
		Pdc	kW	9.4	9.9	10.1	18.0	11.8	18.4	17.5	18.0
Space heating (Average climate)	TBivalent	COPd (declared COP)		1.8	2.3	2.4	2.3			2.2	
		Pdh (declared heating cap)	kW	16.0	21.7	23.2	27.9	31.0	34.4	36.9	39.0
		Tbiv (bivalent temperature)	°C	-10							
	TOL	COPd (declared COP)		1.8	2.3	2.4	2.3			2.2	
		Pdh (declared heating cap)	kW	16.0	21.7	23.2	27.9	31.0	34.4	36.9	39.0
		Tol (temperature operating limit)	°C	-10							
	A Condition (-7°C)	COPd (declared COP)		1.9	2.6	2.7	2.6	2.8	2.7		2.8
		Pdh (declared heating cap)	kW	14.2	19.2	20.5	24.7	27.4	30.4	32.6	34.5
	B Condition (2°C)	COPd (declared COP)		4.0	3.6	3.8	4.0	4.1		3.9	4.1
		Pdh (declared heating cap)	kW	8.6	11.7	12.5	15.0	16.7	18.5	19.9	21.0
	C Condition (7°C)	COPd (declared COP)		6.1	6.2	6.3	6.0	6.6	6.7	6.3	6.7
		Pdh (declared heating cap)	kW	5.7	7.5	8.0	11.3	12.2	12.3	12.8	13.7
	D Condition (12°C)	COPd (declared COP)		9.6	10.6	11.1	10.3	9.4	10.3	7.0	
		Pdh (declared heating cap)	kW	8.9	9.1	9.2	7.0	7.7	7.0	5.7	6.0
Space heating (Average climate) recommended combination 2	A Condition (-7°C)	COPd (declared COP)		2.5		2.7	2.6	2.8	2.7	2.6	2.8
		Pdh (declared heating cap)	kW	14.2	19.2	20.5	24.7	27.4	30.4	32.6	34.5
	B Condition (2°C)	COPd (declared COP)		3.9	3.6	3.7	3.9	4.1		3.9	4.1
		Pdh (declared heating cap)	kW	8.6	11.7	12.5	15.0	16.7	18.5	19.9	21.0
	C Condition (7°C)	COPd (declared COP)		5.8	6.1		5.9	6.5	6.6	6.2	6.5
		Pdh (declared heating cap)	kW	5.5	7.5	8.0	11.2	12.3	12.1	12.8	13.6
	D Condition (12°C)	COPd (declared COP)		9.1	10.4	10.8	10.3	9.1	10.3	6.8	6.9
		Pdh (declared heating cap)	kW	8.7	9.0		6.9	7.6	6.9	5.7	6.0
	TBivalent	COPd (declared COP)		2.3	2.2	2.3	2.2	2.3	2.2	2.1	2.2
		Pdh (declared heating cap)	kW	16.0	21.7	23.2	27.9	31.0	34.4	36.9	39.0
		Tbiv (bivalent temperature)	°C	-10							
	TOL	COPd (declared COP)		2.3	2.2	2.3	2.2	2.3	2.2	2.1	2.2
		Pdh (declared heating cap)	kW	16.0	21.7	23.2	27.9	31.0	34.4	36.9	39.0
		Tol (temperature operating limit)	°C	-10							

2 Specifications

2-3 Technical Specifications					REYQ10U	REYQ13U	REYQ16U	REYQ18U	REYQ20U	REYQ22U	REYQ24U	REYQ26U
Space heating (Average climate) recommended combination 3	A Condition (-7°C)	COPd (declared COP)			2.4	2.5	2.6		2.8	2.7	2.6	2.7
		Pdh (declared heating cap)		kW	14.2	19.2	20.5	24.7	27.4	30.4	32.6	34.5
	B Condition (2°C)	COPd (declared COP)			3.9	3.7		3.9	4.0		3.8	4.0
		Pdh (declared heating cap)		kW	8.6	11.7	12.5	15.0	16.7	18.5	19.9	21.0
	C Condition (7°C)	COPd (declared COP)			5.8	6.1	5.9		6.4		6.0	6.4
		Pdh (declared heating cap)		kW	5.5	7.5	8.0	11.1	11.9		12.8	13.5
	D Condition (12°C)	COPd (declared COP)			9.2	16.8	10.5	10.1	9.1	10.1	6.7	6.6
		Pdh (declared heating cap)		kW	8.7	5.1	8.9	6.9	7.4	6.9	5.7	6.0
	TBivalent	COPd (declared COP)			2.2		2.3	2.2	2.3	2.2	2.1	2.2
		Pdh (declared heating cap)		kW	16.0	21.7	23.2	27.9	31.0	34.4	36.9	39.0
		Tbiv (bivalent temperature)		°C	-10							
	TOL	COPd (declared COP)			2.2		2.3	2.2	2.3	2.2	2.1	2.2
		Pdh (declared heating cap)		kW	16.0	21.7	23.2	27.9	31.0	34.4	36.9	39.0
		Tol (temperature operating limit)		°C	-10							
Cooling	Cdc (Degradation cooling)				0.25							
Heating	Cdh (Degradation heating)				0.25							
Power consumption in other than active mode	Off mode	Cooling	POFF	kW	0.105						0.172	
		Heating	POFF	kW	0.117						0.169	
	Standby mode	Cooling	PSB	kW	0.105						0.172	
		Heating	PSB	kW	0.117						0.169	
	Thermostat-off mode	Cooling	PTO	kW	0.006						0.009	
		Heating	PTO	kW	0.136						0.187	
Indication if the heater is equipped with a supplementary heater					no							
Supplementary heater	Back-up capacity	Heating	elbu	kW	0.0							

Standard Accessories : Installation and operation manual; Quantity : 1;

Standard Accessories : Connection pipes; Quantity : 1;

2-4 Technical Specifications		REYQ28U	REYQ30U	REYQ32U	REYQ34U	REYQ36U	REYQ38U	REYQ40U	REYQ42U
System	Outdoor unit module 1	REYQ12U		REYQ16U			REYQ8U	REYQ10U	
	Outdoor unit module 2	REYQ16U	REYQ18U	REYQ16U	REYQ18U	REYQ20U	REYQ12U		REYQ16U
	Outdoor unit module 3	-					REYQ18U		REYQ16U
Continuous heating		Yes							
Recommended combination		6 x FXFQ50AVEB + 4 x FXFQ63AVEB + 2 x FXFQ80AVEB	9 x FXFQ50AVEB + 5 x FXFQ63AVEB	8 x FXFQ63AVEB + 4 x FXFQ80AVEB	3 x FXFQ50AVEB + 9 x FXFQ63AVEB + 2 x FXFQ80AVEB	2 x FXFQ50AVEB + 10 x FXFQ63AVEB + 2 x FXFQ80AVEB	6 x FXFQ50AVEB + 10 x FXFQ63AVEB	9 x FXFQ50AVEB + 9 x FXFQ63AVEB	12 x FXFQ63AVEB + 4 x FXFQ80AVEB
Recommended combination 2		6 x FXSQ50A2VEB + 4 x FXSQ63A2VEB + 2 x FXSQ80A2VEB	9 x FXSQ50A2VEB + 5 x FXSQ63A2VEB	8 x FXSQ63A2VEB + 4 x FXSQ80A2VEB	3 x FXSQ50A2VEB + 9 x FXSQ63A2VEB + 2 x FXSQ80A2VEB	2 x FXSQ50A2VEB + 10 x FXSQ63A2VEB + 2 x FXSQ80A2VEB	6 x FXSQ50A2VEB + 10 x FXSQ63A2VEB	9 x FXSQ50A2VEB + 9 x FXSQ63A2VEB	12 x FXSQ63A2VEB + 4 x FXSQ80A2VEB

2 Specifications

2-4 Technical Specifications					REYQ28U	REYQ30U	REYQ32U	REYQ34U	REYQ36U	REYQ38U	REYQ40U	REYQ42U
Recommended combination 3					6 x FXMQ50P 7VEB + 4 x FXMQ63P 7VEB + 2 x FXMQ80P 7VEB	9 x FXMQ50P 7VEB + 5 x FXMQ63P 7VEB	8 x FXMQ63P 7VEB + 4 x FXMQ80P 7VEB	3 x FXMQ50P 7VEB + 9 x FXMQ63P 7VEB + 2 x FXMQ80P 7VEB	2 x FXMQ50P 7VEB + 10 x FXMQ63P 7VEB + 2 x FXMQ80P 7VEB	6 x FXMQ50P 7VEB + 10 x FXMQ63P 7VEB	9 x FXMQ50P 7VEB + 9 x FXMQ63P 7VEB	12 x FXMQ63P 7VEB + 4 x FXMQ80P 7VEB
Cooling capacity	Prated,c			kW	78.5 (1)	83.9 (1)	90.0 (1)	95.4 (1)	97.0 (1)	106.3 (1)	111.9 (1)	118.0 (1)
Heating capacity	Prated,h			kW	39.7	44.4	46.4	51.1	54.2	58.1	58.9	60.9
	Max.	6°CWB		kW	87.5 (2)	94.0 (2)	100.0 (2)	106.5 (2)	113.0 (2)	119.0 (2)	125.5 (2)	131.5 (2)
SEER					6.4	6.7	6.2	6.6	6.5	6.8	6.6	6.3
SEER recommended combination 2					6.3	6.6	6.2	6.6	6.5	6.6		6.4
SEER recommended combination 3					6.4	6.8	6.1	6.6	6.5	6.9	6.7	6.3
SCOP					4.4	4.6	4.3	4.4	4.2	4.5		4.3
SCOP recommended combination 2					4.4	4.5	4.2	4.3	4.2	4.4		4.2
SCOP recommended combination 3					4.3	4.4	4.1	4.2	4.1	4.3		4.1
ηs,c				%	251.9	266.8	243.1	259.2	255.3	269.2	259.6	250.2
ηs,c recommended combination 2					247.9	262.9	244.5	260.6	257.6	263.0	259.5	252.5
ηs,c recommended combination 3					252.2	269.3	241.7	259.8	255.8	271.4	263.1	249.6
ηs,h				%	174.8	179.4	169.1	172.0	166.3	176.0	176.1	167.8
ηs,h recommended combination 2					171.3	176.1	166.1	169.3	164.2	172.4	173.4	165.4
ηs,h recommended combination 3					168.4	172.6	162.2	164.4	160.0	170.3	170.1	161.9
Capacity range				HP	28	30	32	34	36	38	40	42
Maximum number of connectable indoor units					64 (3)							
Indoor index connection	Min.				350.0	375.0	400.0	425.0	450.0	475.0	500.0	525.0
	Max.				910.0	975.0	1,040.0	1,105.0	1,170.0	1,235.0	1,300.0	1,365.0
Capacity control	Method				Inverter controlled							
Heat exchanger	Indoor side				Air							
	Outdoor side				Air							
	Air flow rate	Cooling	Rated	m³/h	26,700	26,160	31,200	30,660	31,260	35,880	36,660	41,700
		Heating	Rated	m³/h	26,700	26,160	31,200	30,660	31,260	35,880	36,660	41,700
Sound power level	Cooling	Nom.		dBA	87.6 (4)	86.6 (4)	88.6 (4)	87.8 (4)	89.9 (4)	87.2 (4)	87.3 (4)	89.1 (4)
	Heating	Nom.		dBA	70.1 (4)	68.7 (4)	71.6 (4)	70.6 (4)	70.9 (4)	69.7 (4)	70.2 (4)	72.4 (4)
Sound pressure level	Cooling	Nom.		dBA	65.1 (5)	64.5 (5)	66.0 (5)	65.5 (5)	67.1 (5)	65.2 (5)		66.5 (5)
Refrigerant	Type				R-410A							
	GWP				2,087.5							
Refrigerant oil	Type				Synthetic (ether) oil FVC68D							
Piping connections	Liquid	Type			Braze connection							
		OD		mm	19,1							
	Gas	Type			Braze connection							
		OD		mm	34.9				41.3			
	HP/LP gas	Type			Brazing connections							
		OD		mm	28.6					34.9		
	Total piping length	System	Actual	m	1,000 (6)							
Defrost method					Reversed cycle							
PED	Category				Category II							
Space cooling	A Condition (35°C - 27/19)	EERd			2.4		2.2	2.3		2.5		2.3
		Pdc		kW	78.5	83.9	90.0	95.4	97.0	106.3	111.9	118.0
	B Condition (30°C - 27/19)	EERd			4.6	4.8	4.6	4.8	4.7	4.9		4.7
		Pdc		kW	57.9	61.8	66.3	70.3	71.5	78.3	82.5	86.9
	C Condition (25°C - 27/19)	EERd			7.8	8.2	8.1	8.4	8.2	8.4	8.0	
		Pdc		kW	37.2	39.7	42.6	45.2	45.9	50.4	53.0	55.9
	D Condition (20°C - 27/19)	EERd			13.3	15.9	11.2	13.7	13.6	14.9	12.6	12.3
		Pdc		kW	17.7	21.3	18.9	21.0	23.1	30.8	23.6	24.8

2 Specifications

2-4 Technical Specifications				REYQ28U	REYQ30U	REYQ32U	REYQ34U	REYQ36U	REYQ38U	REYQ40U	REYQ42U
Space cooling recommended combination 2	A Condition (35°C - 27/19)	EERd		2.4		2.2	2.3		2.5		2.4
		Pdc	kW	78.5	83.9	90.0	95.4	97.0	106.3	111.9	118.0
	B Condition (30°C - 27/19)	EERd		4.5	4.7	4.5	4.7		4.8		4.7
		Pdc	kW	57.8	61.8	66.3	70.3	71.5	78.3	82.5	86.9
	C Condition (25°C - 27/19)	EERd		7.7	8.0	8.2	8.5	8.4	8.2	8.0	8.2
		Pdc	kW	37.2	39.7	42.6	45.2	45.9	50.3	53.0	55.9
	D Condition (20°C - 27/19)	EERd		13.0	15.6	11.3	13.8		14.5	12.9	12.4
		Pdc	kW	17.6	21.2	18.9	21.1	23.1	30.5	23.6	24.8
Space cooling recommended combination 3	A Condition (35°C - 27/19)	EERd		2.4		2.2	2.3		2.5		2.3
		Pdc	kW	78.5	83.9	90.0	95.4	97.0	106.3	111.9	118.0
	B Condition (30°C - 27/19)	EERd		4.6	4.8	4.5	4.7	4.6	4.9		4.6
		Pdc	kW	57.8	61.8	66.3	70.3	71.5	78.3	82.5	87.0
	C Condition (25°C - 27/19)	EERd		7.9	8.4	8.0	8.5	8.3	8.6	8.3	8.0
		Pdc	kW	37.2	39.7	42.6	45.2	45.9	50.4	53.0	55.9
	D Condition (20°C - 27/19)	EERd		13.4	16.0	11.3	13.9	13.8	14.9	12.9	12.4
		Pdc	kW	17.9	21.7	19.0	21.3	23.0	31.2	23.6	24.8
Space heating (Average climate)	TBivalent	COPd (declared COP)		2.2	2.5	2.1	2.3		2.4		2.1
		Pdh (declared heating cap)	kW	41.6	46.3	46.4	51.1	54.2	60.0	62.3	62.4
		Tbiv (bivalent temperature)	°C	-10							
	TOL	COPd (declared COP)		2.2	2.5	2.1	2.3		2.4		2.1
		Pdh (declared heating cap)	kW	41.6	46.3	46.4	51.1	54.2	60.0	62.3	62.4
		Tol (temperature operating limit)	°C	-10							
	A Condition (-7°C)	COPd (declared COP)		2.8	2.9	2.7	2.8	2.7	2.8		2.6
		Pdh (declared heating cap)	kW	36.8	40.9	41.0	45.2	47.9	53.0	55.1	55.2
	B Condition (2°C)	COPd (declared COP)		4.1		3.9	4.0	3.8	4.1		4.0
		Pdh (declared heating cap)	kW	22.4	24.9	25.0	27.5	29.2	32.3	33.5	33.6
	C Condition (7°C)	COPd (declared COP)		6.8	6.5		6.3		6.4		
		Pdh (declared heating cap)	kW	14.6	16.2	16.1	17.7	18.8	21.9		21.8
	D Condition (12°C)	COPd (declared COP)		7.2	9.4	7.4	8.0		8.7	8.6	6.9
		Pdh (declared heating cap)	kW	6.4	7.7	7.1	8.2	8.3	9.2	9.6	11.0
Space heating (Average climate) recommended combination 2	A Condition (-7°C)	COPd (declared COP)		2.7	2.9	2.6	2.8	2.7	2.8		2.6
		Pdh (declared heating cap)	kW	36.8	40.9	41.0	45.2	47.9	53.0	55.1	55.2
	B Condition (2°C)	COPd (declared COP)		4.0	4.1	3.9		3.8	4.0		3.9
		Pdh (declared heating cap)	kW	22.4	24.9	25.0	27.5	29.2	32.3	33.5	33.6
	C Condition (7°C)	COPd (declared COP)		6.7	6.4		6.2			6.3	
		Pdh (declared heating cap)	kW	14.5	16.2	16.1	17.7	18.8	21.8		21.7
	D Condition (12°C)	COPd (declared COP)		7.1	9.1	7.2	7.9	7.8	8.4	8.3	6.7
		Pdh (declared heating cap)	kW	6.4	7.6	7.1	8.0	8.3	9.2	9.6	10.6
	TBivalent	COPd (declared COP)		2.2	2.4	2.1	2.3	2.2	2.4		2.1
		Pdh (declared heating cap)	kW	41.6	46.3	46.4	51.1	54.2	60.0	62.3	62.4
		Tbiv (bivalent temperature)	°C	-10							
	TOL	COPd (declared COP)		2.2	2.4	2.1	2.3	2.2	2.4		2.1
		Pdh (declared heating cap)	kW	41.6	46.3	46.4	51.1	54.2	60.0	62.3	62.4
		Tol (temperature operating limit)	°C	-10							

2 Specifications

2-4 Technical Specifications					REYQ28U	REYQ30U	REYQ32U	REYQ34U	REYQ36U	REYQ38U	REYQ40U	REYQ42U
Space heating (Average climate) recommended combination 3	A Condition (-7°C)	COPd (declared COP)			2.7	2.8	2.6	2.7	2.6	2.8	2.7	2.6
		Pdh (declared heating cap)		kW	36.8	40.9	41.0	45.2	47.9	53.1	55.1	55.2
	B Condition (2°C)	COPd (declared COP)			3.9	4.0	3.8		3.7	4.0		3.8
		Pdh (declared heating cap)		kW	22.4	24.9	25.0	27.5	29.2	32.3	33.5	33.6
	C Condition (7°C)	COPd (declared COP)			6.5	6.2		6.0		6.1		6.2
		Pdh (declared heating cap)		kW	14.4	16.0	16.1	17.7	18.8	20.8	21.6	21.7
	D Condition (12°C)	COPd (declared COP)			6.9	9.1	7.0	7.4		8.4	8.3	6.5
		Pdh (declared heating cap)		kW	6.4	7.4	7.1	7.9	8.3	9.2	9.6	10.2
	TBivalent	COPd (declared COP)			2.2	2.4	2.1	2.3	2.2	2.4	2.3	2.1
		Pdh (declared heating cap)		kW	41.6	46.3	46.4	51.1	54.2	60.0	62.3	62.4
		Tbiv (bivalent temperature)		°C	-10							
	TOL	COPd (declared COP)			2.2	2.4	2.1	2.3	2.2	2.4	2.3	2.1
		Pdh (declared heating cap)		kW	41.6	46.3	46.4	51.1	54.2	60.0	62.3	62.4
		Tol (temperature operating limit)		°C	-10							
Cooling	Cdc (Degradation cooling)				0.25							
Heating	Cdh (Degradation heating)				0.25							
Power consumption in other than active mode	Off mode	Cooling	POFF	kW	0.172	0.170	0.240	0.238		0.223		0.292
		Heating	POFF	kW	0.169	0.193	0.220	0.244		0.252		0.279
	Standby mode	Cooling	PSB	kW	0.172	0.170	0.240	0.238		0.223		0.292
		Heating	PSB	kW	0.169	0.193	0.220	0.244		0.252		0.279
	Thermostat-off mode	Cooling	PTO	kW	0.009	0.016	0.013	0.019				0.016
		Heating	PTO	kW	0.187	0.212	0.238	0.263		0.279		0.306
Indication if the heater is equipped with a supplementary heater					no							
Supplementary heater	Back-up capacity	Heating	elbu	kW	0.0							

Standard Accessories : Installation and operation manual; Quantity : 1;

Standard Accessories : Connection pipes; Quantity : 1;

2-5 Technical Specifications			REYQ44U	REYQ46U	REYQ48U	REYQ50U	REYQ52U	REYQ54U
System	Outdoor unit module 1		REYQ12U	REYQ14U	REYQ16U			REYQ18U
	Outdoor unit module 2		REYQ16U				REYQ18U	
	Outdoor unit module 3		REYQ16U			REYQ18U		
Continuous heating			Yes					
Recommended combination			6 x FXFQ50AVEB + 8 x FXFQ63AVEB + 4 x FXFQ80AVEB	1 x FXFQ50AVEB + 13 x FXFQ63AVEB + 4 x FXFQ80AVEB	12 x FXFQ63AVEB + 6 x FXFQ80AVEB	3 x FXFQ50AVEB + 13 x FXFQ63AVEB + 4 x FXFQ80AVEB	6 x FXFQ50AVEB + 14 x FXFQ63AVEB + 2 x FXFQ80AVEB	9 x FXFQ50AVEB + 15 x FXFQ63AVEB
Recommended combination 2			6 x FXSQ50A2VEB + 8 x FXSQ63A2VEB + 4 x FXSQ80A2VEB	1 x FXSQ50A2VEB + 13 x FXSQ63A2VEB + 4 x FXSQ80A2VEB	12 x FXSQ63A2VEB + 6 x FXSQ80A2VEB	3 x FXSQ50A2VEB + 13 x FXSQ63A2VEB + 4 x FXSQ80A2VEB	6 x FXSQ50A2VEB + 14 x FXSQ63A2VEB + 2 x FXSQ80A2VEB	9 x FXSQ50A2VEB + 15 x FXSQ63A2VEB
Recommended combination 3			6 x FXMQ50P7VEB + 8 x FXMQ63P7VEB + 4 x FXMQ80P7VEB	1 x FXMQ50P7VEB + 13 x FXMQ63P7VEB + 4 x FXMQ80P7VEB	12 x FXMQ63P7VEB + 6 x FXMQ80P7VEB	3 x FXMQ50P7VEB + 13 x FXMQ63P7VEB + 4 x FXMQ80P7VEB	6 x FXMQ50P7VEB + 14 x FXMQ63P7VEB + 2 x FXMQ80P7VEB	9 x FXMQ50P7VEB + 15 x FXMQ63P7VEB
Cooling capacity	Prated,c	kW	123.5 (1)	130.0 (1)	135.0 (1)	140.4 (1)	145.8 (1)	151.2 (1)

2 Specifications

2-5 Technical Specifications					REYQ44U	REYQ46U	REYQ48U	REYQ50U	REYQ52U	REYQ54U
Heating capacity	Prated,h			kW	62.9	67.0	69.6	74.3	79.0	83.7
	Max.	6°CWB		kW	137.5 (2)	145.0 (2)	150.0 (2)	156.5 (2)	163.0 (2)	169.5 (2)
SEER					6.3	6.2		6.4	6.7	7.0
SEER recommended combination 2					6.3		6.2	6.5	6.7	7.0
SEER recommended combination 3					6.3	6.2	6.1	6.4	6.7	7.0
SCOP					4.4	4.3			4.4	
SCOP recommended combination 2					4.3	4.2		4.3		
SCOP recommended combination 3					4.2	4.1		4.2		
ηs,c				%	249.3	246.8	243.1	254.4	265.7	275.2
ηs,c recommended combination 2					247.1	248.8	244.5	255.9	267.0	276.7
ηs,c recommended combination 3					249.0	246.9	241.7	254.5	266.8	276.7
ηs,h				%	171.9	168.8	168.5	170.3	171.7	173.3
ηs,h recommended combination 2					168.7	165.9	165.3	167.5	169.3	170.8
ηs,h recommended combination 3					165.4	161.5		163.0	164.3	165.5
Capacity range				HP	44	46	48	50	52	54
Maximum number of connectable indoor units					64 (3)					
Indoor index connection	Min.				550.0	575.0	600.0	625.0	650.0	675.0
	Max.				1,430.0	1,495.0	1,560.0	1,625.0	1,690.0	1,755.0
Capacity control	Method				Inverter controlled					
Heat exchanger	Indoor side				Air					
	Outdoor side				Air					
	Air flow rate	Cooling	Rated	m³/h	42,300	44,580	46,800	46,260	45,720	45,180
		Heating	Rated	m³/h	42,300	44,580	46,800	46,260	45,720	45,180
Sound power level	Cooling	Nom.		dBA	89.8 (4)	89.3 (4)	90.4 (4)	89.8 (4)	89.3 (4)	88.6 (4)
	Heating	Nom.		dBA	72.4 (4)	73.3 (4)	73.4 (4)	72.7 (4)	72.0 (4)	71.1 (4)
Sound pressure level	Cooling	Nom.		dBA	67.2 (5)	67.0 (5)	67.8 (5)	67.5 (5)	67.1 (5)	66.8 (5)
Refrigerant	Type				R-410A					
	GWP				2,087.5					
Refrigerant oil	Type				Synthetic (ether) oil FVC68D					
Piping connections	Liquid	Type			Braze connection					
		OD		mm	19,1					
	Gas	Type			Braze connection					
		OD		mm	41.3					
	HP/LP gas	Type			Brazing connections					
		OD		mm	34.9					
	Total piping length	System	Actual	m	1,000 (6)					
Defrost method					Reversed cycle					
PED	Category				Category II					
Space cooling	A Condition (35°C - 27/19)	EERd			2.3	2.4	2.2	2.3		2.4
		Pdc		kW	123.5	130.0	135.0	140.4	145.8	151.2
	B Condition (30°C - 27/19)	EERd			4.6			4.7	4.8	5.0
		Pdc		kW	91.0	95.8	99.5	103.5	107.4	111.4
	C Condition (25°C - 27/19)	EERd			7.9	8.1		8.3	8.4	8.6
		Pdc		kW	58.5	61.6	64.0	66.5	69.1	71.6
	D Condition (20°C - 27/19)	EERd			12.7	11.2		13.0	15.0	16.7
		Pdc		kW	26.0	27.4	28.4	29.6	30.7	34.7
Space cooling recommended combination 2	A Condition (35°C - 27/19)	EERd			2.3	2.4	2.2	2.3		2.4
		Pdc		kW	123.5	130.0	135.0	140.4	145.8	151.2
	B Condition (30°C - 27/19)	EERd			4.5	4.6	4.5	4.7	4.8	4.9
		Pdc		kW	91.0	95.8	99.5	103.4	107.4	111.4
	C Condition (25°C - 27/19)	EERd			7.9	8.3	8.2	8.4	8.6	8.8
		Pdc		kW	58.5	61.6	63.9	66.5	69.1	71.6
	D Condition (20°C - 27/19)	EERd			12.5	11.4	11.3	13.1	15.0	16.7
		Pdc		kW	26.0	27.4	28.4	29.6	31.2	34.9

2 Specifications

2-5 Technical Specifications				REYQ44U	REYQ46U	REYQ48U	REYQ50U	REYQ52U	REYQ54U
Space cooling recommended combination 3	A Condition (35°C - 27/19)	EERd		2.3	2.4	2.2	2.3		2.4
		Pdc	kW	123.5	130.0	135.0	140.4	145.8	151.2
	B Condition (30°C - 27/19)	EERd		4.5	4.6	4.5	4.6	4.8	4.9
		Pdc	kW	91.0	95.8	99.5	103.5	107.4	111.4
	C Condition (25°C - 27/19)	EERd		8.0	8.2	8.0	8.3	8.6	8.8
		Pdc	kW	58.5	61.6	63.9	66.5	69.1	71.6
	D Condition (20°C - 27/19)	EERd		12.8	11.4	11.3	13.2	15.2	16.8
		Pdc	kW	26.0	27.4	28.4	29.6	31.7	35.4
Space heating (Average climate)	TBivalent	COPd (declared COP)		2.2	2.1		2.3	2.4	2.6
		Pdh (declared heating cap)	kW	64.8	67.0	69.6	74.3	79.0	83.7
		Tbiv (bivalent temperature)	°C	-10					
	TOL	COPd (declared COP)		2.2	2.1		2.3	2.4	2.6
		Pdh (declared heating cap)	kW	64.8	67.0	69.6	74.3	79.0	83.7
		Tol (temperature operating limit)	°C	-10					
	A Condition (-7°C)	COPd (declared COP)		2.7			2.8		2.9
		Pdh (declared heating cap)	kW	57.3	59.3	61.5	65.7	69.9	74.0
	B Condition (2°C)	COPd (declared COP)		4.0		3.9	4.0		4.1
		Pdh (declared heating cap)	kW	34.9	36.1	37.5	40.0	42.6	45.1
	C Condition (7°C)	COPd (declared COP)		6.7	6.4	6.5	6.4	6.3	6.2
		Pdh (declared heating cap)	kW	22.6	23.2	24.1	25.7	27.3	29.0
	D Condition (12°C)	COPd (declared COP)		6.9			7.6		8.0
		Pdh (declared heating cap)	kW	11.0			13.7		16.3
Space heating (Average climate) recommended combination 2	A Condition (-7°C)	COPd (declared COP)		2.7		2.6	2.7	2.8	2.9
		Pdh (declared heating cap)	kW	57.3	59.3	61.6	65.7	69.9	74.0
	B Condition (2°C)	COPd (declared COP)		3.9				4.0	
		Pdh (declared heating cap)	kW	34.9	36.1	37.5	40.0	42.5	45.1
	C Condition (7°C)	COPd (declared COP)		6.5	6.3	6.4	6.2	6.1	6.0
		Pdh (declared heating cap)	kW	22.6	23.2	24.1	25.7	27.3	29.0
	D Condition (12°C)	COPd (declared COP)		6.7			7.3		7.9
		Pdh (declared heating cap)	kW	10.6		10.7	13.3		16.0
	TBivalent	COPd (declared COP)		2.1			2.2	2.4	2.5
		Pdh (declared heating cap)	kW	64.8	67.0	69.6	74.3	79.0	83.7
		Tbiv (bivalent temperature)	°C	-10					
	TOL	COPd (declared COP)		2.1			2.2	2.4	2.5
		Pdh (declared heating cap)	kW	64.8	67.0	69.6	74.3	79.0	83.7
		Tol (temperature operating limit)	°C	-10					

2 Specifications

2-5 Technical Specifications					REYQ44U	REYQ46U	REYQ48U	REYQ50U	REYQ52U	REYQ54U
Space heating (Average climate) recommended combination 3	A Condition (-7°C)	COPd (declared COP)			2.6			2.7		2.8
		Pdh (declared heating cap)		kW	57.3	59.3	61.6	65.7	69.9	74.0
	B Condition (2°C)	COPd (declared COP)			3.9	3.8			3.9	
		Pdh (declared heating cap)		kW	34.9	36.1	37.5	40.0	42.5	45.1
	C Condition (7°C)	COPd (declared COP)			6.4	6.1	6.2	6.1	5.9	5.8
		Pdh (declared heating cap)		kW	22.4	23.2	24.1	25.7	27.3	29.0
	D Condition (12°C)	COPd (declared COP)			6.5		6.6	7.0		7.4
		Pdh (declared heating cap)		kW	10.2		10.7	12.7		15.2
	TBivalent	COPd (declared COP)			2.1			2.2	2.3	2.5
		Pdh (declared heating cap)		kW	64.8	67.0	69.6	74.3	79.0	83.7
		Tbiv (bivalent temperature)		°C	-10					
	TOL	COPd (declared COP)			2.1			2.2	2.3	2.5
		Pdh (declared heating cap)		kW	64.8	67.0	69.6	74.3	79.0	83.7
		Tol (temperature operating limit)		°C	-10					
Cooling	Cdc (Degradation cooling)				0.25					
Heating	Cdh (Degradation heating)				0.25					
Power consumption in other than active mode	Off mode	Cooling	POFF	kW	0.292	0.360		0.358	0.356	0.354
		Heating	POFF	kW	0.279	0.330		0.354	0.379	0.403
	Standby mode	Cooling	PSB	kW	0.292	0.360		0.358	0.356	0.354
		Heating	PSB	kW	0.279	0.330		0.354	0.379	0.403
	Thermostat-off mode	Cooling	PTO	kW	0.016	0.019		0.025	0.031	0.037
		Heating	PTO	kW	0.306	0.357		0.382	0.406	0.431
Indication if the heater is equipped with a supplementary heater					no					
Supplementary heater	Back-up capacity	Heating	elbu	kW	0.0					

Standard Accessories : Installation and operation manual; Quantity : 1;

Standard Accessories : Connection pipes; Quantity : 1;

2-6 Electrical Specifications				REYQ10U	REYQ13U	REYQ16U	REYQ18U	REYQ20U	REYQ22U	REYQ24U	REYQ26U
Power supply	Name			Y1							
	Phase			3N~							
	Frequency		Hz	50							
	Voltage		V	380-415							
Voltage range	Min.		%	-10							
	Max.		%	10							
Current	Nominal running current (RLA) - 50Hz	Cooling	A	8.2 (7)	11.8 (7)	15.4 (7)	18.2 (7)	21.5 (7)	24.3 (7)	26.2 (7)	29.4 (7)
Current - 50Hz	Starting current (MSC) - remark			(8)							
	Zmax	List		No requirements							
	Minimum circuit amps (MCA)		A	30.0 (9)			37.0 (9)	39.0 (9)	46.0 (9)		51.0 (9)
	Maximum fuse amps (MFA)		A	40 (10)			50 (10)		63 (10)		
Wiring connections - 50Hz	For power supply	Quantity		5G							
	For connection with indoor	Quantity		2							
		Remark		F1,F2							
Power supply intake				Both indoor and outdoor unit							

2-7 Electrical Specifications			REYQ28U	REYQ30U	REYQ32U	REYQ34U	REYQ36U	REYQ38U	REYQ40U	REYQ42U
Power supply	Name		Y1							
	Phase		3N~							
	Frequency	Hz	50							
	Voltage	V	380-415							

2 Specifications

2-7 Electrical Specifications				REYQ28U	REYQ30U	REYQ32U	REYQ34U	REYQ36U	REYQ38U	REYQ40U	REYQ42U
Voltage range	Min.		%	-10							
	Max.		%	10							
Current	Nominal running current (RLA) - 50Hz	Cooling	A	32.3 (7)	35.8 (7)	37.0 (7)	40.5 (7)	47.0 (7)	43.5 (7)	46.3 (7)	47.5 (7)
Current - 50Hz	Starting current (MSC) - remark			(8)							
	Zmax	List		No requirements							
	Minimum circuit amps (MCA)		A	55.0 (9)	59.0 (9)	62.0 (9)	66.0 (9)	70.0 (9)	74.0 (9)	81.0 (9)	84.0 (9)
	Maximum fuse amps (MFA)		A	63 (10)	80 (10)				100 (10)		
Wiring connections - 50Hz	For power supply	Quantity		5G							
	For connection with indoor	Quantity		2							
		Remark		F1,F2							
Power supply intake				Both indoor and outdoor unit							

2-8 Electrical Specifications				REYQ44U	REYQ46U	REYQ48U	REYQ50U	REYQ52U	REYQ54U
Power supply	Name			Y1					
	Phase			3N~					
	Frequency		Hz	50					
	Voltage		V	380-415					
Voltage range	Min.		%	-10					
	Max.		%	10					
Current	Nominal running current (RLA) - 50Hz	Cooling	A	50.8 (7)	52.6 (7)	55.5 (7)	59.0 (7)	62.5 (7)	66.0 (7)
Current - 50Hz	Starting current (MSC) - remark			(8)					
	Zmax	List		No requirements					
	Minimum circuit amps (MCA)		A	86.0 (9)	89.0 (9)	93.0 (9)	97.0 (9)	101.0 (9)	105.0 (9)
	Maximum fuse amps (MFA)		A	100 (10)		125 (10)			
Wiring connections - 50Hz	For power supply	Quantity		5G					
	For connection with indoor	Quantity		2					
		Remark		F1,F2					
Power supply intake				Both indoor and outdoor unit					

2 Specifications

Notes

(1) Cooling: indoor temp. 27°CDB, 19°CWB; outdoor temp. 35°CDB; equivalent piping length: 7.5m; level difference: 0m

(2) Heating: indoor temp. 20°CDB; outdoor temp. 7°CDB, 6°CWB; equivalent refrigerant piping: 7.5m; level difference: 0m

(3) Actual number of connectable indoor units depends on the indoor unit type and the connection ratio restriction for the system (50% ≤ CR ≤ 120%)

(4) Sound power level is an absolute value that a sound source generates.

(5) Sound pressure level is a relative value, depending on the distance and acoustic environment. For more details, please refer to the sound level drawings.

(6) Refer to refrigerant pipe selection or installation manual

(7) RLA is based on following conditions: indoor temp. 27°CDB, 19°CWB; outdoor temp. 35°CDB

(8) MSC means the maximum current during start up of the compressor. VRV IV uses only inverter compressors. Starting current is always ≤ max. running current.

(9) MCA must be used to select the correct field wiring size. The MCA can be regarded as the maximum running current.

(10) MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth leakage circuit breaker).

In accordance with EN/IEC 61000-3-12, it may be necessary to consult the distribution network operator to ensure that the equipment is connected only to a supply wih Ssc ≥ minimum Ssc value

FLA means the nominal running current of the fan

Maximum allowable voltage range variation between phases is 2%.

Voltage range: units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits.

The AUTOMATIC ESEER value corresponds with normal VRV4 Heat Recovery operation, taking into account advanced energy saving operation functionality (variable refrigerant temperature control operation)

The STANDARD ESEER value corresponds with normal VRV4 Heat Recovery operation, not taking into account advanced energy saving operation functionality

Sound values are measured in a semi-anechoic room.

Soundpressure system [dBA] = 10*log[10^(A/10)+10^(B/10)+10^(C/10)] , with Unit A = A dBA, Unit B = B dBA, Unit C = C dBA

EN/IEC 61000-3-12: European/international technical standard setting the limits for harmonic currents produced by equipment connected to public low-voltage system with input current \> 16A and ≤ 75A per phase

Ssc: Short-circuit power

For detailed contents of standard accessories, see installation/operation manual

Multi combination (10~54HP) data is corresponding with the standard multi combination

3 Options

3 - 1 Options

REMQ-U
REYQ-U

VRV4
Heat recovery
Option list

Description	Option	REMQ5*	REYQ8*	REYQ10*	REYQ12*	REYQ14*	REYQ16*	REYQ18*	REYQ20*	Multi ·2·	Multi ·3·
Low ambient option	EKBPH012T7A (*1)	o	o	o	o	-	-	-	-	o	o
Bottom plate heater	EKBPH020T7A (*1)	-	-	-	-	o	o	o	o	o	o
PC cable kit	EKPCCAB2	o	o	o	o	o	o	o	o	o	o
Refnet header	KHRQ23M29H	o	o	o	o	o	o	o	o	o	o
	KHRQ23M64H	-	-	-	o	o	o	o	o	o	o
	KHRQ23M75H	-	-	-	-	-	-	-	-	o	o
Refnet joint	KHRQ23M20T	o	o	o	o	o	o	o	o	o	o
	KHRQ23M29T9	o	o	o	o	o	o	o	o	o	o
	KHRQ23M64T	-	-	-	o	o	o	o	o	o	o
	KHRQ23M75T	-	-	-	-	-	-	-	-	o	o
Outdoor multi-connection kit	BHFQ23P907	-	-	-	-	-	-	-	-	o	-
	BHFQ23P1357	-	-	-	-	-	-	-	-	-	o
Single ·BSVQ· unit (*2) (*3)	BS1Q10A	o	o	o	o	o	o	o	o	o	o
	BS1Q16A	o	o	o	o	o	o	o	o	o	o
	BS1Q25A	o	o	o	o	o	o	o	o	o	o
Multi ·BS· unit	BS4Q14A	o	o	o	o	o	o	o	o	o	o
	BS6Q14A	o	o	o	o	o	o	o	o	o	o
	BS8Q14A	o	o	o	o	o	o	o	o	o	o
	BS10Q14A	o	o	o	o	o	o	o	o	o	o
	BS12Q14A	o	o	o	o	o	o	o	o	o	o
	BS16Q14A	o	o	o	o	o	o	o	o	o	o

Notes

1. One bottom plate heater per outdoor unit required.
2. Sound reduction kit ·EKBSVQLNP·
   One sound reduction kit per ·BSVQ· box required.
3. Technical cooling is available.
4. Multi-tenancy is available

3D119362

4 Combination table

4 - 1 Combination Table

REMQ-U
REYQ-U

Indoor unit combination pattern	VRV indoor unit	VRV indoor unit Cooling only unit	LT Hydrobox unit	HT Hydrobox unit	AHU (*3)
VRV indoor unit	o	o	o	o	o
VRV indoor unit Cooling only unit	o	o	o	*Not allowed*	o
LT Hydrobox unit	o	o	o (*1)	o (*1)	*Not allowed*
HT Hydrobox unit	o	*Not allowed*	o (*1)	o (*1)	*Not allowed*
AHU (*3)	o	o	*Not allowed*	*Not allowed*	o (*2)

Notes

1. ·Hydroboxes· indoor units may not be used without a ·VRV· indoor unit
   Refer to the connection ratio restrictions.
2. ·AHUs·/air curtains may not be used without a ·VRV· indoor unit.
   Refer to the connection ratio restrictions.
3. The following units are considered AHUs:
   3.1 ·EKEXV + EKEQM + AHU· coil
   3.2 ·Biddle· air curtain
   3.3 ·FXMQ*MF· unit

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REMQ-U
REYQ-U

VRV4
Heat recovery
Multi-unit standard combinations table

		5HP	8HP	10HP	12HP	14HP	16HP	18HP	20HP
	REMQ5* (*1)	1							
Non-continuous heating	REYQ8*		1						
	REYQ10*			1					
	REYQ12*				1				
	REYQ14*					1			
	REYQ16*						1		
	REYQ18*							1	
	REYQ20*								1
Continuous heating ·2· outdoor units	REYQ10*	2							
	REYQ13*	1	1						
	REYQ16*		2						
	REYQ18*		1	1					
	REYQ20*		1		1				
	REYQ22*			1	1				
	REYQ24*		1				1		
	REYQ26*				1	1			
	REYQ28*				1		1		
	REYQ30*				1			1	
	REYQ32*						2		
	REYQ34*						1	1	
	REYQ36*						1		1
Continuous heating ·3· outdoor units	REYQ38*		1		1			1	
	REYQ40*			1	1			1	
	REYQ42*			1			2		
	REYQ44*				1		2		
	REYQ46*					1	2		
	REYQ48*						3		
	REYQ50*						2	1	
	REYQ52*						1	2	
	REYQ54*							3	

Notes

1. The ·REMQ5*· unit cannot be used as a standalone unit and may only be used in standard combinations.
2. Standard and free combinations have different piping restrictions.
3. Never combine more than ·3· units to create a multi-combination.

3D088011

5 Capacity tables

5 - 1 Capacity Table Legend

In order to fulfill more your requirements on quick access of data in the format you require, we have developed a tool to consult capacity tables.

Below you can find the link to the capacity table database and an overview of all the tools we have to help you select the correct product:

- **Capacity table database:** lets you find back and export quickly the capacity information you are looking for based upon unit model, refrigerant temperature and connection ratio.
- You can access the capacity table viewer here:
  https://my.daikin.eu/content/denv/en_US/home/applications/software-finder/capacity-table-viewer.html

- An overview of **all software tools** that we offer can be found here:
  https://my.daikin.eu/denv/en_US/home/applications/software-finder.html

5 Capacity tables

5 - 2 Integrated Heating Capacity Correction Factor

REMQ-U
REYQ-U

The heating capacity tables do not take into account the capacity reduction in case of frost accumulation or defrost operation.

The capacity values that take these factors into account, or in other words, the integrated heating capacity values, can be calculated as follows:

Formula **A = B * C**

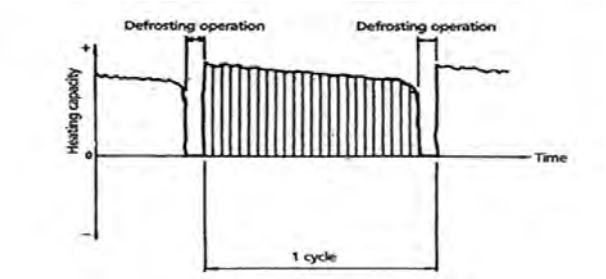
A= Integrated heating capacity
B= Capacity characteristics value
C= Integrated correction factor for frost accumulation (see table)

Inlet air temperature of heat exchanger

	[°CDB/°CWB]	-7/-7,6	-5/-5,6	-3/-3,7	0/-0,7	3/2,2	5/4,1	7/6
	Integrated correction factor for frost accumulation ·(C)·							
For single unit installation	**8HP**	0.95	0.93	0.88	0.84	0.85	0.90	1.00
	10HP	0.95	0.93	0.87	0.79	0.80	0.88	1.00
	12HP	0.95	0.92	0.87	0.75	0.76	0.85	1.00
	14HP	0.95	0.92	0.86	0.72	0.73	0.84	1.00
	16HP	0.95	0.92	0.86	0.72	0.72	0.83	1.00
	18HP	0.95	0.93	0.88	0.84	0.85	0.90	1.00
	20HP	0.95	0.93	0.88	0.84	0.85	0.90	1.00
For multi-unit installation	**10HP**	0.95	0.93	0.88	0.84	0.85	0.90	1.00
	13HP	0.95	0.93	0.88	0.84	0.85	0.90	1.00
	16HP	0.95	0.93	0.88	0.84	0.85	0.90	1.00
	18HP	0.95	0.93	0.88	0.82	0.83	0.89	1.00
	20HP	0.95	0.93	0.88	0.80	0.81	0.88	1.00
	22HP	0.95	0.92	0.87	0.77	0.78	0.86	1.00
	24HP	0.95	0.92	0.87	0.75	0.76	0.85	1.00
	26HP	0.95	0.92	0.86	0.73	0.74	0.84	1.00
	28HP	0.95	0.92	0.86	0.73	0.74	0.84	1.00
	30HP	0.95	0.93	0.87	0.80	0.81	0.88	1.00
	32HP	0.95	0.92	0.86	0.71	0.72	0.83	1.00
	34HP	0.95	0.92	0.87	0.78	0.79	0.87	1.00
	36HP	0.95	0.92	0.87	0.78	0.79	0.87	1.00
	38HP	0.95	0.93	0.88	0.83	0.84	0.89	1.00
	40HP	0.95	0.93	0.87	0.80	0.81	0.88	1.00
	42HP	0.95	0.92	0.86	0.73	0.74	0.84	1.00
	44HP	0.95	0.92	0.86	0.72	0.73	0.84	1.00
	46HP	0.95	0.92	0.86	0.72	0.72	0.83	1.00
	48HP	0.95	0.92	0.86	0.71	0.72	0.83	1.00
	50HP	0.95	0.92	0.87	0.76	0.77	0.86	1.00
	52HP	0.95	0.93	0.87	0.80	0.81	0.88	1.00
	54HP	0.95	0.93	0.88	0.84	0.85	0.90	1.00

Notes

1. The figure shows the integrated heating capacity for a single cycle (from one defrost operation to the next).
2. When there is an accumulation of snow against the outdoor unit heat exchanger, there will always be a temporary reduction in capacity depending on the outdoor temperature (°C DB), relative humidity (RH) and the amount of frosting which occurs.
3. The multi-combination data ·VRV4· corresponds with the standard multi-combination of drawing ·3D088011·.

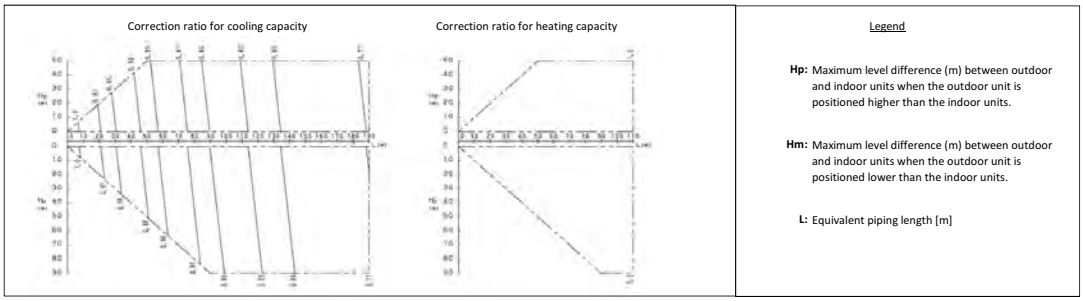


3D088034

5 Capacity tables

5 - 3 Capacity Correction Factor

REYQ8U
REYQ22U



Notes

1. These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown it the above figures.

2. Method of calculating the capacity of the outdoor units.
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is less.

Indoor connection ratio ≤ 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at 100% connection ratio.	X	Correction ratio of piping to furthest indoor unit

Indoor connection ratio > 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at installed connection ratio.	X	Correction ratio of piping to furthest indoor unit

3. Main liquid pipe size increase

Model	Standard liquid side Ø	Increased liquid side Ø
8HP	9.5	12.7
22HP	15.9	19.1

For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

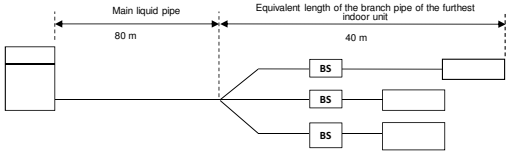
4. Overall equivalent length

Overall equivalent length	=	Equivalent length of the main pipe	X	Correction factor	+	Equivalent length of the branch pipes

Choose the correction factor from the following table.

Model	Correction ratio for cooling capacity		Correction ratio for heating capacity	
	Standard size	Size increase	Standard size	Size increase
8HP	1	0.5	1	0.2
22HP	1	0.5	1	0.4

5. Example ·8HP·

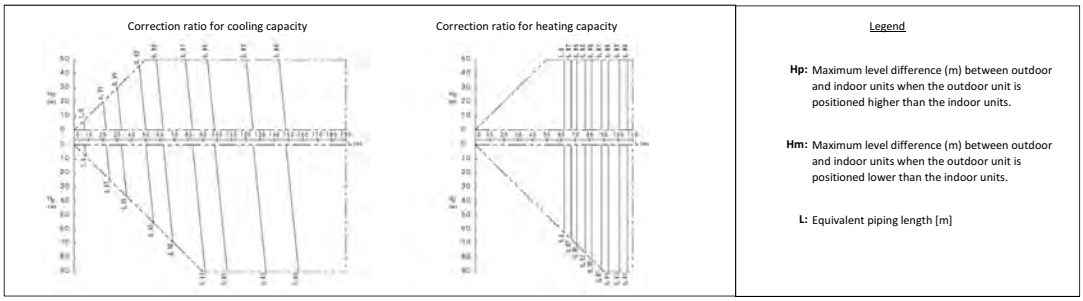


Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,2 + 40 m = 56 m

Capacity correction ratio (height difference = 0)
- Cooling mode = 0,86
- Heating mode = 1,0

3D088033

REYQ10U



Notes

1. These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions.
Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown it the above figures.

2. Method of calculating the capacity of the outdoor units.
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is less.

Indoor connection ratio ≤ 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at 100% connection ratio.	X	Correction ratio of piping to furthest indoor unit

Indoor connection ratio > 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at installed connection ratio.	X	Correction ratio of piping to furthest indoor unit

3. Main liquid pipe size increase

Model	Standard liquid side Ø	Increased liquid side Ø
10HP	9.5	12.7

For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

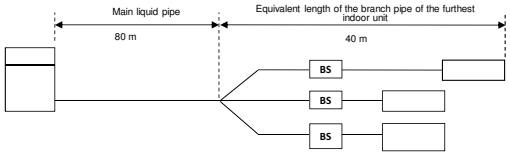
4. Overall equivalent length

Overall equivalent length	=	Equivalent length of the main pipe	X	Correction factor	+	Equivalent length of the branch pipes

Choose the correction factor from the following table.

Model	Correction ratio for cooling capacity		Correction ratio for heating capacity	
	Standard size	Size increase	Standard size	Size increase
10HP	1	0.5	1	0.2

5. Example ·10HP·



Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,2 + 40 m = 56 m

Capacity correction ratio (height difference = 0)
- Cooling mode = 0,88
- Heating mode = 1,0

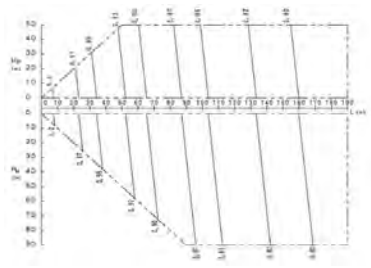
3D088033

5 Capacity tables

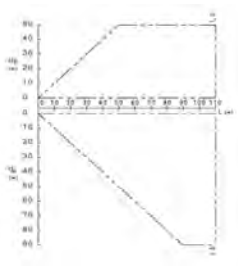
5 - 3 Capacity Correction Factor

REYQ12U
REYQ18U
REYQ26U
REYQ28U
REYQ30U
REYQ38U
REYQ40U
REYQ42U
REYQ44U

Correction ratio for cooling capacity



Correction ratio for heating capacity



Legend

Hp: Maximum level difference (m) between outdoor and indoor units when the outdoor unit is positioned higher than the indoor units.

Hm: Maximum level difference (m) between outdoor and indoor units when the outdoor unit is positioned lower than the indoor units.

L: Equivalent piping length [m]

Notes

1. These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions. Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown it the above figures.

2. Method of calculating the capacity of the outdoor units.
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is less.

Indoor connection ratio ≤ 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at 100% connection ratio.	X	Correction ratio of piping to furthest indoor unit

Indoor connection ratio > 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at installed connection ratio.	X	Correction ratio of piping to furthest indoor unit

3. Main liquid pipe size increase

Model	Standard liquid side Ø	Increased liquid side Ø
12HP	12.7	15.9
18HP	15.9	19.1
26+28+30+38+40+42+44HP	19.1	22.2

For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

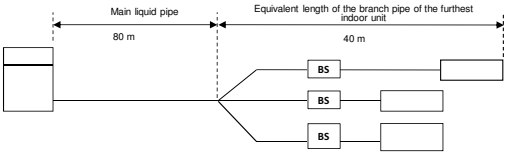
4. Overall equivalent length

Overall equivalent length	=	Equivalent length of the main pipe	X	Correction factor	+	Equivalent length of the branch pipes

Choose the correction factor from the following table.

Model	Correction ratio for cooling capacity		Correction ratio for heating capacity	
	Standard size	Size increase	Standard size	Size increase
12HP	1	0.5	1	0.3
18+26+28+30+38+40+42+44HP	1	0.5	1	0.4

5. Example ·18HP·



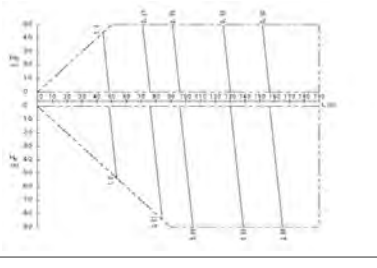
Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,4 + 40 m = 72 m

Capacity correction ratio (height difference = 0)
- Cooling mode = 0,88
- Heating mode = 1,0

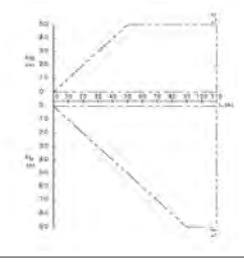
3D088033

REYQ13U
REYQ14U

Correction ratio for cooling capacity



Correction ratio for heating capacity



Legend

Hp: Maximum level difference (m) between outdoor and indoor units when the outdoor unit is positioned higher than the indoor units.

Hm: Maximum level difference (m) between outdoor and indoor units when the outdoor unit is positioned lower than the indoor units.

L: Equivalent piping length [m]

Notes

1. These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions. Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown it the above figures.

2. Method of calculating the capacity of the outdoor units.
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is less.

Indoor connection ratio ≤ 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at 100% connection ratio.	X	Correction ratio of piping to furthest indoor unit

Indoor connection ratio > 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at installed connection ratio.	X	Correction ratio of piping to furthest indoor unit

3. Main liquid pipe size increase

Model	Standard liquid side Ø	Increased liquid side Ø
13+14HP	12.7	15.9

For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

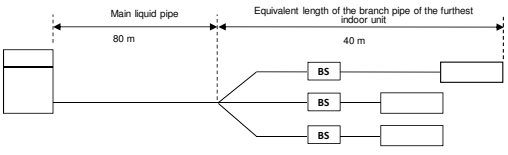
4. Overall equivalent length

Overall equivalent length	=	Equivalent length of the main pipe	X	Correction factor	+	Equivalent length of the branch pipes

Choose the correction factor from the following table.

Model	Correction ratio for cooling capacity		Correction ratio for heating capacity	
	Standard size	Size increase	Standard size	Size increase
13+14HP	1	0.5	1	0.3

5. Example ·14HP·



Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,3 + 40 m = 64 m

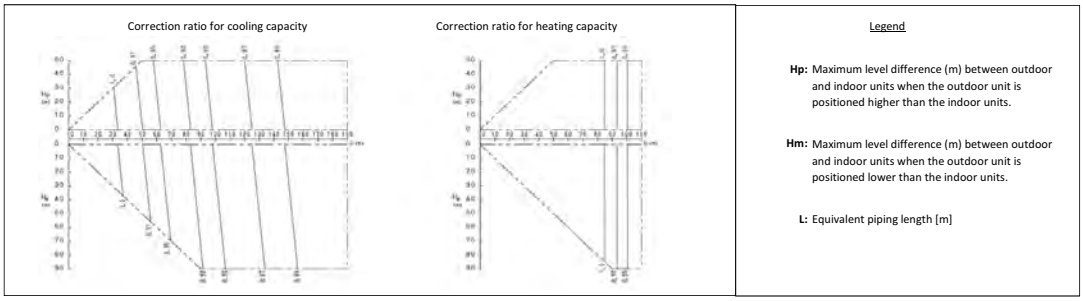
Capacity correction ratio (height difference = 0)
- Cooling mode = 0,96
- Heating mode = 1,0

3D088033

5 Capacity tables

5 - 3 Capacity Correction Factor

REYQ16U



Notes

1. These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions. Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown it the above figures.

2. Method of calculating the capacity of the outdoor units.
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is less.

Indoor connection ratio ≤ 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at 100% connection ratio.	X	Correction ratio of piping to furthest indoor unit

Indoor connection ratio > 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at installed connection ratio.	X	Correction ratio of piping to furthest indoor unit

3. Main liquid pipe size increase

Model	Standard liquid side Ø	Increased liquid side Ø
16HP	12.7	15.9

For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

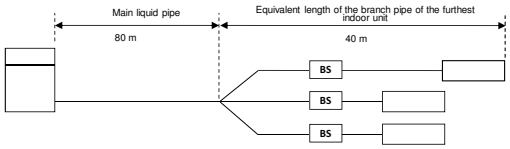
4. Overall equivalent length

Overall equivalent length	=	Equivalent length of the main pipe	X	Correction factor	+	Equivalent length of the branch pipes

Choose the correction factor from the following table.

Model	Correction ratio for cooling capacity		Correction ratio for heating capacity	
	Standard size	Size increase	Standard size	Size increase
16HP	1	0.5	1	0.3

5. Example ·16HP·

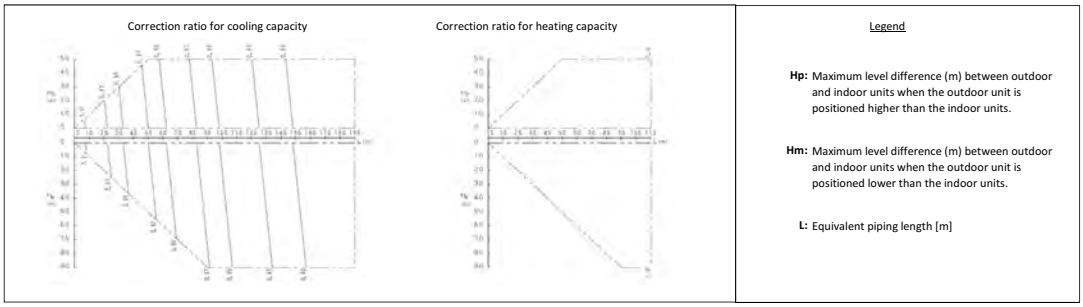


Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,3 + 40 m = 64 m

Capacity correction ratio (height difference = 0)
- Cooling mode = 0,93
- Heating mode = 1,0

3D088033

REYQ20U
REYQ32U
REYQ34U



Notes

1. These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions. Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown it the above figures.

2. Method of calculating the capacity of the outdoor units.
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is less.

Indoor connection ratio ≤ 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at 100% connection ratio.	X	Correction ratio of piping to furthest indoor unit

Indoor connection ratio > 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at installed connection ratio.	X	Correction ratio of piping to furthest indoor unit

3. Main liquid pipe size increase

Model	Standard liquid side Ø	Increased liquid side Ø
20HP	15.9	19.1
32+34HP	19.1	22.2

For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

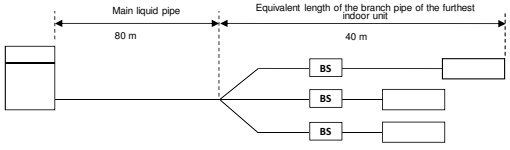
4. Overall equivalent length

Overall equivalent length	=	Equivalent length of the main pipe	X	Correction factor	+	Equivalent length of the branch pipes

Choose the correction factor from the following table.

Model	Correction ratio for cooling capacity		Correction ratio for heating capacity	
	Standard size	Size increase	Standard size	Size increase
20+32+34HP	1	0.5	1	0.4

5. Example ·20HP·



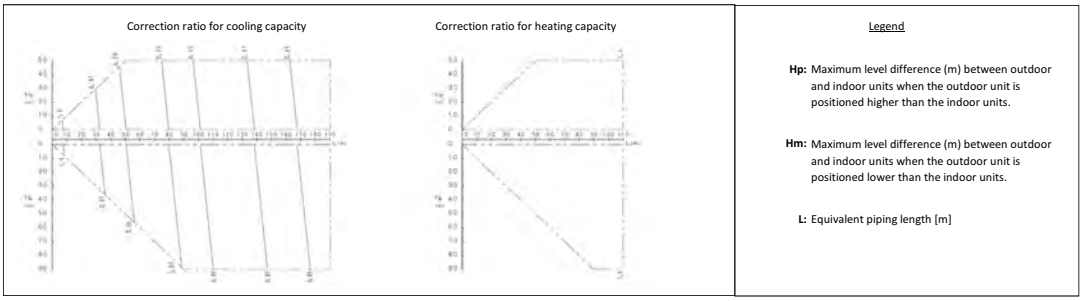
Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,4 + 40 m = 72 m

Capacity correction ratio (height difference = 0)
- Cooling mode = 0,88
- Heating mode = 1,0

3D088033

5 Capacity tables
5 - 3 Capacity Correction Factor

REYQ24U



Notes

1. These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions. Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown it the above figures.

2. Method of calculating the capacity of the outdoor units.
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is less.

Indoor connection ratio ≤ 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at 100% connection ratio.	X	Correction ratio of piping to furthest indoor unit

Indoor connection ratio > 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at installed connection ratio.	X	Correction ratio of piping to furthest indoor unit

3. Main liquid pipe size increase

Model	Standard liquid side Ø	Increased liquid side Ø
24HP	15.9	19.1

For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

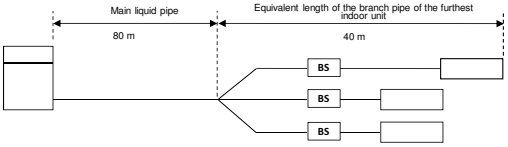
4. Overall equivalent length

Overall equivalent length	=	Equivalent length of the main pipe	X	Correction factor	+	Equivalent length of the branch pipes

Choose the correction factor from the following table.

Model	Correction ratio for cooling capacity		Correction ratio for heating capacity	
	Standard size	Size increase	Standard size	Size increase
24HP	1	0.5	1	0.4

5. Example ·24HP·

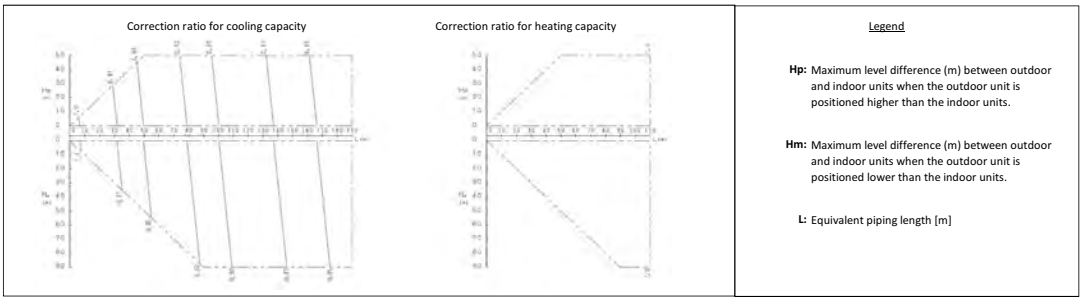


Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,4 + 40 m = 72 m

Capacity correction ratio (height difference = 0)
- Cooling mode = 0,93
- Heating mode = 1,0

3D088033

REYQ36U



Notes

1. These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions. Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown it the above figures.

2. Method of calculating the capacity of the outdoor units.
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is less.

Indoor connection ratio ≤ 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at 100% connection ratio.	X	Correction ratio of piping to furthest indoor unit

Indoor connection ratio > 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at installed connection ratio.	X	Correction ratio of piping to furthest indoor unit

3. Main liquid pipe size increase

Model	Standard liquid side Ø	Increased liquid side Ø
36HP	19.1	22.2

For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

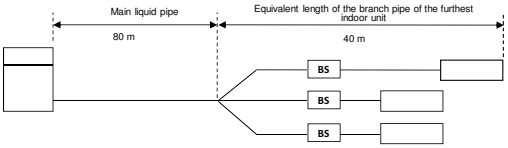
4. Overall equivalent length

Overall equivalent length	=	Equivalent length of the main pipe	X	Correction factor	+	Equivalent length of the branch pipes

Choose the correction factor from the following table.

Model	Correction ratio for cooling capacity		Correction ratio for heating capacity	
	Standard size	Size increase	Standard size	Size increase
36HP	1	0.5	1	0.4

5. Example ·36HP·



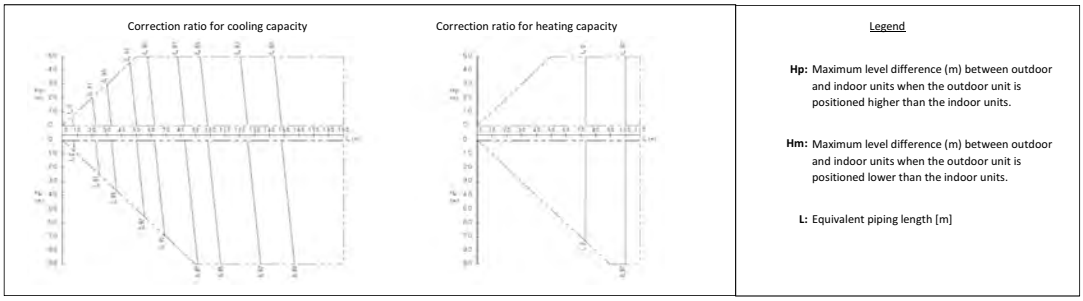
Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,4 + 40 m = 72 m

Capacity correction ratio (height difference = 0)
- Cooling mode = 0,92
- Heating mode = 1,0

3D088033

5 Capacity tables
5 - 3 Capacity Correction Factor

REYQ46U



Notes

1. These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions. Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown it the above figures.

2. Method of calculating the capacity of the outdoor units.
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is less.

Indoor connection ratio ≤ 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at 100% connection ratio.	X	Correction ratio of piping to furthest indoor unit

Indoor connection ratio > 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at installed connection ratio.	X	Correction ratio of piping to furthest indoor unit

3. Main liquid pipe size increase

Model	Standard liquid side Ø	Increased liquid side Ø
46HP	19.1	22.2

For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

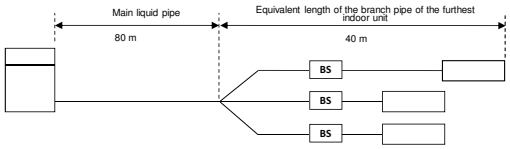
4. Overall equivalent length

Overall equivalent length	=	Equivalent length of the main pipe	X	Correction factor	+	Equivalent length of the branch pipes

Choose the correction factor from the following table.

Model	Correction ratio for cooling capacity		Correction ratio for heating capacity	
	Standard size	Size increase	Standard size	Size increase
46HP	1	0.5	1	0.4

5. Example ·46HP·



Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,4 + 40 m = 72 m

Capacity correction ratio (height difference = 0)
- Cooling mode = 0,88
- Heating mode = 1,0

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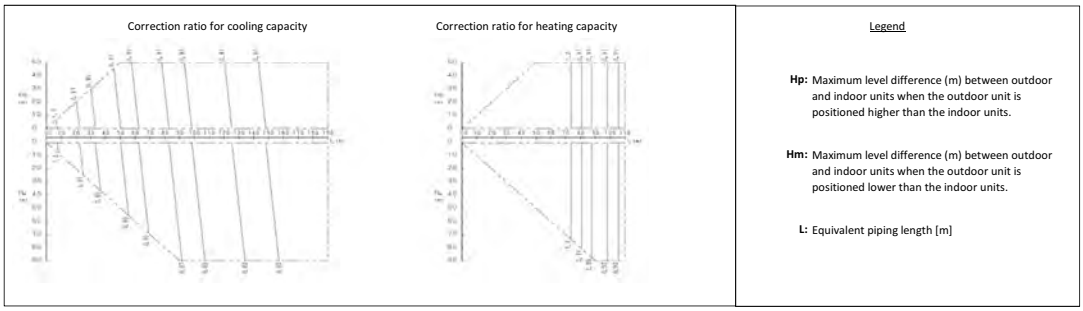
REYQ48U
REYQ50U
REYQ52U
REYQ54U



Notes

1. These figures illustrate the capacity correction factor due to the piping length for a standard indoor unit system at maximum load (with the thermostat set to maximum), under standard conditions. Moreover, under partial load conditions, there is only a minor deviation for the capacity correction ratio, as shown it the above figures.

2. Method of calculating the capacity of the outdoor units.
The maximum capacity of the system will be either the total capacity of the indoor units or the maximum capacity of the outdoor units as mentioned below, whichever is less.

Indoor connection ratio ≤ 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at 100% connection ratio.	X	Correction ratio of piping to furthest indoor unit

Indoor connection ratio > 100%.

Maximum capacity of outdoor units	=	Capacity of outdoor units from capacity table at installed connection ratio.	X	Correction ratio of piping to furthest indoor unit

3. Main liquid pipe size increase

Model	Standard liquid side Ø	Increased liquid side Ø
48~54HP	19.1	22.2

For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

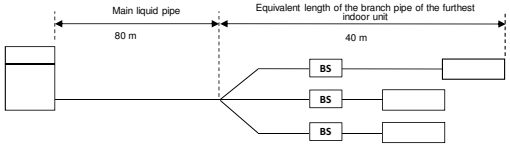
4. Overall equivalent length

Overall equivalent length	=	Equivalent length of the main pipe	X	Correction factor	+	Equivalent length of the branch pipes

Choose the correction factor from the following table.

Model	Correction ratio for cooling capacity		Correction ratio for heating capacity	
	Standard size	Size increase	Standard size	Size increase
48~54HP	1	0.5	1	0.4

5. Example ·48HP·



Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,4 + 40 m = 72 m

Capacity correction ratio (height difference = 0)
- Cooling mode = 0,88
- Heating mode = 1,0

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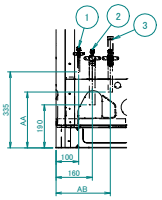
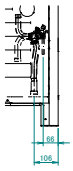
6 Dimensional drawings

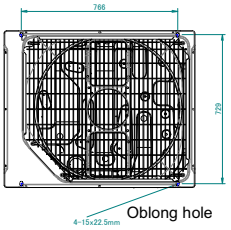
6 - 1 Dimensional Drawings

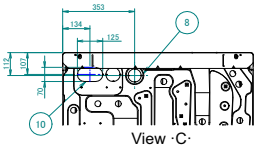
REMQ5U
REYQ8-12U
RXYQQ8-12U
RXYQ8-12U
RYMQ8-12U
RXYTQ8-UYF
RYYQ8-12U

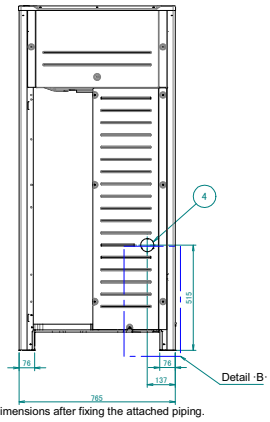


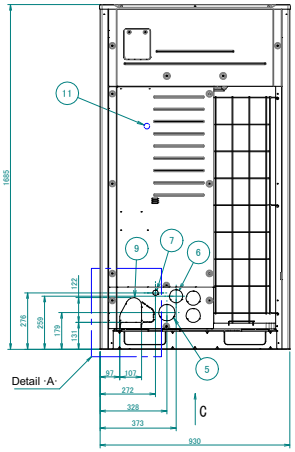


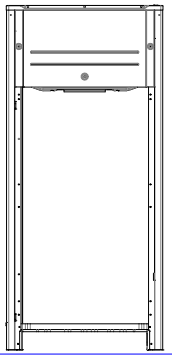
Pitch of foundation bolt holes











Notes

1. Detail ·A· and detail ·B· indicate the dimensions after fixing the attached piping.
2. Items ·4 - 10:· Knockout hole.
3. Gas pipe

RYYQ8U, RYMQ8U, RXYQ8U, RXYQQ8U, RXYTQ8U RYYQ10U, RYMQ10U, RXYQ10U, RXYQQ10U REMQ5U, REYQ8-12U RYYQ12U, RYMQ12U, RXYQ12U, RXYQQ12U	: Ø ·19.1· brazing connection : Ø ·22.2· brazing connection : Ø ·25.4· brazing connection : Ø ·28.6· brazing connection

Liquid pipe

RYYQ8-10U, RYMQ8-10U, RXYQ8-10U, RXYQQ8-10U, REMQ5U, REYQ8-12U, RXYTQ8U : Ø ·9.5· brazing connection

RYYQ12U, RYMQ12U, RXYQ12U, RXYQQ12U : Ø ·12.7· brazing connection

Equalising pipe

RYMQ8-10U : Ø ·19.1· brazing connection

RYMQ12U : Ø ·22.2· brazing connection

High pressure/low pressure gas pipe

REMQ5U, REYQ8-12U : Ø ·19.1· brazing connection

Model	AA	AB
RYYQ8-12U, RXYQ8-12U, RXYQQ8-12U, RXYTQ8U	–	–
REMQ5U, RYMQ8-12U, REYQ8-12U	246	240

No.	Part name	Remark
11	Grounding terminal	
10	Pipe routing hole (bottom)	
9	Pipe routing hole (front)	Inside of the switch box (·M8·)
8	Power cord routing hole (bottom)	Ø65
7	Power cord routing hole (front)	Ø27
6	Power cord routing hole (front)	Ø65
5	Power cord routing hole (front)	Ø80
4	Power cord routing hole (side)	Ø65
3	Equalising pipe connection port High pressure/low pressure gas pipe	See note ·3·. See note ·3·.
2	Gas pipe connection port	See note ·3·.
1	Liquid pipe connection port	Remark

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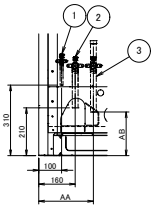
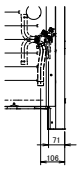
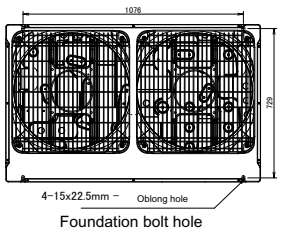
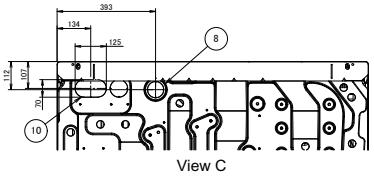
REYQ14-20U
RXYQQ14-20U
RXYQ14-20U
RXYTQ10-16U
RYYQ14-20U
RYMQ14-20U

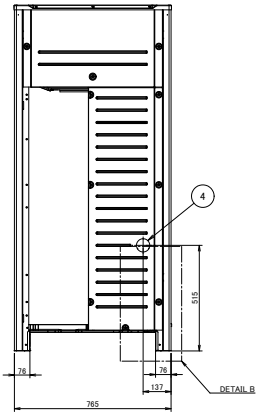


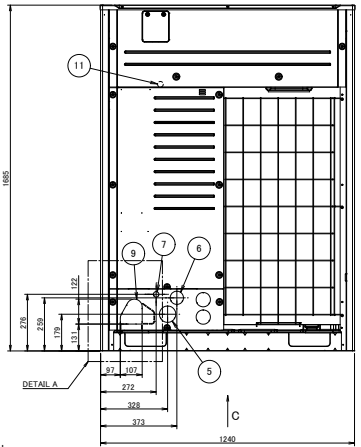


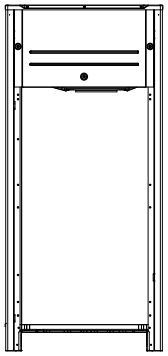
Pitch of foundation bolt holes











Notes

1. Detail A and detail B indicate the dimensions after fixing the attached piping. 1.
2. Items 4 - 10: Knockout hole.
3. Gas pipe

RXYTQ10U REYQ14-20U	Ø 22.2 brazing connection Ø 25.4 brazing connection
RYYQ14-20U, RYMQ14-20U RXYQ14-20U, RXYQQ14-20U, RXYTQ12-16U Liquid pipe	Ø 28.6 brazing connection
RXYTQ10U	Ø 9.5 brazing connection
RYYQ14-16U, RYMQ14-16U, RXYQ14-16U, RXYQQ14-16U, REYQ14-20U, RXYTQ12-16U	Ø 12.7 brazing connection Ø 15.9 brazing connection
RYYQ18-20U, RYMQ18-20U, RXYQ18-20U, RXYQQ18-20U Equalising pipe	
RYMQ14-16U	Ø 22.2 brazing connection
RYMQ18-20U	Ø 28.6 brazing connection
High pressure/low pressure gas pipe	
REYQ14-20U	Ø 22.2 brazing connection

Model	AA	AB
RXYQ14-20U, RYYQ14-20U, RXYQQ14-20U, RXYTQ10-16U	–	–
RYMQ14-16U, REYQ14-20U	240	155
RYMQ18-20U	240	192

No.	Part name	Remark
11	Grounding terminal	
10	Pipe routing hole (bottom)	
9	Pipe routing hole (front)	Inside of the switch box (M8)
8	Power cord routing hole (bottom)	Ø65
7	Power cord routing hole (front)	Ø27
6	Power cord routing hole (front)	Ø65
5	Power cord routing hole (front)	Ø80
4	Power cord routing hole (side)	Ø65
3	Equalising pipe connection port High pressure/low pressure gas pipe	See note 3.
2	Gas pipe connection port	See note 3.
1	Liquid pipe connection port	See note 3.

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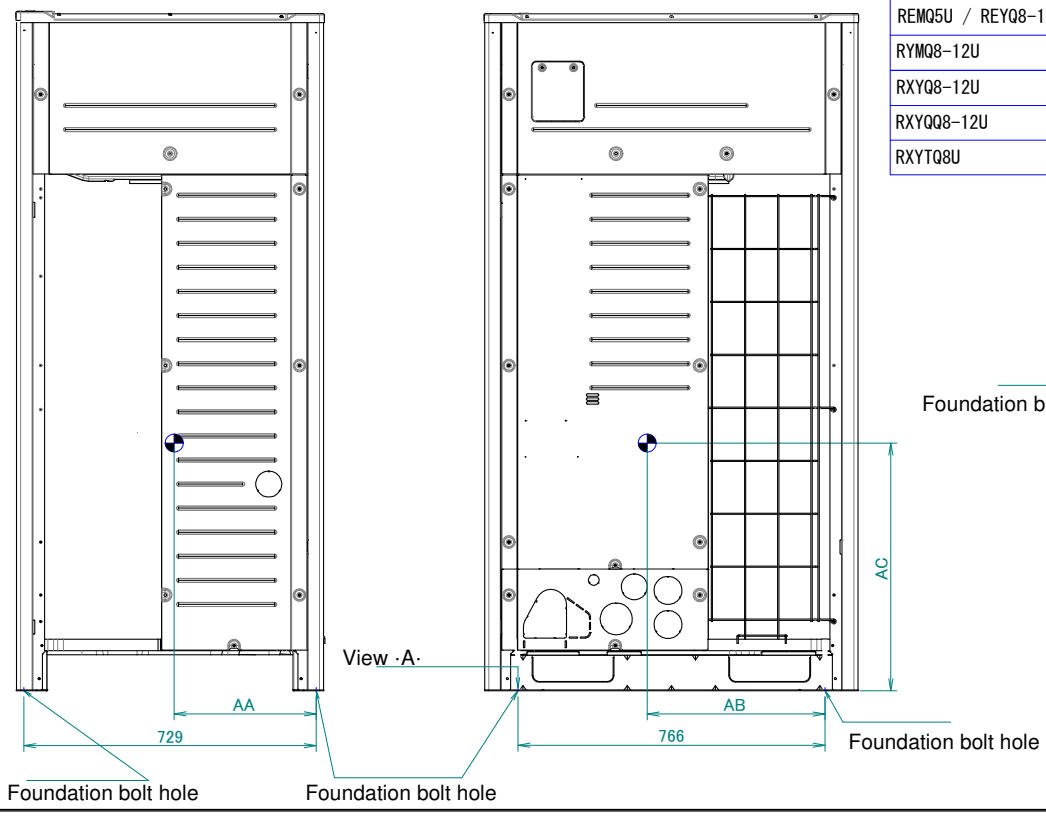
7 Centre of gravity

7 - 1 Centre of Gravity

RXYQQ8-12U
RXYQ8-12U
RXYTQ8UYF
RYYQ8-12U
RYMQ8-12U
REMQ5U
REYQ8-12U

Unit	AA	AB	AC
RYYQ8-12U	328	366	565
REMQ5U / REYQ8-12U			
RYMQ8-12U	354	443	565
RXYQ8-12U	339	448	565
RXYQQ8-12U			
RXYTQ8U			



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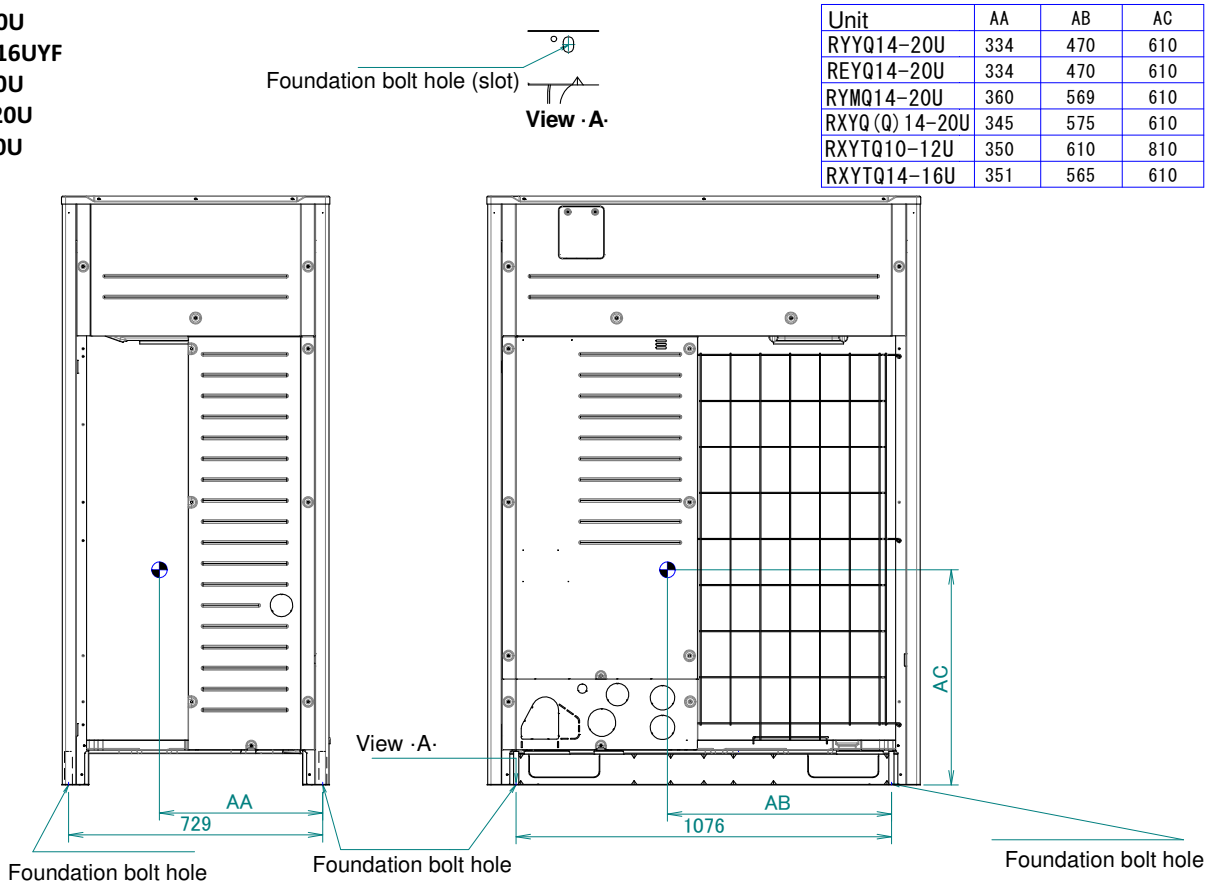
RXYQQ14-20U
RXYQ14-20U
RXYTQ10-16UYF
RYYQ14-20U
RYMQ14-20U
REYQ14-20U

Unit	AA	AB	AC
RYYQ14-20U	334	470	610
REYQ14-20U	334	470	610
RYMQ14-20U	360	569	610
RXYQ(Q)14-20U	345	575	610
RXYTQ10-12U	350	610	810
RXYTQ14-16U	351	565	610



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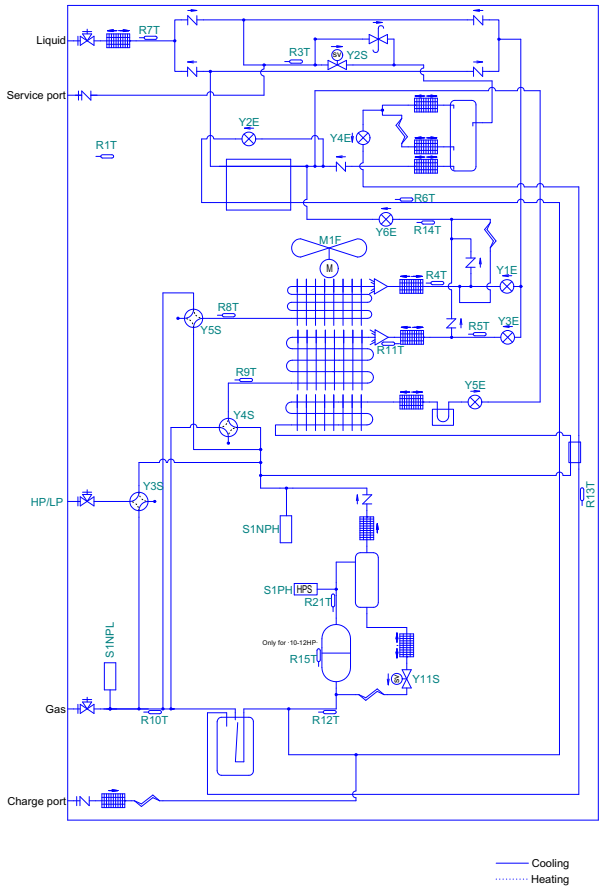
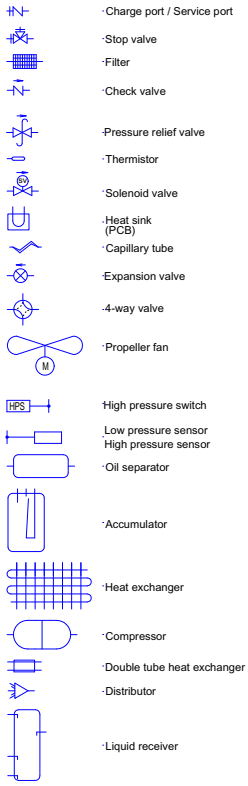
8 Piping diagrams

8 - 1 Piping Diagrams

REMQ5U
REYQ8-12U





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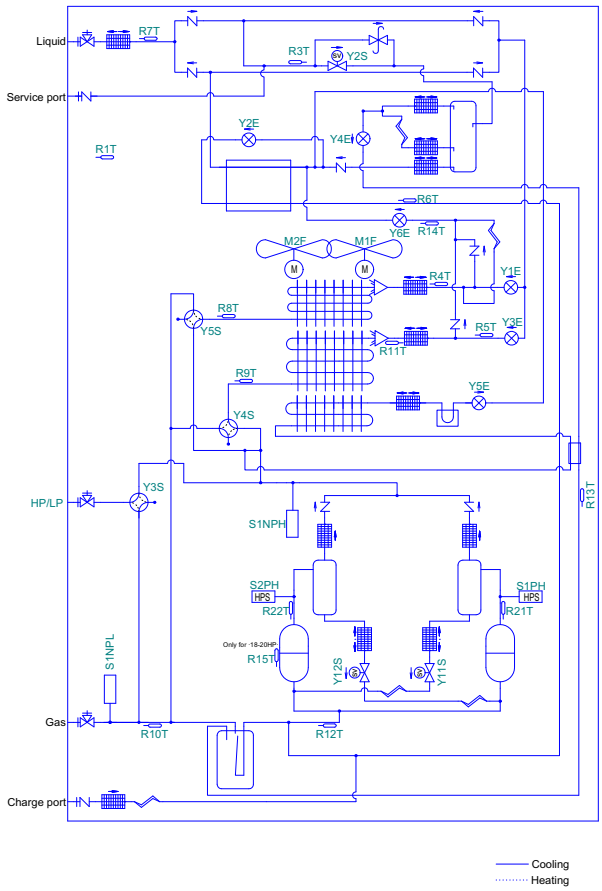
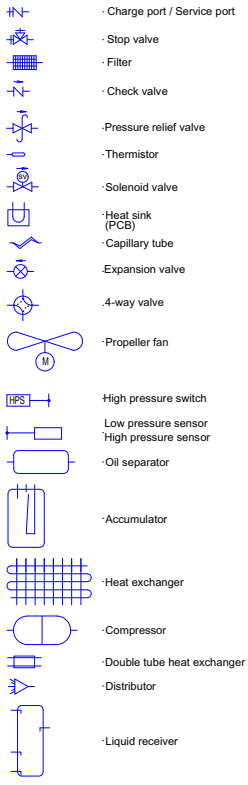
REYQ14-20U





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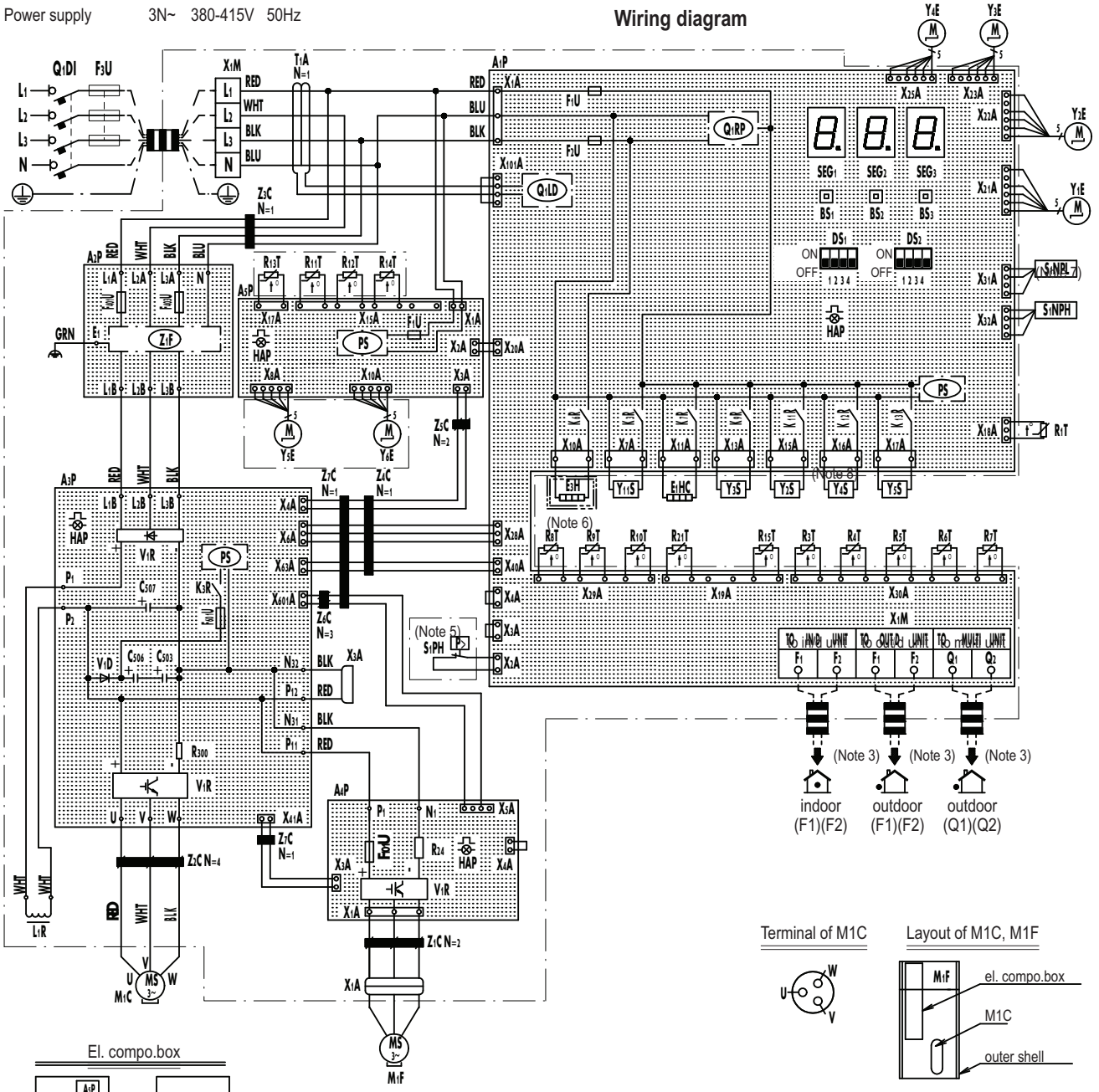
9 Wiring diagrams

9 - 1 Wiring Diagrams - Three Phase

REMQ5U
REYQ8-12U

Power supply 3N~ 380-415V 50Hz

Wiring diagram



5,8,10,12 class

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9 Wiring diagrams

9 - 1 Wiring Diagrams - Three Phase

REMQ5U
REYQ8-12U

A1P	Printed Circuit Board (Main)
A2P	Printed Circuit Board (Noise Filter)
A3P	Printed Circuit Board (Inv)
A4P	Printed Circuit Board (Fan)
A5P	Printed Circuit Board (Sub)
BS1~3 (A1P)	Push Button Switch (Mode,Set,Return)
C503,C506,C507 (A3P)	Capacitor
DS1,DS2 (A1P)	DIP Switch
E1HC	Crankcase Heater
E3H	Drainpan Heater (Option)
F1U,F2U (A1P)	Fuse (T,3,15A,250V)
F3U	Field Fuse
F101U (A4P)	Fuse
F401U,F403U (A2P)	Fuse
F601U (A3P)	Fuse
HAP (A1P,A3P, A4P,A5P)	Pilotlamp (Service Monitor-Green)
K3R (A1P)	Magnetic Relay (Y11S)
K6R (A1P)	Magnetic Relay (E3H)
K7R (A1P)	Magnetic Relay (E1HC)
K9R (A1P)	Magnetic Relay (Y3S)
K11R (A1P)	Magnetic Relay (Y2S)
K12R (A1P)	Magnetic Relay (Y4S)
K13R (A1P)	Magnetic Relay (Y5S)
L1R	Reactor
M1C	Motor (Compressor)
M1F	Motor (Fan)
PS (A1P,A3P,A5P)	Switching Power Supply
Q1DI	Field Earth Leakage Breaker
Q1LD (A1P)	Field Earth Current Detector
Q1RP	Phase Reversal Detect Circuit (A1P)
R24 (A4P)	Resistor (Current Sensor)
R300 (A3P)	Resistor (Current Sensor)
R1T	Thermistor (Air)
R3T	Thermistor (LIQ.MAIN)
R4T	THERMISTOR (HEAT EXC.LIQ.UPPER)
R5T	THERMISTOR (HEAT EXC.LIQ.LOWER)
R6T	Thermistor (Subcool Heat Exc.gas)
R7T	Thermistor (Subcool Heat Exc.liq)
R8T	Thermistor (Heat Exc.gas Upper)
R9T	Thermistor (Heat Exc.gas.lower)
R10T	Thermistor (Suction)
R11T	Thermistor (Heat Exc. Deicer)
R12T	Thermistor (Suction Compressor)
R13T	Thermistor (Receiver Gas)
R14T	Thermistor (Auto Charge)
R15T	Thermistor (Compressor Body)
R21T	Thermistor (M1C discharge)
S1NPH	Pressure Sensor (High)
S1NPL	Pressure Sensor (Low)
S1PH	Pressure Switch (Disch)
SEG1~SEG3 (A1P)	7-Segment Display
T1A	Current Sensor
V1D (A3P)	Diode
V1R (A3P,A4P)	Power Module
X*A	Connector
X1M	Terminal Block
X1M (A1P)	Terminal Block (Control)
Y1E	Electr. Exp. Valve (Heat Exc. Upper)
Y2E	Electr. Exp. Valve (Subcool Heat Exc.)
Y3E	Electr. Exp. Valve (Heat Exc. Lower)
Y4E	Electr. Exp. Valve (Receiver Gas)
Y5E	Electr. Exp. Valve (Inverter Cooling)
Y6E	Electr. Exp. Valve (Auto Charge)
Y2S	Solenoid Valve (Liq.pipe)
Y3S	Solenoid Valve (HP/LP Gas Pipe)
Y4S	Solenoid Valve (Heat Exc.lower)
Y5S	Solenoid Valve (Heat Exc.upper)
Y11S	Solenoid Valve (M1C Oil Return)
Z*C	Noise Filter (Ferrite Core)
Z*F (A2P)	Noise Filter (With Surge Absorber)
Connector For Optional Accessories	
X10A	Connector (Bottomplate Heater)

NOTES

1. This wiring diagram applies only to the outdoor unit.
2. :field wiring, : terminal block, : connector, : terminal, : protective earth (screw), : functional earth, : earth wiring, : field supply, : PCB, : switch box, : option
3. For connection wiring to indoor-outdoor transmission F1-F2, outdoor-outdoor transmission F1-F2, outdoor-multi transmission Q1-Q2, refer to the installation manual.
4. How to use BS1~3 switch. Refer to “service precaution” label on el. compo. box cover.
5. When operating, don’t shortcircuit the protection devices (S1PH).
6. When using the optional accessory, refer to the installation manual of the optional accessory.
7. Colors: BLK: Black, RED: Red, BLU: Blue, WHT: White, GRN: Green.

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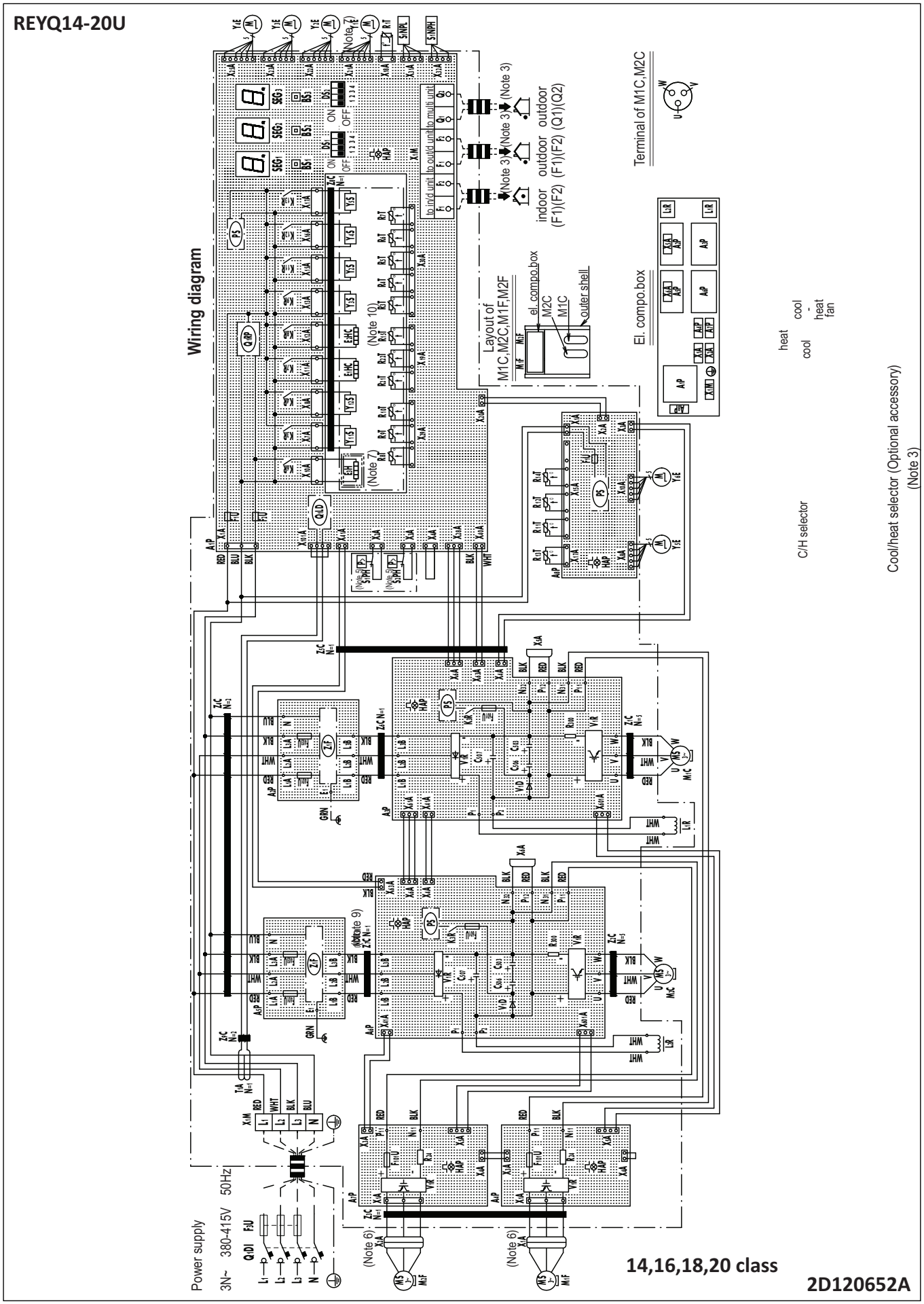
9 Wiring diagrams

9 - 1 Wiring Diagrams - Three Phase



9 Wiring diagrams

9 - 1 Wiring Diagrams - Three Phase

REYQ14-20U

A1P	Printed Circuit Board (Main)	R4T	THERMISTOR (HEAT EXC. LIQ. UPPER)
A2P,A5P	Printed Circuit Board (Noise Filter)	R5T	Thermistor (Heat Exc. Liq. Lower)
A3P,A6P	Printed Circuit Board (Inv)	R6T	Thermistor (Subcool Heat Exc. Gas)
A4P,A7P	Printed Circuit Board (Fan)	R7T	Thermistor (Subcool Heat Exc. Liq.)
A8P	Printed Circuit Board (Sub)	R8T	Thermistor (Heat Exc. Gas Upper)
BS1~3 (A1P)	Push Button Switch (Mode,Set,Return)	R9T	Thermistor (Heat Exc. Gas Lower)
C503,C506,C507 (A3P,A6P)	Capacitor	R10T	Thermistor (Suction)
		R11T	Thermistor (Heat Exc. Deicer)
DS1,DS2 (A1P)	DIP Switch	R12T	Thermistor (Suction Comp.)
E1HC,E2HC	Crankcase Heater	R13T	Thermistor (Receiver Gas)
E3H	Drainpan Heater (Option)	R14T	Thermistor (Auto Charge)
F1U,F2U (A1P)	Fuse (T,3,15A,250V)	R15T	Thermistor (Comp. Body)
F1U (A8P)	Fuse (T,3,15A,250V)	R21T,R22T	Thermistor (M1C ,M2C discharge)
F3U	Field Fuse	S1NPH	Pressure Sensor (High)
F101U (A4P,A7P)	Fuse	S1NPL	Pressure Sensor (Low)
F401U,F403U (A2P,A5P)	Fuse	S1PH,S2PH	Pressure Switch (High)
F601U (A3P,A6P)	Fuse	SEG1~SEG3 (A1P)	7-Segment Display
HAP (A1P A3P,A4P, A6P,A8P)	Pilotlamp (Service Monitor-Green)	T1A	Current Sensor
		V1D (A3P,A6P)	Diode
K3R (A3P,A6P)	Magnetic Relay	V1R (A3P,A4P,A6P,A7P)	Power Module
K3R (A1P)	Magnetic Relay (Y12S)	X*A	Connector
K4R (A1P)	Magnetic Relay (Y11S)	X1M	Terminal Block
K6R (A1P)	Magnetic Relay (E3H)	X1M (A1P)	Terminal Block (Control)
K7R (A1P)	Magnetic Relay (E1HC)	Y1E	Electr.exp.valve (Heat Exc. Upper)
K8R (A1P)	Magnetic Relay (E2HC)	Y2E	Electr.exp.valve (Subcool Heat Exc.)
K9R (A1P)	Magnetic Relay (Y3S)	Y3E	Electr.exp.valve (Heat Exc. Lower)
K11R (A1P)	Magnetic Relay (Y2S)	Y4E	Electr.exp.valve (Receiver Gas)
K12R (A1P)	Magnetic Relay (Y4S)	Y5E	Electr.exp.valve (Inv. Cooling)
K13R (A1P)	Magnetic Relay (Y5S)	Y6E	Electr.exp.valve (Auto Charge)
L1R,L2R	Reactor	Y2S	Solenoid Valve (Liq. Pipe)
M1C,M2C	Motor (Compressor)	Y3S	Solenoid Valve (Hp/Lp Gas Pipe)
M1F,M2F	Motor (Fan)	Y4S	Solenoid Valve (Heat Exc. Lower)
PS (A1P,A3P,A6P,A8P)	Switching Power Supply	Y5S	Solenoid Valve (Heat Exc. Upper)
Q1DI	Field Earth Leakage Breaker	Y11S	Solenoid Valve (Oil Return M1C)
Q1LD (A1P)	Field Earth Current Detector	Y12S	Solenoid Valve (Oil Return M2C)
R24 (A4P,A7P)	Resistor (Current Sensor)	Z*C	Noise Filter (Ferrite Core)
R300 (A3P,A6P)	Resistor (Current Sensor)	Z*F (A2P,A5P)	Noise Filter (With Surge Absorber)
R1T	Thermistor (Air)	Connector For Optional Accessories	
R3T	THERMISTOR (LIQUID MAIN)	X10A	Connector (Drainpan Heater)

NOTES

1. This wiring diagram applies only to the outdoor unit.
2. :field wiring, : terminal block, : connector, : terminal, : protective earth (screw), : functional earth, : earth wiring, : field supply, : PCB, : switch box, : option
3. For connection wiring to indoor-outdoor transmission F1-F2, outdoor-outdoor transmission F1-F2, outdoor-multi transmission Q1-Q2, refer to the installation manual.
4. How to use BS1~3 switch. Refer to “service precaution” label on el. compo. box cover.
5. When operating, don’t shortcircuit the protection devices (S1PH, S2PH).
6. Connector X1A (M1F) is red, connector X2A (M2F) is white.
7. When using the optional accessory, refer to the installation manual of the optional accessory.
8. Colors: BLK: Black, RED: Red, BLU: Blue, WHT: White, GRN: Green.

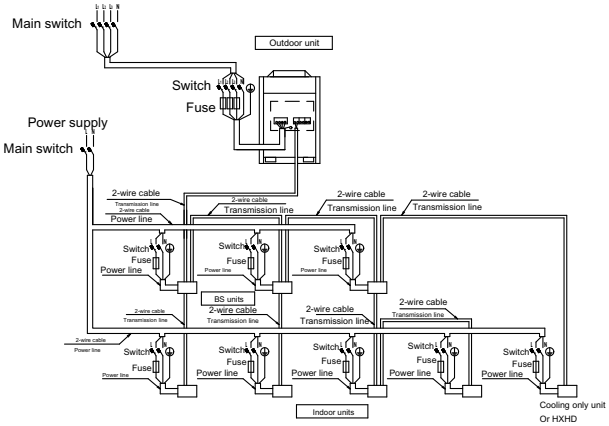
2D120652A

10 External connection diagrams

10 - 1 External Connection Diagrams

REMQ-U
REYQ-U

VRV4 Heat recovery
External connection diagram

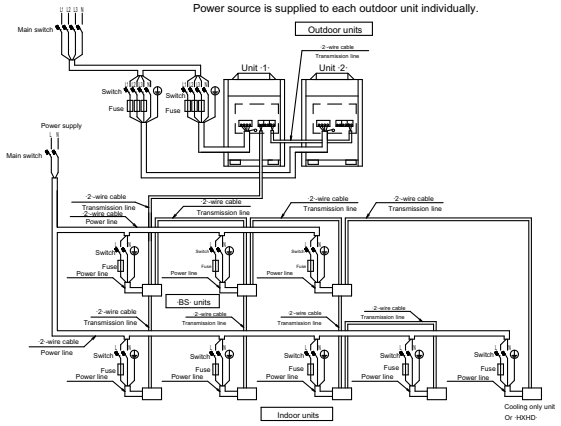


1. All wiring, components and materials to be procured on-site must comply with the applicable legislation.
2. Use copper conductors only
3. For more details, refer to the wiring diagram of the unit.
4. Install a circuit breaker for safety.
5. All field wiring and components must be provided by an authorised electrician.
6. Unit has to be grounded in compliance with the applicable legislation.
7. The wiring shown is a general points-of-connection guide and is not intended to include all details for a specific installation.
8. Make sure to install the switch and the fuse to the power line of each equipement.
9. Install a main to switch to (if necessary) immediately interrupt all the system's power sources.
10. If there exists the possibility of reversed phase, loose phase or momentary blackout, or if the power goes on and off while the product is operating, attach a reversed phase protection circuit locally.
    Running the product in reversed phase may break the compressor and other parts.
11. Install an earth leakage circuit breaker.

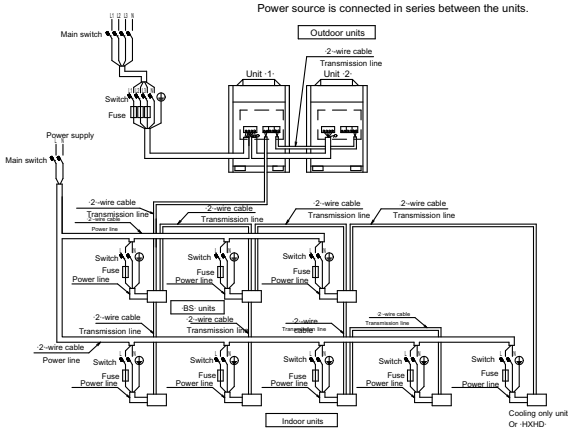
3D088095

REMQ-U
REYQ-U

Power source is supplied to each outdoor unit individually.



Power source is connected in series between the units.



1. All wiring, components and materials to be procured on-site must comply with the applicable legislation.
2. Use copper conductors only
3. For more details, refer to the wiring diagram of the unit.
4. Install a circuit breaker for safety.
5. All field wiring and components must be provided by an authorised electrician.
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9. Install a main to switch to (if necessary) immediately interrupt all the system's power sources.
10. If there exists the possibility of reversed phase, loose phase or momentary blackout, or if the power goes on and off while the product is operating, attach a reversed phase protection circuit locally. Running the product in reversed phase may break the compressor and other parts.
11. Install an earth leakage circuit breaker.
12. The capacity of UNIT1 must be larger than that of UNIT2 when the power source is connected in series between the units.

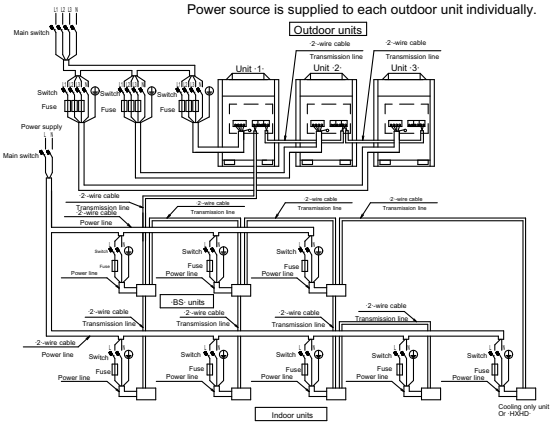
3D088094

10 External connection diagrams

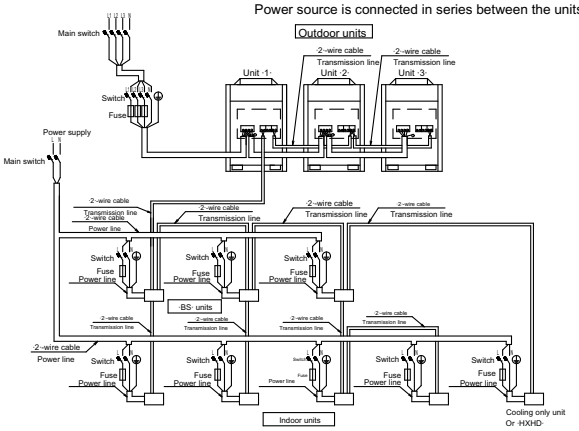
10 - 1 External Connection Diagrams

REMQ-U
REYQ-U

Power source is supplied to each outdoor unit individually.



Power source is connected in series between the units.



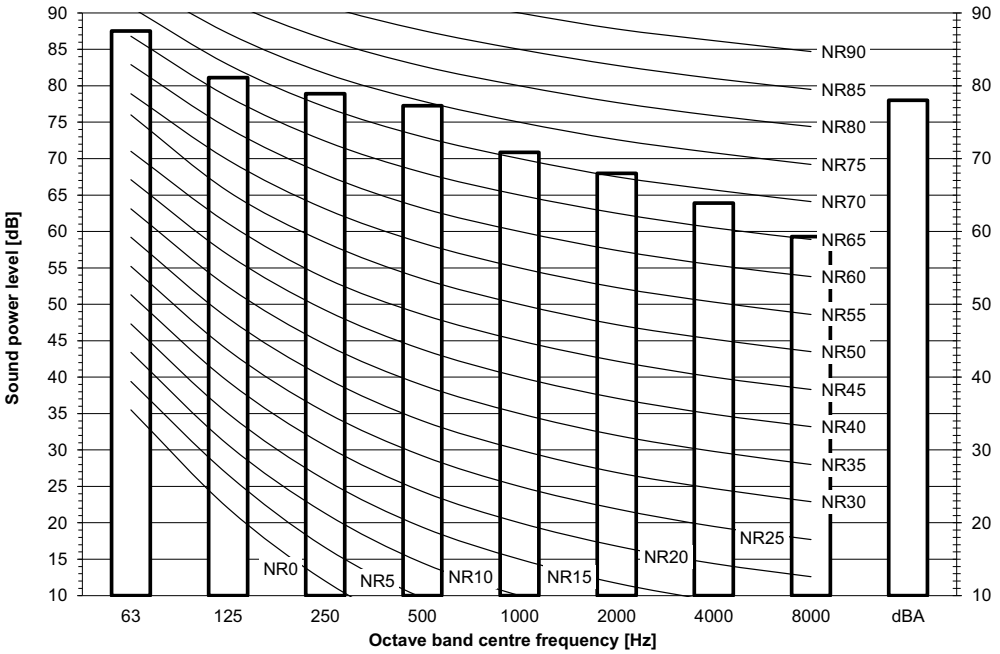
1. All wiring, components and materials to be procured on-site must comply with the applicable legislation.
2. Use copper conductors only
3. For more details, refer to the wiring diagram of the unit.
4. Install a circuit breaker for safety.
5. All field wiring and components must be provided by an authorised electrician.
6. Unit has to be grounded in compliance with the applicable legislation.
7. The wiring shown is a general points-of-connection guide and is not intended to include all details for a specific installation.
8. Make sure to install the switch and the fuse to the power line of each equipement.
9. Install a main to switch to (if necessary) immediately interrupt all the system's power sources.
   If there exists the possibility of reversed phase, loose phase or momentary blackout, or if the power goes on and off while the product is operating, attach a reversed phase protection circuit locally.
10. Running the product in reversed phase may break the compressor and other parts.
11. Install an earth leakage circuit breaker.
12. The capacity of UNIT1 must be larger than that of UNIT2 when the power source is connected in series between the units.

3D088016

11 Sound data

11 - 1 Sound Power Spectrum

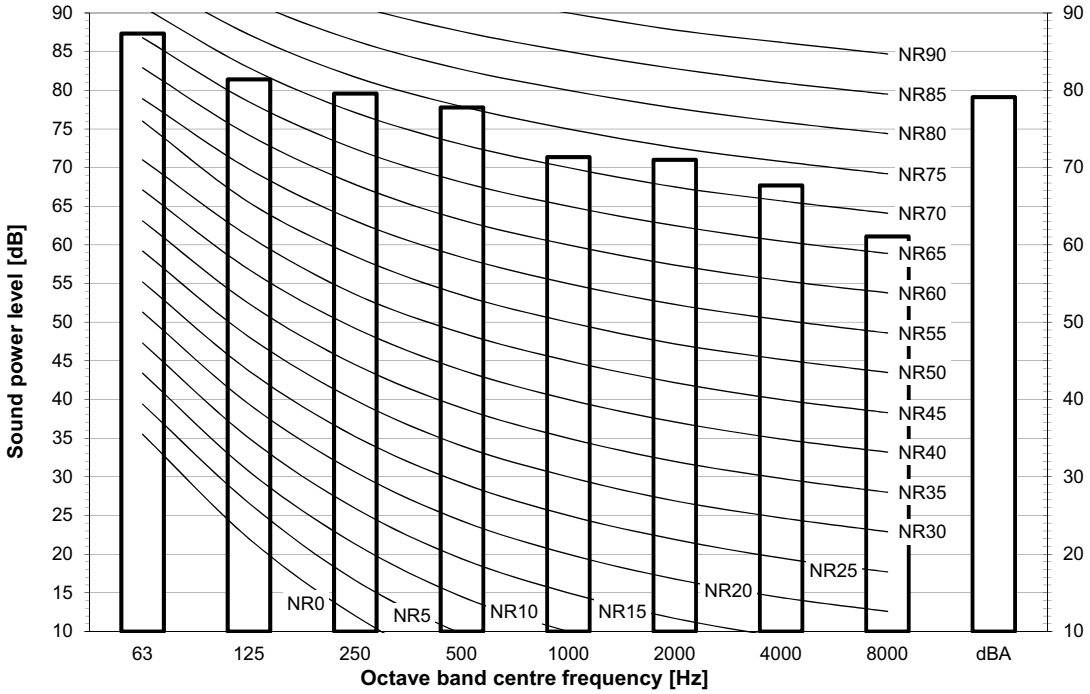
REMQ5U
REYQ8U
RXYQQ8U
RXYQ8U
RXYTQ8UYF
RYYQ8U
RYMQ8U



Notes
dBA = A-weighted sound power level (A scale according to IEC).
Reference acoustic intensity 0dB = 10E-6µW/m²
Measured according to ISO 3744

3D119528

REYQ10U
RXYQQ10U
RXYQ10U
RYYQ10U
RYMQ10U



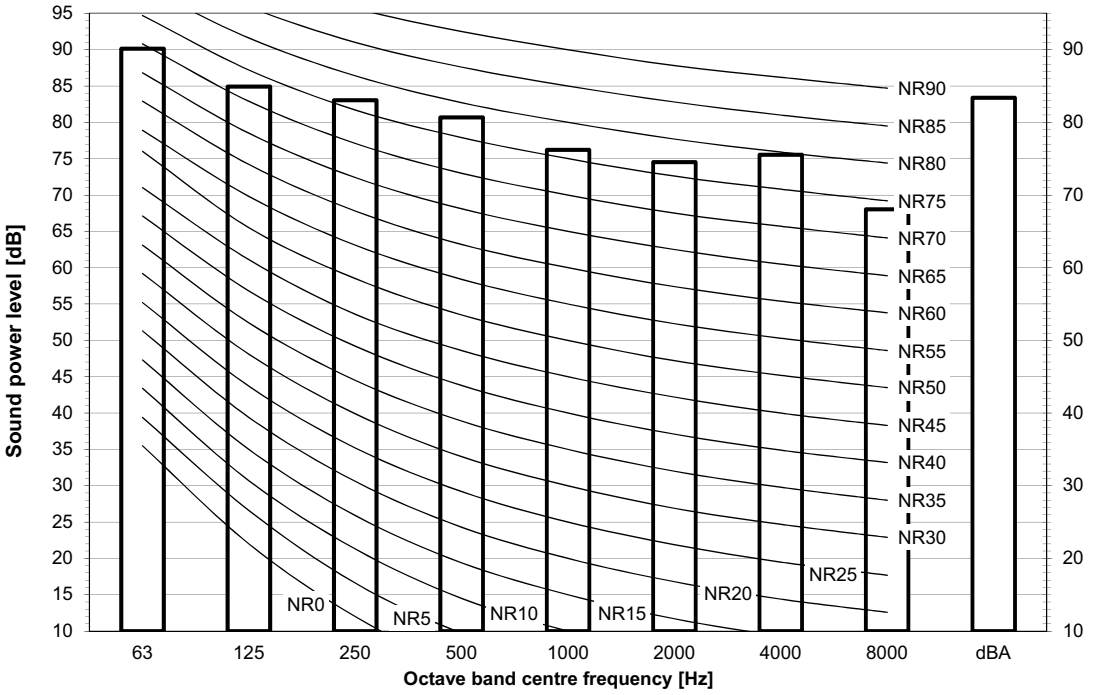
Notes
dBA = A-weighted sound power level (A scale according to IEC).
Reference acoustic intensity 0dB = 10E-6µW/m²
Measured according to ISO 3744

3D119529

11 Sound data

11 - 1 Sound Power Spectrum

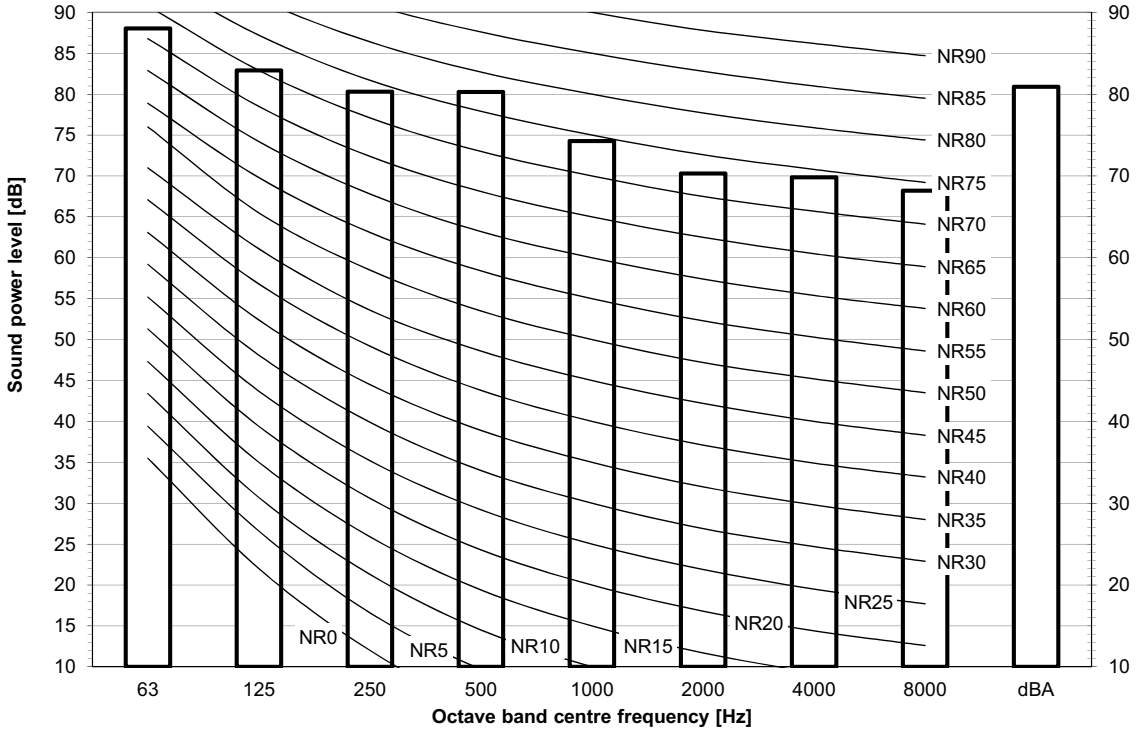
REYQ12U
RXYQQ12U
RXYQ12U
RYYQ12U
RYMQ12U



Notes
dBA = A-weighted sound power level (A scale according to IEC).
Reference acoustic intensity 0dB = 10E-6μW/m²
Measured according to ISO 3744

3D119530

REYQ14U
RXYQQ14U
RXYQ14U
RYYQ14U
RYMQ14U



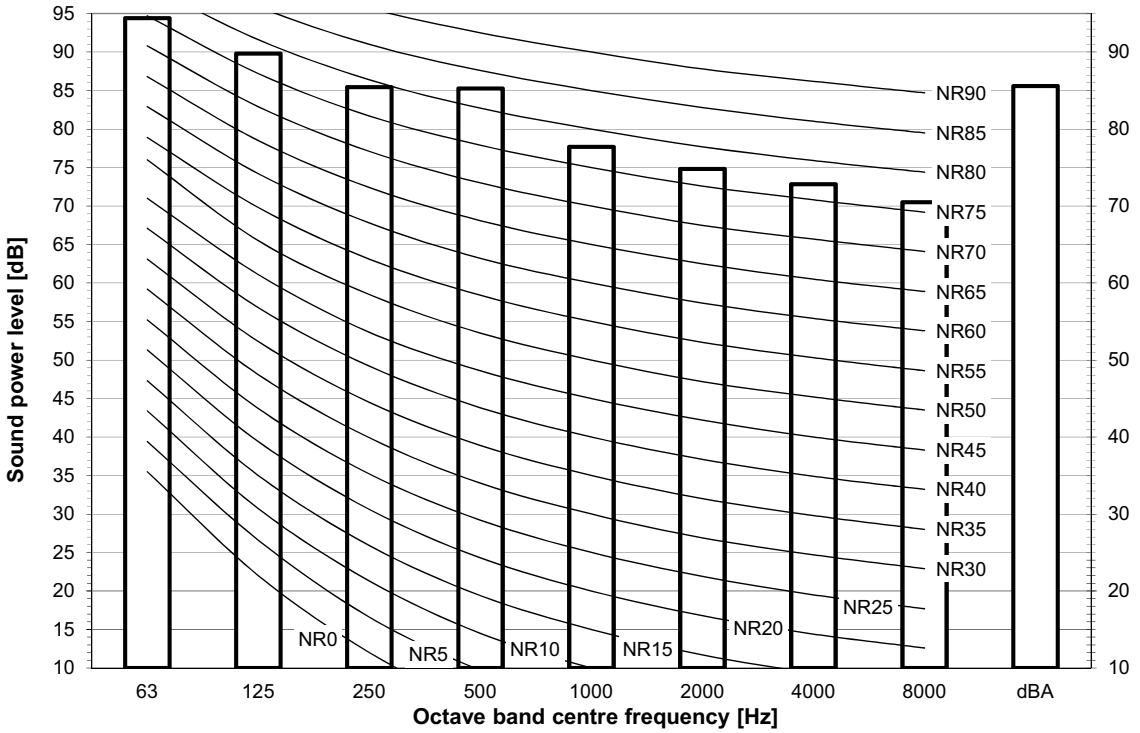
Notes
dBA = A-weighted sound power level (A scale according to IEC).
Reference acoustic intensity 0dB = 10E-6μW/m²
Measured according to ISO 3744

3D119531

11 Sound data

11 - 1 Sound Power Spectrum

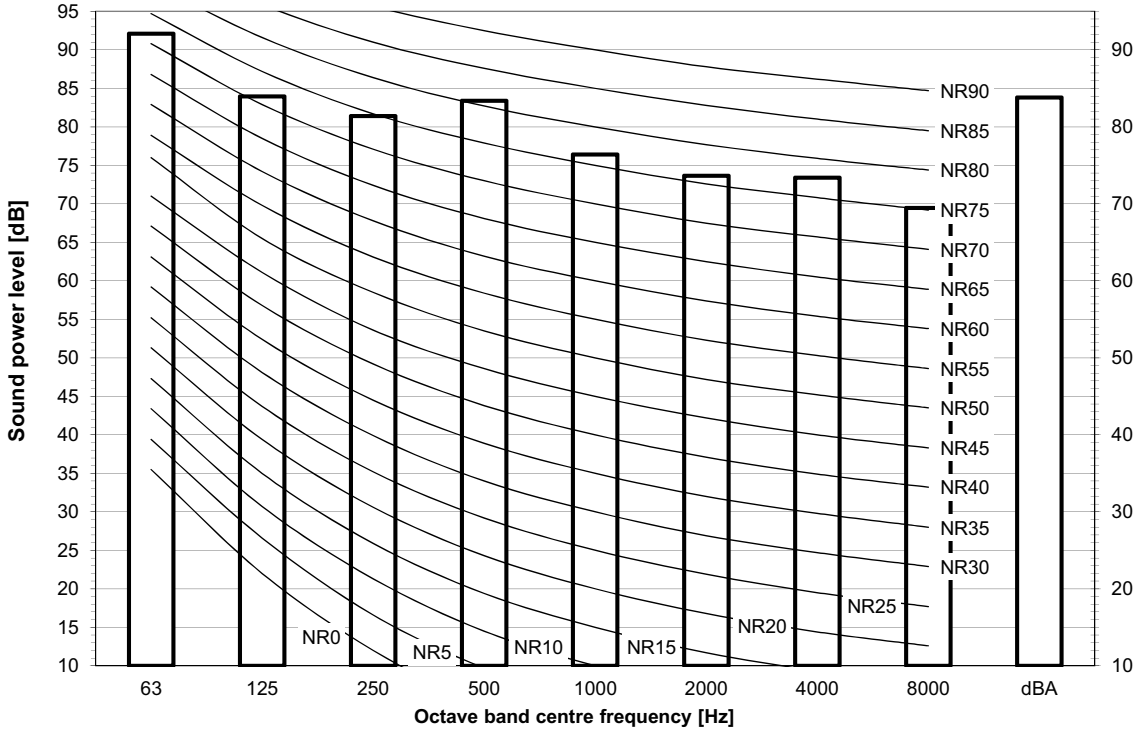
REYQ16U
RXYQQ16U
RXYQ16U
RYYQ16U
RYMQ16U



Notes
dBA = A-weighted sound power level (A scale according to IEC).
Reference acoustic intensity 0dB = 10E-6µW/m²
Measured according to ISO 3744

3D119532

REYQ18U
RXYQQ18U
RXYQ18U
RYYQ18U
RYMQ18U



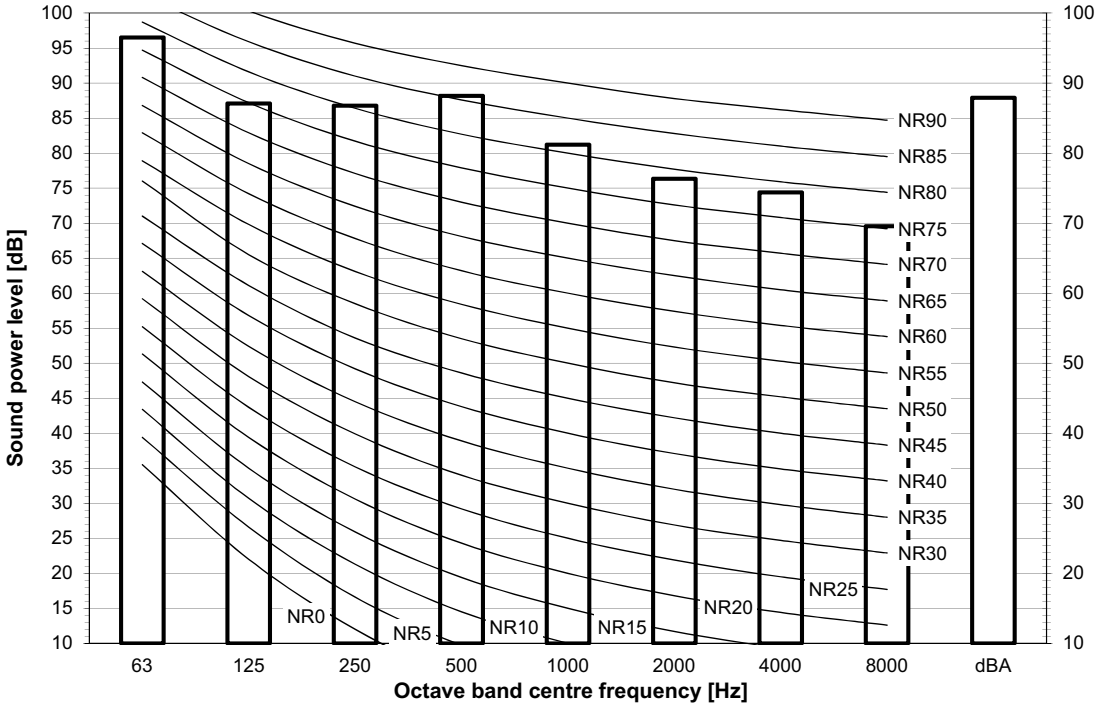
Notes
dBA = A-weighted sound power level (A scale according to IEC).
Reference acoustic intensity 0dB = 10E-6µW/m²
Measured according to ISO 3744

3D119533

11 Sound data

11 - 1 Sound Power Spectrum

REYQ20U
RXYQQ20U
RXYQ20U
RYYQ20U
RYMQ20U



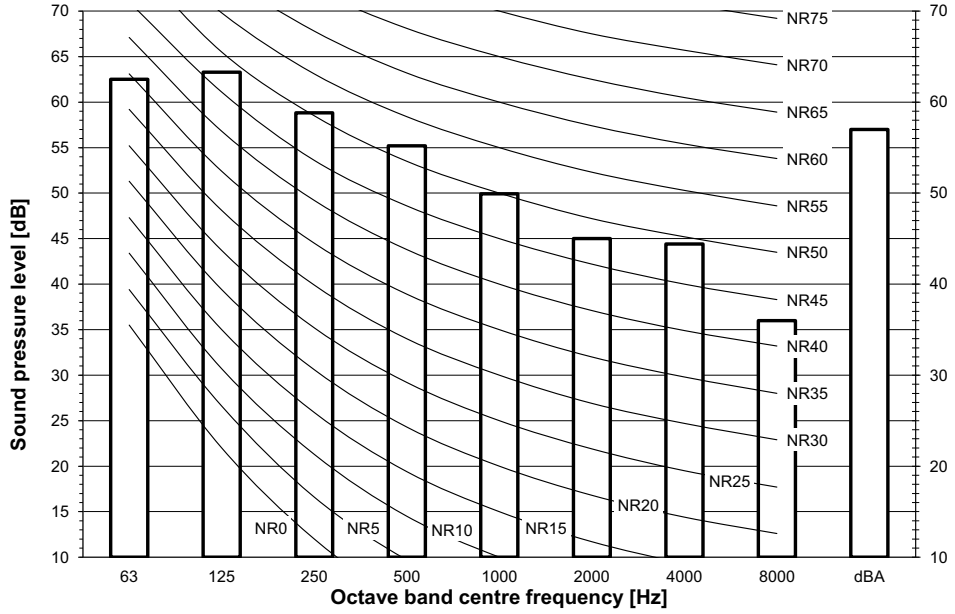
Notes
dBA = A-weighted sound power level (A scale according to IEC).
Reference acoustic intensity 0dB = 10E-6µW/m²
Measured according to ISO 3744

3D119534

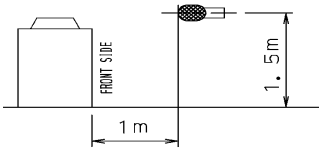
11 Sound data

11 - 2 Sound Pressure Spectrum

REMQ5U
REYQ8U
RXYQQ8U
RXYQ8U
RXYTQ8UYF
RYYQ8U
RYMQ8U

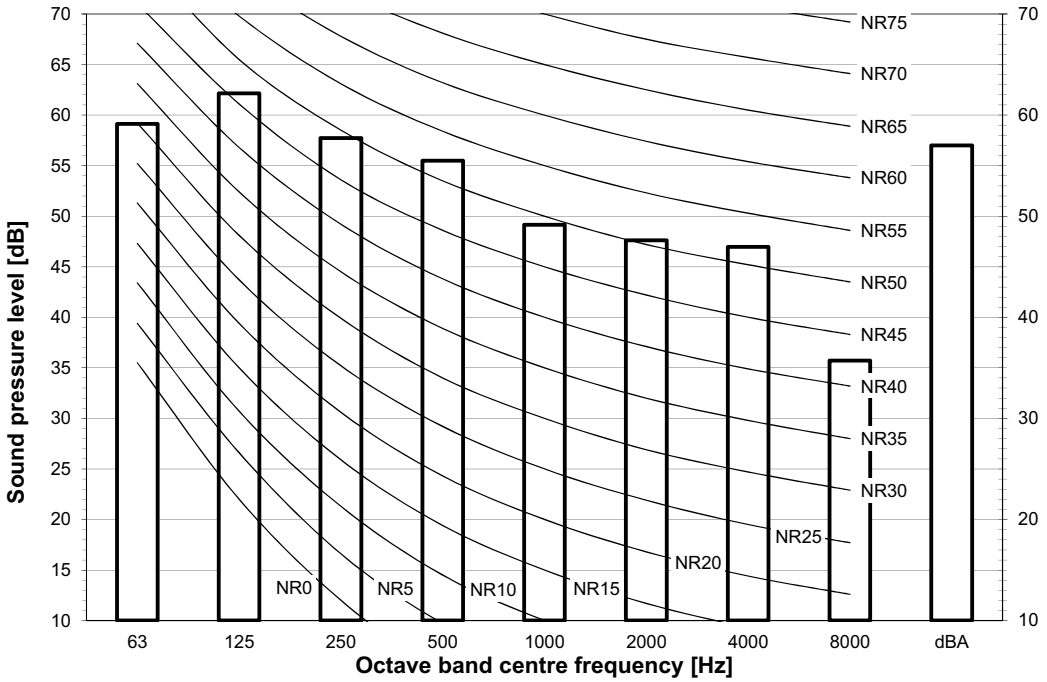


Notes
Data is valid at free field condition.
Data is valid at nominal operation condition.
dBA = A-weighted sound pressure level (A scale according to IEC).
Reference acoustic pressure 0 dB = 20 µPa

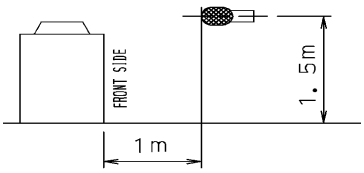


3D119521

REYQ10U
RXYQQ10U
RXYQ10U
RYYQ10U
RYMQ10U



Notes
Data is valid at free field condition.
Data is valid at nominal operation condition.
dBA = A-weighted sound pressure level (A scale according to IEC).
Reference acoustic pressure 0 dB = 20 µPa

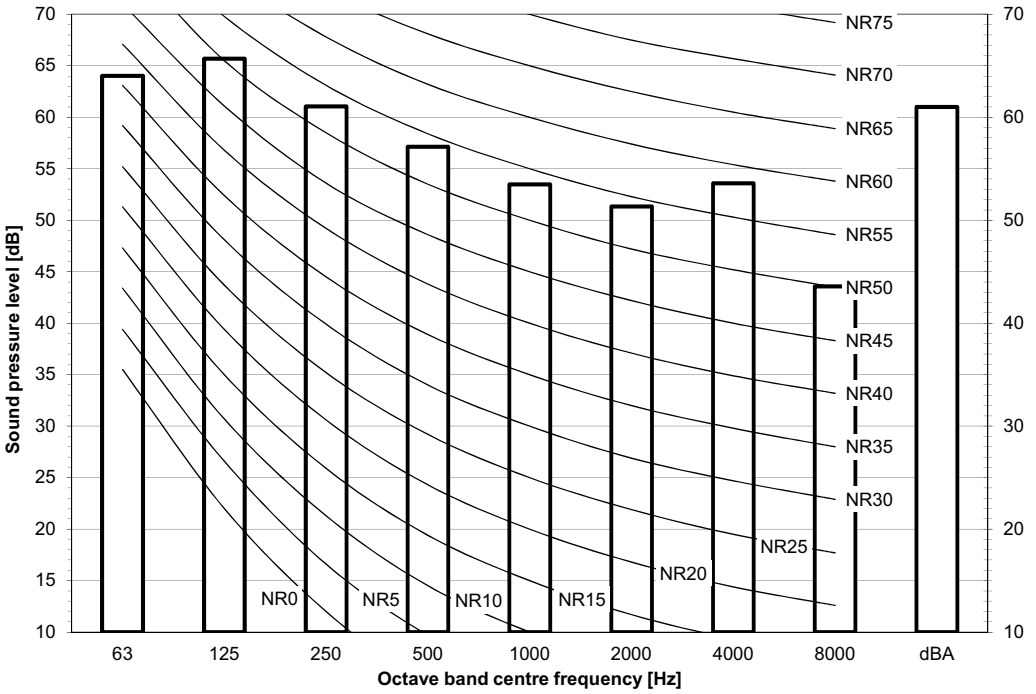


3D119522

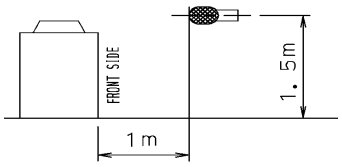
11 Sound data

11 - 2 Sound Pressure Spectrum

REYQ12U
RXYQQ12U
RXYQ12U
RYYQ12U
RYMQ12U

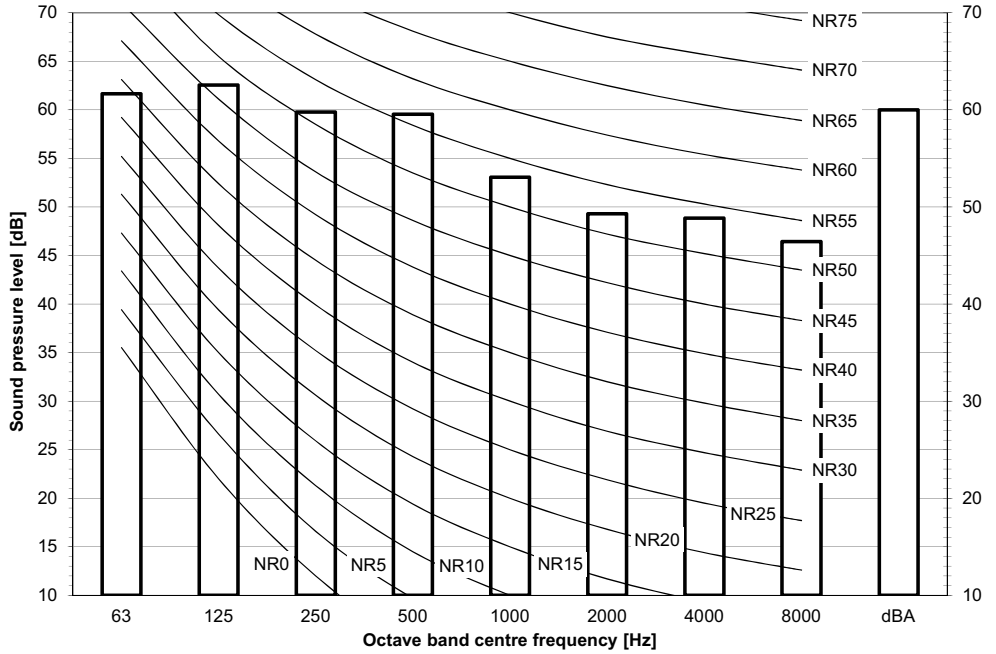


Notes
Data is valid at free field condition.
Data is valid at nominal operation condition.
dBA = A-weighted sound pressure level (A scale according to IEC).
Reference acoustic pressure 0 dB = 20 µPa

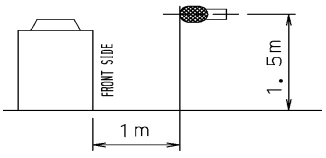


3D119523

REYQ14U
RXYQQ14U
RXYQ14U
RYYQ14U
RYMQ14U



Notes
Data is valid at free field condition.
Data is valid at nominal operation condition.
dBA = A-weighted sound pressure level (A scale according to IEC).
Reference acoustic pressure 0 dB = 20 µPa

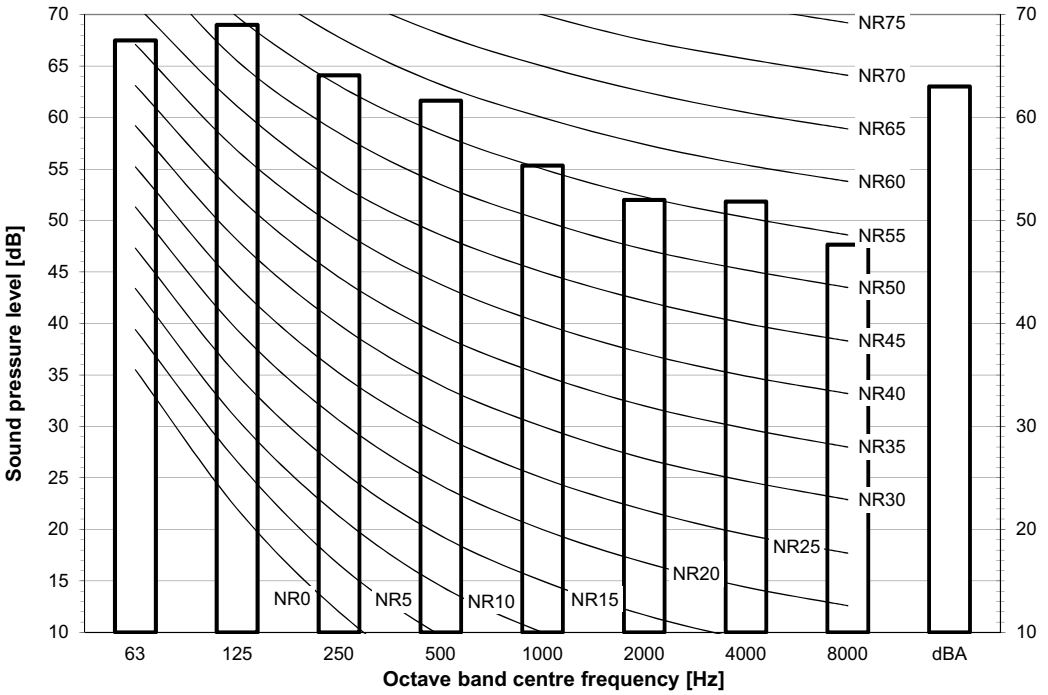


3D119524

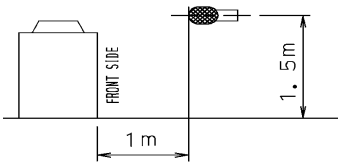
11 Sound data

11 - 2 Sound Pressure Spectrum

REYQ16U
RXYQQ16U
RXYQ16U
RYYQ16U
RYMQ16U

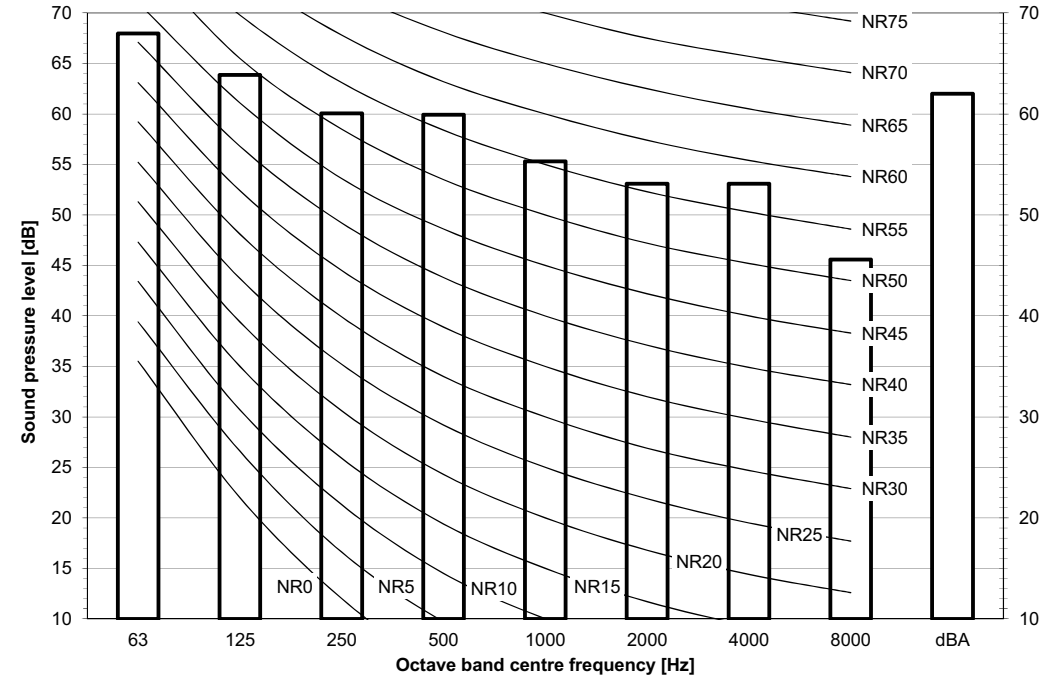


Notes
Data is valid at free field condition.
Data is valid at nominal operation condition.
dBA = A-weighted sound pressure level (A scale according to IEC).
Reference acoustic pressure 0 dB = 20 µPa

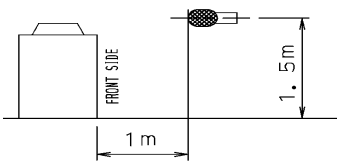


3D119525

REYQ18U
RXYQQ18U
RXYQ18U
RYYQ18U
RYMQ18U



Notes
Data is valid at free field condition.
Data is valid at nominal operation condition.
dBA = A-weighted sound pressure level (A scale according to IEC).
Reference acoustic pressure 0 dB = 20 µPa

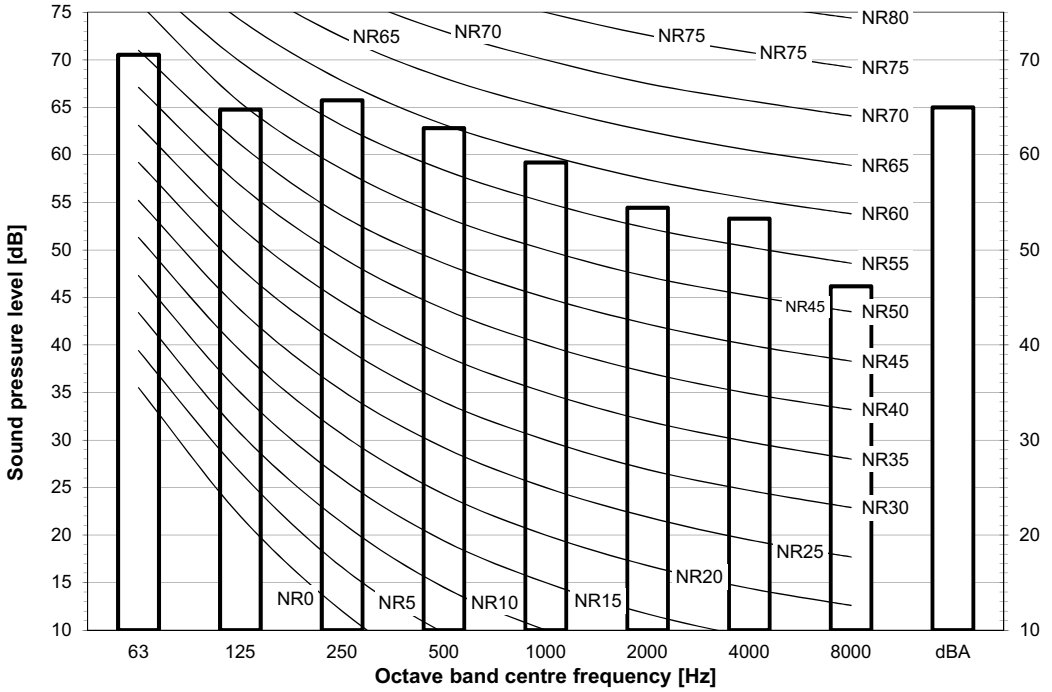


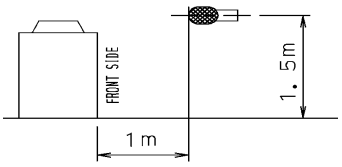
3D119526

11 Sound data

11 - 2 Sound Pressure Spectrum

REYQ20U
RXYQQ20U
RXYQ20U
RYYQ20U
RYMQ20U





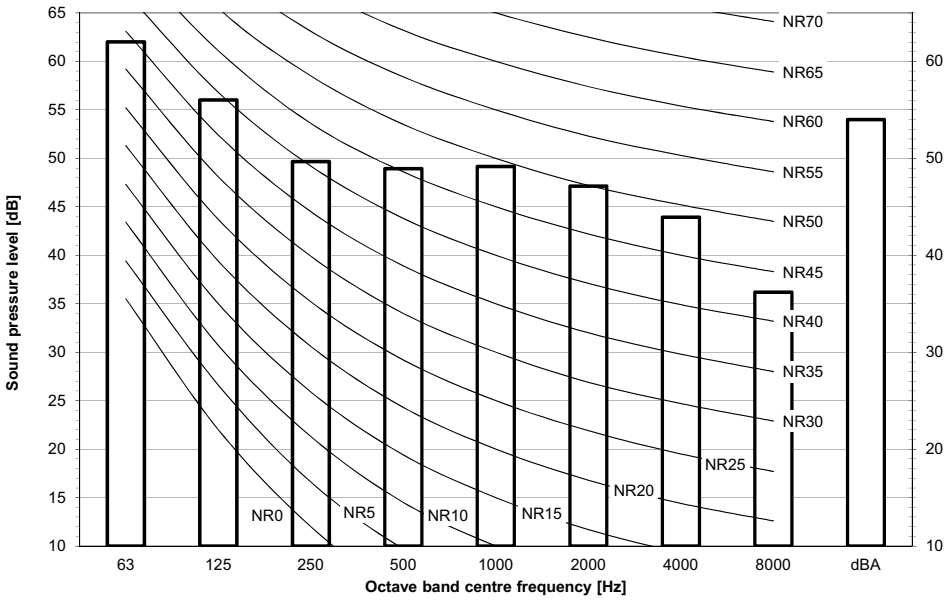
Notes
Data is valid at free field condition.
Data is valid at nominal operation condition.
dBA = A-weighted sound pressure level (A scale according to IEC).
Reference acoustic pressure 0 dB = 20 µPa

3D119527

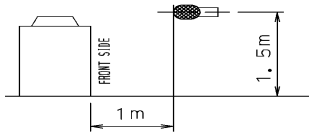
11 Sound data

11 - 3 Sound Pressure Spectrum Quiet Mode

REMQ5U
REYQ8-12U
RXYQQ8-12U
RXYQ8-12U
RXYTQ8UYF
RYY8-12U
RYMQ8-12U

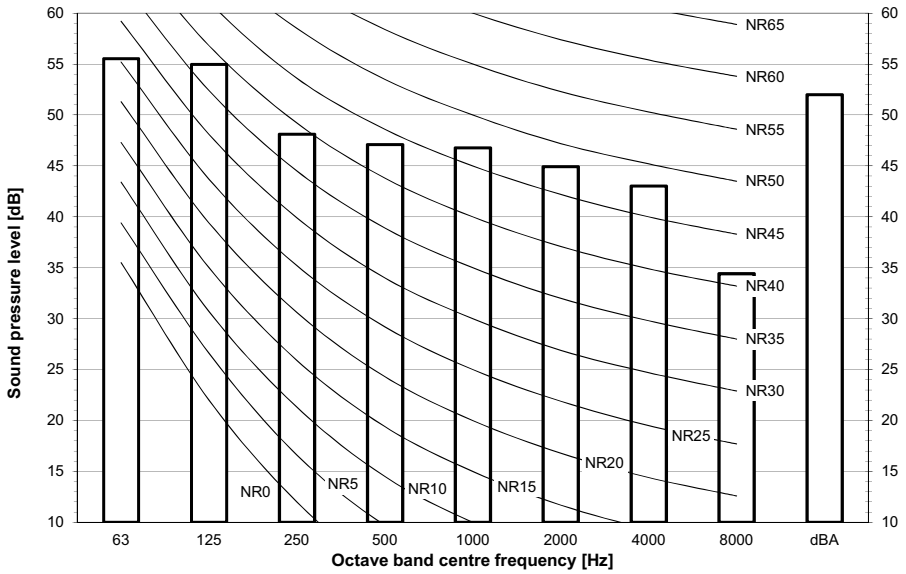


Notes
Data is valid at free field condition.
Data is valid at nominal operation condition.
dBA = A-weighted sound pressure level (A scale according to IEC).
Reference acoustic pressure 0 dB = 20 µPa
Data is valid under the following conditions
Cooling operation
Outdoor Ta: 35°C
Full load (maximum fan rps and maximum compressor rps for the dedicated low noise mode)

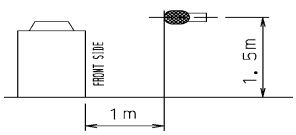


3D119535

REMQ5U
REYQ8-12U
RXYQQ8-12U
RXYQ8-12U
RXYTQ8UYF
RYYQ8-12U
RYMQ8-12U



Notes
Data is valid at free field condition.
Data is valid at nominal operation condition.
dBA = A-weighted sound pressure level (A scale according to IEC).
Reference acoustic pressure 0 dB = 20 µPa
Data is valid under the following conditions
Cooling operation
Outdoor Ta: 35°C
Full load (maximum fan rps and maximum compressor rps for the dedicated low noise mode)

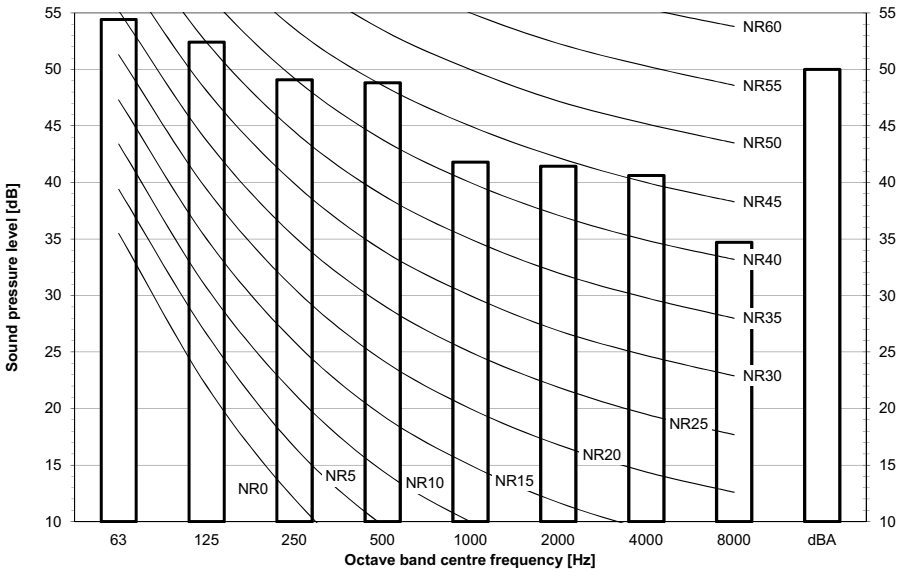


3D119536

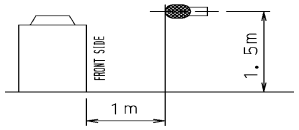
11 Sound data

11 - 3 Sound Pressure Spectrum Quiet Mode

REMQ5U
REYQ8-12U
RXYQQ8-12U
RXYQ8-12U
RXYTQ8UYF
RYYQ8-12U
RYMQ8-12U

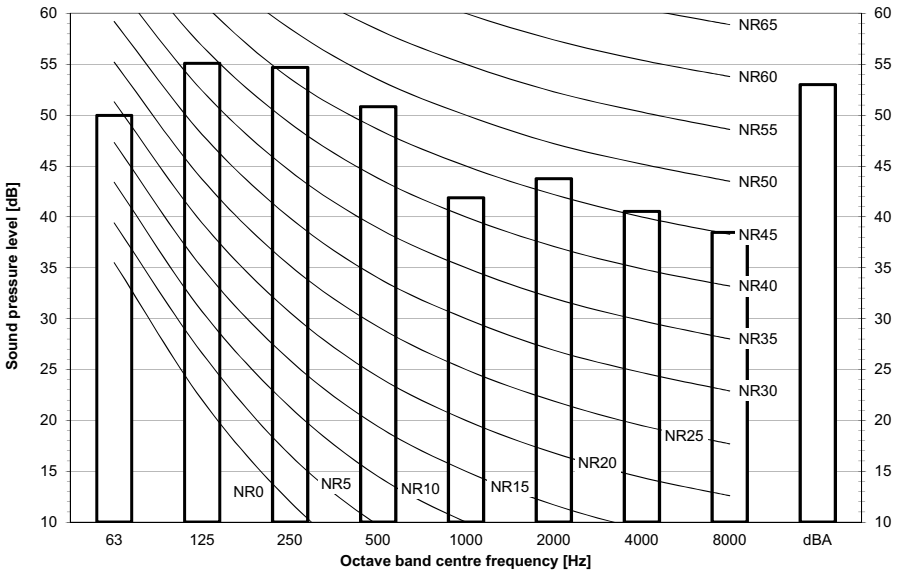


Notes
Data is valid at free field condition.
Data is valid at nominal operation condition.
dBA = A-weighted sound pressure level (A scale according to IEC).
Reference acoustic pressure 0 dB = 20 µPa
Data is valid under the following conditions
Cooling operation
Outdoor Ta: 35°C
Full load (maximum fan rps and maximum compressor rps for the dedicated low noise mode)

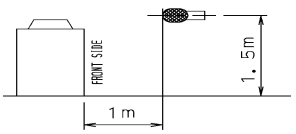


3D119537

REYQ14-16U
RXYQQ14-16U
RXYQ14-16U
RXYTQ14-16UYF
RYYQ14-16U
RYMQ14-16U



Notes
Data is valid at free field condition.
Data is valid at nominal operation condition.
dBA = A-weighted sound pressure level (A scale according to IEC).
Reference acoustic pressure 0 dB = 20 µPa
Data is valid under the following conditions
Cooling operation
Outdoor Ta: 35°C
Full load (maximum fan rps and maximum compressor rps for the dedicated low noise mode)

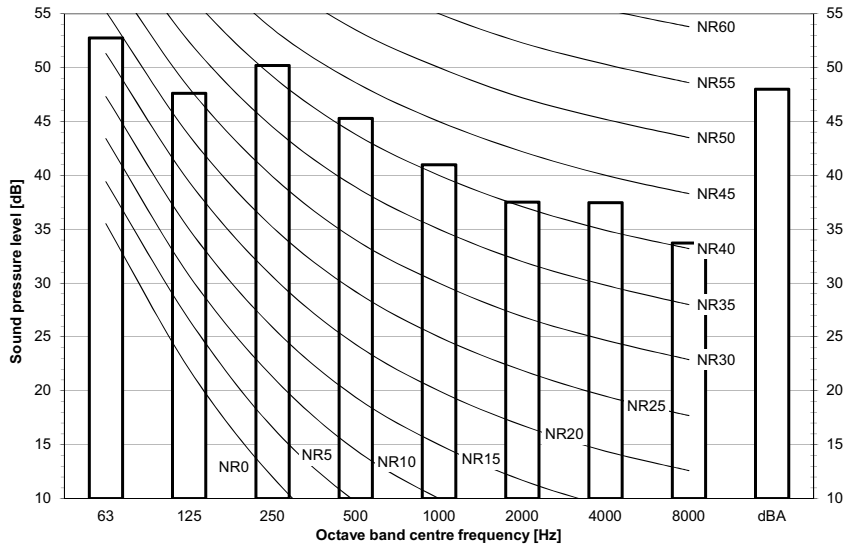


3D119538

11 Sound data

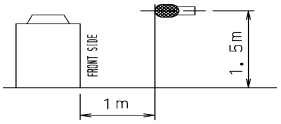
11 - 3 Sound Pressure Spectrum Quiet Mode

REYQ14-16U
RXYQQ14-16U
RXYQ14-16U
RXYTQ14-16UYF
RYYQ14-16U
RYMQ14-16U



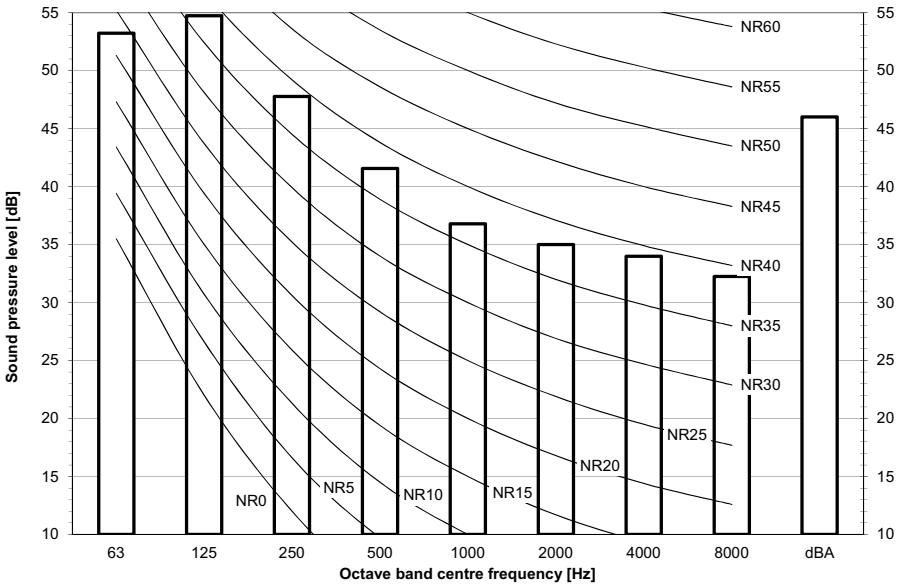
Notes
Data is valid at free field condition.
Data is valid at nominal operation condition.
dBA = A-weighted sound pressure level (A scale according to IEC).
Reference acoustic pressure 0 dB = 20 µPa

Data is valid under the following conditions
Cooling operation
Outdoor Ta: 35°C
Full load (maximum fan rps and maximum compressor rps for the dedicated low noise mode)



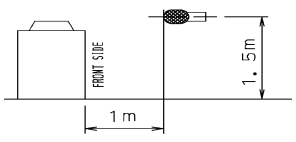
3D119539

REYQ14-16U
RXYQQ14-16U
RXYQ14U-16U
RXYTQ14-16UYF
RYYQ14-16U
RYMQ14-16U



Notes
Data is valid at free field condition.
Data is valid at nominal operation condition.
dBA = A-weighted sound pressure level (A scale according to IEC).
Reference acoustic pressure 0 dB = 20 µPa

Data is valid under the following conditions
Cooling operation
Outdoor Ta: 35°C
Full load (maximum fan rps and maximum compressor rps for the dedicated low noise mode)

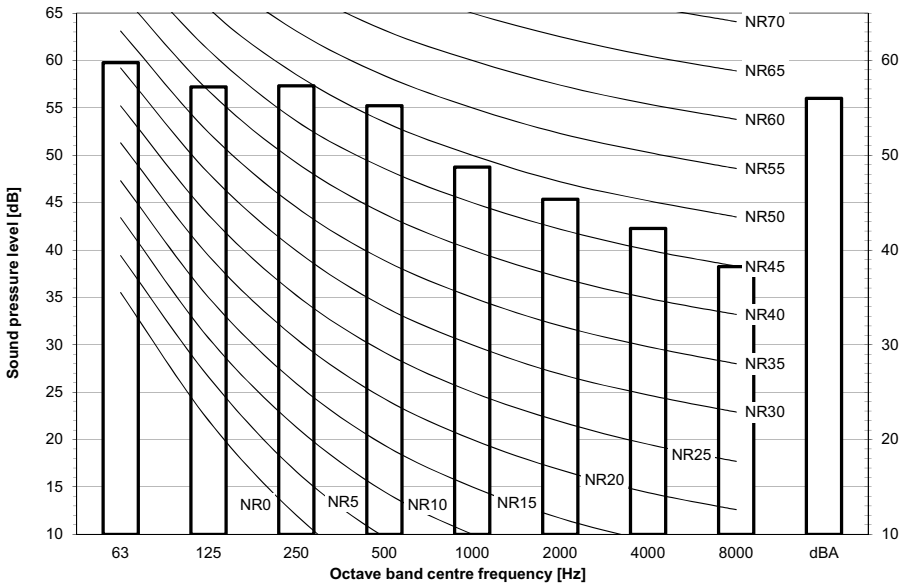


3D119540

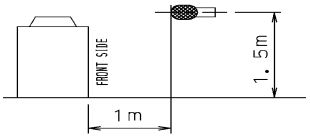
11 Sound data

11 - 3 Sound Pressure Spectrum Quiet Mode

REYQ18-20U
RXYQQ18-20U
RXYQ18-20U
RYYQ18-20U
RYMQ18-20U

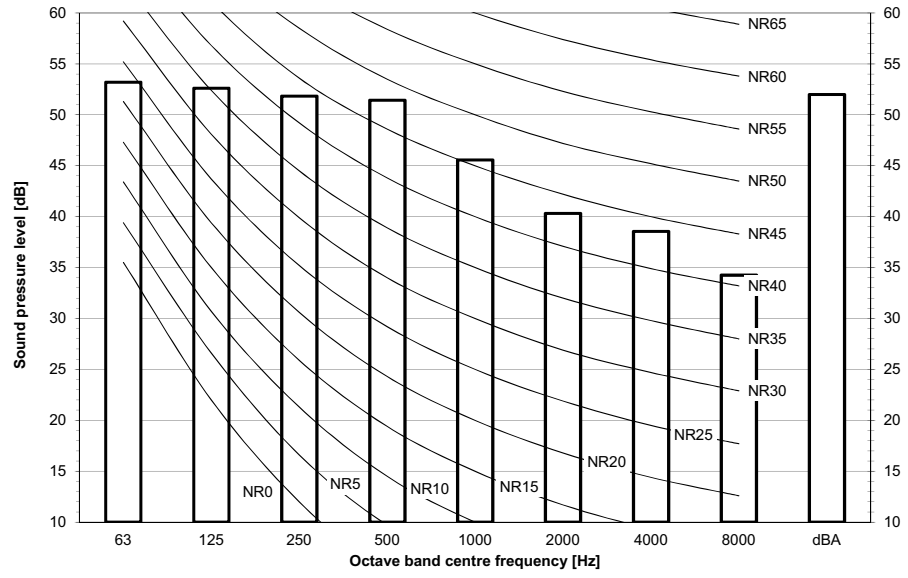


Notes
Data is valid at free field condition.
Data is valid at nominal operation condition.
dBA = A-weighted sound pressure level (A scale according to IEC).
Reference acoustic pressure 0 dB = 20 µPa
Data is valid under the following conditions
Cooling operation
Outdoor Ta: 35°C
Full load (maximum fan rps and maximum compressor rps for the dedicated low noise mode)

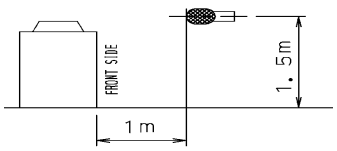


3D119541

REYQ18-20U
RXYQQ18-20U
RXYQ18-20U
RYYQ18-20U
RYMQ18-20U



Notes
Data is valid at free field condition.
Data is valid at nominal operation condition.
dBA = A-weighted sound pressure level (A scale according to IEC).
Reference acoustic pressure 0 dB = 20 µPa
Data is valid under the following conditions
Cooling operation
Outdoor Ta: 35°C
Full load (maximum fan rps and maximum compressor rps for the dedicated low noise mode)

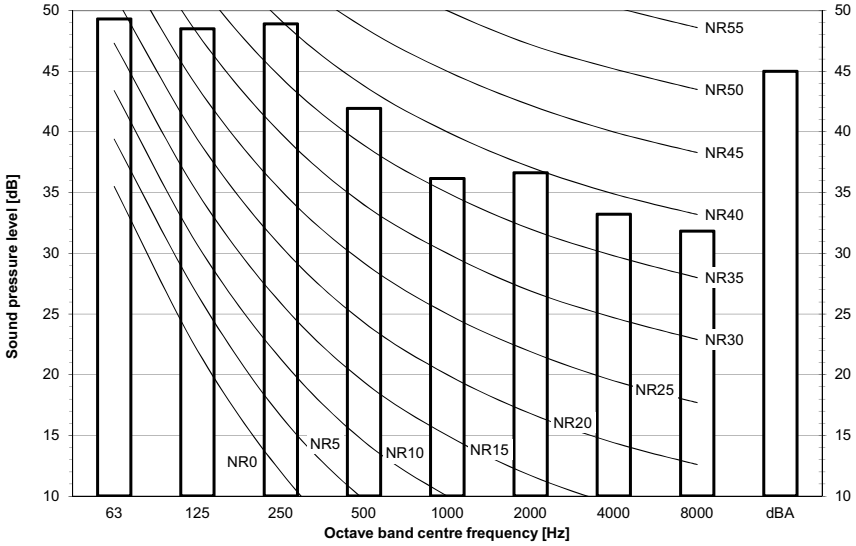


3D119542

11 Sound data

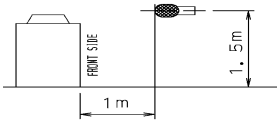
11 - 3 Sound Pressure Spectrum Quiet Mode

REYQ18-20U
RXYQQ18-20U
RXYQ18-20U
RYYQ18-20U
RYMQ18-20U



Notes
Data is valid at free field condition.
Data is valid at nominal operation condition.
dBA = A-weighted sound pressure level (A scale according to IEC).
Reference acoustic pressure 0 dB = 20 µPa

Data is valid under the following conditions
Cooling operation
Outdoor Ta: 35°C
Full load (maximum fan rps and maximum compressor rps for the dedicated low noise mode)



3D119543

12 Installation

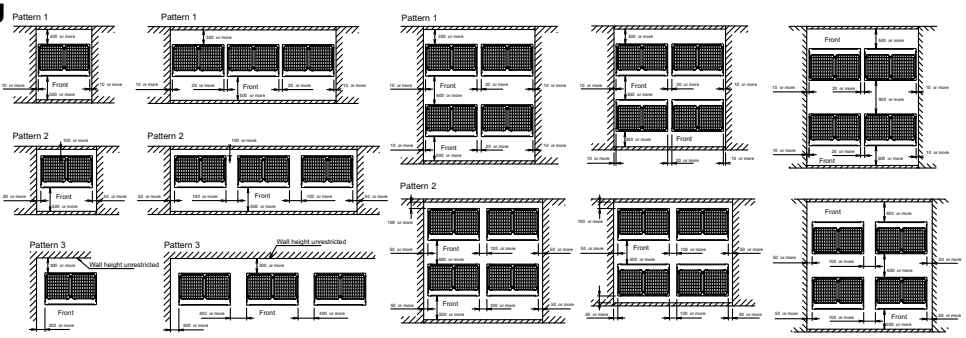
12 - 1 Installation Method

REMQ5U
REYQ8-20U
RXYQQ8-20U
RXYQ8-20U
RYYQ8-20U
RYMQ-20U

For single unit installation

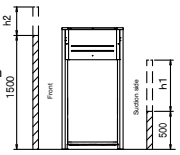
For installation in rows

For centralised group layout



Notes

1. Height of the walls in case of patterns 1 and 2:
   Front: 1500mm
   Suction side: 500mm
   Side: height unrestricted
   The installation space shown on this drawing is based on cooling operation at 35°C (outdoor temperature).
   When the design outdoor ambient temperature exceeds 35°C or the load exceeds maximum ability of much generation load of heat in all outdoor unit, make sure the suction-side space is broader than the space shown on this drawing.



2. If the walls are higher than mentioned above, then additional service space is needed:
   - suction side: service space + h1/2
   - front side: service space + h2/2
3. When installing the units, select the pattern that best fits the available space.

   Always keep in mind to leave sufficient space for a person to pass between unit and wall and for the air to circulate freely.

   If more units are to be installed than are catered for in the above patterns, your layout should take into account of the possibility of short circuits.

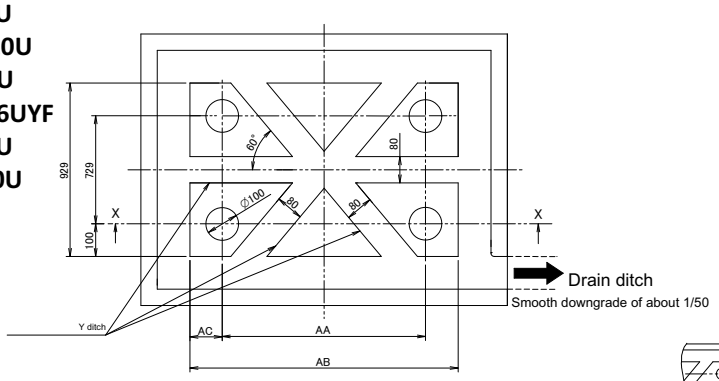
4. Provide sufficient space at the front to connect refrigerant piping (comfortably).

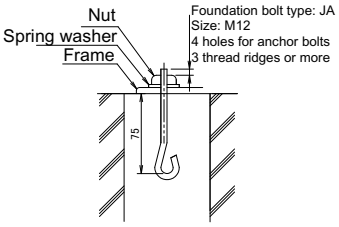
3D118467

12 Installation

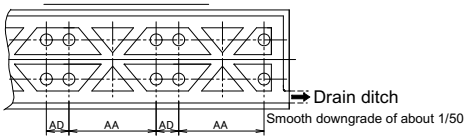
12 - 2 Fixation and Foundation of Units

REMQ5U
REYQ8-20U
RXYQQ8-20U
RXYQ8-20U
RXYTQ8-16UYF
RYYQ8-20U
RYMQ8-20U

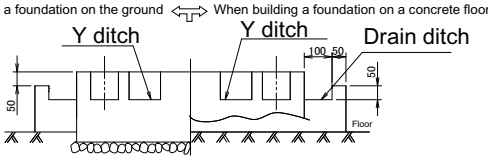




Foundation bolt fixing method



When building a foundation on the ground ⇔ When building a foundation on a concrete floor



Cross section X - X

For multi-unit installation

Model	AA	AB	AC	AD
RYYQ8-12U RYMQ8-12U RXYQ8-12U RXYQQ8-12U REMQ5T/REYQ8-12U RXYTQ8U	766	992	113	185
RYYQ14-20U RYMQ14-20U RXYQ14-20U RXYQQ14-20U REYQ14-20U RXYTQ10-16U	1076	1076		

Notes

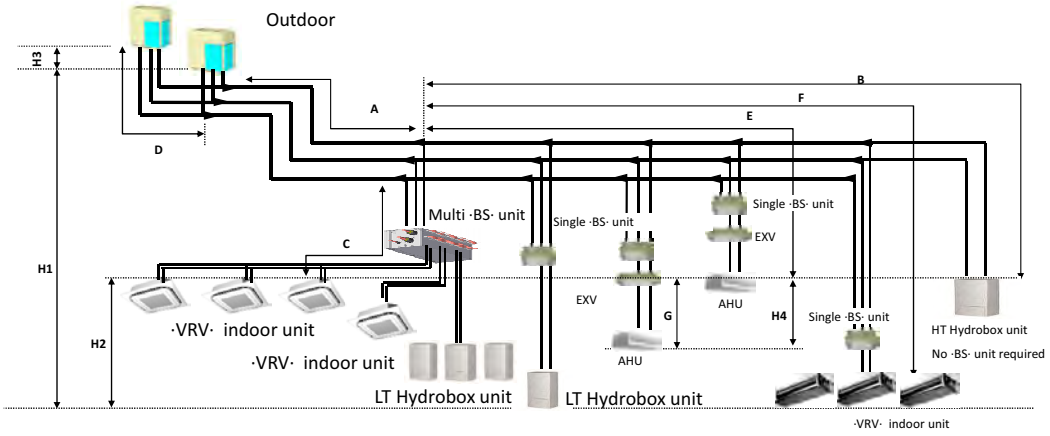
1. Provide a drain ditch around the foundation to drain water from the installation area.
2. The surface has to be finished with mortar. The corner edges have to be chamfered.
3. Build the foundation on a concrete floor or, if not possible, make sure the foundation surface has a rough finish.
4. Use a cement/sand/gravel ratio of 1/2/4 for the concrete, and a diameter of 10 mm for the reinforcement bars (approximately, 300mm intervals).
5. When installing the equipment on a roof, make sure to check the strength of the floor and take adequate water proofing measures.

3D118459

12 Installation

12 - 3 Refrigerant Pipe Selection

REMQ-U
REYQ-U



3D088012D

REMQ-U
REYQ-U

VRV4
Heat recovery
Piping restrictions

	Total		Allowed capacity				
	Capacity	Maximum indoor unit quantity (·VRV, RA, AHU, Hydrobox·) (*1)	VRV indoor unit	·VRV· indoor unit without ·BS· unit Cooling only (*4)	HT Hydrobox unit	LT Hydrobox unit	Air handling unit (AHU)
·VRV· indoor units only	50 ~ 130%	64	50 ~ 130 %	0 ~ 50 %	-	-	-
·VRV· indoor unit + LT Hydrobox unit	50 ~ 130%	32	50 ~ 130 %	0 ~ 50 %	-	*0 ~ 80%*	-
·VRV· indoor unit + HT Hydrobox unit	50 ~ 200%	32	50 ~ 110 %	-	0 ~ 100 %	-	-
(·VRV· indoor unit + LT Hydrobox unit + HT Hydrobox unit) Where (·VRV· indoor unit + LT Hydrobox unit)	50 ~ 200%	32	50 ~ 110 %	-	0 ~ 100 %	*0 ~ 80%*	-
	50 ~ 130%				-		
·AHU· only (pair + multi)	-	-	-	-	-	-	-
·VRV· indoor unit + ·AHU·	50 ~ 110% (*5)	64	50 ~ 110 %	0 ~ 50 %	-	-	0 ~ 60 %

Legend
AHU Air handling unit

Notes
1. Excluding ·BS· units and including ·EXV· kits.
2. Pair AHU = system with 1 air handling unit connected to one outdoor unit
   Multi AHU = system with multiple air handling units connected to one outdoor unit
3. Other combinations than mentioned in this combination table are prohibited.
4. Cooling-only ·VRV· indoor units cannot be combined with HT Hydrobox units.
5. Restrictions regarding the air handling unit capacity

Amount of units connectable to a ·BS· unit

	BS1Q10 (*6)	BS1Q16 (*6)	BS1Q25 (*6)	Multi ·BS· per branch (*6)	Multi ·BS· when 2 branches are combined (*5) (*6)
·VRV· indoor unit	Maximum ·6· units	Maximum ·8· units	Maximum ·8· units	Maximum ·5· units	Maximum ·5· units
Air handling unit (AHU)	Maximum ·100· class	Maximum ·160· class	Maximum ·250· class	Maximum ·140· class	Maximum ·250· class
LT Hydrobox unit	Maximum ·100· class = 1 x HXY080	Maximum ·160· class = Maximum ·2 x HXY080· Or maximum ·1 x HXY125·	Maximum ·250· class = Maximum ·3 x HXY080· Or maximum ·2 x HXY125· Or ·HXY080 + HXY125·	Maximum ·140· class = Maximum ·1 x HXY080· Or maximum ·1 x HXY125·	Maximum ·250· class = Maximum ·3 x HXY080· Or maximum ·2 x HXY125· Or ·HXY080 + HXY125·

Notes
5. When combining ·2· branches, the maximum piping length between the ·BS· unit and the indoor unit is ≤ 20m. If the length of this piping is > 20m, increase the size of the liquid pipe.
6. When using Hydrobox units, do not combine them with other types of units.

3D088012D

12 Installation

12 - 3 Refrigerant Pipe Selection

REMQ-U
REYQ-U **VRV4**
Heat recovery
Piping restrictions

		Maximum piping length			Maximum height difference			Total piping length
		Longest pipe from the outdoor unit or the last multi-outdoor piping branch Actual / Equivalent Maximum: ·(A+B, A+C, A+E, A+F)·	Longest pipe after first branch Actual Maximum: ·(B,C,E,F)·	Longest pipe from the outdoor unit to the last multi-outdoor piping branch Actual / Equivalent Maximum: ·(D)·	Indoor-to-outdoor Outdoor unit higher than indoor unit / Indoor unit higher than outdoor unit Maximum: ·(H1)·	Indoor-to-indoor Maximum: ·(H2)·	Outdoor-to-outdoor Maximum: ·(H3)·	Piping length
Single outdoor units and standard multi-outdoor-unit combinations > ·20hp·	·VRV· indoor units only	165/190 m (*3)	40 m (*1)	10/13 m	50/40 m (*2)	15 m	5 m	1000 m
		120/165m (*3)	40 m (*1)		50/40 m (*2)	30m		1000 m
	Hydrobox unit	135/160 m (*3)	40 m		50/40 m	15m		300 m (*4)/600 m (*5)
	AHU (*6)	165/190 m (*3)	40 m		50/40 m			1000 m
Standard multi-outdoor-unit combinations ·≤ 20hp· and free multi-outdoor-unit combinations	·VRV· indoor units only	135/160 m (*3)	40 m (*1)	10/13 m	50/40 m (*2)	15 m	5 m	500 m
	Hydrobox unit		40 m		50/40 m			300 m (*4)/500 m (*5)
	AHU (*6)		40 m		50/40 m			500 m

	Maximum piping length	Maximum height difference
	EXV –> AHU: G	EXV –> AHU: H4
AHU (*6)	5 m	5 m

Notes
1. If all conditions below are met, the limitation can be extended up to 90 m
   1.1 In case of ·BS1Q· units, the piping length between all indoor units and the nearest branch kit is ≤ ·40·m.
   1 In case of multi BS units, the piping length between all indoor units and the multi BS unit is ≤ ·40·m.
   1 It is required to size up the liquid piping between the first branch kit and the last.
   In contrast to multi BS units, ·BS1Q· units are not considered branch kits.
   If the increased pipe size is larger than the pipe size of the main pipe, also increase the size of the main pipe.
   1 When the piping size is increased, the piping length has to be counted as double.
   The total piping length has to be within limitations.
   2 The piping length difference between the nearest indoor unit to the outdoor unit and the farthest indoor unit to the outdoor unit is ≤ ·40·m.
2. If all conditions below are met, the limitation can be extended up to 90 m
   2.1 If the outdoor units are positioned higher than the indoor units:
   2.1.1 Minimum connection ratio: ·80%·
   2.1.2 Size up the liquid piping
   2.1.3 Outdoor unit setting
   For more information, refer to the service manual.
   2.2 If the outdoor units are positioned lower than the indoor units:
   2.2.1 No technical cooling
   2.2.2 Size up the liquid piping
   2.2.3 Outdoor unit setting
   2.2.4 Minimum connection ratio
   -40~60m: Minimum connection ratio: ·80%·
   -60~65m: Minimum connection ratio: ·90%·
   -65~80m: Minimum connection ratio: ·100%·
   -80~90m: Minimum connection ratio: ·110%·
3. If the equivalent piping is > ·90·m, size up the main liquid piping.
4. Outdoor unit ·≤ 20hp·
5. Outdoor unit ·>20hp·
6. Mix of ·DX· units and ·AHU's·
7. If there is no branch kit present in the system, the longest pipe after the multi ·BS· unit has to be ≤ ·40·m.

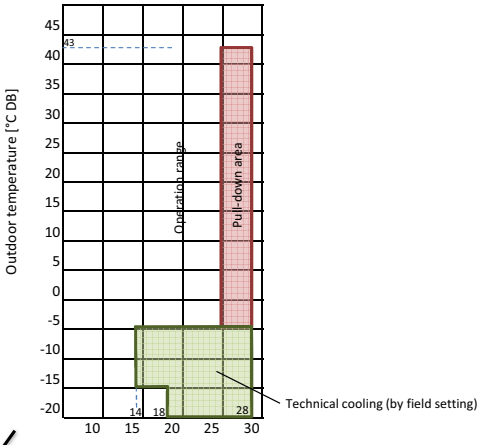
3D088012D

13 Operation range

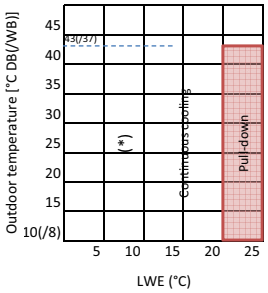
13 - 1 Operation Range

REMQ-U
REYQ-U

·DX· cooling



·LT hydro· cooling



(*) : Only possible after field setting activation.

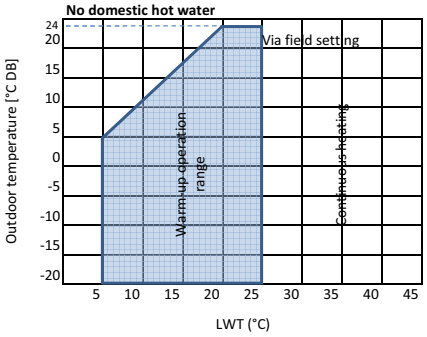
Influences ·DX· cooling operation (cold draft) and the total efficiency.

Technical cooling restrictions

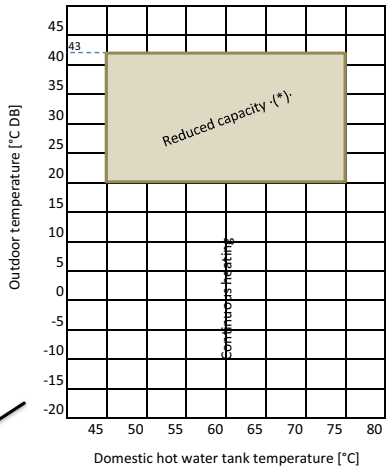
- A wind cover is required.
- ·COP· (VRT) decrease
- Piping restrictions
- Cooling capacity decrease below -5·°C
- Possible ·BS· unit noise increase
- No multi ·BS· unit

·LT· space heating

No domestic hot water

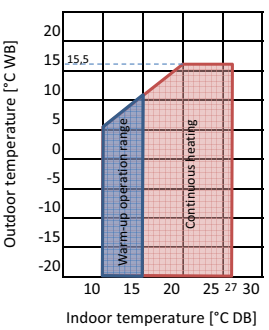


·HT· domestic hot water

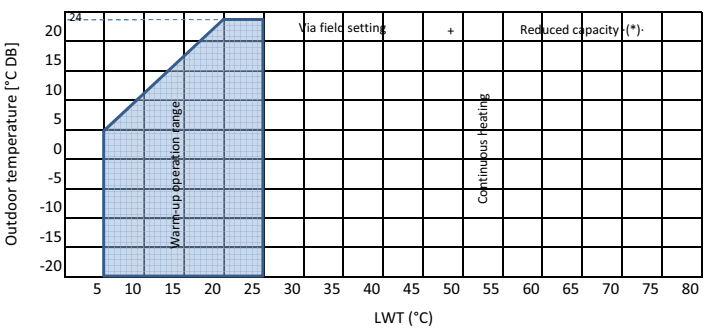


(*)
- When the ambient temperature of the location where the HXHD is installed >20°C & < 30°C: the maximum delivered capacity is limited to 60% of nominal capacity.
- When the ambient temperature of the location where the HXHD is installed can be controlled to remain ≤ 20°C at all times (installer responsibility): the nominal capacity can be delivered (under the mentioned outdoor ambient temperature conditions), when special field setting is applied. Not possible for automatic triggered DHW heat recovery

·DX· heating



·HT· space heating



3D088014C

14 Appropriate Indoors

14 - 1 Appropriate Indoors

REMQ-U
REYQ-U

Recommended indoor units for ·REYQ*U* + REMQ5U*· outdoor units

·· HP	8	10	12	13	14	16	18	20
	4xFXMQ50	4xFXMQ63	6xFXMQ50	3xFXMQ50 3XFXMQ63	1xFXMQ50 5XFXMQ63	4XFXMQ63 2xFXMQ80	3xFXMQ50 5XFXMQ63	2xFXMQ50 6xFXMQ63

For multi outdoor units ·>16HP·, the recommended amount of indoor units is the sum of the indoor units defined for a single outdoor unit.

For details about the allowed combinations, see the engineering databook.

Appropriate indoor units for ·REYQ*U* + REMQ5U*· outdoor units

Covered by ·ENER LOT21·

FXFQ20-25-32-40-50-63-80-100-125
FXZQ15-20-25-32-40-50
FXCQ20-25-32-40-50-63-80-125
FXKQ25-32-40-63
FXDQ15-20-25-32-40-50-63
FXSQ15-20-25-32-40-50-63-80-100-125-140
FXMQ50-63-80-100-125-200-250
FXAQ15-20-25-32-40-50-63
FXHQ32-63-100
FXUQ71-100
FXNQ20-25-32-40-50-63
FXLQ20-25-32-40-50-63

Outside the scope of ·ENER LOT21·

EKEXV50-63-80-100-125-140-200-250-400-500 + EKEQM
HXY080-125
HXHD125-200
VKM50-80-100
CYVS100-150-200-250
CYVM100-150-200-250
CYVL100-150-200-250

3D118461

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EEDEN19 05/19

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