DAIKIN

Air Conditioning

Technical Data

EEDEN14-201

RWEYQ-T

TABLE OF CONTENTS

RWEYQ-T

1 Features

- Reduced CO2 emmisions thanks to the use of geothermal energy as a renewable energy source
- No need for an external heating or cooling source when used in geothermal mode
- Suitable for multi-storey and large buildings because of the hardly unlimited possibilities of water piping
- 2-stage heat recovery: first stage between indoor units, second stage between outdoor units thanks to the storage of energy in the water circuit
- Customize your VRV for best seasonal efficiency & comfort with the weather dependant Variable Refrigerant Temperature function
- Best comfort, no cold draft by supply of a high outblow air temperature thanks to Variable Refrigerant Temperature and all inverter technology
- Simultaneous cooling and heating operation from one system
- VRV configurator software for the fastest and most accurate commissioning, configuration and customisation
- Accurate temperature control, fresh air provision, air handling units, Biddle air curtains and hot water production, all integrated in a single system requiring only one single point of contact
- Compact design (stacked configuration possible)
- 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 our ACNSS service: 24/7 monitoring for maximum efficiency, extended lifetime, immediate service support thanks to failure prediction and a clear understanding of operability and usage
- Easy compliance with F-gas regulation thanks to automated refrigerant containment check
- European-optimised design and manufactured in Europe for short lead-in times
- Variable Water Flow control option increases flexibility and control

INVERTER

Inverter

2 Specifications

2-1 Technical Specifications					RWEYQ8T	RWEYQ10T	RWEYQ16T	RWEYQ18T	RWEYQ20T	RWEYQ24T	RWEYQ26T	RWEYQ28T	RWEYQ30T
System	Outdoor unit module 1				RWEYQ8T	RWEYQ10T	RWEYQ8T		RWEYQ10T	RWEYQ8T			RWEYQ10T
	Outdoor unit module 2				-		RWEYQ8T	RWEYQ10T		RWEYQ8T		RWEYQ10T	
	Outdoor unit module 3				-					RWEYQ8T	RWEYQ10T		
Capacity range				HP	8	10	16	18	20	24	26	28	30
Cooling capacity	Nom.			kW	22.4 (1) / 22.4 (2)	28.0 (1) / 27.5 (2)	44.8 (1) / 44.8 (2)	50.4 (1) / 49.9 (2)	56.0 (1) / 55.0 (2)	67.2 (1) / 67.2 (2)	72.8 (1) / 72.3 (2)	78.4 (1) / 77.4 (2)	84.0 (1) / 82.5 (2)
Heating capacity	Nom.			kW	25.0 (3) / 25.0 (4)	31.5 (3) / 31.5 (4)	50.0 (3) / 50.0 (4)	56.5 (3) / 56.5 (4)	63.0 (3) / 63.0 (4)	75.0 (3) / 75.0 (4)	81.5 (3) / 81.5 (4)	88.0 (3) / 88.0 (4)	94.5 (3) / 94.5 (4)
Power input - 50Hz	Cooling	Nom.		kW	4.42 (1) / 4.45 (2)	6.14 (1) / 6.35 (2)	8.8 (1) / 8.9 (2)	10.6 (1) / 10.8 (2)	12.3 (1) / 12.7 (2)	13.3 (1) / 13.4 (2)	15.0 (1) / 15.3 (2)	16.7 (1) / 17.2 (2)	18.4 (1) / 19.1 (2)
	Heating	Nom.		kW	4.21 (3) / 4.30 (4)	6.00 (3) / 6.20 (4)	8.4 (3) / 8.6 (4)	10.2 (3) / 10.5 (4)	12.0 (3) / 12.4 (4)	12.6 (3) / 12.9 (4)	14.4 (3) / 14.8 (4)	16.2 (3) / 16.7 (4)	18.0 (3) / 18.6 (4)
Capacity control	Method				Inverter controlled								
EER					5.07 (1) / 5.03 (2)	4.56 (1) / 4.33 (2)	5.07 (1) / 5.03 (2)	4.77 (1) / 4.62 (2)	4.56 (1) / 4.33 (2)	5.07 (1) / 5.03 (2)	4.86 (1) / 4.74 (2)	4.69 (1) / 4.51 (2)	4.56 (1) / 4.33 (2)
COP					5.94 (3) / 5.81 (4)	5.25 (3) / 5.08 (4)	5.94 (3) / 5.81 (4)	5.53 (3) / 5.38 (4)	5.25 (3) / 5.08 (4)	5.94 (3) / 5.81 (4)	5.65 (3) / 5.51 (4)	5.43 (3) / 5.27 (4)	5.25 (3) / 5.08 (4)
Maximum number of connectable indoor units					36 (5)								
Indoor index connection	Min.				100	125	200	225	250	300	325	350	375
	Nom.				200	250	400	450	500	600	650	700	750
	Max.				260	325	520	585	650	780	845	910	975
Casing	Material				Painted galvanized steel plate		-						
Dimensions	Unit	Height		mm	1,000		-						
		Width		mm	780		-						
		Depth		mm	550		-						
	Packed unit	Height		mm	1,131		-						
		Width		mm	890		-						
		Depth		mm	660		-						
Weight	Unit			kg	137		-						
	Packed unit			kg	149		-						
Packing	Material				Carton		-						
	Weight			kg	3.1		-						
Packing 2	Material				Wood		-						
	Weight			kg	8.3		-						
Packing 3	Material				Plastic		-						
	Weight			kg	0.2		-						
Heat exchanger	Type				Stainless steel plate		-						
Compressor	Quantity				1		-						
	Model				Inverter		-						
	Type				Hermetically sealed scroll compressor		-						
Fan	Type				-								
	Air flow rate	Cooling	Nom.	m^3/min	-								
	External static pressure	Max.		Pa	-								
Sound power level	Cooling	Nom.		dBA	-								
Sound pressure level	Cooling	Nom.		dBA	50	51	53	54		55			56
Operation range	Cooling	Min.~Max.		°CDB	-~-								
	Heating	Min.~Max.		°CWB	-~-								
	Inlet water temperature	Cooling	Min.~Max.	°CDB	10~45		-~-						
		Heating	Min.~Max.	°CWB	-10 (6) / 10.0~45		-~-						

2 Specifications

2-1 Technical Specifications					RWEYQ8T	RWEYQ10T	RWEYQ16T	RWEYQ18T	RWEYQ20T	RWEYQ24T	RWEYQ26T	RWEYQ28T	RWEYQ30T
Refrigerant	Type				R-410A		-						
	Charge			kg	3.5	4.2	-						
Refrigerant oil	Type				Synthetic (ether) oil		-						
	Charged volume			l	2.7		-						
Piping connections	Liquid	Type			Flare connection								
		OD		mm	9.52		12.7	15.9			19.1		
	Gas	Type			Braze connection								
		OD		mm	19.10 (9)	22.2 (9)	28.6 (8)			34.9 (8)			
	Discharge gas	Type			Braze connection								
		OD		mm	15.9 (10) / 19.10 (11)	19.1 (10) / 22.10 (11)	22.2 (9) / 28.60 (10)			28.6 (9) / 34.90 (10)			
	Drain	Outlet			PS 1/2B internal thread								
	Water	Inlet			PT1 1/4B internal thread		-						
		Outlet			PT1 1/4B internal thread		-						
	Heat insulation				Liquid, Suction gas and HP/LP gas		-						
	Piping length	OU - IU	Max.	m	120								
		After branch	Max.	m	90 (15)		90 (14)						
	Total piping length	System	Actual	m	300								
	Level difference	OU - IU	Outdoor unit in highest position	m	50								
			Indoor unit in highest position	m	40								
		IU - IU	Max.	m	15								
Safety devices	Item	01			High pressure switch		-						
		02			Fusible plugs		-						
		03			Inverter overload protector		-						
		04			PC board fuse		-						
PED	Category				Category II								

Standard Accessories : Connection pipes;

Standard Accessories : Operation manual;

Standard Accessories : Installation manual;

2-2 Electrical Specifications				RWEYQ8T	RWEYQ10T	RWEYQ16T	RWEYQ18T	RWEYQ20T	RWEYQ24T	RWEYQ26T	RWEYQ28T	RWEYQ30T
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	7.2	9.5	14.4	16.7	19.0	21.6	23.9	26.2	28.5

2 Specifications

2-2 Electrical Specifications				RWEYQ8T	RWEYQ10T	RWEYQ16T	RWEYQ18T	RWEYQ20T	RWEYQ24T	RWEYQ26T	RWEYQ28T	RWEYQ30T
Current - 50Hz	Minimum Ssc value		kVa	-		1,811			2,716			
	Minimum circuit amps (MCA)		A	12.6		25.3			37.9			
	Maximum fuse amps (MFA)		A	20		32			50			
	Total overcurrent amps (TOCA)		A	13.5		27.0			40.5			
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								

Notes

(1) Cooling: Indoor temp. 27°CDB; 19°CWB; inlet water temp.: 30°C; equivalent refrigerant piping: 7,5m; level difference: 0m. Rated values are with 100% water (no glycol)

(2) Cooling: Indoor temp. 27°CDB; 19°CWB; inlet water temp.: 30°C; equivalent refrigerant piping: 7,5m; level difference: 0m. Rated values are with 30% glycol.

(3) Heating: Indoor temp. 20°CDB; inlet water temp.: 20°C; equivalent refrigerant piping: 7,5m; level difference: 0m. Rated values are with 100% water (no glycol).

(4) Heating: Indoor temp. 20°CDB; inlet water temp.: 20°C; equivalent refrigerant piping: 7,5m; level difference: 0m. Rated values are with 30% glycol.

(5) Actual number of connectable indoor units depends on the indoor unit type (VRV indoor, Hydrobox, RA indoor, etc.) and the connection ratio restriction for the system (50% \<= CR \<= 130%)

(6) Operation range extension in case of Glycol is used in combination with fieldsettings (see installation manual).

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

(8) Sound values are measured in a semi-anechoic room.

(9) In case of heat recovery system

(10) In case of heat pump system

(11) This unit should not be installed outdoors, but indoors e.g. in a machine room.

(12) Hold ambient temperature at 0-40°C and humidity at 80%RH or less. Heat rejection from the casing: 0.64kW/8HP

(13) Hold ambient temperature at 0-40°C and humidity at 80%RH or less. Heat rejection from the casing: 0.71kW/10HP

(14) Refer to refrigerant pipe selection or installation manual

(15) RLA is based on following conditions: indoor temp. 27°CDB, 19°CWB; inlet water temp. 30°C

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

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

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

(19) TOCA means the total value of each OC set.

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

(21) Maximum allowable voltage range variation between phases is 2%.

(22) In accordance with EN/IEC 61000-3-11, respectively 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 with Zsys ≤ Zmax, respectively Ssc ≥ minimum Ssc value.

(23) EN/IEC 61000-3-11: European/international technical standard setting the limits for voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated ≤ 75A

(24) 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

(25) Ssc: Short-circuit power

(26) system impedance

(27) Multi combination (16-30HP) data is corresponding with the standard multi combination as mentioned on 3D084911

(28) For more details on standard accessories refer to Installation/operation manual

(29) In case of heat pump system, gas pipe is not used

3 Options

RWEYQ-T

VRV 4 Water Cooled Option list

Item		single units		2-unit multi			3-unit multi			
		RWEYQ8T	RWEYQ10T	RWEYQ16T	RWEYQ18T	RWEYQ20T	RWEYQ24T	RWEYQ26T	RWEYQ28T	RWEYQ30T
Cool/heat selector PCB (note 1)		KRC19-26A								
Cool/heat selector switch (note 1)		BRP2A81								
Fixing box		KJB111A								
External control adapter for outdoor		DTA104A62								
Refnet header	Heat pump	KHRQ22M29H								
		-		KHRQ22M64H						
				KHRQ22M75H						
	Heat recovery	KHRQ23M29H								
		-		KHRQ23M64H						
				KHRQ23M75H						
Refnet joint	Heat pump	KHRQ22M20T								
		KHRQ22M29T9								
		-		KHRQ22M64T						
				KHRQ22M75T						
	Heat recovery	KHRQ23M20T								
		KHRQ23M29T9								
		-		KHRQ23M64T						
				KHRQ23M75T						
Outdoor unit multi piping connection kit for H/P (note 2)		-		BHFQ22P1007			BHFQ22P1517			
Outdoor unit multi piping connection kit for H/R (note 2)		-		BHFQ23P907			BHFQ23P1357			
Configurator cable		EKPCCAB2								

NOTES

1. In case of a heat recovery system, the COOL/HEAT selector can not be connected.
2. For installations without special requirements towards fire regulations, the standard piping connection kits can be used.
   For installations with special requirements towards fire regulations, the insulations can be replaced by using kits EKHBFQ1 & EKHBFQ2.
   The kits contain alternative insulation material which complies with EN13501-1: B-S3,d0 and with BS476-7: class1.
   The required quantity of EKBHFQ kits to replace the insulations is shown in the table below.

	EKBHFQ1	EKBHFQ2
BHFQ22P1007	1	1
BHFQ22P1517	2	2
BHFQ23P907	2	1
BHFQ23P1357	4	2

3D085180

4 Combination table

RWEYQ-T

VRV4 Water Cooled standard combination table (multi)

	8HP	10HP
RWEYQ8T	1	
RWEYQ10T		1
RWEYQ16T	2	
RWEYQ18T	1	1
RWEYQ20T		2
RWEYQ24T	3	
RWEYQ26T	2	1
RWEYQ28T	1	2
RWEYQ30T		3

3D084911

4 Combination table

RWEYQ-T

VRV4 Watercooled - Indoor unit combination Restrictions

Indoor unit combination pattern	VRV* DX indoor	AHU
VRV* DX indoor	0	0
AHU[3]	0	$0_{(1)}$

0: Allowed
X: Not allowed

NOTES

1. $O_{(1)}$
   AHU connection only (combination with VRV DX indoor units is not allowed; max. 30HP = 3x “250” class EKEXV kits)
   → X-control is possible (up to 3 x [EKEXV + EKEQF*box] are allowed to one outdoor unit (system)); no Variable Refrigerant Temperature control possible
   → Y-control is possible (up to 3 x [EKEXV + EKEQF*box] are allowed to one outdoor unit (system)); no Variable Refrigerant Temperature control possible
2. AHU connection combined with VRV DX indoor units
   → Z-control is possible (EKEQM* boxes are allowed limited connection ratio restrictions)
3. AHU [3] Following are considered as “AHU”
   → EKEXV + EKEQ(M/F) + AHU coil
   → Biddle aircurtains
   → FXMQ_MF units

Information
- VKM is considered to be a regular VRV DX indoor unit
- VAM does not have limitation on connection as there is no refrigerant connection with the outdoor unit (only communication F1/F2)

3D085697

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.

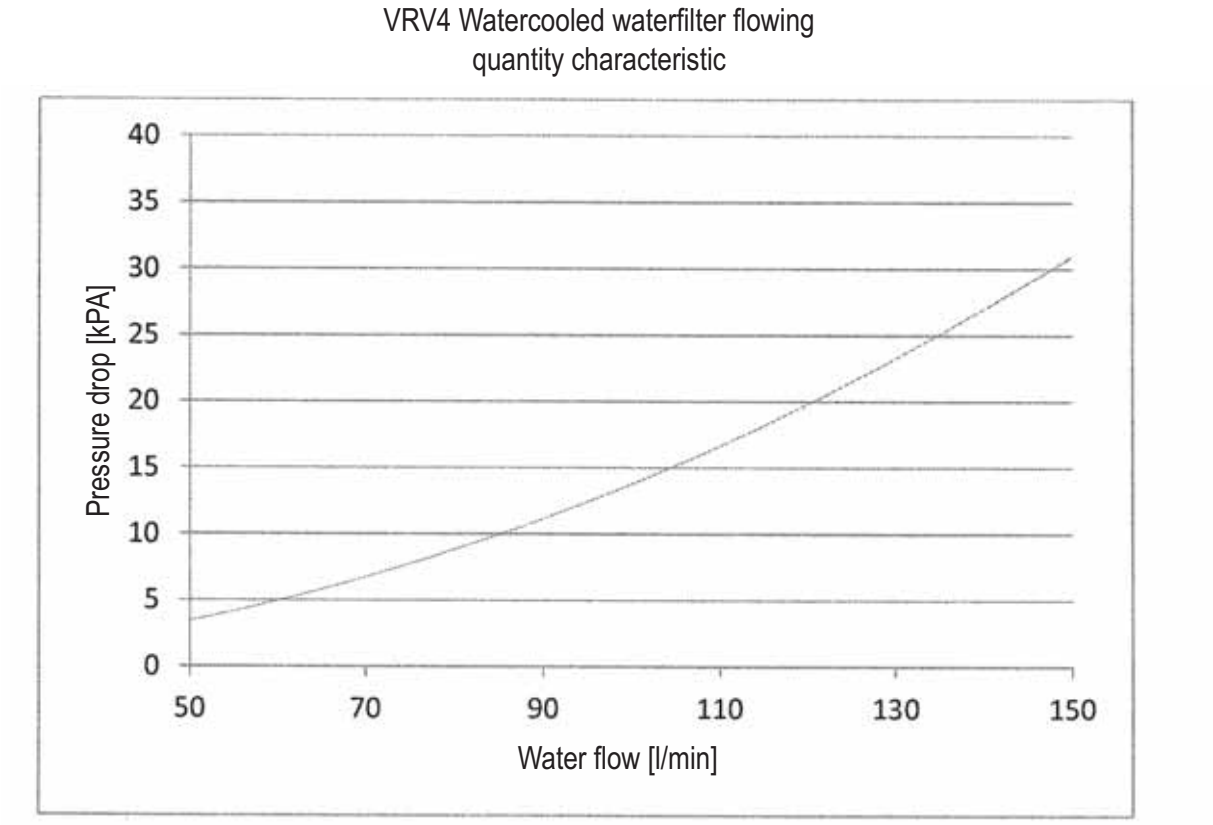
Below you can find the link to the capacity table database and an overview of all the tools we have to help you select the correct product:

- 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.
  → http://extranet.daikineurope.com/captab
- E-data app: gives a complete overview of the Daikin products available in your country, with all engineering data and commercial info in your own language. Download the app now!
  → https://itunes.apple.com/us/app/daikin-e-data/id565955746?mt=8
- Selection software: allows you to do load calculations, equipment selections and energy simulations for our VRV, Daikin Altherma, refrigeration and applied systems products.
  → http://extranet.daikineurope.com/en/software/downloads/default.jsp

5 Capacity tables

5 - 2 Cooling/Heating Capacity Tables

RWEYQ-T



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5 Capacity tables

5 - 2 Cooling/Heating Capacity Tables

RWEYQ-T

Water volume	L/min	50	60	80	96	120	150
Head loss	kPa	9.3	12.9	26.5	30.9	47.2	72.2
	mH2O	1.0	1.3	1.3	2.7	4.8	7.4

NOTE

1. This value shows the amount of head loss per one unit

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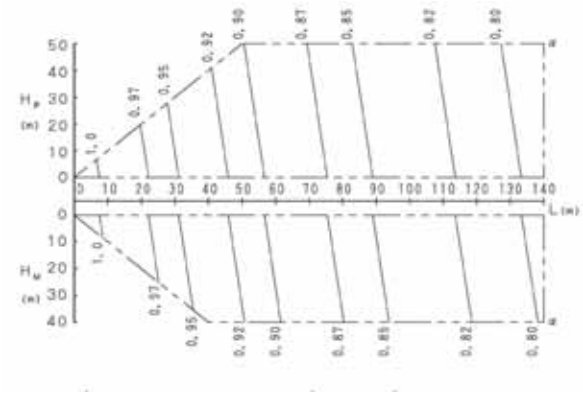
5 Capacity tables

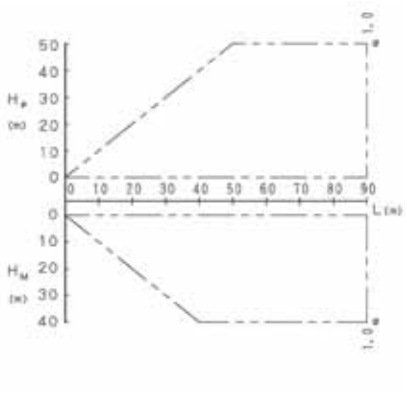
5 - 3 Capacity Correction Factor

RWEYQ8T

Rate of change in cooling capacity



Rate of change in heating capacity



NOTES

1. These figures illustrate the rate of change in capacity 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 from the rate of change in capacity shown in the above figures.
2. With this outside unit, evaporating pressure constant control when cooling and condensing pressure constant control when heating is carried out.
3. Method of calculating A/C (cooling/heating) capacity:
   The maximum A/C capacity of the system will be either the total A/C capacity of the indoor units obtained from capacity characteristic table or the maximum A/C capacity of outside units as mentioned below, wichever smaller.
   Calculating A/C capacity of outside units
   - Condition: Indoor unit combination ratio does not exceed 100%.

     Maximum A/C capacity of outside units = A/C capacity of outside units obtained from capacity characteristic table at the 100% combination
     X Capacity change rate due to piping length to the farthest indoor unit
   - Condition: Indoor unit combination ratio exceeds 100%.

     Maximum A/C capacity of outside units = A/C capacity of outside units obtained from capacity characteristic table at the combination
     X Capacity change rate due to piping length to the farthest indoor unit
4. When overall equivalent pipe length is 80m or more, the diameter of the main liquiq pipes (outside unit-branch sections) must be increased.
   Diameter of above case

Model	Liquid pipe
RWEYQ8T	Ø12.7

5. Read cooling/heating capacity rate of change in the above figures based on the following equivalent length

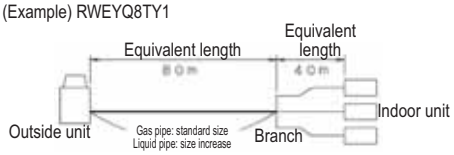
   Overall equivalent length = (equivalent length to main pipe) x Correction factor + (Equivalent length after branching)

   Choose a correction factor from the following table.

   [When cooling capacity is calculated: gas pipe size
   When heating capacity is calculated: liquid pipe size.

Rate of change (object piping)	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	—
Heating (liquid pipe)	1.0	0.5

   (Example) RWEYQ8TY1



   In the above case
   (Cooling) Overall equivalent length = 80m x 1.0 + 40m = 120m
   (Heating) Overall equivalent length = 80m x 0.5 + 40m = 80m
   The correction factor in:
   cooling capacity when Hp = 0m is thus approximately 0.81
   heating capacity when Hp = 0m is thus approximately 1.0
6. Explanation of symbols
   H_p: Level difference (m) between indoor and outside units where indoor unit in inferior position
   H_M: Level difference (m) between indoor and outside units where indoor unit in superior position
   L: Equivalent pipe length (m)
   α: Capacity correction factor
   Diameter of pipes

Model	Liquid pipe
RWEYQ8T	Ø9.5

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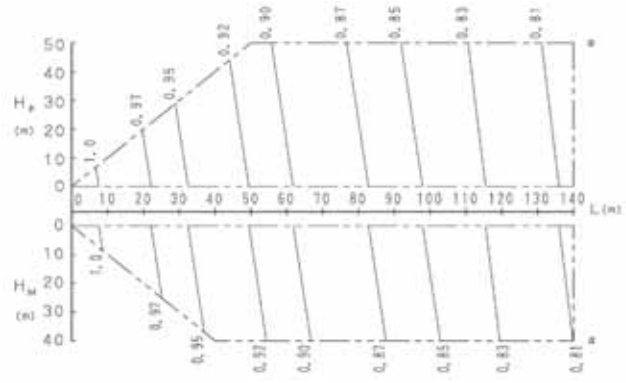
5 Capacity tables

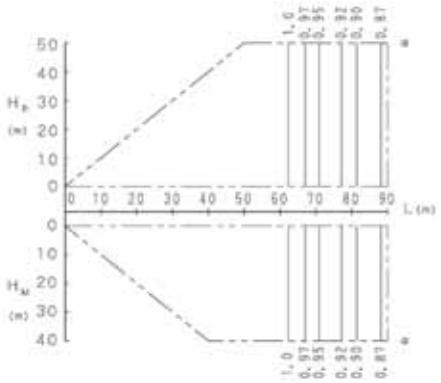
5 - 3 Capacity Correction Factor

RWEYQ10,20T

Rate of change in cooling capacity



Rate of change in heating capacity



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NOTES

1. These figures illustrate the rate of change in capacity 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 from the rate of change in capacity shown in the above figures.
2. With this outside unit, evaporating pressure constant control when cooling and condensing pressure constant control when heating is carried out.
3. Method of calculating A/C (cooling/heating) capacity:
   The maximum A/C capacity of the system will be either the total A/C capacity of the indoor units obtained from capacity characteristic table or the maximum A/C capacity of outside units as mentioned below, wichever smaller.
   Calculating A/C capacity of outside units
   - Condition: Indoor unit combination ratio does not exceed 100%.

     Maximum A/C capacity of outside units = A/C capacity of outside units obtained from capacity characteristic table at the 100% combination
     X Capacity change rate due to piping length to the farthest indoor unit
   - Condition: Indoor unit combination ratio exceeds 100%.

     Maximum A/C capacity of outside units = A/C capacity of outside units obtained from capacity characteristic table at the combination
     X Capacity change rate due to piping length to the farthest indoor unit
4. When overall equivalent pipe length is 80m or more, the diameter of the main liquiq pipes (outside unit-branch sections) must be increased.
   Diameter of above case

Model	Liquid pipe
RWEYQ10T	Ø12.7
RWEYQ20T	Ø19.1

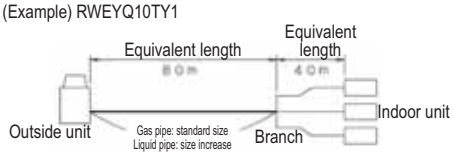
5. Read cooling/heating capacity rate of change in the above figures based on the following equivalent length

   Overall equivalent length = (equivalent length to main pipe) x Correction factor + (Equivalent length after branching)

   Choose a correction factor from the following table.
   [When cooling capacity is calculated: gas pipe size
   When heating capacity is calculated: liquid pipe size.

Rate of change (object piping)	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	—
Heating (liquid pipe)	1.0	0.5

   (Example) RWEYQ10TY1



   In the above case
   (Cooling) Overall equivalent length = 80m x 1.0 + 40m = 120m
   (Heating) Overall equivalent length = 80m x 0.5 + 40m = 80m
   The correction factor in:
   cooling capacity when Hp = 0m is thus approximately 0.82
   heating capacity when Hp = 0m is thus approximately 0.90
6. Explanation of symbols
   H_p: Level difference (m) between indoor and outside units where indoor unit in inferior position
   H_M: Level difference (m) between indoor and outside units where indoor unit in superior position
   L: Equivalent pipe length (m)
   α: Capacity correction factor
   Diameter of pipes

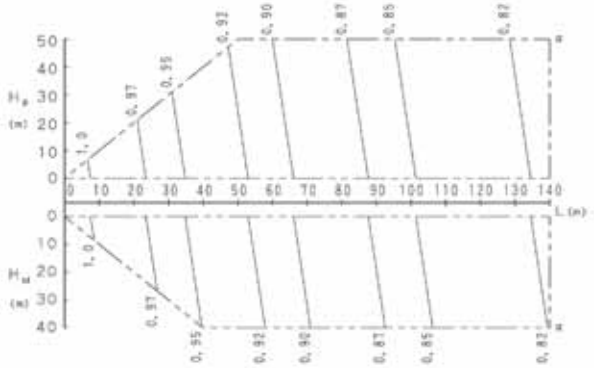
Model	Liquid pipe
RWEYQ10T	Ø9.5
RWEYQ20T	Ø15.9

5 Capacity tables

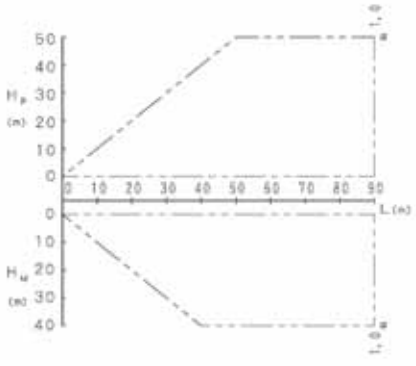
5 - 3 Capacity Correction Factor

RWEYQ16,18,24,26,28,30T

Rate of change in cooling capacity



Rate of change in heating capacity



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NOTES

1. These figures illustrate the rate of change in capacity 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 from the rate of change in capacity shown in the above figures.
2. With this outside unit, evaporating pressure constant control when cooling and condensing pressure constant control when heating is carried out.
3. Method of calculating A/C (cooling/heating) capacity:
   The maximum A/C capacity of the system will be either the total A/C capacity of the indoor units obtained from capacity characteristic table or the maximum A/C capacity of outside units as mentioned below, wichever smaller.
   Calculating A/C capacity of outside units
   - Condition: Indoor unit combination ratio does not exceed 100%.

     Maximum A/C capacity of outside units = A/C capacity of outside units obtained from capacity characteristic table at the 100% combination
     X Capacity change rate due to piping length to the farthest indoor unit
   - Condition: Indoor unit combination ratio exceeds 100%.

     Maximum A/C capacity of outside units = A/C capacity of outside units obtained from capacity characteristic table at the combination
     X Capacity change rate due to piping length to the farthest indoor unit
4. When overall equivalent pipe length is 80m or more, the diameter of the main liquiq pipes (outside unit-branch sections) must be increased.
   Diameter of above case

Model	Liquid pipe
RWEYQ16T	Ø15.9
RWEYQ18,24T	Ø19.1
RWEYQ26,28,30T	Ø22.2

5. Read cooling/heating capacity rate of change in the above figures based on the following equivalent length

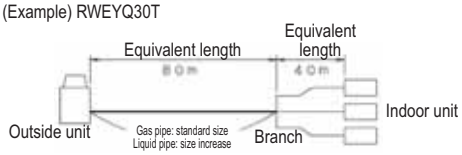
   Overall equivalent length = (equivalent length to main pipe) x Correction factor + (Equivalent length after branching)

   Choose a correction factor from the following table.

   [When cooling capacity is calculated: gas pipe size
   [When heating capacity is calculated: liquid pipe size.

Rate of change (object piping)	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1.0	—
Heating (liquid pipe)	1.0	0.5

   (Example) RWEYQ30T

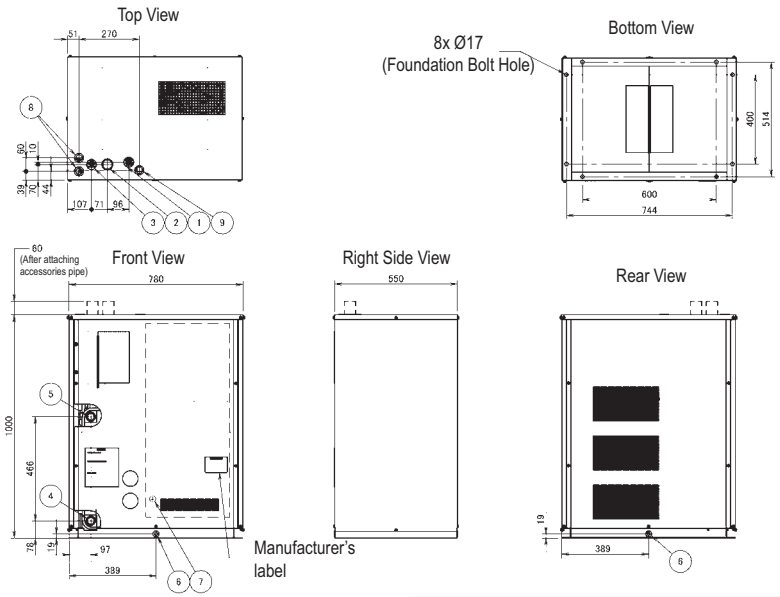


   In the above case
   (Cooling) Overall equivalent length = 80m x 1.0 + 40m = 120m
   (Heating) Overall equivalent length = 80m x 0.5 + 40m = 80m
   The correction factor in:
   cooling capacity when Hp = 0m is thus approximately 0.83
   heating capacity when Hp = 0m is thus approximately 1.0
6. Explanation of symbols
   H_p: Level difference (m) between indoor and outside units where indoor unit in inferior position
   H_M: Level difference (m) between indoor and outside units where indoor unit in superior position
   L: Equivalent pipe length (m)
   α: Capacity correction factor
   Diameter of pipes

Model	Liquid pipe
RWEYQ16T	Ø12.7
RWEYQ18,24T	Ø15.9
RWEYQ26,28,30T	Ø19.1

6 Dimensional drawings

RWEYQ-T



Item	Part Name	Remark
1	Liquid Pipe	See note 2
2	Suction Gas Pipe	See note 2
3	HP/LP Gas Pipe	See note 2
4	Water Inlet	PT 1 1/4 B Internal Thread
5	Water Outlet	PT 1 1/4 B Internal Thread
6	Drain Outlet	PS 1/2 B Internal Thread
7	Earth Terminal	M5
8	Power Chord Though Hole	Ø29
9	Wiring Though Hole	Ø29
10	Pipe routing hole (bottom)	
11	Grounding terminal	Inside of switch box (M8)

NOTES

1. Earth terminal is in the switch box
2. Piping size is as follows

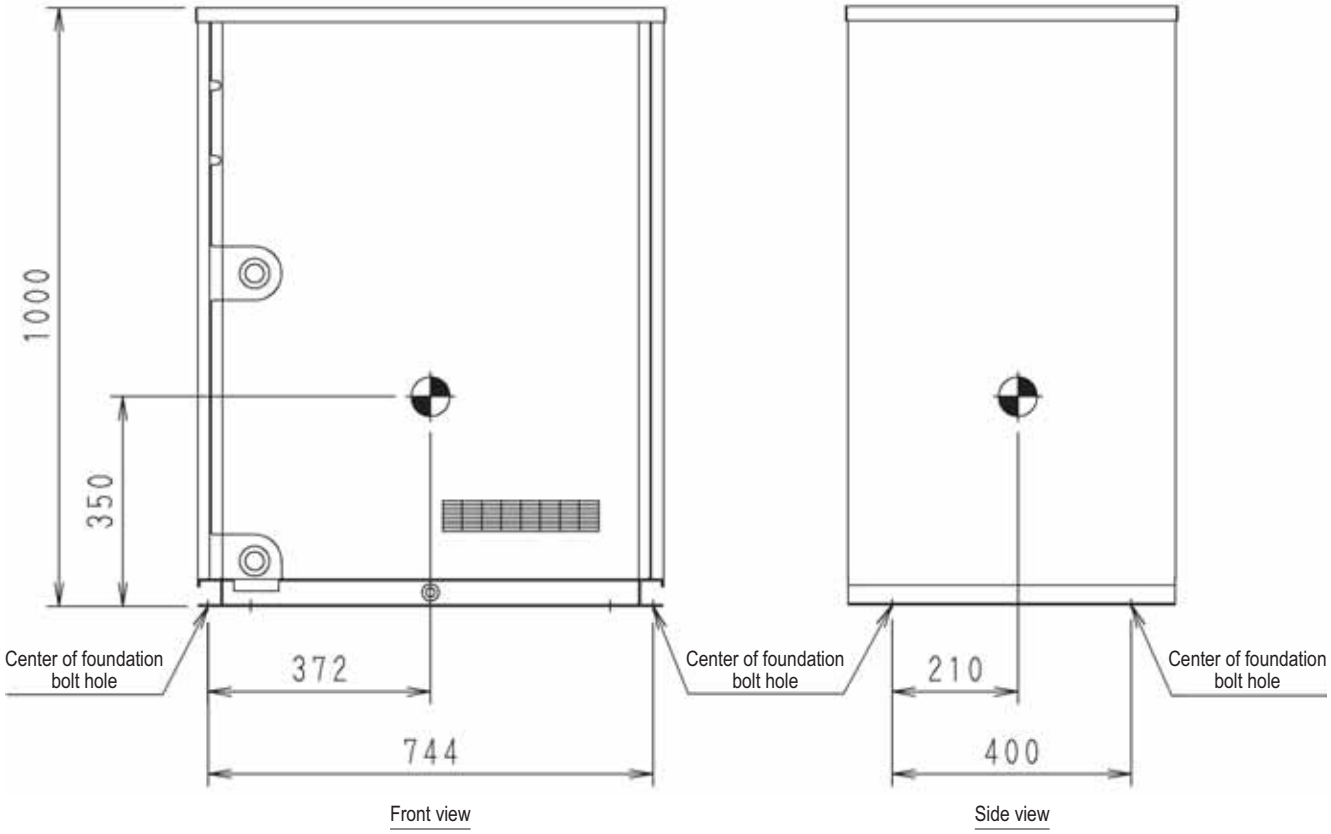
MODEL NAME	RWEYQ8		RWEYQ10	
Operation System	Heat Pump	Heat Recovery	Heat Pump	Heat Recovery
Liquid Pipe	Ø9.5	Ø9.5	Ø9.5	Ø9.5
Suction Gas Pipe	-	Ø19.1	-	Ø22.2
HP/LP Gas Pipe	Ø19.1	Ø15.9	Ø22.2	Ø19.1

* Connection method: Liquid Pipe:
Suction Gas Pipe: } Brazing connection
HP/LP Gas Pipe: }

* In case of heat pump, suction gas pipe is not used.

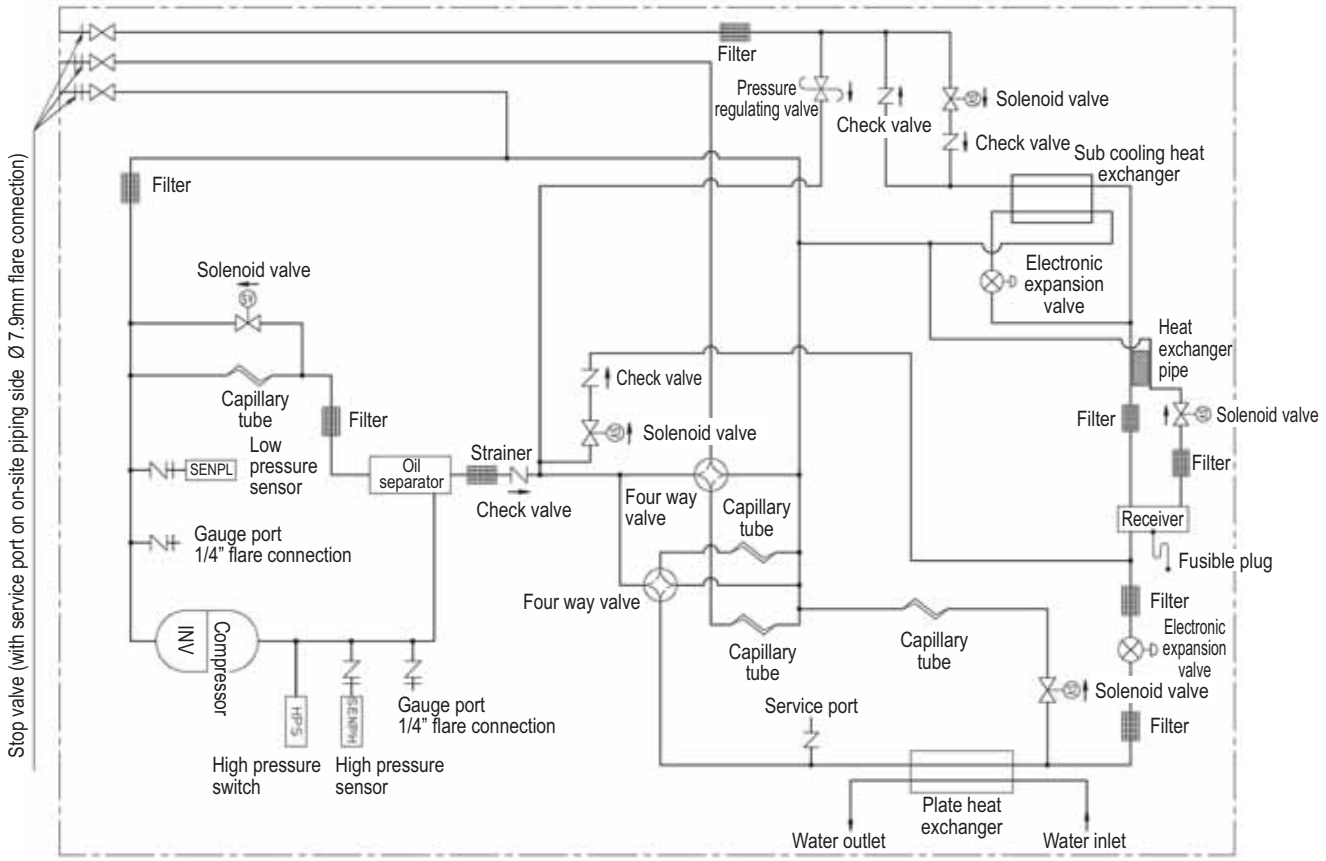
7 Centre of gravity

RWEYQ8T
RWEYQ10T



8 Piping diagrams

RWEYQ8-10T



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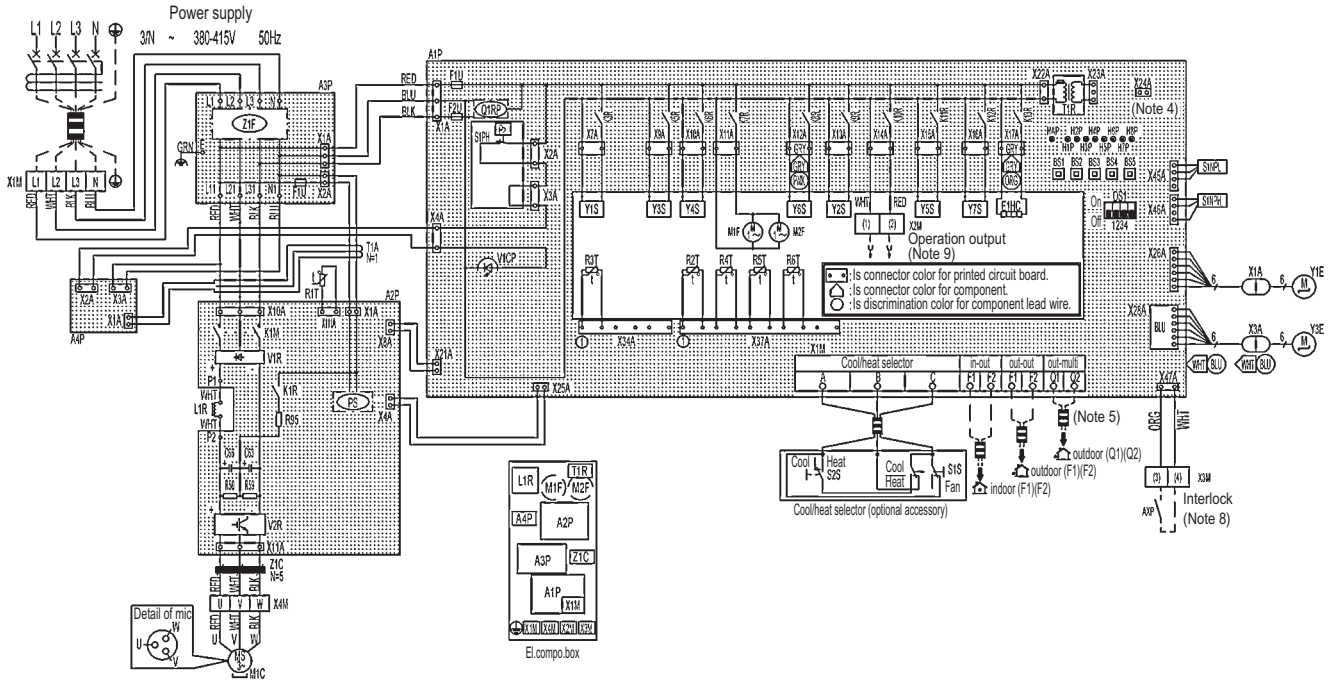
9 Wiring diagrams

9 - 1 Wiring Diagrams - Three Phase

RWEYQ8-10T



A1P	Printed circuit board (main)	K10R	Magnetic relay (operation output) (A1P)	V1R	Diode bridge (A2P)
A2P	Printed circuit board (inv)	K11R	Magnetic relay (Y5S) (A1P)	V2R	Power module (A2P)
A3P	Printed circuit board (noise filter)	K12R	Magnetic relay (Y7S) (A1P)	X1A, X3A	Connector (Y1E, Y3E)
A4P	Printed circuit board (sub)	K13R	Magnetic relay (E1HC) (A1P)	X1M	Terminal strip (power supply)
BS1 ~5	Push button switch	L1R	Reactor	X1M	Terminal strip (control) (A1P)
	(mode, set, return, test, reset)	M1C	Motor (compressor)	X2M	Terminal strip (operation output)
C63, C66	Capacitor	M1F, M2F	Motor (fan inverter cooling)	X3M	Terminal strip (interlock)
DS1	Dip switch	PS	Switching power supply	X4M	Terminal strip (M1C)
E1HC	Crankcase heater	Q1RP	Phase reversal detect circuit (A1P)	Y1E	Electronic expansion valve (main)
F1U	Fuse (250V, 5A Ⓑ) (A3P)	R50, R59	Resistor	Y3E	Electronic expansion valve (sub cool)
F1U, F2U	Fuse (250V, 10A Ⓑ) (A1P)	R95	Resistor (current limiting)	Y1S	Solenoid valve (hot gas bypass)
H1P ~8P	Pilot lamp (service monitor-orange) (A1P)	R1T	Thermistor (FN) (A2P)	Y2S	Solenoid valve (oil recovery)
	(H2P) Prepare test ..... flickering	R2T	Thermistor (suction)	Y3S	Solenoid valve (receiver pressurization)
	Malfunction detection .... light up	R3T	Thermistor (M1C discharge)	Y4S	Solenoid valve (receiver gas purge)
HAP	Pilot lamp (service monitor-green) (A1P)	R4T	Thermistor (Hex gas pipe)	Y5S	Solenoid valve (4 way valve) (main)
K1M	Magnetic contactor (M1C) (A2P)	R5T	Thermistor (sub cooling Hex)	Y6S	Solenoid valve (liquid pipe)
K1R	Magnetic relay (A2P)	R6T	Thermistor (receiver liq pipe)	Y7S	Solenoid valve (4 way valve) (heat exchanger)
K3R	Magnetic relay (Y1S) (A1P)	S1NPH	Pressure sensor (high)	Z1C	Noise filter (ferrite core)
K5R	Magnetic relay (Y3S) (A1P)	S1NPL	Pressure sensor (low)	Z1F	Noise filter (with surge absorber)
K6R	Magnetic relay (Y4S) (A1P)	S1PH	Pressure switch (high)		
K7R	Magnetic relay (M1F-M2F) (A1P)	T1A	Current sensor (A4P)	Cool/heat selector	
K8R	Magnetic relay (Y6S) (A1P)	T1R	Transformer (220-240V/20V)	S1S	Selector switch (fan / cool-heat)
K9R	Magnetic relay (Y2S) (A1P)	V1CP	Safety devices input	S2S	Selector switch (cool/heat)

NOTES

1. This wiring diagram is applied only to the outdoor unit.
2. -▮▮▮- :field wiring
3. ☐☐☐☐ : Terminal strip ⊡ : connector, -○- : terminal, ⏚ : protective earth (screw).
4. When using the option adapter, refer to the installation manual.
5. Refer to the installation manual for connection wiring to indoor-outdoor transmission F1-F2, outdoor-outdoor transmission F1-F2, outdoor-multi transmission Q1-Q2.
6. Refer to installation manual. How to use BS1~BS5 and DS1 switch.
7. When operating, don't short circuit for protection device (S1PH).
8. Be sure to connect an interlock circuit between the terminal (3)-(4) of terminal strip (X3M).
9. Install a heat source water pump operation circuit between the terminal (1)-(2) of terminal strip (X2M), when interlocking a heat source water pump and system operation.
10. Cool/heat selector cannot be connected when operating heat recovery system.
11. Colours BLK: BLACK, RED: RED, BLU: BLUE, WHT: WHITE, PNK: PINK, GRY: GRAY, ORG: ORANGE.

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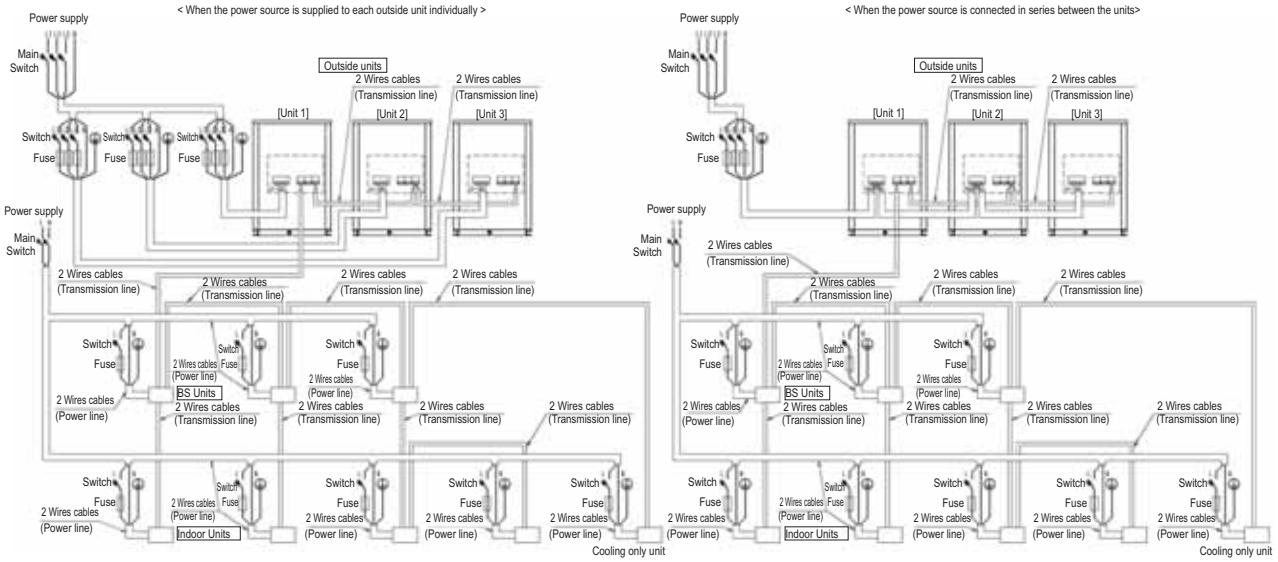
10 External connection diagrams

RWEYQ-T [HEAT RECOVERY]



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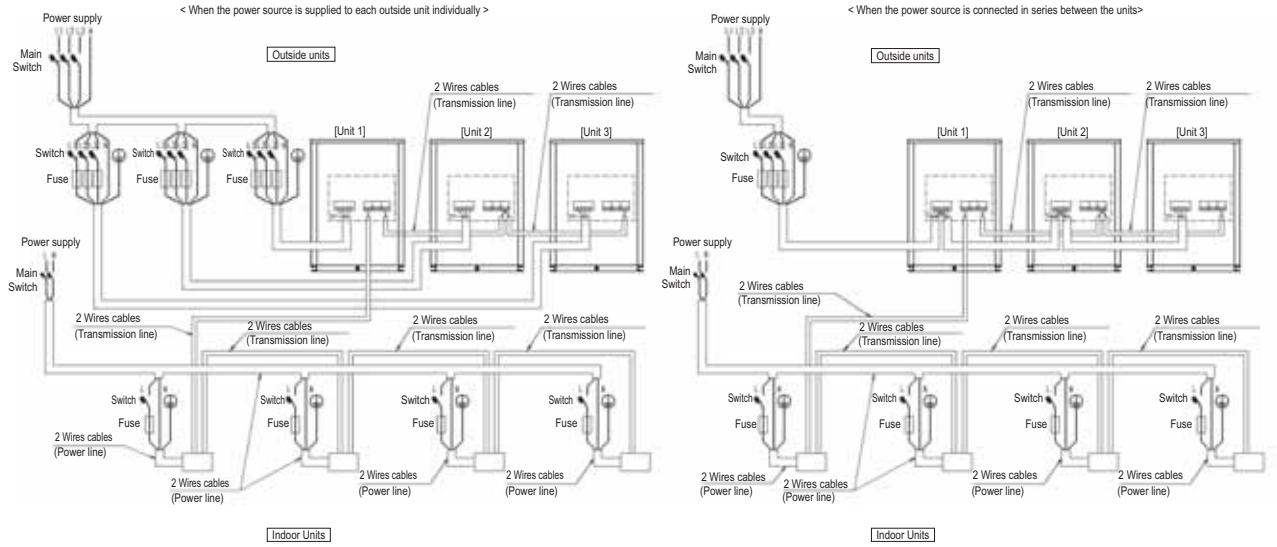
NOTES

1. All wiring, components and materials to be procured on the site must comply with the applicable local and national codes.
2. Use copper conductors only.
3. As for details, see wiring diagram.
4. Install circuit breaker for safety.
5. All field wiring and components must be provided by licensed electrician.
6. Unit shall be grounded in compliance with the applicable local and national codes.
7. Wiring shown are general points-of-connection guides only and are not intended for or to include all details for a specific installation.
8. Be sure to install the switch and the fuse to the power line of each equipement.
9. Install the main switch that can interrupt all the power sources in an integrated manner because this system consists of the equipment utilizing the multiple power sources.
10. If there exists the possibility of reversed phase, lose phase, momentary blackout or 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.

10 External connection diagrams

RWEYQ-T [HEAT PUMP]



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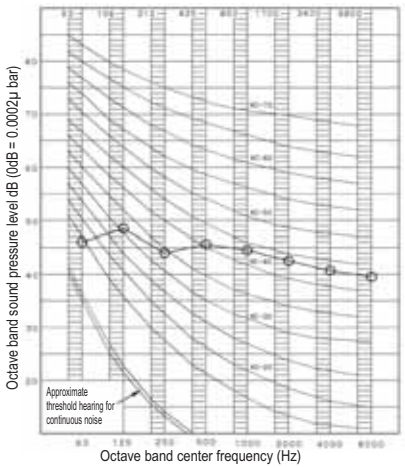
NOTES

1. All wiring, components and materials to be procured on the site must comply with the applicable local and national codes.
2. Use copper conductors only.
3. As for details, see wiring diagram.
4. Install circuit breaker for safety.
5. All field wiring and components must be provided by licensed electrician.
6. Unit shall be grounded in compliance with the applicable local and national codes.
7. Wiring shown are general points-of-connection guides only and are not intended for or to include all details for a specific installation.
8. Be sure to install the switch and the fuse to the power line of each equipement.
9. Install the main switch that can interrupt all the power sources in an integrated manner because this system consists of the equipment utilizing the multiple power sources.
10. If there exists the possibility of reversed phase, lose phase, momentary blackout or 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 Sound data

11 - 1 Sound Pressure Spectrum

RWEYQ8T



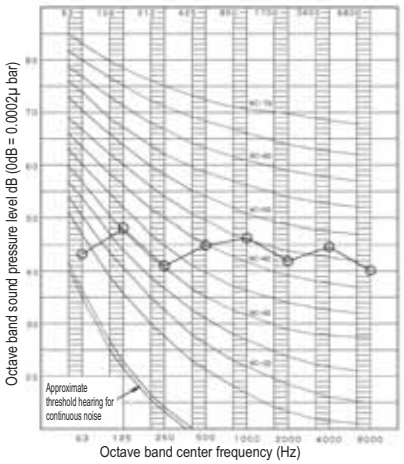
4D062222A

NOTES

1. Over All (dB):
   (B,G,N is already rectified)
2. Operating conditions:
   Power source: Y1: 380-415V 50Hz
   YL: 380V 60Hz
3. Measuring place: Anechoic chamber (conversion value)
4. The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to environmental noise and sound reflection.
5. Location of microphone.

Scale	50Hz	60Hz
A	50	50
C	53	53

RWEYQ10T



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NOTES

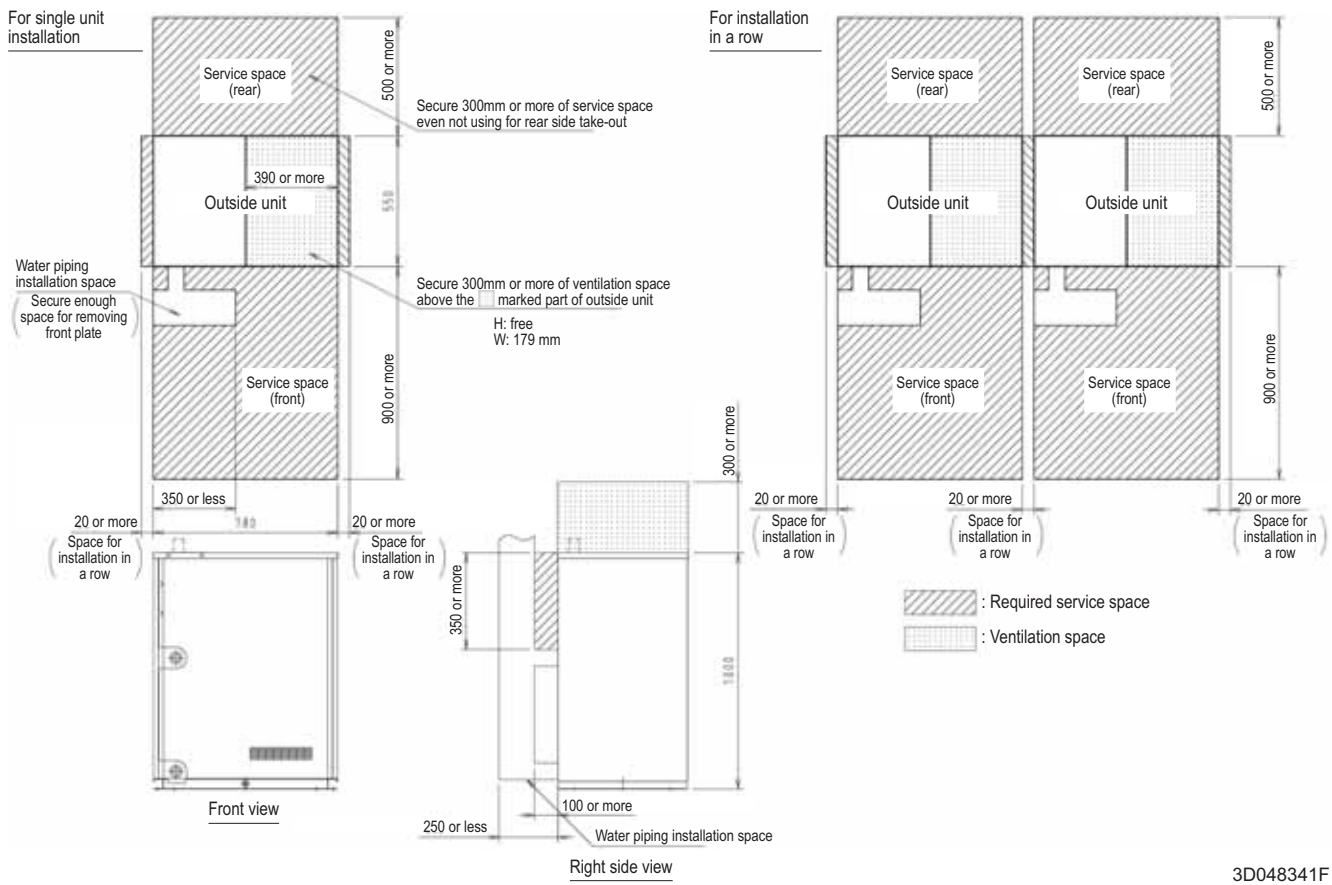
1. Over All (dB):
   (B,G,N is already rectified)
2. Operating conditions:
   Power source: Y1: 380-415V 50Hz
   YL: 380V 60Hz
   TL: 220V 60Hz
3. Measuring place: Anechoic chamber (conversion value)
4. The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to environmental noise and sound reflection.
5. Location of microphone.

Scale	50Hz	60Hz
A	51	51
C	53	53

12 Installation

12 - 1 Service Space

RWEYQ-T



12 Installation

12 - 2 Refrigerant Pipe Selection

RWEYQ-T

VRV4 Watercooled Field Piping Restrictions (1/3)

Reference drawing see page 2/3		Maximum piping length			Maximum height difference			Total Piping Length
		Longest pipe (A+[B,J]) Actual / (Equivalent)	After first branch (B,J) Actual	After first branch for outdoor multi (D) Actual / (Equivalent)	Indoor to outdoor (H1) Outdoor above indoor / (indoor above outdoor)	Indoor to indoor (H2)	Outdoor to outdoor (H3)	
Standard *Only **VRV DX indoor** connected* *Standard multi combination*		120/(140)m	40 m(1)	10/(13)m	50/(40)m	15m	2m	300m
***AHU** connection*	Pair	50/(55)m(2)	-	-	40/(40)m	-	-	-
	Multi(3)	120/(140)m	40 m	10/13m	40/(40)m	15m	2m	300m
	Mix(4)	120/(140)m	40 m	10/13m	40/(40)m	15m	2m	300m

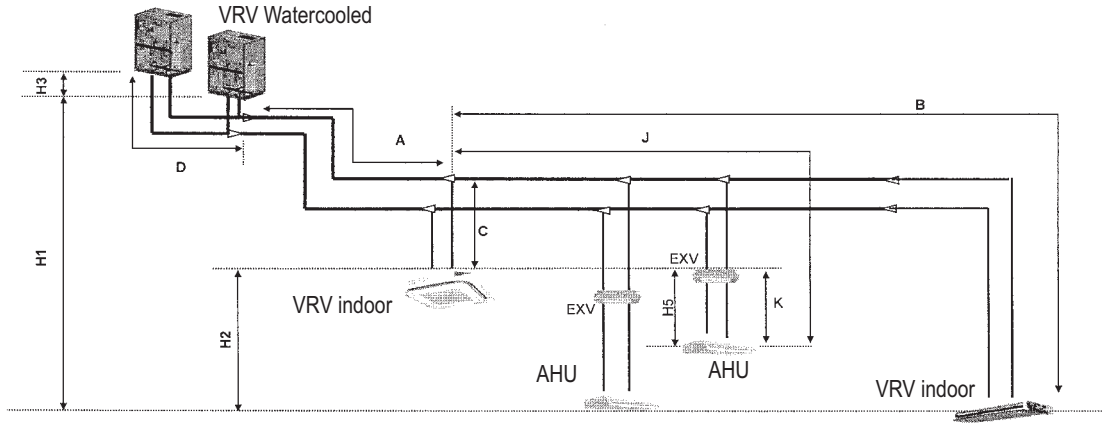
NOTES

For standard multi combinations; see 3D084911
(1) Extension is possible if all below conditions are met (limitation can be extended up to 90m)
a. The piping length between all indoor to the nearest branch kit is ≤ 40m.
b. It is necessary to increase the pipe size of the gas and liquid piping if the pipe length between the first and the final branch kit is over 40m.
If the increased pipe size is larger than the pipe size of the main pipe, then the pipe size of the main pipe has to be increased as well.
c. When the piping size is increased (b), the piping length has to be counted as double. The total piping length has to be within limitations (see table above).
d. The piping length difference between the nearest indoor from first branch to the outdoor unit and farthest indoor to the outdoor unit is ≤ 40m.
(2) The allowable minimum length is 5 m.
(3) Using several AHU (EKEXV + EKEQ - kits)
(4) Mix of AHU and VRV DX indoor

3D085696

RWEYQ-T

VRV4 Watercooled Field Piping Restrictions (2/3)



NOTES

1. Schematic indication: illustrations may vary from real unit outlook.
2. Displayed system is only to illustrate piping length limitations! Combination of displayed indoor unit types is not allowed. See 3D085697 for allowed combinations.

		Allowable piping length	Max. height difference
		EXV to AHU (K)	EXV to AHU (H5)
AHU connection	**Pair**	≤5m	5m
	Multi (1)	≤5m	5m
	Mix (2)	≤5m	5m

NOTES

1. Using several AHU (EKEXV + EKEQ- kits)
2. Mix of AHU and VRV DX indoor

3D085696

12 Installation

12 - 2 Refrigerant Pipe Selection

RWEYQ-T

VRV4 Watercooled Field Piping Restrictions (3/3)

System pattern Allowed connection ratio (CR) * Other combinations are N.A.	Total		Allowable capacity	
	capacity	Indoor unit quantity (VRV, RA, AHU, Hydrobox) (excl. BP box and EXV kits)	VRV DX indoor	AHU
Only VRV DX indoor	50~130%	Max. 36	50~130%	-
VRV DX indoor + AHU (mix)	50~110%[2]	Max. 36[1]	50~110%	0~110%
Only AHU (pair AHU + multi AHU)[3]	90~110%[2]	Max. 36[1]	-	90~110%

NOTES

1. When using AHU connection: see EKEXV kit as an indoor unit for counting the total number of indoor units
2. Restrictions by air handling unit capacity
3. Pair AHU = system with 1 AHU connected to one watercooled unit // Multi AHU = system with several AHU connected to 1 watercooled unit system

SPECIAL INFORMATION REGARDING VENTILATION APPLICATIONS

I. FXMQ_MF model is considered as an AHU, following AHU limitations and respecting additional limitations:
- Maximum FXMQ_MF connection ratio (CR) when combined with VRV DX indoor units: CR ≤ 30%
- Maximum FXMQ_MF connection ratio (CR) when only AHU is used: CR ≤ 100%

(operation range information: see specifications of FXMQ_MF unit)

II. Biddle aircurtain is considered as an AHU, following AHU limitations
(operation range information: see specifications of Biddle unit)

III. [EKEXV + EKEQ] combined with AHU is considered as an AHU, following AHU limitations
(operation range information: see specifications of EKEXV-EKEQ unit)

IV. VKM is considered to be a regular VRV DX indoor unit
(operation range information: see specifications of VKM unit)

V. VAM does not have limitations on connection as there is no refrigerant connection with the watercooled unit (only communication F1/F2; so counting in # indoor units)

3D085696

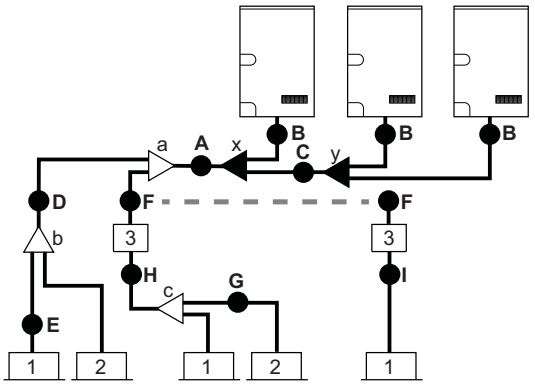
12 Installation

12 - 2 Refrigerant Pipe Selection

RWEYQ-T

Selection of piping size

Determine the proper size referring to following tables and reference figure (only for indication).



1,2 VRV DX indoor unit
3 BS unit
a,b,c Indoor branch kit
x,y Multi outdoor unit connection kit

INFORMATION

- In case of heat recovery system:
  Use 3 pipes (suction gas, HP/LP gas, liquid).
- In case of heat pump system:
  Use 2 pipes (gas and liquid).
  In case of gas pipe in heat pump system
  Select the piping size in accordance with the suction gas piping size.
  No BS unit can be used in case of heat pump system.

Piping between outdoor unit and (first) refrigerant branch kit: A, B, C

Choose from the following table in accordance with the outdoor unit total capacity type, connected downstream.

Outdoor unit capacity type (HP)	Piping outer diameter size (mm)		
	Suction gas pipe	Liquid pipe	HP/LP gas pipe
8	19.1	9.5	15.9
10	22.2		19.1
16	28.6	12.7	22.2
18+20		15.9	
24	34.9	19.1	28.6
26+30			

Piping between refrigerant branch kits: D
Piping between refrigerant branch kit and BS unit: F
Piping between BS unit and refrigerant branch kit: H

Choose from the following table in accordance with the indoor unit total capacity type, connected downstream. Do not let the connection piping exceed the refrigerant piping size chosen by the general system model name.

Indoor unit capacity index	Piping outer diameter size (mm)		
	Suction gas pipe	Liquid pipe	HP/LP gas pipe
<150	15.9	9.5	12.7
150≤x<200	19.1		15.9
200≤x<290	22.2		19.1
290≤x<420	28.6	12.7	
420≤x<640		15.9	28.6
640≤x<920	34.9	19.1	
≥920	41.3		

In case of heat pump system (or 2 pipe):
For the gas piping size: select the size of suction gas piping.

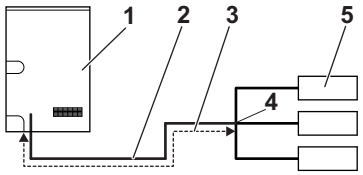
Example:
Downstream capacity for E=capacity index of unit 1
Downstream capacity for D=capacity index of unit 1+capacity index of unit 2

Piping between BS unit or refrigerant branch kit and indoor unit: E, G, I

Pipe size for direct connection to indoor unit must be the same as the connection size of the indoor unit.

Indoor unit capacity index	Piping outer diameter size (mm)	
	Suction gas pipe	Liquid pipe
15, 20, 25, 32, 40, 50	12.7	6.4
63, 80, 100, 125	15.9	9.5
200	19.1	
250	22.2	

- When the equivalent pipe length between outdoor and indoor units is 80 m or more, the size of the main liquid pipe must be increased. Depending on the length of the piping, the capacity may drop, but even in such a case it is possible to increase the size of the main pipe.



1 Outdoor unit
2 Main pipes
3 Increase only liquid pipe size
4 First refrigerant branch kit
5 Indoor unit

Size up	
HP Class	Liquid size (mm)
8+10	9.5 → 12.7
16	12.7 → 15.9
18+20+24	15.9 → 19.1
26+30	19.1 → 22.2

Never increase suction gas pipe and HP/LP gas pipe.

- The pipe thickness of the refrigerant piping shall comply with the applicable legislation. The minimal pipe thickness for R410A piping must be in accordance with the table below.

Pipe Ø (mm)	Minimal thickness t (mm)
6.4	0.80
9.5	
12.7	
15.9	0.99
19.1	0.80
22.2	
28.6	0.99
34.9	1.21
41.3	1.43

- In case the required pipe sizes (inch sizes) are not available, it is also allowed to use other diameters (mm sizes), taken the following into account:
  - Select the pipe size nearest to the required size.
  - Use the suitable adapters for the change-over from inch to mm pipes (field supply).

  In this case, the additional refrigerant calculation has to be adjusted as mentioned in "Calculating the additional refrigerant charge".

12 Installation

12 - 2 Refrigerant Pipe Selection

RWEYQ-T

Selection of refrigerant branch kits

Refrigerant Refnets

For piping example, refer to "Selection of piping size" .

- When using Refnet joints at the first branch counted from the outdoor unit side, choose from the following table in accordance with the capacity of the outdoor unit (e.g. Refnet joint a).

Outdoor unit capacity type (HP)	2 pipes	3 pipes
8+10	KHRQ22M29T9	KHRQ23M29T9
16+18+20	KHRQ22M64T	KHRQ23M64T
24+26+30	KHRQ22M75T	KHRQ23M75T

- For Refnet joints other than the first branch (e.g. Refnet joint b), select the proper branch kit model based on the total capacity index of all indoor units connected after the refrigerant branch.

Indoor unit capacity index	2 pipes	3 pipes
<200	KHRQ22M20T	KHRQ23M20T
200≤x<290	KHRQ22M29T9	KHRQ23M29T9
290≤x<640	KHRQ22M64T	KHRQ23M64T
≥640	KHRQ22M75T	KHRQ23M75T

- Concerning Refnet headers, choose from the following table in accordance with the total capacity of all the indoor units connected below the Refnet header.

Indoor unit capacity index	2 pipes	3 pipes
<200	KHRQ22M29H	KHRQ23M29H
200≤x<290	KHRQ22M29H	KHRQ23M29H
290≤x<640	KHRQ22M64H[a]	KHRQ23M64H(a)
≥640	KHRQ22M75H	KHRQ23M75H

a. If the pipe size above the Refnet header is Ø34.9 or more, KHRQ22M75H/ KHRQ23M75H is required.

INFORMATION

Maximum 8 branches can be connected to a header.

- How to choose a multi outdoor unit connection piping kit (needed if the outdoor unit capacity type is 16 HP or more). Choose from the following table in accordance with the number of outdoor units.

Number of outdoor units	Multi outdoor unit connection kit	
	2	3
Heat pump system	BHFQ22P1007	BHFQ22P1517
Heat recovery system	BHFQ23P907	BHFQ23P1357

NOTICE

Refrigerant branch kits can only be used with R410A.

System piping (length) limitations

Piping length restrictions

Make sure to perform the piping installation within the range of the maximum allowable pipe length, allowable level difference and allowable length after branching as indicated below.

Definitions

Actual piping length: pipe length between outdoor[1] and indoor units.
Equivalent piping length[2]: pipe length between outdoor(1) and indoor units.
Total piping length: total piping length from the outdoor(1) to all indoor units.
Difference in height between outdoor and indoor units: H1
Difference in height between indoor and indoor units: H2
Difference in height between outdoor and outdoor units: H3

1. If the system capacity is >10HP, re-read "the first outdoor branch as seen from the indoor unit".
2. Assume equivalent piping length of Refnet joint=0.5 m, Refnet header=1 m, BSVQ100/160=4 m and BSVQ250=6 m (for calculation purposes of equivalent piping length, not for refrigerant charge calculations).

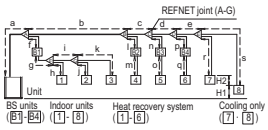
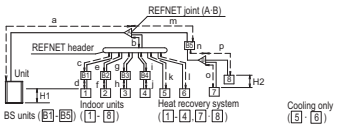
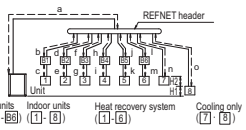
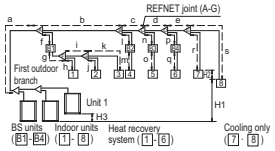
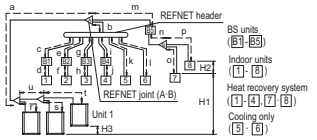
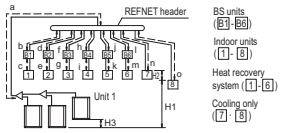
12 Installation

12 - 2 Refrigerant Pipe Selection

RWEYQ-T

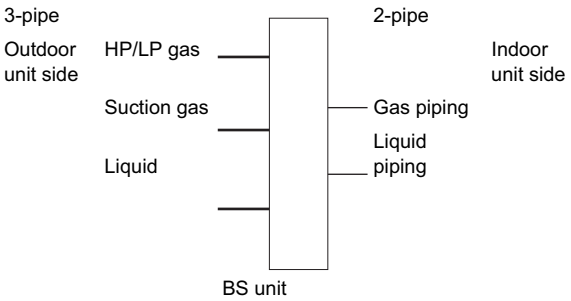
System containing VRV DX indoor units

System setup

	Branch with Refnet joint	Branch with Refnet joint and Refnet header	Branch with Refnet header
Single outdoor unit system	 Example 1.1	 Example 1.2	 Example 1.3
Multi outdoor unit system 1 Indoor unit A Refnet joint Refnet header ◄ Multi outdoor unit connection piping kit	 Example 2.1	 Example 2.2	 Example 2.3

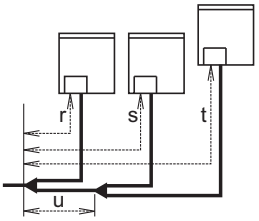
Example of connection in case of heat recovery system

Connection to BS unit



- Piping between outdoor unit and BS unit: thick line (3 pipe) ——
- Piping between BS unit and indoor unit: thin line (2 pipe) ——

Example 3: with multi outdoor unit layout



Maximum allowable length

- Between outdoor and indoor units

Actual piping length	**120 m**	Example 1.1 unit 8: a+b+c+d+e+s≤120 m Example 2.1 unit 8: a+b+c+d+e+s≤120 m	Example 1.2 unit 4: a+b+i+j≤120 m unit 5: a+b+k≤120 m unit 8: a+m+n+p≤120 m	Example 1.3 unit 8: a+o≤120 m unit 4: a+h+i≤120 m
Equivalent length(2)	**140 m**	—	—	—
Total piping length	**300 m**	Example 1.1 a+b+c+d+e+f+g+h+i+j+k+l+m+n+o+p+q+r+s≤300 m Example 2.1 a+b+c+d+e+f+g+h+i+j+k+l+m+n+o+p+q+r+s≤300 m	—	—

- Between outdoor branch and outdoor unit (only in case >10 HP)

Actual piping length	10 m	Example 3 r, s, t≤10 m; u≤5 m
Equivalent length	13 m	—

Maximum allowable height difference

H1	≤50 m (40 m) (if outdoor is located below indoor units)
H2	≤15 m
H3	≤2 m

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12 Installation

12 - 2 Refrigerant Pipe Selection

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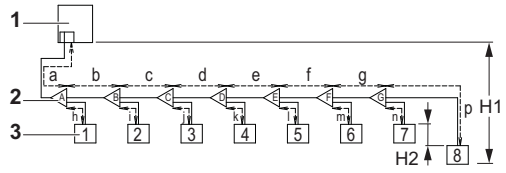
Maximum allowable length after branch

The pipe length from the first refrigerant branch kit to the indoor unit ≤40 m.
Example 1.1: unit 8: b+c+d+e+s≤40 m
Example 1.2: unit 5: b+k≤40 m, unit 8: m+n+p≤40 m
Example 1.3: unit 8: o≤40 m
However, extension is possible if all below conditions are met. In this case limitation can be extended up to 90 m.



1 Outdoor units
2 Refnet joints (A~G)
3 Indoor unit (1~8)

a. The piping length between all indoor to the nearest branch kit is ≤40 m.
Example: h, i, j … p≤40 m

b. It is necessary to increase the pipe size of the suction gas and liquid piping if the pipe length between the first and the final branch kit is over 40 m.
If the increased pipe size is larger than the pipe size of the main pipe, increase is not allowed, extension till 90 m can not be done.
Increase the pipe size as follows:
9.5 → 12.7; 12.7 → 15.9; 15.9 → 19.1; 19.1 → 22.2; 22.2 → 25.4[1]; 28.6 → 31.8[(1)]; 34.9 → 38.1[(1)]
Example: unit 8: b+c+d+e+f+g+p≤90 m and b+c+d+e+f+g >40 m; increase the pipe size of b, c, d, e, f, g.

c. When the piping size is increased (step b), the piping length has to be counted as double (except for the main pipe and the pipes that are not increased in pipe size).
The total piping length has to be within limitations (see table above).
Example: a+b*2+c*2+d*2+e*2+f*2+g*2+h+i+j+k+l+m+n+p≤300 m.

d. The piping length difference between the nearest indoor from first branch to the outdoor unit and farthest indoor to the outdoor unit is ≤40 m.
Example: The farthest indoor unit 8. The nearest indoor unit 1 → (a+b+c+d+e+f+g+p)–(a+h)≤40 m.

Multi outdoor unit system piping installation

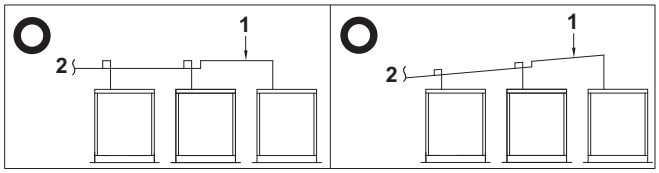
Precautions when connecting piping between outdoor units

- To connect the piping between outdoor units, an optional multi outdoor unit connection piping kit BHFQ23P907/1357 or BHFQ22P1007/1517 is always required. When installing the piping, follow the instructions in the installation manual that comes with the kit.
- Only proceed with piping work after considering the limitations on installing listed here and in chapter "Connecting the refrigerant piping", always referring to the installation manual delivered with the kit.

Possible installation patterns and configurations

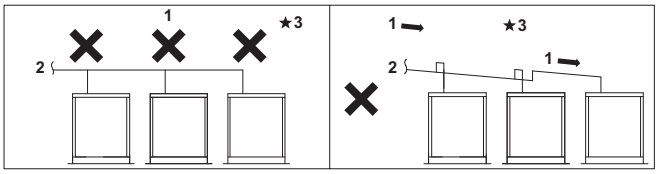
- The piping between the outdoor units must be routed level or slightly upward to avoid the risk of oil retention into the piping.

Pattern 1 **Pattern 2**



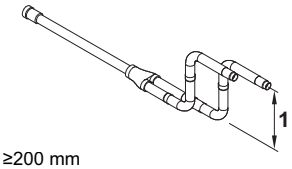
1 Piping between outdoor units
2 To indoor unit

Prohibited patterns: change to pattern 1 or 2.



1 Piping between outdoor units
2 To indoor unit
3 Oil remains in piping

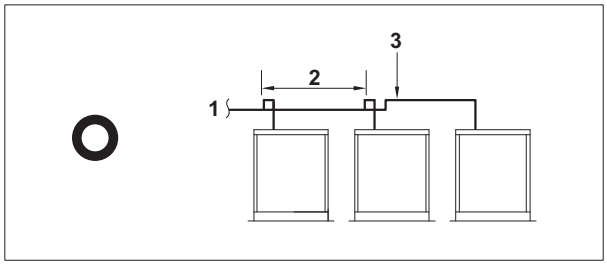
- For the gas piping (both discharge and suction gas pipings in case of the heat recovery system) after the branch, install a trap of 200 mm or larger using the piping included in the piping kit for connecting the outdoor unit. Otherwise, the refrigerant may stay in the piping, causing damage to the outdoor unit.



1 ≥200 mm

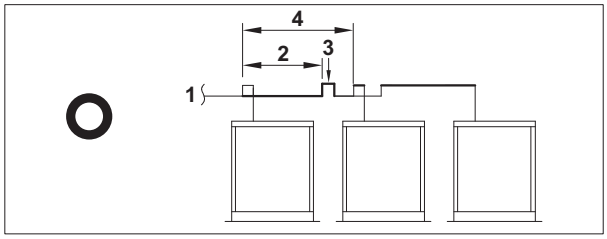
- If the piping length between the outdoor unit connecting pipe kit or between the outdoor units exceeds 2 m, create a rise of 200 mm or more in the gas line within a length of 2 m from the kit.

If ≤2 m



1 To indoor unit
2 ≤2 m
3 Piping between outdoor units

If ≥2 m



1 To indoor unit
2 ≤2 m
3 Rising height: ≥200 mm
4 ≥2 m

1. If available on the site. Otherwise it cannot be increased.

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13 Operation range

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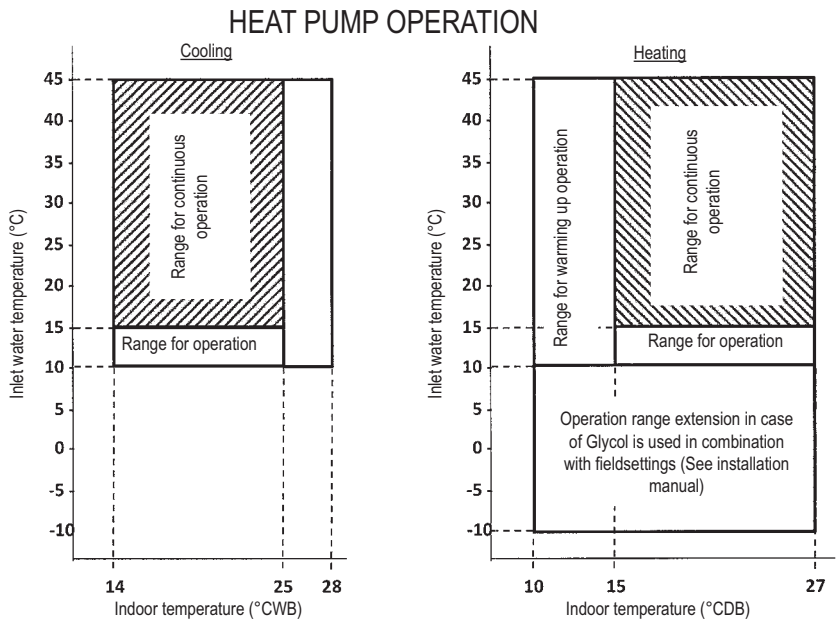

NOTES

1. Cooling operation range is kept in any case
2. This figure shows the range which can be operated when the water flow is between 50~150 l/min.
3. Design within the following condition range:
   water temperature: 20 ~ 35 °C
   water volume: 60 l/min or more
4. When cooling load is small, thermostat-off may be carried out for freeze-up protection
5. Hold ambient temperature at 0~40°C and humidity at 80%RH or less.

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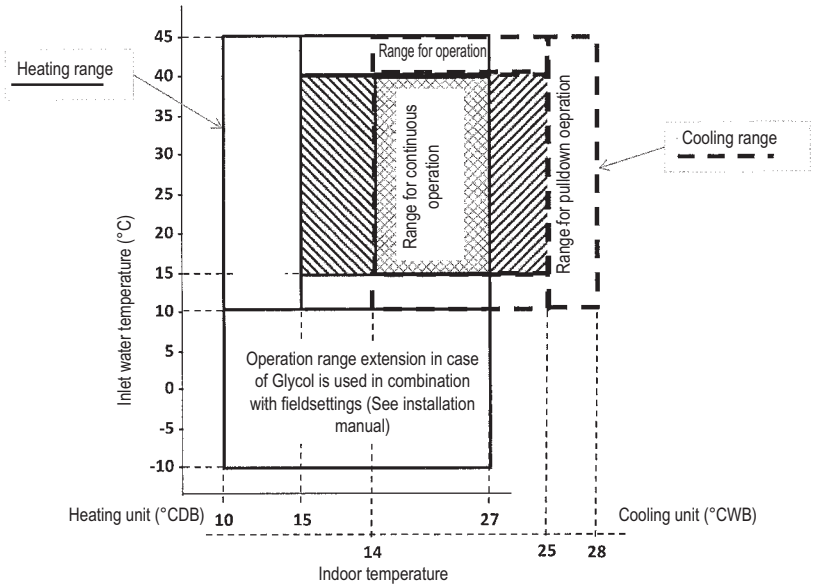
13 Operation range

RWEYQ-T

HEAT RECOVERY OPERATION



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