VRV IV water cooled series
Air Conditioning
Technical Data
RWEYQ-T9

RWEYQ8T9Y1B
RWEYQ10T9Y1B
RWEYQ12T9Y1B
RWEYQ14T9Y1B
RWEYQ16T9Y1B
RWEYQ18T9Y1B
RWEYQ20T9Y1B
RWEYQ22T9Y1B
RWEYQ24T9Y1B
RWEYQ26T9Y1B
RWEYQ28T9Y1B
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- Environmental conscious solution: reduced CO_2 emmisions thanks to the use of geothermal energy as a renewable energy source and typical lower refrigerant levels making it ideal to comply with EN378
- Covers all thermal needs of a building via a single point of contact: accurate temperature control, ventilation, air handling units, Biddle air curtains and hot water
- Unique zero heat dissipation principle obviates the need for ventilation or cooling in the technical room, maximising installation flexiblity
- Wide range of indoor units: possibility to combine VRV with stylish indoor units (Daikin Emura, Perfera)
- Incorporates VRV IV standards & technologies: Variable Refrigerant Temperature, VRV configurator, 7-segment display and full inverter compressors
- Customize your VRV for best seasonal efficiency & comfort with the weather dependant Variable Refrigerant Temperature function. Increased seasonal efficiency and no more cold draft by supply of high outblow temperatures
- Developed for easy installation and servicing: choice between top or front connection for refrigerant piping and rotating switch box for easy access to serviceable parts
- Compact & lightweight design can be stacked for maximum space saving: 42HP can be installed in less than 0,5m^2 floorspace
- 2-stage heat recovery: first stage between indoor units, second stage between outdoor units thanks to the storage of energy in the water circuit
- Unified model for heat pump and heat recovery version and geothermal and standard operation
- Variable Water Flow control option increases flexibility and control
- 2 analogue input signals allowing external control of ON-OFF, operation mode, error signal, …
- Easy compliance with F-gas regulation thanks to automated refrigerant containment check
- 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

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Technical Specifications					RWEYQ8T9	RWEYQ10T9	RWEYQ12T9	RWEYQ14T9
Recommended combination					4 x FXMQ50P7VEB	4 x FXMQ63P7VEB	6 x FXMQ50P7VEB	1 x FXMQ50P7VEB + 5 x FXMQ63P7VEB
Cooling capacity	Prated,c			kW	22.4 (1)	28.0 (1)	33.5 (1)	40.0 (1)
	Nom.	30°C inlet water temp. ID27/19 AHRI	Nom. Waterflow	Btu/h	73,000 (4)	92,000 (4)	110,000 (4)	131,000 (5)
				kW	21.30 (4)	27.00 (4)	32.10 (4)	38.40 (5)
		30°C inlet water temp. ID27/19 ISO	Nom. Waterflow	Btu/h	73,430 (2)	92,080 (2)	109,480 (2)	131,510 (3)
				kW	21.51 (2)	26.99 (2)	32.09 (2)	38.54 (3)
Heating capacity	Prated,h			kW	25.0	31.5	37.5	45.0
	Max.	6°CWB		kW	25.0 (6)	31.5 (6)	37.5 (6)	45.0 (6)
Power input - 50Hz	Cooling	Nom.	30°C inlet water temp. ID27/19 AHRI	kW	4.52 (4)	5.59 (4)	7.59 (4)	9.01 (5)
			30°C inlet water temp. ID27/19 ISO	kW	4.45 (2)	5.47 (2)	7.45 (2)	8.96 (3)
EER at nom. capacity	30°C inlet water temp. ID27/19 AHRI	Nom. Waterflow		Btu/h/W	16.10 (4)	16.50 (4)	14.50 (4)	14.50 (5)
		Nom. Waterflow		kW/kW	4.71 (4)	4.83 (4)	4.23 (4)	4.26 (5)
	30°C inlet water temp. ID27/19 ISO	Nom. Waterflow		Btu/h/W	16.49 (2)	16.83 (2)	14.71 (2)	14.69 (3)
		Nom. Waterflow		kW/kW	4.83 (2)	4.93 (2)	4.31 (2)	4.30 (3)
SCOP					13.3	11.8	11.1	10.1
SEER					8.4	7.9	9.2	8.5
ηs,c				%	326.8	307.8	359.0	330.7
ηs,h				%	524.3	465.9	436.0	397.1
Space cooling	A Condition (35°C - 27/19), cooling tower (inlet/outlet) 30/35	EERd		%	5.6	4.6	5.4	4.2
		Pdc		kW	22.4	28.0	33.5	40.0
	B Condition (30°C - 27/19), cooling tower (inlet/outlet) 26/*	EERd		%	6.9	6.3	7.0	6.3
		Pdc		kW	16.5	20.6	24.7	29.5
	C Condition (25°C - 27/19), cooling tower (inlet/outlet) 22/*	EERd		%	10.1	9.1	10.5	9.4
		Pdc		kW	10.6	13.3	15.9	18.9
	D Condition (20°C - 27/19),	EERd		%	11.9	12.3	14.9	15.6
		Pdc		kW	7.9		8.2	8.4
Space heating (Average climate)	TBivalent	COPd (declared COP)			7.2	6.1	5.8	
		Pdh (declared heating cap)		kW	25.0	31.5	37.5	45.0
		Tbiv (bivalent temperature)		°C	-10			
	TOL	COPd (declared COP)			7.2	6.1	5.8	
		Pdh (declared heating cap)		kW	25.0	31.5	37.5	45.0
		Tol (temperature operating limit)		°C	-10			
	A Condition (-7°C)	COPd (declared COP)			8.1	7.1	6.6	5.8
		Pdh (declared heating cap)		kW	22.1	27.9	33.2	39.6
	B Condition (2°C)	COPd (declared COP)			13.0	11.4	10.7	9.5
		Pdh (declared heating cap)		kW	13.5	17.0	20.2	24.3
Space heating (Average climate)	C Condition (7°C)	COPd (declared COP)			19.1	16.8	15.5	14.3
		Pdh (declared heating cap)		kW	8.9	10.9	13.0	15.8
	D Condition (12°C)	COPd (declared COP)			19.1	20.1	19.3	23.8
		Pdh (declared heating cap)		kW	8.9	8.8		9.2
Capacity range				HP	8	10	12	14
PED	Category				Category II			
	Most critical part	Name			Liquid receiver			
		Ps*V		Bar*l	484			
Maximum number of connectable indoor units					64 (7)			

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Technical Specifications					RWEYQ8T9	RWEYQ10T9	RWEYQ12T9	RWEYQ14T9
Indoor index connection	Min.				100.0	125.0	150.0	175.0
	Max.				300.0	375.0	450.0	525.0
Dimensions	Unit	Height		mm	980			
		Width		mm	767			
		Depth		mm	560			
	Packed unit	Height		mm	1,131			
		Width		mm	890			
		Depth		mm	660			
Weight	Unit			kg	195		197	
	Packed unit			kg	207		208	
Packing	Material				Carton			
	Weight			kg	3.1			
Packing 2	Material				Wood			
	Weight			kg	8.3			
Packing 3	Material				Plastic			
	Weight			kg	0.2			
Casing	Colour				Ivory white			
	Material				Painted galvanized steel plate			
Heat exchanger	Type				Brazed plate			
	Indoor side				Air			
	Outdoor side				water			
	Max. allowable water pressure			bar	37.0			
	Water flow rate	Cooling	Rated	m^3/h	4.4 (8)	5.5 (8)	6.6 (8)	8.3 (8)
		Heating	Rated	m^3/h	6.1 (8)	7.6 (8)	8.9 (8)	10.3 (8)
Compressor	Quantity				1			
	Type				Hermetically sealed scroll inverter compressor			
	Crankcase heater			W	33			
Operation range	Inlet water temperature	Cooling	Min.	°CDB	10			
Operation range	Inlet water temperature	Cooling	Max.	°CDB	45			
		Heating	Min.	°CWB	10			
			Max.	°CWB	45			
	Temperature around casing	Min.		°CDB	0			
		Max.		°CDB	40			
	Humidity around casing	Cooling	Max.	%	80			
		Heating	Max.	%	80			
Sound power level	Cooling	Nom.		dBA	65.0 (9)	71.0 (9)	72.0 (9)	74.0 (9)
Sound pressure level	Cooling	Nom.		dBA	48.0 (10)	50.0 (10)	56.0 (10)	58.0 (10)
Refrigerant	Type				R-410A			
	GWP				2,087.5			
	Charge			TCO2Eq	16.5		20.0	
	Charge			kg	7.9		9.6	
Refrigerant oil	Type				Synthetic (ether) oil FVC68D			
Piping connections	Liquid	Type			Braze connection			
		OD		mm	9.52		12.70	
	Gas	Type			Braze connection			
		OD		mm	19.1 (11)	22.2 (11)	28.6 (11)	
	HP/LP gas	Type			Braze connection			
		OD		mm	15.9 (12) / 19.1 (13)	19.1 (12) / 22.2 (13)	19.1 (12) / 28.6 (13)	22.2 (12) / 28.6 (13)
	Drain	Size			14mm OD/ 10mm ID			
		Type		mm	Flexible PVC hose			
	Water	Inlet	Type		External thread			
			Size		ISO 228-G1 1/4 B			
		Outlet	Type		External thread			
			Size		ISO 228-G1 1/4 B			
	Total piping length	System	Actual	m	500 (14)			
Capacity control	Method				Inverter controlled			
Indication if the heater is equipped with a supplementary heater					no			
Supplementary heater	Back-up capacity	Heating	elbu	kW	0.0			

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Technical Specifications					RWEYQ8T9	RWEYQ10T9	RWEYQ12T9	RWEYQ14T9
Power consumption in other than active mode	Crankcase heater mode	Cooling	PCK	kW	0.000			
		Heating	PCK	kW	0.000			
	Off mode	Cooling	POFF	kW	0.046			
		Heating	POFF	kW	0.050			
	Standby mode	Cooling	PSB	kW	0.046			
		Heating	PSB	kW	0.050			
	Thermostat-off mode	Cooling	PTO	kW	0.013			
Power consumption in other than active mode	Thermostat-off mode	Heating	PTO	kW	0.067			
Cooling	Cdc (Degradation cooling)				0.25			
Heating	Cdh (Degradation heating)				0.25			
Safety devices	Item	01			High pressure switch			
		02			Inverter overload protector			
		03			PC board fuse			

Standard accessories: Installation manual;Quantity: 1;

Standard accessories: Operation manual;Quantity: 1;

Standard accessories: Connection pipes;Quantity: 1;

Standard accessories: Water supply piping with strainer;Quantity: 1;

Electrical Specifications					RWEYQ8T9	RWEYQ10T9	RWEYQ12T9	RWEYQ14T9
Power supply	Name				Y1			
	Phase				3N~			
	Frequency			Hz	50			
	Voltage			V	380-415			
Power supply intake					Both indoor and outdoor unit			
Voltage range	Min.			%	-10			
	Max.			%	10			
Current	Nominal running current (RLA)	Cooling		A	6.5 (15)	9.0 (15)	10.0 (15)	12.6 (15)
Current - 50Hz	Nominal running current (RLA)	Combination A	Cooling		-			
		Combination B	Cooling		-			
	Starting current (MSC) - remark				See note 16			
	Zmax	List			No requirements			
	Minimum Ssc value			kVa	1,780 (16)			
	Minimum circuit amps (MCA)			A	15.5 (17)	16.4 (17)	19.5 (17)	22.3 (17)
	Maximum fuse amps (MFA)			A	20 (18)		25 (18)	
	Total overcurrent amps (TOCA)			A	25.0 (19)			
Power Performance	Power factor	Combination B	35°C ISO - Full load		-			
			46°C ISO - Full load		-			
Wiring connections - 50Hz	For power supply	Quantity			5G			
	For connection with indoor	Quantity			2			
		Remark			F1,F2			

(1)Cooling: indoor temp. 27°CDB, 19°CWB; Inlet water temperature: 30°C; equivalent refrigerant piping: 7.5m; level difference: 0m. |
(2)Cooling T3: Indoor temp 29°CDB/19°CWB Water inlet temp 30°C Nom. waterflow Equivalent piping length 7,6m Level difference piping 0m Power input indoors included According to teststandard ISO 13256: 1998 |
(3)Cooling T3: Indoor temp 29°CDB/19°CWB Water inlet temp 30°C Nom. waterflow Equivalent piping length 7,5m Level difference piping 0m Power input indoors included According to teststandard ISO 13256: 1998 |
(4)Cooling T1: Indoor temp 27°CDB/19°CWB Water inlet temp 30°C Nom. waterflow Equivalent piping length 7,6m Level difference piping 0m Power input indoors included According to teststandard AHRI 1230: 2010 |
(5)Cooling T1: Indoor temp 27°CDB/19°CWB Water inlet temp 30°C Nom. waterflow Equivalent piping length 15,5m Level difference piping 0m Power input indoors included According to teststandard AHRI 1230: 2010 |
(6)Heating: indoor temp. 20°CDB; inlet water temperature: 20°C; equivalent piping length: 7.5m; level difference: 0m |
(7)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%) |
(8)Water flow rate for performance testing according to standard rating conditions of EN 14511-2. |
(9)Sound power level is an absolute value that a sound source generates. |
(10)Sound pressure level is a relative value, depending on the distance and acoustic environment. For more details, please refer to the sound level drawings. |
(11)In case of heat pump system, gas pipe is not used |
(12)In case of heat recovery system |
(13)In case of heat pump system |
(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)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 |
(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). |

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(19)TOCA means the total value of each OC set. |
MSC means the maximum current during start up of the compressor. This unit uses only inverter compressors. Starting current is always ≤ max. running current. |
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. |
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

Technical specifications System				RWEYQ16T9	RWEYQ18T9	RWEYQ20T9	RWEYQ22T9	RWEYQ24T9
System	Outdoor unit module 1			RWEYQ8T		RWEYQ10T		RWEYQ12T
	Outdoor unit module 2			RWEYQ8T	RWEYQ10T		RWEYQ12T	
Recommended combination				4 x FXMQ63P7VEB + 2 x FXMQ80P7VEB	4 x FXMQ50P7VEB + 4 x FXMQ63P7VEB	8 x FXMQ63P7VEB	6 x FXMQ50P7VEB + 4 x FXMQ63P7VEB	12 x FXMQ50P7VEB
Cooling capacity	Prated,c		kW	44.8 (1)	50.4 (1)	56.0 (1)	61.5 (1)	67.0 (1)
Heating capacity	Prated,h		kW	50.0	56.5	62.5	69.0	75.0
	Max.	6°CWB	kW	50.0 (6)	56.5 (6)	62.5 (6)	69.0 (6)	75.0 (6)
SCOP				11.7	12.5	11.9	11.4	11.1
SEER				7.9		7.7	8.0	8.8
ηs,c			%	307.6	308.7	298.1	311.3	342.6
ηs,h			%	459.2	491.1	466.8	447.9	434.5
Space cooling	A Condition (35°C - 27/19), cooling tower (inlet/outlet) 30/35	EERd	%	5.1	5.0	4.6	5.0	5.4
		Pdc	kW	44.8	50.4	56.0	61.5	67.0
	B Condition (30°C - 27/19), cooling tower (inlet/outlet) 26/*	EERd	%	6.5		6.3	6.6	7.0
		Pdc	kW	33.0	37.1	41.3	45.3	49.4
	C Condition (25°C - 27/19), cooling tower (inlet/outlet) 22/*	EERd	%	9.0	9.5	9.1	9.8	10.5
		Pdc	kW	21.2	23.9	26.5	29.1	31.7
	D Condition (20°C - 27/19),	EERd	%	11.0	10.1	9.9	9.4	11.5
		Pdc	kW	9.4	10.6	11.8	13.0	14.1
Space heating (Average climate)	TBivalent	COPd (declared COP)		6.1	6.6	6.2	6.0	5.8
		Pdh (declared heating cap)	kW	50.0	56.5	63.0	69.0	75.0
		Tbiv (bivalent temperature)	°C	-10				
	TOL	COPd (declared COP)		6.1	6.6	6.2	6.0	5.8
		Pdh (declared heating cap)	kW	50.0	56.5	63.0	69.0	75.0
		Tol (temperature operating limit)	°C	-10				
	A Condition (-7°C)	COPd (declared COP)		6.9	7.5	7.1	6.8	6.6
		Pdh (declared heating cap)	kW	44.2	50.0	55.7	61.0	66.3
	B Condition (2°C)	COPd (declared COP)		11.4	12.1	11.4	11.0	10.7
		Pdh (declared heating cap)	kW	26.9	30.4	33.9	37.2	40.4
	C Condition (7°C)	COPd (declared COP)		16.3	17.8	16.8	16.1	15.5
		Pdh (declared heating cap)	kW	17.5	19.8	21.8	23.9	26.0
	D Condition (12°C)	COPd (declared COP)		17.8	17.7	18.3	17.0	16.7
		Pdh (declared heating cap)	kW	8.6	8.7	9.6	10.6	11.5
Capacity range			HP	16	18	20	22	24
PED	Category			Category II				
	Most critical part	Name		Liquid receiver				
		Ps*V	Bar*l	484				
Maximum number of connectable indoor units				64 (7)				
Indoor index connection	Min.			200.0	225.0	250.0	275.0	300.0
	Max.			600.0	675.0	750.0	825.0	900.0
Heat exchanger	Indoor side			Air				
	Outdoor side			water				
	Water flow rate	Cooling Rated	m^3/h	8.9 (8)	9.9 (8)	11.0 (8)	12.2 (8)	13.3 (8)
		Heating Rated	m^3/h	12.1 (8)	13.6 (8)	15.1 (8)	16.4 (8)	17.7 (8)
Sound power level	Cooling	Nom.	dBA	68.0 (9)	72.0 (9)	74.0 (9)	75.0 (9)	
Sound pressure level	Cooling	Nom.	dBA	51.0 (10)	52.0 (10)	53.0 (10)	57.0 (10)	59.0 (10)
Refrigerant	Type			R-410A				
	GWP			2,087.5				
Refrigerant oil	Type			Synthetic (ether) oil FVC68D				

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Technical specifications System					RWEYQ16T9	RWEYQ18T9	RWEYQ20T9	RWEYQ22T9	RWEYQ24T9
Piping connections	Liquid	Type			Braze connection				
		OD		mm	12.70	15.90			
	Gas	Type			Braze connection				
		OD		mm	28.6 (11)				34.9 (11)
	HP/LP gas	Type			Braze connection				
		OD		mm	22.2 (12) / 28.6 (13)		28.6 (12) / 28.6 (13)		28.6 (12) / 34.9 (13)
	Drain	Size			14mm OD/ 10mm ID				
		Type		mm	Flexible PVC hose				
	Water	Inlet	Type		External thread				
			Size		ISO 228-G1 1/4 B				
		Outlet	Type		External thread				
			Size		ISO 228-G1 1/4 B				
	Total piping length	System	Actual	m	500 (14)				
Capacity control	Method				Inverter controlled				
Indication if the heater is equipped with a supplementary heater					no				
Supplementary heater	Back-up capacity	Heating	elbu	kW	0.0				
Power consumption in other than active mode	Crankcase heater mode	Cooling	PCK	kW	0.000				
		Heating	PCK	kW	0.000				
	Off mode	Cooling	POFF	kW	0.092				
		Heating	POFF	kW	0.100				
	Standby mode	Cooling	PSB	kW	0.092				
		Heating	PSB	kW	0.100				
	Thermostat-off mode	Cooling	PTO	kW	0.026				
		Heating	PTO	kW	0.134				
Cooling	Cdc (Degradation cooling)				0.25				
Heating	Cdh (Degradation heating)				0.25				
Safety devices	Item	01			High pressure switch				
		02			Inverter overload protector				
		03			PC board fuse				

Technical specifications System				RWEYQ26T9	RWEYQ28T9	RWEYQ30T9	RWEYQ32T9	RWEYQ34T9
System	Outdoor unit module 1			RWEYQ12T	RWEYQ14T	RWEYQ10T		
	Outdoor unit module 2			RWEYQ14T		RWEYQ10T		RWEYQ12T
	Outdoor unit module 3			-		RWEYQ10T	RWEYQ12T	
Recommended combination				7 x FXMQ50P7VEB + 5 x FXMQ63P7VEB	2 x FXMQ50P7VEB + 10 x FXMQ63P7VEB	12 x FXMQ63P7VEB	6 x FXMQ50P7VEB + 8 x FXMQ63P7VEB	12 x FXMQ50P7VEB + 4 x FXMQ63P7VEB
Cooling capacity	Prated,c		kW	73.5 (1)	80.0 (1)	84.0 (1)	89.5 (1)	95.0 (1)
Heating capacity	Prated,h		kW	82.5	90.0	94.5	100.5	106.5
	Max.	6°CWB	kW	82.5 (6)	90.0 (6)	94.5 (6)	100.5 (6)	106.5 (6)
SCOP				10.4	9.9	11.9	11.6	11.4
SEER				8.3	7.9		8.2	8.8
ηs,c			%	322.5	306.1	308.3	318.2	342.5
ηs,h			%	406.9	387.9	467.2	456.1	447.0
Space cooling	A Condition (35°C - 27/19), cooling tower (inlet/outlet) 30/35	EERd	%	4.9	4.5	4.6	4.9	5.1
		Pdc	kW	73.5	80.0	84.0	89.5	95.0
	B Condition (30°C - 27/19), cooling tower (inlet/outlet) 26/*	EERd	%	6.6	6.3		6.5	6.7
		Pdc	kW	54.2	58.9	61.9	66.0	70.0
	C Condition (25°C - 27/19), cooling tower (inlet/outlet) 22/*	EERd	%	9.9	9.4	9.1	9.6	10.1
		Pdc	kW	34.8	37.9	39.8	42.4	45.0
	D Condition (20°C - 27/19),	EERd	%	10.8	10.2	11.6	11.2	13.5
		Pdc	kW	15.5	16.8	17.7	18.8	20.0

2 Specifications

1 - 1 RWEYQ-T9

Technical specifications System					RWEYQ26T9	RWEYQ28T9	RWEYQ30T9	RWEYQ32T9	RWEYQ34T9
Space heating (Average climate)	TBivalent	COPd (declared COP)			5.3	4.9	6.2	6.1	5.9
		Pdh (declared heating cap)		kW	82.5	90.0	94.5	100.5	106.5
		Tbiv (bivalent temperature)		°C	-10				
	TOL	COPd (declared COP)			5.3	4.9	6.2	6.1	5.9
		Pdh (declared heating cap)		kW	82.5	90.0	94.5	100.5	106.5
		Tol (temperature operating limit)		°C	-10				
	A Condition (-7°C)	COPd (declared COP)			6.1	5.7	7.1	6.9	6.7
		Pdh (declared heating cap)		kW	73.0	79.6	83.6	88.9	94.2
	B Condition (2°C)	COPd (declared COP)			10.0	9.5	11.4	11.1	10.9
		Pdh (declared heating cap)		kW	44.4	48.5	50.9	54.1	57.3
	C Condition (7°C)	COPd (declared COP)			14.8	14.3	16.8	16.3	15.9
		Pdh (declared heating cap)		kW	28.6	31.2	32.7	34.8	36.9
	D Condition (12°C)	COPd (declared COP)			15.8	16.0	19.4		19.3
		Pdh (declared heating cap)		kW	12.7	13.9	17.7		17.6
Capacity range				HP	26	28	30	32	34
PED	Category				Category II				
	Most critical part	Name			Liquid receiver				
PED	Most critical part	Ps*V		Bar*l	484				
Maximum number of connectable indoor units					64 (7)				
Indoor index connection	Min.				325.0	350.0	375.0	400.0	425.0
	Max.				975.0	1,050.0	1,125.0	1,200.0	1,275.0
Heat exchanger	Indoor side				Air				
	Outdoor side				water				
	Water flow rate	Cooling	Rated	m^3/h	14.9 (8)	16.5 (8)		17.7 (8)	18.8 (8)
		Heating	Rated	m^3/h	19.2 (8)	20.6 (8)	22.7 (8)	24.0 (8)	25.3 (8)
Sound power level	Cooling	Nom.		dBA	76.0 (9)	77.0 (9)	76.0 (9)		
Sound pressure level	Cooling	Nom.		dBA	60.0 (10)	61.0 (10)	55.0 (10)	58.0 (10)	60.0 (10)
Refrigerant	Type				R-410A				
	GWP				2,087.5				
Refrigerant oil	Type				Synthetic (ether) oil FVC68D				
Piping connections	Liquid	Type			Braze connection				
		OD		mm	19.10				
	Gas	Type			Braze connection				
		OD		mm	34.9 (11)				
	HP/LP gas	Type			Braze connection				
		OD		mm	28.6 (12) / 34.9 (13)				
	Drain	Size			14mm OD/ 10mm ID				
		Type		mm	Flexible PVC hose				
	Water	Inlet	Type		External thread				
			Size		ISO 228-G1 1/4 B				
		Outlet	Type		External thread				
			Size		ISO 228-G1 1/4 B				
	Total piping length	System	Actual	m	500 (14)				
Capacity control	Method				Inverter controlled				
Indication if the heater is equipped with a supplementary heater					no				
Supplementary heater	Back-up capacity	Heating	elbu	kW	0.0				
Power consumption in other than active mode	Crankcase heater mode	Cooling	PCK	kW	0.000				
		Heating	PCK	kW	0.000				
	Off mode	Cooling	POFF	kW	0.092		0.138		
		Heating	POFF	kW	0.100		0.150		
	Standby mode	Cooling	PSB	kW	0.092		0.138		
		Heating	PSB	kW	0.100		0.150		
	Thermostat-off mode	Cooling	PTO	kW	0.026		0.039		
		Heating	PTO	kW	0.134		0.201		
Cooling	Cdc (Degradation cooling)				0.25				
Heating	Cdh (Degradation heating)				0.25				
Safety devices	Item	01			High pressure switch				
		02			Inverter overload protector				
		03			PC board fuse				

2 Specifications

1 - 1 RWEYQ-T9

Technical specifications System				RWEYQ36T9	RWEYQ38T9	RWEYQ40T9	RWEYQ42T9
System	Outdoor unit module 1			RWEYQ12T			RWEYQ14T
	Outdoor unit module 2			RWEYQ12T		RWEYQ14T	
	Outdoor unit module 3			RWEYQ12T	RWEYQ14T		
Recommended combination				18 x FXMQ50P7VEB	13 x FXMQ50P7VEB + 5 x FXMQ63P7VEB	8 x FXMQ50P7VEB + 10 x FXMQ63P7VEB	3 x FXMQ50P7VEB + 15 x FXMQ63P7VEB
Cooling capacity	Prated,c		kW	100.5 (1)	107.0 (1)	113.5 (1)	120.0 (1)
Heating capacity	Prated,h		kW	112.5	120.0	127.5	135.0
	Max.	6°CWB	kW	112.5 (6)	120.0 (6)	127.5 (6)	135.0 (6)
SCOP				11.2	10.7	10.3	10.0
SEER				9.0	8.7		8.5
ηs,c			%	352.3	338.8	341.4	332.9
ηs,h			%	438.5	419.4	404.4	391.2
Space cooling	A Condition (35°C - 27/19), cooling tower (inlet/outlet) 30/35	EERd	%	5.4	5.0	4.7	4.5
		Pdc	kW	100.5	107.0	113.5	120.0
	B Condition (30°C - 27/19), cooling tower (inlet/outlet) 26/*	EERd	%	7.0	6.7	6.5	6.3
		Pdc	kW	74.1	78.8	83.6	88.4
	C Condition (25°C - 27/19), cooling tower (inlet/outlet) 22/*	EERd	%	10.5	10.1	9.7	9.4
		Pdc	kW	47.6	50.7	53.8	56.8
	D Condition (20°C - 27/19),	EERd	%	13.1	12.8	15.4	
		Pdc	kW	21.2	22.5	24.5	25.3
Space heating (Average climate)	TBivalent	COPd (declared COP)		5.8	5.4	5.1	4.9
		Pdh (declared heating cap)	kW	112.5	120.0	127.5	135.0
		Tbiv (bivalent temperature)	°C	-10			
	TOL	COPd (declared COP)		5.8	5.4	5.1	4.9
		Pdh (declared heating cap)	kW	112.5	120.0	127.5	135.0
		Tol (temperature operating limit)	°C	-10			
	A Condition (-7°C)	COPd (declared COP)		6.6	6.3	6.0	5.7
		Pdh (declared heating cap)	kW	99.5	106.2	112.8	119.4
	B Condition (2°C)	COPd (declared COP)		10.7	10.2	9.8	9.5
		Pdh (declared heating cap)	kW	60.6	64.6	68.6	72.7
	C Condition (7°C)	COPd (declared COP)		15.5	15.0	14.6	14.3
		Pdh (declared heating cap)	kW	38.9	41.5	44.1	46.7
	D Condition (12°C)	COPd (declared COP)		19.3	18.8	18.9	18.4
		Pdh (declared heating cap)	kW	17.6	18.5	19.6	20.8
Capacity range			HP	36	38	40	42
PED	Category			Category II			
	Most critical part	Name		Liquid receiver			
PED	Most critical part	Ps*V	Bar*l	484			
Maximum number of connectable indoor units				64 (7)			
Indoor index connection	Min.			450.0	475.0	500.0	525.0
	Max.			1,350.0	1,425.0	1,500.0	1,575.0
Heat exchanger	Indoor side			Air			
	Outdoor side			water			
	Water flow rate	Cooling Rated	m^3/h	19.9 (8)	21.5 (8)	23.1 (8)	24.8 (8)
		Heating Rated	m^3/h	26.6 (8)	28.0 (8)	29.4 (8)	30.9 (8)
Sound power level	Cooling	Nom.	dBA	77.0 (9)	78.0 (9)		79.0 (9)
Sound pressure level	Cooling	Nom.	dBA	61.0 (10)	62.0 (10)		63.0 (10)
Refrigerant	Type			R-410A			
	GWP			2,087.5			
Refrigerant oil	Type			Synthetic (ether) oil FVC68D			

2 Specifications

1 - 1 RWEYQ-T9

2

Technical specifications System					RWEYQ36T9	RWEYQ38T9	RWEYQ40T9	RWEYQ42T9
Piping connections	Liquid	Type			Braze connection			
		OD		mm	19.10			
	Gas	Type			Braze connection			
		OD		mm	41.3 (11)			
	HP/LP gas	Type			Braze connection			
		OD		mm	28.6 (12) / 41.3 (13)	41.3 (13) / 34.9 (12)		
	Drain	Size			14mm OD/ 10mm ID			
		Type		mm	Flexible PVC hose			
	Water	Inlet	Type		External thread			
			Size		ISO 228-G1 1/4 B			
		Outlet	Type		External thread			
			Size		ISO 228-G1 1/4 B			
	Total piping length	System	Actual	m	500 (14)			
Capacity control	Method				Inverter controlled			
Indication if the heater is equipped with a supplementary heater					no			
Supplementary heater	Back-up capacity	Heating	elbu	kW	0.0			
Power consumption in other than active mode	Crank-case heater mode	Cooling	PCK	kW	0.000			
		Heating	PCK	kW	0.000			
	Off mode	Cooling	POFF	kW	0.138			
		Heating	POFF	kW	0.150			
	Standby mode	Cooling	PSB	kW	0.138			
		Heating	PSB	kW	0.150			
	Thermostat-off mode	Cooling	PTO	kW	0.039			
		Heating	PTO	kW	0.201			
Cooling	Cdc (Degradation cooling)				0.25			
Heating	Cdh (Degradation heating)				0.25			
Safety devices	Item	01			High pressure switch			
		02			Inverter overload protector			
		03			PC board fuse			

Electrical specifications System														
Power supply	Name				Y1									
	Phase				3N~									
	Frequency			Hz	50									
	Voltage			V	380-415									
Power supply intake					Both indoor and outdoor unit									
Voltage range	Min.			%	-10									
	Max.			%	10									
Current	Nominal running current (RLA)	Cooling		A	13.0 (15)	15.5 (15)	18.0 (15)	19.0 (15)	20.0 (15)	22.6 (15)	25.2 (15)	27.0 (15)	28.0 (15)	29.0 (15)
Current - 50Hz	Nominal running current (RLA)	Combination A	Cooling		-									
		Combination B	Cooling		-									
	Starting current (MSC) - remark				See note 16									
	Zmax	List			No requirements									
	Minimum Ssc value			kVa	3,560 (16)							5,340 (16)		
	Minimum circuit amps (MCA)			A	31.0 (17)	31.9 (17)	32.7 (17)	35.8 (17)	38.9 (17)	41.7 (17)	44.6 (17)	49.1 (17)	52.2 (17)	55.3 (17)
	Maximum fuse amps (MFA)			A	32 (18)		35 (18)	40 (18)		50 (18)			63 (18)	
	Total overcurrent amps (TOCA)			A	50.0 (19)							75.0 (19)		
Power Performance	Power factor	Combination B	35°C ISO - Full load		-									
			46°C ISO - Full load		-									
Wiring connections - 50Hz	For power supply	Quantity			5G									
	For connection with indoor	Quantity			2									
		Remark			F1,F2									

Electrical specifications System				RWEYQ36T9	RWEYQ38T9	RWEYQ40T9	RWEYQ42T9
Power supply	Name			Y1			
	Phase			3N~			
	Frequency		Hz	50			
	Voltage		V	380-415			

2 Specifications

1 - 1 RWEYQ-T9

Electrical specifications System				RWEYQ36T9	RWEYQ38T9	RWEYQ40T9	RWEYQ42T9
Power supply intake				Both indoor and outdoor unit			
Voltage range	Min.		%	-10			
	Max.		%	10			
Current	Nominal running current (RLA)	Cooling	A	30.0 (15)	32.6 (15)	35.2 (15)	37.8 (15)
Current - 50Hz	Nominal running current (RLA)	Combination A Cooling		-			
		Combination B Cooling		-			
	Starting current (MSC) - remark			See note 16			
	Zmax	List		No requirements			
	Minimum Ssc value		kVa	5,340 (16)			
	Minimum circuit amps (MCA)		A	58.3 (17)	61.2 (17)	64.0 (17)	66.9 (17)
	Maximum fuse amps (MFA)		A	63 (18)		80 (18)	
	Total overcurrent amps (TOCA)		A	75.0 (19)			
Power Performance	Power factor	Combination B 35°C ISO - Full load		-			
		Combination B 46°C ISO - Full load		-			
Wiring connections - 50Hz	For power supply	Quantity		5G			
	For connection with indoor	Quantity		2			
		Remark		F1,F2			

2 Specifications

1 - 1 RWEYQ-T9

3 Options

3 - 1 Options

RWEYQ-T9

<table>
<tr><th colspan="3" rowspan="2">Item</th><th colspan="4">Single unit</th><th rowspan="2">Multi ·2· unit</th><th rowspan="2">Multi ·3· unit</th></tr>
<tr><th>RWEYQ8</th><th>RWEYQ10</th><th>RWEYQ12</th><th>RWEYQ14</th></tr>
<tr><td colspan="2">Cool/heat selector (PCB)</td><td>See note ·1·.</td><td colspan="6">BRP2A81</td></tr>
<tr><td colspan="2">Cool/heat selector (switch)</td><td>See note ·1·.</td><td colspan="6">KRC19-26A</td></tr>
<tr><td colspan="2">Cool/heat selector (fixing box)</td><td>See note ·1·.</td><td colspan="6">KJB111A</td></tr>
<tr><td colspan="2">External control adapter</td><td>Outdoor unit</td><td colspan="6">DTA104A62</td></tr>
<tr><td rowspan="6">Refnet header</td><td colspan="2" rowspan="3">Heat pump</td><td colspan="6">KHRQ22M29H</td></tr>
<tr><td colspan="2" rowspan="2">---</td><td colspan="4">KHRQ22M64H</td></tr>
<tr><td colspan="2"></td><td colspan="2">KHRQ22M75H</td></tr>
<tr><td colspan="2" rowspan="3">Heat recovery</td><td colspan="6">KHRQ23M29H</td></tr>
<tr><td colspan="2" rowspan="2">---</td><td colspan="4">KHRQ23M64H</td></tr>
<tr><td colspan="2"></td><td colspan="2">KHRQ23M75H</td></tr>
<tr><td rowspan="7">Refnet joint</td><td colspan="2" rowspan="3">Heat pump</td><td colspan="6">KHRQ22M20T</td></tr>
<tr><td colspan="2" rowspan="2">---</td><td colspan="4">KHRQ22M64T</td></tr>
<tr><td colspan="2"></td><td colspan="2">KHRQ22M75T</td></tr>
<tr><td colspan="2" rowspan="4">Heat recovery</td><td colspan="6">KHRQ23M20T</td></tr>
<tr><td colspan="6">KHRQ23M29T9</td></tr>
<tr><td colspan="2" rowspan="2">---</td><td colspan="4">KHRQ23M64T</td></tr>
<tr><td colspan="2"></td><td colspan="2">KHRQ23M75T</td></tr>
<tr><td rowspan="4">Outdoor multi-connection kit</td><td rowspan="2">Heat pump</td><td rowspan="2">See note ·3·.</td><td colspan="4" rowspan="2">---</td><td>BHFQ22P1007</td><td>---</td></tr>
<tr><td colspan="2">BHFQ22P1517</td></tr>
<tr><td rowspan="2">Heat recovery</td><td rowspan="2">See note ·3·.</td><td colspan="4" rowspan="2">---</td><td>BHFQ23P907</td><td>---</td></tr>
<tr><td colspan="2">BHFQ23P1357</td></tr>
<tr><td colspan="3">Communication cable</td><td colspan="6">EKPCCAB2</td></tr>
<tr><td colspan="3" rowspan="3">Single ·BS· unit</td><td colspan="6">BS1Q10A7V1B</td></tr>
<tr><td colspan="6">BS1Q16A7V1B</td></tr>
<tr><td colspan="6">BS1Q25A7V1B</td></tr>
<tr><td colspan="3" rowspan="6">Multi ·BS· unit</td><td colspan="6">BS4Q14AV1</td></tr>
<tr><td colspan="6">BS6Q14AV1</td></tr>
<tr><td colspan="6">BS8Q14AV1</td></tr>
<tr><td colspan="6">BS10Q14AV1</td></tr>
<tr><td colspan="6">BS12Q14AV1</td></tr>
<tr><td colspan="6">BS16Q14AV1</td></tr>
</table>

Notes

1. In case of a heat recovery system, the cool/heat selector cannot be connected.
2. It is not allowed to combine ·P·-series BS units (single/multi) with ·A·-series BS units (single/multi).
3. For installations without special requirements towards fire regulations, the standard multi-connection kits can be used.
   For installations with special requirements towards fire regulations, the insulation material can be replaced by using kits ·EKHBFQ1· and ·EKHBFQ2·.
   The ·4· kits contain alternative insulation material that complies with ·EN13501-1:B-S3,dO· and with ·BS476-7· (class ·1·).
   To replace the insulation material, determine the required number of ·EKBHFQ· kits according to the table below.

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

2D108935D

4 Combination table

4 - 1 Combination Table

RWEYQ-T9

·VRV· water-cooled heat pump

Multi-unit standard combinations table

	8HP	10HP	12HP	14HP
RWEYQ8	1			
RWEYQ10		1		
RWEYQ12			1	
RWEYQ14				1
RWEYQ16	2			
RWEYQ18	1	1		
RWEYQ20		2		
RWEYQ22		1	1	
RWEYQ24			2	
RWEYQ26			1	1
RWEYQ28				2
RWEYQ30		3		
RWEYQ32		2	1	
RWEYQ34		1	2	
RWEYQ36			3	
RWEYQ38			2	1
RWEYQ40			1	2
RWEYQ42				3

Notes

1) It is allowed to have other combinations than those described above.

2) Never combine more than ·3· units to create a multi-combination.

3D108944B

4 Combination table

4 - 1 Combination Table

RWEYQ-T9

Unit combination restrictions: ·VRV4· outdoor units (all models) + ·15·-class indoor units

Units in scope: ·FXZQ15A· and ·FXAQ15A·.

1. In case the system contains these indoor units and the total connection ratio (·CR·) ≤ ·100·%: no special restrictions.
   Follow the restrictions that apply to regular ·VRV DX· indoor units.

2. In case the system contains these indoor units and the total connection ratio (·CR·) > ·100·%: special restrictions apply.
   A. When the connection ratio (·CR1·) of the sum of all ·FXZQ15A· and/or ·FXAQ15A· units in the system ≤ ·70·%, and ALL other ·VRV DX· indoor units have an individual capacity class > ·50·: no special restrictions.

   B. When the connection ratio (·CR1·) of the sum of all ·FXZQ15A· and/or ·FXAQ15A· units in the system ≤ ·70·%, and NOT ALL other ·VRV DX· indoor units have an individual capacity class > ·50·: the restrictions below apply.

   ° 100% < CR ≤ 105% -> ·CR1· of the sum of all ·FXZQ15A· and/or ·FXAQ15A· indoor units in the system must be ≤ ·70·%.
   ° 105% < CR ≤ 110% -> ·CR1· of the sum of all ·FXZQ15A· and/or ·FXAQ15A· indoor units in the system must be ≤ ·60·%.
   ° 110% < CR ≤ 115% -> ·CR1· of the sum of all ·FXZQ15A· and/or ·FXAQ15A· indoor units in the system must be ≤ ·40·%.
   ° 115% < CR ≤ 120% -> ·CR1· of the sum of all ·FXZQ15A· and/or ·FXAQ15A· indoor units in the system must be ≤ ·25·%.
   ° 120% < CR ≤ 125% -> ·CR1· of the sum of all ·FXZQ15A· and/or ·FXAQ15A· indoor units in the system must be ≤ ·10·%.
   ° 125% < CR ≤ 130% -> ·FXZQ15A· and ·FXAQ15A· cannot be used.

Remark

Only the ·15·-class indoor units explicitly mentioned on this page are in scope. Other indoor units follow the rules that apply to regular ·VRV DX· indoor units.

3D104665A

RWEYQ-T9

Compatibility list: ·VRV4· heat pump - ·RA DX· indoor unit

Wall mounted type	*Emura*	FTXJ20A FTXJ25A FTXJ35A FTXJ42A FTXJ50A
	Stylish	FTXA20 FTXA25 FTXA35 FTXA42 FTXA50
	FTXM	FTXM20R FTXM25R FTXM35R FTXM42R FTXM50R FTXM60R FTXM71R
Ceiling/wall mounted	*Flex*	FLXS25B FLXS35B FLXS50B FLXS60B
Floor standing type	*FVXM*	FVXM25F FVXM35F FVXM50F FVXM25A FVXM35A FVXM50A CVXM20A
	Nexura	FVXG25K FVXG35K FVXG50K

Remark

The limitations on the use of ·RA DX· indoor units with the ·VRV4· Heat Pump are subject to the rules set out in drawings ·3D079543· and ·3D079540·.

If you want to connect ·RA·/·SA· ·DX· cassette, ceiling-mounted, or duct indoor units, use their ·VRV DX· indoor unit equivalents instead.

3D082373H

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 Capacity Correction Factor

RWEYQ-T9

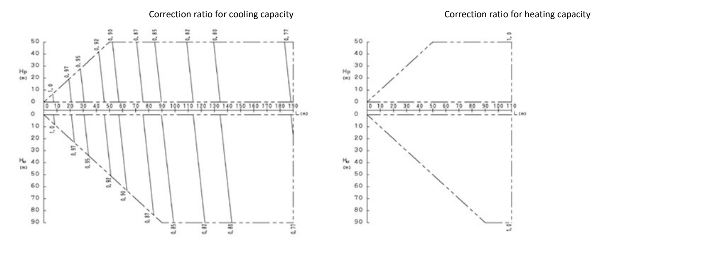
WC VRV Heat recovery
Correction factor

	Model	Page
Single unit	8HP	2
	10HP	3
	12HP	4
	14HP	5
Multi unit	16HP	6
	18HP	4
	20HP	8
	22HP	2
	24HP	7
	26HP	4
	28HP	4
	30HP	4
	32HP	8
	34HP	8
	36HP	9
	38HP	4
	40HP	4
	42HP	4

Notes
The multi-combination data corresponds with the standard multi-combinations described on ·3D108944 ·.

3D108959

RWEYQ8T9
RWEYQ22T9



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
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.

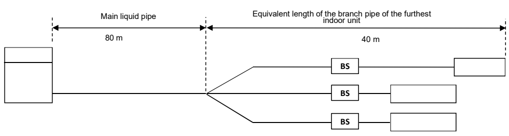
4. Overall equivalent length

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

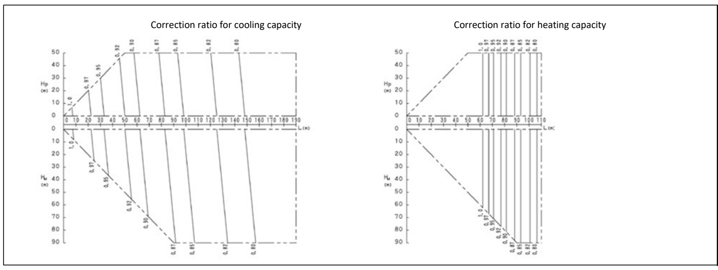
Capacity correction ratio (height difference = 0)
- Cooling mode = 0,86
- Heating mode = 1,0

3D108959

5 Capacity tables

5 - 2 Capacity Correction Factor

RWEYQ10T9



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
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.

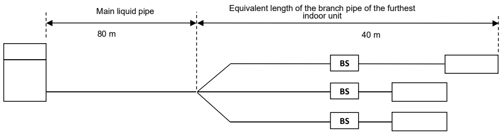
4. Overall equivalent length

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·

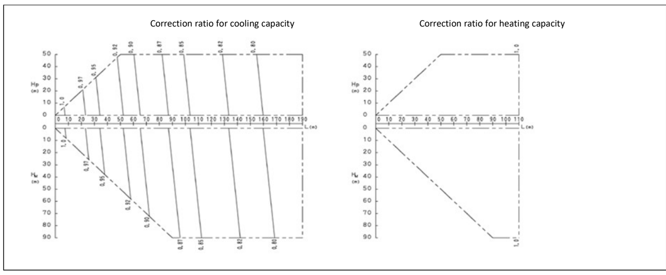


Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,2 + 40 m = 56 m

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

3D108959

RWEYQ12T9
RWEYQ18T9
RWEYQ26-30T9
RWEYQ38-42T9



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+42HP	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.

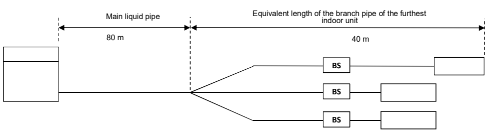
4. Overall equivalent length

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+42HP	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

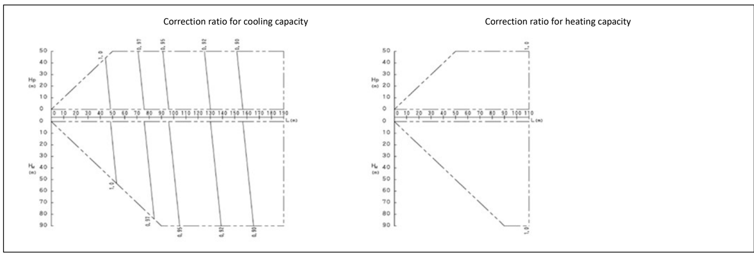
Capacity correction ratio (height difference = 0)
- Cooling mode = 0,88
- Heating mode = 1,0

3D108959

5 Capacity tables

5 - 2 Capacity Correction Factor

RWEYQ14T9



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

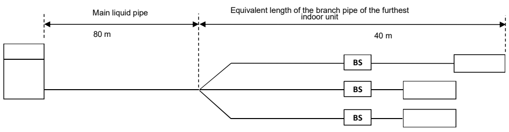
Model	Standard liquid side Ø	Increased liquid side Ø
14HP	12,7	15,9

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
14HP	1	0,5	1	0,3

5. Example ·14HP·

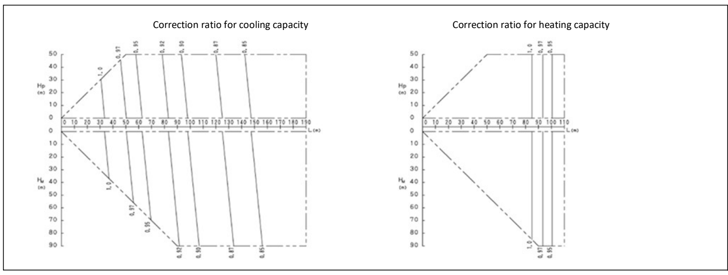


Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,3 + 40 m = 64 m

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

3D108959

RWEYQ16T9



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

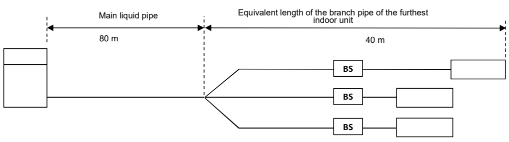
Model	Standard liquid side Ø	Increased liquid side Ø
16HP	12,7	15,9

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

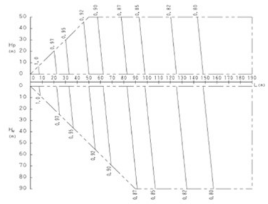
3D108959

5 Capacity tables

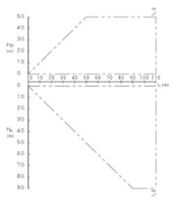
5 - 2 Capacity Correction Factor

RWEYQ20T9
RWEYQ32-34T9

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
20HP	15,9	19,1
32+34HP	19,1	22,2

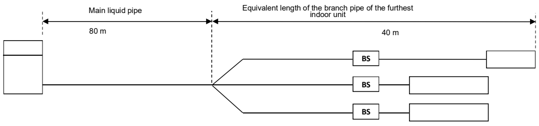
For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

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·



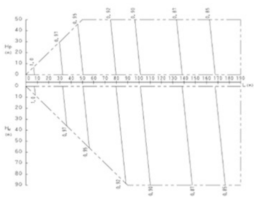
Overall equivalent length
- Cooling mode = 80 m x 0,5 + 40 m = 80 m
- Heating mode = 80 m x 0,4 + 40 m = 72 m

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

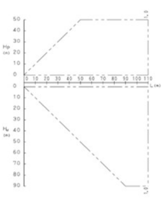
3D108959

RWEYQ24T9

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
24HP	15,9	19,1

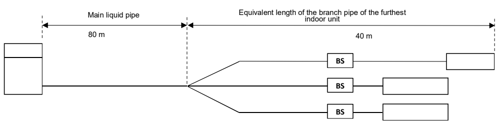
For the allowed system setups and the rules for when to increase the main liquid piping diameter, refer to the installation manual.

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

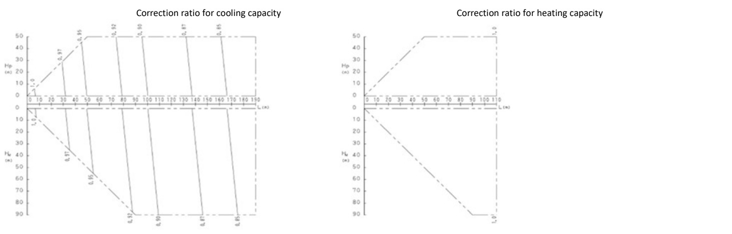
Capacity correction ratio (height difference = 0)
- Cooling mode = 0,93
- Heating mode = 1,0

3D108959

5 Capacity tables

5 - 2 Capacity Correction Factor

RWEYQ36T9



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
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.

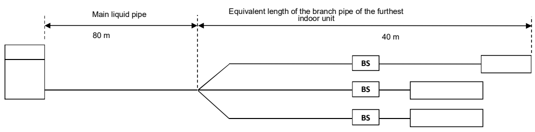
4. Overall equivalent length

   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

3D108959

RWEYQ-T9

·VRV· water-cooled heat pump
VRV IV (cold regions)
Correction factor

	Model	Page
Single unit	8HP	2
	10HP	3
	12HP	4
	14HP	4
Multi unit	16HP	4
	18HP	6
	20HP	7
	22HP	8
	24HP	4
	26HP	6
	28HP	6
	30HP	6
	32HP	7
	34HP	7
	36HP	4
	38HP	6
	40HP	6
	42HP	6

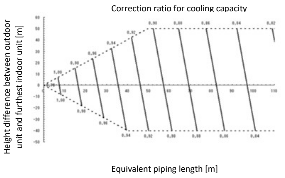
Notes
The multi-combination data corresponds with the standard multi-combinations described on ·3D117167·.

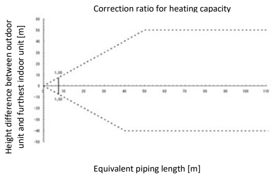
3D108958B

5 Capacity tables

5 - 2 Capacity Correction Factor

RWEYQ8T9





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 in the above figures.

2. With this outdoor unit, the following control is used:
   - in case of cooling: constant evaporating pressure control
   - in case of heating: constant condensing pressure control

3. 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.

   Conditions **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

   Conditions **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

4. When the level difference is 50 m or more and the equivalent piping length is 90 m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased.
   Refer to installation manual ·3D079540 / 3D79543·
   For the new diameters, see below.

Model	Gas pipe	Liquid pipe
8HP	22,2	12,7

5. When the pipe length after the first refrigerant branch kit is more than 40 m, the pipe size between the first and the final branch kit must be increased (only for VRV DX indoor units).
   For details, see the installer reference guide.

* *See the installation manual for allowed system setups and the rules for dedicated indoor connection types.*

Diameter of the main pipes (standard size)

Model	Gas pipe	Liquid pipe
8HP	19,1	9,5

6. The equivalent lengths from the graphs above were obtained with the following calculation:

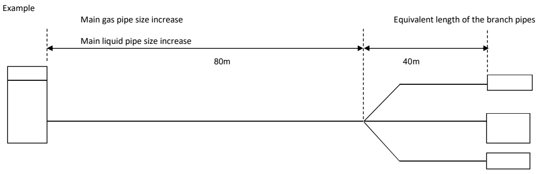
   Equivalent piping length [m] =
   Equivalent length of the main pipe x Correction factor
   \+
   Equivalent length of the branch pipes

   Choose the correction factor from the following table.

   When calculating the cooling capacity: gas pipe size
   When calculating the heating capacity: liquid pipe size

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1,0	0,5
Heating (liquid pipe)	1,0	0,5

Example

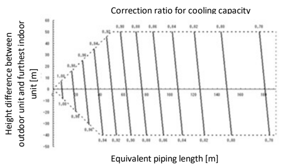


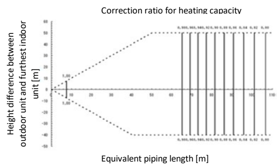
Cooling Overall equivalent length = ·80m x 0,5 + 40m = 80m·
Heating Overall equivalent length = ·80m x 0,5 + 40m = 80m·

The change rate of the cooling capacity when the height difference = 0 is about ·0,86·
The change rate of the heating capacity when the height difference = 0 is about ·1,0·

3D108958B

RWEYQ10T9





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 in the above figures.

2. With this outdoor unit, the following control is used:
   - in case of cooling: constant evaporating pressure control
   - in case of heating: constant condensing pressure control

3. 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.

   Conditions **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

   Conditions **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

4. When the level difference is 50 m or more and the equivalent piping length is 90 m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased.
   Refer to installation manual ·3D079540 / 3D79543·
   For the new diameters, see below.

Model	Gas pipe	Liquid pipe
10HP	25,4 *	12,7

* *If not available on-site, do not increase the piping diameter.*
* *If not increased, do not apply a correction factor to the equivalent piping length (see note ·6·).*

5. When the pipe length after the first refrigerant branch kit is more than 40 m, the pipe size between the first and the final branch kit must be increased (only for VRV DX indoor units).
   For details, see the installer reference guide.

* *See the installation manual for allowed system setups and the rules for dedicated indoor connection types.*

Diameter of the main pipes (standard size)

Model	Gas pipe	Liquid pipe
10HP	22,2	9,5

6. The equivalent lengths from the graphs above were obtained with the following calculation:

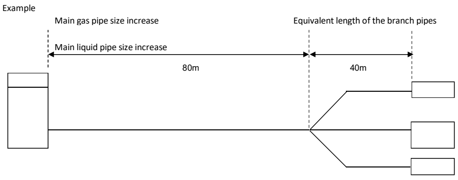
   Equivalent piping length [m] =
   Equivalent length of the main pipe x Correction factor
   \+
   Equivalent length of the branch pipes

   Choose the correction factor from the following table.

   When calculating the cooling capacity: gas pipe size
   When calculating the heating capacity: liquid pipe size

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1,0	0,5
Heating (liquid pipe)	1,0	0,5

Example



Cooling Overall equivalent length = ·80m x 0,5 + 40m = 80m·
Heating Overall equivalent length = ·80m x 0,5 + 40m = 80m·

The change rate of the cooling capacity when the height difference = 0 is about ·0,87·
The change rate of the heating capacity when the height difference = 0 is about ·0,90·

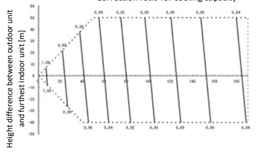
3D108958B

5 Capacity tables

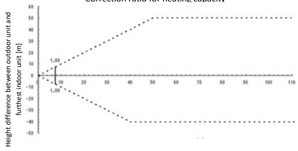
5 - 2 Capacity Correction Factor

RWEYQ12-16T9
RWEYQ24T9
RWEYQ36T9

Correction ratio for cooling capacity



Correction ratio for heating capacity



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 in the above figures.

2. With this outdoor unit, the following control is used:
   - in case of cooling: constant evaporating pressure control
   - in case of heating: constant condensing pressure control

3. 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.

Conditions **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

Conditions **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

4. When the level difference is 50 m or more and the equivalent piping length is 90 m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased.
   Refer to installation manual 3D079540 / 3D79543
   For the new diameters, see below.

Model	Gas pipe	Liquid pipe
12HP	28,6	15,9
14HP	28,6	15,9
24HP	34,9	19,1
36HP	41,3	22,2

5. When the pipe length after the first refrigerant branch kit is more than 40 m, the pipe size between the first and the final branch kit must be increased (only for VRV DX indoor units).
   For details, see the installer reference guide.

* *See the installation manual for allowed system setups and the rules for dedicated indoor connection types.*

Diameter of the main pipes (standard size)

Model	Gas pipe	Liquid pipe
12HP	28,6	12,7
14HP	28,6	12,7
24HP	34,9	15,9
36HP	41,3	19,1

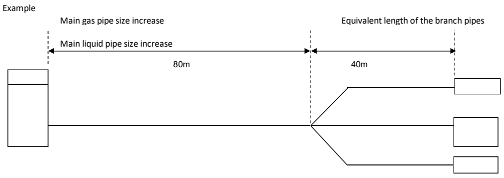
6. The equivalent lengths from the graphs above were obtained with the following calculation:
   Equivalent piping length [m] =
   Equivalent length of the main pipe x Correction factor
   \+
   Equivalent length of the branch pipes

Choose the correction factor from the following table.

When calculating the cooling capacity: gas pipe size
When calculating the heating capacity: liquid pipe size

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1,0	
Heating (liquid pipe)	1,0	0,5

Example



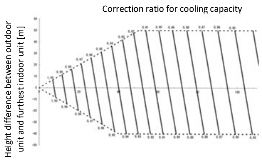
Cooling Overall equivalent length = 80m x 1,0 + 40m = 120m
Heating Overall equivalent length = 80m x 0,5 + 40m = 80m

The change rate of the cooling capacity when the height difference = 0 is about 0,89
The change rate of the heating capacity when the height difference = 0 is about 1,0

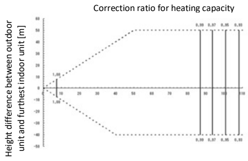
3D108958B

RWEYQ16T9

Correction ratio for cooling capacity



Correction ratio for heating capacity



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 in the above figures.

2. With this outdoor unit, the following control is used:
   - in case of cooling: constant evaporating pressure control
   - in case of heating: constant condensing pressure control

3. 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.

Conditions **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

Conditions **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

4. When the level difference is 50 m or more and the equivalent piping length is 90 m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased.
   Refer to installation manual 3D079540 / 3D79543
   For the new diameters, see below.

Model	Gas pipe	Liquid pipe
16HP	31,8 *	15,9

* *If not available on-site, do not increase the piping diameter.*
* *If not increased, do not apply a correction factor to the equivalent piping length (see note 6).*

5. When the pipe length after the first refrigerant branch kit is more than 40 m, the pipe size between the first and the final branch kit must be increased (only for VRV DX indoor units).
   For details, see the installer reference guide.

* *See the installation manual for allowed system setups and the rules for dedicated indoor connection types.*

Diameter of the main pipes (standard size)

Model	Gas pipe	Liquid pipe
16HP	28,6	12,7

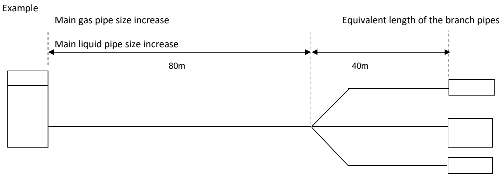
6. The equivalent lengths from the graphs above were obtained with the following calculation:
   Equivalent piping length [m] =
   Equivalent length of the main pipe x Correction factor
   \+
   Equivalent length of the branch pipes

Choose the correction factor from the following table.

When calculating the cooling capacity: gas pipe size
When calculating the heating capacity: liquid pipe size

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1,0	0,5
Heating (liquid pipe)	1,0	0,5

Example



Cooling Overall equivalent length = 80m x 0,5 + 40m = 80m
Heating Overall equivalent length = 80m x 0,5 + 40m = 80m

The change rate of the cooling capacity when the height difference = 0 is about 0,88
The change rate of the heating capacity when the height difference = 0 is about 0,99

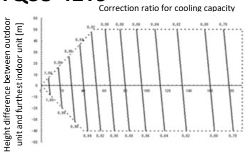
3D108958B

5 Capacity tables

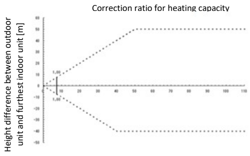
5 - 2 Capacity Correction Factor

RWEYQ18T9
RWEYQ26-30T9
RWEYQ38-42T9

Correction ratio for cooling capacity



Correction ratio for heating capacity



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 in the above figures.

2. With this outdoor unit, the following control is used:
   - in case of cooling: constant evaporating pressure control
   - in case of heating: constant condensing pressure control

3. 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.

Conditions **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

Conditions **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

4. When the level difference is 50 m or more and the equivalent piping length is 90 m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased.
   Refer to installation manual ·3D079540 / 3D79543·
   For the new diameters, see below.

Model	Gas pipe	Liquid pipe
18HP	31,8 *	19,1
26~30HP	38,1 *	22,2
38~42HP	41,3	22,2

* *If not available on-site, do not increase the piping diameter.*
* *If not increased, do not apply a correction factor to the equivalent piping length (see note ·6·).*

5. When the pipe length after the first refrigerant branch kit is more than 40 m, the pipe size between the first and the final branch kit must be increased (only for VRV DX indoor units).
   For details, see the installer reference guide.

* *See the installation manual for allowed system setups and the rules for dedicated indoor connection types.*

Diameter of the main pipes (standard size)

Model	Gas pipe	Liquid pipe
18HP	28,6	15,9
26~30HP	34,9	19,1
38~42HP	41,3	19,1

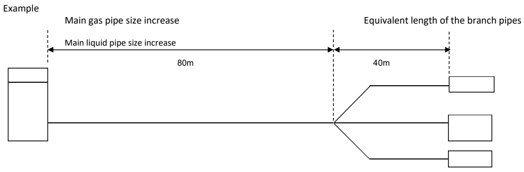
6. The equivalent lengths from the graphs above were obtained with the following calculation:
   Equivalent piping length [m] =
   Equivalent length of the main pipe x Correction factor
   \+
   Equivalent length of the branch pipes

   Choose the correction factor from the following table.

   When calculating the cooling capacity: gas pipe size
   When calculating the heating capacity: liquid pipe size

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1,0	0,5
Heating (liquid pipe)	1,0	0,5

Example



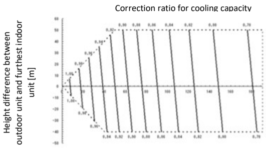
Cooling Overall equivalent length = ·80m x 1,0 + 40m = 120m·
Heating Overall equivalent length = ·80m x 0,5 + 40m = 80m·

The change rate of the cooling capacity when the height difference = 0 is about ·0,83·
The change rate of the heating capacity when the height difference = 0 is about ·1,0·

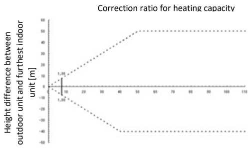
3D108958B

RWEYQ20T9
RWEYQ32-34T9

Correction ratio for cooling capacity



Correction ratio for heating capacity



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 in the above figures.

2. With this outdoor unit, the following control is used:
   - in case of cooling: constant evaporating pressure control
   - in case of heating: constant condensing pressure control

3. 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.

Conditions **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

Conditions **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

4. When the level difference is 50 m or more and the equivalent piping length is 90 m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased.
   Refer to installation manual ·3D079540 / 3D79543·
   For the new diameters, see below.

Model	Gas pipe	Liquid pipe
20HP	31,8 *	19,1
32/34HP	38,1 *	22,2

5. When the pipe length after the first refrigerant branch kit is more than 40 m, the pipe size between the first and the final branch kit must be increased (only for VRV DX indoor units).
   For details, see the installer reference guide.

* *See the installation manual for allowed system setups and the rules for dedicated indoor connection types.*

Diameter of the main pipes (standard size)

Model	Gas pipe	Liquid pipe
20HP	28,6	15,9
32/34HP	34,9	19,1

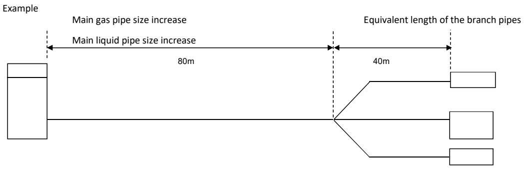
6. The equivalent lengths from the graphs above were obtained with the following calculation:
   Equivalent piping length [m] =
   Equivalent length of the main pipe x Correction factor
   \+
   Equivalent length of the branch pipes

   Choose the correction factor from the following table.

   When calculating the cooling capacity: gas pipe size
   When calculating the heating capacity: liquid pipe size

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1,0	0,5
Heating (liquid pipe)	1,0	0,5

Example



Cooling Overall equivalent length = ·80m x 0,5 + 40m = 80m·
Heating Overall equivalent length = ·80m x 0,5 + 40m = 80m·

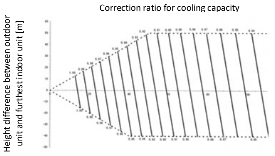
The change rate of the cooling capacity when the height difference = 0 is about ·0,88·
The change rate of the heating capacity when the height difference = 0 is about ·1,0·

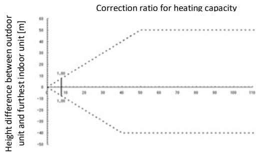
3D108958B

5 Capacity tables

5 - 2 Capacity Correction Factor

RWEYQ22T9





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 in the above figures.

2. With this outdoor unit, the following control is used:
   - in case of cooling: constant evaporating pressure control
   - in case of heating: constant condensing pressure control

3. <u>Method of calculating the capacity of the outdoor units.</u>
   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.

Conditions 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

Conditions 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

4. When the level difference is 50 m or more and the equivalent piping length is 90 m or more, the diameter of the main gas and liquid pipes (outdoor unit - branch sections) must be increased.
   Refer to installation manual ·3D079540 / 3D79543·
   For the new diameters, see below.

Model	Gas pipe	Liquid pipe
22HP	31,8 *	19,1

* *If not available on-site, do not increase the piping diameter.*
* *If not increased, do not apply a correction factor to the equivalent piping length (see note ·6·).*

5. When the pipe length after the first refrigerant branch kit is more than 40 m, the pipe size between the first and the final branch kit must be increased (only for VRV DX indoor units).
   For details, see the installer reference guide.

* *See the installation manual for allowed system setups and the rules for dedicated indoor connection types.*

Diameter of the main pipes (standard size)

Model	Gas pipe	Liquid pipe
22HP	28,6	15,9

6. The equivalent lengths from the graphs above were obtained with the following calculation:

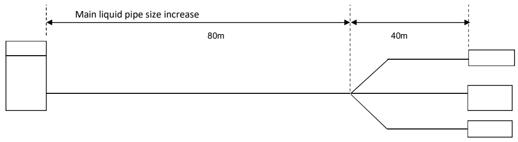
Equivalent piping length [m] = Equivalent length of the main pipe x Correction factor + Equivalent length of the branch pipes

Choose the correction factor from the following table.

When calculating the cooling capacity: gas pipe size
When calculating the heating capacity: liquid pipe size

	Correction factor	
	Standard size	Size increase
Cooling (gas pipe)	1,0	0,5
Heating (liquid pipe)	1,0	0,5

Example



Cooling Overall equivalent length = ·80m x 0,5 + 40m = 80m·
Heating Overall equivalent length = ·80m x 0,5 + 40m = 80m·

The change rate of the cooling capacity when the height difference = 0 is about ·0,88·
The change rate of the heating capacity when the height difference = 0 is about ·1,0·

3D108958B

RWEYQ-T9

VRV4 Water Cooled Antifreeze Correction Factor

Ethylene Glycol			Propylene Glycol		
Cooling capacity	10%	0,998	Cooling capacity	10%	0,992
	20%	0,994		20%	0,988
	30%	0,990		30%	0,983
	40%	0,985		40%	0,974
	50%	0,980		50%	0,968
Heating capacity	10%	0,993	Heating capacity	10%	0,985
	20%	0,989		20%	0,982
	30%	0,986		30%	0,978
	40%	0,982		40%	0,970
	50%	0,979		50%	0,966

3D108966

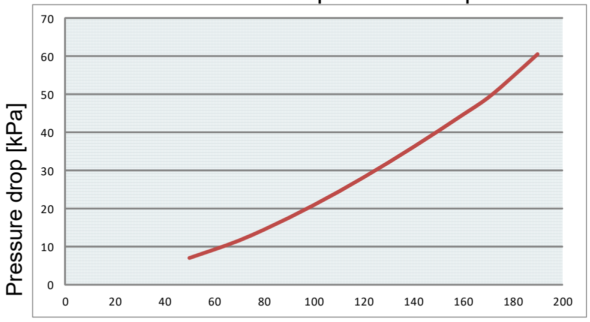
5 Capacity tables

5 - 2 Capacity Correction Factor

5

RWEYQ-T9

·RWEYQ*T9· pressure drop

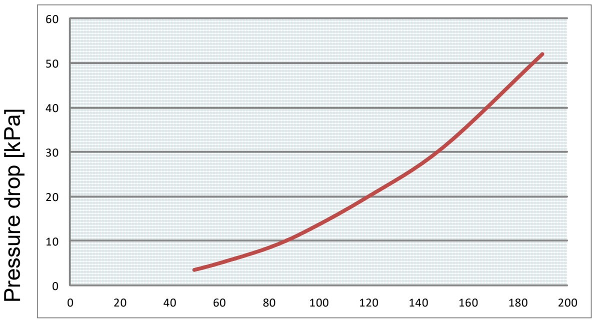


Notes
The values were measured during nominal cooling operation with an inlet water temperature of ·30·°C.
The values were measured during nominal cooling operation with an inlet water-glycol temperature of ·-10·°C.
EG: Ethylene glycol
PG: Propylene glycol

·ACH73: · plate heat exchanger (·100· plates)

Influence on performance
·EG 20%·: ·+0.3·K during the condensation process, and ·-0.5·K during the evaporation process.
·EG 30%·: ·+0.5·K during the condensation process, and ·-0.5·K during the evaporation process.
·EG 40%·: ·+0.7·K during the condensation process, and ·-0.7·K during the evaporation process.
·PG 20%·: ·+1.1·K during the condensation process, and ·-1.3·K during the evaporation process.
·PG 30%·: ·+1.3·K during the condensation process, and ·-1.3·K during the evaporation process.
·PG 40%·: ·+1.5·K during the condensation process, and ·-1.5·K during the evaporation process.

Accessory water filter pressure drop



ACH73 // Delta pressure [kPa]							
l/min	Water	20% EG	30% EG	40% EG	20% PG	30% PG	40% PG
50	5.4	6.8	6.9	7.0	7.1	7.2	7.5
60	7.4	9.3	9.4	9.6	9.7	9.8	10.2
70	9.7	12.1	12.2	12.5	12.6	12.8	13.3
80	12.3	15.3	15.5	15.9	16.0	16.2	16.9
90	15.2	18.9	19.1	19.6	19.8	20.1	20.8
100	18.4	22.9	23.2	23.7	23.9	24.3	25.2
110	21.9	27.2	27.6	28.2	28.5	28.9	30.0
120	25.7	31.9	32.2	33.1	33.4	33.9	35.1
130	29.7	37.0	37.5	38.4	38.7	39.3	40.7
140	34.1	42.4	43.0	44.0	44.4	45.1	46.8
150	38.8	48.2	48.9	50.1	50.5	51.2	53.2
160	43.8	54.4	55.2	56.5	57.0	57.8	60.0
170	49.1	61.0	61.9	63.3	63.9	64.8	67.3
180	54.7	67.9	68.9	70.5	71.1	72.2	74.9
190	60.6	75.2	76.3	78.1	78.8	80.0	83.0

Water filter //	Delta pressure [kPa]
Flow [l/min]	Water
50	3,5
60	5
80	8,5
96	12,5
120	20
150	31
190	52

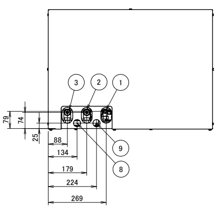
3D108933B

6 Dimensional drawings

6 - 1 Dimensional Drawings

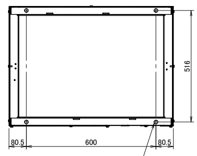
RWEYQ-T9

Top view



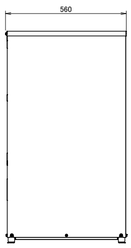
Item	Part name	Remark
1	Liquid pipe	See table 1.
2	Suction pipe	See table 2.
3	Gas pipe	See table 3.
4	Water IN connection	External pipe thread ISO 228-G1 1/4 B
5	Water OUT connection	External pipe thread ISO 228-G1 1/4 B
6	Drain outlet	Flexible hose (inside diameter: Ø 10mm)
7	Grounding terminal	M8
8	Power supply wiring intake	Ø 25
9	Cable inlet	Ø 25

Bottom view

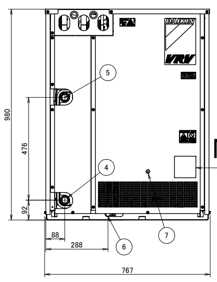


Foundation bolt type: 4x Ø17

Right-side view



Front view



Manufacturer label

Rear view

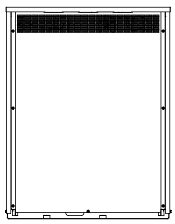


Table 1

Model	RWEYQ8T9		RWEYQ10T9		RWEYQ12T9		RWEYQ14T9	
Operation mode	Heat pump	Heat recovery	Heat pump	Heat recovery	Heat pump	Heat recovery	Heat pump	Heat recovery
Liquid pipe	Ø 9.5		Ø 9.5		Ø 12.7		Ø 12.7	
Suction pipe		Ø 19.1		Ø 22.2		Ø 28.6		Ø 28.6
Gas pipe (high/low pressure)	Ø 19.1	Ø 15.9	Ø 22.2	Ø 19.1	Ø 28.6	Ø 19.1	Ø 28.6	Ø 22.2

Notes

1. The grounding terminal is located in the switch box.
2. The pipe connections are brazed connections.
3. In case of a heat pump, the suction pipe is not used.

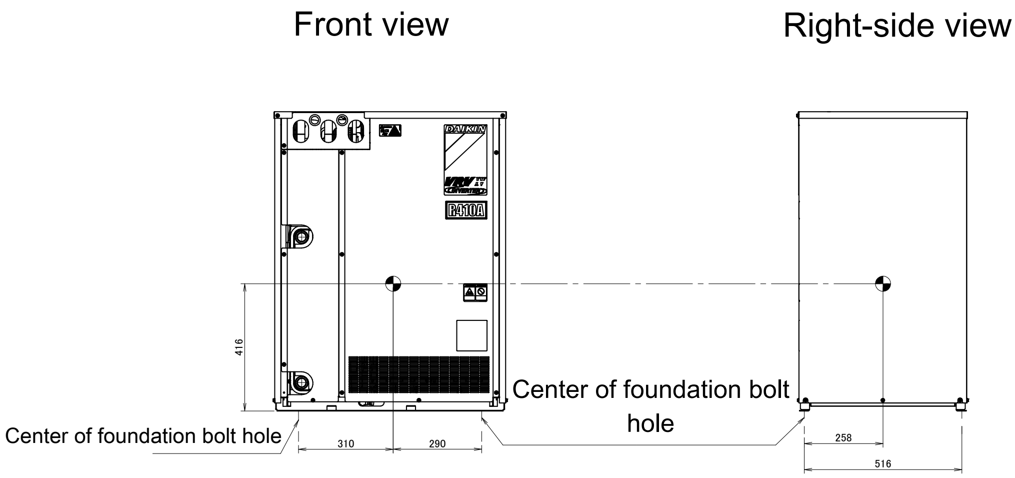
2D108932A

7 Centre of gravity

7 - 1 Centre of Gravity

RWEYQ-T9

7



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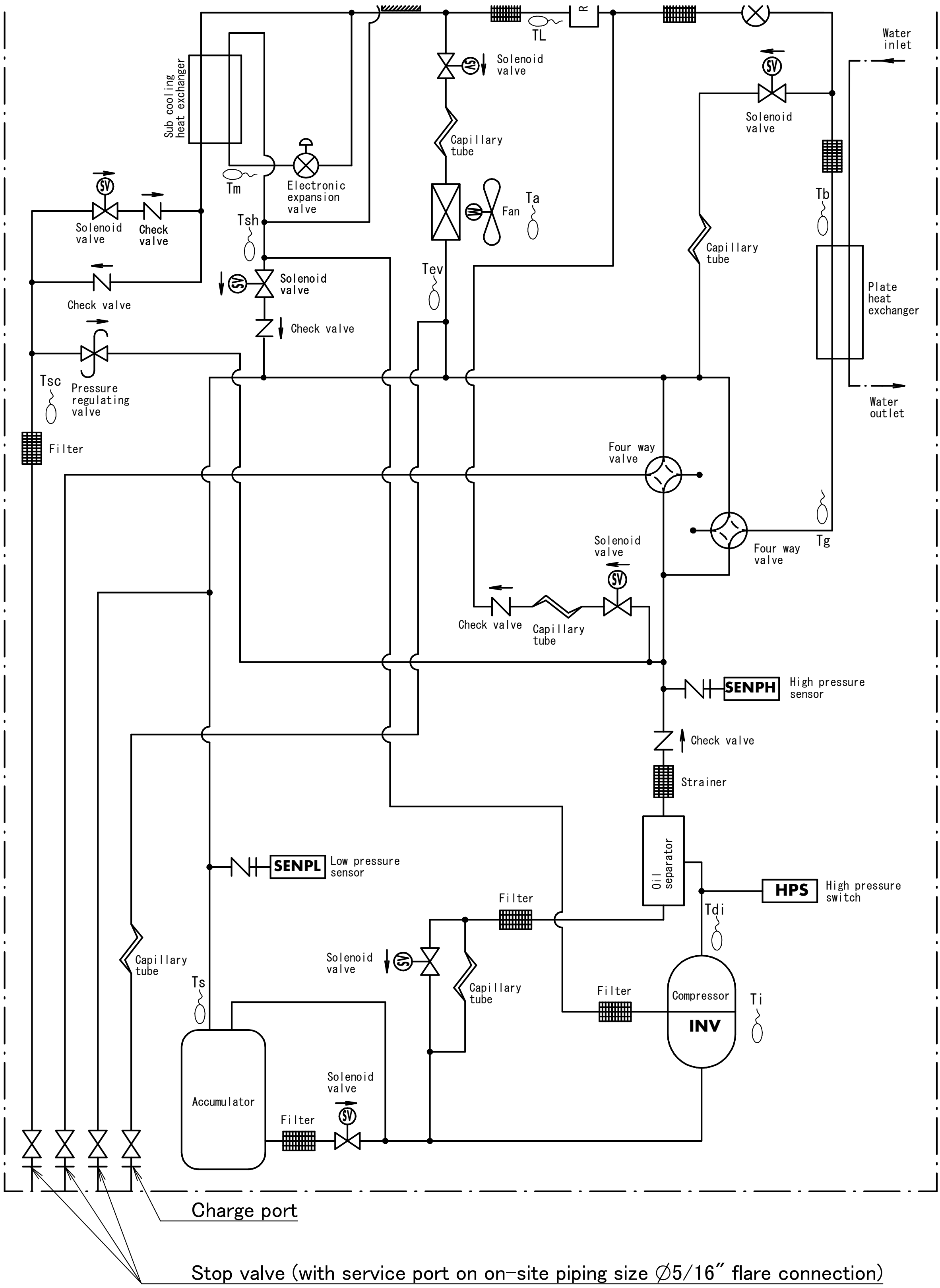
8 Piping diagrams

8 - 1 Piping Diagrams

RWEYQ-T9



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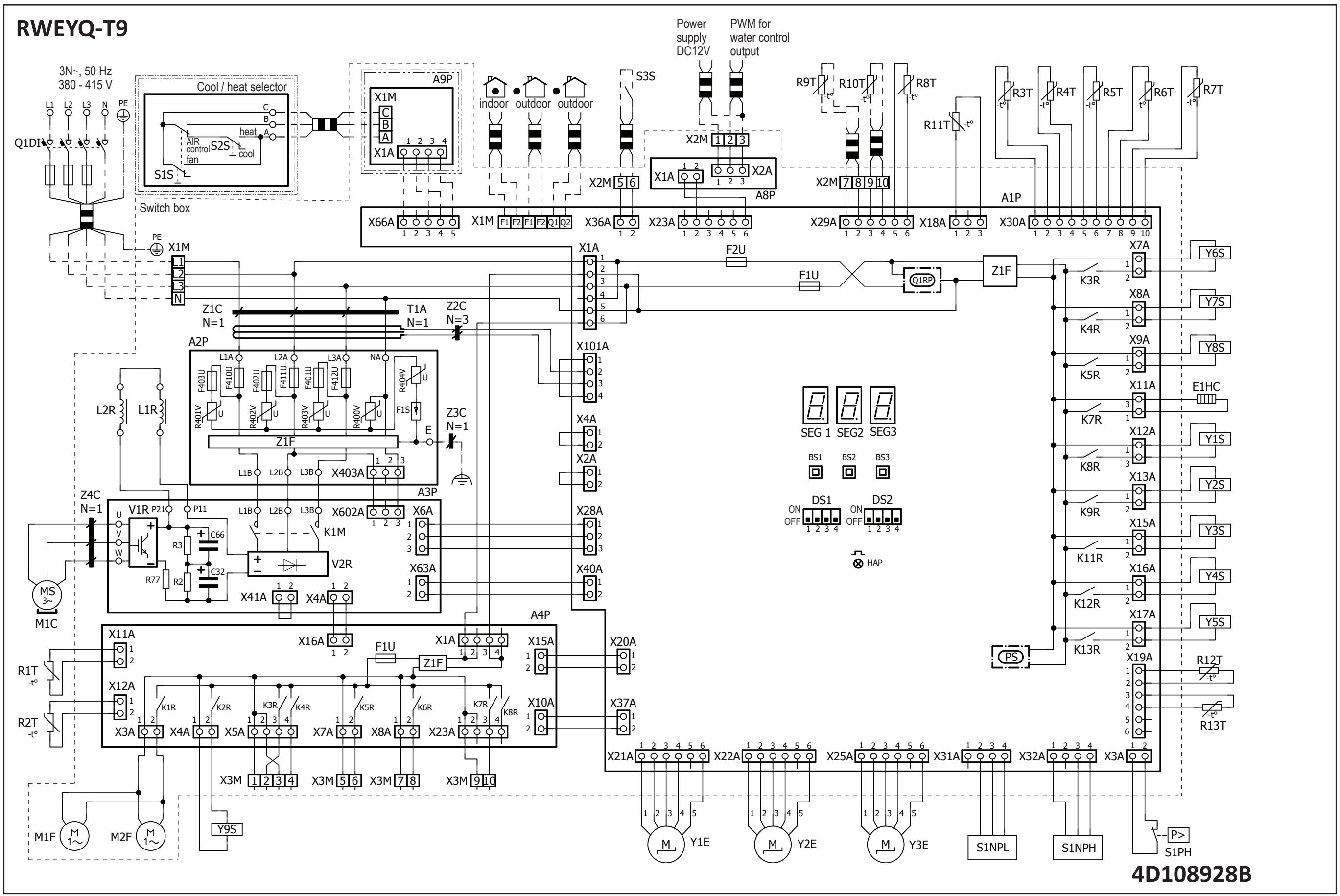
9 Wiring diagrams

9 - 1 Wiring Diagrams - Three Phase



9 Wiring diagrams

9 - 2 Notes & Legend

RWEYQ-T9

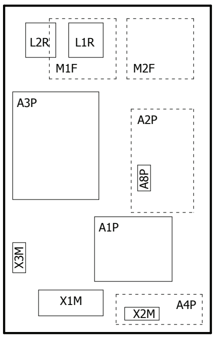
NOTES to go through before starting the unit

Symbols

- X1M : Main terminal
- : Earth wiring
- 15 : Wire number 15
- : Field wire
- : Field cable
- **/12.2 : Connection ** continues on page 12 column 2
- 1 : Several wiring possibilities
- : Option
- : Wiring depending on model
- : Not mounted in switch box
- : PCB

1. Refer to the installation or service manual on how to use BS1 ~ BS3 push buttons and DS1 ~ DS2 DIP switches.
2. Do not operate the unit by short-circuiting protection device (S1PH).
3. For connection to indoor-outdoor transmission F1-F2 wiring, outdoor - outdoor transmission F1-F2, refer to "service manual".

POSITION IN SWITCH BOX



LEGEND

Part n°		Description
A1P		main PCB
A2P		noise filter PCB
A3P		inverter PCB
A4P		SUB PCB
A8P		adapter PCB
A9P	*	cool/heat selector PCB
BS* (A1P)		push buttons (mode , set, return)
C* (A3P)		capacitor
DS* (A1P)		dipswitch
E1HC		crankcase heater
F1S (A2P)		surge arrestor
F1U (A4P)		fuse T 3,15 A 250 V
F401U (A2P)		fuse T 6,3 A 250 V
F402U (A2P)		fuse T 6,3 A 250 V
F403U (A2P)		fuse T 6,3 A 250 V
F410U (A2P)		fuse T 63 A 600 V
F411U (A2P)		fuse T 63 A 600 V
F412U (A2P)		fuse T 63 A 600 V
F*U (A1P)		fuse T 3,15 A 250 V
HAP (A1P)		running LED (service monitor-green)
K1M (A3P)		magnetic contactor
K*R (A*P)		magnetic relay
L*R		reactor
M1C		motor (compressor)
M*F		motor (fan)
PS (A1P)		power supply
Q1DI	#	earth leakage circuit breaker
Q1RP (A1P)		phase reversal detect circuit
R* (A3P)		resistor
R*T		thermistor
R*V (A2P)		varistor
S1NPH		high pressure sensor
S1NPL		low pressure sensor
S1PH		high pressure switch (disch)
S1S		air control switch
S2S		cool / heat switch
S3S		interlock switch
SEG*(A1P)		7-segment display
T1A		leakage current detection sensor
V1R (A3P)		IGBT power module
V2R (A3P)		diode module
X66A		connector (remote switching cool/ heat selector)
X*A		PCB connector
X*M		terminal strip
X*M (A*P)		terminal strip on PCB
X*Y		connector
Y*E		electronic expansion valve
Y*S		solenoïd valve
Z*C		noise filter (ferrit core)
Z*F		noise filter

* : optional #: field supply

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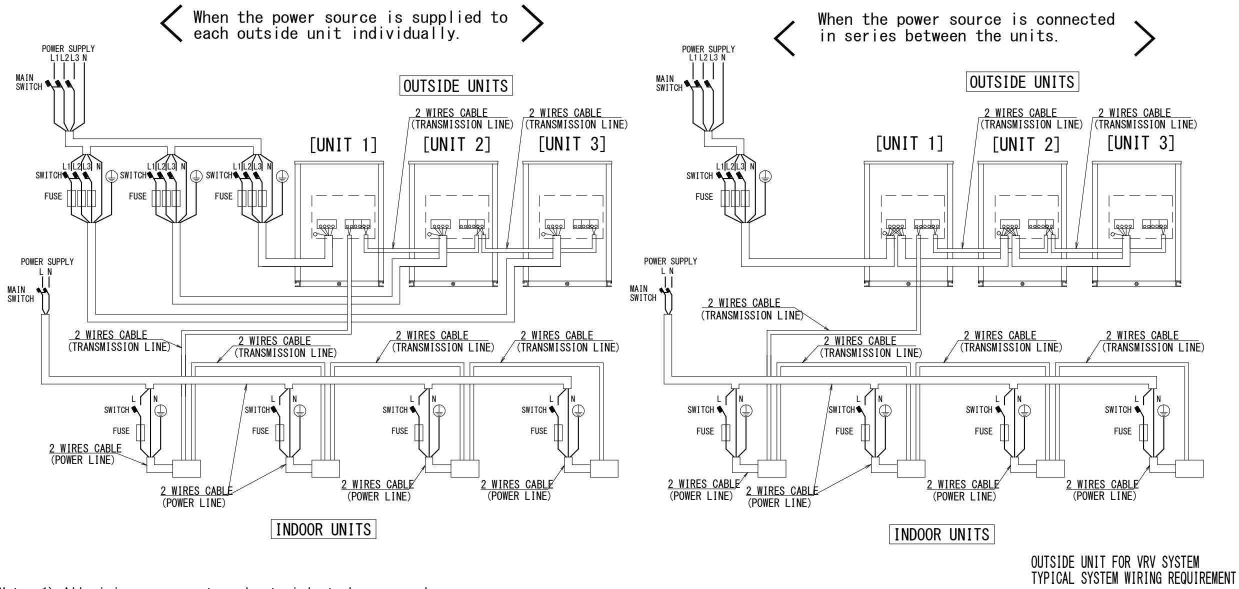
10 External connection diagrams

10 - 1 External Connection Diagrams

10

RWEYQ-T9

[Operation System : Heat Pump]



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 equipment.
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) Since this product is equipped with an inverter, harmonics will be generated.
If local laws require the suppression of harmonics on the building, please take harmonic suppression measures on the electrical equipment side.

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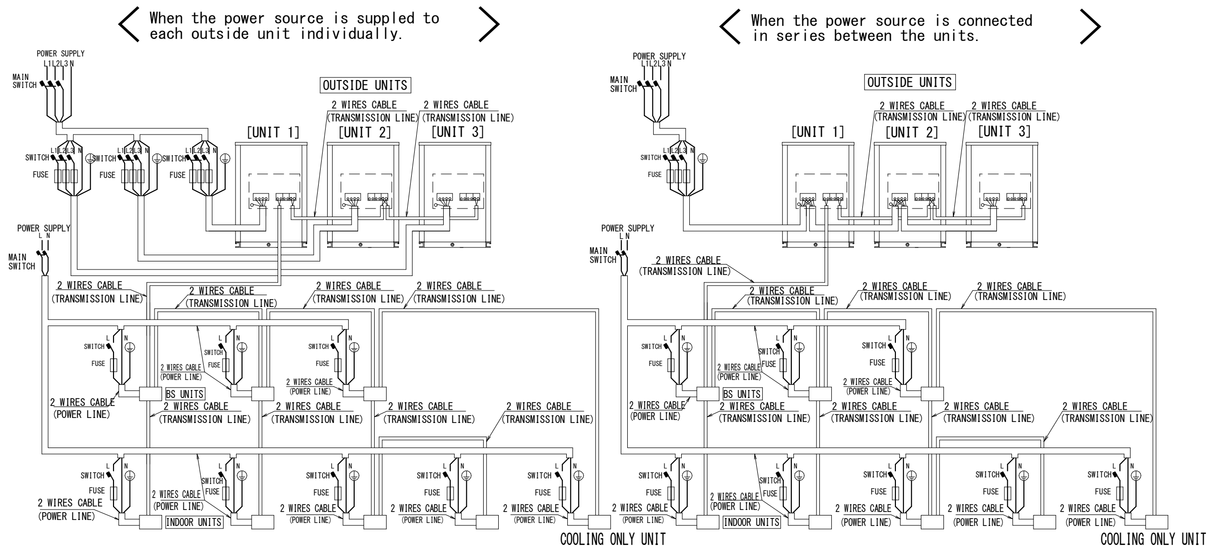
RWEYQ-T9

[Operation system : Heat Recovery]



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 equipment.
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) Since this product is equipped with an inverter, harmonics will be generated.
If local laws require the suppression of harmonics on the building, please take harmonic suppression measures on the electrical equipment side.

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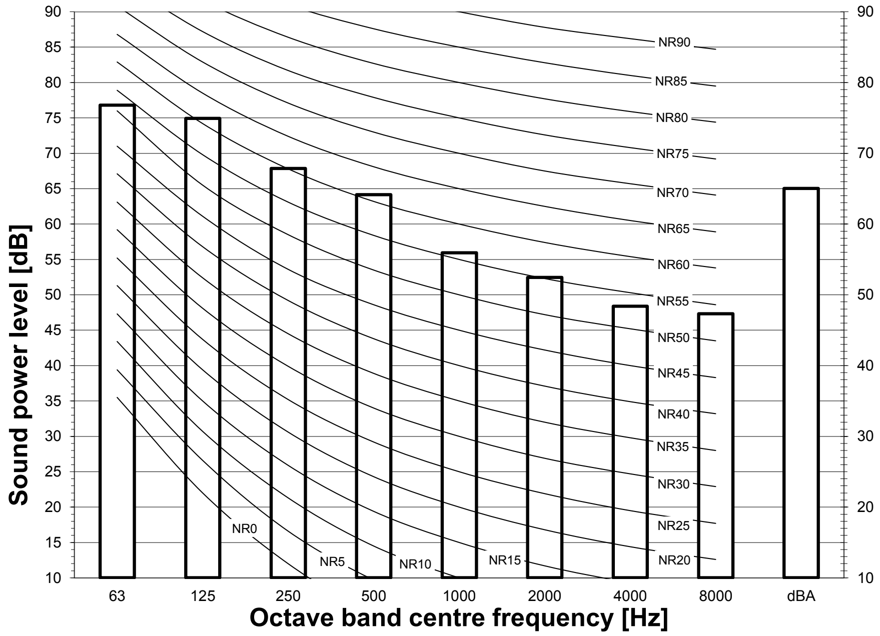
11 Sound data

11 - 1 Sound Power Spectrum

RWEYQ8T9



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

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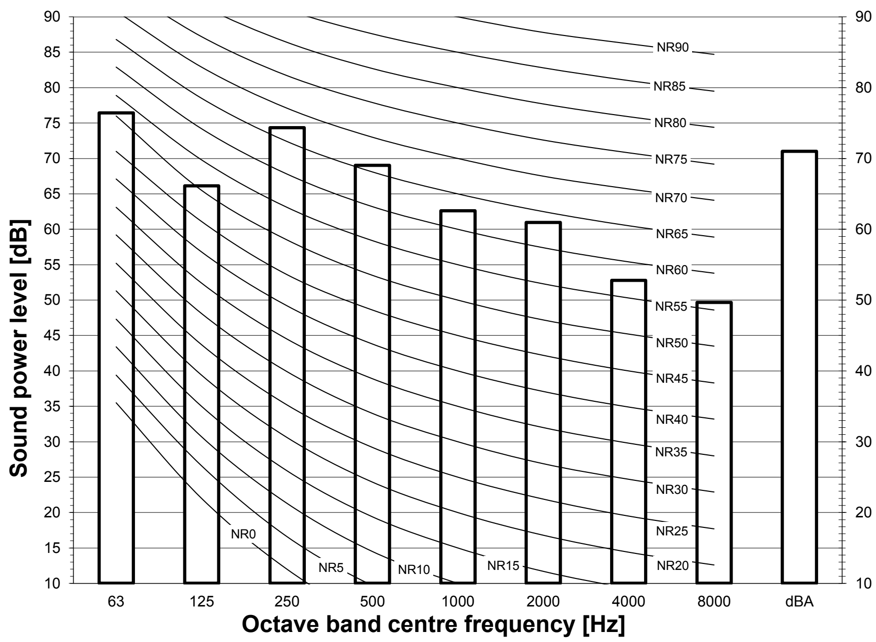
RWEYQ10T9



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

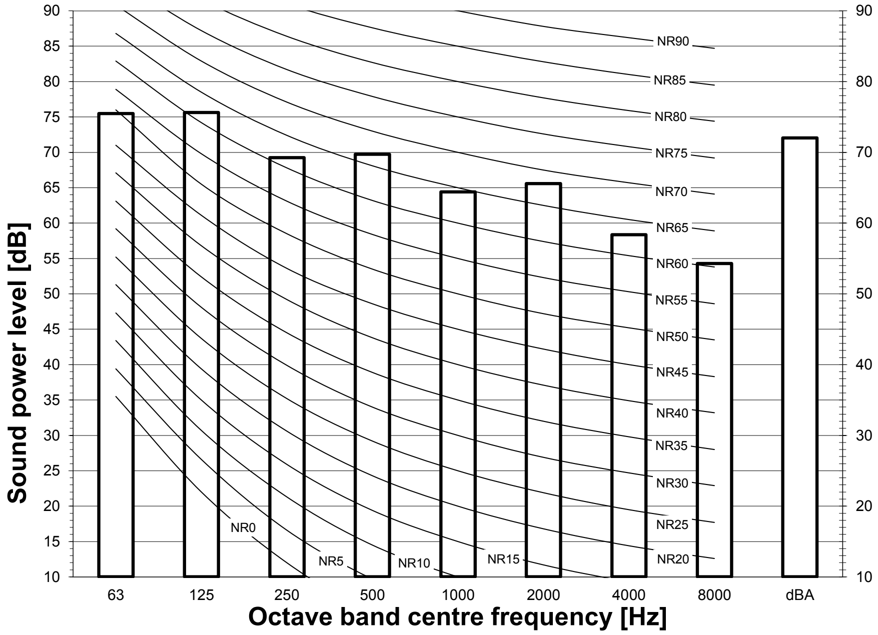
3D108941

11 Sound data

11 - 1 Sound Power Spectrum

11

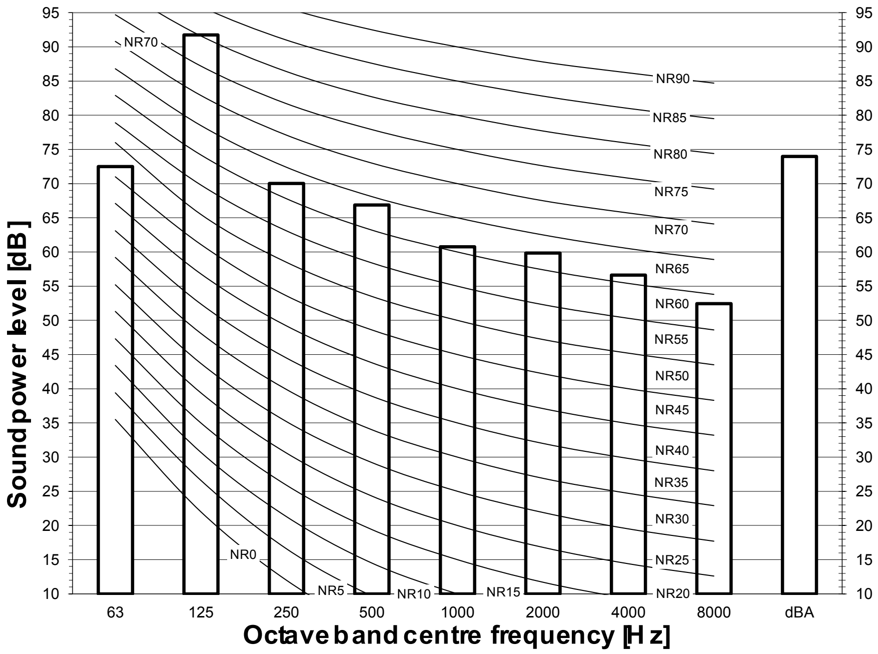
RWEYQ12T9



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

3D108942

RWEYQ14T9



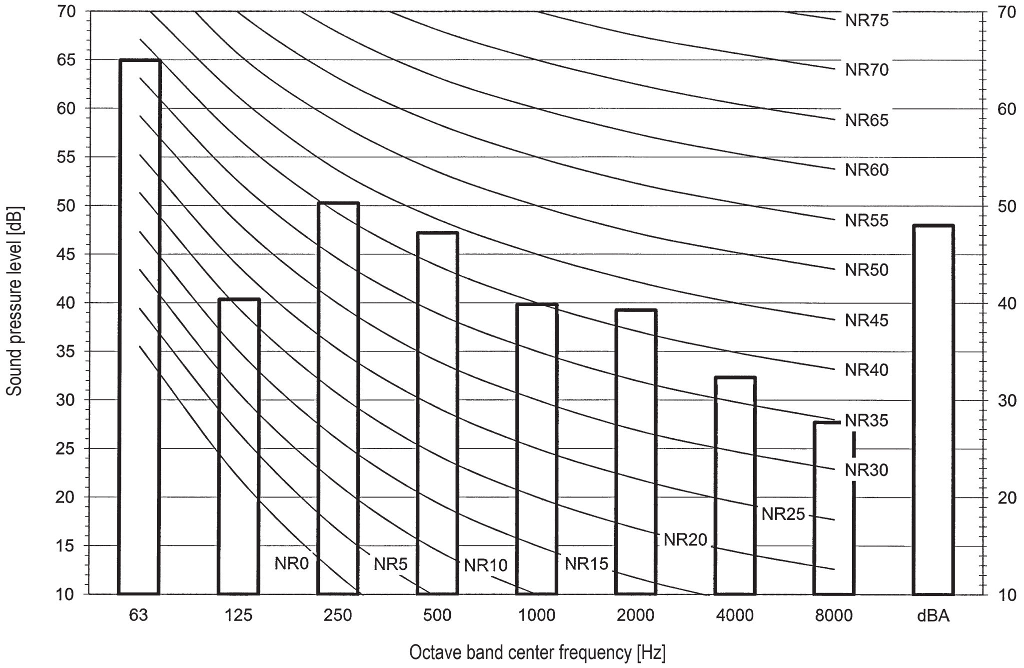
Notes
- dBA = A-weighted sound power level (A scale according to IEC).
- Reference acoustic intensity 0dB = ·10E-6µW/m²·
- Measured according to ISO 3744

3D108943A

11 Sound data

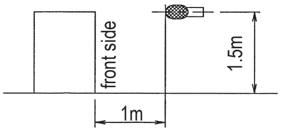
11 - 2 Sound Pressure Spectrum

RWEYQ8T9Y1B



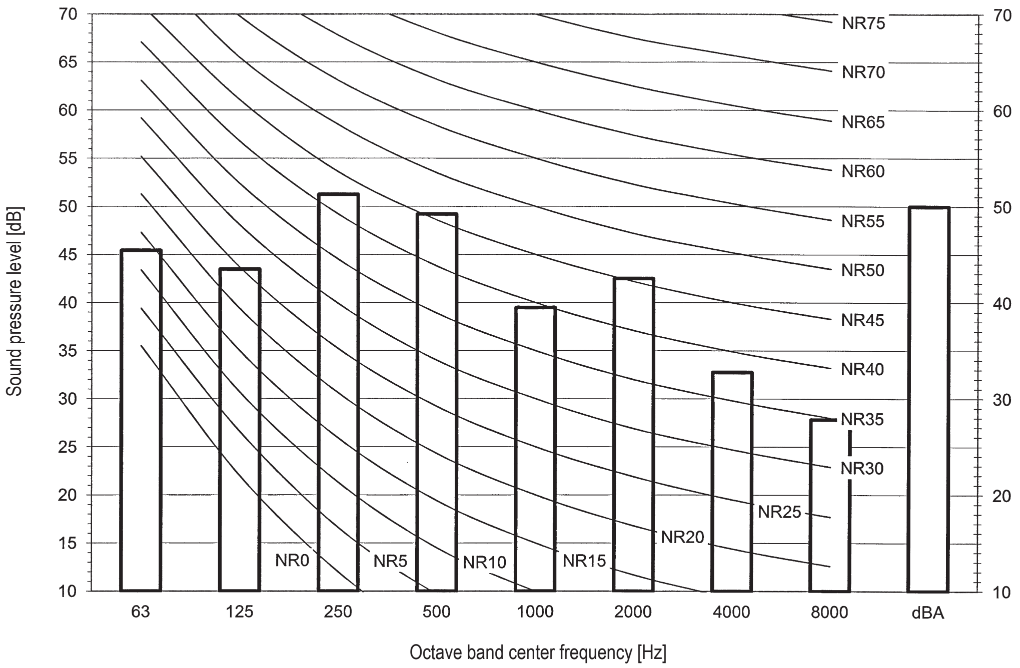
NOTES

- 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 = 20μPa.



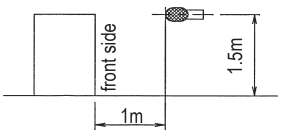
3D108936A

RWEYQ10T9Y1B



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 = 20μPa.

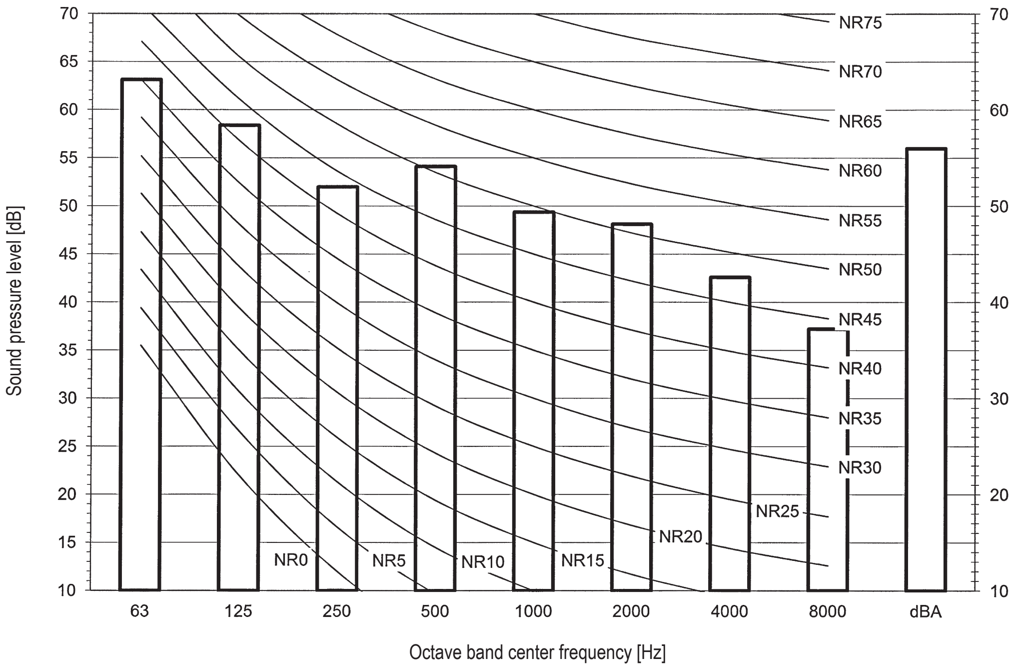


3D108937A

11 Sound data

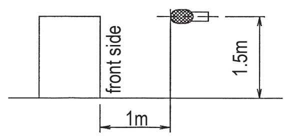
11 - 2 Sound Pressure Spectrum

RWEYQ12T9Y1B



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 = 20μPa.



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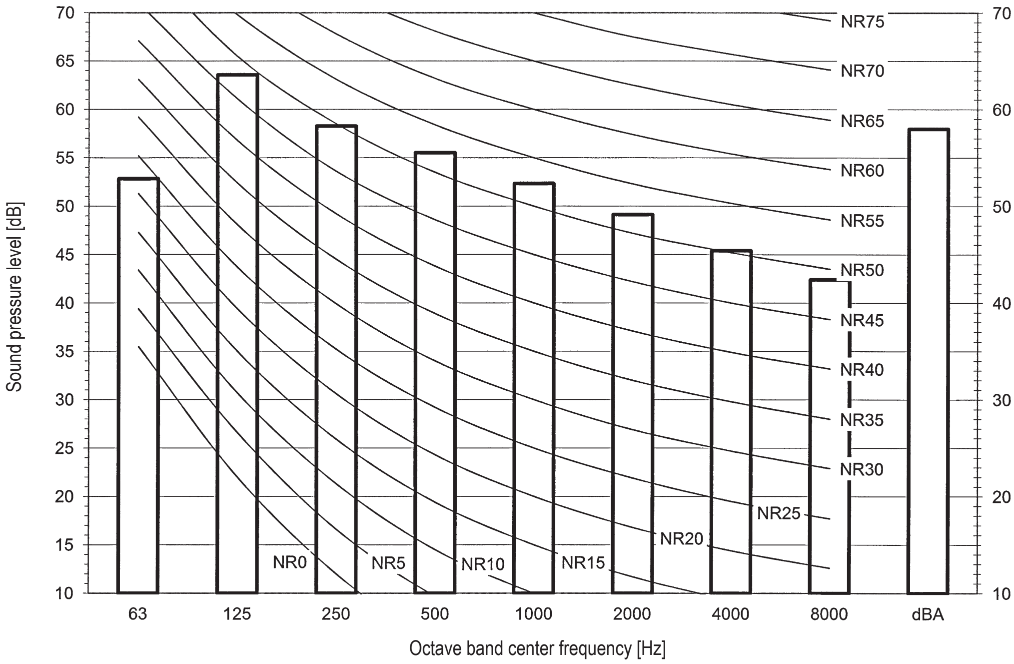
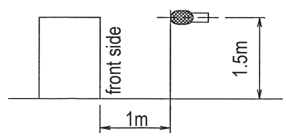
RWEYQ14T9Y1B



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 = 20μPa.



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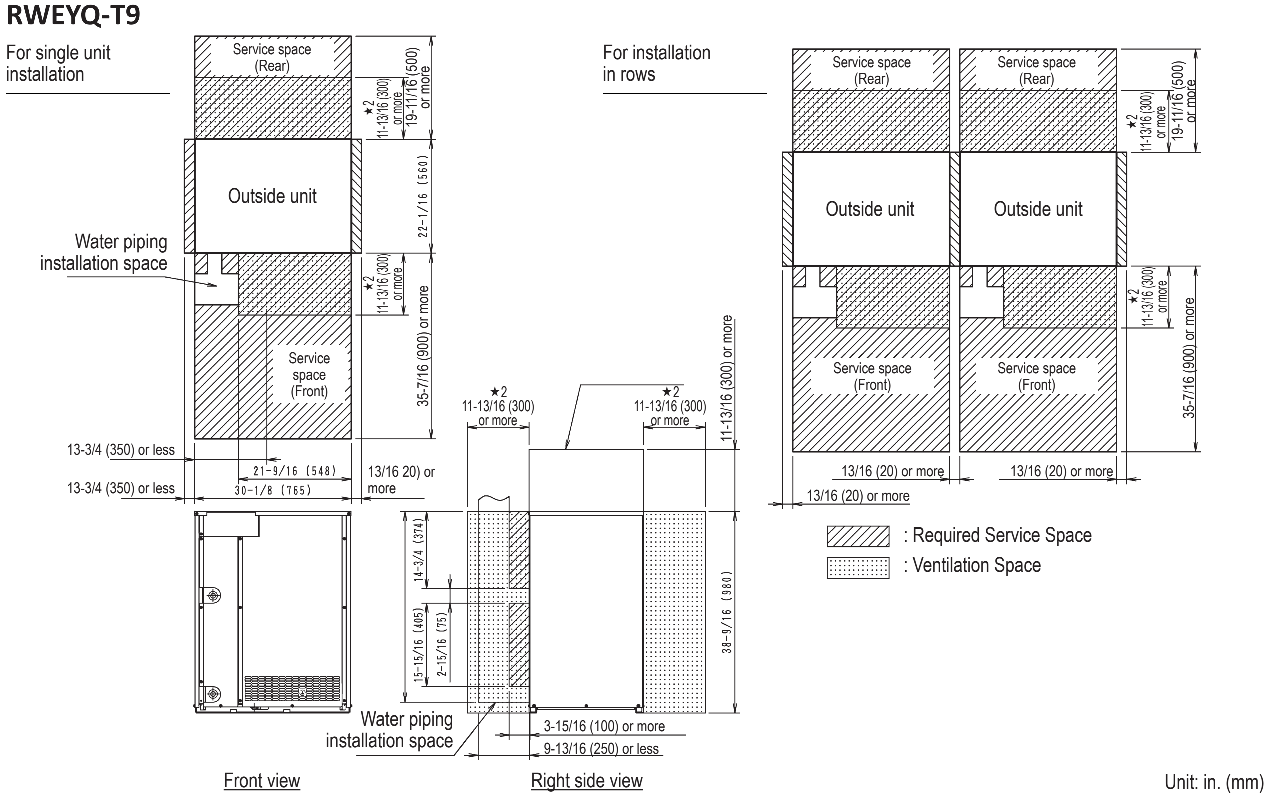
12 Installation

12 - 1 Installation Method

RWEYQ-T9



NOTES

★1. This space is necessary when refrigerant piping is connected to the top of the unit.
★2. This ventialition space is necessary when heat rejection cancellation (Zero energy sissipation) is not active.

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12 Installation

12 - 2 Refrigerant Pipe Selection

12

RWEYQ-T9

VRV4 Watercooled Field Piping Restrictions
Heat pump
Piping restrictions 1/3

		Maximum piping length			Maximum height difference			Total piping length
		Longest pipe (A+[B,G,E,J]) Actual / (Equivalent)[5]	After first branch (B,G,E,J) Actual	After first branch (for multi- (D) Actual / (Equivalent)	Indoor-to-outdoor (H1) Outdoor above indoor / (indoor above outdoor)	Indoor-to-indoor (H2)	Outdoor-to-outdoor (H3)	
VRV DX indoor units only		165/(190)m[5]	40m[1]	10/(13)m	50/(40)m[3]	30m	5m	300m
		120/(140)m	40m[1]	10/(13)m	50/(40)m[3]	30m	5m	500m
Hydrobox connection		120/(140)m[5]	40m	10/(13)m	50/(40)m	15m	5m	300m
RA connection		100/(120)m	40m[2]	-	50/(40)m	15m	-	250m
AHU connection	Pair[6]	50/(55)m[4][5]	-	-	50/(40)m	-	-	-
	Multi	120/(140)m[5]	40m	10/(13)m	50/(40)m	15m	5m	300m
	Mix[7]	120/(140)m	40m	10/(13)m	50/(40)m	15m	5m	300m

Remark

Only available for single model configuration.

(1) If all conditions below are met, the limitation can be extended up to 90 m

a. The piping length between all indoor units and the nearest branch kit is ≤ 40m.

b. It is necessary to increase the size of the gas and liquid piping.

If the increased pipe size is larger than the pipe size of the main pipe, also increase the size of the main pipe.

c. When the piping size is increased, the piping length has to be counted as double.

The total piping length has to be within limitations.

d. The piping length difference between the nearest indoor unit from the first branch to the outdoor unit and the farthest indoor unit to the outdoor unit is ≤ 40m.

(2) If the piping length between the first branch and the BP box or VRV indoor unit is more than 20m, increase the length of the gas and liquid piping between the first branch and the BP box or VRV indoor unit.

(3) An extension to up to 90 m is possible without an additional option kit. Respect the following conditions:

-> If the outdoor units are positioned higher than the indoor units:

a. Size up the liquid piping

b. A dedicated setting on the outdoor unit is required.

-> If the outdoor units are positioned lower than the indoor units:

a. 40~60m Minimum connection ratio: 80%

60~65m Minimum connection ratio: 90%

65~80m Minimum connection ratio: 100%

80~90m Minimum connection ratio: 110%

b. Size up the liquid piping

A dedicated setting on the outdoor unit is required.

(4) The allowable minimum length is 5 m.

(5) If the equivalent piping length between is > 90m, size up the main liquid and gas piping.

(6) Multiple air handling units (AHU)(EKEXV + EKEQ kits).

(7) Mix of AHU units and VRV DX indoor

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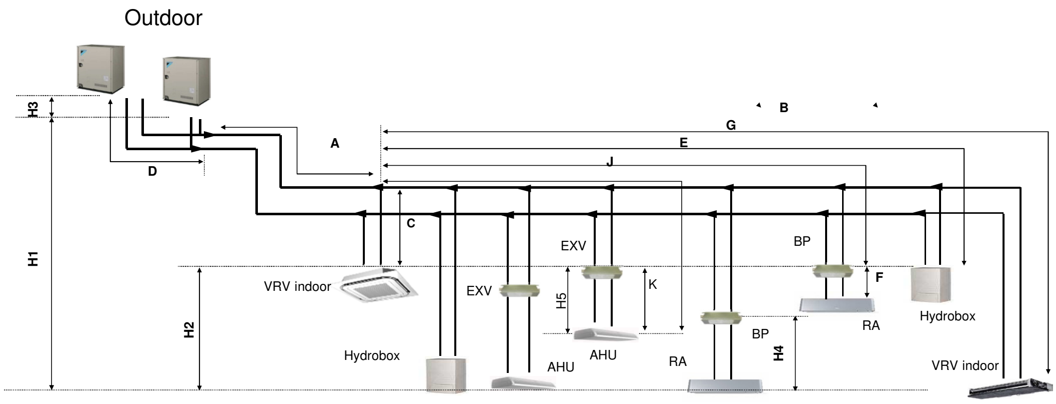
12 Installation

12 - 2 Refrigerant Pipe Selection

RWEYQ-T9

VRV4 Watercooled Field Piping Restrictions
Heat pump
Piping restrictions ·2/3·



Remark

(1) Schematic indication
Illustrations may differ from the actual appearance of the unit.
(2) This is only to illustrate piping length limitations.
Combination of indoor unit types is not allowed.
Refer to combination table ·3D079543· for details about the allowed combinations.

		Allowed piping length		Maximum height difference	
		·BP· to ·RA·	·EXV· to ·AHU·	·BP· to ·RA·	·EXV· to ·AHU·
		(F)	(K)	(H4)	(H5)
·RA· connection		2~15m	-	5m	-
·AHU· connection	**Pair**	-	≦5m	-	5m
	Multi (1)	-	≦5m	-	5m
	Mix (2)	-	≦5m	-	5m

Remark

(1) Multiple air handling units (·AHU·)(·EKEXV· + ·EKEQ· kits).
(2) Mix of ·AHU· units and ·VRV DX indoor·

3D108948

12 Installation
12 - 2 Refrigerant Pipe Selection

RWEYQ-T9

12

VRV4 Watercooled Field Piping Restrictions
Heat pump
Piping restrictions 3/3

System pattern Allowed connection ratio (CR) Other combinations are not allowed.		Total		Allowed capacity			
		Capacity	Indoor unit quantity (VRV, RA, AHU, Hydrobox)	VRV DX indoor unit	RA DX indoor unit	Hydrobox unit	Air handling unit (AHU)
VRV DX indoor units only	Including FXZQ15 or FXAQ15	50~125%	Max.64	50~125%	-	-	-
	Including FXFQ20 or FXFQ25	50~130%	Max.64	50~130%	-	-	-
	Only FXDQ, FXSQ and FXAQ20~63	50~150%	Max.64	50~150%	-	-	-
	All other models (single system)	50~150%	Max.64	50~150%			
	All other models (multi system)	50~130%	Max.64	50~130%	-	-	-
VRV DX indoor unit + RA DX		80~130%	Max.32(1)	0~130%	0~130%	-	-
·RA DX· indoor units only		80~130%	Max.32(1)	-	80~130%	-	-
VRV DX indoor unit + LT hydrobox		50~130%	Max.32	50~130%	-	0~80%	-
VRV DX indoor unit + AHU		50~110%(3)	Max.64(2)	50~110%	-	-	0~110%
AHU only(4) Pair + multi		90~110%(3)	Max.64(2)	-	-	-	90~110%

Remark
(1) There is no restriction on the number of connectable BP boxes.
(2) For connection with AHU
EKEXV kits are also considered indoor units.
(3) Restrictions regarding the air handling unit capacity
(4) 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

About ventilation applications

I. FXMQ_MF units are considered air handling units, following air handling unit limitations.
Maximum connection ratio when combined with VRV DX indoor units: <30%.
Maximum connection ratio when only air handling units are connected: <100%.
For information on the operation range, refer to the documentation of the FXMQ_MF unit.

II. Biddle air curtains are considered air handling units, following air handling unit limitations:
For information on the operation range, refer to the documentation of the Biddle unit.

III. [EKEXV + EKEQ] units combined with an air handling unit are considered air handling units, following air handling unit limitations.
For information on the operation range, refer to the documentation of the EKEXV-EKEQ unit.

IV. VKM units are considered to be regular VRV DX indoor units.
For information on the operation range, refer to the documentation of the VKM unit.

V. Because there is no refrigerant connection with the outdoor unit (only communication F1/F2), VAM units do not have connection limitations.
However, since there is communication via F1/F2, count them as regular indoor unit when calculating the maximum allowed number of connectable indoor units.

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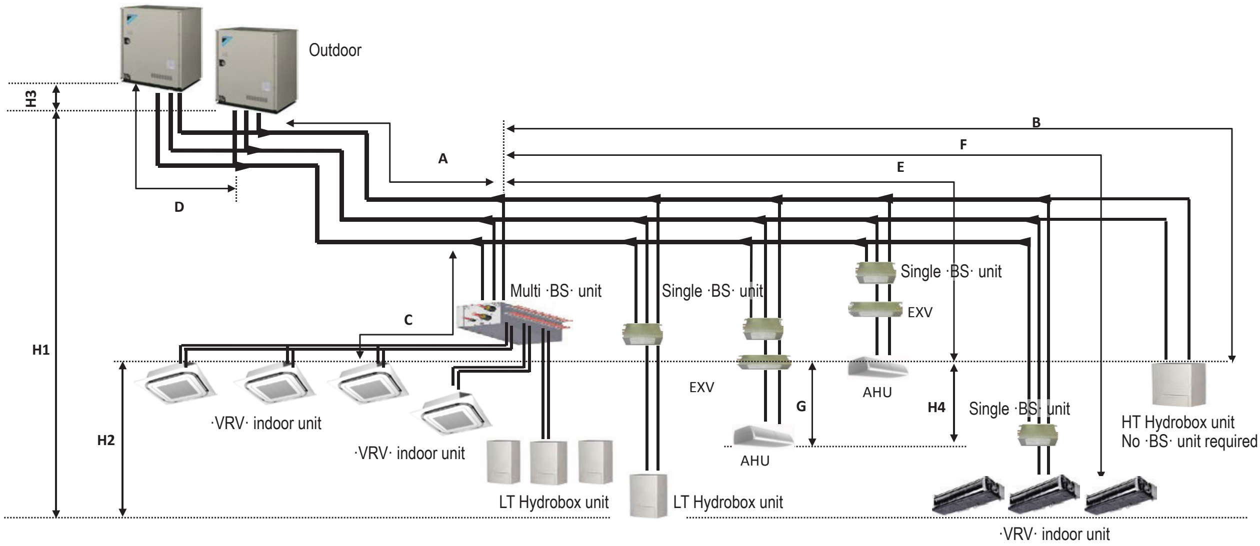
12 Installation
12 - 2 Refrigerant Pipe Selection

RWEYQ-T9



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12 Installation

12 - 2 Refrigerant Pipe Selection

RWEYQ-T9

VRV4 Watercooled Field Piping Restrictions
Heat recovery
Piping restrictions

		Total		Allowed capacity				
		Capacity	Maximum indoor unit quantity (*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	Including FXZQ15 or FXAQ15	50 ~ 125 %	64	50 ~ 125 %	0 ~ 50 %	Not allowed	Not allowed	Not allowed
	Including FXFQ20 or FXFQ25	50 ~ 130 %	64	50 ~ 130 %	0 ~ 50 %	Not allowed	Not allowed	Not allowed
	Only FXDQ, FXSQ and FXAQ20~63	50 ~ 150 %	64	50 ~ 150 %	0 ~ 50 %	Not allowed	Not allowed	Not allowed
	All other models (single system)	50 ~ 150 %	64	50 ~ 150 %	0 ~ 50 %	Not allowed	Not allowed	Not allowed
	All other models (multi system)	50 ~ 130 %	64	50 ~ 130 %	0 ~ 50 %	Not allowed	Not allowed	Not allowed
·VRV· indoor units + LT Hydrobox		50 ~ 130%	32	50 ~ 130 %	0 ~ 50 %	Not allowed	0 ~ 80%	Not allowed
·VRV· indoor units + HT Hydrobox		50 ~ 200%	32	50 ~ 110 %	Not allowed	0 ~ 100 %	Not allowed	Not allowed
"·VRV· indoor units + HT Hydrobox + LT Hydrobox Where (·VRV· indoor units + LT Hydrobox)"		"50 ~ 200% 50 ~ 130%"	32	50 ~ 110 %	Not allowed	"0 ~ 100 % -"	0 ~ 80%	Not allowed
AHU only Pair + Multi		Not allowed	Not allowed	Not allowed	Not allowed	Not allowed	Not allowed	Not allowed
·VRV· indoor unit + ·AHUs·		50 ~ 110 %	64	50 ~ 110 %	0 ~ 50 %	Not allowed		0 ~ 60 %

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
	Maximum ·100· class	Maximum ·160· class	Maximum ·250· class	Maximum ·140· class	Maximum ·250· class
LT Hydrobox unit	= 1 x HXY080	= Maximum ·2 x HXY080· Or maximum ·1 x HXY125·	= Maximum ·3 x HXY080· Or maximum ·2 x HXY125· Or ·HXY080 + HXY125·	= Maximum ·1 x HXY080· Or maximum ·1 x HXY125·	= Maximum ·3 x HXY080· Or maximum ·2 x HXY125· Or ·HXY080 + HXY125·

NOTES

1. 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.
2. When using Hydrobox units, do not combine them with other types of units.

3D108949A

12 Installation
12 - 2 Refrigerant Pipe Selection

RWEYQ-T9

VRV4 Watercooled Field Piping Restrictions
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
·VRV· indoor units only	165/190 m (*3)	40 m (*1)	10/13 m	50/40 m (*2)	30m	5 m	300 m
	120/140m (*3)	40 m (*1)		50/40 m (*2)	30m		500 m
Hydrobox unit	120/140m (*3)	40 m		50/40 m	15m		300 m
AHU (*4)	120/140m (*3)	40 m		50/40 m	15m		300 m

	Maximum piping length	Maximum height difference
	EXV --> AHU: G	EXV --> AHU: H4
AHU (*4)	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.
   1.2. In case of multi BS units, the piping length between all indoor units and the multi BS unit is ≤ ·40·m.
   1.3. 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.
   1.4. When the piping size is increased, the piping length has to be counted as double.
   The total piping length has to be within limitations.
   1.5. 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. Mix of ·DX· units and ·AHU's·
5. If there is no branch kit present in the system, the longest pipe after the multi ·BS· unit has to be ≤ ·40·m.

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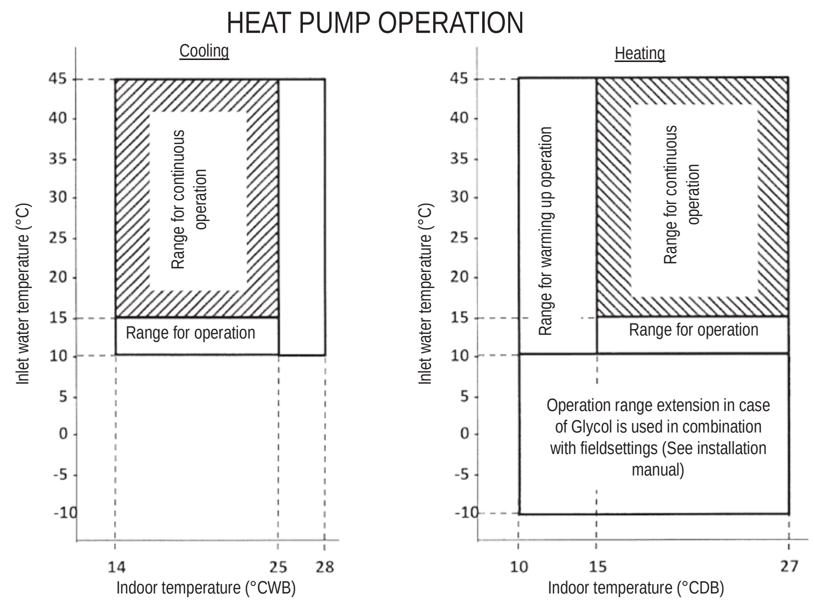
13 Operation range

13 - 1 Operation Range

RWEYQ-T9



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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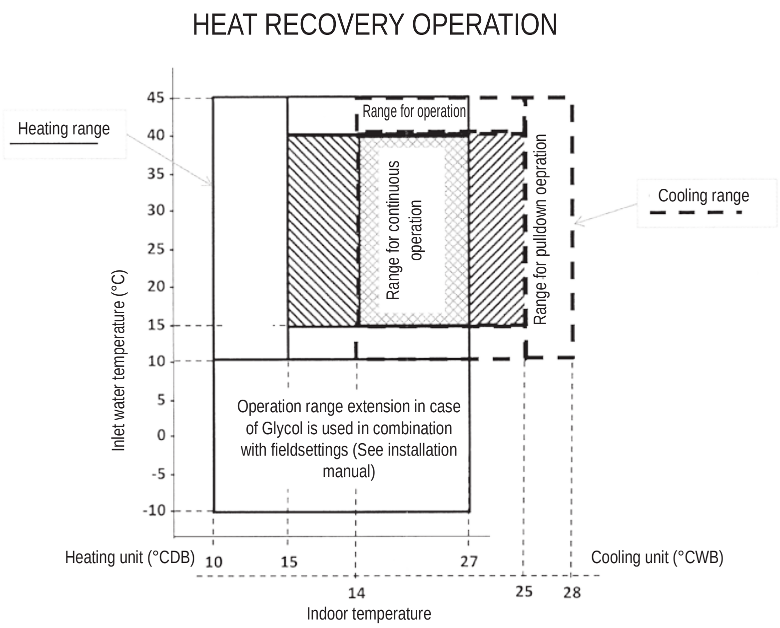
RWEYQ-T9



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14 Appropriate Indoors

14 - 1 Appropriate Indoors

RWEYQ-T9

Recommended indoor units for ·RWEYQ*T*· outdoor units

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

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 ·RWEYQ*T*· 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

Covered by ·ENER LOT10·

FTXJ25-35-50
FTXA20-25-35-42-50
FTXM20R-25R-35R-42R-50R-60R-71R
FLXS25-35-50-60
FVXM25F-35F-50F
FVXG25-35-50
FVXM25A-35A-50A
CVXM20A

Outside the scope of ·ENER LOT21·

EKEXV50-63-80-100-125-140-200-250-400-500 + EKEQM / EKEQF
HXY080-125
HXHD125-200
VKM50-80-100
CYVS100-150-200-250
CYVM100-150-200-250
CYVL100-150-200-250
EKVDX32-50-80-100 + VAMJ8

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09/2022