LG

TOTAL HVAC SOLUTION PROVIDER

ENGINEERING PRODUCT DATA BOOK

Air-Cooled Scroll Chiller

R32

Cooling Only(50Hz/60Hz)

260306

LG

Life's Good

P/No. : MFL67285217

General Information

1. Nomenclature
2. Model Lineup
3. Selection Procedure

1. Nomenclature

Model Name	KC	A	H	020	L	D	T	C
No.	1	2	3	4	5	6	7	8

No.	Signification
1	**Scroll Chiller System using R32** KC : R32 / Chiller
2	**Cooling and Operation type** A : Air cooled, Cooling Only W : Water cooled, Cooling Only H : Air cooled, Heat Pump K : Water cooled, Heat Pump
3	**Compressor type** H : Scroll type (High pressure type) R : Scroll type (Low pressure type)
4	**Cooling capacity** 020 : 20RT, 040 : 40RT, …
5	**Power supply** V : 208-230V / 60Hz / 3phase L : 380-415 V / 50,60Hz / 3 phase H : 460V / 60Hz / 3 phase
6	**Model type** A : Module model B : Independent Main unit C : Slave unit D : Independent model
7	**Procurement Status and AU Classification** A: Commercial standard (Plate evaporator / Fin&Tube condenser), AU code=DMZ G : Commercial standard (Plate evaporator / Fin&Tube condenser), AU code=DNZ T : Commercial standard (Shell&Tube evaporator / Fin&Tube condenser), AU code=DNZ
8	**Development Serial Number**

2. Model Lineup

■ Independent model

UNITS	Independent model Capacity [RT]								
	17	20	23	33	40	45	50	60	67
1 Unit	O	O	O						
2 Unit				O	O	O			
3 Unit							O	O	O

■ Module model : Standard Group

Below standard group will provide the maximum efficiency among all possible group, which does not require the constant flow valve, provided that installation method A is used. This configuration is applicable only for installation Method A – please refer to “Water Pipe Connection” of “Installation Chapter”

Set Model (Module) Capacity	Independent model Capacity [RT]								
	17	20	23	33	40	45	50	60	67
066				2					
080					2				
083				1			1		
090						2			
100							2		
112						1			1
116				2			1		
120								2	
133				1			2		
134									2
140					2			1	
150							3		
157						2			1
160					1			2	
166				2			2		
180								3	
183				1			3		
200							4		
201									3
216				2			3		
220					1			3	
224						2			2
233				1			4		
240								4	
246						1			3
250							5		
260					2			3	
268									4
280					1			4	
291						2			3
300									5
313						1			4
335									5

Note

For more information, please refer to “Table 2 : All Possible Group” of “Installation Chapter”.

3. Selection Procedure

■ Selection guide

- The product information required in various requirements is written in detail from Chapter about ‘Specifications’, ‘Performance Data’.
- If you need a product for special system application or product with the condition outside this PDB, please getconsultation from nearby sales office or specialty store.

■ Selection procedure

1) Check usage condition

Before selecting the model, the following usage conditions must be decided.

- Cold and hot water in/out temperature and outdoor temperature
- Cold and hot water flow amount

  (Flow amount can be calculated if you know the freezing load and chilled water in/out temperature.)

2) Selecting candidate model

: Required rated capability is selected through load calculation, and you can select the corresponding modelby looking at Chapter about***‘Performance Data’***.

: When you select the candidate model, do not select a model with less volume than the required ratedcapability, but select a model with the same or bigger volume.

3) Performance adjustment for fouling

: The data in this technical data manual is based on chilled water fouling coefficient of 0.000018 m²℃/W.

4) Performance adjustment after adding freeze and burst prevention solution

: If cooling operation is performed in Winter, or if water inside the cycle is not removed in the resting phase,you have to add freeze and burst prevention solution to protect from freeze and burst.

: Freezer characteristics change by adding freeze and burst prevention solution, so it should be adjusted.

: Refer to the ***‘Water Pipe Connection’*** section within installation chapter for the adjustment coefficient after adding freeze and burst prevention solution.

* Glycol Solution is required for Freezing temperature operation at or below 5°C (See table for percentage of glycol concentration as a function of outdoor temperature on the ***‘Water Pipe Connection’*** section within installation chapter)

5) Finalizing the model

: As a result of verifying product performance and power consumption considering various adjustment coefficients for the candidate models, if there is no problem, you can finalize it as the final model.

: If there is a problem, review again from the candidate model selection stage.

Inverter Scroll Chiller (R32)

Product Data

1. List of Functions

Classification	Function	Applicability
Reliability	High Pressure Sensor	O
	Low Pressure Sensor	O
	Over Current Protection Equipment	O
	Discharge Overheat Temperature Control	O
	Between Phase Protection Equipment	O
	3 Minutes Delayed Operation	O
	Compression Ratio Limit	O
	Self Diagnosis	O
Convenience	Automatic Re-Start	O
	Remote Control	O
	Low Noise Operation at Night	O
	Automatic Operation	O
	Schedule Operation	O
Network	ModBus	O

Note

1. O : Applied, X : Not applied

2. Specifications

■ 220V

Category		Unit	KCAH020VDTC	KCAH023VDTC
Power Supply	Case 1	V, Phase, Hz	208-230, 3, 60	208-230, 3, 60
	Limit Range of Voltage	V	187 ~ 253	187 ~ 253
Cooling Capacity	Rated	usRT	18.48	21.04
		kW	65	74
		kBtu/h	222	252
Power Input	Cooling(Rated)	kW	21.67	26.43
		kBtu/h	73.94	90.18
Efficiency	EER	W/W	3.00	2.80
		Btu/(W*h)	10.24	9.55
	IPLV	W/W	5.90	5.90
		Btu/(W*h)	20.13	20.13
Compressor	Type	-	Inverter Scroll	Inverter Scroll
	Model x No.	-	2	2
	Oil Type	-	FW68L(PVE)	FW68L(PVE)
	Oil Charging amount	cc x No.	1400 x 2	1400 x 2
Refrigerant	Type	-	R32	R32
	Precharged Amount	kg	4.7 x 2	4.7 x 2
		lb	10.4 x 2	10.4 x 2
	GWP(Global Warming Potential)	-	675	675
	t-CO_2 eq.	-	6.345	6.345
Evaporator	Type	-	Shell & Tube	Shell & Tube
	Pressure drop	kPa	30	40
		ftH_20	10.0	13.4
	Operating maxium pressure (Refrigrant / Water)	kg/㎠	42 / 10	42 / 10
		ftH_20	1,380 / 328	1,380 / 328
	Water Flow Rate_Standard (Cooling)	LPM	186	211
		GPM	49.1	55.7
	Water Flow Rate_Min.	LPM	73	73
		GPM	19.3	19.3
	Inlet/Outlet diameter(Water pipe)	inch	2	2
Condensor	Rows x Columns x FPI	-	(3 x 48 x 16) x 2	(3 x 48 x 16) x 2
	Fin Type	-	CORRUGATE	CORRUGATE
	Tube Diameter/Thickness	Φ,mm	7	7
	Type	-	Fin & Tube	Fin & Tube
	Material	-	Al&Cu	Al&Cu
Fan Motor	Type	-	BLDC	BLDC
	Output	W x No.	900 x 2	900 x 2
	Number of Fans	EA	2	2
	Number of Vanes	EA	6	6
	Air Flow Rate(Rated)	m^3/min x No.	246 x 2	246 x 2
		CFM x No.	8,687 x 2	8,687 x 2
Weight	Net	kg	570	570
		lb	1,257	1,257
Dimensions	Net	mm	765 x 2,210 x 2,154	765 x 2,210 x 2,154
		inch	30.1 x 87.0 x 84.8	30.1 x 87.0 x 84.8
Sound Pressure Level	Cooling(Rated)	dB(A)	71	72
Sound Power Level	Cooling(Rated)	dB(A)	86	87
Remote Control	-	-	Modbus	Modbus
Guaranteed Load Capacity Range	-	-	20 ~ 100 %	20 ~ 100 %

Note

1. Due to our policy of innovation some specifications may be changed without notification.
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3. Sound pressure level is measured on the rated condition in the anechoic rooms by ISO 3745 standard.
   Sound power level is measured ISO 9614:2009 by sound intensity method.
   Therefore, these values can be increased owing to ambient conditions during operation.
4. Performances are based on the following conditions :
   Capacities and Inputs are based on the following conditions
   - Cooling : Outdoor air temp. 35°C, Water inlet temp. 12°C, Water Outlet temp. 7°C
   - Heating : Outdoor air temp. 7°C, Water inlet temp. 40°C, Water Outlet temp. 45°C

2. Specifications

Category		Unit	KCAH033VDTC	KCAH040VDTC
Power Supply	Case 1	-	208-230, 3, 60	208-230, 3, 60
	Limit Range of Voltage	V	187 ~ 253	187 ~ 253
Cooling Capacity	Rated	usRT	32.42	36.96
		kW	114	130
		kBtu/h	389	444
Power Input	Cooling(Rated)	kW	36.77	43.33
		kBtu/h	125.50	147.80
Efficiency	EER	W/W	3.10	3.00
		Btu/(W*h)	10.58	10.24
	IPLV	W/W	5.90	5.90
		Btu/(W*h)	20.13	20.13
Compressor	Type	-	Inverter Scroll	Inverter Scroll
	Model x No.	-	4	4
	Oil Type	-	FW68L(PVE)	FW68L(PVE)
	Oil Charging amount	cc x No.	1400 x 4	1400 x 4
Refrigerant	Type	-	R32	R32
	Precharged Amount	kg	4.7 x 4	4.7 x 4
		lb	10.4 x 4	10.4 x 4
	GWP(Global Warming Potential)	-	675	675
	t-CO_2 eq.	-	12.69	12.69
Evaporator	Type	-	Shell & Tube	Shell & Tube
	Pressure drop	kPa	25	30
		ftH_20	8.4	10.0
	Operating maxium pressure (Refrigrant / Water)	kg/㎠	42 / 10	42 / 10
		ftH_20	1,380 / 328	1,380 / 328
	Water Flow Rate_Standard (Cooling)	LPM	326	371
		GPM	86.1	98.0
	Water Flow Rate_Min.	LPM	146	146
		GPM	38.6	38.6
	Inlet/Outlet diameter(Water pipe)	inch	2-1/2	2-1/2
Condensor	Rows x Columns x FPI	-	(3 x 48 x 16) x 4	(3 x 48 x 16) x 4
	Fin Type	-	CORRUGATE	CORRUGATE
	Tube Diameter/Thickness	Φ,mm	7	7
	Type	-	Fin & Tube	Fin & Tube
	Material	-	Al&Cu	Al&Cu
Fan Motor	Type	-	BLDC	BLDC
	Output	W x No.	900 x 4	900 x 4
	Number of Fans	EA	4	4
	Number of Vanes	EA	6	6
	Air Flow Rate(Rated)	m^3/min x No.	246 x 4	246 x 4
		CFM x No.	8,687 x 4	8,687 x 4
Weight	Net	kg	1,070	1,070
		lb	2,359	2,359
Dimensions	Net	mm	1,528 x 2,210 x 2,154	1,528 x 2,210 x 2,154
		inch	60.2 x 87.0 x 84.8	60.2 x 87.0 x 84.8
Sound Pressure Level	Cooling(Rated)	dB(A)	72	74
Sound Power Level	Cooling(Rated)	dB(A)	87	90
Remote Control	-	-	Modbus	Modbus
Guaranteed Load Capacity Range	-	-	20 ~ 100 %	20 ~ 100 %

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   - Heating : Outdoor air temp. 7°C, Water inlet temp. 40°C, Water Outlet temp. 45°C

2. Specifications

Category		Unit	KCAH045VDTC	KCAH050VDTC
Power Supply	Case 1	-	208-230, 3, 60	208-230, 3, 60
	Limit Range of Voltage	V	187 ~ 253	187 ~ 253
Cooling Capacity	Rated	usRT	42.08	48.62
		kW	148	171
		kBtu/h	504	584
Power Input	Cooling(Rated)	kW	52.87	55.16
		kBtu/h	180.40	188.20
Efficiency	EER	W/W	2.80	3.10
		Btu/(W*h)	9.55	10.58
	IPLV	W/W	5.90	5.90
		Btu/(W*h)	20.13	20.13
Compressor	Type	-	Inverter Scroll	Inverter Scroll
	Model x No.	-	4	6
	Oil Type	-	FW68L(PVE)	FW68L(PVE)
	Oil Charging amount	cc x No.	1400 x 4	1400 x 6
Refrigerant	Type	-	R32	R32
	Precharged Amount	kg	4.7 x 4	4.7 x 6
		lb	10.4 x 4	10.4 x 6
	GWP(Global Warming Potential)	-	675	675
	$t\text{-}CO_2$ eq.	-	12.69	19.035
Evaporator	Type	-	Shell & Tube	Shell & Tube
	Pressure drop	kPa	40	25
		ftH_20	13.4	8.4
	Operating maxium pressure (Refrigrant / Water)	kg/㎠	42 / 10	42 / 10
		ftH_20	1,380 / 328	1,380 / 328
	Water Flow Rate_Standard (Cooling)	LPM	423	489
		GPM	111.7	55.7
	Water Flow Rate_Min.	LPM	146	219
		GPM	38.6	57.9
	Inlet/Outlet diameter(Water pipe)	inch	2-1/2	2-1/2
Condensor	Rows x Columns x FPI	-	(3 x 48 x 16) x 4	(3 x 48 x 16) x 6
	Fin Type	-	CORRUGATE	CORRUGATE
	Tube Diameter/Thickness	Φ,mm	7	7
	Type	-	Fin & Tube	Fin & Tube
	Material	-	Al&Cu	Al&Cu
Fan Motor	Type	-	BLDC	BLDC
	Output	W x No.	900 x 4	900 x 6
	Number of Fans	EA	4	6
	Number of Vanes	EA	6	6
	Air Flow Rate(Rated)	m^3/min x No.	246 x 4	246 x 6
		CFM x No.	8,687 x 4	8,687 x 6
Weight	Net	kg	1,070	1,569
		lb	2,359	2,359
Dimensions	Net	mm	1,528 x 2,210 x 2,154	2,291 x 2,210 x 2,154
		inch	60.2 x 87.0 x 84.8	90.2 x 87.0 x 84.8
Sound Pressure Level	Cooling(Rated)	dB(A)	75	74
Sound Power Level	Cooling(Rated)	dB(A)	91	88
Remote Control	-	-	Modbus	Modbus
Guaranteed Load Capacity Range	-	-	20 ~ 100 %	20 ~ 100 %

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   Capacities and Inputs are based on the following conditions
   - Cooling : Outdoor air temp. 35°C, Water inlet temp. 12°C, Water Outlet temp. 7°C
   - Heating : Outdoor air temp. 7°C, Water inlet temp. 40°C, Water Outlet temp. 45°C

2. Specifications

Category		Unit	KCAH060VDTC	KCAH067VDTC
Power Supply	Case 1	-	208-230, 3, 60	208-230, 3, 60
	Limit Range of Voltage	V	187 ~ 253	187 ~ 253
Cooling Capacity	Rated	usRT	55.45	63.12
		kW	195	222
		kBtu/h	666	756
Power Input	Cooling(Rated)	kW	65.00	79.30
		kBtu/h	221.80	270.60
Efficiency	EER	W/W	3.00	2.80
		Btu/(W*h)	10.24	9.55
	IPLV	W/W	5.90	5.90
		Btu/(W*h)	20.13	20.13
Compressor	Type	-	Inverter Scroll	Inverter Scroll
	Model x No.	-	6	6
	Oil Type	-	FW68L(PVE)	FW68L(PVE)
	Oil Charging amount	cc x No.	1400 x 6	1400 x 6
Refrigerant	Type	-	R32	R32
	Precharged Amount	kg	4.7 x 6	4.7 x 6
		lb	10.4 x 6	10.4 x 6
	GWP(Global Warming Potential)	-	675	675
	$t\text{-}CO_2$ eq.	-	19.035	19.035
Evaporator	Type	-	Shell & Tube	Shell & Tube
	Pressure drop	kPa	30	40
		ftH_20	10.0	13.4
	Operating maxium pressure (Refrigrant / Water)	kg/㎠	42 / 10	42 / 10
		ftH_20	1,380 / 328	1,380 / 328
	Water Flow Rate_Standard (Cooling)	LPM	557	634
		GPM	147.1	167.5
	Water Flow Rate_Min.	LPM	219	219
		GPM	57.9	57.9
	Inlet/Outlet diameter(Water pipe)	inch	2-1/2	2-1/2
Condensor	Rows x Columns x FPI	-	(3 x 48 x 16) x 6	(3 x 48 x 16) x 6
	Fin Type	-	CORRUGATE	CORRUGATE
	Tube Diameter/Thickness	Φ,mm	7	7
	Type	-	Fin & Tube	Fin & Tube
	Material	-	Al&Cu	Al&Cu
Fan Motor	Type	-	BLDC	BLDC
	Output	W x No.	900 x 6	900 x 6
	Number of Fans	EA	6	6
	Number of Vanes	EA	6	6
	Air Flow Rate(Rated)	m^3/min x No.	246 x 6	246 x 6
		CFM x No.	8,687 x 6	8,687 x 6
Weight	Net	kg	1,569	1,569
		lb	3,459	3,459
Dimensions	Net	mm	2,291 x 2,210 x 2,154	2,291 x 2,210 x 2,154
		inch	90.2 x 87.0 x 84.8	90.2 x 87.0 x 84.8
Sound Pressure Level	Cooling(Rated)	dB(A)	76	77
Sound Power Level	Cooling(Rated)	dB(A)	91	92
Remote Control	-	-	Modbus	Modbus
Guaranteed Load Capacity Range	-	-	20 ~ 100 %	20 ~ 100 %

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   - Cooling : Outdoor air temp. 35°C, Water inlet temp. 12°C, Water Outlet temp. 7°C
   - Heating : Outdoor air temp. 7°C, Water inlet temp. 40°C, Water Outlet temp. 45°C

2. Specifications

■ 380V

Category		Unit	KCAH017LDTC	KCAH020LDTC
Power Supply	Case 1	V, Phase, Hz	380-415, 3, 50/60	380-415, 3, 50/60
	Limit Range of Voltage	V	342 ~ 456	342 ~ 456
Cooling Capacity	Rated	usRT	16.21	18.48
		kW	57	65
		kBtu/h	194	222
Power Input	Cooling(Rated)	kW	18.39	21.67
		kBtu/h	62.74	73.94
Efficiency	EER	W/W	3.10	3.00
		Btu/(W*h)	10.58	10.24
	IPLV	W/W	5.90	5.90
		Btu/(W*h)	20.13	20.13
Compressor	Type	-	Inverter Scroll	Inverter Scroll
	Model x No.	-	2	2
	Oil Type	-	FW68L(PVE)	FW68L(PVE)
	Oil Charging amount	cc x No.	1400 x 2	1400 x 2
Refrigerant	Type	-	R32	R32
	Precharged Amount	kg	4.7 x 2	4.7 x 2
		lb	10.4 x 2	10.4 x 2
	GWP(Global Warming Potential)	-	675	675
	t-CO_2 eq.	-	6.345	6.345
Evaporator	Type	-	Shell & Tube	Shell & Tube
	Pressure drop	kPa	25	30
		ftH_20	8.4	10.0
	Operating maxium pressure (Refrigrant / Water)	kg/㎠	42 / 10	42 / 10
		ftH_20	1,380 / 328	1,380 / 328
	Water Flow Rate_Standard (Cooling)	LPM	163	186
		GPM	43.1	49.1
	Water Flow Rate_Min.	LPM	73	73
		GPM	19.3	19.3
	Inlet/Outlet diameter(Water pipe)	inch	2	2
Condensor	Rows x Columns x FPI	-	(3 x 48 x 16) x 2	(3 x 48 x 16) x 2
	Fin Type	-	CORRUGATE	CORRUGATE
	Tube Diameter/Thickness	Φ,mm	7	7
	Type	-	Fin & Tube	Fin & Tube
	Material	-	Al&Cu	Al&Cu
Fan Motor	Type	-	BLDC	BLDC
	Output	W x No.	1,500 x 2	1,500 x 2
	Number of Fans	EA	2	2
	Number of Vanes	EA	6	6
	Air Flow Rate(Rated)	m^3/min x No.	246 x 2	246 x 2
		CFM x No.	8,687 x 2	8,687 x 2
Weight	Net	kg	570	570
		lb	1,257	1,257
Dimensions	Net	mm	765 x 2,210 x 2,154	765 x 2,210 x 2,154
		inch	30.1 x 87.0 x 84.8	30.1 x 87.0 x 84.8
Sound Pressure Level	Cooling(Rated)	dB(A)	69	71
Sound Power Level	Cooling(Rated)	dB(A)	84	86
Remote Control	-	-	Modbus	Modbus
Guaranteed Load Capacity Range	-	-	20 ~ 100 %	20 ~ 100 %

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   - Heating : Outdoor air temp. 7°C, Water inlet temp. 40°C, Water Outlet temp. 45°C

2. Specifications

Category		Unit	KCAH023LDTC	KCAH033LDTC
Power Supply	Case 1	-	380-415, 3, 50/60	380-415, 3, 50/60
	Limit Range of Voltage	V	342 ~ 456	342 ~ 456
Cooling Capacity	Rated	usRT	21.04	32.42
		kW	74	114
		kBtu/h	252	389
Power Input	Cooling(Rated)	kW	26.43	36.77
		kBtu/h	90.18	125.50
Efficiency	EER	W/W	2.80	3.10
		Btu/(W*h)	9.55	10.58
	IPLV	W/W	5.90	5.90
		Btu/(W*h)	20.13	20.13
Compressor	Type	-	Inverter Scroll	Inverter Scroll
	Model x No.	-	2	4
	Oil Type	-	FW68L(PVE)	FW68L(PVE)
	Oil Charging amount	cc x No.	1400 x 2	1400 x 4
Refrigerant	Type	-	R32	R32
	Precharged Amount	kg	4.7 x 2	4.7 x 4
		lb	10.4 x 2	10.4 x 4
	GWP(Global Warming Potential)	-	675	675
	$t\text{-}CO_2$ eq.	-	6.345	12.69
Evaporator	Type	-	Shell & Tube	Shell & Tube
	Pressure drop	kPa	40	25
		ftH_20	13.4	8.4
	Operating maxium pressure (Refrigrant / Water)	kg/㎠	42 / 10	42 / 10
		ftH_20	1,380 / 328	1,380 / 328
	Water Flow Rate_Standard (Cooling)	LPM	211	326
		GPM	55.7	86.1
	Water Flow Rate_Min.	LPM	73	146
		GPM	19.3	38.6
	Inlet/Outlet diameter(Water pipe)	inch	2	2-1/2
Condensor	Rows x Columns x FPI	-	(3 x 48 x 16) x 2	(3 x 48 x 16) x 4
	Fin Type	-	CORRUGATE	CORRUGATE
	Tube Diameter/Thickness	Φ,mm	7	7
	Type	-	Fin & Tube	Fin & Tube
	Material	-	Al&Cu	Al&Cu
Fan Motor	Type	-	BLDC	BLDC
	Output	W x No.	1,500 x 2	1,500 x 4
	Number of Fans	EA	2	4
	Number of Vanes	EA	6	6
	Air Flow Rate(Rated)	m^3/min x No.	246 x 2	246 x 4
		CFM x No.	8,687 x 2	8,687 x 4
Weight	Net	kg	570	1,070
		lb	1,257	2,359
Dimensions	Net	mm	765 x 2,210 x 2,154	1,528 x 2,210 x 2,154
		inch	30.1 x 87.0 x 84.8	60.2 x 87.0 x 84.8
Sound Pressure Level	Cooling(Rated)	dB(A)	72	72
Sound Power Level	Cooling(Rated)	dB(A)	87	87
Remote Control	-	-	Modbus	Modbus
Guaranteed Load Capacity Range	-	-	20 ~ 100 %	20 ~ 100 %

Note

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   Sound power level is measured ISO 9614:2009 by sound intensity method.
   Therefore, these values can be increased owing to ambient conditions during operation.
4. Performances are based on the following conditions :
   Capacities and Inputs are based on the following conditions
   - Cooling : Outdoor air temp. 35°C, Water inlet temp. 12°C, Water Outlet temp. 7°C
   - Heating : Outdoor air temp. 7°C, Water inlet temp. 40°C, Water Outlet temp. 45°C

2. Specifications

Category		Unit	KCAH040LDTC	KCAH045LDTC
Power Supply	Case 1	-	380-415, 3, 50/60	380-415, 3, 50/60
	Limit Range of Voltage	V	342 ~ 456	342 ~ 456
Cooling Capacity	Rated	usRT	36.96	42.08
		kW	130	148
		kBtu/h	444	504
Power Input	Cooling(Rated)	kW	43.33	52.87
		kBtu/h	147.80	180.40
Efficiency	EER	W/W	3.00	2.80
		Btu/(W*h)	10.24	9.55
	IPLV	W/W	5.90	5.90
		Btu/(W*h)	20.13	20.13
Compressor	Type	-	Inverter Scroll	Inverter Scroll
	Model x No.	-	4	4
	Oil Type	-	FW68L(PVE)	FW68L(PVE)
	Oil Charging amount	cc x No.	1400 x 4	1400 x 4
Refrigerant	Type	-	R32	R32
	Precharged Amount	kg	4.7 x 4	4.7 x 4
		lb	10.4 x 4	10.4 x 4
	GWP(Global Warming Potential)	-	675	675
	$t\text{-}CO_2$ eq.	-	12.69	12.69
Evaporator	Type	-	Shell & Tube	Shell & Tube
	Pressure drop	kPa	30	40
		ftH_20	10.0	13.4
	Operating maxium pressure (Refrigrant / Water)	kg/㎠	42 / 10	42 / 10
		ftH_20	1,380 / 328	1,380 / 328
	Water Flow Rate_Standard (Cooling)	LPM	371	423
		GPM	98.0	111.7
	Water Flow Rate_Min.	LPM	146	146
		GPM	38.6	38.6
	Inlet/Outlet diameter(Water pipe)	inch	2-1/2	2-1/2
Condensor	Rows x Columns x FPI	-	(3 x 48 x 16) x 4	(3 x 48 x 16) x 4
	Fin Type	-	CORRUGATE	CORRUGATE
	Tube Diameter/Thickness	Φ,mm	7	7
	Type	-	Fin & Tube	Fin & Tube
	Material	-	Al&Cu	Al&Cu
Fan Motor	Type	-	BLDC	BLDC
	Output	W x No.	1,500 x 4	1,500 x 4
	Number of Fans	EA	4	4
	Number of Vanes	EA	6	6
	Air Flow Rate(Rated)	m^3/min x No.	246 x 4	246 x 4
		CFM x No.	8,687 x 4	8,687 x 4
Weight	Net	kg	1,070	1,070
		lb	2,359	2,359
Dimensions	Net	mm	1,528 x 2,210 x 2,154	1,528 x 2,210 x 2,154
		inch	60.2 x 87.0 x 84.8	60.2 x 87.0 x 84.8
Sound Pressure Level	Cooling(Rated)	dB(A)	74	75
Sound Power Level	Cooling(Rated)	dB(A)	90	91
Remote Control	-	-	Modbus	Modbus
Guaranteed Load Capacity Range	-	-	20 ~ 100 %	20 ~ 100 %

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   Capacities and Inputs are based on the following conditions
   - Cooling : Outdoor air temp. 35°C, Water inlet temp. 12°C, Water Outlet temp. 7°C
   - Heating : Outdoor air temp. 7°C, Water inlet temp. 40°C, Water Outlet temp. 45°C

2. Specifications

Category		Unit	KCAH050LDTC	KCAH060LDTC
Power Supply	Case 1	-	380-415, 3, 50/60	380-415, 3, 50/60
	Limit Range of Voltage	V	342 ~ 456	342 ~ 456
Cooling Capacity	Rated	usRT	48.62	55.45
		kW	171	195
		kBtu/h	584	666
Power Input	Cooling(Rated)	kW	55.16	65.00
		kBtu/h	188.20	221.80
Efficiency	EER	W/W	3.10	3.00
		Btu/(W*h)	10.58	10.24
	IPLV	W/W	5.90	5.90
		Btu/(W*h)	20.13	20.13
Compressor	Type	-	Inverter Scroll	Inverter Scroll
	Model x No.	-	6	6
	Oil Type	-	FW68L(PVE)	FW68L(PVE)
	Oil Charging amount	cc x No.	1400 x 6	1400 x 6
Refrigerant	Type	-	R32	R32
	Precharged Amount	kg	4.7 x 6	4.7 x 6
		lb	10.4 x 6	10.4 x 6
	GWP(Global Warming Potential)	-	675	675
	$t\text{-}CO_2$ eq.	-	19.035	19.035
Evaporator	Type	-	Shell & Tube	Shell & Tube
	Pressure drop	kPa	25	30
		ftH_20	8.4	10.0
	Operating maxium pressure (Refrigrant / Water)	kg/㎠	42 / 10	42 / 10
		ftH_20	1,380 / 328	1,380 / 328
	Water Flow Rate_Standard (Cooling)	LPM	489	557
		GPM	129.2	147.1
	Water Flow Rate_Min.	LPM	219	219
		GPM	57.9	57.9
	Inlet/Outlet diameter(Water pipe)	inch	2-1/2	2-1/2
Condensor	Rows x Columns x FPI	-	(3 x 48 x 16) x 6	(3 x 48 x 16) x 6
	Fin Type	-	CORRUGATE	CORRUGATE
	Tube Diameter/Thickness	Φ,mm	7	7
	Type	-	Fin & Tube	Fin & Tube
	Material	-	Al&Cu	Al&Cu
Fan Motor	Type	-	BLDC	BLDC
	Output	W x No.	1,500 x 6	1,500 x 6
	Number of Fans	EA	6	6
	Number of Vanes	EA	6	6
	Air Flow Rate(Rated)	m^3/min x No.	246 x 6	246 x 6
		CFM x No.	8,687 x 6	8,687 x 6
Weight	Net	kg	1,569	1,569
		lb	3,459	3,459
Dimensions	Net	mm	2,291 x 2,210 x 2,154	2,291 x 2,210 x 2,154
		inch	90.2 x 87.0 x 84.8	90.2 x 87.0 x 84.8
Sound Pressure Level	Cooling(Rated)	dB(A)	74	76
Sound Power Level	Cooling(Rated)	dB(A)	88	91
Remote Control	-	-	Modbus	Modbus
Guaranteed Load Capacity Range	-	-	20 ~ 100 %	20 ~ 100 %

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   Capacities and Inputs are based on the following conditions
   - Cooling : Outdoor air temp. 35°C, Water inlet temp. 12°C, Water Outlet temp. 7°C
   - Heating : Outdoor air temp. 7°C, Water inlet temp. 40°C, Water Outlet temp. 45°C

2. Specifications

Category		Unit	KCAH067LDTC
Power Supply	Case 1	-	380-415, 3, 50/60
	Limit Range of Voltage	V	342 ~ 456
Cooling Capacity	Rated	usRT	63.12
		kW	222
		kBtu/h	756
Power Input	Cooling(Rated)	kW	79.30
		kBtu/h	270.60
Efficiency	EER	W/W	2.80
		Btu/(W*h)	9.55
	IPLV	W/W	5.90
		Btu/(W*h)	20.13
Compressor	Type	-	Inverter Scroll
	Model x No.	-	6
	Oil Type	-	FW68L(PVE)
	Oil Charging amount	cc x No.	1400 x 6
Refrigerant	Type	-	R32
	Precharged Amount	kg	4.7 x 6
		lb	10.4 x 6
	GWP(Global Warming Potential)	-	675
	t-CO_2 eq.	-	19.035
Evaporator	Type	-	Shell & Tube
	Pressure drop	kPa	40
		ftH_20	13.4
	Operating maxium pressure (Refrigrant / Water)	kg/㎠	42 / 10
		ftH_20	1,380 / 328
	Water Flow Rate_Standard (Cooling)	LPM	634
		GPM	167.5
	Water Flow Rate_Min.	LPM	219
		GPM	57.9
	Inlet/Outlet diameter(Water pipe)	inch	2-1/2
Condensor	Rows x Columns x FPI	-	(3 x 48 x 16) x 6
	Fin Type	-	CORRUGATE
	Tube Diameter/Thickness	Φ,mm	7
	Type	-	Fin & Tube
	Material	-	Al&Cu
Fan Motor	Type	-	BLDC
	Output	W x No.	1,500 x 6
	Number of Fans	EA	6
	Number of Vanes	EA	6
	Air Flow Rate(Rated)	m^3/min x No.	246 x 6
		CFM x No.	8,687 x 6
Weight	Net	kg	1,569
		lb	3,459
Dimensions	Net	mm	2,291 x 2,210 x 2,154
		inch	90.2 x 87.0 x 84.8
Sound Pressure Level	Cooling(Rated)	dB(A)	77
Sound Power Level	Cooling(Rated)	dB(A)	92
Remote Control	-	-	Modbus
Guaranteed Load Capacity Range	-	-	20 ~ 100 %

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   Sound power level is measured ISO 9614:2009 by sound intensity method.
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   Capacities and Inputs are based on the following conditions
   - Cooling : Outdoor air temp. 35°C, Water inlet temp. 12°C, Water Outlet temp. 7°C
   - Heating : Outdoor air temp. 7°C, Water inlet temp. 40°C, Water Outlet temp. 45°C

2. Specifications

■ 460V

Category		Unit	KCAH020HDTC	KCAH023HDTC
Power Supply	Case 1	V, Phase, Hz	460, 3, 60	460, 3, 60
	Limit Range of Voltage	V	391 ~ 529	391 ~ 529
Cooling Capacity	Rated	usRT	18.48	21.04
		kW	65	74
		kBtu/h	222	252
Power Input	Cooling(Rated)	kW	21.67	26.43
		kBtu/h	73.94	90.18
Efficiency	EER	W/W	3.00	2.80
		Btu/(W*h)	10.24	9.55
	IPLV	W/W	5.90	5.90
		Btu/(W*h)	20.13	20.13
Compressor	Type	-	Inverter Scroll	Inverter Scroll
	Model x No.	-	2	2
	Oil Type	-	FW68L(PVE)	FW68L(PVE)
	Oil Charging amount	cc x No.	1400 x 2	1400 x 2
Refrigerant	Type	-	R32	R32
	Precharged Amount	kg	4.7 x 2	4.7 x 2
		lb	10.4 x 2	10.4 x 2
	GWP(Global Warming Potential)	-	675	675
	t-CO_2 eq.	-	6.345	6.345
Evaporator	Type	-	Shell & Tube	Shell & Tube
	Pressure drop	kPa	30	40
		ftH_20	10.0	13.4
	Operating maxium pressure (Refrigrant / Water)	kg/㎠	42 / 10	42 / 10
		ftH_20	1,380 / 328	1,380 / 328
	Water Flow Rate_Standard (Cooling)	LPM	186	211
		GPM	49.1	55.7
	Water Flow Rate_Min.	LPM	73	73
		GPM	19.3	19.3
	Inlet/Outlet diameter(Water pipe)	-	50A / 50A	50A / 50A
Condensor	Rows x Columns x FPI	-	(3 x 48 x 16) x 2	(3 x 48 x 16) x 2
	Fin Type	-	CORRUGATE	CORRUGATE
	Tube Diameter/Thickness	Φ,mm	7	7
	Type	-	Fin & Tube	Fin & Tube
	Material	-	Al&Cu	Al&Cu
Fan Motor	Type	-	BLDC	BLDC
	Output	W x No.	1,500 x 2	1,500 x 2
	Number of Fans	EA	2	2
	Number of Vanes	EA	6	6
	Air Flow Rate(Rated)	m^3/min x No.	246 x 2	246 x 2
		CFM x No.	8,687 x 2	8,687 x 2
Weight	Net	kg	570	570
		lb	1,257	1,257
Dimensions	Net	mm	765 x 2,210 x 2,154	765 x 2,210 x 2,154
		inch	30.1 x 87.0 x 84.8	30.1 x 87.0 x 84.8
Sound Pressure Level	Cooling(Rated)	dB(A)	71	72
Sound Power Level	Cooling(Rated)	dB(A)	86	87
Remote Control	-	-	Modbus	Modbus
Guaranteed Load Capacity Range	-	-	20 ~ 100 %	20 ~ 100 %

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2. Specifications

Category		Unit	KCAH033HDTC	KCAH040HDTC
Power Supply	Case 1	-	460, 3, 60	460, 3, 60
	Limit Range of Voltage	V	391 ~ 529	391 ~ 529
Cooling Capacity	Rated	usRT	32.42	36.96
		kW	114	130
		kBtu/h	389	444
Power Input	Cooling(Rated)	kW	36.77	43.33
		kBtu/h	125.50	147.80
Efficiency	EER	W/W	3.10	3.00
		Btu/(W*h)	10.58	10.24
	IPLV	W/W	5.90	5.90
		Btu/(W*h)	20.13	20.13
Compressor	Type	-	Inverter Scroll	Inverter Scroll
	Model x No.	-	4	4
	Oil Type	-	FW68L(PVE)	FW68L(PVE)
	Oil Charging amount	cc x No.	1400 x 4	1400 x 4
Refrigerant	Type	-	R32	R32
	Precharged Amount	kg	4.7 x 4	4.7 x 4
		lb	10.4 x 4	10.4 x 4
	GWP(Global Warming Potential)	-	675	675
	$t\text{-}CO_2$ eq.	-	12.69	12.69
Evaporator	Type	-	Shell & Tube	Shell & Tube
	Pressure drop	kPa	25	30
		ftH_20	8.4	10.0
	Operating maxium pressure (Refrigrant / Water)	kg/㎠	42 / 10	42 / 10
		ftH_20	1,380 / 328	1,380 / 328
	Water Flow Rate_Standard (Cooling)	LPM	326	371
		GPM	86.1	98.0
	Water Flow Rate_Min.	LPM	146	146
		GPM	38.6	38.6
	Inlet/Outlet diameter(Water pipe)	-	65A/65A	65A/65A
Condensor	Rows x Columns x FPI	-	(3 x 48 x 16) x 4	(3 x 48 x 16) x 4
	Fin Type	-	CORRUGATE	CORRUGATE
	Tube Diameter/Thickness	Φ,mm	7	7
	Type	-	Fin & Tube	Fin & Tube
	Material	-	Al&Cu	Al&Cu
Fan Motor	Type	-	BLDC	BLDC
	Output	W x No.	1,500 x 4	1,500 x 4
	Number of Fans	EA	4	4
	Number of Vanes	EA	6	6
	Air Flow Rate(Rated)	m^3/min x No.	246 x 4	246 x 4
		CFM x No.	8,687 x 4	8,687 x 4
Weight	Net	kg	1,070	1,070
		lb	2,359	2,359
Dimensions	Net	mm	1,528 x 2,210 x 2,154	1,528 x 2,210 x 2,154
		inch	60.2 x 87.0 x 84.8	60.2 x 87.0 x 84.8
Sound Pressure Level	Cooling(Rated)	dB(A)	72	74
Sound Power Level	Cooling(Rated)	dB(A)	87	90
Remote Control	-	-	Modbus	Modbus
Guaranteed Load Capacity Range	-	-	20 ~ 100 %	20 ~ 100 %

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   Capacities and Inputs are based on the following conditions
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   - Heating : Outdoor air temp. 7°C, Water inlet temp. 40°C, Water Outlet temp. 45°C

2. Specifications

Category		Unit	KCAH045HDTC	KCAH050HDTC
Power Supply	Case 1	-	460, 3, 60	460, 3, 60
	Limit Range of Voltage	V	391 ~ 529	391 ~ 529
Cooling Capacity	Rated	usRT	42.08	48.62
		kW	148	171
		kBtu/h	504	584
Power Input	Cooling(Rated)	kW	52.87	55.16
		kBtu/h	180.40	188.20
Efficiency	EER	W/W	2.80	3.10
		Btu/(W*h)	9.55	10.58
	IPLV	W/W	5.90	5.90
		Btu/(W*h)	20.13	20.13
Compressor	Type	-	Inverter Scroll	Inverter Scroll
	Model x No.	-	4	6
	Oil Type	-	FW68L(PVE)	FW68L(PVE)
	Oil Charging amount	cc x No.	1400 x 4	1400 x 6
Refrigerant	Type	-	R32	R32
	Precharged Amount	kg	4.7 x 4	4.7 x 6
		lb	10.4 x 4	10.4 x 6
	GWP(Global Warming Potential)	-	675	675
	t-CO_2 eq.	-	12.69	19.035
Evaporator	Type	-	Shell & Tube	Shell & Tube
	Pressure drop	kPa	40	25
		ftH_20	13.4	8.4
	Operating maxium pressure (Refrigrant / Water)	kg/㎠	42 / 10	42 / 10
		ftH_20	1,380 / 328	1,380 / 328
	Water Flow Rate_Standard (Cooling)	LPM	423	489
		GPM	111.7	129.2
	Water Flow Rate_Min.	LPM	146	219
		GPM	38.6	57.9
	Inlet/Outlet diameter(Water pipe)	-	65A/65A	65A/65A
Condensor	Rows x Columns x FPI	-	(3 x 48 x 16) x 4	(3 x 48 x 16) x 6
	Fin Type	-	CORRUGATE	CORRUGATE
	Tube Diameter/Thickness	Φ,mm	7	7
	Type	-	Fin & Tube	Fin & Tube
	Material	-	Al&Cu	Al&Cu
Fan Motor	Type	-	BLDC	BLDC
	Output	W x No.	1,500 x 4	1,500 x 6
	Number of Fans	EA	4	6
	Number of Vanes	EA	6	6
	Air Flow Rate(Rated)	m^3/min x No.	246 x 4	246 x 6
		CFM x No.	8,687 x 4	8,687 x 6
Weight	Net	kg	1,070	1,569
		lb	2,359	3,459
Dimensions	Net	mm	1,528 x 2,210 x 2,154	2,291 x 2,210 x 2,154
		inch	60.2 x 87.0 x 84.8	90.2 x 87.0 x 84.8
Sound Pressure Level	Cooling(Rated)	dB(A)	75	74
Sound Power Level	Cooling(Rated)	dB(A)	91	88
Remote Control	-	-	Modbus	Modbus
Guaranteed Load Capacity Range	-	-	20 ~ 100 %	20 ~ 100 %

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   - Cooling : Outdoor air temp. 35°C, Water inlet temp. 12°C, Water Outlet temp. 7°C
   - Heating : Outdoor air temp. 7°C, Water inlet temp. 40°C, Water Outlet temp. 45°C

2. Specifications

Category		Unit	KCAH060HDTC	KCAH067HDTC
Power Supply	Case 1	-	460, 3, 60	460, 3, 60
	Limit Range of Voltage	V	391 ~ 529	391 ~ 529
Cooling Capacity	Rated	usRT	55.45	63.12
		kW	195	222
		kBtu/h	666	756
Power Input	Cooling(Rated)	kW	65.00	79.30
		kBtu/h	221.80	270.60
Efficiency	EER	W/W	3.00	2.80
		Btu/(W*h)	10.24	9.55
	IPLV	W/W	5.90	5.90
		Btu/(W*h)	20.13	20.13
Compressor	Type	-	Inverter Scroll	Inverter Scroll
	Model x No.	-	6	6
	Oil Type	-	FW68L(PVE)	FW68L(PVE)
	Oil Charging amount	cc x No.	1400 x 6	1400 x 6
Refrigerant	Type	-	R32	R32
	Precharged Amount	kg	4.7 x 6	4.7 x 6
		lb	10.4 x 6	10.4 x 6
	GWP(Global Warming Potential)	-	675	675
	$t\text{-}CO_2$ eq.	-	19.035	19.035
Evaporator	Type	-	Shell & Tube	Shell & Tube
	Pressure drop	kPa	30	40
		ftH_20	10.0	13.4
	Operating maxium pressure (Refrigrant / Water)	kg/㎠	42 / 10	42 / 10
		ftH_20	1,380 / 328	1,380 / 328
	Water Flow Rate_Standard (Cooling)	LPM	557	634
		GPM	147.1	167.5
	Water Flow Rate_Min.	LPM	219	219
		GPM	57.9	57.9
	Inlet/Outlet diameter(Water pipe)	-	65A/65A	65A/65A
Condensor	Rows x Columns x FPI	-	(3 x 48 x 16) x 6	(3 x 48 x 16) x 6
	Fin Type	-	CORRUGATE	CORRUGATE
	Tube Diameter/Thickness	Φ,mm	7	7
	Type	-	Fin & Tube	Fin & Tube
	Material	-	Al&Cu	Al&Cu
Fan Motor	Type	-	BLDC	BLDC
	Output	W x No.	1,500 x 6	1,500 x 6
	Number of Fans	EA	6	6
	Number of Vanes	EA	6	6
	Air Flow Rate(Rated)	m^3/min x No.	246 x 6	246 x 6
		CFM x No.	8,687 x 6	8,687 x 6
Weight	Net	kg	1,569	1,569
		lb	3,459	3,459
Dimensions	Net	mm	2,291 x 2,210 x 2,154	2,291 x 2,210 x 2,154
		inch	90.2 x 87.0 x 84.8	90.2 x 87.0 x 84.8
Sound Pressure Level	Cooling(Rated)	dB(A)	76	77
Sound Power Level	Cooling(Rated)	dB(A)	91	92
Remote Control	-	-	Modbus	Modbus
Guaranteed Load Capacity Range	-	-	20 ~ 100 %	20 ~ 100 %

Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national codes. And “Electric characteristics” chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound pressure level is measured on the rated condition in the anechoic rooms by ISO 3745 standard.
   Sound power level is measured ISO 9614:2009 by sound intensity method.
   Therefore, these values can be increased owing to ambient conditions during operation.
4. Performances are based on the following conditions :
   Capacities and Inputs are based on the following conditions
   - Cooling : Outdoor air temp. 35°C, Water inlet temp. 12°C, Water Outlet temp. 7°C
   - Heating : Outdoor air temp. 7°C, Water inlet temp. 40°C, Water Outlet temp. 45°C

3. Performance Data

3.1 Cooling Capacity

■ KCAH017LDTC

◆ 17 RT / 100% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	49.00	11.58	55.50	11.62	57.00	10.38	57.00	8.41	57.00	7.58	57.00	7.53	57.00	7.48
-10	49.00	11.62	55.50	11.66	57.00	10.42	57.00	8.44	57.00	7.61	57.00	7.56	57.00	7.51
-5	49.00	11.72	55.50	11.76	57.00	10.51	57.00	8.51	57.00	7.67	57.00	7.62	57.00	7.57
0	49.00	11.81	55.50	11.85	57.00	10.59	57.00	8.58	57.00	7.73	57.00	7.68	57.00	7.63
5	49.00	11.99	55.50	12.03	57.00	10.75	57.00	8.70	57.00	7.85	57.00	7.79	57.00	7.73
10	49.00	12.94	55.50	12.98	57.00	11.60	57.00	9.40	57.00	8.48	57.00	8.40	57.00	8.32
15	44.45	14.16	55.50	14.81	57.00	13.23	57.00	10.72	57.00	9.70	57.00	9.56	57.00	9.42
20	43.12	15.39	53.90	17.12	57.00	15.36	57.00	12.44	57.00	11.30	57.00	11.07	57.00	10.84
25	43.12	17.51	53.90	19.70	57.00	17.84	57.00	14.45	57.00	13.17	57.00	12.81	57.00	12.46
30	43.12	20.01	53.90	22.51	57.00	20.38	57.00	16.51	57.00	15.11	57.00	14.58	57.00	14.09
35	42.19	22.95	52.74	25.82	57.00	24.19	57.00	19.35	57.00	18.39	57.00	17.01	57.00	16.28
40	40.82	25.52	51.02	28.71	55.86	27.52	57.00	22.17	57.00	20.59	57.00	19.40	57.00	18.39
45	34.93	26.86	42.13	29.22	46.20	28.81	47.20	23.05	51.30	22.89	54.15	22.28	57.00	21.51
48	27.52	23.56	34.40	26.00	38.22	25.95	40.90	21.49	44.46	21.79	46.55	21.50	48.64	21.12
52	19.40	17.45	24.26	19.63	26.95	19.63	29.30	17.50	31.80	17.92	33.40	17.47	35.00	17.07

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	57.00	7.37	57.00	7.26	57.00	7.23	57.00	7.21	57.00	7.18	57.00	7.15
-10	57.00	7.40	57.00	7.29	57.00	7.26	57.00	7.23	57.00	7.20	57.00	7.18
-5	57.00	7.46	57.00	7.35	57.00	7.32	57.00	7.29	57.00	7.27	57.00	7.24
0	57.00	7.51	57.00	7.40	57.00	7.37	57.00	7.34	57.00	7.32	57.00	7.29
5	57.00	7.62	57.00	7.50	57.00	7.47	57.00	7.44	57.00	7.40	57.00	7.37
10	57.00	8.18	57.00	8.04	57.00	7.98	57.00	7.92	57.00	7.87	57.00	7.81
15	57.00	9.23	57.00	9.04	57.00	8.93	57.00	8.83	57.00	8.72	57.00	8.62
20	57.00	10.57	57.00	10.30	57.00	10.12	57.00	9.95	57.00	9.77	57.00	9.60
25	57.00	12.08	57.00	11.72	57.00	11.44	57.00	11.17	57.00	10.91	57.00	10.64
30	57.00	13.60	57.00	13.12	57.00	12.73	57.00	12.36	57.00	11.99	57.00	11.62
35	57.00	15.61	57.00	14.96	57.00	14.39	57.00	13.86	57.00	13.34	57.00	12.81
40	57.00	17.51	57.00	16.68	57.00	15.92	57.00	15.23	57.00	14.53	57.00	13.84
45	57.00	20.15	57.00	19.02	57.00	17.97	57.00	16.77	57.00	16.07	57.00	15.23
48	50.73	20.40	52.82	19.82	54.91	19.29	57.00	18.68	57.00	18.35	57.00	17.93
52	36.60	16.73	38.20	16.42	39.80	16.15	41.40	16.15	41.71	15.67	42.15	15.27

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 17 RT / 90% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	49.00	11.58	51.30	10.36	51.30	8.89	51.30	7.20	51.30	6.49	51.30	6.45	51.30	6.40
-10	49.00	11.62	51.30	10.40	51.30	8.92	51.30	7.22	51.30	6.51	51.30	6.47	51.30	6.43
-5	49.00	11.72	51.30	10.49	51.30	8.99	51.30	7.29	51.30	6.57	51.30	6.52	51.30	6.48
0	49.00	11.81	51.30	10.57	51.30	9.07	51.30	7.34	51.30	6.62	51.30	6.57	51.30	6.53
5	49.00	11.99	51.30	10.73	51.30	9.20	51.30	7.45	51.30	6.72	51.30	6.67	51.30	6.62
10	49.00	12.94	51.30	11.58	51.30	9.93	51.30	8.04	51.30	7.26	51.30	7.19	51.30	7.12
15	44.45	14.16	51.30	13.21	51.30	11.33	51.30	9.18	51.30	8.31	51.30	8.18	51.30	8.07
20	43.12	15.39	51.30	15.42	51.30	13.15	51.30	10.65	51.30	9.68	51.30	9.47	51.30	9.28
25	43.12	17.51	51.30	18.10	51.30	15.27	51.30	12.37	51.30	11.28	51.30	10.96	51.30	10.66
30	43.12	20.01	51.30	20.68	51.30	17.45	51.30	14.13	51.30	12.94	51.30	12.48	51.30	12.06
35	42.19	22.95	51.30	24.24	51.30	20.91	51.30	16.57	51.30	15.25	51.30	14.56	51.30	13.94
40	40.82	25.52	51.02	28.54	51.30	24.26	51.30	19.00	51.30	17.59	51.30	16.63	51.30	15.76
45	34.93	26.86	42.13	29.22	46.20	27.92	47.20	22.04	51.30	21.61	51.30	19.92	51.30	18.44
48	27.52	23.56	34.40	26.16	38.22	25.95	40.90	21.49	44.46	21.79	46.55	20.88	48.64	20.09
52	19.40	17.45	24.26	19.63	26.95	19.63	29.30	17.50	31.80	17.92	33.40	17.47	35.00	17.07

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	51.30	6.31	51.30	6.22	51.30	6.19	51.30	6.17	51.30	6.15	51.30	6.12
-10	51.30	6.33	51.30	6.24	51.30	6.21	51.30	6.19	51.30	6.17	51.30	6.14
-5	51.30	6.38	51.30	6.29	51.30	6.27	51.30	6.24	51.30	6.22	51.30	6.20
0	51.30	6.43	51.30	6.34	51.30	6.31	51.30	6.29	51.30	6.26	51.30	6.24
5	51.30	6.52	51.30	6.42	51.30	6.39	51.30	6.37	51.30	6.34	51.30	6.31
10	51.30	7.00	51.30	6.88	51.30	6.83	51.30	6.78	51.30	6.74	51.30	6.69
15	51.30	7.90	51.30	7.74	51.30	7.65	51.30	7.56	51.30	7.47	51.30	7.38
20	51.30	9.05	51.30	8.82	51.30	8.67	51.30	8.52	51.30	8.37	51.30	8.22
25	51.30	10.34	51.30	10.03	51.30	9.79	51.30	9.57	51.30	9.34	51.30	9.11
30	51.30	11.64	51.30	11.24	51.30	10.90	51.30	10.58	51.30	10.26	51.30	9.95
35	51.30	13.36	51.30	12.81	51.30	12.32	51.30	11.87	51.30	11.42	51.30	10.97
40	51.30	15.01	51.30	14.30	51.30	13.65	51.30	13.05	51.30	12.46	51.30	11.86
45	51.30	17.27	51.30	16.30	51.30	15.40	51.30	14.37	51.30	13.78	51.30	13.05
48	50.73	19.44	51.30	18.15	51.30	17.08	51.30	16.02	51.30	15.51	51.30	14.80
52	36.60	16.73	38.20	16.42	39.80	16.15	41.40	16.15	41.71	15.67	42.15	15.27

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 17 RT / 80% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	45.60	10.39	45.60	8.85	45.60	7.51	45.60	6.07	45.60	5.47	45.60	5.44	45.60	5.40
-10	45.60	10.43	45.60	8.88	45.60	7.54	45.60	6.09	45.60	5.49	45.60	5.46	45.60	5.42
-5	45.60	10.51	45.60	8.95	45.60	7.60	45.60	6.15	45.60	5.54	45.60	5.50	45.60	5.47
0	45.60	10.60	45.60	9.02	45.60	7.66	45.60	6.19	45.60	5.58	45.60	5.55	45.60	5.51
5	45.60	10.75	45.60	9.16	45.60	7.78	45.60	6.29	45.60	5.67	45.60	5.63	45.60	5.59
10	45.60	11.61	45.60	9.89	45.60	8.40	45.60	6.79	45.60	6.13	45.60	6.07	45.60	6.01
15	44.45	13.31	45.60	11.28	45.60	9.59	45.60	7.74	45.60	7.01	45.60	6.90	45.60	6.80
20	43.12	15.39	45.60	13.17	45.60	11.13	45.60	8.96	45.60	8.13	45.60	7.99	45.60	7.83
25	43.12	17.51	45.60	15.45	45.60	12.95	45.60	10.33	45.60	9.40	45.60	9.23	45.60	9.00
30	43.12	20.01	45.60	17.65	45.60	14.91	45.60	11.82	45.60	10.73	45.60	10.43	45.60	10.17
35	42.19	22.95	45.60	20.69	45.60	17.82	45.60	13.98	45.60	12.87	45.60	12.29	45.60	11.76
40	40.82	25.52	45.60	24.46	45.60	20.71	45.60	16.01	45.60	14.82	45.60	14.01	45.60	13.28
45	34.93	26.86	42.13	28.28	45.60	25.59	45.60	20.26	45.60	18.47	45.60	16.80	45.60	15.54
48	27.52	23.56	34.40	26.16	38.22	25.54	40.90	21.16	44.46	20.77	45.60	19.42	45.60	17.90
52	19.40	17.45	24.26	19.63	26.95	19.63	29.30	17.50	31.80	17.92	33.40	17.47	35.00	17.07

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	45.60	5.32	45.60	5.24	45.60	5.22	45.60	5.20	45.60	5.18	45.60	5.17
-10	45.60	5.34	45.60	5.26	45.60	5.24	45.60	5.22	45.60	5.20	45.60	5.18
-5	45.60	5.39	45.60	5.31	45.60	5.29	45.60	5.27	45.60	5.25	45.60	5.23
0	45.60	5.43	45.60	5.35	45.60	5.33	45.60	5.30	45.60	5.28	45.60	5.26
5	45.60	5.50	45.60	5.42	45.60	5.39	45.60	5.37	45.60	5.35	45.60	5.32
10	45.60	5.90	45.60	5.80	45.60	5.76	45.60	5.72	45.60	5.68	45.60	5.64
15	45.60	6.66	45.60	6.53	45.60	6.45	45.60	6.38	45.60	6.30	45.60	6.23
20	45.60	7.63	45.60	7.44	45.60	7.31	45.60	7.18	45.60	7.06	45.60	6.93
25	45.60	8.73	45.60	8.46	45.60	8.26	45.60	8.07	45.60	7.88	45.60	7.68
30	45.60	9.82	45.60	9.48	45.60	9.19	45.60	8.93	45.60	8.66	45.60	8.39
35	45.60	11.27	45.60	10.81	45.60	10.39	45.60	10.01	45.60	9.63	45.60	9.25
40	45.60	12.65	45.60	12.05	45.60	11.50	45.60	11.00	45.60	10.50	45.60	10.00
45	45.60	14.55	45.60	13.74	45.60	12.97	45.60	12.11	45.60	11.61	45.60	11.00
48	45.60	16.65	45.60	15.32	45.60	14.41	45.60	13.49	45.60	13.04	45.60	12.42
52	36.60	16.73	38.20	16.42	39.80	16.15	41.40	16.15	41.71	15.67	42.15	15.27

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 17 RT / 70% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	39.90	8.79	39.90	7.50	39.90	6.40	39.90	5.06	39.90	4.56	39.90	4.53	39.90	4.50
-10	39.90	8.82	39.90	7.52	39.90	6.42	39.90	5.08	39.90	4.58	39.90	4.55	39.90	4.52
-5	39.90	8.89	39.90	7.59	39.90	6.47	39.90	5.12	39.90	4.62	39.90	4.59	39.90	4.56
0	39.90	8.97	39.90	7.65	39.90	6.52	39.90	5.16	39.90	4.65	39.90	4.62	39.90	4.59
5	39.90	9.10	39.90	7.76	39.90	6.62	39.90	5.24	39.90	4.72	39.90	4.69	39.90	4.66
10	39.90	9.82	39.90	8.38	39.90	7.15	39.90	5.66	39.90	5.11	39.90	5.06	39.90	5.01
15	39.90	11.40	39.90	9.56	39.90	8.15	39.90	6.45	39.90	5.84	39.90	5.76	39.90	5.67
20	39.90	13.56	39.90	11.15	39.90	9.46	39.90	7.49	39.90	6.72	39.90	6.60	39.90	6.46
25	39.90	15.81	39.90	13.07	39.90	11.01	39.90	8.66	39.90	7.69	39.90	7.52	39.90	7.32
30	39.90	18.06	39.90	14.93	39.90	12.68	39.90	9.74	39.90	9.03	39.90	8.73	39.90	8.42
35	39.90	21.30	39.90	17.68	39.90	15.15	39.90	11.65	39.90	10.72	39.90	10.24	39.90	9.80
40	39.90	24.67	39.90	20.35	39.90	17.61	39.90	13.35	39.90	12.36	39.90	11.68	39.90	11.07
45	34.93	26.86	39.90	25.19	39.90	21.77	39.90	17.20	39.90	15.48	39.90	14.09	39.90	12.95
48	27.52	23.56	34.40	25.39	38.22	24.23	39.90	19.80	39.90	18.14	39.90	16.52	39.90	15.17
52	19.40	17.45	24.26	19.63	26.95	19.63	29.30	17.50	31.80	17.92	33.40	17.47	35.00	17.07

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	39.90	4.44	39.90	4.37	39.90	4.35	39.90	4.34	39.90	4.32	39.90	4.31
-10	39.90	4.45	39.90	4.39	39.90	4.37	39.90	4.35	39.90	4.34	39.90	4.32
-5	39.90	4.49	39.90	4.42	39.90	4.41	39.90	4.39	39.90	4.37	39.90	4.36
0	39.90	4.52	39.90	4.46	39.90	4.44	39.90	4.42	39.90	4.40	39.90	4.39
5	39.90	4.59	39.90	4.52	39.90	4.50	39.90	4.48	39.90	4.46	39.90	4.44
10	39.90	4.92	39.90	4.84	39.90	4.80	39.90	4.77	39.90	4.74	39.90	4.70
15	39.90	5.55	39.90	5.44	39.90	5.38	39.90	5.31	39.90	5.25	39.90	5.19
20	39.90	6.36	39.90	6.20	39.90	6.09	39.90	5.99	39.90	5.88	39.90	5.78
25	39.90	7.26	39.90	7.06	39.90	6.89	39.90	6.73	39.90	6.57	39.90	6.41
30	39.90	8.19	39.90	7.90	39.90	7.66	39.90	7.44	39.90	7.22	39.90	6.99
35	39.90	9.40	39.90	9.01	39.90	8.66	39.90	8.35	39.90	8.03	39.90	7.71
40	39.90	10.54	39.90	10.04	39.90	9.58	39.90	9.17	39.90	8.75	39.90	8.33
45	39.90	12.13	39.90	11.45	39.90	10.81	39.90	10.09	39.90	9.67	39.90	9.17
48	39.90	13.88	39.90	12.96	39.90	12.14	39.90	11.39	39.90	11.03	39.90	10.37
52	36.60	16.73	38.20	16.42	39.80	16.15	39.90	15.38	39.90	14.65	39.90	13.93

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 17 RT / 60% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	34.20	7.11	34.20	6.06	34.20	5.17	34.20	4.12	34.20	3.71	34.20	3.69	34.20	3.66
-10	34.20	7.13	34.20	6.08	34.20	5.19	34.20	4.13	34.20	3.73	34.20	3.70	34.20	3.68
-5	34.20	7.19	34.20	6.13	34.20	5.23	34.20	4.17	34.20	3.76	34.20	3.73	34.20	3.71
0	34.20	7.25	34.20	6.18	34.20	5.27	34.20	4.20	34.20	3.79	34.20	3.76	34.20	3.74
5	34.20	7.36	34.20	6.27	34.20	5.35	34.20	4.26	34.20	3.84	34.20	3.82	34.20	3.79
10	34.20	7.94	34.20	6.77	34.20	5.78	34.20	4.60	34.20	4.16	34.20	4.12	34.20	4.08
15	34.20	9.22	34.20	7.73	34.20	6.59	34.20	5.25	34.20	4.75	34.20	4.68	34.20	4.62
20	34.20	10.96	34.20	9.02	34.20	7.65	34.20	6.10	34.20	5.54	34.20	5.42	34.20	5.31
25	34.20	12.78	34.20	10.57	34.20	8.90	34.20	7.08	34.20	6.45	34.20	6.27	34.20	6.10
30	34.20	14.61	34.20	12.08	34.20	10.25	34.20	8.09	34.20	7.40	34.20	7.14	34.20	6.90
35	34.20	17.22	34.20	14.30	34.20	12.25	34.20	9.48	34.20	8.73	34.20	8.33	34.20	7.98
40	34.20	19.94	34.20	16.45	34.20	14.24	34.20	10.86	34.20	10.06	34.20	9.50	34.20	9.01
45	34.20	24.15	34.20	20.37	34.20	17.60	34.20	13.95	34.20	12.54	34.20	11.42	34.20	10.54
48	27.52	23.11	34.20	23.12	34.20	20.29	34.20	16.01	34.20	14.66	34.20	13.36	34.20	12.29
52	19.40	17.45	24.26	19.63	26.95	19.63	29.30	17.50	31.80	17.92	33.40	17.47	34.20	15.95

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	34.20	3.61	34.20	3.56	34.20	3.54	34.20	3.53	34.20	3.52	34.20	3.50
-10	34.20	3.62	34.20	3.57	34.20	3.56	34.20	3.54	34.20	3.53	34.20	3.52
-5	34.20	3.65	34.20	3.60	34.20	3.59	34.20	3.57	34.20	3.56	34.20	3.55
0	34.20	3.68	34.20	3.63	34.20	3.61	34.20	3.60	34.20	3.58	34.20	3.57
5	34.20	3.73	34.20	3.68	34.20	3.66	34.20	3.64	34.20	3.63	34.20	3.61
10	34.20	4.01	34.20	3.94	34.20	3.91	34.20	3.88	34.20	3.85	34.20	3.83
15	34.20	4.52	34.20	4.43	34.20	4.38	34.20	4.32	34.20	4.27	34.20	4.22
20	34.20	5.18	34.20	5.05	34.20	4.96	34.20	4.87	34.20	4.79	34.20	4.70
25	34.20	5.92	34.20	5.74	34.20	5.61	34.20	5.47	34.20	5.34	34.20	5.21
30	34.20	6.66	34.20	6.43	34.20	6.24	34.20	6.06	34.20	5.87	34.20	5.69
35	34.20	7.65	34.20	7.33	34.20	7.05	34.20	6.79	34.20	6.53	34.20	6.28
40	34.20	8.58	34.20	8.17	34.20	7.80	34.20	7.46	34.20	7.12	34.20	6.78
45	34.20	9.87	34.20	9.32	34.20	8.80	34.20	8.22	34.20	7.87	34.20	7.46
48	34.20	11.25	34.20	10.50	34.20	9.84	34.20	9.15	34.20	8.79	34.20	8.19
52	34.20	14.92	34.20	13.97	34.20	13.10	34.20	12.44	34.20	11.78	34.20	11.12

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 17 RT / 50% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	28.50	5.51	28.50	4.70	28.50	4.01	28.50	3.16	28.50	2.84	28.50	2.83	28.50	2.81
-10	28.50	5.53	28.50	4.71	28.50	4.02	28.50	3.17	28.50	2.85	28.50	2.84	28.50	2.82
-5	28.50	5.57	28.50	4.75	28.50	4.05	28.50	3.19	28.50	2.88	28.50	2.86	28.50	2.84
0	28.50	5.62	28.50	4.79	28.50	4.09	28.50	3.22	28.50	2.90	28.50	2.88	28.50	2.86
5	28.50	5.70	28.50	4.86	28.50	4.15	28.50	3.27	28.50	2.95	28.50	2.92	28.50	2.90
10	28.50	6.15	28.50	5.25	28.50	4.48	28.50	3.53	28.50	3.18	28.50	3.15	28.50	3.12
15	28.50	7.14	28.50	5.99	28.50	5.11	28.50	4.02	28.50	3.64	28.50	3.59	28.50	3.54
20	28.50	8.49	28.50	6.99	28.50	5.93	28.50	4.67	28.50	4.24	28.50	4.15	28.50	4.07
25	28.50	9.90	28.50	8.19	28.50	6.90	28.50	5.42	28.50	4.94	28.50	4.81	28.50	4.68
30	28.50	11.32	28.50	9.36	28.50	7.94	28.50	6.20	28.50	5.67	28.50	5.47	28.50	5.29
35	28.50	13.34	28.50	11.08	28.50	9.49	28.50	7.26	28.50	6.69	28.50	6.38	28.50	6.11
40	28.50	15.45	28.50	12.75	28.50	11.03	28.50	8.32	28.50	7.70	28.50	7.28	28.50	6.90
45	28.50	18.71	28.50	15.78	28.50	13.64	28.50	10.69	28.50	9.61	28.50	8.75	28.50	8.18
48	27.52	20.49	28.50	17.92	28.50	15.72	28.50	12.27	28.50	11.24	28.50	10.24	28.50	9.48
52	19.40	16.55	24.26	18.61	26.95	18.61	28.50	15.47	28.50	14.60	28.50	13.54	28.50	12.23

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	28.50	2.77	28.50	2.73	28.50	2.72	28.50	2.70	28.50	2.69	28.50	2.68
-10	28.50	2.78	28.50	2.74	28.50	2.72	28.50	2.71	28.50	2.70	28.50	2.69
-5	28.50	2.80	28.50	2.76	28.50	2.75	28.50	2.74	28.50	2.73	28.50	2.72
0	28.50	2.82	28.50	2.78	28.50	2.77	28.50	2.76	28.50	2.75	28.50	2.73
5	28.50	2.86	28.50	2.82	28.50	2.80	28.50	2.79	28.50	2.78	28.50	2.77
10	28.50	3.07	28.50	3.02	28.50	2.99	28.50	2.97	28.50	2.95	28.50	2.93
15	28.50	3.46	28.50	3.39	28.50	3.35	28.50	3.31	28.50	3.27	28.50	3.24
20	28.50	3.97	28.50	3.87	28.50	3.80	28.50	3.73	28.50	3.67	28.50	3.60
25	28.50	4.54	28.50	4.40	28.50	4.29	28.50	4.19	28.50	4.09	28.50	3.99
30	28.50	5.10	28.50	4.93	28.50	4.78	28.50	4.64	28.50	4.50	28.50	4.36
35	28.50	5.86	28.50	5.62	28.50	5.40	28.50	5.20	28.50	5.01	28.50	4.81
40	28.50	6.57	28.50	6.26	28.50	5.98	28.50	5.72	28.50	5.46	28.50	5.19
45	28.50	7.56	28.50	7.14	28.50	6.74	28.50	6.29	28.50	6.03	28.50	5.72
48	28.50	8.62	28.50	8.05	28.50	7.54	28.50	7.01	28.50	6.73	28.50	6.27
52	28.50	11.43	28.50	10.70	28.50	10.04	28.50	9.53	28.50	9.03	28.50	8.52

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 17 RT / 40% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	22.80	4.75	22.80	4.05	22.80	3.45	22.80	2.83	22.80	2.55	22.80	2.54	22.80	2.52
-10	22.80	4.76	22.80	4.06	22.80	3.47	22.80	2.84	22.80	2.56	22.80	2.55	22.80	2.53
-5	22.80	4.80	22.80	4.10	22.80	3.49	22.80	2.87	22.80	2.59	22.80	2.57	22.80	2.55
0	22.80	4.84	22.80	4.13	22.80	3.52	22.80	2.89	22.80	2.61	22.80	2.59	22.80	2.57
5	22.80	4.91	22.80	4.19	22.80	3.57	22.80	2.93	22.80	2.65	22.80	2.63	22.80	2.61
10	22.80	5.30	22.80	4.52	22.80	3.86	22.80	3.17	22.80	2.86	22.80	2.83	22.80	2.80
15	22.80	6.15	22.80	5.16	22.80	4.40	22.80	3.61	22.80	3.27	22.80	3.22	22.80	3.18
20	22.80	7.32	22.80	6.02	22.80	5.11	22.80	4.19	22.80	3.81	22.80	3.73	22.80	3.65
25	22.80	8.54	22.80	7.06	22.80	5.94	22.80	4.87	22.80	4.44	22.80	4.32	22.80	4.20
30	22.80	9.75	22.80	8.06	22.80	6.84	22.80	5.56	22.80	5.09	22.80	4.92	22.80	4.75
35	22.80	11.50	22.80	9.55	22.80	8.18	22.80	6.52	22.80	6.00	22.80	5.73	22.80	5.49
40	22.80	13.32	22.80	10.99	22.80	9.51	22.80	7.47	22.80	6.92	22.80	6.54	22.80	6.20
45	22.80	16.05	22.80	13.60	22.80	11.75	22.80	9.04	22.80	8.25	22.80	7.51	22.80	7.05
48	22.80	17.56	22.80	15.39	22.80	13.56	22.80	10.12	22.80	9.27	22.80	8.45	22.80	7.83
52	19.40	17.45	22.80	17.54	22.80	16.52	22.80	12.69	22.80	11.86	22.80	10.89	22.80	10.06

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	22.80	2.48	22.80	2.45	22.80	2.44	22.80	2.43	22.80	2.42	22.80	2.41
-10	22.80	2.49	22.80	2.46	22.80	2.45	22.80	2.44	22.80	2.43	22.80	2.42
-5	22.80	2.51	22.80	2.48	22.80	2.47	22.80	2.46	22.80	2.45	22.80	2.44
0	22.80	2.53	22.80	2.50	22.80	2.49	22.80	2.48	22.80	2.47	22.80	2.46
5	22.80	2.57	22.80	2.53	22.80	2.52	22.80	2.51	22.80	2.50	22.80	2.48
10	22.80	2.76	22.80	2.71	22.80	2.69	22.80	2.67	22.80	2.65	22.80	2.63
15	22.80	3.11	22.80	3.05	22.80	3.01	22.80	2.98	22.80	2.94	22.80	2.91
20	22.80	3.56	22.80	3.47	22.80	3.41	22.80	3.35	22.80	3.29	22.80	3.24
25	22.80	4.07	22.80	3.95	22.80	3.86	22.80	3.77	22.80	3.68	22.80	3.59
30	22.80	4.58	22.80	4.42	22.80	4.29	22.80	4.17	22.80	4.04	22.80	3.92
35	22.80	5.26	22.80	5.04	22.80	4.85	22.80	4.67	22.80	4.50	22.80	4.32
40	22.80	5.90	22.80	5.62	22.80	5.37	22.80	5.13	22.80	4.90	22.80	4.67
45	22.80	6.79	22.80	6.41	22.80	6.06	22.80	5.65	22.80	5.42	22.80	5.13
48	22.80	7.26	22.80	6.79	22.80	6.36	22.80	6.00	22.80	5.86	22.80	5.56
52	22.80	9.33	22.80	8.61	22.80	8.05	22.80	7.66	22.80	7.28	22.80	6.89

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 17 RT / 30% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	17.10	3.64	17.10	3.10	17.10	2.65	17.10	2.19	17.10	1.98	17.10	1.96	17.10	1.95
-10	17.10	3.65	17.10	3.11	17.10	2.66	17.10	2.20	17.10	1.98	17.10	1.97	17.10	1.96
-5	17.10	3.68	17.10	3.14	17.10	2.68	17.10	2.22	17.10	2.00	17.10	1.99	17.10	1.97
0	17.10	3.71	17.10	3.17	17.10	2.70	17.10	2.24	17.10	2.02	17.10	2.00	17.10	1.99
5	17.10	3.77	17.10	3.21	17.10	2.74	17.10	2.27	17.10	2.05	17.10	2.03	17.10	2.02
10	17.10	4.07	17.10	3.47	17.10	2.96	17.10	2.45	17.10	2.21	17.10	2.19	17.10	2.17
15	17.10	4.72	17.10	3.96	17.10	3.37	17.10	2.79	17.10	2.53	17.10	2.49	17.10	2.46
20	17.10	5.61	17.10	4.62	17.10	3.92	17.10	3.24	17.10	2.95	17.10	2.88	17.10	2.83
25	17.10	6.54	17.10	5.41	17.10	4.56	17.10	3.77	17.10	3.43	17.10	3.34	17.10	3.25
30	17.10	7.48	17.10	6.18	17.10	5.25	17.10	4.30	17.10	3.94	17.10	3.80	17.10	3.67
35	17.10	8.82	17.10	7.32	17.10	6.27	17.10	5.04	17.10	4.64	17.10	4.43	17.10	4.24
40	17.10	10.21	17.10	8.42	17.10	7.29	17.10	5.78	17.10	5.35	17.10	5.06	17.10	4.79
45	17.10	12.22	17.10	10.43	17.10	9.01	17.10	6.95	17.10	6.32	17.10	5.76	17.10	5.42
48	17.10	13.22	17.10	11.71	17.10	10.39	17.10	7.72	17.10	7.07	17.10	6.44	17.10	5.98
52	17.10	14.56	17.10	13.17	17.10	12.60	17.10	9.48	17.10	8.86	17.10	8.14	17.10	7.51

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	17.10	1.92	17.10	1.89	17.10	1.89	17.10	1.88	17.10	1.87	17.10	1.86
-10	17.10	1.93	17.10	1.90	17.10	1.89	17.10	1.89	17.10	1.88	17.10	1.87
-5	17.10	1.94	17.10	1.92	17.10	1.91	17.10	1.90	17.10	1.89	17.10	1.89
0	17.10	1.96	17.10	1.93	17.10	1.92	17.10	1.91	17.10	1.91	17.10	1.90
5	17.10	1.99	17.10	1.96	17.10	1.95	17.10	1.94	17.10	1.93	17.10	1.92
10	17.10	2.13	17.10	2.09	17.10	2.08	17.10	2.07	17.10	2.05	17.10	2.04
15	17.10	2.41	17.10	2.36	17.10	2.33	17.10	2.30	17.10	2.27	17.10	2.25
20	17.10	2.75	17.10	2.69	17.10	2.64	17.10	2.59	17.10	2.55	17.10	2.50
25	17.10	3.15	17.10	3.06	17.10	2.98	17.10	2.91	17.10	2.84	17.10	2.77
30	17.10	3.54	17.10	3.42	17.10	3.32	17.10	3.22	17.10	3.13	17.10	3.03
35	17.10	4.07	17.10	3.90	17.10	3.75	17.10	3.61	17.10	3.48	17.10	3.34
40	17.10	4.57	17.10	4.35	17.10	4.15	17.10	3.97	17.10	3.79	17.10	3.61
45	17.10	5.23	17.10	4.96	17.10	4.68	17.10	4.37	17.10	4.19	17.10	3.97
48	17.10	5.55	17.10	5.20	17.10	4.87	17.10	4.59	17.10	4.45	17.10	4.26
52	17.10	6.97	17.10	6.43	17.10	6.01	17.10	5.73	17.10	5.44	17.10	5.15

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 17 RT / 20% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	11.40	2.50	11.40	2.13	11.40	1.82	11.40	1.52	11.40	1.37	11.40	1.36	11.40	1.36
-10	11.40	2.51	11.40	2.14	11.40	1.83	11.40	1.53	11.40	1.38	11.40	1.37	11.40	1.36
-5	11.40	2.53	11.40	2.16	11.40	1.84	11.40	1.54	11.40	1.39	11.40	1.38	11.40	1.37
0	11.40	2.55	11.40	2.18	11.40	1.86	11.40	1.55	11.40	1.40	11.40	1.39	11.40	1.38
5	11.40	2.59	11.40	2.21	11.40	1.88	11.40	1.58	11.40	1.42	11.40	1.41	11.40	1.40
10	11.40	2.79	11.40	2.38	11.40	2.03	11.40	1.70	11.40	1.54	11.40	1.52	11.40	1.51
15	11.40	3.24	11.40	2.72	11.40	2.32	11.40	1.94	11.40	1.76	11.40	1.73	11.40	1.71
20	11.40	3.86	11.40	3.17	11.40	2.69	11.40	2.26	11.40	2.05	11.40	2.01	11.40	1.96
25	11.40	4.50	11.40	3.72	11.40	3.13	11.40	2.62	11.40	2.39	11.40	2.32	11.40	2.26
30	11.40	5.14	11.40	4.25	11.40	3.61	11.40	2.99	11.40	2.74	11.40	2.64	11.40	2.55
35	11.40	6.06	11.40	5.03	11.40	4.31	11.40	3.51	11.40	3.23	11.40	3.08	11.40	2.95
40	11.40	7.02	11.40	5.79	11.40	5.01	11.40	4.02	11.40	3.72	11.40	3.52	11.40	3.33
45	11.40	8.40	11.40	7.17	11.40	6.19	11.40	4.82	11.40	4.38	11.40	3.99	11.40	3.76
48	11.40	9.09	11.40	8.05	11.40	7.14	11.40	5.33	11.40	4.88	11.40	4.45	11.40	4.13
52	11.40	9.85	11.40	9.05	11.40	8.66	11.40	6.48	11.40	6.06	11.40	5.56	11.40	5.14

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	11.40	1.34	11.40	1.32	11.40	1.31	11.40	1.31	11.40	1.30	11.40	1.30
-10	11.40	1.34	11.40	1.32	11.40	1.32	11.40	1.31	11.40	1.31	11.40	1.30
-5	11.40	1.35	11.40	1.33	11.40	1.33	11.40	1.32	11.40	1.32	11.40	1.31
0	11.40	1.36	11.40	1.34	11.40	1.34	11.40	1.33	11.40	1.33	11.40	1.32
5	11.40	1.38	11.40	1.36	11.40	1.35	11.40	1.35	11.40	1.34	11.40	1.34
10	11.40	1.48	11.40	1.46	11.40	1.45	11.40	1.44	11.40	1.43	11.40	1.42
15	11.40	1.67	11.40	1.64	11.40	1.62	11.40	1.60	11.40	1.58	11.40	1.56
20	11.40	1.92	11.40	1.87	11.40	1.83	11.40	1.80	11.40	1.77	11.40	1.74
25	11.40	2.19	11.40	2.12	11.40	2.07	11.40	2.03	11.40	1.98	11.40	1.93
30	11.40	2.46	11.40	2.38	11.40	2.31	11.40	2.24	11.40	2.17	11.40	2.11
35	11.40	2.83	11.40	2.71	11.40	2.61	11.40	2.51	11.40	2.42	11.40	2.32
40	11.40	3.17	11.40	3.02	11.40	2.89	11.40	2.76	11.40	2.63	11.40	2.51
45	11.40	3.63	11.40	3.45	11.40	3.26	11.40	3.04	11.40	2.91	11.40	2.76
48	11.40	3.84	11.40	3.60	11.40	3.37	11.40	3.18	11.40	3.04	11.40	2.88
52	11.40	4.77	11.40	4.40	11.40	4.11	11.40	3.91	11.40	3.72	11.40	3.52

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

■ KCAH020VDTC / KCAH020LDTC / KCAH020HDTC

◆ 20RT / 100% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	50.00	11.38	56.70	11.57	63.00	11.42	65.00	9.83	65.00	8.86	65.00	8.81	65.00	8.75
-10	50.00	11.43	56.70	11.67	63.00	11.57	65.00	9.87	65.00	8.90	65.00	8.84	65.00	8.78
-5	50.00	11.53	56.70	11.76	63.00	11.66	65.00	9.95	65.00	8.97	65.00	8.91	65.00	8.85
0	50.00	11.62	56.70	11.86	63.00	11.76	65.00	10.03	65.00	9.04	65.00	8.98	65.00	8.92
5	50.00	11.99	56.70	12.03	63.00	11.93	65.00	10.18	65.00	9.18	65.00	9.11	65.00	9.05
10	50.00	12.73	56.70	12.99	63.00	12.79	65.00	10.99	65.00	9.92	65.00	9.82	65.00	9.73
15	50.00	13.93	56.70	14.82	63.00	14.52	65.00	12.54	65.00	11.35	65.00	11.18	65.00	11.02
20	45.36	15.13	56.70	17.03	63.00	17.20	65.00	14.55	65.00	13.22	65.00	12.94	65.00	12.68
25	44.00	17.22	55.00	19.37	63.00	19.97	65.00	16.90	65.00	15.41	65.00	14.98	65.00	14.57
30	44.00	19.68	55.00	22.14	63.00	22.82	65.00	19.31	65.00	17.67	65.00	17.05	65.00	16.48
35	43.06	22.80	53.82	25.65	59.80	25.65	65.00	22.86	65.00	21.67	65.00	20.10	65.00	19.23
40	41.65	25.34	52.07	28.51	57.85	28.51	65.00	26.19	65.00	24.31	65.00	22.91	65.00	21.72
45	35.64	26.88	42.99	29.95	47.77	29.55	53.82	26.95	58.50	27.33	60.67	25.86	62.83	24.88
48	28.08	24.50	35.10	26.62	39.00	26.92	43.65	24.22	47.45	24.65	49.29	23.64	51.13	22.92
52	19.80	17.68	24.75	19.89	27.50	19.89	29.90	17.73	32.50	18.18	34.13	17.71	35.75	17.31

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	65.00	8.62	65.00	8.49	65.00	8.46	65.00	8.43	65.00	8.40	65.00	8.36
-10	65.00	8.65	65.00	8.52	65.00	8.49	65.00	8.46	65.00	8.43	65.00	8.39
-5	65.00	8.72	65.00	8.59	65.00	8.56	65.00	8.53	65.00	8.50	65.00	8.46
0	65.00	8.79	65.00	8.66	65.00	8.62	65.00	8.59	65.00	8.56	65.00	8.52
5	65.00	8.91	65.00	8.77	65.00	8.73	65.00	8.70	65.00	8.66	65.00	8.62
10	65.00	9.56	65.00	9.40	65.00	9.33	65.00	9.27	65.00	9.20	65.00	9.14
15	65.00	10.79	65.00	10.57	65.00	10.44	65.00	10.32	65.00	10.20	65.00	10.08
20	65.00	12.36	65.00	12.05	65.00	11.84	65.00	11.63	65.00	11.43	65.00	11.23
25	65.00	14.13	65.00	13.71	65.00	13.38	65.00	13.07	65.00	12.76	65.00	12.44
30	65.00	15.90	65.00	15.35	65.00	14.89	65.00	14.46	65.00	14.02	65.00	13.59
35	65.00	18.44	65.00	17.67	65.00	17.00	65.00	16.38	65.00	15.75	65.00	15.13
40	65.00	20.69	65.00	19.70	65.00	18.81	65.00	17.99	65.00	17.17	65.00	16.35
45	65.00	23.98	65.00	22.65	65.00	21.39	65.00	19.96	65.00	19.13	65.00	18.13
48	52.98	22.26	54.82	21.41	56.66	20.62	58.50	20.13	58.83	19.61	59.69	19.13
52	37.38	16.95	39.00	16.64	40.63	16.36	42.25	16.16	42.56	16.03	43.00	15.78

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 20RT / 90% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	50.00	11.39	56.70	11.62	58.50	10.36	58.50	8.41	58.50	7.58	58.50	7.53	58.50	7.48
-10	50.00	11.43	56.70	11.67	58.50	10.40	58.50	8.44	58.50	7.61	58.50	7.56	58.50	7.51
-5	50.00	11.53	56.70	11.76	58.50	10.48	58.50	8.52	58.50	7.67	58.50	7.62	58.50	7.57
0	50.00	11.62	56.70	11.86	58.50	10.57	58.50	8.58	58.50	7.74	58.50	7.68	58.50	7.63
5	50.00	11.79	56.70	12.03	58.50	10.72	58.50	8.71	58.50	7.85	58.50	7.80	58.50	7.74
10	50.00	12.73	56.70	12.99	58.50	11.58	58.50	9.40	58.50	8.49	58.50	8.41	58.50	8.32
15	45.36	13.93	56.70	14.82	58.50	13.21	58.50	10.73	58.50	9.71	58.50	9.57	58.50	9.43
20	44.00	15.13	55.00	17.03	58.50	15.33	58.50	12.45	58.50	11.31	58.50	11.07	58.50	10.85
25	44.00	17.22	55.00	19.37	58.50	17.84	58.50	14.46	58.50	13.18	58.50	12.81	58.50	12.46
30	44.00	19.68	55.00	22.14	58.50	20.54	58.50	16.52	58.50	15.12	58.50	14.59	58.50	14.10
35	43.06	22.57	53.82	25.39	58.50	24.55	58.50	19.36	58.50	17.82	58.50	17.02	58.50	16.29
40	41.65	25.32	52.07	28.49	57.85	28.40	58.50	22.42	58.50	20.76	58.50	19.62	58.50	18.60
45	35.64	26.88	42.99	29.19	47.77	29.25	53.82	26.46	58.50	25.81	58.50	23.49	58.50	21.98
48	30.51	23.70	37.64	26.32	41.82	26.32	46.92	24.22	51.00	24.65	52.25	23.14	53.50	22.09
52	19.80	17.68	24.75	19.89	27.50	19.89	29.90	17.73	32.50	18.18	34.13	17.71	35.75	17.31

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	58.50	7.37	58.50	7.27	58.50	7.24	58.50	7.21	58.50	7.18	58.50	7.16
-10	58.50	7.40	58.50	7.29	58.50	7.26	58.50	7.24	58.50	7.21	58.50	7.18
-5	58.50	7.46	58.50	7.35	58.50	7.33	58.50	7.30	58.50	7.27	58.50	7.24
0	58.50	7.52	58.50	7.41	58.50	7.38	58.50	7.35	58.50	7.32	58.50	7.29
5	58.50	7.62	58.50	7.51	58.50	7.47	58.50	7.44	58.50	7.41	58.50	7.37
10	58.50	8.18	58.50	8.04	58.50	7.98	58.50	7.93	58.50	7.87	58.50	7.82
15	58.50	9.23	58.50	9.04	58.50	8.94	58.50	8.83	58.50	8.73	58.50	8.63
20	58.50	10.57	58.50	10.31	58.50	10.13	58.50	9.95	58.50	9.78	58.50	9.60
25	58.50	12.09	58.50	11.73	58.50	11.45	58.50	11.18	58.50	10.91	58.50	10.65
30	58.50	13.61	58.50	13.13	58.50	12.74	58.50	12.37	58.50	12.00	58.50	11.63
35	58.50	15.62	58.50	14.97	58.50	14.40	58.50	13.87	58.50	13.35	58.50	12.82
40	58.50	17.71	58.50	16.87	58.50	16.10	58.50	15.40	58.50	14.70	58.50	14.00
45	58.50	20.56	58.50	19.41	58.50	18.33	58.50	17.11	58.50	16.40	58.50	15.54
48	54.75	21.12	56.00	20.33	57.25	19.61	58.50	19.19	58.50	18.65	58.50	17.93
52	37.38	16.95	39.00	16.64	40.63	16.36	42.25	16.36	42.56	16.03	43.00	15.78

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 20RT / 80% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	50.00	11.39	52.00	10.23	52.00	8.73	52.00	7.04	52.00	6.34	52.00	6.30	52.00	6.26
-10	50.00	11.43	52.00	10.27	52.00	8.76	52.00	7.07	52.00	6.37	52.00	6.33	52.00	6.29
-5	50.00	11.53	52.00	10.35	52.00	8.83	52.00	7.13	52.00	6.42	52.00	6.38	52.00	6.34
0	50.00	11.62	52.00	10.44	52.00	8.90	52.00	7.18	52.00	6.47	52.00	6.43	52.00	6.39
5	50.00	11.79	52.00	10.59	52.00	9.03	52.00	7.29	52.00	6.57	52.00	6.52	52.00	6.48
10	50.00	12.73	52.00	11.43	52.00	9.75	52.00	7.87	52.00	7.10	52.00	7.03	52.00	6.97
15	45.36	13.93	52.00	13.04	52.00	11.13	52.00	8.98	52.00	8.13	52.00	8.01	52.00	7.89
20	44.00	15.13	52.00	15.22	52.00	12.92	52.00	10.27	52.00	9.41	52.00	9.24	52.00	9.08
25	44.00	17.22	52.00	17.84	52.00	15.03	52.00	11.68	52.00	10.84	52.00	10.62	52.00	10.43
30	44.00	19.68	52.00	20.38	52.00	17.30	52.00	13.80	52.00	12.36	52.00	12.11	52.00	11.80
35	43.06	22.57	52.00	24.13	52.00	20.68	52.00	16.20	52.00	14.92	52.00	14.24	52.00	13.63
40	41.65	25.32	52.00	28.14	52.00	24.25	52.00	18.73	52.00	17.34	52.00	16.39	52.00	15.53
45	35.64	26.88	42.99	29.19	47.77	28.42	52.00	23.89	52.00	21.65	52.00	19.71	52.00	18.44
48	28.08	23.70	35.10	26.32	39.00	26.32	43.65	23.70	47.45	23.24	49.29	21.88	51.13	20.92
52	19.80	17.68	24.75	19.89	27.50	19.89	29.90	17.73	32.50	18.18	34.13	17.71	35.75	17.31

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	52.00	6.17	52.00	6.08	52.00	6.06	52.00	6.03	52.00	6.01	52.00	5.99
-10	52.00	6.19	52.00	6.10	52.00	6.08	52.00	6.06	52.00	6.03	52.00	6.01
-5	52.00	6.24	52.00	6.15	52.00	6.13	52.00	6.11	52.00	6.08	52.00	6.06
0	52.00	6.29	52.00	6.20	52.00	6.17	52.00	6.15	52.00	6.13	52.00	6.10
5	52.00	6.38	52.00	6.28	52.00	6.25	52.00	6.23	52.00	6.20	52.00	6.17
10	52.00	6.85	52.00	6.73	52.00	6.68	52.00	6.63	52.00	6.59	52.00	6.54
15	52.00	7.73	52.00	7.57	52.00	7.48	52.00	7.39	52.00	7.30	52.00	7.22
20	52.00	8.85	52.00	8.63	52.00	8.48	52.00	8.33	52.00	8.18	52.00	8.04
25	52.00	10.12	52.00	9.81	52.00	9.58	52.00	9.36	52.00	9.13	52.00	8.91
30	52.00	11.39	52.00	10.99	52.00	10.66	52.00	10.35	52.00	10.04	52.00	9.73
35	52.00	13.07	52.00	12.53	52.00	12.05	52.00	11.61	52.00	11.17	52.00	10.73
40	52.00	14.79	52.00	14.09	52.00	13.45	52.00	12.86	52.00	12.28	52.00	11.69
45	52.00	17.17	52.00	16.21	52.00	15.31	52.00	14.29	52.00	13.70	52.00	12.98
48	52.00	19.52	52.00	18.23	52.00	17.07	52.00	16.13	52.00	15.41	52.00	14.62
52	37.38	16.95	39.00	16.64	40.63	16.36	42.25	16.36	42.56	16.03	43.00	15.78

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 20RT / 70% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	45.50	10.00	45.50	8.53	45.50	7.27	45.50	5.80	45.50	5.22	45.50	5.19	45.50	5.15
-10	45.50	10.03	45.50	8.56	45.50	7.30	45.50	5.82	45.50	5.24	45.50	5.21	45.50	5.17
-5	45.50	10.12	45.50	8.63	45.50	7.36	45.50	5.86	45.50	5.29	45.50	5.25	45.50	5.22
0	45.50	10.20	45.50	8.70	45.50	7.42	45.50	5.91	45.50	5.33	45.50	5.29	45.50	5.26
5	45.50	10.35	45.50	8.83	45.50	7.53	45.50	6.00	45.50	5.41	45.50	5.37	45.50	5.33
10	45.50	11.17	45.50	9.53	45.50	8.13	45.50	6.48	45.50	5.85	45.50	5.79	45.50	5.73
15	45.36	12.93	45.50	10.87	45.50	9.27	45.50	7.39	45.50	6.69	45.50	6.59	45.50	6.49
20	44.00	15.13	45.50	12.68	45.50	10.76	45.50	8.57	45.50	7.77	45.50	7.62	45.50	7.47
25	44.00	17.22	45.50	14.87	45.50	12.52	45.50	9.93	45.50	8.98	45.50	8.80	45.50	8.59
30	44.00	19.68	45.50	16.99	45.50	14.42	45.50	11.32	45.50	10.18	45.50	10.02	45.50	9.71
35	43.06	22.57	45.50	20.11	45.50	17.24	45.50	13.34	45.50	12.28	45.50	11.72	45.50	11.22
40	41.65	25.32	45.50	23.45	45.50	20.21	45.50	15.42	45.50	14.27	45.50	13.49	45.50	12.79
45	35.64	26.88	42.99	28.15	45.50	25.31	45.50	19.90	45.50	17.96	45.50	16.35	45.50	15.29
48	28.08	23.70	35.10	26.32	39.00	25.61	43.65	22.34	45.50	21.21	45.50	19.32	45.50	17.88
52	19.80	17.68	24.75	19.89	27.50	19.89	29.90	17.73	32.50	18.18	34.13	17.71	35.75	17.31

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	45.50	5.08	45.50	5.00	45.50	4.99	45.50	4.97	45.50	4.95	45.50	4.93
-10	45.50	5.10	45.50	5.02	45.50	5.00	45.50	4.98	45.50	4.97	45.50	4.95
-5	45.50	5.14	45.50	5.06	45.50	5.05	45.50	5.03	45.50	5.01	45.50	4.99
0	45.50	5.18	45.50	5.10	45.50	5.08	45.50	5.06	45.50	5.04	45.50	5.02
5	45.50	5.25	45.50	5.17	45.50	5.15	45.50	5.12	45.50	5.10	45.50	5.08
10	45.50	5.63	45.50	5.54	45.50	5.50	45.50	5.46	45.50	5.42	45.50	5.38
15	45.50	6.36	45.50	6.23	45.50	6.15	45.50	6.08	45.50	6.01	45.50	5.94
20	45.50	7.28	45.50	7.10	45.50	6.98	45.50	6.86	45.50	6.74	45.50	6.62
25	45.50	8.33	45.50	8.08	45.50	7.88	45.50	7.70	45.50	7.52	45.50	7.33
30	45.50	9.37	45.50	9.05	45.50	8.77	45.50	8.52	45.50	8.26	45.50	8.01
35	45.50	10.76	45.50	10.31	45.50	9.92	45.50	9.56	45.50	9.19	45.50	8.83
40	45.50	12.18	45.50	11.60	45.50	11.07	45.50	10.59	45.50	10.10	45.50	9.62
45	45.50	14.13	45.50	13.34	45.50	12.60	45.50	11.76	45.50	11.27	45.50	10.68
48	45.50	16.21	45.50	15.14	45.50	14.17	45.50	13.39	45.50	12.79	45.50	12.14
52	37.38	16.95	39.00	16.64	40.63	16.36	42.25	16.36	42.56	16.03	43.00	15.78

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 20RT / 60% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	39.00	8.19	39.00	6.98	39.00	5.96	39.00	4.73	39.00	4.26	39.00	4.23	39.00	4.20
-10	39.00	8.21	39.00	7.01	39.00	5.98	39.00	4.74	39.00	4.28	39.00	4.25	39.00	4.22
-5	39.00	8.28	39.00	7.07	39.00	6.03	39.00	4.78	39.00	4.31	39.00	4.28	39.00	4.26
0	39.00	8.35	39.00	7.12	39.00	6.08	39.00	4.82	39.00	4.35	39.00	4.32	39.00	4.29
5	39.00	8.47	39.00	7.23	39.00	6.17	39.00	4.89	39.00	4.41	39.00	4.38	39.00	4.35
10	39.00	9.15	39.00	7.80	39.00	6.66	39.00	5.28	39.00	4.77	39.00	4.72	39.00	4.68
15	39.00	10.62	39.00	8.90	39.00	7.59	39.00	6.03	39.00	5.45	39.00	5.37	39.00	5.30
20	39.00	12.63	39.00	10.39	39.00	8.81	39.00	7.00	39.00	6.35	39.00	6.22	39.00	6.09
25	39.00	14.73	39.00	12.17	39.00	10.25	39.00	8.12	39.00	7.41	39.00	7.20	39.00	7.00
30	39.00	16.82	39.00	13.91	39.00	11.81	39.00	9.28	39.00	8.49	39.00	8.20	39.00	7.92
35	39.00	19.84	39.00	16.47	39.00	14.11	39.00	10.88	39.00	10.01	39.00	9.56	39.00	9.15
40	39.00	23.25	39.00	19.15	39.00	16.50	39.00	12.54	39.00	11.61	39.00	10.97	39.00	10.40
45	35.64	26.49	39.00	23.97	39.00	20.66	39.00	16.25	39.00	14.64	39.00	13.33	39.00	12.47
48	28.08	23.70	35.10	25.12	39.00	24.02	39.00	18.90	39.00	17.31	39.00	15.77	39.00	14.60
52	19.80	17.68	24.75	19.89	27.50	19.89	29.90	17.73	32.50	18.18	34.13	17.71	35.75	17.31

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	39.00	4.14	39.00	4.08	39.00	4.07	39.00	4.05	39.00	4.04	39.00	4.02
-10	39.00	4.16	39.00	4.10	39.00	4.08	39.00	4.07	39.00	4.05	39.00	4.03
-5	39.00	4.19	39.00	4.13	39.00	4.12	39.00	4.10	39.00	4.08	39.00	4.07
0	39.00	4.22	39.00	4.16	39.00	4.14	39.00	4.13	39.00	4.11	39.00	4.10
5	39.00	4.28	39.00	4.22	39.00	4.20	39.00	4.18	39.00	4.16	39.00	4.14
10	39.00	4.60	39.00	4.52	39.00	4.49	39.00	4.45	39.00	4.42	39.00	4.39
15	39.00	5.19	39.00	5.08	39.00	5.02	39.00	4.96	39.00	4.90	39.00	4.85
20	39.00	5.94	39.00	5.79	39.00	5.69	39.00	5.59	39.00	5.49	39.00	5.40
25	39.00	6.79	39.00	6.59	39.00	6.43	39.00	6.28	39.00	6.13	39.00	5.98
30	39.00	7.64	39.00	7.38	39.00	7.16	39.00	6.95	39.00	6.74	39.00	6.53
35	39.00	8.77	39.00	8.41	39.00	8.09	39.00	7.79	39.00	7.50	39.00	7.20
40	39.00	9.90	39.00	9.43	39.00	9.00	39.00	8.61	39.00	8.22	39.00	7.83
45	39.00	11.49	39.00	10.85	39.00	10.25	39.00	9.56	39.00	9.17	39.00	8.68
48	39.00	13.21	39.00	12.34	39.00	11.56	39.00	10.92	39.00	10.43	39.00	9.90
52	37.38	16.95	39.00	16.64	39.00	15.55	39.00	14.81	39.00	14.06	39.00	13.32

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 20RT / 50% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	32.50	6.24	32.50	5.32	32.50	4.54	32.50	3.60	32.50	3.24	32.50	3.22	32.50	3.20
-10	32.50	6.26	32.50	5.34	32.50	4.56	32.50	3.61	32.50	3.25	32.50	3.23	32.50	3.21
-5	32.50	6.31	32.50	5.39	32.50	4.59	32.50	3.64	32.50	3.28	32.50	3.26	32.50	3.24
0	32.50	6.36	32.50	5.43	32.50	4.63	32.50	3.67	32.50	3.31	32.50	3.29	32.50	3.26
5	32.50	6.46	32.50	5.51	32.50	4.70	32.50	3.72	32.50	3.36	32.50	3.33	32.50	3.31
10	32.50	6.97	32.50	5.95	32.50	5.07	32.50	4.02	32.50	3.63	32.50	3.59	32.50	3.56
15	32.50	8.09	32.50	6.78	32.50	5.79	32.50	4.59	32.50	4.15	32.50	4.09	32.50	4.03
20	32.50	9.62	32.50	7.92	32.50	6.72	32.50	5.32	32.50	4.84	32.50	4.74	32.50	4.64
25	32.50	11.22	32.50	9.28	32.50	7.82	32.50	6.18	32.50	5.64	32.50	5.48	32.50	5.33
30	32.50	12.82	32.50	10.60	32.50	9.00	32.50	7.06	32.50	6.47	32.50	6.24	32.50	6.03
35	32.50	15.12	32.50	12.55	32.50	10.76	32.50	8.28	32.50	7.62	32.50	7.28	32.50	6.97
40	32.50	17.67	32.50	14.55	32.50	12.54	32.50	9.51	32.50	8.81	32.50	8.32	32.50	7.89
45	32.50	21.63	32.50	18.20	32.50	15.69	32.50	12.34	32.50	11.11	32.50	10.12	32.50	9.46
48	28.08	21.76	32.50	20.85	32.50	18.24	32.50	14.35	32.50	13.15	32.50	11.98	32.50	11.09
52	19.80	16.92	24.75	19.03	27.50	19.03	29.90	16.97	32.50	17.40	32.50	15.98	32.50	14.76

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	32.50	3.15	32.50	3.11	32.50	3.10	32.50	3.08	32.50	3.07	32.50	3.06
-10	32.50	3.16	32.50	3.12	32.50	3.11	32.50	3.09	32.50	3.08	32.50	3.07
-5	32.50	3.19	32.50	3.14	32.50	3.13	32.50	3.12	32.50	3.11	32.50	3.10
0	32.50	3.21	32.50	3.17	32.50	3.15	32.50	3.14	32.50	3.13	32.50	3.12
5	32.50	3.26	32.50	3.21	32.50	3.20	32.50	3.18	32.50	3.17	32.50	3.15
10	32.50	3.50	32.50	3.44	32.50	3.41	32.50	3.39	32.50	3.37	32.50	3.34
15	32.50	3.95	32.50	3.87	32.50	3.82	32.50	3.78	32.50	3.73	32.50	3.69
20	32.50	4.52	32.50	4.41	32.50	4.33	32.50	4.26	32.50	4.18	32.50	4.11
25	32.50	5.17	32.50	5.01	32.50	4.89	32.50	4.78	32.50	4.67	32.50	4.55
30	32.50	5.82	32.50	5.62	32.50	5.45	32.50	5.29	32.50	5.13	32.50	4.97
35	32.50	6.68	32.50	6.40	32.50	6.16	32.50	5.93	32.50	5.71	32.50	5.48
40	32.50	7.51	32.50	7.16	32.50	6.83	32.50	6.53	32.50	6.24	32.50	5.94
45	32.50	8.71	32.50	8.23	32.50	7.77	32.50	7.25	32.50	6.95	32.50	6.59
48	32.50	10.03	32.50	9.37	32.50	8.77	32.50	8.29	32.50	7.92	32.50	7.51
52	32.50	13.70	32.50	12.64	32.50	11.81	32.50	11.25	32.50	10.68	32.50	10.12

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 20RT / 40% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	26.00	5.39	26.00	4.60	26.00	3.92	26.00	3.23	26.00	2.91	26.00	2.89	26.00	2.87
-10	26.00	5.41	26.00	4.61	26.00	3.93	26.00	3.24	26.00	2.92	26.00	2.90	26.00	2.88
-5	26.00	5.45	26.00	4.65	26.00	3.97	26.00	3.27	26.00	2.94	26.00	2.93	26.00	2.91
0	26.00	5.50	26.00	4.69	26.00	4.00	26.00	3.29	26.00	2.97	26.00	2.95	26.00	2.93
5	26.00	5.58	26.00	4.76	26.00	4.06	26.00	3.34	26.00	3.01	26.00	2.99	26.00	2.97
10	26.00	6.02	26.00	5.14	26.00	4.38	26.00	3.61	26.00	3.26	26.00	3.23	26.00	3.19
15	26.00	6.99	26.00	5.86	26.00	5.00	26.00	4.12	26.00	3.73	26.00	3.67	26.00	3.62
20	26.00	8.31	26.00	6.84	26.00	5.80	26.00	4.78	26.00	4.34	26.00	4.25	26.00	4.16
25	26.00	9.69	26.00	8.01	26.00	6.75	26.00	5.55	26.00	5.06	26.00	4.92	26.00	4.78
30	26.00	11.07	26.00	9.15	26.00	7.77	26.00	6.34	26.00	5.80	26.00	5.60	26.00	5.41
35	26.00	13.06	26.00	10.84	26.00	9.29	26.00	7.43	26.00	6.84	26.00	6.53	26.00	6.25
40	26.00	15.23	26.00	12.54	26.00	10.81	26.00	8.52	26.00	7.89	26.00	7.45	26.00	7.07
45	26.00	18.64	26.00	15.69	26.00	13.52	26.00	10.43	26.00	9.52	26.00	8.67	26.00	8.11
48	26.00	20.71	26.00	17.97	26.00	15.72	26.00	11.83	26.00	10.84	26.00	9.87	26.00	9.14
52	19.80	17.68	24.75	19.89	26.00	19.38	26.00	15.12	26.00	14.12	26.00	12.97	26.00	11.98

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	26.00	2.83	26.00	2.79	26.00	2.78	26.00	2.77	26.00	2.76	26.00	2.75
-10	26.00	2.84	26.00	2.80	26.00	2.79	26.00	2.78	26.00	2.77	26.00	2.76
-5	26.00	2.86	26.00	2.82	26.00	2.81	26.00	2.80	26.00	2.79	26.00	2.78
0	26.00	2.88	26.00	2.84	26.00	2.83	26.00	2.82	26.00	2.81	26.00	2.80
5	26.00	2.92	26.00	2.88	26.00	2.87	26.00	2.85	26.00	2.84	26.00	2.83
10	26.00	3.14	26.00	3.09	26.00	3.06	26.00	3.04	26.00	3.02	26.00	3.00
15	26.00	3.54	26.00	3.47	26.00	3.43	26.00	3.39	26.00	3.35	26.00	3.31
20	26.00	4.06	26.00	3.96	26.00	3.89	26.00	3.82	26.00	3.75	26.00	3.69
25	26.00	4.64	26.00	4.50	26.00	4.39	26.00	4.29	26.00	4.19	26.00	4.09
30	26.00	5.22	26.00	5.04	26.00	4.89	26.00	4.75	26.00	4.60	26.00	4.46
35	26.00	5.99	26.00	5.74	26.00	5.53	26.00	5.32	26.00	5.12	26.00	4.92
40	26.00	6.73	26.00	6.41	26.00	6.12	26.00	5.85	26.00	5.59	26.00	5.32
45	26.00	7.80	26.00	7.37	26.00	6.96	26.00	6.50	26.00	6.23	26.00	5.90
48	26.00	8.44	26.00	7.89	26.00	7.39	26.00	6.97	26.00	6.66	26.00	6.32
52	26.00	11.12	26.00	10.26	26.00	9.59	26.00	9.13	26.00	8.67	26.00	8.21

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 20RT / 30% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	26.00	5.39	26.00	4.60	26.00	3.92	26.00	3.23	26.00	2.91	26.00	2.89	19.50	2.26
-10	26.00	5.41	26.00	4.61	26.00	3.93	26.00	3.24	26.00	2.92	26.00	2.90	19.50	2.26
-5	26.00	5.45	26.00	4.65	26.00	3.97	26.00	3.27	26.00	2.94	26.00	2.93	19.50	2.28
0	26.00	5.50	26.00	4.69	26.00	4.00	26.00	3.29	26.00	2.97	26.00	2.95	19.50	2.30
5	26.00	5.58	26.00	4.76	26.00	4.06	26.00	3.34	26.00	3.01	26.00	2.99	19.50	2.33
10	26.00	6.02	26.00	5.14	26.00	4.38	26.00	3.61	26.00	3.26	26.00	3.23	19.50	2.51
15	19.50	5.53	19.50	4.63	19.50	3.95	19.50	3.23	19.50	2.93	19.50	2.88	19.50	2.84
20	19.50	6.57	19.50	5.41	19.50	4.59	19.50	3.75	19.50	3.41	19.50	3.34	19.50	3.27
25	19.50	7.66	19.50	6.34	19.50	5.34	19.50	4.36	19.50	3.97	19.50	3.86	19.50	3.76
30	19.50	8.76	19.50	7.24	19.50	6.14	19.50	4.98	19.50	4.56	19.50	4.40	19.50	4.25
35	19.50	10.32	19.50	8.57	19.50	7.35	19.50	5.83	19.50	5.37	19.50	5.13	19.50	4.91
40	19.50	12.02	19.50	9.90	19.50	8.53	19.50	6.68	19.50	6.18	19.50	5.85	19.50	5.54
45	19.50	14.52	19.50	12.39	19.50	10.68	19.50	8.13	19.50	7.40	19.50	6.74	19.50	6.35
48	19.50	15.79	19.50	13.98	19.50	12.41	19.50	9.15	19.50	8.38	19.50	7.64	19.50	7.09
52	19.50	17.58	19.50	15.83	19.50	15.14	19.50	11.45	19.50	10.70	19.50	9.83	19.50	9.08

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	19.50	2.22	19.50	2.19	19.50	2.18	19.50	2.17	19.50	2.16	19.50	2.16
-10	19.50	2.23	19.50	2.20	19.50	2.19	19.50	2.18	19.50	2.17	19.50	2.16
-5	19.50	2.25	19.50	2.22	19.50	2.21	19.50	2.20	19.50	2.19	19.50	2.18
0	19.50	2.27	19.50	2.23	19.50	2.22	19.50	2.21	19.50	2.21	19.50	2.20
5	19.50	2.30	19.50	2.26	19.50	2.25	19.50	2.24	19.50	2.23	19.50	2.22
10	19.50	2.46	19.50	2.42	19.50	2.41	19.50	2.39	19.50	2.37	19.50	2.36
15	19.50	2.78	19.50	2.72	19.50	2.69	19.50	2.66	19.50	2.63	19.50	2.60
20	19.50	3.19	19.50	3.11	19.50	3.05	19.50	3.00	19.50	2.95	19.50	2.89
25	19.50	3.64	19.50	3.53	19.50	3.45	19.50	3.37	19.50	3.29	19.50	3.21
30	19.50	4.10	19.50	3.96	19.50	3.84	19.50	3.73	19.50	3.61	19.50	3.50
35	19.50	4.71	19.50	4.51	19.50	4.34	19.50	4.18	19.50	4.02	19.50	3.86
40	19.50	5.28	19.50	5.03	19.50	4.80	19.50	4.59	19.50	4.38	19.50	4.17
45	19.50	6.12	19.50	5.78	19.50	5.46	19.50	5.09	19.50	4.85	19.50	4.56
48	19.50	6.56	19.50	6.13	19.50	5.74	19.50	5.42	19.50	5.16	19.50	4.88
52	19.50	8.42	19.50	7.77	19.50	7.26	19.50	6.92	19.50	6.57	19.50	6.22

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 20RT / 20% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	13.00	2.90	13.00	2.47	13.00	2.11	13.00	1.75	13.00	1.58	13.00	1.57	13.00	1.56
-10	13.00	2.91	13.00	2.48	13.00	2.12	13.00	1.76	13.00	1.58	13.00	1.57	13.00	1.56
-5	13.00	2.93	13.00	2.50	13.00	2.13	13.00	1.77	13.00	1.60	13.00	1.59	13.00	1.58
0	13.00	2.96	13.00	2.52	13.00	2.15	13.00	1.79	13.00	1.61	13.00	1.60	13.00	1.59
5	13.00	3.00	13.00	2.56	13.00	2.18	13.00	1.81	13.00	1.63	13.00	1.62	13.00	1.61
10	13.00	3.24	13.00	2.76	13.00	2.36	13.00	1.96	13.00	1.77	13.00	1.75	13.00	1.73
15	13.00	3.76	13.00	3.15	13.00	2.69	13.00	2.23	13.00	2.03	13.00	1.99	13.00	1.96
20	13.00	4.47	13.00	3.68	13.00	3.12	13.00	2.59	13.00	2.35	13.00	2.30	13.00	2.26
25	13.00	5.21	13.00	4.31	13.00	3.63	13.00	3.01	13.00	2.74	13.00	2.67	13.00	2.59
30	13.00	5.96	13.00	4.92	13.00	4.18	13.00	3.44	13.00	3.15	13.00	3.03	13.00	2.93
35	13.00	7.02	13.00	5.83	13.00	5.00	13.00	4.03	13.00	3.71	13.00	3.54	13.00	3.39
40	13.00	8.18	13.00	6.74	13.00	5.80	13.00	4.61	13.00	4.27	13.00	4.03	13.00	3.83
45	13.00	9.88	13.00	8.43	13.00	7.26	13.00	5.63	13.00	5.09	13.00	4.64	13.00	4.37
48	13.00	10.74	13.00	9.51	13.00	8.44	13.00	6.29	13.00	5.76	13.00	5.25	13.00	4.87
52	13.00	11.84	13.00	10.77	13.00	10.30	13.00	7.71	13.00	7.20	13.00	6.62	13.00	6.11

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	13.00	1.53	13.00	1.51	13.00	1.51	13.00	1.50	13.00	1.49	13.00	1.49
-10	13.00	1.54	13.00	1.52	13.00	1.51	13.00	1.51	13.00	1.50	13.00	1.49
-5	13.00	1.55	13.00	1.53	13.00	1.52	13.00	1.52	13.00	1.51	13.00	1.51
0	13.00	1.56	13.00	1.54	13.00	1.53	13.00	1.53	13.00	1.52	13.00	1.52
5	13.00	1.59	13.00	1.56	13.00	1.55	13.00	1.55	13.00	1.54	13.00	1.53
10	13.00	1.70	13.00	1.67	13.00	1.66	13.00	1.65	13.00	1.64	13.00	1.63
15	13.00	1.92	13.00	1.88	13.00	1.86	13.00	1.84	13.00	1.82	13.00	1.79
20	13.00	2.20	13.00	2.14	13.00	2.11	13.00	2.07	13.00	2.03	13.00	2.00
25	13.00	2.51	13.00	2.44	13.00	2.38	13.00	2.33	13.00	2.27	13.00	2.21
30	13.00	2.83	13.00	2.73	13.00	2.65	13.00	2.57	13.00	2.50	13.00	2.42
35	13.00	3.25	13.00	3.11	13.00	3.00	13.00	2.89	13.00	2.78	13.00	2.67
40	13.00	3.64	13.00	3.47	13.00	3.31	13.00	3.17	13.00	3.02	13.00	2.88
45	13.00	4.22	13.00	3.99	13.00	3.77	13.00	3.52	13.00	3.35	13.00	3.15
48	13.00	4.51	13.00	4.22	13.00	3.95	13.00	3.73	13.00	3.55	13.00	3.36
52	13.00	5.67	13.00	5.23	13.00	4.89	13.00	4.66	13.00	4.42	13.00	4.19

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

■ KCAH023VDTC / KCAH023LDTC / KCAH023HDTC

◆ 23RT / 100% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	51.60	12.38	56.81	12.59	64.79	12.43	74.00	12.00	74.00	10.81	74.00	10.74	74.00	10.67
-10	51.60	12.44	56.81	12.70	64.79	12.59	74.00	12.04	74.00	10.85	74.00	10.78	74.00	10.71
-5	51.60	12.54	56.81	12.80	64.79	12.69	74.00	12.14	74.00	10.94	74.00	10.87	74.00	10.80
0	51.60	12.64	56.81	12.90	64.79	12.79	74.00	12.24	74.00	11.03	74.00	10.96	74.00	10.88
5	51.60	13.05	56.81	13.09	64.79	12.98	74.00	12.42	74.00	11.20	74.00	11.12	74.00	11.04
10	51.60	14.09	56.81	14.14	64.79	14.14	74.00	11.96	74.00	10.80	74.00	10.69	74.00	10.59
15	51.60	15.41	56.81	16.12	64.79	16.13	74.00	13.64	74.00	12.35	74.00	12.17	74.00	11.99
20	46.81	16.75	56.81	18.63	64.79	18.72	74.00	15.84	74.00	14.39	74.00	14.09	74.00	13.80
25	44.46	19.06	55.57	21.44	64.79	21.74	74.00	18.39	74.00	16.77	74.00	16.30	74.00	15.86
30	44.46	21.78	55.57	24.50	64.79	24.83	74.00	21.01	74.00	19.23	74.00	18.56	74.00	17.93
35	43.50	24.39	54.38	27.46	62.14	28.15	74.00	27.89	74.00	26.43	74.00	24.52	74.00	23.46
40	42.09	26.95	52.61	30.38	59.33	29.96	66.60	30.90	66.60	28.69	66.60	27.04	66.60	25.63
45	36.01	27.66	43.44	30.81	48.91	30.39	54.98	32.58	59.82	33.34	62.09	31.55	64.37	30.35
48	28.37	29.89	35.47	32.48	39.41	32.84	44.43	29.54	48.30	30.08	50.17	28.84	52.05	27.96
52	20.01	17.91	25.01	20.14	27.79	20.14	30.10	17.96	32.72	18.42	34.35	17.94	35.99	17.53

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	74.00	10.51	74.00	10.36	74.00	10.32	74.00	10.28	74.00	10.24	74.00	10.20
-10	74.00	10.55	74.00	10.40	74.00	10.36	74.00	10.32	74.00	10.28	74.00	10.24
-5	74.00	10.64	74.00	10.49	74.00	10.45	74.00	10.41	74.00	10.37	74.00	10.33
0	74.00	10.72	74.00	10.56	74.00	10.52	74.00	10.48	74.00	10.44	74.00	10.40
5	74.00	10.87	74.00	10.70	74.00	10.66	74.00	10.61	74.00	10.56	74.00	10.51
10	74.00	10.41	74.00	10.23	74.00	10.16	74.00	10.08	74.00	10.01	74.00	9.94
15	74.00	11.74	74.00	11.50	74.00	11.37	74.00	11.23	74.00	11.10	74.00	10.97
20	74.00	13.45	74.00	13.11	74.00	12.88	74.00	12.66	74.00	12.44	74.00	12.22
25	74.00	15.38	74.00	14.92	74.00	14.56	74.00	14.22	74.00	13.88	74.00	13.54
30	74.00	17.31	74.00	16.70	74.00	16.20	74.00	15.73	74.00	15.26	74.00	14.79
35	74.00	22.49	74.00	21.56	74.00	20.74	74.00	19.98	74.00	19.22	74.00	18.46
40	66.60	25.24	74.00	24.04	74.00	22.94	74.00	21.94	74.00	20.94	74.00	19.94
45	66.60	29.26	74.00	27.63	74.00	26.09	74.00	24.35	74.00	23.34	74.00	22.12
48	53.92	27.16	55.80	26.12	56.89	25.16	58.79	24.56	59.18	23.92	59.99	23.34
52	37.63	17.17	39.26	16.86	40.90	16.58	42.53	16.37	42.84	16.24	43.29	15.98

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 23RT / 90% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	51.60	12.38	56.81	12.59	64.79	12.43	66.60	10.16	66.60	9.16	66.60	9.10	66.60	9.04
-10	51.60	12.44	56.81	12.70	64.79	12.59	66.60	10.20	66.60	9.19	66.60	9.13	66.60	9.07
-5	51.60	12.54	56.81	12.80	64.79	12.69	66.60	10.29	66.60	9.27	66.60	9.21	66.60	9.15
0	51.60	12.64	56.81	12.90	64.79	12.79	66.60	10.37	66.60	9.34	66.60	9.28	66.60	9.22
5	51.60	13.05	56.81	13.09	64.79	12.98	66.60	10.52	66.60	9.48	66.60	9.42	66.60	9.35
10	51.60	14.09	56.81	14.14	64.79	14.14	66.60	10.13	66.60	9.15	66.60	9.06	66.60	8.97
15	51.60	15.41	56.81	16.12	64.79	16.13	66.60	11.56	66.60	10.46	66.60	10.31	66.60	10.16
20	46.81	16.75	56.81	18.63	64.79	18.72	66.60	13.42	66.60	12.19	66.60	11.93	66.60	11.69
25	44.46	19.06	55.57	21.44	64.79	21.74	66.60	15.58	66.60	14.20	66.60	13.81	66.60	13.43
30	44.46	21.78	55.57	24.50	64.79	24.83	66.60	17.80	66.60	16.29	66.60	15.72	66.60	15.19
35	43.50	24.39	54.38	27.46	62.14	28.15	66.60	23.62	66.60	22.39	66.60	20.77	66.60	19.87
40	42.09	26.95	52.61	30.38	59.33	29.96	66.60	26.18	66.60	24.30	66.60	22.90	66.60	21.71
45	36.01	27.66	43.44	30.81	48.91	30.39	54.98	32.58	59.82	33.34	62.09	31.55	64.37	30.35
48	28.37	29.89	35.47	32.48	39.41	32.84	44.43	29.54	48.30	30.08	50.17	28.84	52.05	27.96
52	20.01	17.91	25.01	20.14	27.79	20.14	30.10	17.96	32.72	18.42	34.35	17.94	35.99	17.53

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	66.60	8.91	66.60	8.78	66.60	8.74	66.60	8.71	66.60	8.68	66.60	8.64
-10	66.60	8.94	66.60	8.81	66.60	8.77	66.60	8.74	66.60	8.71	66.60	8.68
-5	66.60	9.01	66.60	8.88	66.60	8.85	66.60	8.82	66.60	8.78	66.60	8.75
0	66.60	9.08	66.60	8.95	66.60	8.91	66.60	8.88	66.60	8.84	66.60	8.81
5	66.60	9.21	66.60	9.07	66.60	9.03	66.60	8.99	66.60	8.95	66.60	8.91
10	66.60	8.81	66.60	8.66	66.60	8.60	66.60	8.54	66.60	8.48	66.60	8.42
15	66.60	9.95	66.60	9.74	66.60	9.63	66.60	9.52	66.60	9.41	66.60	9.29
20	66.60	11.39	66.60	11.11	66.60	10.91	66.60	10.73	66.60	10.54	66.60	10.35
25	66.60	13.03	66.60	12.64	66.60	12.33	66.60	12.05	66.60	11.76	66.60	11.47
30	66.60	14.66	66.60	14.15	66.60	13.73	66.60	13.33	66.60	12.93	66.60	12.53
35	66.60	19.05	66.60	18.27	66.60	17.57	66.60	16.93	66.60	16.28	66.60	15.64
40	66.60	21.38	66.60	20.36	66.60	19.44	66.60	18.59	66.60	17.74	66.60	16.89
45	66.60	24.79	66.60	23.40	66.60	22.10	66.60	20.63	66.60	19.77	66.60	18.74
48	53.92	27.16	55.80	26.12	56.89	25.16	58.79	24.56	59.18	23.92	59.99	23.34
52	37.63	17.17	39.26	16.86	40.90	16.58	42.53	16.37	42.84	16.24	43.29	15.98

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 23RT / 80% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	51.60	12.38	56.81	12.59	59.20	10.88	59.20	8.58	59.20	7.73	59.20	7.68	59.20	7.63
-10	51.60	12.44	56.81	12.70	59.20	11.01	59.20	8.61	59.20	7.76	59.20	7.71	59.20	7.66
-5	51.60	12.54	56.81	12.80	59.20	11.11	59.20	8.68	59.20	7.82	59.20	7.77	59.20	7.72
0	51.60	12.64	56.81	12.90	59.20	11.20	59.20	8.75	59.20	7.89	59.20	7.83	59.20	7.78
5	51.60	13.05	56.81	13.09	59.20	11.36	59.20	8.88	59.20	8.00	59.20	7.95	59.20	7.89
10	51.60	14.09	56.81	14.14	59.20	12.37	59.20	8.55	59.20	7.72	59.20	7.64	59.20	7.57
15	51.60	15.41	56.81	16.12	59.20	14.11	59.20	9.75	59.20	8.83	59.20	8.70	59.20	8.57
20	46.81	16.75	56.81	18.63	59.20	16.38	59.20	11.32	59.20	10.28	59.20	10.07	59.20	9.86
25	44.46	19.06	55.57	21.44	59.20	19.02	59.20	13.15	59.20	11.99	59.20	11.65	59.20	11.33
30	44.46	21.78	55.57	24.50	59.20	21.73	59.20	15.02	59.20	13.75	59.20	13.27	59.20	12.82
35	43.50	24.39	54.38	27.46	59.20	24.63	59.20	19.93	59.20	18.90	59.20	17.53	59.20	16.77
40	42.09	26.95	52.61	30.38	59.20	25.50	59.20	22.09	59.20	20.51	59.20	19.33	59.20	18.32
45	36.01	27.66	43.44	30.81	48.91	30.39	54.98	32.58	59.20	29.10	59.20	27.54	59.20	26.50
48	28.37	29.89	35.47	32.48	39.41	32.84	44.43	29.54	48.30	30.08	50.17	28.84	52.05	27.96
52	20.01	17.91	25.01	20.14	27.79	20.14	30.10	17.96	32.72	18.42	34.35	17.94	35.99	17.53

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	59.20	7.52	59.20	7.41	59.20	7.38	59.20	7.35	59.20	7.32	59.20	7.29
-10	59.20	7.54	59.20	7.43	59.20	7.40	59.20	7.38	59.20	7.35	59.20	7.32
-5	59.20	7.61	59.20	7.50	59.20	7.47	59.20	7.44	59.20	7.41	59.20	7.38
0	59.20	7.66	59.20	7.55	59.20	7.52	59.20	7.49	59.20	7.46	59.20	7.43
5	59.20	7.77	59.20	7.65	59.20	7.62	59.20	7.58	59.20	7.55	59.20	7.52
10	59.20	7.44	59.20	7.31	59.20	7.26	59.20	7.21	59.20	7.16	59.20	7.11
15	59.20	8.40	59.20	8.22	59.20	8.13	59.20	8.03	59.20	7.94	59.20	7.84
20	59.20	9.62	59.20	9.37	59.20	9.21	59.20	9.05	59.20	8.89	59.20	8.73
25	59.20	10.99	59.20	10.66	59.20	10.41	59.20	10.17	59.20	9.92	59.20	9.68
30	59.20	12.37	59.20	11.94	59.20	11.58	59.20	11.25	59.20	10.91	59.20	10.57
35	59.20	16.08	59.20	15.41	59.20	14.83	59.20	14.28	59.20	13.74	59.20	13.20
40	59.20	18.04	59.20	17.18	59.20	16.40	59.20	15.69	59.20	14.97	59.20	14.26
45	59.20	20.92	59.20	19.75	59.20	18.65	59.20	17.41	59.20	16.69	59.20	15.81
48	53.92	27.16	55.80	26.12	56.89	25.16	58.79	24.56	59.18	23.92	59.20	17.84
52	37.63	17.17	39.26	16.86	40.90	16.58	42.53	16.37	42.84	16.24	43.29	15.98

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 23RT / 70% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	51.60	12.38	51.80	11.39	51.80	9.03	51.80	7.12	51.80	6.41	51.80	6.37	51.80	6.33
-10	51.60	12.44	51.80	11.49	51.80	9.14	51.80	7.14	51.80	6.44	51.80	6.40	51.80	6.35
-5	51.60	12.54	51.80	11.59	51.80	9.22	51.80	7.20	51.80	6.49	51.80	6.45	51.80	6.41
0	51.60	12.64	51.80	11.68	51.80	9.29	51.80	7.26	51.80	6.54	51.80	6.50	51.80	6.46
5	51.60	13.05	51.80	11.85	51.80	9.43	51.80	7.37	51.80	6.64	51.80	6.59	51.80	6.55
10	51.60	14.09	51.80	12.79	51.80	10.27	51.80	7.10	51.80	6.41	51.80	6.34	51.80	6.28
15	51.60	15.41	51.80	14.59	51.80	11.71	51.80	8.09	51.80	7.33	51.80	7.22	51.80	7.11
20	46.81	16.75	51.80	16.86	51.80	13.60	51.80	9.40	51.80	8.54	51.80	8.36	51.80	8.19
25	44.46	19.06	51.80	19.41	51.80	15.78	51.80	10.91	51.80	9.95	51.80	9.67	51.80	9.41
30	44.46	21.78	51.80	22.17	51.80	18.04	51.80	12.47	51.80	11.41	51.80	11.01	51.80	10.64
35	43.50	24.39	51.80	25.31	51.80	20.44	51.80	16.54	51.80	15.68	51.80	14.54	51.80	13.92
40	42.09	26.95	51.80	27.63	51.80	21.16	51.80	18.33	51.80	17.02	51.80	16.04	51.80	15.20
45	36.01	27.66	43.44	30.81	48.91	30.39	51.80	29.49	51.80	24.15	51.80	22.86	51.80	21.99
48	28.37	29.89	35.47	32.48	39.41	32.84	44.43	29.54	48.30	30.08	50.17	28.84	51.80	24.33
52	20.01	17.91	25.01	20.14	27.79	20.14	30.10	17.96	32.72	18.42	34.35	17.94	35.99	17.53

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	51.80	6.24	51.80	6.15	51.80	6.12	51.80	6.10	51.80	6.08	51.80	6.05
-10	51.80	6.26	51.80	6.17	51.80	6.15	51.80	6.12	51.80	6.10	51.80	6.08
-5	51.80	6.31	51.80	6.22	51.80	6.20	51.80	6.17	51.80	6.15	51.80	6.13
0	51.80	6.36	51.80	6.27	51.80	6.24	51.80	6.22	51.80	6.19	51.80	6.17
5	51.80	6.45	51.80	6.35	51.80	6.32	51.80	6.29	51.80	6.27	51.80	6.24
10	51.80	6.17	51.80	6.07	51.80	6.02	51.80	5.98	51.80	5.94	51.80	5.90
15	51.80	6.97	51.80	6.82	51.80	6.74	51.80	6.67	51.80	6.59	51.80	6.51
20	51.80	7.98	51.80	7.78	51.80	7.64	51.80	7.51	51.80	7.38	51.80	7.25
25	51.80	9.12	51.80	8.85	51.80	8.64	51.80	8.44	51.80	8.24	51.80	8.03
30	51.80	10.27	51.80	9.91	51.80	9.61	51.80	9.33	51.80	9.05	51.80	8.77
35	51.80	13.34	51.80	12.79	51.80	12.31	51.80	11.85	51.80	11.40	51.80	10.95
40	51.80	14.97	51.80	14.26	51.80	13.61	51.80	13.02	51.80	12.42	51.80	11.83
45	51.80	17.36	51.80	16.39	51.80	15.48	51.80	14.45	51.80	13.85	51.80	13.12
48	51.80	22.35	51.80	22.33	51.80	21.52	51.80	21.00	51.80	19.69	51.80	14.80
52	37.63	17.17	39.26	16.86	40.90	16.58	42.53	16.37	42.84	16.24	43.29	15.98

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 23RT / 60% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	44.40	10.27	44.40	9.37	44.40	7.42	44.40	5.85	44.40	5.27	44.40	5.24	44.40	5.21
-10	44.40	10.31	44.40	9.45	44.40	7.52	44.40	5.87	44.40	5.29	44.40	5.26	44.40	5.23
-5	44.40	10.40	44.40	9.53	44.40	7.58	44.40	5.92	44.40	5.34	44.40	5.30	44.40	5.27
0	44.40	10.48	44.40	9.60	44.40	7.64	44.40	5.97	44.40	5.38	44.40	5.35	44.40	5.31
5	44.40	10.82	44.40	9.75	44.40	7.75	44.40	6.06	44.40	5.46	44.40	5.42	44.40	5.38
10	44.40	11.68	44.40	10.52	44.40	8.44	44.40	5.83	44.40	5.27	44.40	5.22	44.40	5.17
15	44.40	12.78	44.40	12.00	44.40	9.63	44.40	6.66	44.40	6.03	44.40	5.94	44.40	5.85
20	44.40	15.59	44.40	13.86	44.40	11.18	44.40	7.73	44.40	7.02	44.40	6.87	44.40	6.73
25	44.40	18.08	44.40	15.96	44.40	12.98	44.40	8.97	44.40	8.18	44.40	7.95	44.40	7.74
30	44.40	20.66	44.40	18.23	44.40	14.83	44.40	10.25	44.40	9.38	44.40	9.05	44.40	8.75
35	43.50	24.39	44.40	20.82	44.40	16.81	44.40	13.61	44.40	12.90	44.40	11.96	44.40	11.45
40	42.09	26.95	44.40	22.72	44.40	17.40	44.40	15.08	44.40	14.00	44.40	13.19	44.40	12.50
45	36.01	27.66	43.44	30.81	44.40	25.21	44.40	24.25	44.40	19.86	44.40	18.80	44.40	18.08
48	28.37	29.89	35.47	32.48	39.41	32.84	44.40	28.96	44.40	26.91	44.40	25.78	44.40	20.01
52	20.01	17.91	25.01	20.14	27.79	20.14	30.10	17.96	32.72	18.42	34.35	17.94	35.99	17.53

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	44.40	5.13	44.40	5.05	44.40	5.04	44.40	5.02	44.40	5.00	44.40	4.98
-10	44.40	5.15	44.40	5.07	44.40	5.05	44.40	5.03	44.40	5.02	44.40	5.00
-5	44.40	5.19	44.40	5.12	44.40	5.10	44.40	5.08	44.40	5.06	44.40	5.04
0	44.40	5.23	44.40	5.15	44.40	5.13	44.40	5.11	44.40	5.09	44.40	5.07
5	44.40	5.30	44.40	5.22	44.40	5.20	44.40	5.18	44.40	5.15	44.40	5.13
10	44.40	5.08	44.40	4.99	44.40	4.95	44.40	4.92	44.40	4.89	44.40	4.85
15	44.40	5.73	44.40	5.61	44.40	5.55	44.40	5.48	44.40	5.42	44.40	5.35
20	44.40	6.56	44.40	6.40	44.40	6.29	44.40	6.18	44.40	6.07	44.40	5.96
25	44.40	7.50	44.40	7.28	44.40	7.10	44.40	6.94	44.40	6.77	44.40	6.61
30	44.40	8.44	44.40	8.15	44.40	7.91	44.40	7.68	44.40	7.45	44.40	7.21
35	44.40	10.97	44.40	10.52	44.40	10.12	44.40	9.75	44.40	9.38	44.40	9.01
40	44.40	12.31	44.40	11.73	44.40	11.19	44.40	10.71	44.40	10.22	44.40	9.73
45	44.40	14.28	44.40	13.48	44.40	12.73	44.40	11.88	44.40	11.39	44.40	10.79
48	44.40	18.38	44.40	18.37	44.40	17.69	44.40	17.27	44.40	16.19	44.40	12.17
52	37.63	17.17	39.26	16.86	40.90	16.58	42.53	16.37	42.84	16.24	43.29	15.98

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 23RT / 50% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	37.00	8.06	37.00	7.35	37.00	5.82	37.00	4.59	37.00	4.14	37.00	4.11	37.00	4.08
-10	37.00	8.09	37.00	7.41	37.00	5.90	37.00	4.61	37.00	4.15	37.00	4.13	37.00	4.10
-5	37.00	8.16	37.00	7.47	37.00	5.95	37.00	4.65	37.00	4.19	37.00	4.16	37.00	4.13
0	37.00	8.22	37.00	7.53	37.00	5.99	37.00	4.68	37.00	4.22	37.00	4.19	37.00	4.17
5	37.00	8.49	37.00	7.64	37.00	6.08	37.00	4.75	37.00	4.29	37.00	4.25	37.00	4.22
10	37.00	9.16	37.00	8.25	37.00	6.62	37.00	4.58	37.00	4.13	37.00	4.09	37.00	4.05
15	37.00	10.03	37.00	9.41	37.00	7.55	37.00	5.22	37.00	4.73	37.00	4.66	37.00	4.59
20	37.00	12.23	37.00	10.88	37.00	8.77	37.00	6.06	37.00	5.51	37.00	5.39	37.00	5.28
25	37.00	14.18	37.00	12.52	37.00	10.18	37.00	7.04	37.00	6.42	37.00	6.24	37.00	6.07
30	37.00	16.20	37.00	14.30	37.00	11.63	37.00	8.04	37.00	7.36	37.00	7.10	37.00	6.86
35	37.00	19.44	37.00	16.33	37.00	13.19	37.00	10.67	37.00	10.12	37.00	9.38	37.00	8.98
40	37.00	22.02	37.00	17.82	37.00	13.65	37.00	11.83	37.00	10.98	37.00	10.35	37.00	9.81
45	36.01	27.27	37.00	24.55	37.00	19.77	37.00	19.02	37.00	15.58	37.00	14.75	37.00	14.19
48	28.37	29.48	35.47	32.03	37.00	29.58	37.00	18.05	37.00	21.11	37.00	20.22	37.00	15.69
52	20.01	17.66	25.01	19.87	27.79	19.87	30.10	17.71	32.72	18.16	34.35	17.69	35.99	17.29

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	37.00	4.02	37.00	3.97	37.00	3.95	37.00	3.94	37.00	3.92	37.00	3.91
-10	37.00	4.04	37.00	3.98	37.00	3.96	37.00	3.95	37.00	3.93	37.00	3.92
-5	37.00	4.07	37.00	4.01	37.00	4.00	37.00	3.98	37.00	3.97	37.00	3.95
0	37.00	4.10	37.00	4.04	37.00	4.03	37.00	4.01	37.00	3.99	37.00	3.98
5	37.00	4.16	37.00	4.10	37.00	4.08	37.00	4.06	37.00	4.04	37.00	4.02
10	37.00	3.98	37.00	3.91	37.00	3.89	37.00	3.86	37.00	3.83	37.00	3.81
15	37.00	4.49	37.00	4.40	37.00	4.35	37.00	4.30	37.00	4.25	37.00	4.20
20	37.00	5.15	37.00	5.02	37.00	4.93	37.00	4.85	37.00	4.76	37.00	4.68
25	37.00	5.89	37.00	5.71	37.00	5.57	37.00	5.44	37.00	5.31	37.00	5.18
30	37.00	6.62	37.00	6.39	37.00	6.20	37.00	6.02	37.00	5.84	37.00	5.66
35	37.00	8.61	37.00	8.25	37.00	7.94	37.00	7.65	37.00	7.36	37.00	7.06
40	37.00	9.66	37.00	9.20	37.00	8.78	37.00	8.40	37.00	8.02	37.00	7.63
45	37.00	11.20	37.00	10.57	37.00	9.99	37.00	9.32	37.00	8.93	37.00	8.46
48	37.00	14.42	37.00	14.41	37.00	13.88	37.00	13.55	37.00	12.70	37.00	9.55
52	37.00	16.18	37.00	15.24	37.00	14.40	37.00	13.69	37.00	13.48	37.00	13.17

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 23RT / 40% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	29.60	7.01	29.60	6.40	29.60	5.07	29.60	4.00	29.60	3.60	29.60	3.58	29.60	3.56
-10	29.60	7.04	29.60	6.45	29.60	5.13	29.60	4.01	29.60	3.62	29.60	3.59	29.60	3.57
-5	29.60	7.10	29.60	6.51	29.60	5.18	29.60	4.05	29.60	3.65	29.60	3.62	29.60	3.60
0	29.60	7.16	29.60	6.56	29.60	5.22	29.60	4.08	29.60	3.68	29.60	3.65	29.60	3.63
5	29.60	7.39	29.60	6.66	29.60	5.30	29.60	4.14	29.60	3.73	29.60	3.70	29.60	3.68
10	29.60	7.98	29.60	7.19	29.60	5.77	29.60	3.99	29.60	3.60	29.60	3.56	29.60	3.53
15	29.60	8.73	29.60	8.19	29.60	6.58	29.60	4.55	29.60	4.12	29.60	4.05	29.60	4.00
20	29.60	10.65	29.60	9.47	29.60	7.64	29.60	5.28	29.60	4.79	29.60	4.69	29.60	4.60
25	29.60	12.35	29.60	10.90	29.60	8.87	29.60	6.13	29.60	5.59	29.60	5.43	29.60	5.28
30	29.60	14.11	29.60	12.45	29.60	10.13	29.60	7.00	29.60	6.41	29.60	6.18	29.60	5.98
35	29.60	16.92	29.60	14.22	29.60	11.48	29.60	9.29	29.60	8.81	29.60	8.17	29.60	7.82
40	29.60	19.17	29.60	15.52	29.60	11.88	29.60	10.30	29.60	9.56	29.60	9.01	29.60	8.54
45	29.60	24.16	29.60	21.38	29.60	17.22	29.60	16.56	29.60	13.57	29.60	12.84	29.60	12.35
48	28.37	29.89	29.60	29.14	29.60	25.76	29.60	15.71	29.60	18.38	29.60	17.61	29.60	13.66
52	20.01	17.91	25.01	20.14	27.79	20.14	29.60	17.32	29.60	16.37	29.60	15.28	29.60	15.05

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	29.60	3.50	29.60	3.45	29.60	3.44	29.60	3.43	29.60	3.41	29.60	3.40
-10	29.60	3.52	29.60	3.46	29.60	3.45	29.60	3.44	29.60	3.43	29.60	3.41
-5	29.60	3.55	29.60	3.49	29.60	3.48	29.60	3.47	29.60	3.45	29.60	3.44
0	29.60	3.57	29.60	3.52	29.60	3.51	29.60	3.49	29.60	3.48	29.60	3.46
5	29.60	3.62	29.60	3.57	29.60	3.55	29.60	3.54	29.60	3.52	29.60	3.50
10	29.60	3.47	29.60	3.41	29.60	3.38	29.60	3.36	29.60	3.34	29.60	3.31
15	29.60	3.91	29.60	3.83	29.60	3.79	29.60	3.74	29.60	3.70	29.60	3.66
20	29.60	4.48	29.60	4.37	29.60	4.29	29.60	4.22	29.60	4.14	29.60	4.07
25	29.60	5.12	29.60	4.97	29.60	4.85	29.60	4.74	29.60	4.63	29.60	4.51
30	29.60	5.77	29.60	5.57	29.60	5.40	29.60	5.24	29.60	5.08	29.60	4.93
35	29.60	7.49	29.60	7.18	29.60	6.91	29.60	6.66	29.60	6.40	29.60	6.15
40	29.60	8.41	29.60	8.01	29.60	7.64	29.60	7.31	29.60	6.98	29.60	6.65
45	29.60	9.75	29.60	9.21	29.60	8.69	29.60	8.12	29.60	7.78	29.60	7.37
48	29.60	12.56	29.60	12.54	29.60	12.08	29.60	11.79	29.60	11.06	29.60	8.31
52	29.60	14.08	29.60	13.27	29.60	12.54	29.60	11.92	29.60	11.74	29.60	11.47

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 23RT / 30% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	22.20	5.55	22.20	5.06	22.20	4.01	22.20	3.16	22.20	2.85	22.20	2.83	22.20	2.81
-10	22.20	5.57	22.20	5.11	22.20	4.06	22.20	3.17	22.20	2.86	22.20	2.84	22.20	2.82
-5	22.20	5.62	22.20	5.15	22.20	4.10	22.20	3.20	22.20	2.88	22.20	2.87	22.20	2.85
0	22.20	5.66	22.20	5.19	22.20	4.13	22.20	3.23	22.20	2.91	22.20	2.89	22.20	2.87
5	22.20	5.85	22.20	5.27	22.20	4.19	22.20	3.27	22.20	2.95	22.20	2.93	22.20	2.91
10	22.20	6.31	22.20	5.68	22.20	4.56	22.20	3.15	22.20	2.85	22.20	2.82	22.20	2.79
15	22.20	6.91	22.20	6.48	22.20	5.20	22.20	3.60	22.20	3.26	22.20	3.21	22.20	3.16
20	22.20	8.43	22.20	7.49	22.20	6.04	22.20	4.18	22.20	3.79	22.20	3.71	22.20	3.64
25	22.20	9.77	22.20	8.62	22.20	7.01	22.20	4.85	22.20	4.42	22.20	4.30	22.20	4.18
30	22.20	11.16	22.20	9.85	22.20	8.01	22.20	5.54	22.20	5.07	22.20	4.89	22.20	4.73
35	22.20	13.39	22.20	11.25	22.20	9.08	22.20	7.35	22.20	6.97	22.20	6.46	22.20	6.18
40	22.20	15.17	22.20	12.28	22.20	9.40	22.20	8.15	22.20	7.56	22.20	7.13	22.20	6.76
45	22.20	19.12	22.20	16.91	22.20	13.62	22.20	13.10	22.20	10.73	22.20	10.16	22.20	9.77
48	22.20	24.83	22.20	23.05	22.20	20.38	22.20	12.43	22.20	14.54	22.20	13.93	22.20	10.81
52	20.01	17.91	22.20	17.42	22.20	15.94	22.20	13.70	22.20	12.95	22.20	12.08	22.20	11.91

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	22.20	2.77	22.20	2.73	22.20	2.72	22.20	2.71	22.20	2.70	22.20	2.69
-10	22.20	2.78	22.20	2.74	22.20	2.73	22.20	2.72	22.20	2.71	22.20	2.70
-5	22.20	2.81	22.20	2.76	22.20	2.75	22.20	2.74	22.20	2.73	22.20	2.72
0	22.20	2.83	22.20	2.78	22.20	2.77	22.20	2.76	22.20	2.75	22.20	2.74
5	22.20	2.86	22.20	2.82	22.20	2.81	22.20	2.80	22.20	2.78	22.20	2.77
10	22.20	2.74	22.20	2.70	22.20	2.68	22.20	2.66	22.20	2.64	22.20	2.62
15	22.20	3.10	22.20	3.03	22.20	3.00	22.20	2.96	22.20	2.93	22.20	2.89
20	22.20	3.55	22.20	3.46	22.20	3.40	22.20	3.34	22.20	3.28	22.20	3.22
25	22.20	4.05	22.20	3.93	22.20	3.84	22.20	3.75	22.20	3.66	22.20	3.57
30	22.20	4.56	22.20	4.40	22.20	4.27	22.20	4.15	22.20	4.02	22.20	3.90
35	22.20	5.93	22.20	5.68	22.20	5.47	22.20	5.27	22.20	5.07	22.20	4.87
40	22.20	6.65	22.20	6.34	22.20	6.05	22.20	5.78	22.20	5.52	22.20	5.26
45	22.20	7.71	22.20	7.28	22.20	6.88	22.20	6.42	22.20	6.15	22.20	5.83
48	22.20	9.93	22.20	9.92	22.20	9.56	22.20	9.33	22.20	8.75	22.20	6.58
52	22.20	11.14	22.20	10.49	22.20	9.92	22.20	9.43	22.20	9.29	22.20	9.07

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 23RT / 20% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	14.80	3.83	14.80	3.50	14.80	2.77	14.80	2.18	14.80	1.97	14.80	1.96	14.80	1.94
-10	14.80	3.85	14.80	3.53	14.80	2.81	14.80	2.19	14.80	1.98	14.80	1.96	14.80	1.95
-5	14.80	3.88	14.80	3.56	14.80	2.83	14.80	2.21	14.80	1.99	14.80	1.98	14.80	1.97
0	14.80	3.91	14.80	3.58	14.80	2.85	14.80	2.23	14.80	2.01	14.80	2.00	14.80	1.98
5	14.80	4.04	14.80	3.64	14.80	2.89	14.80	2.26	14.80	2.04	14.80	2.02	14.80	2.01
10	14.80	4.36	14.80	3.93	14.80	3.15	14.80	2.18	14.80	1.97	14.80	1.95	14.80	1.93
15	14.80	4.77	14.80	4.48	14.80	3.59	14.80	2.48	14.80	2.25	14.80	2.22	14.80	2.18
20	14.80	5.82	14.80	5.18	14.80	4.17	14.80	2.88	14.80	2.62	14.80	2.57	14.80	2.51
25	14.80	6.75	14.80	5.96	14.80	4.85	14.80	3.35	14.80	3.05	14.80	2.97	14.80	2.89
30	14.80	7.71	14.80	6.81	14.80	5.54	14.80	3.83	14.80	3.50	14.80	3.38	14.80	3.27
35	14.80	9.25	14.80	7.77	14.80	6.28	14.80	5.08	14.80	4.81	14.80	4.46	14.80	4.27
40	14.80	10.48	14.80	8.48	14.80	6.50	14.80	5.63	14.80	5.22	14.80	4.92	14.80	4.67
45	14.80	13.20	14.80	11.68	14.80	9.41	14.80	9.05	14.80	7.41	14.80	7.02	14.80	6.75
48	14.80	17.15	14.80	15.92	14.80	14.08	14.80	8.59	14.80	10.04	14.80	9.62	14.80	7.47
52	14.80	12.90	14.80	12.03	14.80	11.01	14.80	9.47	14.80	8.94	14.80	8.35	14.80	8.23

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	14.80	1.91	14.80	1.89	14.80	1.88	14.80	1.87	14.80	1.87	14.80	1.86
-10	14.80	1.92	14.80	1.89	14.80	1.89	14.80	1.88	14.80	1.87	14.80	1.86
-5	14.80	1.94	14.80	1.91	14.80	1.90	14.80	1.90	14.80	1.89	14.80	1.88
0	14.80	1.95	14.80	1.92	14.80	1.92	14.80	1.91	14.80	1.90	14.80	1.89
5	14.80	1.98	14.80	1.95	14.80	1.94	14.80	1.93	14.80	1.92	14.80	1.91
10	14.80	1.89	14.80	1.86	14.80	1.85	14.80	1.84	14.80	1.82	14.80	1.81
15	14.80	2.14	14.80	2.09	14.80	2.07	14.80	2.05	14.80	2.02	14.80	2.00
20	14.80	2.45	14.80	2.39	14.80	2.35	14.80	2.31	14.80	2.27	14.80	2.22
25	14.80	2.80	14.80	2.72	14.80	2.65	14.80	2.59	14.80	2.53	14.80	2.47
30	14.80	3.15	14.80	3.04	14.80	2.95	14.80	2.86	14.80	2.78	14.80	2.69
35	14.80	4.10	14.80	3.93	14.80	3.78	14.80	3.64	14.80	3.50	14.80	3.36
40	14.80	4.60	14.80	4.38	14.80	4.18	14.80	4.00	14.80	3.81	14.80	3.63
45	14.80	5.33	14.80	5.03	14.80	4.75	14.80	4.44	14.80	4.25	14.80	4.03
48	14.80	6.86	14.80	6.86	14.80	6.60	14.80	6.45	14.80	6.04	14.80	4.54
52	14.80	7.70	14.80	7.25	14.80	6.85	14.80	6.51	14.80	6.42	14.80	6.27

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

■ KCAH033VDTC / KCAH033LDTC / KCAH033HDTC

◆ 33RT / 100% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	98.00	23.16	111.0	23.24	114.0	20.76	114.0	16.82	114.0	15.15	114.0	15.06	114.0	14.96
-10	98.00	23.25	111.0	23.32	114.0	20.84	114.0	16.88	114.0	15.21	114.0	15.11	114.0	15.01
-5	98.00	23.44	111.0	23.52	114.0	21.01	114.0	17.02	114.0	15.34	114.0	15.24	114.0	15.14
0	98.00	23.63	111.0	23.70	114.0	21.18	114.0	17.15	114.0	15.46	114.0	15.36	114.0	15.26
5	98.00	23.98	111.0	24.05	114.0	21.49	114.0	17.41	114.0	15.69	114.0	15.58	114.0	15.47
10	98.00	25.89	111.0	25.97	114.0	23.20	114.0	18.79	114.0	16.97	114.0	16.80	114.0	16.64
15	88.91	28.33	111.0	29.62	114.0	26.47	114.0	21.44	114.0	19.41	114.0	19.12	114.0	18.84
20	86.24	30.78	107.8	34.24	114.0	30.73	114.0	24.89	114.0	22.61	114.0	22.13	114.0	21.68
25	86.24	35.03	107.8	39.40	114.0	35.67	114.0	28.90	114.0	26.35	114.0	25.61	114.0	24.91
30	86.24	40.02	107.8	45.02	114.0	40.76	114.0	33.02	114.0	30.22	114.0	29.16	114.0	28.18
35	84.39	45.91	105.5	51.65	114.0	48.38	114.0	38.70	114.0	36.77	114.0	34.02	114.0	32.56
40	81.64	51.04	102.0	57.42	111.7	55.05	114.0	44.34	114.0	41.17	114.0	38.80	114.0	36.78
45	69.85	53.72	84.26	58.44	92.40	57.63	94.39	46.09	102.6	45.78	108.3	44.56	114.0	43.03
48	55.04	47.12	68.80	52.00	76.44	51.90	81.81	42.98	88.92	43.59	93.10	43.00	97.28	42.24
52	38.81	34.91	48.51	39.27	53.90	39.27	58.60	35.01	63.60	35.85	66.80	34.93	70.00	34.14

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	114.0	14.74	114.0	14.52	114.0	14.47	114.0	14.41	114.0	14.36	114.0	14.30
-10	114.0	14.79	114.0	14.57	114.0	14.52	114.0	14.46	114.0	14.41	114.0	14.35
-5	114.0	14.92	114.0	14.70	114.0	14.64	114.0	14.59	114.0	14.53	114.0	14.48
0	114.0	15.03	114.0	14.81	114.0	14.75	114.0	14.69	114.0	14.63	114.0	14.57
5	114.0	15.23	114.0	15.00	114.0	14.94	114.0	14.87	114.0	14.80	114.0	14.74
10	114.0	16.35	114.0	16.07	114.0	15.96	114.0	15.85	114.0	15.73	114.0	15.62
15	114.0	18.45	114.0	18.07	114.0	17.86	114.0	17.65	114.0	17.45	114.0	17.24
20	114.0	21.14	114.0	20.61	114.0	20.24	114.0	19.89	114.0	19.55	114.0	19.20
25	114.0	24.17	114.0	23.44	114.0	22.88	114.0	22.35	114.0	21.81	114.0	21.28
30	114.0	27.20	114.0	26.25	114.0	25.46	114.0	24.72	114.0	23.98	114.0	23.24
35	114.0	31.22	114.0	29.92	114.0	28.79	114.0	27.73	114.0	26.67	114.0	25.62
40	114.0	35.03	114.0	33.37	114.0	31.84	114.0	30.46	114.0	29.07	114.0	27.68
45	114.0	40.29	114.0	38.04	114.0	35.93	114.0	33.54	114.0	32.14	114.0	30.45
48	101.5	40.80	105.6	39.65	109.8	38.57	114.0	37.37	114.0	36.69	114.0	35.86
52	73.20	33.45	76.40	32.84	79.60	32.30	82.80	32.31	83.42	31.35	84.29	30.54

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 33RT / 90% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	98.00	23.16	102.6	20.73	102.6	17.77	102.6	14.40	102.6	12.97	102.6	12.89	102.6	12.81
-10	98.00	23.25	102.6	20.80	102.6	17.84	102.6	14.45	102.6	13.02	102.6	12.94	102.6	12.85
-5	98.00	23.44	102.6	20.98	102.6	17.99	102.6	14.57	102.6	13.13	102.6	13.05	102.6	12.96
0	98.00	23.63	102.6	21.14	102.6	18.13	102.6	14.69	102.6	13.24	102.6	13.15	102.6	13.06
5	98.00	23.98	102.6	21.45	102.6	18.40	102.6	14.90	102.6	13.44	102.6	13.34	102.6	13.24
10	98.00	25.89	102.6	23.16	102.6	19.86	102.6	16.09	102.6	14.53	102.6	14.38	102.6	14.24
15	88.91	28.33	102.6	26.42	102.6	22.66	102.6	18.35	102.6	16.61	102.6	16.37	102.6	16.13
20	86.24	30.78	102.6	30.84	102.6	26.30	102.6	21.31	102.6	19.35	102.6	18.95	102.6	18.56
25	86.24	35.03	102.6	36.19	102.6	30.54	102.6	24.74	102.6	22.56	102.6	21.93	102.6	21.33
30	86.24	40.02	102.6	41.35	102.6	34.89	102.6	28.26	102.6	25.87	102.6	24.97	102.6	24.12
35	84.39	45.91	102.6	48.47	102.6	41.81	102.6	33.13	102.6	30.50	102.6	29.13	102.6	27.87
40	81.64	51.04	102.0	57.09	102.6	48.51	102.6	38.00	102.6	35.18	102.6	33.25	102.6	31.52
45	69.85	53.72	84.26	58.44	92.40	55.83	94.39	44.09	102.6	43.22	102.6	39.83	102.6	36.88
48	55.04	47.12	68.80	52.33	76.44	51.90	81.81	42.98	88.92	43.59	93.10	41.76	97.28	40.18
52	38.81	34.91	48.51	39.27	53.90	39.27	58.60	35.01	63.60	35.85	66.80	34.93	70.00	34.14

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	102.6	12.62	102.6	12.43	102.6	12.39	102.6	12.34	102.6	12.29	102.6	12.25
-10	102.6	12.66	102.6	12.48	102.6	12.43	102.6	12.38	102.6	12.34	102.6	12.29
-5	102.6	12.77	102.6	12.58	102.6	12.53	102.6	12.49	102.6	12.44	102.6	12.39
0	102.6	12.86	102.6	12.68	102.6	12.62	102.6	12.57	102.6	12.52	102.6	12.47
5	102.6	13.04	102.6	12.84	102.6	12.79	102.6	12.73	102.6	12.67	102.6	12.62
10	102.6	14.00	102.6	13.76	102.6	13.66	102.6	13.57	102.6	13.47	102.6	13.37
15	102.6	15.80	102.6	15.47	102.6	15.29	102.6	15.11	102.6	14.94	102.6	14.76
20	102.6	18.09	102.6	17.64	102.6	17.33	102.6	17.03	102.6	16.73	102.6	16.43
25	102.6	20.69	102.6	20.07	102.6	19.59	102.6	19.13	102.6	18.67	102.6	18.22
30	102.6	23.28	102.6	22.47	102.6	21.80	102.6	21.16	102.6	20.53	102.6	19.89
35	102.6	26.72	102.6	25.62	102.6	24.64	102.6	23.74	102.6	22.84	102.6	21.93
40	102.6	30.02	102.6	28.60	102.6	27.29	102.6	26.10	102.6	24.91	102.6	23.72
45	102.6	34.54	102.6	32.61	102.6	30.80	102.6	28.75	102.6	27.55	102.6	26.10
48	101.5	38.89	102.6	36.30	102.6	34.16	102.6	32.03	102.6	31.01	102.6	29.59
52	73.20	33.45	76.40	32.84	79.60	32.30	82.80	32.31	83.42	31.35	84.29	30.54

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 33RT / 80% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	91.20	20.78	91.20	17.69	91.20	15.03	91.20	12.15	91.20	10.94	91.20	10.87	91.20	10.80
-10	91.20	20.85	91.20	17.76	91.20	15.08	91.20	12.19	91.20	10.99	91.20	10.91	91.20	10.84
-5	91.20	21.03	91.20	17.91	91.20	15.21	91.20	12.29	91.20	11.08	91.20	11.01	91.20	10.93
0	91.20	21.19	91.20	18.05	91.20	15.33	91.20	12.39	91.20	11.17	91.20	11.09	91.20	11.02
5	91.20	21.51	91.20	18.31	91.20	15.56	91.20	12.57	91.20	11.33	91.20	11.25	91.20	11.17
10	91.20	23.22	91.20	19.77	91.20	16.80	91.20	13.57	91.20	12.25	91.20	12.13	91.20	12.02
15	88.91	26.62	91.20	22.55	91.20	19.17	91.20	15.48	91.20	14.02	91.20	13.81	91.20	13.61
20	86.24	30.78	91.20	26.33	91.20	22.26	91.20	17.91	91.20	16.27	91.20	15.99	91.20	15.66
25	86.24	35.03	91.20	30.89	91.20	25.89	91.20	20.67	91.20	18.80	91.20	18.46	91.20	17.99
30	86.24	40.02	91.20	35.30	91.20	29.81	91.20	23.64	91.20	21.46	91.20	20.86	91.20	20.35
35	84.39	45.91	91.20	41.38	91.20	35.64	91.20	27.95	91.20	25.73	91.20	24.57	91.20	23.51
40	81.64	51.04	91.20	48.92	91.20	41.42	91.20	32.03	91.20	29.65	91.20	28.02	91.20	26.56
45	69.85	53.72	84.26	56.55	91.20	51.18	91.20	40.52	91.20	36.93	91.20	33.61	91.20	31.08
48	55.04	47.12	68.80	52.33	76.44	51.09	81.81	42.32	88.92	41.54	91.20	38.83	91.20	35.79
52	38.81	34.91	48.51	39.27	53.90	39.27	58.60	35.01	63.60	35.85	66.80	34.93	70.00	34.14

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	91.20	10.64	91.20	10.49	91.20	10.45	91.20	10.41	91.20	10.37	91.20	10.33
-10	91.20	10.68	91.20	10.53	91.20	10.49	91.20	10.45	91.20	10.41	91.20	10.37
-5	91.20	10.77	91.20	10.61	91.20	10.57	91.20	10.53	91.20	10.49	91.20	10.45
0	91.20	10.85	91.20	10.69	91.20	10.65	91.20	10.61	91.20	10.57	91.20	10.52
5	91.20	11.00	91.20	10.84	91.20	10.79	91.20	10.74	91.20	10.69	91.20	10.64
10	91.20	11.81	91.20	11.61	91.20	11.53	91.20	11.44	91.20	11.36	91.20	11.28
15	91.20	13.33	91.20	13.05	91.20	12.90	91.20	12.75	91.20	12.60	91.20	12.45
20	91.20	15.27	91.20	14.88	91.20	14.62	91.20	14.37	91.20	14.12	91.20	13.86
25	91.20	17.45	91.20	16.93	91.20	16.52	91.20	16.14	91.20	15.75	91.20	15.37
30	91.20	19.64	91.20	18.96	91.20	18.39	91.20	17.85	91.20	17.32	91.20	16.78
35	91.20	22.54	91.20	21.61	91.20	20.79	91.20	20.03	91.20	19.26	91.20	18.50
40	91.20	25.30	91.20	24.10	91.20	23.00	91.20	22.00	91.20	20.99	91.20	19.99
45	91.20	29.10	91.20	27.48	91.20	25.95	91.20	24.22	91.20	23.21	91.20	22.00
48	91.20	33.30	91.20	30.64	91.20	28.83	91.20	26.99	91.20	26.08	91.20	24.84
52	73.20	33.45	76.40	32.84	79.60	32.30	82.80	32.31	83.42	31.35	84.29	30.54

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 33RT / 70% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	79.80	17.58	79.80	14.99	79.80	12.79	79.80	10.12	79.80	9.12	79.80	9.06	79.80	9.01
-10	79.80	17.64	79.80	15.05	79.80	12.84	79.80	10.16	79.80	9.16	79.80	9.10	79.80	9.04
-5	79.80	17.79	79.80	15.17	79.80	12.94	79.80	10.25	79.80	9.23	79.80	9.17	79.80	9.11
0	79.80	17.93	79.80	15.29	79.80	13.05	79.80	10.33	79.80	9.31	79.80	9.25	79.80	9.18
5	79.80	18.19	79.80	15.52	79.80	13.24	79.80	10.48	79.80	9.45	79.80	9.38	79.80	9.31
10	79.80	19.64	79.80	16.76	79.80	14.29	79.80	11.31	79.80	10.21	79.80	10.11	79.80	10.01
15	79.80	22.80	79.80	19.11	79.80	16.30	79.80	12.90	79.80	11.68	79.80	11.51	79.80	11.34
20	79.80	27.12	79.80	22.30	79.80	18.93	79.80	14.98	79.80	13.44	79.80	13.19	79.80	12.93
25	79.80	31.62	79.80	26.14	79.80	22.02	79.80	17.32	79.80	15.39	79.80	15.04	79.80	14.65
30	79.80	36.13	79.80	29.87	79.80	25.35	79.80	19.47	79.80	18.06	79.80	17.46	79.80	16.84
35	79.80	42.60	79.80	35.36	79.80	30.31	79.80	23.30	79.80	21.45	79.80	20.48	79.80	19.60
40	79.80	49.33	79.80	40.70	79.80	35.23	79.80	26.69	79.80	24.71	79.80	23.35	79.80	22.14
45	69.85	53.72	79.80	50.39	79.80	43.53	79.80	34.39	79.80	30.96	79.80	28.18	79.80	25.90
48	55.04	47.12	68.80	50.78	76.44	48.47	79.80	39.60	79.80	36.27	79.80	33.05	79.80	30.34
52	38.81	34.91	48.51	39.27	53.90	39.27	58.60	35.01	63.60	35.85	66.80	34.93	70.00	34.14

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	79.80	8.87	79.80	8.74	79.80	8.71	79.80	8.68	79.80	8.64	79.80	8.61
-10	79.80	8.90	79.80	8.77	79.80	8.74	79.80	8.71	79.80	8.67	79.80	8.64
-5	79.80	8.98	79.80	8.85	79.80	8.81	79.80	8.78	79.80	8.75	79.80	8.71
0	79.80	9.05	79.80	8.91	79.80	8.88	79.80	8.84	79.80	8.81	79.80	8.77
5	79.80	9.17	79.80	9.03	79.80	8.99	79.80	8.95	79.80	8.91	79.80	8.87
10	79.80	9.84	79.80	9.67	79.80	9.61	79.80	9.54	79.80	9.47	79.80	9.40
15	79.80	11.11	79.80	10.88	79.80	10.75	79.80	10.63	79.80	10.50	79.80	10.38
20	79.80	12.71	79.80	12.40	79.80	12.19	79.80	11.98	79.80	11.77	79.80	11.56
25	79.80	14.52	79.80	14.11	79.80	13.77	79.80	13.45	79.80	13.13	79.80	12.81
30	79.80	16.37	79.80	15.80	79.80	15.33	79.80	14.88	79.80	14.43	79.80	13.99
35	79.80	18.79	79.80	18.01	79.80	17.33	79.80	16.69	79.80	16.06	79.80	15.42
40	79.80	21.09	79.80	20.08	79.80	19.17	79.80	18.33	79.80	17.50	79.80	16.66
45	79.80	24.25	79.80	22.90	79.80	21.63	79.80	20.19	79.80	19.35	79.80	18.33
48	79.80	27.76	79.80	25.93	79.80	24.28	79.80	22.77	79.80	22.06	79.80	20.74
52	73.20	33.45	76.40	32.84	79.60	32.30	79.80	30.77	79.80	29.31	79.80	27.85

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 33RT / 60% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	68.40	14.21	68.40	12.12	68.40	10.34	68.40	8.24	68.40	7.42	68.40	7.38	68.40	7.33
-10	68.40	14.26	68.40	12.17	68.40	10.38	68.40	8.27	68.40	7.45	68.40	7.40	68.40	7.36
-5	68.40	14.38	68.40	12.27	68.40	10.47	68.40	8.34	68.40	7.52	68.40	7.47	68.40	7.42
0	68.40	14.50	68.40	12.37	68.40	10.55	68.40	8.40	68.40	7.58	68.40	7.52	68.40	7.47
5	68.40	14.71	68.40	12.55	68.40	10.70	68.40	8.53	68.40	7.69	68.40	7.63	68.40	7.58
10	68.40	15.88	68.40	13.55	68.40	11.56	68.40	9.21	68.40	8.31	68.40	8.23	68.40	8.15
15	68.40	18.44	68.40	15.45	68.40	13.18	68.40	10.50	68.40	9.51	68.40	9.37	68.40	9.23
20	68.40	21.92	68.40	18.03	68.40	15.30	68.40	12.19	68.40	11.08	68.40	10.84	68.40	10.62
25	68.40	25.57	68.40	21.14	68.40	17.80	68.40	14.16	68.40	12.91	68.40	12.55	68.40	12.21
30	68.40	29.21	68.40	24.15	68.40	20.50	68.40	16.18	68.40	14.81	68.40	14.29	68.40	13.80
35	68.40	34.44	68.40	28.59	68.40	24.51	68.40	18.96	68.40	17.45	68.40	16.67	68.40	15.95
40	68.40	39.89	68.40	32.91	68.40	28.48	68.40	21.73	68.40	20.11	68.40	19.01	68.40	18.02
45	68.40	48.31	68.40	40.74	68.40	35.20	68.40	27.90	68.40	25.09	68.40	22.84	68.40	21.08
48	55.04	46.23	68.40	46.25	68.40	40.58	68.40	32.02	68.40	29.33	68.40	26.72	68.40	24.58
52	38.81	34.91	48.51	39.27	53.90	39.27	58.60	35.01	63.60	35.85	66.80	34.93	68.40	31.91

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	68.40	7.22	68.40	7.12	68.40	7.09	68.40	7.06	68.40	7.03	68.40	7.01
-10	68.40	7.25	68.40	7.14	68.40	7.11	68.40	7.09	68.40	7.06	68.40	7.03
-5	68.40	7.31	68.40	7.20	68.40	7.17	68.40	7.15	68.40	7.12	68.40	7.09
0	68.40	7.36	68.40	7.25	68.40	7.22	68.40	7.20	68.40	7.17	68.40	7.14
5	68.40	7.46	68.40	7.35	68.40	7.32	68.40	7.29	68.40	7.25	68.40	7.22
10	68.40	8.01	68.40	7.87	68.40	7.82	68.40	7.76	68.40	7.71	68.40	7.65
15	68.40	9.04	68.40	8.85	68.40	8.75	68.40	8.65	68.40	8.55	68.40	8.45
20	68.40	10.36	68.40	10.10	68.40	9.92	68.40	9.75	68.40	9.58	68.40	9.41
25	68.40	11.84	68.40	11.48	68.40	11.21	68.40	10.95	68.40	10.69	68.40	10.43
30	68.40	13.33	68.40	12.86	68.40	12.47	68.40	12.11	68.40	11.75	68.40	11.38
35	68.40	15.29	68.40	14.66	68.40	14.10	68.40	13.59	68.40	13.07	68.40	12.55
40	68.40	17.16	68.40	16.35	68.40	15.60	68.40	14.92	68.40	14.24	68.40	13.56
45	68.40	19.74	68.40	18.64	68.40	17.60	68.40	16.43	68.40	15.75	68.40	14.92
48	68.40	22.49	68.40	21.01	68.40	19.67	68.40	18.31	68.40	17.58	68.40	16.37
52	68.40	29.84	68.40	27.93	68.40	26.19	68.40	24.88	68.40	23.56	68.40	22.24

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 33RT / 50% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	57.00	11.01	57.00	9.39	57.00	8.01	57.00	6.31	57.00	5.69	57.00	5.65	57.00	5.61
-10	57.00	11.05	57.00	9.43	57.00	8.04	57.00	6.33	57.00	5.71	57.00	5.67	57.00	5.63
-5	57.00	11.14	57.00	9.51	57.00	8.11	57.00	6.39	57.00	5.76	57.00	5.72	57.00	5.68
0	57.00	11.23	57.00	9.58	57.00	8.17	57.00	6.44	57.00	5.80	57.00	5.76	57.00	5.73
5	57.00	11.40	57.00	9.72	57.00	8.29	57.00	6.53	57.00	5.89	57.00	5.85	57.00	5.81
10	57.00	12.30	57.00	10.50	57.00	8.95	57.00	7.05	57.00	6.37	57.00	6.31	57.00	6.24
15	57.00	14.28	57.00	11.97	57.00	10.21	57.00	8.05	57.00	7.28	57.00	7.18	57.00	7.07
20	57.00	16.99	57.00	13.97	57.00	11.86	57.00	9.34	57.00	8.48	57.00	8.31	57.00	8.14
25	57.00	19.81	57.00	16.38	57.00	13.79	57.00	10.84	57.00	9.89	57.00	9.61	57.00	9.35
30	57.00	22.63	57.00	18.71	57.00	15.88	57.00	12.39	57.00	11.34	57.00	10.95	57.00	10.58
35	57.00	26.69	57.00	22.15	57.00	18.99	57.00	14.53	57.00	13.37	57.00	12.77	57.00	12.22
40	57.00	30.90	57.00	25.49	57.00	22.07	57.00	16.64	57.00	15.41	57.00	14.56	57.00	13.80
45	57.00	37.43	57.00	31.56	57.00	27.27	57.00	21.38	57.00	19.22	57.00	17.50	57.00	16.37
48	55.04	40.98	57.00	35.83	57.00	31.44	57.00	24.54	57.00	22.48	57.00	20.48	57.00	18.95
52	38.81	33.09	48.51	37.23	53.90	37.23	57.00	30.94	57.00	29.19	57.00	27.09	57.00	24.46

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	57.00	5.53	57.00	5.45	57.00	5.43	57.00	5.41	57.00	5.39	57.00	5.37
-10	57.00	5.55	57.00	5.47	57.00	5.45	57.00	5.43	57.00	5.41	57.00	5.39
-5	57.00	5.60	57.00	5.52	57.00	5.50	57.00	5.47	57.00	5.45	57.00	5.43
0	57.00	5.64	57.00	5.56	57.00	5.53	57.00	5.51	57.00	5.49	57.00	5.47
5	57.00	5.72	57.00	5.63	57.00	5.61	57.00	5.58	57.00	5.56	57.00	5.53
10	57.00	6.14	57.00	6.03	57.00	5.99	57.00	5.95	57.00	5.91	57.00	5.86
15	57.00	6.93	57.00	6.78	57.00	6.70	57.00	6.63	57.00	6.55	57.00	6.47
20	57.00	7.93	57.00	7.73	57.00	7.60	57.00	7.47	57.00	7.34	57.00	7.20
25	57.00	9.07	57.00	8.80	57.00	8.59	57.00	8.39	57.00	8.19	57.00	7.99
30	57.00	10.21	57.00	9.85	57.00	9.56	57.00	9.28	57.00	9.00	57.00	8.72
35	57.00	11.72	57.00	11.23	57.00	10.80	57.00	10.41	57.00	10.01	57.00	9.62
40	57.00	13.15	57.00	12.52	57.00	11.95	57.00	11.43	57.00	10.91	57.00	10.39
45	57.00	15.12	57.00	14.28	57.00	13.49	57.00	12.59	57.00	12.06	57.00	11.43
48	57.00	17.23	57.00	16.10	57.00	15.07	57.00	14.03	57.00	13.46	57.00	12.53
52	57.00	22.87	57.00	21.41	57.00	20.08	57.00	19.07	57.00	18.06	57.00	17.05

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 33RT / 40% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	45.60	9.49	45.60	8.10	45.60	6.91	45.60	5.67	45.60	5.11	45.60	5.08	45.60	5.04
-10	45.60	9.52	45.60	8.12	45.60	6.93	45.60	5.69	45.60	5.13	45.60	5.09	45.60	5.06
-5	45.60	9.60	45.60	8.19	45.60	6.99	45.60	5.74	45.60	5.17	45.60	5.14	45.60	5.10
0	45.60	9.68	45.60	8.26	45.60	7.04	45.60	5.78	45.60	5.21	45.60	5.18	45.60	5.14
5	45.60	9.82	45.60	8.38	45.60	7.15	45.60	5.87	45.60	5.29	45.60	5.25	45.60	5.21
10	45.60	10.61	45.60	9.05	45.60	7.72	45.60	6.33	45.60	5.72	45.60	5.66	45.60	5.61
15	45.60	12.31	45.60	10.32	45.60	8.80	45.60	7.23	45.60	6.54	45.60	6.45	45.60	6.35
20	45.60	14.64	45.60	12.04	45.60	10.22	45.60	8.39	45.60	7.62	45.60	7.46	45.60	7.31
25	45.60	17.07	45.60	14.11	45.60	11.89	45.60	9.74	45.60	8.88	45.60	8.63	45.60	8.40
30	45.60	19.51	45.60	16.13	45.60	13.69	45.60	11.13	45.60	10.19	45.60	9.83	45.60	9.50
35	45.60	23.00	45.60	19.09	45.60	16.36	45.60	13.05	45.60	12.01	45.60	11.47	45.60	10.98
40	45.60	26.63	45.60	21.97	45.60	19.02	45.60	14.95	45.60	13.84	45.60	13.08	45.60	12.40
45	45.60	32.10	45.60	27.20	45.60	23.50	45.60	18.09	45.60	16.50	45.60	15.03	45.60	14.11
48	45.60	35.11	45.60	30.78	45.60	27.11	45.60	20.24	45.60	18.54	45.60	16.89	45.60	15.66
52	38.81	34.91	45.60	35.08	45.60	33.05	45.60	25.38	45.60	23.71	45.60	21.78	45.60	20.12

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	45.60	4.97	45.60	4.90	45.60	4.88	45.60	4.86	45.60	4.84	45.60	4.82
-10	45.60	4.99	45.60	4.91	45.60	4.89	45.60	4.88	45.60	4.86	45.60	4.84
-5	45.60	5.03	45.60	4.95	45.60	4.94	45.60	4.92	45.60	4.90	45.60	4.88
0	45.60	5.07	45.60	4.99	45.60	4.97	45.60	4.95	45.60	4.93	45.60	4.91
5	45.60	5.13	45.60	5.06	45.60	5.03	45.60	5.01	45.60	4.99	45.60	4.97
10	45.60	5.51	45.60	5.42	45.60	5.38	45.60	5.34	45.60	5.30	45.60	5.27
15	45.60	6.22	45.60	6.09	45.60	6.02	45.60	5.95	45.60	5.88	45.60	5.81
20	45.60	7.12	45.60	6.95	45.60	6.82	45.60	6.71	45.60	6.59	45.60	6.47
25	45.60	8.15	45.60	7.90	45.60	7.71	45.60	7.53	45.60	7.35	45.60	7.17
30	45.60	9.17	45.60	8.85	45.60	8.58	45.60	8.33	45.60	8.08	45.60	7.83
35	45.60	10.52	45.60	10.09	45.60	9.70	45.60	9.35	45.60	8.99	45.60	8.64
40	45.60	11.81	45.60	11.25	45.60	10.73	45.60	10.27	45.60	9.80	45.60	9.33
45	45.60	13.58	45.60	12.82	45.60	12.11	45.60	11.30	45.60	10.83	45.60	10.27
48	45.60	14.53	45.60	13.57	45.60	12.71	45.60	12.00	45.60	11.71	45.60	11.11
52	45.60	18.67	45.60	17.23	45.60	16.10	45.60	15.33	45.60	14.56	45.60	13.79

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 33RT / 30% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	34.20	7.28	34.20	6.21	34.20	5.29	34.20	4.38	34.20	3.95	34.20	3.93	34.20	3.90
-10	34.20	7.30	34.20	6.23	34.20	5.31	34.20	4.40	34.20	3.97	34.20	3.94	34.20	3.91
-5	34.20	7.36	34.20	6.28	34.20	5.36	34.20	4.44	34.20	4.00	34.20	3.97	34.20	3.95
0	34.20	7.42	34.20	6.33	34.20	5.40	34.20	4.47	34.20	4.03	34.20	4.00	34.20	3.98
5	34.20	7.53	34.20	6.42	34.20	5.48	34.20	4.54	34.20	4.09	34.20	4.06	34.20	4.03
10	34.20	8.13	34.20	6.94	34.20	5.92	34.20	4.90	34.20	4.43	34.20	4.38	34.20	4.34
15	34.20	9.44	34.20	7.91	34.20	6.75	34.20	5.59	34.20	5.06	34.20	4.98	34.20	4.91
20	34.20	11.22	34.20	9.23	34.20	7.84	34.20	6.49	34.20	5.89	34.20	5.77	34.20	5.65
25	34.20	13.09	34.20	10.82	34.20	9.12	34.20	7.53	34.20	6.87	34.20	6.68	34.20	6.49
30	34.20	14.96	34.20	12.36	34.20	10.50	34.20	8.61	34.20	7.88	34.20	7.60	34.20	7.35
35	34.20	17.63	34.20	14.64	34.20	12.55	34.20	10.09	34.20	9.29	34.20	8.87	34.20	8.49
40	34.20	20.42	34.20	16.85	34.20	14.58	34.20	11.56	34.20	10.70	34.20	10.11	34.20	9.59
45	34.20	24.45	34.20	20.86	34.20	18.02	34.20	13.90	34.20	12.64	34.20	11.52	34.20	10.85
48	34.20	26.45	34.20	23.42	34.20	20.79	34.20	15.43	34.20	14.14	34.20	12.88	34.20	11.96
52	34.20	29.12	34.20	26.34	34.20	25.20	34.20	18.96	34.20	17.72	34.20	16.27	34.20	15.03

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	34.20	3.84	34.20	3.79	34.20	3.77	34.20	3.76	34.20	3.74	34.20	3.73
-10	34.20	3.86	34.20	3.80	34.20	3.78	34.20	3.77	34.20	3.76	34.20	3.74
-5	34.20	3.89	34.20	3.83	34.20	3.82	34.20	3.80	34.20	3.79	34.20	3.77
0	34.20	3.92	34.20	3.86	34.20	3.84	34.20	3.83	34.20	3.81	34.20	3.80
5	34.20	3.97	34.20	3.91	34.20	3.89	34.20	3.88	34.20	3.86	34.20	3.84
10	34.20	4.26	34.20	4.19	34.20	4.16	34.20	4.13	34.20	4.10	34.20	4.07
15	34.20	4.81	34.20	4.71	34.20	4.66	34.20	4.60	34.20	4.55	34.20	4.49
20	34.20	5.51	34.20	5.37	34.20	5.28	34.20	5.19	34.20	5.10	34.20	5.00
25	34.20	6.30	34.20	6.11	34.20	5.96	34.20	5.83	34.20	5.69	34.20	5.55
30	34.20	7.09	34.20	6.84	34.20	6.64	34.20	6.44	34.20	6.25	34.20	6.06
35	34.20	8.14	34.20	7.80	34.20	7.50	34.20	7.23	34.20	6.95	34.20	6.68
40	34.20	9.13	34.20	8.70	34.20	8.30	34.20	7.94	34.20	7.58	34.20	7.22
45	34.20	10.47	34.20	9.92	34.20	9.37	34.20	8.74	34.20	8.38	34.20	7.94
48	34.20	11.11	34.20	10.39	34.20	9.73	34.20	9.19	34.20	8.90	34.20	8.51
52	34.20	13.95	34.20	12.87	34.20	12.03	34.20	11.45	34.20	10.88	34.20	10.30

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 33RT / 20% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	22.80	5.00	22.80	4.27	22.80	3.64	22.80	3.05	22.80	2.75	22.80	2.73	22.80	2.71
-10	22.80	5.02	22.80	4.28	22.80	3.65	22.80	3.06	22.80	2.76	22.80	2.74	22.80	2.72
-5	22.80	5.06	22.80	4.32	22.80	3.68	22.80	3.08	22.80	2.78	22.80	2.76	22.80	2.74
0	22.80	5.10	22.80	4.35	22.80	3.71	22.80	3.11	22.80	2.80	22.80	2.78	22.80	2.76
5	22.80	5.18	22.80	4.41	22.80	3.77	22.80	3.15	22.80	2.84	22.80	2.82	22.80	2.80
10	22.80	5.59	22.80	4.77	22.80	4.07	22.80	3.41	22.80	3.08	22.80	3.04	22.80	3.02
15	22.80	6.49	22.80	5.44	22.80	4.64	22.80	3.89	22.80	3.53	22.80	3.47	22.80	3.42
20	22.80	7.71	22.80	6.34	22.80	5.38	22.80	4.51	22.80	4.10	22.80	4.01	22.80	3.93
25	22.80	9.00	22.80	7.44	22.80	6.26	22.80	5.24	22.80	4.78	22.80	4.64	22.80	4.52
30	22.80	10.28	22.80	8.50	22.80	7.21	22.80	5.98	22.80	5.48	22.80	5.29	22.80	5.11
35	22.80	12.12	22.80	10.06	22.80	8.62	22.80	7.01	22.80	6.46	22.80	6.17	22.80	5.90
40	22.80	14.03	22.80	11.58	22.80	10.02	22.80	8.04	22.80	7.44	22.80	7.03	22.80	6.67
45	22.80	16.80	22.80	14.33	22.80	12.38	22.80	9.64	22.80	8.75	22.80	7.98	22.80	7.51
48	22.80	18.18	22.80	16.10	22.80	14.29	22.80	10.66	22.80	9.77	22.80	8.90	22.80	8.26
52	22.80	19.71	22.80	18.10	22.80	17.32	22.80	12.96	22.80	12.11	22.80	11.13	22.80	10.28

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	22.80	2.67	22.80	2.63	22.80	2.62	22.80	2.61	22.80	2.60	22.80	2.59
-10	22.80	2.68	22.80	2.64	22.80	2.63	22.80	2.62	22.80	2.61	22.80	2.60
-5	22.80	2.70	22.80	2.66	22.80	2.65	22.80	2.64	22.80	2.63	22.80	2.62
0	22.80	2.72	22.80	2.68	22.80	2.67	22.80	2.66	22.80	2.65	22.80	2.64
5	22.80	2.76	22.80	2.72	22.80	2.71	22.80	2.70	22.80	2.68	22.80	2.67
10	22.80	2.96	22.80	2.91	22.80	2.89	22.80	2.87	22.80	2.85	22.80	2.83
15	22.80	3.34	22.80	3.28	22.80	3.24	22.80	3.20	22.80	3.16	22.80	3.12
20	22.80	3.83	22.80	3.73	22.80	3.67	22.80	3.61	22.80	3.54	22.80	3.48
25	22.80	4.38	22.80	4.25	22.80	4.15	22.80	4.05	22.80	3.95	22.80	3.86
30	22.80	4.93	22.80	4.76	22.80	4.61	22.80	4.48	22.80	4.35	22.80	4.21
35	22.80	5.66	22.80	5.42	22.80	5.22	22.80	5.03	22.80	4.83	22.80	4.64
40	22.80	6.35	22.80	6.05	22.80	5.77	22.80	5.52	22.80	5.27	22.80	5.02
45	22.80	7.26	22.80	6.89	22.80	6.51	22.80	6.08	22.80	5.83	22.80	5.52
48	22.80	7.68	22.80	7.19	22.80	6.74	22.80	6.36	22.80	6.08	22.80	5.77
52	22.80	9.53	22.80	8.80	22.80	8.22	22.80	7.83	22.80	7.44	22.80	7.04

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

■ KCAH040VDTC / KCAH040LDTC / KCAH040HDTC

◆ 40RT / 100% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	100.0	22.76	113.4	23.13	126.0	22.85	130.0	19.67	130.0	17.72	130.0	17.61	130.0	17.50
-10	100.0	22.86	113.4	23.33	126.0	23.13	130.0	19.74	130.0	17.79	130.0	17.67	130.0	17.56
-5	100.0	23.05	113.4	23.53	126.0	23.33	130.0	19.90	130.0	17.94	130.0	17.82	130.0	17.71
0	100.0	23.23	113.4	23.71	126.0	23.51	130.0	20.06	130.0	18.08	130.0	17.96	130.0	17.84
5	100.0	23.98	113.4	24.06	126.0	23.86	130.0	20.36	130.0	18.36	130.0	18.22	130.0	18.09
10	100.0	25.45	113.4	25.98	126.0	25.58	130.0	21.98	130.0	19.84	130.0	19.65	130.0	19.46
15	100.0	27.85	113.4	29.64	126.0	29.04	130.0	25.07	130.0	22.70	130.0	22.36	130.0	22.04
20	90.72	30.27	113.4	34.05	126.0	34.41	130.0	29.11	130.0	26.44	130.0	25.89	130.0	25.36
25	88.00	34.44	110.0	38.75	126.0	39.94	130.0	33.79	130.0	30.82	130.0	29.95	130.0	29.14
30	88.00	39.35	110.0	44.27	126.0	45.64	130.0	38.61	130.0	35.35	130.0	34.11	130.0	32.95
35	86.11	45.59	107.6	51.29	119.6	51.29	130.0	45.72	130.0	43.33	130.0	40.19	130.0	38.46
40	83.30	50.69	104.1	57.03	115.7	57.03	130.0	52.38	130.0	48.62	130.0	45.82	130.0	43.44
45	71.28	53.77	85.98	59.89	95.54	59.09	107.6	53.89	117.0	54.65	121.3	51.72	125.7	49.76
48	56.16	49.00	70.20	53.24	78.00	53.84	87.31	48.43	94.90	49.30	98.58	47.28	102.3	45.84
52	39.60	35.35	49.50	39.77	55.00	39.77	59.80	35.46	65.00	36.36	68.25	35.43	71.50	34.61

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	130.0	17.24	130.0	16.98	130.0	16.92	130.0	16.86	130.0	16.79	130.0	16.73
-10	130.0	17.30	130.0	17.05	130.0	16.98	130.0	16.92	130.0	16.85	130.0	16.79
-5	130.0	17.44	130.0	17.19	130.0	17.12	130.0	17.06	130.0	16.99	130.0	16.93
0	130.0	17.57	130.0	17.32	130.0	17.25	130.0	17.18	130.0	17.11	130.0	17.04
5	130.0	17.82	130.0	17.55	130.0	17.47	130.0	17.39	130.0	17.31	130.0	17.24
10	130.0	19.12	130.0	18.80	130.0	18.66	130.0	18.53	130.0	18.40	130.0	18.27
15	130.0	21.58	130.0	21.14	130.0	20.89	130.0	20.65	130.0	20.41	130.0	20.16
20	130.0	24.72	130.0	24.10	130.0	23.68	130.0	23.27	130.0	22.86	130.0	22.45
25	130.0	28.27	130.0	27.41	130.0	26.76	130.0	26.14	130.0	25.51	130.0	24.89
30	130.0	31.81	130.0	30.70	130.0	29.78	130.0	28.91	130.0	28.04	130.0	27.18
35	130.0	36.87	130.0	35.35	130.0	34.00	130.0	32.76	130.0	31.51	130.0	30.26
40	130.0	41.37	130.0	39.41	130.0	37.61	130.0	35.97	130.0	34.33	130.0	32.69
45	130.0	47.97	130.0	45.29	130.0	42.78	130.0	39.93	130.0	38.27	130.0	36.26
48	106.0	44.52	109.6	42.81	113.3	41.24	117.0	40.25	117.7	39.22	119.4	38.26
52	74.75	33.91	78.00	33.28	81.25	32.73	84.50	32.32	85.12	32.07	86.00	31.56

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 40RT / 90% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	100.0	22.78	113.4	23.25	117.0	20.72	117.0	16.83	117.0	15.16	117.0	15.07	117.0	14.97
-10	100.0	22.86	113.4	23.33	117.0	20.79	117.0	16.89	117.0	15.22	117.0	15.12	117.0	15.02
-5	100.0	23.05	113.4	23.53	117.0	20.97	117.0	17.03	117.0	15.35	117.0	15.25	117.0	15.15
0	100.0	23.23	113.4	23.71	117.0	21.13	117.0	17.16	117.0	15.47	117.0	15.37	117.0	15.26
5	100.0	23.58	113.4	24.06	117.0	21.45	117.0	17.42	117.0	15.70	117.0	15.59	117.0	15.48
10	100.0	25.45	113.4	25.98	117.0	23.15	117.0	18.80	117.0	16.98	117.0	16.81	117.0	16.65
15	90.72	27.85	113.4	29.64	117.0	26.41	117.0	21.45	117.0	19.42	117.0	19.13	117.0	18.86
20	88.00	30.27	110.0	34.05	117.0	30.66	117.0	24.90	117.0	22.62	117.0	22.15	117.0	21.69
25	88.00	34.44	110.0	38.75	117.0	35.67	117.0	28.91	117.0	26.36	117.0	25.63	117.0	24.93
30	88.00	39.35	110.0	44.27	117.0	41.07	117.0	33.04	117.0	30.24	117.0	29.18	117.0	28.19
35	86.11	45.14	107.6	50.78	117.0	49.10	117.0	38.73	117.0	35.65	117.0	34.05	117.0	32.58
40	83.30	50.64	104.1	56.97	115.7	56.79	117.0	44.84	117.0	41.51	117.0	39.23	117.0	37.19
45	71.28	53.77	85.98	58.37	95.54	58.49	107.6	52.91	117.0	51.61	117.0	46.99	117.0	43.96
48	61.02	47.40	75.27	52.64	83.64	52.64	93.84	48.43	102.0	49.30	104.5	46.28	107.0	44.19
52	39.60	35.35	49.50	39.77	55.00	39.77	59.80	35.46	65.00	36.36	68.25	35.43	71.50	34.61

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	117.0	14.75	117.0	14.53	117.0	14.48	117.0	14.42	117.0	14.37	117.0	14.31
-10	117.0	14.80	117.0	14.58	117.0	14.53	117.0	14.47	117.0	14.42	117.0	14.36
-5	117.0	14.92	117.0	14.71	117.0	14.65	117.0	14.60	117.0	14.54	117.0	14.48
0	117.0	15.04	117.0	14.82	117.0	14.76	117.0	14.70	117.0	14.64	117.0	14.58
5	117.0	15.24	117.0	15.01	117.0	14.95	117.0	14.88	117.0	14.81	117.0	14.75
10	117.0	16.36	117.0	16.08	117.0	15.97	117.0	15.86	117.0	15.74	117.0	15.63
15	117.0	18.47	117.0	18.08	117.0	17.87	117.0	17.67	117.0	17.46	117.0	17.25
20	117.0	21.15	117.0	20.62	117.0	20.26	117.0	19.91	117.0	19.56	117.0	19.21
25	117.0	24.18	117.0	23.46	117.0	22.90	117.0	22.36	117.0	21.83	117.0	21.29
30	117.0	27.22	117.0	26.27	117.0	25.48	117.0	24.74	117.0	23.99	117.0	23.25
35	117.0	31.24	117.0	29.94	117.0	28.80	117.0	27.75	117.0	26.69	117.0	25.64
40	117.0	35.42	117.0	33.74	117.0	32.20	117.0	30.80	117.0	29.39	117.0	27.99
45	117.0	41.12	117.0	38.82	117.0	36.67	117.0	34.22	117.0	32.80	117.0	31.08
48	109.5	42.24	112.0	40.66	114.5	39.22	117.0	38.38	117.0	37.30	117.0	35.85
52	74.75	33.91	78.00	33.28	81.25	32.73	84.50	32.73	85.12	32.07	86.00	31.56

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 40RT / 80% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	100.0	22.78	104.0	20.46	104.0	17.46	104.0	14.08	104.0	12.69	104.0	12.61	104.0	12.53
-10	100.0	22.86	104.0	20.54	104.0	17.52	104.0	14.13	104.0	12.74	104.0	12.65	104.0	12.57
-5	100.0	23.05	104.0	20.71	104.0	17.67	104.0	14.25	104.0	12.84	104.0	12.76	104.0	12.68
0	100.0	23.23	104.0	20.87	104.0	17.81	104.0	14.36	104.0	12.95	104.0	12.86	104.0	12.77
5	100.0	23.58	104.0	21.18	104.0	18.07	104.0	14.58	104.0	13.14	104.0	13.05	104.0	12.95
10	100.0	25.45	104.0	22.87	104.0	19.51	104.0	15.74	104.0	14.21	104.0	14.07	104.0	13.93
15	90.72	27.85	104.0	26.09	104.0	22.25	104.0	17.95	104.0	16.25	104.0	16.01	104.0	15.78
20	88.00	30.27	104.0	30.44	104.0	25.83	104.0	20.54	104.0	18.82	104.0	18.47	104.0	18.15
25	88.00	34.44	104.0	35.68	104.0	30.05	104.0	23.37	104.0	21.67	104.0	21.24	104.0	20.86
30	88.00	39.35	104.0	40.76	104.0	34.60	104.0	27.60	104.0	24.72	104.0	24.22	104.0	23.59
35	86.11	45.14	104.0	48.26	104.0	41.36	104.0	32.41	104.0	29.83	104.0	28.49	104.0	27.26
40	83.30	50.64	104.0	56.28	104.0	48.50	104.0	37.46	104.0	34.68	104.0	32.77	104.0	31.07
45	71.28	53.77	85.98	58.37	95.54	56.84	104.0	47.77	104.0	43.29	104.0	39.41	104.0	36.87
48	56.16	47.40	70.20	52.64	78.00	52.64	87.31	47.40	94.90	46.49	98.58	43.76	102.3	41.84
52	39.60	35.35	49.50	39.77	55.00	39.77	59.80	35.46	65.00	36.36	68.25	35.43	71.50	34.61

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	104.0	12.34	104.0	12.16	104.0	12.11	104.0	12.07	104.0	12.02	104.0	11.98
-10	104.0	12.38	104.0	12.20	104.0	12.16	104.0	12.11	104.0	12.07	104.0	12.02
-5	104.0	12.49	104.0	12.31	104.0	12.26	104.0	12.21	104.0	12.17	104.0	12.12
0	104.0	12.58	104.0	12.40	104.0	12.35	104.0	12.30	104.0	12.25	104.0	12.20
5	104.0	12.76	104.0	12.56	104.0	12.51	104.0	12.45	104.0	12.40	104.0	12.34
10	104.0	13.69	104.0	13.46	104.0	13.36	104.0	13.27	104.0	13.18	104.0	13.08
15	104.0	15.45	104.0	15.13	104.0	14.96	104.0	14.78	104.0	14.61	104.0	14.44
20	104.0	17.70	104.0	17.25	104.0	16.95	104.0	16.66	104.0	16.37	104.0	16.07
25	104.0	20.24	104.0	19.63	104.0	19.16	104.0	18.71	104.0	18.27	104.0	17.82
30	104.0	22.77	104.0	21.98	104.0	21.32	104.0	20.70	104.0	20.08	104.0	19.46
35	104.0	26.14	104.0	25.06	104.0	24.10	104.0	23.22	104.0	22.34	104.0	21.45
40	104.0	29.59	104.0	28.18	104.0	26.90	104.0	25.73	104.0	24.55	104.0	23.38
45	104.0	34.34	104.0	32.42	104.0	30.62	104.0	28.58	104.0	27.39	104.0	25.95
48	104.0	39.04	104.0	36.46	104.0	34.14	104.0	32.25	104.0	30.81	104.0	29.24
52	74.75	33.91	78.00	33.28	81.25	32.73	84.50	32.73	85.12	32.07	86.00	31.56

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 40RT / 70% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	91.00	19.99	91.00	17.05	91.00	14.55	91.00	11.59	91.00	10.44	91.00	10.38	91.00	10.31
-10	91.00	20.06	91.00	17.11	91.00	14.60	91.00	11.63	91.00	10.48	91.00	10.41	91.00	10.35
-5	91.00	20.23	91.00	17.26	91.00	14.72	91.00	11.73	91.00	10.57	91.00	10.50	91.00	10.43
0	91.00	20.39	91.00	17.39	91.00	14.84	91.00	11.82	91.00	10.66	91.00	10.58	91.00	10.51
5	91.00	20.69	91.00	17.65	91.00	15.06	91.00	12.00	91.00	10.82	91.00	10.74	91.00	10.66
10	91.00	22.34	91.00	19.06	91.00	16.25	91.00	12.95	91.00	11.69	91.00	11.58	91.00	11.47
15	90.72	25.86	91.00	21.74	91.00	18.54	91.00	14.77	91.00	13.38	91.00	13.18	91.00	12.99
20	88.00	30.27	91.00	25.36	91.00	21.53	91.00	17.14	91.00	15.54	91.00	15.24	91.00	14.94
25	88.00	34.44	91.00	29.73	91.00	25.04	91.00	19.86	91.00	17.95	91.00	17.61	91.00	17.17
30	88.00	39.35	91.00	33.97	91.00	28.83	91.00	22.63	91.00	20.36	91.00	20.04	91.00	19.42
35	86.11	45.14	91.00	40.22	91.00	34.47	91.00	26.67	91.00	24.55	91.00	23.45	91.00	22.44
40	83.30	50.64	91.00	46.90	91.00	40.41	91.00	30.83	91.00	28.54	91.00	26.97	91.00	25.57
45	71.28	53.77	85.98	56.29	91.00	50.62	91.00	39.81	91.00	35.92	91.00	32.70	91.00	30.59
48	56.16	47.40	70.20	52.64	78.00	51.23	87.31	44.68	91.00	42.41	91.00	38.65	91.00	35.76
52	39.60	35.35	49.50	39.77	55.00	39.77	59.80	35.46	65.00	36.36	68.25	35.43	71.50	34.61

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	91.00	10.16	91.00	10.01	91.00	9.97	91.00	9.93	91.00	9.90	91.00	9.86
-10	91.00	10.19	91.00	10.04	91.00	10.01	91.00	9.97	91.00	9.93	91.00	9.89
-5	91.00	10.28	91.00	10.13	91.00	10.09	91.00	10.05	91.00	10.01	91.00	9.98
0	91.00	10.36	91.00	10.20	91.00	10.16	91.00	10.12	91.00	10.08	91.00	10.04
5	91.00	10.50	91.00	10.34	91.00	10.29	91.00	10.25	91.00	10.20	91.00	10.16
10	91.00	11.27	91.00	11.08	91.00	11.00	91.00	10.92	91.00	10.84	91.00	10.77
15	91.00	12.72	91.00	12.46	91.00	12.31	91.00	12.17	91.00	12.02	91.00	11.88
20	91.00	14.57	91.00	14.20	91.00	13.95	91.00	13.71	91.00	13.47	91.00	13.23
25	91.00	16.66	91.00	16.16	91.00	15.77	91.00	15.40	91.00	15.03	91.00	14.67
30	91.00	18.74	91.00	18.09	91.00	17.55	91.00	17.04	91.00	16.53	91.00	16.02
35	91.00	21.51	91.00	20.62	91.00	19.84	91.00	19.11	91.00	18.38	91.00	17.66
40	91.00	24.35	91.00	23.20	91.00	22.14	91.00	21.17	91.00	20.21	91.00	19.24
45	91.00	28.26	91.00	26.68	91.00	25.20	91.00	23.52	91.00	22.54	91.00	21.36
48	91.00	32.41	91.00	30.27	91.00	28.35	91.00	26.78	91.00	25.58	91.00	24.28
52	74.75	33.91	78.00	33.28	81.25	32.73	84.50	32.73	85.12	32.07	86.00	31.56

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 40RT / 60% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	78.00	16.37	78.00	13.96	78.00	11.91	78.00	9.45	78.00	8.52	78.00	8.46	78.00	8.41
-10	78.00	16.43	78.00	14.01	78.00	11.95	78.00	9.49	78.00	8.55	78.00	8.49	78.00	8.44
-5	78.00	16.57	78.00	14.13	78.00	12.06	78.00	9.57	78.00	8.62	78.00	8.57	78.00	8.51
0	78.00	16.70	78.00	14.24	78.00	12.15	78.00	9.64	78.00	8.69	78.00	8.63	78.00	8.58
5	78.00	16.95	78.00	14.45	78.00	12.33	78.00	9.79	78.00	8.82	78.00	8.76	78.00	8.70
10	78.00	18.29	78.00	15.61	78.00	13.31	78.00	10.56	78.00	9.54	78.00	9.44	78.00	9.35
15	78.00	21.24	78.00	17.80	78.00	15.19	78.00	12.05	78.00	10.91	78.00	10.75	78.00	10.59
20	78.00	25.25	78.00	20.77	78.00	17.63	78.00	13.99	78.00	12.71	78.00	12.44	78.00	12.19
25	78.00	29.45	78.00	24.35	78.00	20.51	78.00	16.24	78.00	14.81	78.00	14.40	78.00	14.00
30	78.00	33.65	78.00	27.82	78.00	23.61	78.00	18.56	78.00	16.99	78.00	16.39	78.00	15.84
35	78.00	39.68	78.00	32.93	78.00	28.23	78.00	21.76	78.00	20.03	78.00	19.13	78.00	18.30
40	78.00	46.51	78.00	38.30	78.00	33.00	78.00	25.07	78.00	23.21	78.00	21.94	78.00	20.80
45	71.28	52.99	78.00	47.94	78.00	41.32	78.00	32.50	78.00	29.28	78.00	26.65	78.00	24.93
48	56.16	47.40	70.20	50.24	78.00	48.03	78.00	37.80	78.00	34.62	78.00	31.55	78.00	29.19
52	39.60	35.35	49.50	39.77	55.00	39.77	59.80	35.46	65.00	36.36	68.25	35.43	71.50	34.61

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	78.00	8.28	78.00	8.16	78.00	8.13	78.00	8.10	78.00	8.07	78.00	8.04
-10	78.00	8.31	78.00	8.19	78.00	8.16	78.00	8.13	78.00	8.10	78.00	8.07
-5	78.00	8.38	78.00	8.26	78.00	8.23	78.00	8.20	78.00	8.17	78.00	8.14
0	78.00	8.45	78.00	8.32	78.00	8.29	78.00	8.26	78.00	8.22	78.00	8.19
5	78.00	8.56	78.00	8.43	78.00	8.40	78.00	8.36	78.00	8.32	78.00	8.29
10	78.00	9.19	78.00	9.03	78.00	8.97	78.00	8.91	78.00	8.85	78.00	8.78
15	78.00	10.37	78.00	10.16	78.00	10.04	78.00	9.92	78.00	9.81	78.00	9.69
20	78.00	11.88	78.00	11.58	78.00	11.38	78.00	11.18	78.00	10.99	78.00	10.79
25	78.00	13.59	78.00	13.18	78.00	12.86	78.00	12.56	78.00	12.26	78.00	11.96
30	78.00	15.29	78.00	14.76	78.00	14.31	78.00	13.90	78.00	13.48	78.00	13.06
35	78.00	17.55	78.00	16.82	78.00	16.18	78.00	15.59	78.00	14.99	78.00	14.40
40	78.00	19.81	78.00	18.87	78.00	18.01	78.00	17.22	78.00	16.44	78.00	15.65
45	78.00	22.98	78.00	21.70	78.00	20.49	78.00	19.12	78.00	18.33	78.00	17.37
48	78.00	26.43	78.00	24.68	78.00	23.11	78.00	21.84	78.00	20.86	78.00	19.80
52	74.75	33.91	78.00	33.28	78.00	31.11	78.00	29.62	78.00	28.13	78.00	26.64

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 40RT / 50% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	65.00	12.48	65.00	10.64	65.00	9.08	65.00	7.20	65.00	6.48	65.00	6.44	65.00	6.40
-10	65.00	12.52	65.00	10.68	65.00	9.11	65.00	7.22	65.00	6.51	65.00	6.47	65.00	6.42
-5	65.00	12.63	65.00	10.77	65.00	9.19	65.00	7.28	65.00	6.56	65.00	6.52	65.00	6.48
0	65.00	12.73	65.00	10.86	65.00	9.26	65.00	7.34	65.00	6.62	65.00	6.57	65.00	6.53
5	65.00	12.92	65.00	11.02	65.00	9.40	65.00	7.45	65.00	6.72	65.00	6.67	65.00	6.62
10	65.00	13.94	65.00	11.89	65.00	10.15	65.00	8.04	65.00	7.26	65.00	7.19	65.00	7.12
15	65.00	16.19	65.00	13.57	65.00	11.57	65.00	9.17	65.00	8.30	65.00	8.18	65.00	8.06
20	65.00	19.25	65.00	15.83	65.00	13.44	65.00	10.65	65.00	9.67	65.00	9.47	65.00	9.28
25	65.00	22.45	65.00	18.56	65.00	15.63	65.00	12.36	65.00	11.27	65.00	10.96	65.00	10.66
30	65.00	25.65	65.00	21.20	65.00	18.00	65.00	14.13	65.00	12.93	65.00	12.48	65.00	12.06
35	65.00	30.24	65.00	25.10	65.00	21.52	65.00	16.56	65.00	15.24	65.00	14.56	65.00	13.93
40	65.00	35.33	65.00	29.09	65.00	25.07	65.00	19.02	65.00	17.61	65.00	16.64	65.00	15.78
45	65.00	43.25	65.00	36.41	65.00	31.38	65.00	24.68	65.00	22.23	65.00	20.23	65.00	18.93
48	56.16	43.53	65.00	41.71	65.00	36.48	65.00	28.70	65.00	26.29	65.00	23.96	65.00	22.17
52	39.60	33.83	49.50	38.06	55.00	38.06	59.80	33.93	65.00	34.80	65.00	31.97	65.00	29.52

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	65.00	6.31	65.00	6.21	65.00	6.19	65.00	6.17	65.00	6.14	65.00	6.12
-10	65.00	6.33	65.00	6.24	65.00	6.21	65.00	6.19	65.00	6.17	65.00	6.14
-5	65.00	6.38	65.00	6.29	65.00	6.26	65.00	6.24	65.00	6.22	65.00	6.19
0	65.00	6.43	65.00	6.33	65.00	6.31	65.00	6.28	65.00	6.26	65.00	6.23
5	65.00	6.52	65.00	6.42	65.00	6.39	65.00	6.36	65.00	6.33	65.00	6.31
10	65.00	7.00	65.00	6.88	65.00	6.83	65.00	6.78	65.00	6.73	65.00	6.68
15	65.00	7.90	65.00	7.73	65.00	7.64	65.00	7.55	65.00	7.46	65.00	7.38
20	65.00	9.04	65.00	8.82	65.00	8.66	65.00	8.51	65.00	8.36	65.00	8.21
25	65.00	10.34	65.00	10.03	65.00	9.79	65.00	9.56	65.00	9.33	65.00	9.11
30	65.00	11.64	65.00	11.23	65.00	10.89	65.00	10.58	65.00	10.26	65.00	9.94
35	65.00	13.36	65.00	12.80	65.00	12.32	65.00	11.86	65.00	11.41	65.00	10.96
40	65.00	15.03	65.00	14.31	65.00	13.66	65.00	13.07	65.00	12.47	65.00	11.87
45	65.00	17.43	65.00	16.45	65.00	15.54	65.00	14.50	65.00	13.90	65.00	13.17
48	65.00	20.06	65.00	18.74	65.00	17.55	65.00	16.58	65.00	15.84	65.00	15.03
52	65.00	27.39	65.00	25.28	65.00	23.62	65.00	22.49	65.00	21.36	65.00	20.23

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 40RT / 40% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	52.00	10.78	52.00	9.19	52.00	7.84	52.00	6.46	52.00	5.82	52.00	5.78	52.00	5.74
-10	52.00	10.81	52.00	9.22	52.00	7.87	52.00	6.48	52.00	5.84	52.00	5.80	52.00	5.76
-5	52.00	10.90	52.00	9.30	52.00	7.93	52.00	6.53	52.00	5.89	52.00	5.85	52.00	5.81
0	52.00	10.99	52.00	9.38	52.00	8.00	52.00	6.59	52.00	5.94	52.00	5.90	52.00	5.86
5	52.00	11.15	52.00	9.51	52.00	8.12	52.00	6.68	52.00	6.03	52.00	5.98	52.00	5.94
10	52.00	12.04	52.00	10.27	52.00	8.76	52.00	7.21	52.00	6.51	52.00	6.45	52.00	6.39
15	52.00	13.98	52.00	11.72	52.00	9.99	52.00	8.23	52.00	7.45	52.00	7.34	52.00	7.23
20	52.00	16.62	52.00	13.67	52.00	11.60	52.00	9.56	52.00	8.68	52.00	8.50	52.00	8.32
25	52.00	19.38	52.00	16.02	52.00	13.50	52.00	11.09	52.00	10.12	52.00	9.83	52.00	9.57
30	52.00	22.15	52.00	18.31	52.00	15.54	52.00	12.68	52.00	11.60	52.00	11.20	52.00	10.82
35	52.00	26.11	52.00	21.68	52.00	18.58	52.00	14.86	52.00	13.68	52.00	13.06	52.00	12.50
40	52.00	30.46	52.00	25.08	52.00	21.61	52.00	17.04	52.00	15.77	52.00	14.91	52.00	14.13
45	52.00	37.28	52.00	31.38	52.00	27.05	52.00	20.86	52.00	19.04	52.00	17.34	52.00	16.23
48	52.00	41.42	52.00	35.94	52.00	31.44	52.00	23.67	52.00	21.68	52.00	19.75	52.00	18.28
52	39.60	35.35	49.50	39.77	52.00	38.77	52.00	30.23	52.00	28.24	52.00	25.95	52.00	23.96

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	52.00	5.66	52.00	5.58	52.00	5.55	52.00	5.53	52.00	5.51	52.00	5.49
-10	52.00	5.68	52.00	5.60	52.00	5.57	52.00	5.55	52.00	5.53	52.00	5.51
-5	52.00	5.73	52.00	5.64	52.00	5.62	52.00	5.60	52.00	5.58	52.00	5.56
0	52.00	5.77	52.00	5.68	52.00	5.66	52.00	5.64	52.00	5.62	52.00	5.59
5	52.00	5.85	52.00	5.76	52.00	5.73	52.00	5.71	52.00	5.68	52.00	5.66
10	52.00	6.28	52.00	6.17	52.00	6.13	52.00	6.08	52.00	6.04	52.00	6.00
15	52.00	7.09	52.00	6.94	52.00	6.86	52.00	6.78	52.00	6.70	52.00	6.62
20	52.00	8.11	52.00	7.91	52.00	7.77	52.00	7.64	52.00	7.50	52.00	7.37
25	52.00	9.28	52.00	9.00	52.00	8.78	52.00	8.58	52.00	8.37	52.00	8.17
30	52.00	10.44	52.00	10.08	52.00	9.78	52.00	9.49	52.00	9.21	52.00	8.92
35	52.00	11.98	52.00	11.49	52.00	11.05	52.00	10.65	52.00	10.24	52.00	9.84
40	52.00	13.46	52.00	12.82	52.00	12.24	52.00	11.70	52.00	11.17	52.00	10.64
45	52.00	15.61	52.00	14.74	52.00	13.92	52.00	12.99	52.00	12.45	52.00	11.80
48	52.00	16.89	52.00	15.77	52.00	14.77	52.00	13.95	52.00	13.33	52.00	12.65
52	52.00	22.23	52.00	20.52	52.00	19.18	52.00	18.26	52.00	17.34	52.00	16.42

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 40RT / 30% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	39.00	8.52	39.00	7.27	39.00	6.20	39.00	5.07	39.00	4.57	39.00	4.54	39.00	4.51
-10	39.00	8.55	39.00	7.29	39.00	6.22	39.00	5.09	39.00	4.59	39.00	4.56	39.00	4.53
-5	39.00	8.62	39.00	7.36	39.00	6.27	39.00	5.13	39.00	4.62	39.00	4.59	39.00	4.56
0	39.00	8.69	39.00	7.41	39.00	6.32	39.00	5.17	39.00	4.66	39.00	4.63	39.00	4.60
5	39.00	8.82	39.00	7.52	39.00	6.42	39.00	5.25	39.00	4.73	39.00	4.70	39.00	4.66
10	39.00	9.52	39.00	8.12	39.00	6.93	39.00	5.67	39.00	5.12	39.00	5.07	39.00	5.02
15	39.00	11.05	39.00	9.27	39.00	7.90	39.00	6.46	39.00	5.85	39.00	5.77	39.00	5.68
20	39.00	13.14	39.00	10.81	39.00	9.18	39.00	7.50	39.00	6.82	39.00	6.67	39.00	6.54
25	39.00	15.33	39.00	12.67	39.00	10.67	39.00	8.71	39.00	7.94	39.00	7.72	39.00	7.51
30	39.00	17.51	39.00	14.48	39.00	12.29	39.00	9.95	39.00	9.11	39.00	8.79	39.00	8.50
35	39.00	20.65	39.00	17.14	39.00	14.69	39.00	11.67	39.00	10.74	39.00	10.26	39.00	9.82
40	39.00	24.05	39.00	19.80	39.00	17.06	39.00	13.36	39.00	12.37	39.00	11.69	39.00	11.08
45	39.00	29.04	39.00	24.77	39.00	21.35	39.00	16.25	39.00	14.80	39.00	13.48	39.00	12.70
48	39.00	31.58	39.00	27.97	39.00	24.82	39.00	18.30	39.00	16.76	39.00	15.27	39.00	14.18
52	39.00	35.17	39.00	31.65	39.00	30.29	39.00	22.90	39.00	21.40	39.00	19.66	39.00	18.15

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	39.00	4.44	39.00	4.38	39.00	4.36	39.00	4.35	39.00	4.33	39.00	4.31
-10	39.00	4.46	39.00	4.39	39.00	4.38	39.00	4.36	39.00	4.34	39.00	4.33
-5	39.00	4.50	39.00	4.43	39.00	4.41	39.00	4.40	39.00	4.38	39.00	4.36
0	39.00	4.53	39.00	4.46	39.00	4.45	39.00	4.43	39.00	4.41	39.00	4.39
5	39.00	4.59	39.00	4.52	39.00	4.50	39.00	4.48	39.00	4.46	39.00	4.44
10	39.00	4.93	39.00	4.85	39.00	4.81	39.00	4.78	39.00	4.74	39.00	4.71
15	39.00	5.56	39.00	5.45	39.00	5.39	39.00	5.32	39.00	5.26	39.00	5.20
20	39.00	6.37	39.00	6.21	39.00	6.10	39.00	6.00	39.00	5.89	39.00	5.79
25	39.00	7.29	39.00	7.07	39.00	6.90	39.00	6.74	39.00	6.58	39.00	6.42
30	39.00	8.20	39.00	7.91	39.00	7.68	39.00	7.45	39.00	7.23	39.00	7.01
35	39.00	9.41	39.00	9.02	39.00	8.68	39.00	8.36	39.00	8.04	39.00	7.72
40	39.00	10.56	39.00	10.05	39.00	9.60	39.00	9.18	39.00	8.76	39.00	8.34
45	39.00	12.24	39.00	11.55	39.00	10.91	39.00	10.18	39.00	9.70	39.00	9.12
48	39.00	13.11	39.00	12.25	39.00	11.47	39.00	10.83	39.00	10.32	39.00	9.76
52	39.00	16.84	39.00	15.54	39.00	14.53	39.00	13.83	39.00	13.14	39.00	12.44

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 40RT / 20% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	26.00	5.80	26.00	4.94	26.00	4.22	26.00	3.50	26.00	3.15	26.00	3.13	26.00	3.11
-10	26.00	5.82	26.00	4.96	26.00	4.23	26.00	3.51	26.00	3.17	26.00	3.15	26.00	3.12
-5	26.00	5.87	26.00	5.00	26.00	4.27	26.00	3.54	26.00	3.19	26.00	3.17	26.00	3.15
0	26.00	5.91	26.00	5.04	26.00	4.30	26.00	3.57	26.00	3.22	26.00	3.20	26.00	3.18
5	26.00	6.00	26.00	5.12	26.00	4.37	26.00	3.62	26.00	3.27	26.00	3.24	26.00	3.22
10	26.00	6.48	26.00	5.53	26.00	4.71	26.00	3.91	26.00	3.55	26.00	3.50	26.00	3.46
15	26.00	7.52	26.00	6.30	26.00	5.38	26.00	4.46	26.00	4.06	26.00	3.98	26.00	3.92
20	26.00	8.94	26.00	7.35	26.00	6.24	26.00	5.18	26.00	4.71	26.00	4.61	26.00	4.51
25	26.00	10.43	26.00	8.62	26.00	7.26	26.00	6.01	26.00	5.48	26.00	5.33	26.00	5.19
30	26.00	11.91	26.00	9.85	26.00	8.36	26.00	6.87	26.00	6.29	26.00	6.07	26.00	5.86
35	26.00	14.05	26.00	11.66	26.00	9.99	26.00	8.06	26.00	7.41	26.00	7.08	26.00	6.78
40	26.00	16.36	26.00	13.47	26.00	11.61	26.00	9.22	26.00	8.54	26.00	8.07	26.00	7.65
45	26.00	19.75	26.00	16.85	26.00	14.53	26.00	11.25	26.00	10.19	26.00	9.28	26.00	8.74
48	26.00	21.48	26.00	19.03	26.00	16.88	26.00	12.58	26.00	11.52	26.00	10.50	26.00	9.74
52	26.00	23.68	26.00	21.53	26.00	20.60	26.00	15.42	26.00	14.41	26.00	13.24	26.00	12.22

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	26.00	3.07	26.00	3.02	26.00	3.01	26.00	3.00	26.00	2.99	26.00	2.98
-10	26.00	3.08	26.00	3.03	26.00	3.02	26.00	3.01	26.00	3.00	26.00	2.99
-5	26.00	3.10	26.00	3.06	26.00	3.05	26.00	3.04	26.00	3.02	26.00	3.01
0	26.00	3.13	26.00	3.08	26.00	3.07	26.00	3.06	26.00	3.04	26.00	3.03
5	26.00	3.17	26.00	3.12	26.00	3.11	26.00	3.10	26.00	3.08	26.00	3.07
10	26.00	3.40	26.00	3.34	26.00	3.32	26.00	3.30	26.00	3.27	26.00	3.25
15	26.00	3.84	26.00	3.76	26.00	3.72	26.00	3.67	26.00	3.63	26.00	3.59
20	26.00	4.40	26.00	4.29	26.00	4.21	26.00	4.14	26.00	4.07	26.00	4.00
25	26.00	5.03	26.00	4.88	26.00	4.76	26.00	4.65	26.00	4.54	26.00	4.43
30	26.00	5.66	26.00	5.46	26.00	5.30	26.00	5.14	26.00	4.99	26.00	4.84
35	26.00	6.50	26.00	6.23	26.00	5.99	26.00	5.77	26.00	5.55	26.00	5.33
40	26.00	7.29	26.00	6.94	26.00	6.62	26.00	6.34	26.00	6.05	26.00	5.76
45	26.00	8.45	26.00	7.98	26.00	7.53	26.00	7.03	26.00	6.69	26.00	6.30
48	26.00	9.02	26.00	8.43	26.00	7.90	26.00	7.45	26.00	7.10	26.00	6.71
52	26.00	11.34	26.00	10.47	26.00	9.78	26.00	9.31	26.00	8.85	26.00	8.38

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

■ KCAH045VDTC / KCAH045LDTC / KCAH045HDTC

◆ 45RT / 100% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	103.2	24.77	113.6	25.17	129.6	24.86	148.0	24.00	148.0	21.62	148.0	21.49	148.0	21.34
-10	103.2	24.88	113.6	25.39	129.6	25.17	148.0	24.08	148.0	21.70	148.0	21.56	148.0	21.42
-5	103.2	25.09	113.6	25.60	129.6	25.39	148.0	24.28	148.0	21.89	148.0	21.74	148.0	21.60
0	103.2	25.29	113.6	25.81	129.6	25.59	148.0	24.48	148.0	22.06	148.0	21.91	148.0	21.77
5	103.2	26.09	113.6	26.19	129.6	25.97	148.0	24.84	148.0	22.39	148.0	22.23	148.0	22.07
10	103.2	28.17	113.6	28.27	129.6	28.27	148.0	23.92	148.0	21.60	148.0	21.38	148.0	21.17
15	103.2	30.83	113.6	32.24	129.6	32.25	148.0	27.29	148.0	24.70	148.0	24.34	148.0	23.98
20	93.62	33.50	113.6	37.26	129.6	37.44	148.0	31.68	148.0	28.77	148.0	28.17	148.0	27.59
25	88.92	38.12	111.1	42.88	129.6	43.47	148.0	36.78	148.0	33.54	148.0	32.60	148.0	31.71
30	88.92	43.55	111.1	49.00	129.6	49.67	148.0	42.02	148.0	38.47	148.0	37.12	148.0	35.86
35	87.01	48.77	108.8	54.92	124.3	56.30	148.0	55.77	148.0	52.87	148.0	49.03	148.0	46.92
40	84.17	53.91	105.2	60.75	118.7	59.92	133.2	61.80	133.2	57.37	133.2	54.07	133.2	51.26
45	72.02	55.31	86.88	61.61	97.82	60.79	110.0	65.17	119.6	66.67	124.2	63.10	128.7	60.70
48	56.74	59.78	70.93	64.95	78.81	65.69	88.86	59.09	96.59	60.15	100.3	57.68	104.1	55.92
52	40.01	35.81	50.02	40.29	55.57	40.29	60.20	35.92	65.43	36.83	68.71	35.88	71.98	35.06

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	148.0	21.03	148.0	20.72	148.0	20.64	148.0	20.57	148.0	20.49	148.0	20.41
-10	148.0	21.10	148.0	20.80	148.0	20.72	148.0	20.64	148.0	20.56	148.0	20.48
-5	148.0	21.28	148.0	20.97	148.0	20.89	148.0	20.81	148.0	20.73	148.0	20.65
0	148.0	21.44	148.0	21.13	148.0	21.04	148.0	20.96	148.0	20.87	148.0	20.79
5	148.0	21.74	148.0	21.41	148.0	21.31	148.0	21.22	148.0	21.12	148.0	21.03
10	148.0	20.81	148.0	20.46	148.0	20.31	148.0	20.17	148.0	20.03	148.0	19.89
15	148.0	23.49	148.0	23.00	148.0	22.73	148.0	22.47	148.0	22.21	148.0	21.94
20	148.0	26.90	148.0	26.23	148.0	25.77	148.0	25.32	148.0	24.88	148.0	24.43
25	148.0	30.76	148.0	29.84	148.0	29.12	148.0	28.44	148.0	27.76	148.0	27.09
30	148.0	34.62	148.0	33.41	148.0	32.41	148.0	31.46	148.0	30.52	148.0	29.58
35	148.0	44.98	148.0	43.12	148.0	41.48	148.0	39.96	148.0	38.44	148.0	36.92
40	133.2	50.48	148.0	48.08	148.0	45.89	148.0	43.89	148.0	41.89	148.0	39.89
45	133.2	58.52	148.0	55.26	148.0	52.19	148.0	48.71	148.0	46.68	148.0	44.23
48	107.8	54.32	111.6	52.23	113.8	50.32	117.6	49.11	118.4	47.84	120.0	46.68
52	75.25	34.34	78.52	33.71	81.79	33.15	85.07	32.74	85.69	32.48	86.57	31.97

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 45RT / 90% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	103.2	24.77	113.6	25.17	129.6	24.86	133.2	20.33	133.2	18.32	133.2	18.20	133.2	18.08
-10	103.2	24.88	113.6	25.39	129.6	25.17	133.2	20.40	133.2	18.39	133.2	18.27	133.2	18.15
-5	103.2	25.09	113.6	25.60	129.6	25.39	133.2	20.57	133.2	18.54	133.2	18.42	133.2	18.30
0	103.2	25.29	113.6	25.81	129.6	25.59	133.2	20.73	133.2	18.69	133.2	18.56	133.2	18.44
5	103.2	26.09	113.6	26.19	129.6	25.97	133.2	21.04	133.2	18.97	133.2	18.83	133.2	18.70
10	103.2	28.17	113.6	28.27	129.6	28.27	133.2	20.26	133.2	18.29	133.2	18.11	133.2	17.94
15	103.2	30.83	113.6	32.24	129.6	32.25	133.2	23.11	133.2	20.92	133.2	20.62	133.2	20.32
20	93.62	33.50	113.6	37.26	129.6	37.44	133.2	26.83	133.2	24.37	133.2	23.86	133.2	23.38
25	88.92	38.12	111.1	42.88	129.6	43.47	133.2	31.15	133.2	28.41	133.2	27.61	133.2	26.86
30	88.92	43.55	111.1	49.00	129.6	49.67	133.2	35.60	133.2	32.59	133.2	31.44	133.2	30.38
35	87.01	48.77	108.8	54.92	124.3	56.30	133.2	47.25	133.2	44.78	133.2	41.54	133.2	39.75
40	84.17	53.91	105.2	60.75	118.7	59.92	133.2	52.35	133.2	48.60	133.2	45.80	133.2	43.42
45	72.02	55.31	86.88	61.61	97.82	60.79	110.0	65.17	119.6	66.67	124.2	63.10	128.7	60.70
48	56.74	59.78	70.93	64.95	78.81	65.69	88.86	59.09	96.59	60.15	100.3	57.68	104.1	55.92
52	40.01	35.81	50.02	40.29	55.57	40.29	60.20	35.92	65.43	36.83	68.71	35.88	71.98	35.06

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	133.2	17.81	133.2	17.55	133.2	17.49	133.2	17.42	133.2	17.35	133.2	17.29
-10	133.2	17.88	133.2	17.62	133.2	17.55	133.2	17.48	133.2	17.42	133.2	17.35
-5	133.2	18.03	133.2	17.76	133.2	17.70	133.2	17.63	133.2	17.56	133.2	17.50
0	133.2	18.16	133.2	17.90	133.2	17.82	133.2	17.75	133.2	17.68	133.2	17.61
5	133.2	18.41	133.2	18.13	133.2	18.05	133.2	17.97	133.2	17.89	133.2	17.81
10	133.2	17.63	133.2	17.33	133.2	17.21	133.2	17.09	133.2	16.97	133.2	16.84
15	133.2	19.90	133.2	19.49	133.2	19.26	133.2	19.03	133.2	18.81	133.2	18.59
20	133.2	22.79	133.2	22.22	133.2	21.83	133.2	21.45	133.2	21.07	133.2	20.70
25	133.2	26.06	133.2	25.27	133.2	24.67	133.2	24.09	133.2	23.52	133.2	22.94
30	133.2	29.32	133.2	28.30	133.2	27.45	133.2	26.65	133.2	25.85	133.2	25.05
35	133.2	38.11	133.2	36.53	133.2	35.14	133.2	33.85	133.2	32.56	133.2	31.28
40	133.2	42.76	133.2	40.73	133.2	38.87	133.2	37.18	133.2	35.48	133.2	33.79
45	133.2	49.58	133.2	46.81	133.2	44.21	133.2	41.26	133.2	39.55	133.2	37.47
48	107.8	54.32	111.6	52.23	113.8	50.32	117.6	49.11	118.4	47.84	120.0	46.68
52	75.25	34.34	78.52	33.71	81.79	33.15	85.07	32.74	85.69	32.48	86.57	31.97

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 45RT / 80% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	103.2	24.77	113.6	25.17	118.4	21.76	118.4	17.15	118.4	15.46	118.4	15.36	118.4	15.26
-10	103.2	24.88	113.6	25.39	118.4	22.03	118.4	17.21	118.4	15.51	118.4	15.41	118.4	15.31
-5	103.2	25.09	113.6	25.60	118.4	22.21	118.4	17.36	118.4	15.65	118.4	15.54	118.4	15.44
0	103.2	25.29	113.6	25.81	118.4	22.39	118.4	17.50	118.4	15.77	118.4	15.66	118.4	15.56
5	103.2	26.09	113.6	26.19	118.4	22.72	118.4	17.75	118.4	16.01	118.4	15.89	118.4	15.78
10	103.2	28.17	113.6	28.27	118.4	24.74	118.4	17.10	118.4	15.44	118.4	15.29	118.4	15.14
15	103.2	30.83	113.6	32.24	118.4	28.22	118.4	19.50	118.4	17.66	118.4	17.40	118.4	17.15
20	93.62	33.50	113.6	37.26	118.4	32.76	118.4	22.64	118.4	20.57	118.4	20.14	118.4	19.73
25	88.92	38.12	111.1	42.88	118.4	38.04	118.4	26.29	118.4	23.97	118.4	23.30	118.4	22.67
30	88.92	43.55	111.1	49.00	118.4	43.46	118.4	30.04	118.4	27.50	118.4	26.53	118.4	25.64
35	87.01	48.77	108.8	54.92	118.4	49.27	118.4	39.87	118.4	37.79	118.4	35.05	118.4	33.54
40	84.17	53.91	105.2	60.75	118.4	50.99	118.4	44.18	118.4	41.01	118.4	38.65	118.4	36.64
45	72.02	55.31	86.88	61.61	97.82	60.79	110.0	65.17	118.4	58.21	118.4	55.09	118.4	53.00
48	56.74	59.78	70.93	64.95	78.81	65.69	88.86	59.09	96.59	60.15	100.3	57.68	104.1	55.92
52	40.01	35.81	50.02	40.29	55.57	40.29	60.20	35.92	65.43	36.83	68.71	35.88	71.98	35.06

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	118.4	15.03	118.4	14.81	118.4	14.76	118.4	14.70	118.4	14.64	118.4	14.59
-10	118.4	15.09	118.4	14.87	118.4	14.81	118.4	14.75	118.4	14.70	118.4	14.64
-5	118.4	15.21	118.4	14.99	118.4	14.93	118.4	14.88	118.4	14.82	118.4	14.76
0	118.4	15.33	118.4	15.10	118.4	15.04	118.4	14.98	118.4	14.92	118.4	14.86
5	118.4	15.54	118.4	15.30	118.4	15.24	118.4	15.17	118.4	15.10	118.4	15.03
10	118.4	14.88	118.4	14.62	118.4	14.52	118.4	14.42	118.4	14.32	118.4	14.21
15	118.4	16.79	118.4	16.44	118.4	16.25	118.4	16.06	118.4	15.87	118.4	15.69
20	118.4	19.23	118.4	18.75	118.4	18.42	118.4	18.10	118.4	17.78	118.4	17.47
25	118.4	21.99	118.4	21.33	118.4	20.82	118.4	20.33	118.4	19.85	118.4	19.36
30	118.4	24.75	118.4	23.88	118.4	23.17	118.4	22.49	118.4	21.82	118.4	21.14
35	118.4	32.16	118.4	30.83	118.4	29.65	118.4	28.57	118.4	27.48	118.4	26.39
40	118.4	36.08	118.4	34.37	118.4	32.80	118.4	31.37	118.4	29.94	118.4	28.51
45	118.4	41.83	118.4	39.50	118.4	37.31	118.4	34.82	118.4	33.37	118.4	31.62
48	107.8	54.32	111.6	52.23	113.8	50.32	117.6	49.11	118.4	47.84	118.4	35.67
52	75.25	34.34	78.52	33.71	81.79	33.15	85.07	32.74	85.69	32.48	86.57	31.97

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 45RT / 70% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	103.2	24.77	103.6	22.78	103.6	18.06	103.6	14.24	103.6	12.83	103.6	12.75	103.6	12.66
-10	103.2	24.88	103.6	22.98	103.6	18.28	103.6	14.29	103.6	12.88	103.6	12.79	103.6	12.71
-5	103.2	25.09	103.6	23.17	103.6	18.44	103.6	14.41	103.6	12.99	103.6	12.90	103.6	12.82
0	103.2	25.29	103.6	23.36	103.6	18.58	103.6	14.52	103.6	13.09	103.6	13.00	103.6	12.91
5	103.2	26.09	103.6	23.70	103.6	18.86	103.6	14.73	103.6	13.29	103.6	13.19	103.6	13.09
10	103.2	28.17	103.6	25.59	103.6	20.53	103.6	14.19	103.6	12.81	103.6	12.69	103.6	12.56
15	103.2	30.83	103.6	29.17	103.6	23.42	103.6	16.19	103.6	14.65	103.6	14.44	103.6	14.23
20	93.62	33.50	103.6	33.72	103.6	27.19	103.6	18.79	103.6	17.07	103.6	16.71	103.6	16.37
25	88.92	38.12	103.6	38.81	103.6	31.57	103.6	21.82	103.6	19.90	103.6	19.34	103.6	18.81
30	88.92	43.55	103.6	44.34	103.6	36.07	103.6	24.93	103.6	22.82	103.6	22.02	103.6	21.28
35	87.01	48.77	103.6	50.62	103.6	40.89	103.6	33.09	103.6	31.36	103.6	29.09	103.6	27.84
40	84.17	53.91	103.6	55.26	103.6	42.32	103.6	36.67	103.6	34.04	103.6	32.08	103.6	30.41
45	72.02	55.31	86.88	61.61	97.82	60.79	103.6	58.98	103.6	48.31	103.6	45.72	103.6	43.98
48	56.74	59.78	70.93	64.95	78.81	65.69	88.86	59.09	96.59	60.15	100.3	57.68	103.6	48.66
52	40.01	35.81	50.02	40.29	55.57	40.29	60.20	35.92	65.43	36.83	68.71	35.88	71.98	35.06

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	103.6	12.48	103.6	12.29	103.6	12.25	103.6	12.20	103.6	12.15	103.6	12.11
-10	103.6	12.52	103.6	12.34	103.6	12.29	103.6	12.24	103.6	12.20	103.6	12.15
-5	103.6	12.63	103.6	12.44	103.6	12.39	103.6	12.35	103.6	12.30	103.6	12.25
0	103.6	12.72	103.6	12.53	103.6	12.48	103.6	12.43	103.6	12.38	103.6	12.33
5	103.6	12.89	103.6	12.70	103.6	12.64	103.6	12.59	103.6	12.53	103.6	12.48
10	103.6	12.35	103.6	12.14	103.6	12.05	103.6	11.97	103.6	11.88	103.6	11.80
15	103.6	13.94	103.6	13.65	103.6	13.49	103.6	13.33	103.6	13.17	103.6	13.02
20	103.6	15.96	103.6	15.56	103.6	15.29	103.6	15.02	103.6	14.76	103.6	14.50
25	103.6	18.25	103.6	17.70	103.6	17.28	103.6	16.87	103.6	16.47	103.6	16.07
30	103.6	20.54	103.6	19.82	103.6	19.23	103.6	18.67	103.6	18.11	103.6	17.55
35	103.6	26.69	103.6	25.58	103.6	24.61	103.6	23.71	103.6	22.81	103.6	21.90
40	103.6	29.95	103.6	28.52	103.6	27.22	103.6	26.04	103.6	24.85	103.6	23.66
45	103.6	34.72	103.6	32.78	103.6	30.96	103.6	28.90	103.6	27.70	103.6	26.24
48	103.6	44.71	103.6	44.67	103.6	43.03	103.6	42.00	103.6	39.38	103.6	29.61
52	75.25	34.34	78.52	33.71	81.79	33.15	85.07	32.74	85.69	32.48	86.57	31.97

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 45RT / 60% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	88.80	20.54	88.80	18.73	88.80	14.85	88.80	11.71	88.80	10.55	88.80	10.48	88.80	10.41
-10	88.80	20.63	88.80	18.90	88.80	15.03	88.80	11.75	88.80	10.59	88.80	10.52	88.80	10.45
-5	88.80	20.80	88.80	19.06	88.80	15.16	88.80	11.85	88.80	10.68	88.80	10.61	88.80	10.54
0	88.80	20.97	88.80	19.21	88.80	15.28	88.80	11.94	88.80	10.76	88.80	10.69	88.80	10.62
5	88.80	21.64	88.80	19.49	88.80	15.51	88.80	12.12	88.80	10.93	88.80	10.85	88.80	10.77
10	88.80	23.36	88.80	21.04	88.80	16.88	88.80	11.67	88.80	10.54	88.80	10.43	88.80	10.33
15	88.80	25.56	88.80	23.99	88.80	19.26	88.80	13.31	88.80	12.05	88.80	11.87	88.80	11.70
20	88.80	31.18	88.80	27.73	88.80	22.36	88.80	15.45	88.80	14.04	88.80	13.74	88.80	13.46
25	88.80	36.16	88.80	31.92	88.80	25.96	88.80	17.94	88.80	16.36	88.80	15.90	88.80	15.47
30	88.80	41.31	88.80	36.47	88.80	29.66	88.80	20.50	88.80	18.77	88.80	18.11	88.80	17.50
35	87.01	48.77	88.80	41.63	88.80	33.62	88.80	27.21	88.80	25.79	88.80	23.92	88.80	22.89
40	84.17	53.91	88.80	45.45	88.80	34.80	88.80	30.15	88.80	27.99	88.80	26.38	88.80	25.01
45	72.02	55.31	86.88	61.61	88.80	50.41	88.80	48.50	88.80	39.73	88.80	37.60	88.80	36.17
48	56.74	59.78	70.93	64.95	78.81	65.69	88.80	57.93	88.80	53.82	88.80	51.56	88.80	40.02
52	40.01	35.81	50.02	40.29	55.57	40.29	60.20	35.92	65.43	36.83	68.71	35.88	71.98	35.06

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	88.80	10.26	88.80	10.11	88.80	10.07	88.80	10.03	88.80	10.00	88.80	9.96
-10	88.80	10.30	88.80	10.15	88.80	10.11	88.80	10.07	88.80	10.03	88.80	9.99
-5	88.80	10.38	88.80	10.23	88.80	10.19	88.80	10.15	88.80	10.12	88.80	10.08
0	88.80	10.46	88.80	10.31	88.80	10.27	88.80	10.23	88.80	10.18	88.80	10.14
5	88.80	10.60	88.80	10.44	88.80	10.40	88.80	10.35	88.80	10.31	88.80	10.26
10	88.80	10.15	88.80	9.98	88.80	9.91	88.80	9.84	88.80	9.77	88.80	9.70
15	88.80	11.46	88.80	11.22	88.80	11.09	88.80	10.96	88.80	10.83	88.80	10.71
20	88.80	13.13	88.80	12.80	88.80	12.57	88.80	12.35	88.80	12.14	88.80	11.92
25	88.80	15.01	88.80	14.56	88.80	14.21	88.80	13.88	88.80	13.55	88.80	13.21
30	88.80	16.89	88.80	16.30	88.80	15.81	88.80	15.35	88.80	14.89	88.80	14.43
35	88.80	21.95	88.80	21.04	88.80	20.24	88.80	19.50	88.80	18.75	88.80	18.01
40	88.80	24.63	88.80	23.46	88.80	22.39	88.80	21.41	88.80	20.44	88.80	19.46
45	88.80	28.55	88.80	26.96	88.80	25.46	88.80	23.76	88.80	22.78	88.80	21.58
48	88.80	36.77	88.80	36.73	88.80	35.39	88.80	34.54	88.80	32.38	88.80	24.35
52	75.25	34.34	78.52	33.71	81.79	33.15	85.07	32.74	85.69	32.48	86.57	31.97

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 45RT / 50% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	74.00	16.11	74.00	14.70	74.00	11.65	74.00	9.18	74.00	8.27	74.00	8.22	74.00	8.17
-10	74.00	16.18	74.00	14.82	74.00	11.79	74.00	9.22	74.00	8.31	74.00	8.25	74.00	8.20
-5	74.00	16.32	74.00	14.95	74.00	11.89	74.00	9.29	74.00	8.38	74.00	8.32	74.00	8.27
0	74.00	16.45	74.00	15.07	74.00	11.99	74.00	9.37	74.00	8.44	74.00	8.39	74.00	8.33
5	74.00	16.97	74.00	15.29	74.00	12.17	74.00	9.51	74.00	8.57	74.00	8.51	74.00	8.45
10	74.00	18.32	74.00	16.51	74.00	13.24	74.00	9.15	74.00	8.27	74.00	8.18	74.00	8.10
15	74.00	20.05	74.00	18.82	74.00	15.11	74.00	10.44	74.00	9.45	74.00	9.31	74.00	9.18
20	74.00	24.46	74.00	21.75	74.00	17.54	74.00	12.12	74.00	11.01	74.00	10.78	74.00	10.56
25	74.00	28.36	74.00	25.04	74.00	20.36	74.00	14.08	74.00	12.83	74.00	12.48	74.00	12.14
30	74.00	32.41	74.00	28.61	74.00	23.27	74.00	16.08	74.00	14.72	74.00	14.21	74.00	13.72
35	74.00	38.88	74.00	32.66	74.00	26.38	74.00	21.34	74.00	20.23	74.00	18.76	74.00	17.96
40	74.00	44.04	74.00	35.65	74.00	27.30	74.00	23.65	74.00	21.96	74.00	20.69	74.00	19.62
45	72.02	54.55	74.00	49.11	74.00	39.54	74.00	38.05	74.00	31.16	74.00	29.49	74.00	28.37
48	56.74	58.96	70.93	64.06	74.00	59.16	74.00	36.09	74.00	42.21	74.00	40.44	74.00	31.39
52	40.01	35.32	50.02	39.73	55.57	39.73	60.20	35.42	65.43	36.33	68.71	35.39	71.98	34.58

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	74.00	8.05	74.00	7.93	74.00	7.90	74.00	7.87	74.00	7.84	74.00	7.81
-10	74.00	8.08	74.00	7.96	74.00	7.93	74.00	7.90	74.00	7.87	74.00	7.84
-5	74.00	8.14	74.00	8.03	74.00	8.00	74.00	7.97	74.00	7.93	74.00	7.90
0	74.00	8.21	74.00	8.08	74.00	8.05	74.00	8.02	74.00	7.99	74.00	7.96
5	74.00	8.32	74.00	8.19	74.00	8.16	74.00	8.12	74.00	8.08	74.00	8.05
10	74.00	7.96	74.00	7.83	74.00	7.77	74.00	7.72	74.00	7.66	74.00	7.61
15	74.00	8.99	74.00	8.80	74.00	8.70	74.00	8.60	74.00	8.50	74.00	8.40
20	74.00	10.30	74.00	10.04	74.00	9.86	74.00	9.69	74.00	9.52	74.00	9.35
25	74.00	11.77	74.00	11.42	74.00	11.15	74.00	10.89	74.00	10.63	74.00	10.37
30	74.00	13.25	74.00	12.79	74.00	12.40	74.00	12.04	74.00	11.68	74.00	11.32
35	74.00	17.22	74.00	16.50	74.00	15.88	74.00	15.29	74.00	14.71	74.00	14.13
40	74.00	19.32	74.00	18.40	74.00	17.56	74.00	16.80	74.00	16.03	74.00	15.27
45	74.00	22.40	74.00	21.15	74.00	19.97	74.00	18.64	74.00	17.87	74.00	16.93
48	74.00	28.84	74.00	28.82	74.00	27.76	74.00	27.09	74.00	25.40	74.00	19.10
52	74.00	32.35	74.00	30.47	74.00	28.80	74.00	27.37	74.00	26.96	74.00	26.34

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 45RT / 40% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	59.20	14.03	59.20	12.80	59.20	10.14	59.20	8.00	59.20	7.20	59.20	7.16	59.20	7.11
-10	59.20	14.09	59.20	12.91	59.20	10.27	59.20	8.02	59.20	7.23	59.20	7.18	59.20	7.14
-5	59.20	14.21	59.20	13.02	59.20	10.35	59.20	8.09	59.20	7.29	59.20	7.25	59.20	7.20
0	59.20	14.32	59.20	13.12	59.20	10.44	59.20	8.16	59.20	7.35	59.20	7.30	59.20	7.25
5	59.20	14.78	59.20	13.31	59.20	10.59	59.20	8.28	59.20	7.46	59.20	7.41	59.20	7.35
10	59.20	15.95	59.20	14.37	59.20	11.53	59.20	7.97	59.20	7.20	59.20	7.13	59.20	7.06
15	59.20	17.46	59.20	16.39	59.20	13.15	59.20	9.09	59.20	8.23	59.20	8.11	59.20	7.99
20	59.20	21.30	59.20	18.94	59.20	15.27	59.20	10.56	59.20	9.59	59.20	9.39	59.20	9.19
25	59.20	24.69	59.20	21.80	59.20	17.73	59.20	12.25	59.20	11.17	59.20	10.86	59.20	10.57
30	59.20	28.22	59.20	24.91	59.20	20.26	59.20	14.00	59.20	12.82	59.20	12.37	59.20	11.95
35	59.20	33.85	59.20	28.43	59.20	22.96	59.20	18.58	59.20	17.62	59.20	16.34	59.20	15.63
40	59.20	38.34	59.20	31.04	59.20	23.77	59.20	20.59	59.20	19.12	59.20	18.02	59.20	17.08
45	59.20	48.32	59.20	42.76	59.20	34.43	59.20	33.13	59.20	27.13	59.20	25.68	59.20	24.70
48	56.74	59.78	59.20	58.27	59.20	51.51	59.20	31.42	59.20	36.75	59.20	35.21	59.20	27.33
52	40.01	35.81	50.02	40.29	55.57	40.29	59.20	34.64	59.20	32.73	59.20	30.55	59.20	30.11

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	59.20	7.01	59.20	6.90	59.20	6.88	59.20	6.85	59.20	6.83	59.20	6.80
-10	59.20	7.03	59.20	6.93	59.20	6.90	59.20	6.88	59.20	6.85	59.20	6.82
-5	59.20	7.09	59.20	6.99	59.20	6.96	59.20	6.93	59.20	6.91	59.20	6.88
0	59.20	7.14	59.20	7.04	59.20	7.01	59.20	6.98	59.20	6.96	59.20	6.93
5	59.20	7.24	59.20	7.13	59.20	7.10	59.20	7.07	59.20	7.04	59.20	7.01
10	59.20	6.93	59.20	6.82	59.20	6.77	59.20	6.72	59.20	6.67	59.20	6.63
15	59.20	7.83	59.20	7.67	59.20	7.58	59.20	7.49	59.20	7.40	59.20	7.31
20	59.20	8.96	59.20	8.74	59.20	8.59	59.20	8.44	59.20	8.29	59.20	8.14
25	59.20	10.25	59.20	9.94	59.20	9.70	59.20	9.48	59.20	9.25	59.20	9.03
30	59.20	11.53	59.20	11.13	59.20	10.80	59.20	10.48	59.20	10.17	59.20	9.86
35	59.20	14.99	59.20	14.37	59.20	13.82	59.20	13.32	59.20	12.81	59.20	12.30
40	59.20	16.82	59.20	16.02	59.20	15.29	59.20	14.62	59.20	13.96	59.20	13.29
45	59.20	19.50	59.20	18.41	59.20	17.39	59.20	16.23	59.20	15.56	59.20	14.74
48	59.20	25.11	59.20	25.09	59.20	24.17	59.20	23.59	59.20	22.12	59.20	16.63
52	59.20	28.17	59.20	26.53	59.20	25.07	59.20	23.83	59.20	23.48	59.20	22.94

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 45RT / 30% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	44.40	11.10	44.40	10.12	44.40	8.02	44.40	6.33	44.40	5.70	44.40	5.66	44.40	5.63
-10	44.40	11.15	44.40	10.21	44.40	8.12	44.40	6.35	44.40	5.72	44.40	5.68	44.40	5.65
-5	44.40	11.24	44.40	10.30	44.40	8.19	44.40	6.40	44.40	5.77	44.40	5.73	44.40	5.69
0	44.40	11.33	44.40	10.38	44.40	8.26	44.40	6.45	44.40	5.82	44.40	5.78	44.40	5.74
5	44.40	11.69	44.40	10.53	44.40	8.38	44.40	6.55	44.40	5.90	44.40	5.86	44.40	5.82
10	44.40	12.62	44.40	11.37	44.40	9.12	44.40	6.31	44.40	5.69	44.40	5.64	44.40	5.58
15	44.40	13.81	44.40	12.96	44.40	10.41	44.40	7.19	44.40	6.51	44.40	6.42	44.40	6.32
20	44.40	16.85	44.40	14.98	44.40	12.08	44.40	8.35	44.40	7.59	44.40	7.43	44.40	7.27
25	44.40	19.54	44.40	17.25	44.40	14.03	44.40	9.70	44.40	8.84	44.40	8.59	44.40	8.36
30	44.40	22.32	44.40	19.70	44.40	16.03	44.40	11.08	44.40	10.14	44.40	9.79	44.40	9.45
35	44.40	26.78	44.40	22.50	44.40	18.17	44.40	14.70	44.40	13.94	44.40	12.93	44.40	12.37
40	44.40	30.34	44.40	24.56	44.40	18.80	44.40	16.29	44.40	15.12	44.40	14.25	44.40	13.51
45	44.40	38.23	44.40	33.83	44.40	27.24	44.40	26.21	44.40	21.47	44.40	20.32	44.40	19.54
48	44.40	49.65	44.40	46.10	44.40	40.75	44.40	24.86	44.40	29.08	44.40	27.86	44.40	21.62
52	40.01	35.81	44.40	34.84	44.40	31.87	44.40	27.41	44.40	25.90	44.40	24.17	44.40	23.82

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	44.40	5.54	44.40	5.46	44.40	5.44	44.40	5.42	44.40	5.40	44.40	5.38
-10	44.40	5.56	44.40	5.48	44.40	5.46	44.40	5.44	44.40	5.42	44.40	5.40
-5	44.40	5.61	44.40	5.53	44.40	5.51	44.40	5.49	44.40	5.47	44.40	5.44
0	44.40	5.65	44.40	5.57	44.40	5.55	44.40	5.52	44.40	5.50	44.40	5.48
5	44.40	5.73	44.40	5.64	44.40	5.62	44.40	5.59	44.40	5.57	44.40	5.54
10	44.40	5.49	44.40	5.39	44.40	5.35	44.40	5.32	44.40	5.28	44.40	5.24
15	44.40	6.19	44.40	6.06	44.40	5.99	44.40	5.92	44.40	5.85	44.40	5.78
20	44.40	7.09	44.40	6.91	44.40	6.79	44.40	6.68	44.40	6.56	44.40	6.44
25	44.40	8.11	44.40	7.87	44.40	7.68	44.40	7.50	44.40	7.32	44.40	7.14
30	44.40	9.13	44.40	8.81	44.40	8.54	44.40	8.29	44.40	8.05	44.40	7.80
35	44.40	11.86	44.40	11.37	44.40	10.94	44.40	10.53	44.40	10.13	44.40	9.73
40	44.40	13.31	44.40	12.67	44.40	12.10	44.40	11.57	44.40	11.04	44.40	10.51
45	44.40	15.43	44.40	14.57	44.40	13.76	44.40	12.84	44.40	12.31	44.40	11.66
48	44.40	19.87	44.40	19.85	44.40	19.12	44.40	18.66	44.40	17.50	44.40	13.16
52	44.40	22.29	44.40	20.99	44.40	19.84	44.40	18.86	44.40	18.57	44.40	18.15

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 45RT / 20% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	29.60	7.67	29.60	6.99	29.60	5.54	29.60	4.37	29.60	3.94	29.60	3.91	29.60	3.89
-10	29.60	7.70	29.60	7.05	29.60	5.61	29.60	4.39	29.60	3.95	29.60	3.93	29.60	3.90
-5	29.60	7.76	29.60	7.11	29.60	5.66	29.60	4.42	29.60	3.99	29.60	3.96	29.60	3.93
0	29.60	7.83	29.60	7.17	29.60	5.70	29.60	4.46	29.60	4.02	29.60	3.99	29.60	3.96
5	29.60	8.08	29.60	7.27	29.60	5.79	29.60	4.52	29.60	4.08	29.60	4.05	29.60	4.02
10	29.60	8.72	29.60	7.85	29.60	6.30	29.60	4.36	29.60	3.93	29.60	3.89	29.60	3.86
15	29.60	9.54	29.60	8.96	29.60	7.19	29.60	4.97	29.60	4.50	29.60	4.43	29.60	4.37
20	29.60	11.64	29.60	10.35	29.60	8.35	29.60	5.77	29.60	5.24	29.60	5.13	29.60	5.02
25	29.60	13.50	29.60	11.91	29.60	9.69	29.60	6.70	29.60	6.11	29.60	5.94	29.60	5.77
30	29.60	15.42	29.60	13.61	29.60	11.07	29.60	7.65	29.60	7.00	29.60	6.76	29.60	6.53
35	29.60	18.50	29.60	15.54	29.60	12.55	29.60	10.16	29.60	9.63	29.60	8.93	29.60	8.54
40	29.60	20.96	29.60	16.96	29.60	12.99	29.60	11.25	29.60	10.45	29.60	9.85	29.60	9.33
45	29.60	26.41	29.60	23.37	29.60	18.82	29.60	18.10	29.60	14.83	29.60	14.03	29.60	13.50
48	29.60	34.30	29.60	31.85	29.60	28.15	29.60	17.17	29.60	20.09	29.60	19.24	29.60	14.94
52	29.60	25.81	29.60	24.06	29.60	22.02	29.60	18.93	29.60	17.89	29.60	16.70	29.60	16.45

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	29.60	3.83	29.60	3.77	29.60	3.76	29.60	3.74	29.60	3.73	29.60	3.72
-10	29.60	3.84	29.60	3.79	29.60	3.77	29.60	3.76	29.60	3.74	29.60	3.73
-5	29.60	3.88	29.60	3.82	29.60	3.80	29.60	3.79	29.60	3.78	29.60	3.76
0	29.60	3.90	29.60	3.85	29.60	3.83	29.60	3.82	29.60	3.80	29.60	3.79
5	29.60	3.96	29.60	3.90	29.60	3.88	29.60	3.86	29.60	3.85	29.60	3.83
10	29.60	3.79	29.60	3.72	29.60	3.70	29.60	3.67	29.60	3.65	29.60	3.62
15	29.60	4.28	29.60	4.19	29.60	4.14	29.60	4.09	29.60	4.04	29.60	4.00
20	29.60	4.90	29.60	4.78	29.60	4.69	29.60	4.61	29.60	4.53	29.60	4.45
25	29.60	5.60	29.60	5.43	29.60	5.30	29.60	5.18	29.60	5.06	29.60	4.93
30	29.60	6.30	29.60	6.08	29.60	5.90	29.60	5.73	29.60	5.56	29.60	5.39
35	29.60	8.19	29.60	7.85	29.60	7.55	29.60	7.28	29.60	7.00	29.60	6.72
40	29.60	9.19	29.60	8.76	29.60	8.36	29.60	7.99	29.60	7.63	29.60	7.26
45	29.60	10.66	29.60	10.06	29.60	9.50	29.60	8.87	29.60	8.50	29.60	8.06
48	29.60	13.72	29.60	13.71	29.60	13.21	29.60	12.89	29.60	12.09	29.60	9.09
52	29.60	15.39	29.60	14.50	29.60	13.70	29.60	13.03	29.60	12.83	29.60	12.54

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

■ KCAH050VDTC / KCAH050LDTC / KCAH050HDTC

◆ 50RT / 100% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	147.0	34.75	166.5	34.85	171.0	31.14	171.0	25.23	171.0	22.73	171.0	22.59	171.0	22.44
-10	147.0	34.87	166.5	34.98	171.0	31.25	171.0	25.32	171.0	22.82	171.0	22.67	171.0	22.52
-5	147.0	35.17	166.5	35.27	171.0	31.52	171.0	25.53	171.0	23.01	171.0	22.86	171.0	22.71
0	147.0	35.44	166.5	35.55	171.0	31.77	171.0	25.73	171.0	23.19	171.0	23.04	171.0	22.88
5	147.0	35.97	166.5	36.08	171.0	32.24	171.0	26.11	171.0	23.54	171.0	23.37	171.0	23.20
10	147.0	38.83	166.5	38.95	171.0	34.80	171.0	28.19	171.0	25.45	171.0	25.20	171.0	24.95
15	133.4	42.49	166.5	44.43	171.0	39.70	171.0	32.16	171.0	29.11	171.0	28.68	171.0	28.27
20	129.4	46.17	161.7	51.35	171.0	46.09	171.0	37.33	171.0	33.91	171.0	33.20	171.0	32.52
25	129.4	52.54	161.7	59.11	171.0	53.51	171.0	43.34	171.0	39.52	171.0	38.42	171.0	37.37
30	129.4	60.03	161.7	67.53	171.0	61.14	171.0	49.52	171.0	45.33	171.0	43.75	171.0	42.26
35	126.6	68.86	158.2	77.47	171.0	72.57	171.0	58.05	171.0	55.16	171.0	51.04	171.0	48.84
40	122.5	76.57	153.1	86.14	167.6	82.57	171.0	66.52	171.0	61.76	171.0	58.20	171.0	55.17
45	104.8	80.58	126.4	87.66	138.6	86.44	141.6	69.14	153.9	68.67	162.5	66.85	171.0	64.54
48	82.56	70.68	103.2	78.00	114.7	77.84	122.7	64.47	133.4	65.38	139.7	64.50	145.9	63.35
52	58.21	52.36	72.77	58.90	80.85	58.90	87.90	52.51	95.40	53.77	100.2	52.40	105.0	51.21

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	171.0	22.11	171.0	21.78	171.0	21.70	171.0	21.62	171.0	21.54	171.0	21.46
-10	171.0	22.19	171.0	21.86	171.0	21.78	171.0	21.70	171.0	21.61	171.0	21.53
-5	171.0	22.37	171.0	22.05	171.0	21.96	171.0	21.88	171.0	21.80	171.0	21.71
0	171.0	22.54	171.0	22.21	171.0	22.12	171.0	22.03	171.0	21.95	171.0	21.86
5	171.0	22.85	171.0	22.51	171.0	22.41	171.0	22.31	171.0	22.21	171.0	22.11
10	171.0	24.53	171.0	24.11	171.0	23.94	171.0	23.77	171.0	23.60	171.0	23.43
15	171.0	27.68	171.0	27.11	171.0	26.79	171.0	26.48	171.0	26.17	171.0	25.86
20	171.0	31.70	171.0	30.91	171.0	30.36	171.0	29.84	171.0	29.32	171.0	28.80
25	171.0	36.25	171.0	35.16	171.0	34.32	171.0	33.52	171.0	32.72	171.0	31.92
30	171.0	40.80	171.0	39.37	171.0	38.19	171.0	37.08	171.0	35.97	171.0	34.86
35	171.0	46.82	171.0	44.89	171.0	43.18	171.0	41.59	171.0	40.01	171.0	38.43
40	171.0	52.54	171.0	50.05	171.0	47.77	171.0	45.68	171.0	43.60	171.0	41.52
45	171.0	60.44	171.0	57.06	171.0	53.90	171.0	50.30	171.0	48.21	171.0	45.68
48	152.2	61.20	158.5	59.47	164.7	57.86	171.0	56.05	171.0	55.04	171.0	53.79
52	109.8	50.18	114.6	49.26	119.4	48.45	124.2	48.46	125.1	47.02	126.4	45.81

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 50RT / 90% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	147.0	34.75	153.9	31.09	153.9	26.66	153.9	21.60	153.9	19.46	153.9	19.34	153.9	19.21
-10	147.0	34.87	153.9	31.20	153.9	26.76	153.9	21.67	153.9	19.53	153.9	19.41	153.9	19.28
-5	147.0	35.17	153.9	31.46	153.9	26.98	153.9	21.86	153.9	19.70	153.9	19.57	153.9	19.44
0	147.0	35.44	153.9	31.71	153.9	27.20	153.9	22.03	153.9	19.86	153.9	19.72	153.9	19.59
5	147.0	35.97	153.9	32.18	153.9	27.60	153.9	22.35	153.9	20.15	153.9	20.01	153.9	19.87
10	147.0	38.83	153.9	34.74	153.9	29.79	153.9	24.13	153.9	21.79	153.9	21.57	153.9	21.36
15	133.4	42.49	153.9	39.63	153.9	33.99	153.9	27.53	153.9	24.92	153.9	24.55	153.9	24.20
20	129.4	46.17	153.9	46.27	153.9	39.46	153.9	31.96	153.9	29.03	153.9	28.42	153.9	27.84
25	129.4	52.54	153.9	54.29	153.9	45.81	153.9	37.11	153.9	33.83	153.9	32.89	153.9	31.99
30	129.4	60.03	153.9	62.03	153.9	52.34	153.9	42.40	153.9	38.81	153.9	37.45	153.9	36.18
35	126.6	68.86	153.9	72.71	153.9	62.72	153.9	49.70	153.9	45.75	153.9	43.69	153.9	41.81
40	122.5	76.57	153.1	85.63	153.9	72.77	153.9	57.01	153.9	52.77	153.9	49.88	153.9	47.28
45	104.8	80.58	126.4	87.66	138.6	83.75	141.6	66.13	153.9	64.84	153.9	59.75	153.9	55.32
48	82.56	70.68	103.2	78.49	114.7	77.84	122.7	64.47	133.4	65.38	139.7	62.64	145.9	60.26
52	58.21	52.36	72.77	58.90	80.85	58.90	87.90	52.51	95.40	53.77	100.2	52.40	105.0	51.21

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	153.9	18.93	153.9	18.65	153.9	18.58	153.9	18.51	153.9	18.44	153.9	18.37
-10	153.9	18.99	153.9	18.72	153.9	18.64	153.9	18.57	153.9	18.50	153.9	18.43
-5	153.9	19.15	153.9	18.87	153.9	18.80	153.9	18.73	153.9	18.66	153.9	18.59
0	153.9	19.30	153.9	19.01	153.9	18.94	153.9	18.86	153.9	18.79	153.9	18.71
5	153.9	19.56	153.9	19.27	153.9	19.18	153.9	19.10	153.9	19.01	153.9	18.93
10	153.9	21.00	153.9	20.64	153.9	20.49	153.9	20.35	153.9	20.21	153.9	20.06
15	153.9	23.70	153.9	23.21	153.9	22.94	153.9	22.67	153.9	22.40	153.9	22.14
20	153.9	27.14	153.9	26.46	153.9	26.00	153.9	25.55	153.9	25.10	153.9	24.65
25	153.9	31.03	153.9	30.10	153.9	29.38	153.9	28.70	153.9	28.01	153.9	27.33
30	153.9	34.93	153.9	33.71	153.9	32.70	153.9	31.74	153.9	30.79	153.9	29.84
35	153.9	40.09	153.9	38.43	153.9	36.96	153.9	35.61	153.9	34.25	153.9	32.90
40	153.9	45.03	153.9	42.89	153.9	40.94	153.9	39.15	153.9	37.37	153.9	35.59
45	153.9	51.80	153.9	48.91	153.9	46.20	153.9	43.12	153.9	41.33	153.9	39.16
48	152.2	58.33	153.9	54.45	153.9	51.24	153.9	48.05	153.9	46.52	153.9	44.39
52	109.8	50.18	114.6	49.26	119.4	48.45	124.2	48.46	125.1	47.02	126.4	45.81

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 50RT / 80% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	147.0	34.75	153.9	31.09	153.9	26.66	153.9	21.60	153.9	19.46	153.9	19.34	136.8	16.21
-10	147.0	34.87	153.9	31.20	153.9	26.76	153.9	21.67	153.9	19.53	153.9	19.41	136.8	16.26
-5	147.0	35.17	153.9	31.46	153.9	26.98	153.9	21.86	153.9	19.70	153.9	19.57	136.8	16.40
0	147.0	35.44	153.9	31.71	153.9	27.20	153.9	22.03	153.9	19.86	153.9	19.72	136.8	16.53
5	147.0	35.97	153.9	32.18	153.9	27.60	153.9	22.35	153.9	20.15	153.9	20.01	136.8	16.76
10	147.0	38.83	153.9	34.74	153.9	29.79	153.9	24.13	153.9	21.79	153.9	21.57	136.8	18.02
15	133.4	39.93	136.8	33.83	136.8	28.76	136.8	23.22	136.8	21.02	136.8	20.71	136.8	20.41
20	129.4	46.17	136.8	39.50	136.8	33.38	136.8	26.87	136.8	24.40	136.8	23.98	136.8	23.49
25	129.4	52.54	136.8	46.34	136.8	38.84	136.8	31.00	136.8	28.19	136.8	27.69	136.8	26.99
30	129.4	60.03	136.8	52.95	136.8	44.72	136.8	35.47	136.8	32.19	136.8	31.29	136.8	30.52
35	126.6	68.86	136.8	62.07	136.8	53.46	136.8	41.93	136.8	38.60	136.8	36.86	136.8	35.27
40	122.5	76.57	136.8	73.37	136.8	62.13	136.8	48.04	136.8	44.47	136.8	42.03	136.8	39.84
45	104.8	80.58	126.4	84.83	136.8	76.78	136.8	60.77	136.8	55.40	136.8	50.41	136.8	46.61
48	82.56	70.68	103.2	78.49	114.7	76.63	122.7	63.47	133.4	62.30	136.8	58.25	136.8	53.69
52	58.21	52.36	72.77	58.90	80.85	58.90	87.90	52.51	95.40	53.77	100.2	52.40	105.0	51.21

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	136.8	15.97	136.8	15.73	136.8	15.67	136.8	15.61	136.8	15.55	136.8	15.50
-10	136.8	16.02	136.8	15.79	136.8	15.73	136.8	15.67	136.8	15.61	136.8	15.55
-5	136.8	16.16	136.8	15.92	136.8	15.86	136.8	15.80	136.8	15.74	136.8	15.68
0	136.8	16.28	136.8	16.04	136.8	15.98	136.8	15.91	136.8	15.85	136.8	15.79
5	136.8	16.50	136.8	16.25	136.8	16.18	136.8	16.11	136.8	16.04	136.8	15.97
10	136.8	17.71	136.8	17.41	136.8	17.29	136.8	17.17	136.8	17.05	136.8	16.93
15	136.8	19.99	136.8	19.58	136.8	19.35	136.8	19.13	136.8	18.90	136.8	18.68
20	136.8	22.90	136.8	22.32	136.8	21.93	136.8	21.55	136.8	21.17	136.8	20.80
25	136.8	26.18	136.8	25.39	136.8	24.79	136.8	24.21	136.8	23.63	136.8	23.05
30	136.8	29.46	136.8	28.44	136.8	27.58	136.8	26.78	136.8	25.98	136.8	25.17
35	136.8	33.82	136.8	32.42	136.8	31.18	136.8	30.04	136.8	28.90	136.8	27.75
40	136.8	37.95	136.8	36.15	136.8	34.50	136.8	32.99	136.8	31.49	136.8	29.99
45	136.8	43.65	136.8	41.21	136.8	38.92	136.8	36.33	136.8	34.82	136.8	32.99
48	136.8	49.95	136.8	45.95	136.8	43.24	136.8	40.48	136.8	39.12	136.8	37.26
52	109.8	50.18	114.6	49.26	119.4	48.45	124.2	48.46	125.1	47.02	126.4	45.81

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 50RT / 70% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	119.7	26.37	119.7	22.49	119.7	19.19	119.7	15.19	119.7	13.68	119.7	13.60	119.7	13.51
-10	119.7	26.46	119.7	22.57	119.7	19.25	119.7	15.24	119.7	13.74	119.7	13.65	119.7	13.56
-5	119.7	26.68	119.7	22.76	119.7	19.42	119.7	15.37	119.7	13.85	119.7	13.76	119.7	13.67
0	119.7	26.90	119.7	22.94	119.7	19.57	119.7	15.49	119.7	13.96	119.7	13.87	119.7	13.77
5	119.7	27.29	119.7	23.28	119.7	19.86	119.7	15.72	119.7	14.17	119.7	14.07	119.7	13.97
10	119.7	29.46	119.7	25.13	119.7	21.44	119.7	16.97	119.7	15.32	119.7	15.17	119.7	15.02
15	119.7	34.20	119.7	28.67	119.7	24.46	119.7	19.36	119.7	17.52	119.7	17.27	119.7	17.02
20	119.7	40.67	119.7	33.45	119.7	28.39	119.7	22.47	119.7	20.16	119.7	19.79	119.7	19.39
25	119.7	47.43	119.7	39.21	119.7	33.03	119.7	25.98	119.7	23.08	119.7	22.56	119.7	21.97
30	119.7	54.19	119.7	44.80	119.7	38.03	119.7	29.21	119.7	27.10	119.7	26.18	119.7	25.26
35	119.7	63.90	119.7	53.04	119.7	45.46	119.7	34.95	119.7	32.17	119.7	30.72	119.7	29.40
40	119.7	74.00	119.7	61.05	119.7	52.84	119.7	40.04	119.7	37.07	119.7	35.03	119.7	33.21
45	104.8	80.58	119.7	75.58	119.7	65.30	119.7	51.59	119.7	46.44	119.7	42.27	119.7	38.85
48	82.56	70.68	103.2	76.18	114.7	72.70	119.7	59.40	119.7	54.41	119.7	49.57	119.7	45.51
52	58.21	52.36	72.77	58.90	80.85	58.90	87.90	52.51	95.40	53.77	100.2	52.40	105.0	51.21

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	119.7	13.31	119.7	13.11	119.7	13.06	119.7	13.01	119.7	12.97	119.7	12.92
-10	119.7	13.36	119.7	13.16	119.7	13.11	119.7	13.06	119.7	13.01	119.7	12.96
-5	119.7	13.47	119.7	13.27	119.7	13.22	119.7	13.17	119.7	13.12	119.7	13.07
0	119.7	13.57	119.7	13.37	119.7	13.32	119.7	13.26	119.7	13.21	119.7	13.16
5	119.7	13.76	119.7	13.55	119.7	13.49	119.7	13.43	119.7	13.37	119.7	13.31
10	119.7	14.76	119.7	14.51	119.7	14.41	119.7	14.31	119.7	14.21	119.7	14.11
15	119.7	16.66	119.7	16.32	119.7	16.13	119.7	15.94	119.7	15.75	119.7	15.57
20	119.7	19.07	119.7	18.61	119.7	18.28	119.7	17.96	119.7	17.65	119.7	17.33
25	119.7	21.77	119.7	21.17	119.7	20.66	119.7	20.18	119.7	19.70	119.7	19.22
30	119.7	24.56	119.7	23.70	119.7	22.99	119.7	22.32	119.7	21.65	119.7	20.98
35	119.7	28.19	119.7	27.02	119.7	25.99	119.7	25.04	119.7	24.09	119.7	23.13
40	119.7	31.63	119.7	30.13	119.7	28.75	119.7	27.50	119.7	26.25	119.7	24.99
45	119.7	36.38	119.7	34.35	119.7	32.44	119.7	30.28	119.7	29.02	119.7	27.50
48	119.7	41.64	119.7	38.89	119.7	36.42	119.7	34.16	119.7	33.08	119.7	31.12
52	109.8	50.18	114.6	49.26	119.4	48.45	119.7	46.15	119.7	43.96	119.7	41.78

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 50RT / 60% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	102.6	21.32	102.6	18.18	102.6	15.51	102.6	12.36	102.6	11.14	102.6	11.07	102.6	10.99
-10	102.6	21.39	102.6	18.25	102.6	15.57	102.6	12.40	102.6	11.18	102.6	11.11	102.6	11.03
-5	102.6	21.58	102.6	18.40	102.6	15.70	102.6	12.51	102.6	11.27	102.6	11.20	102.6	11.13
0	102.6	21.75	102.6	18.55	102.6	15.82	102.6	12.61	102.6	11.36	102.6	11.29	102.6	11.21
5	102.6	22.07	102.6	18.82	102.6	16.06	102.6	12.79	102.6	11.53	102.6	11.45	102.6	11.37
10	102.6	23.82	102.6	20.32	102.6	17.33	102.6	13.81	102.6	12.47	102.6	12.35	102.6	12.23
15	102.6	27.65	102.6	23.18	102.6	19.77	102.6	15.75	102.6	14.26	102.6	14.05	102.6	13.85
20	102.6	32.89	102.6	27.05	102.6	22.96	102.6	18.29	102.6	16.61	102.6	16.27	102.6	15.93
25	102.6	38.35	102.6	31.71	102.6	26.71	102.6	21.24	102.6	19.36	102.6	18.82	102.6	18.31
30	102.6	43.82	102.6	36.23	102.6	30.75	102.6	24.26	102.6	22.21	102.6	21.43	102.6	20.71
35	102.6	51.67	102.6	42.89	102.6	36.76	102.6	28.44	102.6	26.18	102.6	25.00	102.6	23.93
40	102.6	59.83	102.6	49.36	102.6	42.72	102.6	32.59	102.6	30.17	102.6	28.51	102.6	27.03
45	102.6	72.46	102.6	61.11	102.6	52.80	102.6	41.85	102.6	37.63	102.6	34.26	102.6	31.62
48	82.56	69.34	102.6	69.37	102.6	60.87	102.6	48.02	102.6	43.99	102.6	40.08	102.6	36.87
52	58.21	52.36	72.77	58.90	80.85	58.90	87.90	52.51	95.40	53.77	100.2	52.40	102.6	47.86

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	102.6	10.83	102.6	10.67	102.6	10.63	102.6	10.59	102.6	10.55	102.6	10.51
-10	102.6	10.87	102.6	10.71	102.6	10.67	102.6	10.63	102.6	10.59	102.6	10.55
-5	102.6	10.96	102.6	10.80	102.6	10.76	102.6	10.72	102.6	10.68	102.6	10.64
0	102.6	11.04	102.6	10.88	102.6	10.84	102.6	10.79	102.6	10.75	102.6	10.71
5	102.6	11.19	102.6	11.03	102.6	10.98	102.6	10.93	102.6	10.88	102.6	10.83
10	102.6	12.02	102.6	11.81	102.6	11.73	102.6	11.65	102.6	11.56	102.6	11.48
15	102.6	13.56	102.6	13.28	102.6	13.13	102.6	12.97	102.6	12.82	102.6	12.67
20	102.6	15.53	102.6	15.14	102.6	14.88	102.6	14.62	102.6	14.36	102.6	14.11
25	102.6	17.76	102.6	17.23	102.6	16.82	102.6	16.42	102.6	16.03	102.6	15.64
30	102.6	19.99	102.6	19.29	102.6	18.71	102.6	18.17	102.6	17.62	102.6	17.08
35	102.6	22.94	102.6	21.99	102.6	21.15	102.6	20.38	102.6	19.60	102.6	18.83
40	102.6	25.74	102.6	24.52	102.6	23.40	102.6	22.38	102.6	21.36	102.6	20.34
45	102.6	29.61	102.6	27.96	102.6	26.41	102.6	24.65	102.6	23.62	102.6	22.38
48	102.6	33.74	102.6	31.51	102.6	29.51	102.6	27.46	102.6	26.37	102.6	24.56
52	102.6	44.76	102.6	41.90	102.6	39.29	102.6	37.31	102.6	35.34	102.6	33.36

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 50RT / 50% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	85.50	16.52	85.50	14.09	85.50	12.02	85.50	9.47	85.50	8.53	85.50	8.48	85.50	8.42
-10	85.50	16.58	85.50	14.14	85.50	12.06	85.50	9.50	85.50	8.56	85.50	8.51	85.50	8.45
-5	85.50	16.72	85.50	14.26	85.50	12.16	85.50	9.58	85.50	8.64	85.50	8.58	85.50	8.52
0	85.50	16.85	85.50	14.37	85.50	12.26	85.50	9.66	85.50	8.71	85.50	8.65	85.50	8.59
5	85.50	17.10	85.50	14.58	85.50	12.44	85.50	9.80	85.50	8.84	85.50	8.77	85.50	8.71
10	85.50	18.46	85.50	15.74	85.50	13.43	85.50	10.58	85.50	9.55	85.50	9.46	85.50	9.37
15	85.50	21.42	85.50	17.96	85.50	15.32	85.50	12.07	85.50	10.92	85.50	10.76	85.50	10.61
20	85.50	25.48	85.50	20.96	85.50	17.79	85.50	14.01	85.50	12.72	85.50	12.46	85.50	12.21
25	85.50	29.71	85.50	24.56	85.50	20.69	85.50	16.27	85.50	14.83	85.50	14.42	85.50	14.03
30	85.50	33.95	85.50	28.07	85.50	23.82	85.50	18.59	85.50	17.01	85.50	16.42	85.50	15.86
35	85.50	40.03	85.50	33.23	85.50	28.48	85.50	21.79	85.50	20.06	85.50	19.15	85.50	18.33
40	85.50	46.36	85.50	38.24	85.50	33.10	85.50	24.96	85.50	23.11	85.50	21.84	85.50	20.71
45	85.50	56.14	85.50	47.35	85.50	40.91	85.50	32.08	85.50	28.84	85.50	26.25	85.50	24.55
48	82.56	61.48	85.50	53.75	85.50	47.16	85.50	36.81	85.50	33.71	85.50	30.72	85.50	28.43
52	58.21	49.64	72.77	55.84	80.85	55.84	85.50	46.42	85.50	43.79	85.50	40.63	85.50	36.68

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	85.50	8.30	85.50	8.18	85.50	8.15	85.50	8.11	85.50	8.08	85.50	8.05
-10	85.50	8.33	85.50	8.21	85.50	8.17	85.50	8.14	85.50	8.11	85.50	8.08
-5	85.50	8.40	85.50	8.27	85.50	8.24	85.50	8.21	85.50	8.18	85.50	8.15
0	85.50	8.46	85.50	8.34	85.50	8.30	85.50	8.27	85.50	8.24	85.50	8.20
5	85.50	8.58	85.50	8.45	85.50	8.41	85.50	8.37	85.50	8.33	85.50	8.30
10	85.50	9.20	85.50	9.05	85.50	8.98	85.50	8.92	85.50	8.86	85.50	8.80
15	85.50	10.39	85.50	10.17	85.50	10.06	85.50	9.94	85.50	9.82	85.50	9.71
20	85.50	11.90	85.50	11.60	85.50	11.40	85.50	11.20	85.50	11.00	85.50	10.81
25	85.50	13.61	85.50	13.20	85.50	12.88	85.50	12.58	85.50	12.28	85.50	11.98
30	85.50	15.31	85.50	14.78	85.50	14.33	85.50	13.92	85.50	13.50	85.50	13.08
35	85.50	17.57	85.50	16.85	85.50	16.21	85.50	15.61	85.50	15.02	85.50	14.42
40	85.50	19.72	85.50	18.78	85.50	17.93	85.50	17.15	85.50	16.37	85.50	15.58
45	85.50	22.68	85.50	21.42	85.50	20.23	85.50	18.88	85.50	18.10	85.50	17.15
48	85.50	25.85	85.50	24.15	85.50	22.61	85.50	21.04	85.50	20.19	85.50	18.80
52	85.50	34.30	85.50	32.11	85.50	30.11	85.50	28.60	85.50	27.08	85.50	25.57

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 50RT / 40% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	68.40	14.24	68.40	12.14	68.40	10.36	68.40	8.50	68.40	7.66	68.40	7.61	68.40	7.56
-10	68.40	14.29	68.40	12.19	68.40	10.40	68.40	8.53	68.40	7.69	68.40	7.64	68.40	7.59
-5	68.40	14.41	68.40	12.29	68.40	10.48	68.40	8.61	68.40	7.76	68.40	7.71	68.40	7.65
0	68.40	14.52	68.40	12.39	68.40	10.57	68.40	8.67	68.40	7.82	68.40	7.77	68.40	7.71
5	68.40	14.73	68.40	12.57	68.40	10.72	68.40	8.80	68.40	7.94	68.40	7.88	68.40	7.82
10	68.40	15.91	68.40	13.57	68.40	11.57	68.40	9.50	68.40	8.58	68.40	8.49	68.40	8.41
15	68.40	18.46	68.40	15.48	68.40	13.20	68.40	10.84	68.40	9.81	68.40	9.67	68.40	9.53
20	68.40	21.96	68.40	18.06	68.40	15.33	68.40	12.58	68.40	11.43	68.40	11.19	68.40	10.96
25	68.40	25.61	68.40	21.17	68.40	17.83	68.40	14.61	68.40	13.32	68.40	12.95	68.40	12.60
30	68.40	29.26	68.40	24.19	68.40	20.53	68.40	16.69	68.40	15.28	68.40	14.75	68.40	14.25
35	68.40	34.50	68.40	28.64	68.40	24.55	68.40	19.57	68.40	18.01	68.40	17.20	68.40	16.46
40	68.40	39.95	68.40	32.96	68.40	28.53	68.40	22.42	68.40	20.76	68.40	19.62	68.40	18.60
45	68.40	48.16	68.40	40.80	68.40	35.26	68.40	27.13	68.40	24.74	68.40	22.54	68.40	21.16
48	68.40	52.67	68.40	46.17	68.40	40.67	68.40	30.36	68.40	27.81	68.40	25.34	68.40	23.49
52	58.21	52.36	68.40	52.62	68.40	49.57	68.40	38.07	68.40	35.57	68.40	32.68	68.40	30.18

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	68.40	7.45	68.40	7.34	68.40	7.32	68.40	7.29	68.40	7.26	68.40	7.23
-10	68.40	7.48	68.40	7.37	68.40	7.34	68.40	7.31	68.40	7.29	68.40	7.26
-5	68.40	7.54	68.40	7.43	68.40	7.40	68.40	7.38	68.40	7.35	68.40	7.32
0	68.40	7.60	68.40	7.49	68.40	7.46	68.40	7.43	68.40	7.40	68.40	7.37
5	68.40	7.70	68.40	7.59	68.40	7.55	68.40	7.52	68.40	7.49	68.40	7.45
10	68.40	8.27	68.40	8.13	68.40	8.07	68.40	8.01	68.40	7.96	68.40	7.90
15	68.40	9.33	68.40	9.14	68.40	9.03	68.40	8.93	68.40	8.82	68.40	8.72
20	68.40	10.69	68.40	10.42	68.40	10.24	68.40	10.06	68.40	9.88	68.40	9.71
25	68.40	12.22	68.40	11.85	68.40	11.57	68.40	11.30	68.40	11.03	68.40	10.76
30	68.40	13.75	68.40	13.27	68.40	12.87	68.40	12.50	68.40	12.12	68.40	11.75
35	68.40	15.78	68.40	15.13	68.40	14.55	68.40	14.02	68.40	13.49	68.40	12.95
40	68.40	17.71	68.40	16.87	68.40	16.10	68.40	15.40	68.40	14.70	68.40	14.00
45	68.40	20.37	68.40	19.24	68.40	18.17	68.40	16.96	68.40	16.25	68.40	15.40
48	68.40	21.79	68.40	20.36	68.40	19.07	68.40	18.00	68.40	17.57	68.40	16.67
52	68.40	28.00	68.40	25.84	68.40	24.15	68.40	22.99	68.40	21.84	68.40	20.68

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 50RT / 30% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	51.30	10.91	51.30	9.31	51.30	7.94	51.30	6.58	51.30	5.93	51.30	5.89	51.30	5.85
-10	51.30	10.95	51.30	9.34	51.30	7.97	51.30	6.60	51.30	5.95	51.30	5.91	51.30	5.87
-5	51.30	11.05	51.30	9.42	51.30	8.04	51.30	6.65	51.30	6.00	51.30	5.96	51.30	5.92
0	51.30	11.13	51.30	9.50	51.30	8.10	51.30	6.71	51.30	6.05	51.30	6.01	51.30	5.97
5	51.30	11.30	51.30	9.64	51.30	8.22	51.30	6.81	51.30	6.14	51.30	6.09	51.30	6.05
10	51.30	12.20	51.30	10.40	51.30	8.87	51.30	7.35	51.30	6.64	51.30	6.57	51.30	6.51
15	51.30	14.16	51.30	11.87	51.30	10.12	51.30	8.38	51.30	7.59	51.30	7.48	51.30	7.37
20	51.30	16.84	51.30	13.85	51.30	11.75	51.30	9.73	51.30	8.84	51.30	8.65	51.30	8.48
25	51.30	19.63	51.30	16.23	51.30	13.67	51.30	11.30	51.30	10.30	51.30	10.01	51.30	9.74
30	51.30	22.43	51.30	18.55	51.30	15.74	51.30	12.91	51.30	11.82	51.30	11.40	51.30	11.02
35	51.30	26.45	51.30	21.96	51.30	18.82	51.30	15.13	51.30	13.93	51.30	13.30	51.30	12.73
40	51.30	30.63	51.30	25.27	51.30	21.87	51.30	17.34	51.30	16.05	51.30	15.17	51.30	14.38
45	51.30	36.67	51.30	31.29	51.30	27.03	51.30	20.85	51.30	18.96	51.30	17.28	51.30	16.27
48	51.30	39.67	51.30	35.14	51.30	31.18	51.30	23.15	51.30	21.21	51.30	19.32	51.30	17.94
52	51.30	43.68	51.30	39.51	51.30	37.80	51.30	28.44	51.30	26.57	51.30	24.41	51.30	22.54

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	51.30	5.76	51.30	5.68	51.30	5.66	51.30	5.64	51.30	5.61	51.30	5.59
-10	51.30	5.78	51.30	5.70	51.30	5.68	51.30	5.66	51.30	5.63	51.30	5.61
-5	51.30	5.83	51.30	5.75	51.30	5.73	51.30	5.70	51.30	5.68	51.30	5.66
0	51.30	5.88	51.30	5.79	51.30	5.77	51.30	5.74	51.30	5.72	51.30	5.70
5	51.30	5.96	51.30	5.87	51.30	5.84	51.30	5.81	51.30	5.79	51.30	5.76
10	51.30	6.39	51.30	6.28	51.30	6.24	51.30	6.20	51.30	6.15	51.30	6.11
15	51.30	7.22	51.30	7.07	51.30	6.98	51.30	6.90	51.30	6.82	51.30	6.74
20	51.30	8.26	51.30	8.06	51.30	7.92	51.30	7.78	51.30	7.64	51.30	7.51
25	51.30	9.45	51.30	9.17	51.30	8.95	51.30	8.74	51.30	8.53	51.30	8.32
30	51.30	10.63	51.30	10.26	51.30	9.96	51.30	9.67	51.30	9.38	51.30	9.09
35	51.30	12.21	51.30	11.70	51.30	11.26	51.30	10.84	51.30	10.43	51.30	10.02
40	51.30	13.70	51.30	13.05	51.30	12.45	51.30	11.91	51.30	11.37	51.30	10.82
45	51.30	15.70	51.30	14.88	51.30	14.05	51.30	13.11	51.30	12.57	51.30	11.91
48	51.30	16.66	51.30	15.59	51.30	14.60	51.30	13.78	51.30	13.36	51.30	12.77
52	51.30	20.92	51.30	19.30	51.30	18.04	51.30	17.18	51.30	16.31	51.30	15.45

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 50RT / 20% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	34.20	7.50	34.20	6.40	34.20	5.46	34.20	4.57	34.20	4.12	34.20	4.09	34.20	4.07
-10	34.20	7.53	34.20	6.42	34.20	5.48	34.20	4.59	34.20	4.14	34.20	4.11	34.20	4.08
-5	34.20	7.59	34.20	6.47	34.20	5.52	34.20	4.63	34.20	4.17	34.20	4.14	34.20	4.12
0	34.20	7.65	34.20	6.53	34.20	5.57	34.20	4.66	34.20	4.20	34.20	4.18	34.20	4.15
5	34.20	7.76	34.20	6.62	34.20	5.65	34.20	4.73	34.20	4.27	34.20	4.24	34.20	4.21
10	34.20	8.38	34.20	7.15	34.20	6.10	34.20	5.11	34.20	4.63	34.20	4.57	34.20	4.52
15	34.20	9.73	34.20	8.16	34.20	6.96	34.20	5.83	34.20	5.29	34.20	5.20	34.20	5.12
20	34.20	11.57	34.20	9.52	34.20	8.08	34.20	6.77	34.20	6.15	34.20	6.02	34.20	5.89
25	34.20	13.49	34.20	11.15	34.20	9.40	34.20	7.86	34.20	7.16	34.20	6.96	34.20	6.77
30	34.20	15.42	34.20	12.75	34.20	10.82	34.20	8.98	34.20	8.22	34.20	7.93	34.20	7.66
35	34.20	18.18	34.20	15.09	34.20	12.93	34.20	10.52	34.20	9.69	34.20	9.25	34.20	8.85
40	34.20	21.05	34.20	17.37	34.20	15.03	34.20	12.06	34.20	11.16	34.20	10.55	34.20	10.00
45	34.20	25.20	34.20	21.50	34.20	18.58	34.20	14.46	34.20	13.13	34.20	11.97	34.20	11.27
48	34.20	27.26	34.20	24.15	34.20	21.43	34.20	15.99	34.20	14.65	34.20	13.35	34.20	12.39
52	34.20	29.56	34.20	27.15	34.20	25.98	34.20	19.45	34.20	18.17	34.20	16.69	34.20	15.41

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	34.20	4.01	34.20	3.95	34.20	3.93	34.20	3.92	34.20	3.90	34.20	3.89
-10	34.20	4.02	34.20	3.96	34.20	3.95	34.20	3.93	34.20	3.92	34.20	3.90
-5	34.20	4.05	34.20	4.00	34.20	3.98	34.20	3.97	34.20	3.95	34.20	3.94
0	34.20	4.09	34.20	4.02	34.20	4.01	34.20	3.99	34.20	3.98	34.20	3.96
5	34.20	4.14	34.20	4.08	34.20	4.06	34.20	4.04	34.20	4.02	34.20	4.01
10	34.20	4.44	34.20	4.37	34.20	4.34	34.20	4.31	34.20	4.28	34.20	4.25
15	34.20	5.02	34.20	4.91	34.20	4.86	34.20	4.80	34.20	4.74	34.20	4.69
20	34.20	5.75	34.20	5.60	34.20	5.50	34.20	5.41	34.20	5.31	34.20	5.22
25	34.20	6.57	34.20	6.37	34.20	6.22	34.20	6.08	34.20	5.93	34.20	5.79
30	34.20	7.39	34.20	7.14	34.20	6.92	34.20	6.72	34.20	6.52	34.20	6.32
35	34.20	8.49	34.20	8.14	34.20	7.83	34.20	7.54	34.20	7.25	34.20	6.96
40	34.20	9.52	34.20	9.07	34.20	8.66	34.20	8.28	34.20	7.90	34.20	7.53
45	34.20	10.89	34.20	10.34	34.20	9.77	34.20	9.12	34.20	8.74	34.20	8.28
48	34.20	11.52	34.20	10.79	34.20	10.11	34.20	9.54	34.20	9.12	34.20	8.65
52	34.20	14.30	34.20	13.20	34.20	12.33	34.20	11.74	34.20	11.15	34.20	10.56

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

■ KCAH060VDTC / KCAH060LDTC / KCAH060HDTC

◆ 60RT / 100% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	150.0	34.14	170.1	34.70	189.0	34.27	195.0	29.50	195.0	26.58	195.0	26.42	195.0	26.24
-10	150.0	34.29	170.1	35.00	189.0	34.70	195.0	29.61	195.0	26.69	195.0	26.51	195.0	26.34
-5	150.0	34.58	170.1	35.29	189.0	34.99	195.0	29.86	195.0	26.91	195.0	26.73	195.0	26.56
0	150.0	34.85	170.1	35.57	189.0	35.27	195.0	30.09	195.0	27.13	195.0	26.94	195.0	26.76
5	150.0	35.97	170.1	36.09	189.0	35.79	195.0	30.54	195.0	27.53	195.0	27.33	195.0	27.14
10	150.0	38.18	170.1	38.97	189.0	38.37	195.0	32.97	195.0	29.77	195.0	29.47	195.0	29.19
15	150.0	41.78	170.1	44.45	189.0	43.55	195.0	37.61	195.0	34.05	195.0	33.54	195.0	33.06
20	136.1	45.40	170.1	51.08	189.0	51.61	195.0	43.66	195.0	39.66	195.0	38.83	195.0	38.03
25	132.0	51.66	165.0	58.12	189.0	59.92	195.0	50.69	195.0	46.22	195.0	44.93	195.0	43.71
30	132.0	59.03	165.0	66.41	189.0	68.46	195.0	57.92	195.0	53.02	195.0	51.16	195.0	49.43
35	129.2	68.39	161.5	76.94	179.4	76.94	195.0	68.57	195.0	65.00	195.0	60.29	195.0	57.69
40	125.0	76.03	156.2	85.54	173.6	85.54	195.0	78.56	195.0	72.93	195.0	68.74	195.0	65.16
45	106.9	80.65	129.0	89.84	143.3	88.64	161.5	80.84	175.5	81.98	182.0	77.58	188.5	74.63
48	84.24	73.50	105.3	79.86	117.0	80.77	131.0	72.65	142.4	73.96	147.9	70.91	153.4	68.76
52	59.40	53.03	74.25	59.66	82.50	59.66	89.70	53.19	97.50	54.54	102.4	53.14	107.3	51.92

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	195.0	25.85	195.0	25.48	195.0	25.38	195.0	25.28	195.0	25.19	195.0	25.09
-10	195.0	25.95	195.0	25.57	195.0	25.47	195.0	25.38	195.0	25.28	195.0	25.18
-5	195.0	26.17	195.0	25.78	195.0	25.69	195.0	25.59	195.0	25.49	195.0	25.39
0	195.0	26.36	195.0	25.97	195.0	25.87	195.0	25.77	195.0	25.67	195.0	25.56
5	195.0	26.72	195.0	26.32	195.0	26.20	195.0	26.09	195.0	25.97	195.0	25.86
10	195.0	28.68	195.0	28.19	195.0	28.00	195.0	27.80	195.0	27.60	195.0	27.41
15	195.0	32.38	195.0	31.71	195.0	31.33	195.0	30.97	195.0	30.61	195.0	30.24
20	195.0	37.08	195.0	36.15	195.0	35.51	195.0	34.90	195.0	34.29	195.0	33.68
25	195.0	42.40	195.0	41.12	195.0	40.14	195.0	39.20	195.0	38.27	195.0	37.33
30	195.0	47.71	195.0	46.05	195.0	44.67	195.0	43.37	195.0	42.07	195.0	40.77
35	195.0	55.31	195.0	53.02	195.0	51.00	195.0	49.13	195.0	47.26	195.0	45.39
40	195.0	62.06	195.0	59.11	195.0	56.42	195.0	53.96	195.0	51.50	195.0	49.04
45	195.0	71.95	195.0	67.94	195.0	64.17	195.0	59.89	195.0	57.40	195.0	54.39
48	158.9	66.78	164.5	64.22	170.0	61.87	175.5	60.38	176.5	58.82	179.1	57.39
52	112.1	50.86	117.0	49.92	121.9	49.09	126.8	48.48	127.7	48.10	129.0	47.34

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 60RT / 90% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	150.0	34.17	170.1	34.87	175.5	31.08	175.5	25.24	175.5	22.75	175.5	22.60	175.5	22.45
-10	150.0	34.29	170.1	35.00	175.5	31.19	175.5	25.33	175.5	22.83	175.5	22.68	175.5	22.53
-5	150.0	34.58	170.1	35.29	175.5	31.45	175.5	25.55	175.5	23.02	175.5	22.87	175.5	22.72
0	150.0	34.85	170.1	35.57	175.5	31.70	175.5	25.75	175.5	23.21	175.5	23.05	175.5	22.90
5	150.0	35.37	170.1	36.09	175.5	32.17	175.5	26.13	175.5	23.56	175.5	23.39	175.5	23.22
10	150.0	38.18	170.1	38.97	175.5	34.73	175.5	28.21	175.5	25.47	175.5	25.22	175.5	24.97
15	136.1	41.78	170.1	44.45	175.5	39.62	175.5	32.18	175.5	29.13	175.5	28.70	175.5	28.28
20	132.0	45.40	165.0	51.08	175.5	45.99	175.5	37.36	175.5	33.93	175.5	33.22	175.5	32.54
25	132.0	51.66	165.0	58.12	175.5	53.51	175.5	43.37	175.5	39.55	175.5	38.44	175.5	37.39
30	132.0	59.03	165.0	66.41	175.5	61.61	175.5	49.55	175.5	45.36	175.5	43.77	175.5	42.29
35	129.2	67.71	161.5	76.18	175.5	73.65	175.5	58.09	175.5	53.47	175.5	51.07	175.5	48.87
40	125.0	75.96	156.2	85.46	173.6	85.19	175.5	67.27	175.5	62.27	175.5	58.85	175.5	55.79
45	106.9	80.65	129.0	87.56	143.3	87.74	161.5	79.37	175.5	77.42	175.5	70.48	175.5	65.94
48	91.53	71.10	112.9	78.97	125.5	78.97	140.8	72.65	153.0	73.96	156.8	69.42	160.5	66.28
52	59.40	53.03	74.25	59.66	82.50	59.66	89.70	53.19	97.50	54.54	102.4	53.14	107.3	51.92

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	175.5	22.12	175.5	21.80	175.5	21.72	175.5	21.63	175.5	21.55	175.5	21.47
-10	175.5	22.20	175.5	21.88	175.5	21.79	175.5	21.71	175.5	21.63	175.5	21.55
-5	175.5	22.39	175.5	22.06	175.5	21.98	175.5	21.89	175.5	21.81	175.5	21.73
0	175.5	22.56	175.5	22.22	175.5	22.13	175.5	22.05	175.5	21.96	175.5	21.87
5	175.5	22.86	175.5	22.52	175.5	22.42	175.5	22.32	175.5	22.22	175.5	22.12
10	175.5	24.54	175.5	24.12	175.5	23.95	175.5	23.78	175.5	23.62	175.5	23.45
15	175.5	27.70	175.5	27.13	175.5	26.81	175.5	26.50	175.5	26.19	175.5	25.88
20	175.5	31.72	175.5	30.93	175.5	30.38	175.5	29.86	175.5	29.34	175.5	28.81
25	175.5	36.27	175.5	35.18	175.5	34.34	175.5	33.54	175.5	32.74	175.5	31.94
30	175.5	40.82	175.5	39.40	175.5	38.22	175.5	37.10	175.5	35.99	175.5	34.88
35	175.5	46.85	175.5	44.91	175.5	43.21	175.5	41.62	175.5	40.04	175.5	38.45
40	175.5	53.13	175.5	50.61	175.5	48.30	175.5	46.20	175.5	44.09	175.5	41.99
45	175.5	61.68	175.5	58.23	175.5	55.00	175.5	51.33	175.5	49.20	175.5	46.62
48	164.3	63.36	168.0	60.99	171.8	58.82	175.5	57.58	175.5	55.95	175.5	53.78
52	112.1	50.86	117.0	49.92	121.9	49.09	126.8	49.09	127.7	48.10	129.0	47.34

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 60RT / 80% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	150.0	34.17	156.0	30.69	156.0	26.18	156.0	21.12	156.0	19.03	156.0	18.91	156.0	18.79
-10	150.0	34.29	156.0	30.80	156.0	26.28	156.0	21.20	156.0	19.11	156.0	18.98	156.0	18.86
-5	150.0	34.58	156.0	31.06	156.0	26.50	156.0	21.38	156.0	19.27	156.0	19.14	156.0	19.01
0	150.0	34.85	156.0	31.31	156.0	26.71	156.0	21.55	156.0	19.42	156.0	19.29	156.0	19.16
5	150.0	35.37	156.0	31.77	156.0	27.10	156.0	21.86	156.0	19.71	156.0	19.57	156.0	19.43
10	150.0	38.18	156.0	34.30	156.0	29.26	156.0	23.60	156.0	21.31	156.0	21.10	156.0	20.90
15	136.1	41.78	156.0	39.13	156.0	33.38	156.0	26.93	156.0	24.38	156.0	24.02	156.0	23.67
20	132.0	45.40	156.0	45.65	156.0	38.75	156.0	30.80	156.0	28.24	156.0	27.71	156.0	27.23
25	132.0	51.66	156.0	53.52	156.0	45.08	156.0	35.05	156.0	32.51	156.0	31.87	156.0	31.29
30	132.0	59.03	156.0	61.15	156.0	51.90	156.0	41.41	156.0	37.08	156.0	36.33	156.0	35.39
35	129.2	67.71	156.0	72.39	156.0	62.05	156.0	48.61	156.0	44.75	156.0	42.73	156.0	40.89
40	125.0	75.96	156.0	84.42	156.0	72.75	156.0	56.19	156.0	52.01	156.0	49.16	156.0	46.60
45	106.9	80.65	129.0	87.56	143.3	85.26	156.0	71.66	156.0	64.94	156.0	59.12	156.0	55.31
48	84.24	71.10	105.3	78.97	117.0	78.97	131.0	71.10	142.4	69.73	147.9	65.64	153.4	62.76
52	59.40	53.03	74.25	59.66	82.50	59.66	89.70	53.19	97.50	54.54	102.4	53.14	107.3	51.92

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	156.0	18.51	156.0	18.24	156.0	18.17	156.0	18.10	156.0	18.03	156.0	17.97
-10	156.0	18.58	156.0	18.31	156.0	18.24	156.0	18.17	156.0	18.10	156.0	18.03
-5	156.0	18.73	156.0	18.46	156.0	18.39	156.0	18.32	156.0	18.25	156.0	18.18
0	156.0	18.87	156.0	18.60	156.0	18.52	156.0	18.45	156.0	18.38	156.0	18.30
5	156.0	19.13	156.0	18.84	156.0	18.76	156.0	18.68	156.0	18.59	156.0	18.51
10	156.0	20.54	156.0	20.19	156.0	20.04	156.0	19.90	156.0	19.76	156.0	19.62
15	156.0	23.18	156.0	22.70	156.0	22.43	156.0	22.17	156.0	21.91	156.0	21.65
20	156.0	26.55	156.0	25.88	156.0	25.43	156.0	24.99	156.0	24.55	156.0	24.11
25	156.0	30.35	156.0	29.44	156.0	28.74	156.0	28.07	156.0	27.40	156.0	26.73
30	156.0	34.16	156.0	32.97	156.0	31.98	156.0	31.05	156.0	30.12	156.0	29.19
35	156.0	39.21	156.0	37.58	156.0	36.15	156.0	34.83	156.0	33.50	156.0	32.18
40	156.0	44.38	156.0	42.27	156.0	40.35	156.0	38.59	156.0	36.83	156.0	35.07
45	156.0	51.50	156.0	48.63	156.0	45.93	156.0	42.87	156.0	41.09	156.0	38.93
48	156.0	58.56	156.0	54.69	156.0	51.21	156.0	48.38	156.0	46.22	156.0	43.86
52	112.1	50.86	117.0	49.92	121.9	49.09	126.8	49.09	127.7	48.10	129.0	47.34

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 60RT / 70% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	136.5	29.99	136.5	25.58	136.5	21.82	136.5	17.39	136.5	15.67	136.5	15.57	136.5	15.46
-10	136.5	30.09	136.5	25.67	136.5	21.90	136.5	17.45	136.5	15.73	136.5	15.62	136.5	15.52
-5	136.5	30.35	136.5	25.89	136.5	22.08	136.5	17.59	136.5	15.86	136.5	15.75	136.5	15.65
0	136.5	30.59	136.5	26.09	136.5	22.26	136.5	17.73	136.5	15.99	136.5	15.88	136.5	15.77
5	136.5	31.04	136.5	26.48	136.5	22.58	136.5	18.00	136.5	16.23	136.5	16.11	136.5	15.99
10	136.5	33.51	136.5	28.58	136.5	24.38	136.5	19.43	136.5	17.54	136.5	17.37	136.5	17.20
15	136.1	38.79	136.5	32.61	136.5	27.81	136.5	22.16	136.5	20.06	136.5	19.77	136.5	19.48
20	132.0	45.40	136.5	38.05	136.5	32.29	136.5	25.71	136.5	23.30	136.5	22.86	136.5	22.41
25	132.0	51.66	136.5	44.60	136.5	37.57	136.5	29.79	136.5	26.93	136.5	26.41	136.5	25.76
30	132.0	59.03	136.5	50.96	136.5	43.25	136.5	33.95	136.5	30.55	136.5	30.06	136.5	29.13
35	129.2	67.71	136.5	60.32	136.5	51.71	136.5	40.01	136.5	36.83	136.5	35.17	136.5	33.66
40	125.0	75.96	136.5	70.35	136.5	60.62	136.5	46.25	136.5	42.81	136.5	40.46	136.5	38.36
45	106.9	80.65	129.0	84.44	136.5	75.93	136.5	59.71	136.5	53.88	136.5	49.04	136.5	45.88
48	84.24	71.10	105.3	78.97	117.0	76.84	131.0	67.01	136.5	63.62	136.5	57.97	136.5	53.65
52	59.40	53.03	74.25	59.66	82.50	59.66	89.70	53.19	97.50	54.54	102.4	53.14	107.3	51.92

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	136.5	15.24	136.5	15.01	136.5	14.96	136.5	14.90	136.5	14.84	136.5	14.79
-10	136.5	15.29	136.5	15.07	136.5	15.01	136.5	14.95	136.5	14.90	136.5	14.84
-5	136.5	15.42	136.5	15.19	136.5	15.14	136.5	15.08	136.5	15.02	136.5	14.97
0	136.5	15.54	136.5	15.31	136.5	15.25	136.5	15.18	136.5	15.12	136.5	15.06
5	136.5	15.75	136.5	15.51	136.5	15.44	136.5	15.37	136.5	15.31	136.5	15.24
10	136.5	16.90	136.5	16.61	136.5	16.50	136.5	16.38	136.5	16.27	136.5	16.15
15	136.5	19.08	136.5	18.68	136.5	18.46	136.5	18.25	136.5	18.04	136.5	17.82
20	136.5	21.85	136.5	21.30	136.5	20.93	136.5	20.57	136.5	20.21	136.5	19.85
25	136.5	24.98	136.5	24.23	136.5	23.65	136.5	23.10	136.5	22.55	136.5	22.00
30	136.5	28.12	136.5	27.14	136.5	26.32	136.5	25.56	136.5	24.79	136.5	24.02
35	136.5	32.27	136.5	30.94	136.5	29.76	136.5	28.67	136.5	27.58	136.5	26.49
40	136.5	36.53	136.5	34.80	136.5	33.21	136.5	31.76	136.5	30.31	136.5	28.87
45	136.5	42.39	136.5	40.03	136.5	37.80	136.5	35.28	136.5	33.82	136.5	32.04
48	136.5	48.62	136.5	45.41	136.5	42.52	136.5	40.17	136.5	38.38	136.5	36.42
52	112.1	50.86	117.0	49.92	121.9	49.09	126.8	49.09	127.7	48.10	129.0	47.34

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 60RT / 60% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	117.0	24.56	117.0	20.95	117.0	17.87	117.0	14.18	117.0	12.78	117.0	12.70	117.0	12.61
-10	117.0	24.64	117.0	21.02	117.0	17.93	117.0	14.23	117.0	12.83	117.0	12.74	117.0	12.66
-5	117.0	24.85	117.0	21.20	117.0	18.08	117.0	14.35	117.0	12.93	117.0	12.85	117.0	12.77
0	117.0	25.05	117.0	21.37	117.0	18.23	117.0	14.46	117.0	13.04	117.0	12.95	117.0	12.86
5	117.0	25.42	117.0	21.68	117.0	18.50	117.0	14.68	117.0	13.23	117.0	13.14	117.0	13.04
10	117.0	27.44	117.0	23.41	117.0	19.97	117.0	15.85	117.0	14.31	117.0	14.17	117.0	14.03
15	117.0	31.85	117.0	26.70	117.0	22.78	117.0	18.08	117.0	16.36	117.0	16.12	117.0	15.89
20	117.0	37.88	117.0	31.16	117.0	26.44	117.0	20.99	117.0	19.06	117.0	18.66	117.0	18.28
25	117.0	44.18	117.0	36.52	117.0	30.76	117.0	24.36	117.0	22.22	117.0	21.59	117.0	21.01
30	117.0	50.47	117.0	41.73	117.0	35.42	117.0	27.84	117.0	25.48	117.0	24.59	117.0	23.76
35	117.0	59.51	117.0	49.40	117.0	42.34	117.0	32.63	117.0	30.04	117.0	28.69	117.0	27.45
40	117.0	69.76	117.0	57.45	117.0	49.50	117.0	37.61	117.0	34.82	117.0	32.91	117.0	31.19
45	106.9	79.48	117.0	71.91	117.0	61.98	117.0	48.75	117.0	43.92	117.0	39.98	117.0	37.40
48	84.24	71.10	105.3	75.36	117.0	72.05	117.0	56.69	117.0	51.93	117.0	47.32	117.0	43.79
52	59.40	53.03	74.25	59.66	82.50	59.66	89.70	53.19	97.50	54.54	102.4	53.14	107.3	51.92

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	117.0	12.43	117.0	12.25	117.0	12.20	117.0	12.15	117.0	12.11	117.0	12.06
-10	117.0	12.47	117.0	12.29	117.0	12.24	117.0	12.20	117.0	12.15	117.0	12.10
-5	117.0	12.58	117.0	12.39	117.0	12.35	117.0	12.30	117.0	12.25	117.0	12.21
0	117.0	12.67	117.0	12.48	117.0	12.43	117.0	12.39	117.0	12.34	117.0	12.29
5	117.0	12.84	117.0	12.65	117.0	12.59	117.0	12.54	117.0	12.48	117.0	12.43
10	117.0	13.79	117.0	13.55	117.0	13.46	117.0	13.36	117.0	13.27	117.0	13.17
15	117.0	15.56	117.0	15.24	117.0	15.06	117.0	14.89	117.0	14.71	117.0	14.54
20	117.0	17.82	117.0	17.37	117.0	17.07	117.0	16.78	117.0	16.48	117.0	16.19
25	117.0	20.38	117.0	19.77	117.0	19.29	117.0	18.84	117.0	18.39	117.0	17.94
30	117.0	22.93	117.0	22.13	117.0	21.47	117.0	20.84	117.0	20.22	117.0	19.59
35	117.0	26.32	117.0	25.23	117.0	24.27	117.0	23.38	117.0	22.49	117.0	21.60
40	117.0	29.71	117.0	28.30	117.0	27.01	117.0	25.83	117.0	24.65	117.0	23.48
45	117.0	34.47	117.0	32.54	117.0	30.74	117.0	28.69	117.0	27.50	117.0	26.05
48	117.0	39.64	117.0	37.03	117.0	34.67	117.0	32.75	117.0	31.29	117.0	29.70
52	112.1	50.86	117.0	49.92	117.0	46.66	117.0	44.43	117.0	42.19	117.0	39.96

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 60RT / 50% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	97.50	18.72	97.50	15.97	97.50	13.62	97.50	10.79	97.50	9.73	97.50	9.66	97.50	9.60
-10	97.50	18.78	97.50	16.02	97.50	13.67	97.50	10.83	97.50	9.76	97.50	9.70	97.50	9.64
-5	97.50	18.94	97.50	16.16	97.50	13.78	97.50	10.92	97.50	9.85	97.50	9.78	97.50	9.72
0	97.50	19.09	97.50	16.29	97.50	13.89	97.50	11.01	97.50	9.92	97.50	9.86	97.50	9.79
5	97.50	19.37	97.50	16.53	97.50	14.10	97.50	11.17	97.50	10.07	97.50	10.00	97.50	9.93
10	97.50	20.92	97.50	17.84	97.50	15.22	97.50	12.06	97.50	10.89	97.50	10.78	97.50	10.68
15	97.50	24.28	97.50	20.35	97.50	17.36	97.50	13.76	97.50	12.46	97.50	12.27	97.50	12.09
20	97.50	28.87	97.50	23.75	97.50	20.16	97.50	15.97	97.50	14.51	97.50	14.21	97.50	13.91
25	97.50	33.67	97.50	27.84	97.50	23.45	97.50	18.54	97.50	16.91	97.50	16.44	97.50	15.99
30	97.50	38.47	97.50	31.80	97.50	27.00	97.50	21.19	97.50	19.40	97.50	18.72	97.50	18.08
35	97.50	45.36	97.50	37.65	97.50	32.27	97.50	24.84	97.50	22.86	97.50	21.84	97.50	20.90
40	97.50	53.00	97.50	43.64	97.50	37.61	97.50	28.53	97.50	26.42	97.50	24.97	97.50	23.67
45	97.50	64.88	97.50	54.61	97.50	47.07	97.50	37.02	97.50	33.34	97.50	30.35	97.50	28.39
48	84.24	65.29	97.50	62.56	97.50	54.72	97.50	43.06	97.50	39.44	97.50	35.94	97.50	33.26
52	59.40	50.75	74.25	57.09	82.50	57.09	89.70	50.90	97.50	52.20	97.50	47.95	97.50	44.28

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	97.50	9.46	97.50	9.32	97.50	9.29	97.50	9.25	97.50	9.22	97.50	9.18
-10	97.50	9.49	97.50	9.35	97.50	9.32	97.50	9.28	97.50	9.25	97.50	9.21
-5	97.50	9.57	97.50	9.43	97.50	9.40	97.50	9.36	97.50	9.33	97.50	9.29
0	97.50	9.64	97.50	9.50	97.50	9.46	97.50	9.43	97.50	9.39	97.50	9.35
5	97.50	9.78	97.50	9.63	97.50	9.59	97.50	9.54	97.50	9.50	97.50	9.46
10	97.50	10.49	97.50	10.31	97.50	10.24	97.50	10.17	97.50	10.10	97.50	10.03
15	97.50	11.84	97.50	11.60	97.50	11.46	97.50	11.33	97.50	11.20	97.50	11.06
20	97.50	13.57	97.50	13.22	97.50	12.99	97.50	12.77	97.50	12.54	97.50	12.32
25	97.50	15.51	97.50	15.04	97.50	14.68	97.50	14.34	97.50	14.00	97.50	13.66
30	97.50	17.46	97.50	16.85	97.50	16.34	97.50	15.87	97.50	15.39	97.50	14.91
35	97.50	20.03	97.50	19.21	97.50	18.47	97.50	17.80	97.50	17.12	97.50	16.44
40	97.50	22.54	97.50	21.47	97.50	20.49	97.50	19.60	97.50	18.71	97.50	17.81
45	97.50	26.14	97.50	24.68	97.50	23.31	97.50	21.76	97.50	20.85	97.50	19.76
48	97.50	30.10	97.50	28.11	97.50	26.32	97.50	24.87	97.50	23.76	97.50	22.54
52	97.50	41.09	97.50	37.91	97.50	35.44	97.50	33.74	97.50	32.04	97.50	30.35

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 60RT / 40% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	78.00	16.16	78.00	13.79	78.00	11.76	78.00	9.68	78.00	8.73	78.00	8.67	78.00	8.61
-10	78.00	16.22	78.00	13.84	78.00	11.80	78.00	9.72	78.00	8.76	78.00	8.70	78.00	8.65
-5	78.00	16.36	78.00	13.95	78.00	11.90	78.00	9.80	78.00	8.83	78.00	8.78	78.00	8.72
0	78.00	16.49	78.00	14.06	78.00	12.00	78.00	9.88	78.00	8.90	78.00	8.84	78.00	8.79
5	78.00	16.73	78.00	14.27	78.00	12.17	78.00	10.02	78.00	9.04	78.00	8.97	78.00	8.91
10	78.00	18.06	78.00	15.41	78.00	13.14	78.00	10.82	78.00	9.77	78.00	9.68	78.00	9.58
15	78.00	20.96	78.00	17.58	78.00	14.99	78.00	12.35	78.00	11.18	78.00	11.01	78.00	10.85
20	78.00	24.93	78.00	20.51	78.00	17.41	78.00	14.33	78.00	13.02	78.00	12.75	78.00	12.49
25	78.00	29.08	78.00	24.04	78.00	20.25	78.00	16.64	78.00	15.17	78.00	14.75	78.00	14.35
30	78.00	33.22	78.00	27.46	78.00	23.31	78.00	19.01	78.00	17.40	78.00	16.80	78.00	16.23
35	78.00	39.17	78.00	32.51	78.00	27.87	78.00	22.29	78.00	20.52	78.00	19.59	78.00	18.75
40	78.00	45.68	78.00	37.62	78.00	32.42	78.00	25.56	78.00	23.66	78.00	22.36	78.00	21.20
45	78.00	55.92	78.00	47.07	78.00	40.57	78.00	31.29	78.00	28.56	78.00	26.02	78.00	24.34
48	78.00	62.13	78.00	53.92	78.00	47.16	78.00	35.50	78.00	32.52	78.00	29.62	78.00	27.42
52	59.40	53.03	74.25	59.66	78.00	58.15	78.00	45.35	78.00	42.36	78.00	38.92	78.00	35.94

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	78.00	8.49	78.00	8.36	78.00	8.33	78.00	8.30	78.00	8.27	78.00	8.24
-10	78.00	8.52	78.00	8.39	78.00	8.36	78.00	8.33	78.00	8.30	78.00	8.27
-5	78.00	8.59	78.00	8.46	78.00	8.43	78.00	8.40	78.00	8.37	78.00	8.34
0	78.00	8.65	78.00	8.53	78.00	8.49	78.00	8.46	78.00	8.43	78.00	8.39
5	78.00	8.77	78.00	8.64	78.00	8.60	78.00	8.56	78.00	8.53	78.00	8.49
10	78.00	9.42	78.00	9.26	78.00	9.19	78.00	9.13	78.00	9.06	78.00	9.00
15	78.00	10.63	78.00	10.41	78.00	10.29	78.00	10.17	78.00	10.05	78.00	9.93
20	78.00	12.17	78.00	11.87	78.00	11.66	78.00	11.46	78.00	11.26	78.00	11.06
25	78.00	13.92	78.00	13.50	78.00	13.18	78.00	12.87	78.00	12.56	78.00	12.26
30	78.00	15.66	78.00	15.12	78.00	14.66	78.00	14.24	78.00	13.81	78.00	13.38
35	78.00	17.98	78.00	17.23	78.00	16.58	78.00	15.97	78.00	15.36	78.00	14.75
40	78.00	20.19	78.00	19.23	78.00	18.35	78.00	17.55	78.00	16.76	78.00	15.96
45	78.00	23.41	78.00	22.10	78.00	20.88	78.00	19.49	78.00	18.68	78.00	17.70
48	78.00	25.33	78.00	23.66	78.00	22.16	78.00	20.92	78.00	19.99	78.00	18.97
52	78.00	33.35	78.00	30.77	78.00	28.76	78.00	27.39	78.00	26.01	78.00	24.63

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 60RT / 30% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	58.50	12.78	58.50	10.90	58.50	9.30	58.50	7.61	58.50	6.85	58.50	6.81	58.50	6.77
-10	58.50	12.83	58.50	10.94	58.50	9.33	58.50	7.63	58.50	6.88	58.50	6.83	58.50	6.79
-5	58.50	12.93	58.50	11.03	58.50	9.41	58.50	7.70	58.50	6.94	58.50	6.89	58.50	6.85
0	58.50	13.04	58.50	11.12	58.50	9.49	58.50	7.76	58.50	6.99	58.50	6.95	58.50	6.90
5	58.50	13.23	58.50	11.28	58.50	9.63	58.50	7.87	58.50	7.10	58.50	7.05	58.50	7.00
10	58.50	14.28	58.50	12.18	58.50	10.39	58.50	8.50	58.50	7.67	58.50	7.60	58.50	7.52
15	58.50	16.58	58.50	13.90	58.50	11.85	58.50	9.70	58.50	8.78	58.50	8.65	58.50	8.52
20	58.50	19.72	58.50	16.22	58.50	13.76	58.50	11.26	58.50	10.22	58.50	10.01	58.50	9.80
25	58.50	22.99	58.50	19.01	58.50	16.01	58.50	13.07	58.50	11.92	58.50	11.58	58.50	11.27
30	58.50	26.27	58.50	21.72	58.50	18.43	58.50	14.93	58.50	13.67	58.50	13.19	58.50	12.74
35	58.50	30.97	58.50	25.71	58.50	22.04	58.50	17.50	58.50	16.11	58.50	15.39	58.50	14.72
40	58.50	36.07	58.50	29.70	58.50	25.60	58.50	20.04	58.50	18.55	58.50	17.54	58.50	16.62
45	58.50	43.56	58.50	37.16	58.50	32.03	58.50	24.38	58.50	22.20	58.50	20.22	58.50	19.04
48	58.50	47.37	58.50	41.95	58.50	37.23	58.50	27.45	58.50	25.14	58.50	22.91	58.50	21.26
52	58.50	52.75	58.50	47.48	58.50	45.43	58.50	34.35	58.50	32.09	58.50	29.48	58.50	27.23

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	58.50	6.67	58.50	6.57	58.50	6.54	58.50	6.52	58.50	6.49	58.50	6.47
-10	58.50	6.69	58.50	6.59	58.50	6.57	58.50	6.54	58.50	6.52	58.50	6.49
-5	58.50	6.75	58.50	6.65	58.50	6.62	58.50	6.60	58.50	6.57	58.50	6.55
0	58.50	6.80	58.50	6.70	58.50	6.67	58.50	6.64	58.50	6.62	58.50	6.59
5	58.50	6.89	58.50	6.79	58.50	6.76	58.50	6.73	58.50	6.70	58.50	6.67
10	58.50	7.39	58.50	7.27	58.50	7.22	58.50	7.17	58.50	7.12	58.50	7.07
15	58.50	8.35	58.50	8.17	58.50	8.08	58.50	7.98	58.50	7.89	58.50	7.80
20	58.50	9.56	58.50	9.32	58.50	9.16	58.50	9.00	58.50	8.84	58.50	8.68
25	58.50	10.93	58.50	10.60	58.50	10.35	58.50	10.11	58.50	9.87	58.50	9.62
30	58.50	12.30	58.50	11.87	58.50	11.52	58.50	11.18	58.50	10.84	58.50	10.51
35	58.50	14.12	58.50	13.53	58.50	13.02	58.50	12.54	58.50	12.06	58.50	11.59
40	58.50	15.83	58.50	15.08	58.50	14.39	58.50	13.77	58.50	13.14	58.50	12.51
45	58.50	18.35	58.50	17.33	58.50	16.37	58.50	15.28	58.50	14.55	58.50	13.69
48	58.50	19.67	58.50	18.38	58.50	17.21	58.50	16.25	58.50	15.48	58.50	14.63
52	58.50	25.26	58.50	23.31	58.50	21.79	58.50	20.75	58.50	19.70	58.50	18.66

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 60RT / 20% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	39.00	8.69	39.00	7.42	39.00	6.33	39.00	5.25	39.00	4.73	39.00	4.70	39.00	4.67
-10	39.00	8.73	39.00	7.44	39.00	6.35	39.00	5.27	39.00	4.75	39.00	4.72	39.00	4.69
-5	39.00	8.80	39.00	7.51	39.00	6.40	39.00	5.31	39.00	4.79	39.00	4.76	39.00	4.73
0	39.00	8.87	39.00	7.57	39.00	6.45	39.00	5.36	39.00	4.83	39.00	4.79	39.00	4.76
5	39.00	9.00	39.00	7.68	39.00	6.55	39.00	5.43	39.00	4.90	39.00	4.86	39.00	4.83
10	39.00	9.72	39.00	8.29	39.00	7.07	39.00	5.87	39.00	5.32	39.00	5.24	39.00	5.19
15	39.00	11.28	39.00	9.45	39.00	8.06	39.00	6.69	39.00	6.08	39.00	5.97	39.00	5.88
20	39.00	13.41	39.00	11.03	39.00	9.36	39.00	7.77	39.00	7.06	39.00	6.91	39.00	6.77
25	39.00	15.64	39.00	12.93	39.00	10.89	39.00	9.02	39.00	8.23	39.00	8.00	39.00	7.78
30	39.00	17.87	39.00	14.77	39.00	12.54	39.00	10.31	39.00	9.44	39.00	9.10	39.00	8.80
35	39.00	21.07	39.00	17.49	39.00	14.99	39.00	12.08	39.00	11.12	39.00	10.62	39.00	10.16
40	39.00	24.54	39.00	20.21	39.00	17.41	39.00	13.84	39.00	12.81	39.00	12.10	39.00	11.48
45	39.00	29.63	39.00	25.28	39.00	21.79	39.00	16.88	39.00	15.28	39.00	13.92	39.00	13.11
48	39.00	32.22	39.00	28.54	39.00	25.33	39.00	18.86	39.00	17.28	39.00	15.74	39.00	14.61
52	39.00	35.53	39.00	32.30	39.00	30.90	39.00	23.13	39.00	21.61	39.00	19.85	39.00	18.34

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	39.00	4.60	39.00	4.53	39.00	4.52	39.00	4.50	39.00	4.48	39.00	4.47
-10	39.00	4.62	39.00	4.55	39.00	4.53	39.00	4.52	39.00	4.50	39.00	4.48
-5	39.00	4.66	39.00	4.59	39.00	4.57	39.00	4.55	39.00	4.54	39.00	4.52
0	39.00	4.69	39.00	4.62	39.00	4.60	39.00	4.59	39.00	4.57	39.00	4.55
5	39.00	4.76	39.00	4.68	39.00	4.66	39.00	4.64	39.00	4.62	39.00	4.60
10	39.00	5.10	39.00	5.02	39.00	4.98	39.00	4.95	39.00	4.91	39.00	4.88
15	39.00	5.76	39.00	5.64	39.00	5.58	39.00	5.51	39.00	5.45	39.00	5.38
20	39.00	6.60	39.00	6.43	39.00	6.32	39.00	6.21	39.00	6.10	39.00	5.99
25	39.00	7.54	39.00	7.32	39.00	7.14	39.00	6.98	39.00	6.81	39.00	6.64
30	39.00	8.49	39.00	8.19	39.00	7.95	39.00	7.72	39.00	7.49	39.00	7.25
35	39.00	9.75	39.00	9.34	39.00	8.99	39.00	8.66	39.00	8.33	39.00	8.00
40	39.00	10.93	39.00	10.41	39.00	9.94	39.00	9.50	39.00	9.07	39.00	8.64
45	39.00	12.67	39.00	11.96	39.00	11.30	39.00	10.55	39.00	10.04	39.00	9.45
48	39.00	13.54	39.00	12.65	39.00	11.84	39.00	11.18	39.00	10.65	39.00	10.07
52	39.00	17.01	39.00	15.70	39.00	14.67	39.00	13.97	39.00	13.27	39.00	12.57

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

■ KCAH067VDTC / KCAH067LDTC / KCAH067HDTC

◆ 67RT / 100% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	154.8	37.15	170.4	37.76	194.4	37.30	222.0	35.99	222.0	32.43	222.0	32.23	222.0	32.02
-10	154.8	37.32	170.4	38.09	194.4	37.76	222.0	36.12	222.0	32.56	222.0	32.34	222.0	32.13
-5	154.8	37.63	170.4	38.41	194.4	38.08	222.0	36.43	222.0	32.83	222.0	32.62	222.0	32.40
0	154.8	37.93	170.4	38.71	194.4	38.38	222.0	36.71	222.0	33.09	222.0	32.87	222.0	32.65
5	154.8	39.14	170.4	39.28	194.4	38.95	222.0	37.26	222.0	33.59	222.0	33.35	222.0	33.11
10	154.8	42.26	170.4	42.41	194.4	42.41	222.0	35.88	222.0	32.39	222.0	32.08	222.0	31.76
15	154.8	46.24	170.4	48.35	194.4	48.38	222.0	40.93	222.0	37.05	222.0	36.51	222.0	35.98
20	140.4	50.25	170.4	55.89	194.4	56.16	222.0	47.52	222.0	43.16	222.0	42.26	222.0	41.39
25	133.4	57.18	166.7	64.32	194.4	65.21	222.0	55.17	222.0	50.30	222.0	48.90	222.0	47.57
30	133.4	65.33	166.7	73.50	194.4	74.50	222.0	63.03	222.0	57.70	222.0	55.68	222.0	53.79
35	130.5	73.16	163.1	82.39	186.4	84.45	222.0	83.66	222.0	79.30	222.0	73.55	222.0	70.38
40	126.3	80.86	157.8	91.13	178.0	89.88	199.8	92.70	199.8	86.06	199.8	81.11	199.8	76.89
45	108.0	82.97	130.3	92.42	146.7	91.18	164.9	97.75	179.4	100.0	186.3	94.65	193.1	91.05
48	85.12	89.67	106.4	97.43	118.2	98.53	133.3	88.63	144.9	90.23	150.5	86.52	156.1	83.88
52	60.02	53.72	75.02	60.43	83.36	60.43	90.30	53.88	98.15	55.25	103.1	53.83	108.0	52.59

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	222.0	31.54	222.0	31.08	222.0	30.96	222.0	30.85	222.0	30.73	222.0	30.61
-10	222.0	31.66	222.0	31.19	222.0	31.08	222.0	30.96	222.0	30.84	222.0	30.72
-5	222.0	31.92	222.0	31.46	222.0	31.34	222.0	31.22	222.0	31.10	222.0	30.98
0	222.0	32.16	222.0	31.69	222.0	31.56	222.0	31.44	222.0	31.31	222.0	31.19
5	222.0	32.60	222.0	32.11	222.0	31.97	222.0	31.83	222.0	31.69	222.0	31.54
10	222.0	31.22	222.0	30.68	222.0	30.47	222.0	30.25	222.0	30.04	222.0	29.83
15	222.0	35.23	222.0	34.51	222.0	34.10	222.0	33.70	222.0	33.31	222.0	32.91
20	222.0	40.35	222.0	39.34	222.0	38.65	222.0	37.98	222.0	37.32	222.0	36.65
25	222.0	46.14	222.0	44.75	222.0	43.68	222.0	42.67	222.0	41.65	222.0	40.63
30	222.0	51.93	222.0	50.11	222.0	48.61	222.0	47.20	222.0	45.78	222.0	44.36
35	222.0	67.48	222.0	64.69	222.0	62.22	222.0	59.94	222.0	57.66	222.0	55.38
40	199.8	75.71	222.0	72.12	222.0	68.83	222.0	65.83	222.0	62.83	222.0	59.83
45	199.8	87.78	222.0	82.89	222.0	78.28	222.0	73.06	222.0	70.03	222.0	66.35
48	161.8	81.48	167.4	78.35	170.7	75.48	176.4	73.67	177.6	71.76	180.0	70.02
52	112.9	51.52	117.8	50.57	122.7	49.73	127.6	49.11	128.5	48.72	129.9	47.95

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 67RT / 90% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	154.8	37.15	170.4	37.76	194.4	37.30	199.8	30.49	199.8	27.47	199.8	27.30	199.8	27.12
-10	154.8	37.32	170.4	38.09	194.4	37.76	199.8	30.60	199.8	27.58	199.8	27.40	199.8	27.22
-5	154.8	37.63	170.4	38.41	194.4	38.08	199.8	30.86	199.8	27.81	199.8	27.63	199.8	27.45
0	154.8	37.93	170.4	38.71	194.4	38.38	199.8	31.10	199.8	28.03	199.8	27.85	199.8	27.66
5	154.8	39.14	170.4	39.28	194.4	38.95	199.8	31.56	199.8	28.45	199.8	28.25	199.8	28.05
10	154.8	42.26	170.4	42.41	194.4	42.41	199.8	30.39	199.8	27.44	199.8	27.17	199.8	26.91
15	154.8	46.24	170.4	48.35	194.4	48.38	199.8	34.67	199.8	31.39	199.8	30.92	199.8	30.48
20	140.4	50.25	170.4	55.89	194.4	56.16	199.8	40.25	199.8	36.56	199.8	35.80	199.8	35.06
25	133.4	57.18	166.7	64.32	194.4	65.21	199.8	46.73	199.8	42.61	199.8	41.42	199.8	40.29
30	133.4	65.33	166.7	73.50	194.4	74.50	199.8	53.40	199.8	48.88	199.8	47.17	199.8	45.57
35	130.5	73.16	163.1	82.39	186.4	84.45	199.8	70.87	199.8	67.17	199.8	62.30	199.8	59.62
40	126.3	80.86	157.8	91.13	178.0	89.88	199.8	78.53	199.8	72.90	199.8	68.71	199.8	65.13
45	108.0	82.97	130.3	92.42	146.7	91.18	164.9	97.75	179.4	100.0	186.3	94.65	193.1	91.05
48	85.12	89.67	106.4	97.43	118.2	98.53	133.3	88.63	144.9	90.23	150.5	86.52	156.1	83.88
52	60.02	53.72	75.02	60.43	83.36	60.43	90.30	53.88	98.15	55.25	103.1	53.83	108.0	52.59

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	199.8	26.72	199.8	26.33	199.8	26.23	199.8	26.13	199.8	26.03	199.8	25.93
-10	199.8	26.82	199.8	26.42	199.8	26.32	199.8	26.22	199.8	26.13	199.8	26.03
-5	199.8	27.04	199.8	26.65	199.8	26.55	199.8	26.45	199.8	26.35	199.8	26.25
0	199.8	27.24	199.8	26.84	199.8	26.74	199.8	26.63	199.8	26.52	199.8	26.42
5	199.8	27.62	199.8	27.20	199.8	27.08	199.8	26.96	199.8	26.84	199.8	26.72
10	199.8	26.44	199.8	25.99	199.8	25.81	199.8	25.63	199.8	25.45	199.8	25.27
15	199.8	29.85	199.8	29.23	199.8	28.89	199.8	28.55	199.8	28.22	199.8	27.88
20	199.8	34.18	199.8	33.32	199.8	32.74	199.8	32.18	199.8	31.61	199.8	31.05
25	199.8	39.09	199.8	37.91	199.8	37.00	199.8	36.14	199.8	35.28	199.8	34.42
30	199.8	43.99	199.8	42.45	199.8	41.18	199.8	39.98	199.8	38.78	199.8	37.58
35	199.8	57.16	199.8	54.80	199.8	52.71	199.8	50.78	199.8	48.85	199.8	46.91
40	199.8	64.14	199.8	61.09	199.8	58.31	199.8	55.77	199.8	53.22	199.8	50.68
45	199.8	74.36	199.8	70.21	199.8	66.31	199.8	61.89	199.8	59.32	199.8	56.21
48	161.8	81.48	167.4	78.35	170.7	75.48	176.4	73.67	177.6	71.76	180.0	70.02
52	112.9	51.52	117.8	50.57	122.7	49.73	127.6	49.11	128.5	48.72	129.9	47.95

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 67RT / 80% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	154.8	37.15	170.4	37.76	177.6	32.64	177.6	25.73	177.6	23.18	177.6	23.04	177.6	22.89
-10	154.8	37.32	170.4	38.09	177.6	33.04	177.6	25.82	177.6	23.27	177.6	23.12	177.6	22.97
-5	154.8	37.63	170.4	38.41	177.6	33.32	177.6	26.04	177.6	23.47	177.6	23.31	177.6	23.16
0	154.8	37.93	170.4	38.71	177.6	33.59	177.6	26.24	177.6	23.66	177.6	23.50	177.6	23.34
5	154.8	39.14	170.4	39.28	177.6	34.09	177.6	26.63	177.6	24.01	177.6	23.84	177.6	23.67
10	154.8	42.26	170.4	42.41	177.6	37.11	177.6	25.65	177.6	23.16	177.6	22.93	177.6	22.70
15	154.8	46.24	170.4	48.35	177.6	42.33	177.6	29.26	177.6	26.49	177.6	26.10	177.6	25.72
20	140.4	50.25	170.4	55.89	177.6	49.15	177.6	33.97	177.6	30.85	177.6	30.21	177.6	29.59
25	133.4	57.18	166.7	64.32	177.6	57.06	177.6	39.44	177.6	35.96	177.6	34.95	177.6	34.00
30	133.4	65.33	166.7	73.50	177.6	65.19	177.6	45.06	177.6	41.25	177.6	39.80	177.6	38.45
35	130.5	73.16	163.1	82.39	177.6	73.90	177.6	59.80	177.6	56.69	177.6	52.58	177.6	50.31
40	126.3	80.86	157.8	91.13	177.6	76.49	177.6	66.27	177.6	61.52	177.6	57.98	177.6	54.96
45	108.0	82.97	130.3	92.42	146.7	91.18	164.9	97.75	177.6	87.31	177.6	82.63	177.6	79.49
48	85.12	89.67	106.4	97.43	118.2	98.53	133.3	88.63	144.9	90.23	150.5	86.52	156.1	83.88
52	60.02	53.72	75.02	60.43	83.36	60.43	90.30	53.88	98.15	55.25	103.1	53.83	108.0	52.59

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	177.6	22.55	177.6	22.22	177.6	22.13	177.6	22.05	177.6	21.97	177.6	21.88
-10	177.6	22.63	177.6	22.30	177.6	22.21	177.6	22.13	177.6	22.05	177.6	21.96
-5	177.6	22.82	177.6	22.49	177.6	22.40	177.6	22.32	177.6	22.23	177.6	22.15
0	177.6	22.99	177.6	22.65	177.6	22.56	177.6	22.47	177.6	22.38	177.6	22.29
5	177.6	23.31	177.6	22.95	177.6	22.85	177.6	22.75	177.6	22.65	177.6	22.55
10	177.6	22.31	177.6	21.93	177.6	21.78	177.6	21.63	177.6	21.47	177.6	21.32
15	177.6	25.19	177.6	24.67	177.6	24.38	177.6	24.09	177.6	23.81	177.6	23.53
20	177.6	28.85	177.6	28.12	177.6	27.63	177.6	27.15	177.6	26.68	177.6	26.20
25	177.6	32.98	177.6	31.99	177.6	31.23	177.6	30.50	177.6	29.77	177.6	29.04
30	177.6	37.12	177.6	35.82	177.6	34.75	177.6	33.74	177.6	32.73	177.6	31.71
35	177.6	48.24	177.6	46.24	177.6	44.48	177.6	42.85	177.6	41.22	177.6	39.59
40	177.6	54.12	177.6	51.55	177.6	49.20	177.6	47.06	177.6	44.91	177.6	42.77
45	177.6	62.75	177.6	59.25	177.6	55.96	177.6	52.23	177.6	50.06	177.6	47.43
48	161.8	81.48	167.4	78.35	170.7	75.48	176.4	73.67	177.6	71.76	177.6	53.51
52	112.9	51.52	117.8	50.57	122.7	49.73	127.6	49.11	128.5	48.72	129.9	47.95

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 67RT / 70% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	154.8	37.15	155.4	34.17	155.4	27.09	155.4	21.35	155.4	19.24	155.4	19.12	155.4	18.99
-10	154.8	37.32	155.4	34.47	155.4	27.42	155.4	21.43	155.4	19.31	155.4	19.19	155.4	19.06
-5	154.8	37.63	155.4	34.76	155.4	27.65	155.4	21.61	155.4	19.48	155.4	19.35	155.4	19.22
0	154.8	37.93	155.4	35.03	155.4	27.87	155.4	21.78	155.4	19.63	155.4	19.50	155.4	19.37
5	154.8	39.14	155.4	35.55	155.4	28.29	155.4	22.10	155.4	19.93	155.4	19.78	155.4	19.64
10	154.8	42.26	155.4	38.38	155.4	30.80	155.4	21.29	155.4	19.22	155.4	19.03	155.4	18.84
15	154.8	46.24	155.4	43.76	155.4	35.13	155.4	24.28	155.4	21.98	155.4	21.66	155.4	21.34
20	140.4	50.25	155.4	50.58	155.4	40.79	155.4	28.19	155.4	25.61	155.4	25.07	155.4	24.56
25	133.4	57.18	155.4	58.22	155.4	47.35	155.4	32.73	155.4	29.84	155.4	29.01	155.4	28.22
30	133.4	65.33	155.4	66.52	155.4	54.11	155.4	37.40	155.4	34.23	155.4	33.03	155.4	31.91
35	130.5	73.16	155.4	75.94	155.4	61.33	155.4	49.63	155.4	47.04	155.4	43.63	155.4	41.76
40	126.3	80.86	155.4	82.90	155.4	63.48	155.4	55.00	155.4	51.05	155.4	48.12	155.4	45.61
45	108.0	82.97	130.3	92.42	146.7	91.18	155.4	88.47	155.4	72.46	155.4	68.58	155.4	65.97
48	85.12	89.67	106.4	97.43	118.2	98.53	133.3	88.63	144.9	90.23	150.5	86.52	155.4	72.99
52	60.02	53.72	75.02	60.43	83.36	60.43	90.30	53.88	98.15	55.25	103.1	53.83	108.0	52.59

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	155.4	18.71	155.4	18.44	155.4	18.37	155.4	18.30	155.4	18.23	155.4	18.16
-10	155.4	18.78	155.4	18.51	155.4	18.44	155.4	18.37	155.4	18.30	155.4	18.23
-5	155.4	18.94	155.4	18.66	155.4	18.59	155.4	18.52	155.4	18.45	155.4	18.38
0	155.4	19.08	155.4	18.80	155.4	18.72	155.4	18.65	155.4	18.58	155.4	18.50
5	155.4	19.34	155.4	19.05	155.4	18.97	155.4	18.88	155.4	18.80	155.4	18.71
10	155.4	18.52	155.4	18.20	155.4	18.07	155.4	17.95	155.4	17.82	155.4	17.70
15	155.4	20.90	155.4	20.47	155.4	20.23	155.4	20.00	155.4	19.76	155.4	19.53
20	155.4	23.94	155.4	23.34	155.4	22.93	155.4	22.53	155.4	22.14	155.4	21.74
25	155.4	27.37	155.4	26.55	155.4	25.92	155.4	25.31	155.4	24.71	155.4	24.10
30	155.4	30.81	155.4	29.73	155.4	28.84	155.4	28.00	155.4	27.16	155.4	26.32
35	155.4	40.03	155.4	38.38	155.4	36.92	155.4	35.56	155.4	34.21	155.4	32.85
40	155.4	44.92	155.4	42.78	155.4	40.83	155.4	39.05	155.4	37.27	155.4	35.50
45	155.4	52.08	155.4	49.17	155.4	46.44	155.4	43.35	155.4	41.54	155.4	39.36
48	155.4	67.06	155.4	67.00	155.4	64.55	155.4	63.00	155.4	59.07	155.4	44.41
52	112.9	51.52	117.8	50.57	122.7	49.73	127.6	49.11	128.5	48.72	129.9	47.95

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 67RT / 60% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	133.2	30.81	133.2	28.10	133.2	22.27	133.2	17.56	133.2	15.82	133.2	15.72	133.2	15.62
-10	133.2	30.94	133.2	28.35	133.2	22.55	133.2	17.62	133.2	15.88	133.2	15.78	133.2	15.68
-5	133.2	31.20	133.2	28.58	133.2	22.74	133.2	17.77	133.2	16.02	133.2	15.91	133.2	15.81
0	133.2	31.45	133.2	28.81	133.2	22.92	133.2	17.91	133.2	16.15	133.2	16.04	133.2	15.93
5	133.2	32.46	133.2	29.24	133.2	23.26	133.2	18.18	133.2	16.39	133.2	16.27	133.2	16.15
10	133.2	35.04	133.2	31.56	133.2	25.33	133.2	17.50	133.2	15.80	133.2	15.65	133.2	15.50
15	133.2	38.34	133.2	35.99	133.2	28.89	133.2	19.97	133.2	18.08	133.2	17.81	133.2	17.55
20	133.2	46.78	133.2	41.59	133.2	33.54	133.2	23.18	133.2	21.06	133.2	20.62	133.2	20.19
25	133.2	54.23	133.2	47.88	133.2	38.94	133.2	26.91	133.2	24.54	133.2	23.86	133.2	23.21
30	133.2	61.97	133.2	54.70	133.2	44.49	133.2	30.75	133.2	28.15	133.2	27.16	133.2	26.25
35	130.5	73.16	133.2	62.45	133.2	50.44	133.2	40.82	133.2	38.69	133.2	35.88	133.2	34.34
40	126.3	80.86	133.2	68.17	133.2	52.20	133.2	45.23	133.2	41.99	133.2	39.57	133.2	37.51
45	108.0	82.97	130.3	92.42	133.2	75.62	133.2	72.76	133.2	59.59	133.2	56.40	133.2	54.25
48	85.12	89.67	106.4	97.43	118.2	98.53	133.2	86.89	133.2	80.72	133.2	77.33	133.2	60.02
52	60.02	53.72	75.02	60.43	83.36	60.43	90.30	53.88	98.15	55.25	103.1	53.83	108.0	52.59

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	133.2	15.39	133.2	15.16	133.2	15.11	133.2	15.05	133.2	14.99	133.2	14.94
-10	133.2	15.44	133.2	15.22	133.2	15.16	133.2	15.10	133.2	15.05	133.2	14.99
-5	133.2	15.57	133.2	15.35	133.2	15.29	133.2	15.23	133.2	15.17	133.2	15.12
0	133.2	15.69	133.2	15.46	133.2	15.40	133.2	15.34	133.2	15.28	133.2	15.22
5	133.2	15.91	133.2	15.67	133.2	15.60	133.2	15.53	133.2	15.46	133.2	15.39
10	133.2	15.23	133.2	14.97	133.2	14.86	133.2	14.76	133.2	14.66	133.2	14.55
15	133.2	17.19	133.2	16.83	133.2	16.64	133.2	16.44	133.2	16.25	133.2	16.06
20	133.2	19.69	133.2	19.19	133.2	18.86	133.2	18.53	133.2	18.21	133.2	17.88
25	133.2	22.51	133.2	21.83	133.2	21.31	133.2	20.82	133.2	20.32	133.2	19.82
30	133.2	25.33	133.2	24.45	133.2	23.72	133.2	23.03	133.2	22.34	133.2	21.64
35	133.2	32.92	133.2	31.56	133.2	30.36	133.2	29.24	133.2	28.13	133.2	27.02
40	133.2	36.94	133.2	35.18	133.2	33.58	133.2	32.12	133.2	30.65	133.2	29.19
45	133.2	42.83	133.2	40.44	133.2	38.19	133.2	35.65	133.2	34.17	133.2	32.37
48	133.2	55.15	133.2	55.10	133.2	53.08	133.2	51.81	133.2	48.58	133.2	36.52
52	112.9	51.52	117.8	50.57	122.7	49.73	127.6	49.11	128.5	48.72	129.9	47.95

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 67RT / 50% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	111.0	24.17	111.0	22.04	111.0	17.47	111.0	13.77	111.0	12.41	111.0	12.33	111.0	12.25
-10	111.0	24.27	111.0	22.24	111.0	17.69	111.0	13.82	111.0	12.46	111.0	12.38	111.0	12.30
-5	111.0	24.48	111.0	22.42	111.0	17.84	111.0	13.94	111.0	12.56	111.0	12.48	111.0	12.40
0	111.0	24.67	111.0	22.60	111.0	17.98	111.0	14.05	111.0	12.67	111.0	12.58	111.0	12.50
5	111.0	25.46	111.0	22.93	111.0	18.25	111.0	14.26	111.0	12.86	111.0	12.76	111.0	12.67
10	111.0	27.49	111.0	24.76	111.0	19.87	111.0	13.73	111.0	12.40	111.0	12.28	111.0	12.16
15	111.0	30.08	111.0	28.23	111.0	22.66	111.0	15.66	111.0	14.18	111.0	13.97	111.0	13.77
20	111.0	36.69	111.0	32.63	111.0	26.31	111.0	18.18	111.0	16.52	111.0	16.17	111.0	15.84
25	111.0	42.54	111.0	37.55	111.0	30.55	111.0	21.11	111.0	19.25	111.0	18.71	111.0	18.20
30	111.0	48.61	111.0	42.91	111.0	34.90	111.0	24.12	111.0	22.08	111.0	21.31	111.0	20.59
35	111.0	58.31	111.0	48.99	111.0	39.56	111.0	32.02	111.0	30.35	111.0	28.15	111.0	26.94
40	111.0	66.06	111.0	53.47	111.0	40.95	111.0	35.48	111.0	32.93	111.0	31.04	111.0	29.43
45	108.0	81.82	111.0	73.66	111.0	59.32	111.0	57.07	111.0	46.75	111.0	44.24	111.0	42.56
48	85.12	88.43	106.4	96.08	111.0	88.74	111.0	54.14	111.0	63.32	111.0	60.66	111.0	47.08
52	60.02	52.98	75.02	59.60	83.36	59.60	90.30	53.13	98.15	54.49	103.1	53.08	108.0	51.87

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	111.0	12.07	111.0	11.90	111.0	11.85	111.0	11.81	111.0	11.76	111.0	11.72
-10	111.0	12.11	111.0	11.94	111.0	11.89	111.0	11.85	111.0	11.80	111.0	11.76
-5	111.0	12.22	111.0	12.04	111.0	11.99	111.0	11.95	111.0	11.90	111.0	11.86
0	111.0	12.31	111.0	12.13	111.0	12.08	111.0	12.03	111.0	11.98	111.0	11.94
5	111.0	12.48	111.0	12.29	111.0	12.23	111.0	12.18	111.0	12.13	111.0	12.07
10	111.0	11.95	111.0	11.74	111.0	11.66	111.0	11.58	111.0	11.50	111.0	11.42
15	111.0	13.48	111.0	13.21	111.0	13.05	111.0	12.90	111.0	12.75	111.0	12.60
20	111.0	15.44	111.0	15.06	111.0	14.79	111.0	14.54	111.0	14.28	111.0	14.03
25	111.0	17.66	111.0	17.13	111.0	16.72	111.0	16.33	111.0	15.94	111.0	15.55
30	111.0	19.87	111.0	19.18	111.0	18.60	111.0	18.06	111.0	17.52	111.0	16.98
35	111.0	25.82	111.0	24.76	111.0	23.81	111.0	22.94	111.0	22.07	111.0	21.19
40	111.0	28.98	111.0	27.60	111.0	26.34	111.0	25.19	111.0	24.05	111.0	22.90
45	111.0	33.60	111.0	31.72	111.0	29.96	111.0	27.96	111.0	26.80	111.0	25.39
48	111.0	43.26	111.0	43.22	111.0	41.64	111.0	40.64	111.0	38.10	111.0	28.65
52	111.0	48.53	111.0	45.71	111.0	43.19	111.0	41.06	111.0	40.45	111.0	39.52

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 67RT / 40% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	88.80	21.04	88.80	19.19	88.80	15.21	88.80	11.99	88.80	10.81	88.80	10.74	88.80	10.67
-10	88.80	21.13	88.80	19.36	88.80	15.40	88.80	12.04	88.80	10.85	88.80	10.78	88.80	10.71
-5	88.80	21.31	88.80	19.52	88.80	15.53	88.80	12.14	88.80	10.94	88.80	10.87	88.80	10.80
0	88.80	21.48	88.80	19.68	88.80	15.66	88.80	12.23	88.80	11.03	88.80	10.95	88.80	10.88
5	88.80	22.17	88.80	19.97	88.80	15.89	88.80	12.41	88.80	11.19	88.80	11.11	88.80	11.03
10	88.80	23.93	88.80	21.56	88.80	17.30	88.80	11.96	88.80	10.79	88.80	10.69	88.80	10.58
15	88.80	26.19	88.80	24.58	88.80	19.73	88.80	13.64	88.80	12.35	88.80	12.16	88.80	11.99
20	88.80	31.95	88.80	28.41	88.80	22.91	88.80	15.83	88.80	14.38	88.80	14.08	88.80	13.79
25	88.80	37.04	88.80	32.70	88.80	26.60	88.80	18.38	88.80	16.76	88.80	16.29	88.80	15.85
30	88.80	42.32	88.80	37.36	88.80	30.39	88.80	21.00	88.80	19.23	88.80	18.55	88.80	17.93
35	88.80	50.77	88.80	42.65	88.80	34.45	88.80	27.88	88.80	26.42	88.80	24.51	88.80	23.45
40	88.80	57.52	88.80	46.56	88.80	35.65	88.80	30.89	88.80	28.68	88.80	27.03	88.80	25.62
45	88.80	72.49	88.80	64.14	88.80	51.65	88.80	49.69	88.80	40.70	88.80	38.52	88.80	37.05
48	85.12	89.67	88.80	87.41	88.80	77.27	88.80	47.14	88.80	55.13	88.80	52.82	88.80	40.99
52	60.02	53.72	75.02	60.43	83.36	60.43	88.80	51.96	88.80	49.10	88.80	45.83	88.80	45.16

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	88.80	10.51	88.80	10.36	88.80	10.32	88.80	10.28	88.80	10.24	88.80	10.20
-10	88.80	10.55	88.80	10.39	88.80	10.35	88.80	10.32	88.80	10.28	88.80	10.24
-5	88.80	10.64	88.80	10.48	88.80	10.44	88.80	10.40	88.80	10.36	88.80	10.32
0	88.80	10.72	88.80	10.56	88.80	10.52	88.80	10.48	88.80	10.43	88.80	10.39
5	88.80	10.86	88.80	10.70	88.80	10.65	88.80	10.61	88.80	10.56	88.80	10.51
10	88.80	10.40	88.80	10.22	88.80	10.15	88.80	10.08	88.80	10.01	88.80	9.94
15	88.80	11.74	88.80	11.50	88.80	11.36	88.80	11.23	88.80	11.10	88.80	10.97
20	88.80	13.45	88.80	13.11	88.80	12.88	88.80	12.66	88.80	12.43	88.80	12.21
25	88.80	15.37	88.80	14.91	88.80	14.56	88.80	14.22	88.80	13.88	88.80	13.54
30	88.80	17.30	88.80	16.70	88.80	16.20	88.80	15.73	88.80	15.25	88.80	14.78
35	88.80	22.48	88.80	21.55	88.80	20.73	88.80	19.97	88.80	19.21	88.80	18.45
40	88.80	25.23	88.80	24.03	88.80	22.93	88.80	21.94	88.80	20.94	88.80	19.94
45	88.80	29.25	88.80	27.62	88.80	26.08	88.80	24.35	88.80	23.33	88.80	22.11
48	88.80	37.67	88.80	37.63	88.80	36.25	88.80	35.38	88.80	33.18	88.80	24.94
52	88.80	42.25	88.80	39.80	88.80	37.61	88.80	35.75	88.80	35.22	88.80	34.41

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 67RT / 30% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	66.60	16.65	66.60	15.18	66.60	12.04	66.60	9.49	66.60	8.55	66.60	8.50	66.60	8.44
-10	66.60	16.72	66.60	15.32	66.60	12.18	66.60	9.52	66.60	8.58	66.60	8.53	66.60	8.47
-5	66.60	16.86	66.60	15.45	66.60	12.29	66.60	9.60	66.60	8.65	66.60	8.60	66.60	8.54
0	66.60	16.99	66.60	15.57	66.60	12.39	66.60	9.68	66.60	8.72	66.60	8.67	66.60	8.61
5	66.60	17.54	66.60	15.80	66.60	12.57	66.60	9.82	66.60	8.86	66.60	8.79	66.60	8.73
10	66.60	18.93	66.60	17.05	66.60	13.68	66.60	9.46	66.60	8.54	66.60	8.46	66.60	8.37
15	66.60	20.72	66.60	19.45	66.60	15.61	66.60	10.79	66.60	9.77	66.60	9.62	66.60	9.48
20	66.60	25.28	66.60	22.47	66.60	18.12	66.60	12.53	66.60	11.38	66.60	11.14	66.60	10.91
25	66.60	29.30	66.60	25.87	66.60	21.04	66.60	14.54	66.60	13.26	66.60	12.89	66.60	12.54
30	66.60	33.48	66.60	29.56	66.60	24.04	66.60	16.62	66.60	15.21	66.60	14.68	66.60	14.18
35	66.60	40.17	66.60	33.74	66.60	27.25	66.60	22.05	66.60	20.90	66.60	19.39	66.60	18.55
40	66.60	45.50	66.60	36.83	66.60	28.21	66.60	24.44	66.60	22.69	66.60	21.38	66.60	20.27
45	66.60	57.35	66.60	50.74	66.60	40.86	66.60	39.31	66.60	32.20	66.60	30.47	66.60	29.32
48	66.60	74.48	66.60	69.15	66.60	61.13	66.60	37.29	66.60	43.62	66.60	41.79	66.60	32.43
52	60.02	53.72	66.60	52.26	66.60	47.81	66.60	41.11	66.60	38.84	66.60	36.25	66.60	35.73

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	66.60	8.32	66.60	8.19	66.60	8.16	66.60	8.13	66.60	8.10	66.60	8.07
-10	66.60	8.34	66.60	8.22	66.60	8.19	66.60	8.16	66.60	8.13	66.60	8.10
-5	66.60	8.42	66.60	8.29	66.60	8.26	66.60	8.23	66.60	8.20	66.60	8.17
0	66.60	8.48	66.60	8.35	66.60	8.32	66.60	8.29	66.60	8.25	66.60	8.22
5	66.60	8.59	66.60	8.47	66.60	8.43	66.60	8.39	66.60	8.35	66.60	8.32
10	66.60	8.23	66.60	8.09	66.60	8.03	66.60	7.98	66.60	7.92	66.60	7.86
15	66.60	9.29	66.60	9.10	66.60	8.99	66.60	8.89	66.60	8.78	66.60	8.68
20	66.60	10.64	66.60	10.37	66.60	10.19	66.60	10.01	66.60	9.84	66.60	9.66
25	66.60	12.16	66.60	11.80	66.60	11.52	66.60	11.25	66.60	10.98	66.60	10.71
30	66.60	13.69	66.60	13.21	66.60	12.81	66.60	12.44	66.60	12.07	66.60	11.70
35	66.60	17.79	66.60	17.05	66.60	16.40	66.60	15.80	66.60	15.20	66.60	14.60
40	66.60	19.96	66.60	19.01	66.60	18.14	66.60	17.35	66.60	16.56	66.60	15.77
45	66.60	23.14	66.60	21.85	66.60	20.64	66.60	19.26	66.60	18.46	66.60	17.49
48	66.60	29.80	66.60	29.77	66.60	28.68	66.60	27.99	66.60	26.25	66.60	19.73
52	66.60	33.43	66.60	31.48	66.60	29.75	66.60	28.28	66.60	27.86	66.60	27.22

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

3. Performance Data

◆ 67RT / 20% Capacity

Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)													
	-10		-5		0		4		7		9		11	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	44.40	11.50	44.40	10.49	44.40	8.31	44.40	6.55	44.40	5.91	44.40	5.87	44.40	5.83
-10	44.40	11.55	44.40	10.58	44.40	8.42	44.40	6.58	44.40	5.93	44.40	5.89	44.40	5.85
-5	44.40	11.65	44.40	10.67	44.40	8.49	44.40	6.63	44.40	5.98	44.40	5.94	44.40	5.90
0	44.40	11.74	44.40	10.75	44.40	8.56	44.40	6.69	44.40	6.03	44.40	5.99	44.40	5.95
5	44.40	12.11	44.40	10.91	44.40	8.68	44.40	6.78	44.40	6.12	44.40	6.07	44.40	6.03
10	44.40	13.08	44.40	11.78	44.40	9.45	44.40	6.53	44.40	5.90	44.40	5.84	44.40	5.78
15	44.40	14.31	44.40	13.43	44.40	10.78	44.40	7.45	44.40	6.75	44.40	6.65	44.40	6.55
20	44.40	17.46	44.40	15.53	44.40	12.52	44.40	8.65	44.40	7.86	44.40	7.70	44.40	7.54
25	44.40	20.24	44.40	17.87	44.40	14.54	44.40	10.05	44.40	9.16	44.40	8.90	44.40	8.66
30	44.40	23.13	44.40	20.42	44.40	16.61	44.40	11.48	44.40	10.51	44.40	10.14	44.40	9.80
35	44.40	27.75	44.40	23.31	44.40	18.83	44.40	15.23	44.40	14.44	44.40	13.39	44.40	12.82
40	44.40	31.43	44.40	25.44	44.40	19.49	44.40	16.88	44.40	15.67	44.40	14.77	44.40	14.00
45	44.40	39.61	44.40	35.05	44.40	28.22	44.40	27.16	44.40	22.24	44.40	21.05	44.40	20.25
48	44.40	51.45	44.40	47.77	44.40	42.23	44.40	25.76	44.40	30.13	44.40	28.86	44.40	22.40
52	44.40	38.71	44.40	36.10	44.40	33.03	44.40	28.40	44.40	26.83	44.40	25.04	44.40	24.68

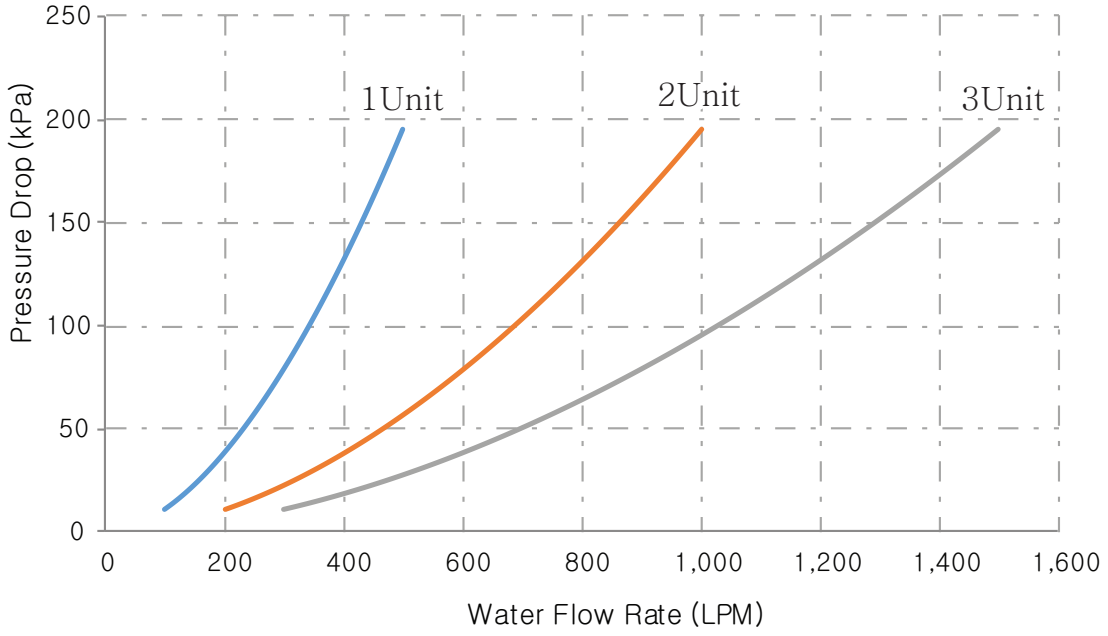
Outdoor Temp. (℃DB)	Leaving Water Temp. (℃)											
	13		15		18		20		22		25	
	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI	CC	PI
-15	44.40	5.74	44.40	5.66	44.40	5.64	44.40	5.62	44.40	5.60	44.40	5.57
-10	44.40	5.76	44.40	5.68	44.40	5.66	44.40	5.64	44.40	5.62	44.40	5.59
-5	44.40	5.81	44.40	5.73	44.40	5.71	44.40	5.69	44.40	5.66	44.40	5.64
0	44.40	5.86	44.40	5.77	44.40	5.75	44.40	5.72	44.40	5.70	44.40	5.68
5	44.40	5.94	44.40	5.85	44.40	5.82	44.40	5.80	44.40	5.77	44.40	5.74
10	44.40	5.68	44.40	5.59	44.40	5.55	44.40	5.51	44.40	5.47	44.40	5.43
15	44.40	6.42	44.40	6.28	44.40	6.21	44.40	6.14	44.40	6.07	44.40	5.99
20	44.40	7.35	44.40	7.16	44.40	7.04	44.40	6.92	44.40	6.80	44.40	6.67
25	44.40	8.40	44.40	8.15	44.40	7.95	44.40	7.77	44.40	7.58	44.40	7.40
30	44.40	9.46	44.40	9.13	44.40	8.85	44.40	8.59	44.40	8.34	44.40	8.08
35	44.40	12.29	44.40	11.78	44.40	11.33	44.40	10.92	44.40	10.50	44.40	10.08
40	44.40	13.79	44.40	13.13	44.40	12.53	44.40	11.99	44.40	11.44	44.40	10.90
45	44.40	15.99	44.40	15.09	44.40	14.26	44.40	13.31	44.40	12.75	44.40	12.08
48	44.40	20.58	44.40	20.57	44.40	19.81	44.40	19.34	44.40	18.13	44.40	13.63
52	44.40	23.09	44.40	21.75	44.40	20.55	44.40	19.54	44.40	19.25	44.40	18.80

Note

1. CC: Cooling Capacity(kW), PI : Power Input(kW)
2. Capacity tables show the average value of conditions which may occur.

4. Head Loss

◆ **Evaporator head loss graph**



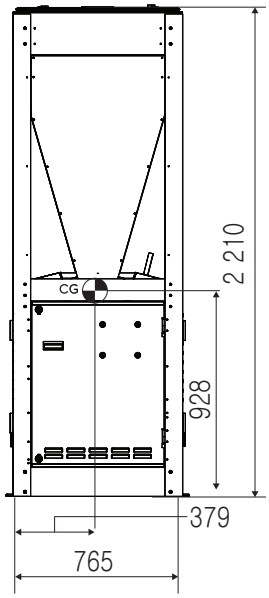
*LPM : Liter Per Minute

5. Dimensions

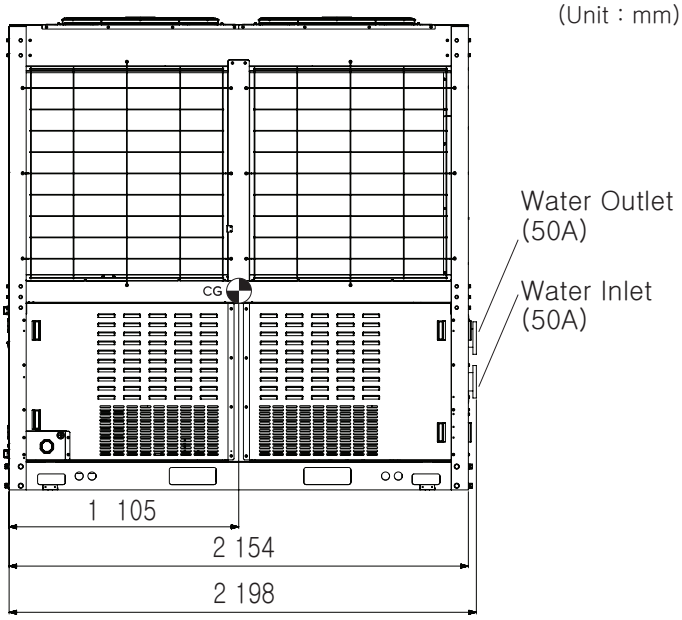
■ 1 UNIT

• Model : 1Unit

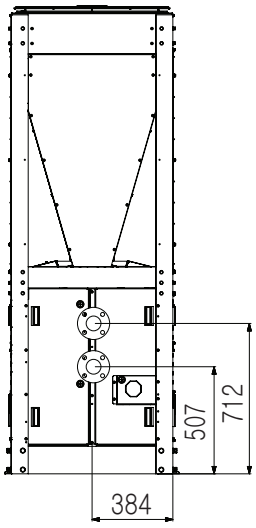
(Unit : mm)



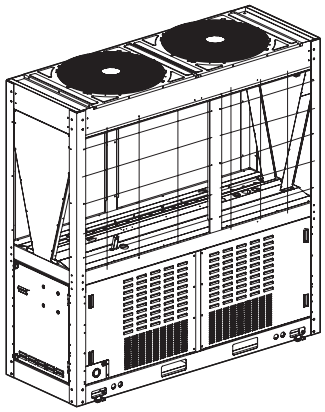
Front view



Side view



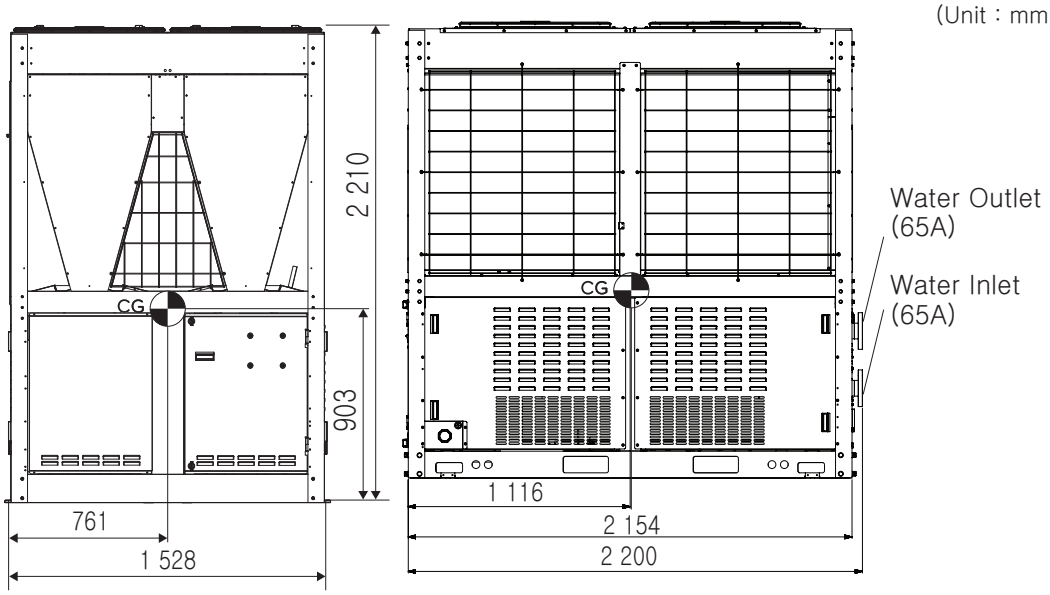
Rear view



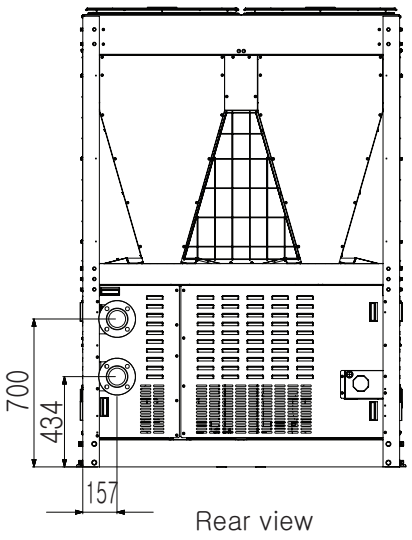
5. Dimensions

■ 2 UNIT

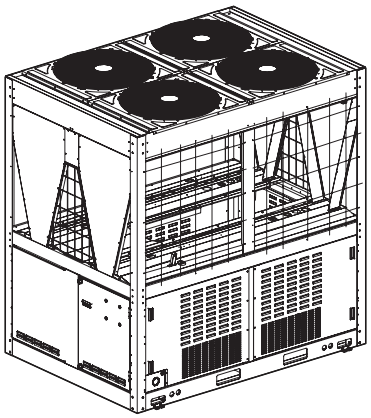
(Unit : mm)



Front view Side view



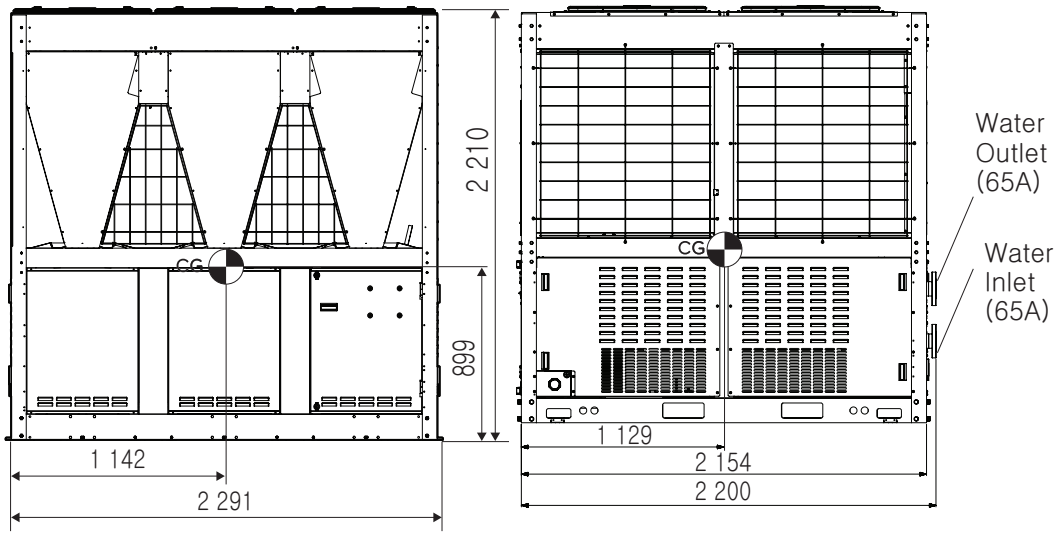
Rear view



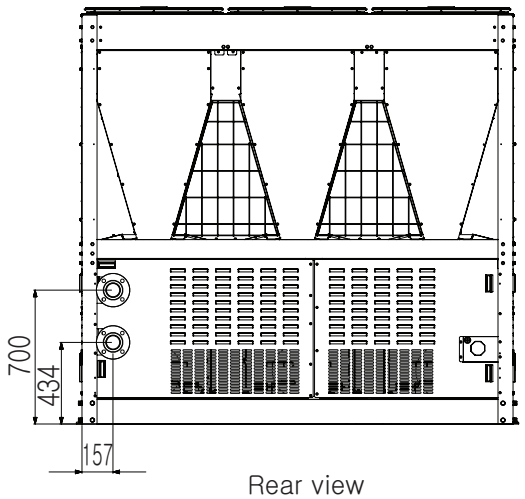
5. Dimensions

■ 3 UNIT

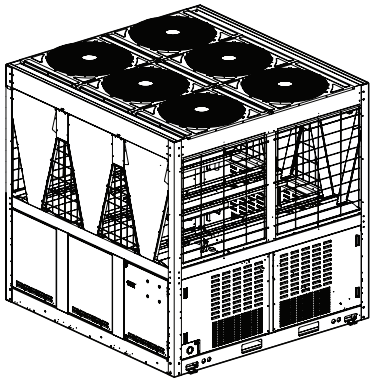
(Unit : mm)



Front view Side view



Rear view

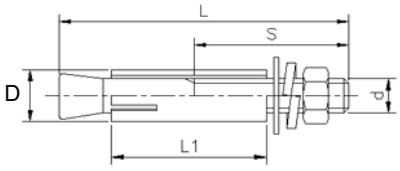


6. Base Installation

■ Details to consider when installing the base

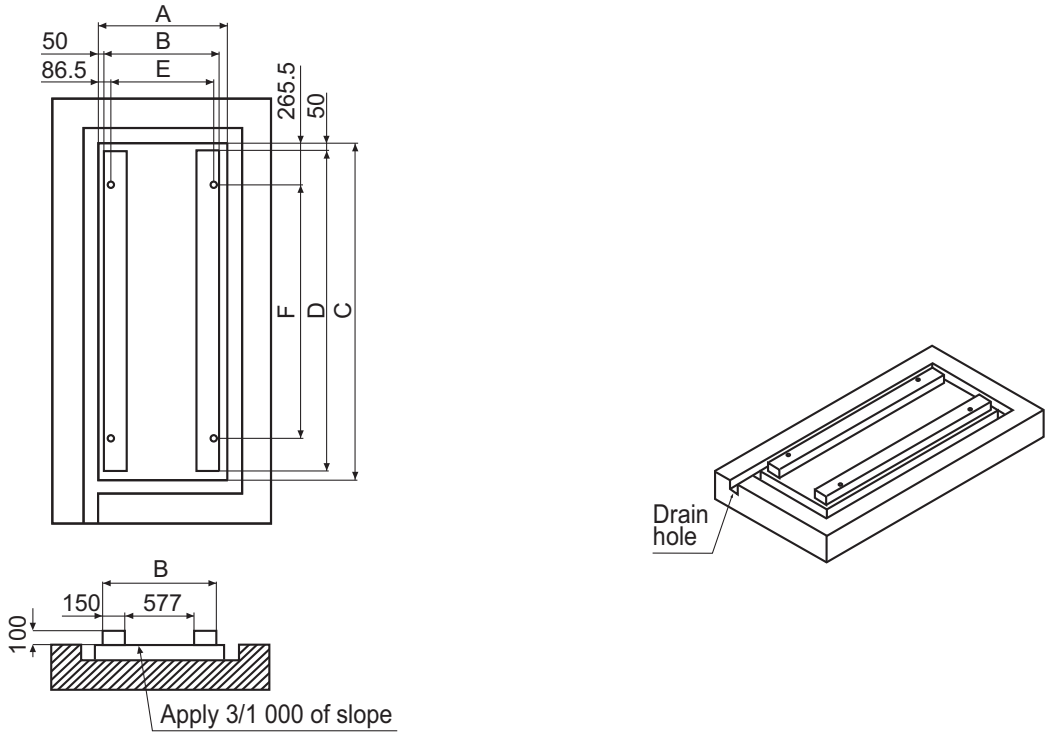
- The base must be able to withstand concentrated load.
- The base must be installed with maximum gradient of 1/300.
- The height of the base must be higher than the surface of the water and drain holes must be installed around.
- Set the height of the base according to the installation environment so that the product is not submersed in water. The default height of the base is 200 mm and it must be at least doubled in areas with double the snowfall of 100 mm or above.
- Install the drain pipe in the drain hole. The drainage must be finished so that particles around the drainage do not clog the pipes.
- LG is not responsible for product failure or damage from incorrectly designed or manufactured base.

◆ Specifications of anchor bolt

Shape of anchor bolt	L	S	D	L1	Used drill	Depth of drill (min.)	Pullout load (N)
	125	70	22	65	22	65	42 140

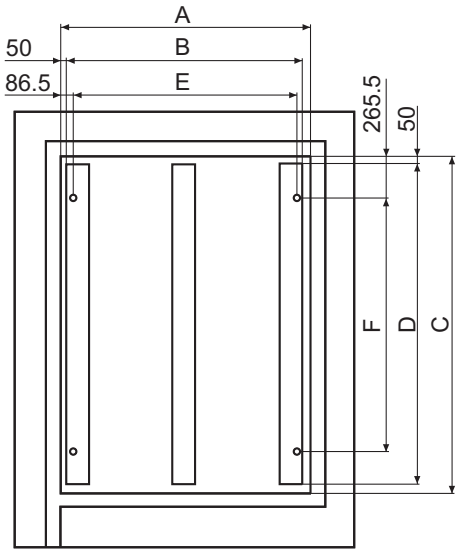
◆ Dimensions of base installation

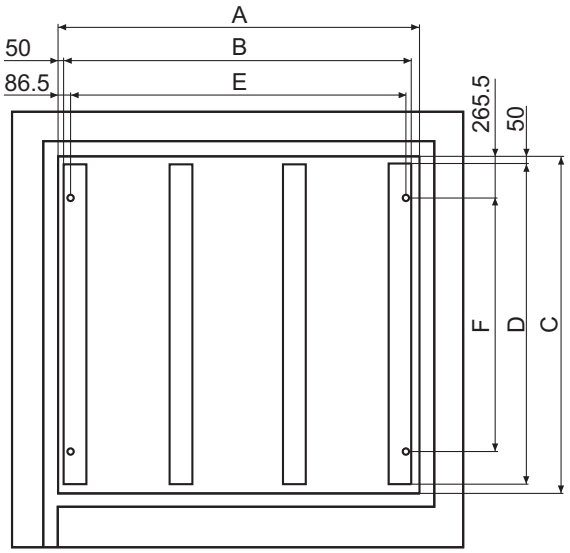
Unit : mm	1 Unit	2 Unit	3 Unit
A	977	1,740	2,503
B	877	1,640	2,403
C	2,300	2,300	2,300
D	2,200	2,200	2,200
E	804	1,569	2,330
F	1,769	1,769	1,769

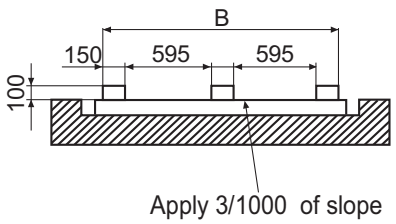


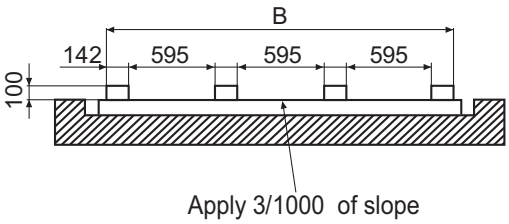
<1 UNIT Drawing of base>

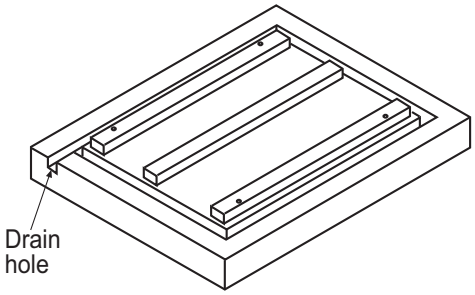
6. Base Installation

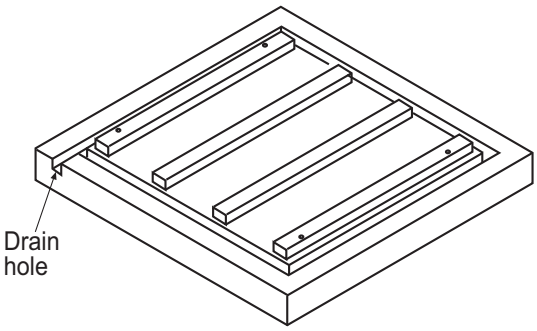












<2 UNIT Drawing of base>

<3 UNIT Drawing of base>

7. Electrical Characteristics

Model	Power Supply			System		Compressor		Fan Motor	
	Hz	Volts	Voltage-range	MCA	MFA	MSC	RLA	MSC	RLA
KCAH020VDTC	60	208-230	187 ~ 253	80	90	21.9	67.7	1.8	2.6
KCAH023VDTC				80	90	21.9	67.8	1.8	2.6
KCAH033VDTC				160	175	43.8	135.2	3.6	5.2
KCAH040VDTC				160	175	43.8	135.4	3.6	5.2
KCAH045VDTC				160	175	43.8	135.6	3.6	5.2
KCAH050VDTC				#1 -160 #2 - 80	#1 -175 #2 - 90	65.7	202.8	5.4	7.8
KCAH060VDTC				#1 -160 #2 - 80	#1 -175 #2 - 90	65.7	203.1	5.4	7.8
KCAH067VDTC				#1 -160 #2 - 80	#1 -175 #2 - 90	65.7	203.4	5.4	7.8
KCAH017LDTC	50/60	380-415	342 ~ 456	50.9	60	12.6	25.4	3.0	2.0
KCAH020LDTC				50.9	60	12.6	30.2	3.0	2.0
KCAH023LDTC				50.9	60	12.6	37.4	3.0	2.0
KCAH033LDTC				101.8	125	25.2	50.8	6.0	4.0
KCAH040LDTC				101.8	125	25.2	60.4	6.0	4.0
KCAH045LDTC				101.8	125	25.2	74.8	6.0	4.0
KCAH050LDTC				152.7	175	37.8	76.2	9.0	6.0
KCAH060LDTC				152.7	175	37.8	90.6	9.0	6.0
KCAH067LDTC				152.7	175	37.8	112.2	9.0	6.0
KCAH020HDTC	60	460	391 ~ 529	42	50	12.6	34.7	3.0	2.0
KCAH023HDTC				44	50	12.6	36.8	3.0	2.0
KCAH033HDTC				80	90	25.2	62.4	6.0	4.0
KCAH040HDTC				84	100	25.2	69.4	6.0	4.0
KCAH045HDTC				88	100	25.2	73.6	6.0	4.0
KCAH050HDTC				120	150	37.8	93.6	9.0	6.0
KCAH060HDTC				126	150	37.8	104.1	9.0	6.0
KCAH067HDTC				132	150	37.8	110.4	9.0	6.0

Note

1. RLA is the current required when operated in the following condition.
   - Cooling : Outdoor air temp. 27°C DB / 19.0°C WB, Water inlet / Outlet temp. 12°C / 7°C
   - Heating : Outdoor air temp. 7°C DB / 6.0°C WB, Water inlet / Outlet temp. 40.0°C / 45.0°C
2. Voltage supplied to the unit terminals should be within the minimum and maximum range to operate normally.
3. Maximum allowable voltage unbalance between phase is 2%.
4. MSC means the Max. current during the starting of compressor/motor.
5. Select the wire size based on the MCA.
6. MFA is used to select the circuit breaker and ground fault circuit interrupter, and all installation site must require attachment of an earth leakage breaker. [circuit breaker type is ELCB(Earth Leakage Circuit Breaker)].

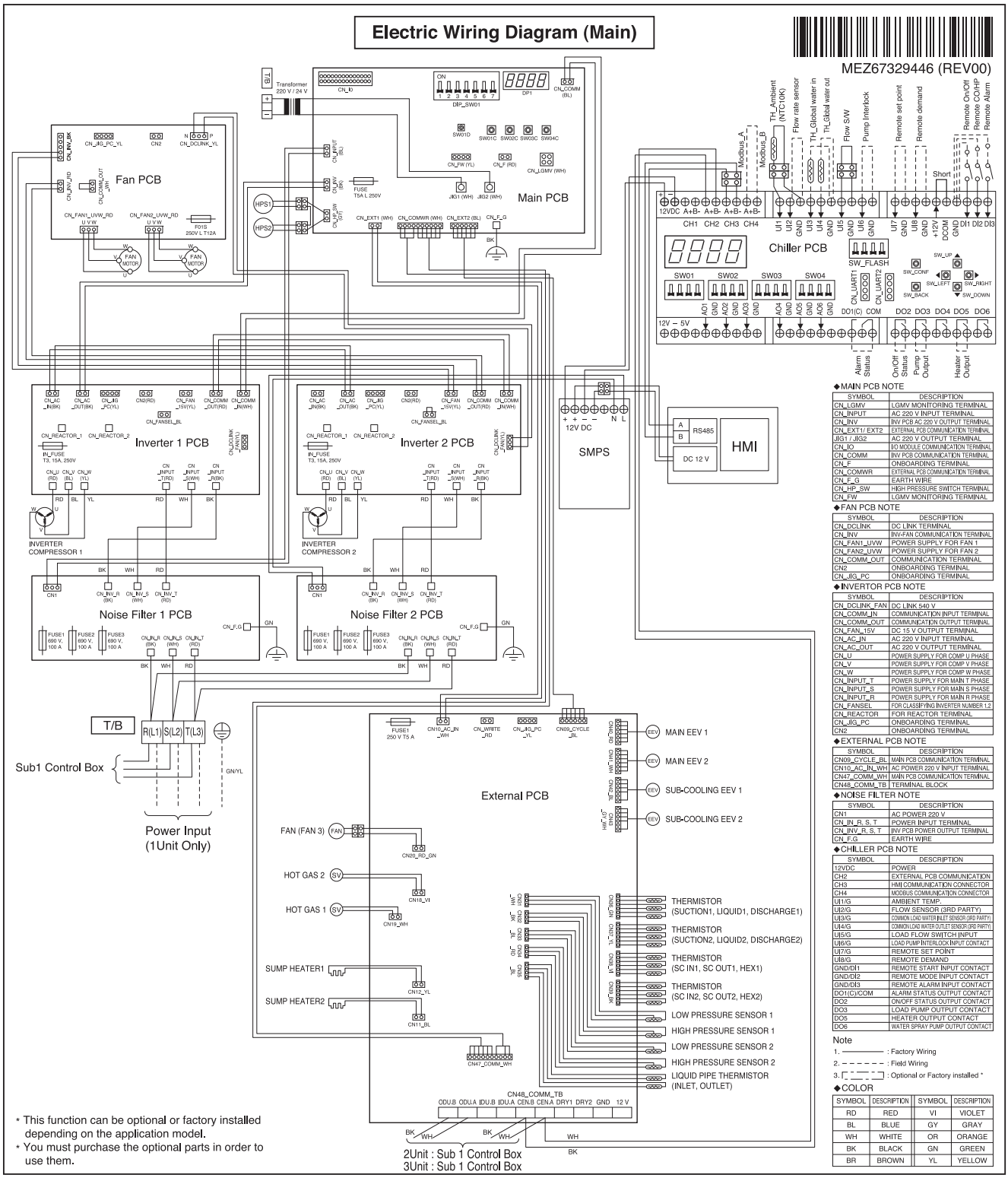
Symbols

MCA : Minimum Circuit Amperes (A)
MFA : Maximum Fuse Amperes (A)
MSC : Maximum Starting Current (A)
RLA : Rated Load Amperes (A)

8. Wiring Diagrams

8.1 220V

■ 1 Unit, 2 Unit - Main, 3 Unit - Main



◆MAIN PCB NOTE

SYMBOL	DESCRIPTION
CN_LGMV	LGMV MONITORING TERMINAL
CN_INPUT	AC 220 V INPUT TERMINAL
CN_INV	INV PCB AC 220 V OUTPUT TERMINAL
CN_EXT1/ EXT2	EXTERNAL PCB COMMUNICATION TERMINAL
JIG1 / JIG2	AC 220 V OUTPUT TERMINAL
CN_IO	I/O MODULE COMMUNICATION TERMINAL
CN_COMM	INV PCB COMMUNICATION TERMINAL
CN_F	ONBOARDING TERMINAL
CN_COMWR	EXTERNAL PCB COMMUNICATION TERMINAL
CN_F_G	EARTH WIRE
CN_HP_SW	HIGH PRESSURE SWITCH TERMINAL
CN_FW	LGMV MONITORING TERMINAL

◆FAN PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK	DC LINK TERMINAL
CN_INV	INV-FAN COMMUNICATION TERMINAL
CN_FAN1_UVW	POWER SUPPLY FOR FAN 1
CN_FAN2_UVW	POWER SUPPLY FOR FAN 2
CN_COMM_OUT	COMMUNICATION TERMINAL
CN2	ONBOARDING TERMINAL
CN_JIG_PC	ONBOARDING TERMINAL

◆INVERTOR PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK_FAN	DC LINK 540 V
CN_COMM_IN	COMMUNICATION INPUT TERMINAL
CN_COMM_OUT	COMMUNICATION OUTPUT TERMINAL
CN_FAN_15V	DC 15 V OUTPUT TERMINAL
CN_AC_IN	AC 220 V INPUT TERMINAL
CN_AC_OUT	AC 220 V OUTPUT TERMINAL
CN_U	POWER SUPPLY FOR COMP U PHASE
CN_V	POWER SUPPLY FOR COMP V PHASE
CN_W	POWER SUPPLY FOR COMP W PHASE
CN_INPUT_T	POWER SUPPLY FOR MAIN T PHASE
CN_INPUT_S	POWER SUPPLY FOR MAIN S PHASE
CN_INPUT_R	POWER SUPPLY FOR MAIN R PHASE
CN_FANSEL	FOR CLASSIFYING INVERTER NUMBER 1,2
CN_REACTOR	FOR REACTOR TERMINAL
CN_JIG_PC	ONBOARDING TERMINAL
CN2	ONBOARDING TERMINAL

◆EXTERNAL PCB NOTE

SYMBOL	DESCRIPTION
CN09_CYCLE_BL	MAIN PCB COMMUNICATION TERMINAL
CN10_AC_IN_WH	AC POWER 220 V INPUT TERMINAL
CN47_COMM_WH	MAIN PCB COMMUNICATION TERMINAL
CN48_COMM_TB	TERMINAL BLOCK

◆NOISE FILTER NOTE

SYMBOL	DESCRIPTION
CN1	AC POWER 220 V
CN_IN_R, S, T	POWER INPUT TERMINAL
CN_INV_R, S, T	INV PCB POWER OUTPUT TERMINAL
CN_F.G	EARTH WIRE

◆CHILLER PCB NOTE

SYMBOL	DESCRIPTION
12VDC	POWER
CH2	EXTERNAL PCB COMMUNICATION
CH3	HMI COMMUNICATION CONNECTOR
CH4	MODBUS COMMUNICATION CONNECTOR
UI1/G	AMBIENT TEMP.
UI2/G	FLOW SENSOR (3RD PARTY)
UI3/G	COMMON LOAD WATER INLET SENSOR (3RD PARTY)
UI4/G	COMMON LOAD WATER OUTLET SENSOR (3RD PARTY)
UI5/G	LOAD FLOW SWITCH INPUT
UI6/G	LOAD PUMP INTERLOCK INPUT CONTACT
UI7/G	REMOTE SET POINT
UI8/G	REMOTE DEMAND
GND/DI1	REMOTE START INPUT CONTACT
GND/DI2	REMOTE MODE INPUT CONTACT
GND/DI3	REMOTE ALARM INPUT CONTACT
DO1(C)/COM	ALARM STATUS OUTPUT CONTACT
DO2	ON/OFF STATUS OUTPUT CONTACT
DO3	LOAD PUMP OUTPUT CONTACT
DO5	HEATER OUTPUT CONTACT
DO6	WATER SPRAY PUMP OUTPUT CONTACT

Note
1. ——— : Factory Wiring
2. – – – – – – : Field Wiring
3. [ ] : Optional or Factory installed *

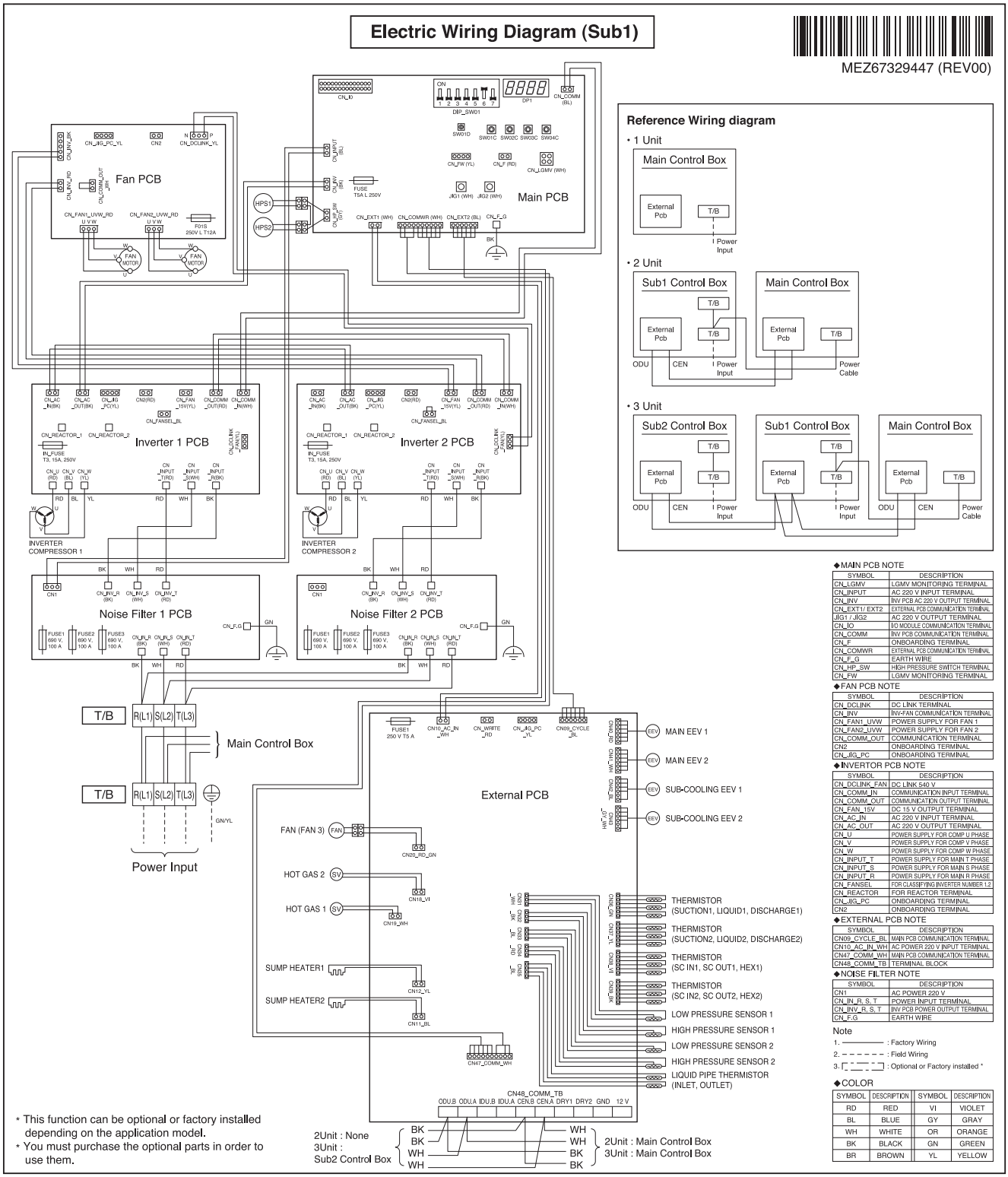
◆COLOR

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
RD	RED	VI	VIOLET
BL	BLUE	GY	GRAY
WH	WHITE	OR	ORANGE
BK	BLACK	GN	GREEN
BR	BROWN	YL	YELLOW

* This function can be optional or factory installed depending on the application model.
* You must purchase the optional parts in order to use them.

8. Wiring Diagrams

■ 2 Unit - Sub, 3 Unit - Sub1



◆MAIN PCB NOTE

SYMBOL	DESCRIPTION
CN_LGMV	LGMV MONITORING TERMINAL
CN_INPUT	AC 220 V INPUT TERMINAL
CN_INV	INV PCB AC 220 V OUTPUT TERMINAL
CN_EXT1/ EXT2	EXTERNAL PCB COMMUNICATION TERMINAL
JIG1 / JIG2	AC 220 V OUTPUT TERMINAL
CN_IO	I/O MODULE COMMUNICATION TERMINAL
CN_COMM	INV PCB COMMUNICATION TERMINAL
CN_F	ONBOARDING TERMINAL
CN_COMWR	EXTERNAL PCB COMMUNICATION TERMINAL
CN_F_G	EARTH WIRE
CN_HP_SW	HIGH PRESSURE SWITCH TERMINAL
CN_FW	LGMV MONITORING TERMINAL

◆FAN PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK	DC LINK TERMINAL
CN_INV	INV-FAN COMMUNICATION TERMINAL
CN_FAN1_UVW	POWER SUPPLY FOR FAN 1
CN_FAN2_UVW	POWER SUPPLY FOR FAN 2
CN_COMM_OUT	COMMUNICATION TERMINAL
CN2	ONBOARDING TERMINAL
CN_JIG_PC	ONBOARDING TERMINAL

◆INVERTOR PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK_FAN	DC LINK 540 V
CN_COMM_IN	COMMUNICATION INPUT TERMINAL
CN_COMM_OUT	COMMUNICATION OUTPUT TERMINAL
CN_FAN_15V	DC 15 V OUTPUT TERMINAL
CN_AC_IN	AC 220 V INPUT TERMINAL
CN_AC_OUT	AC 220 V OUTPUT TERMINAL
CN_U	POWER SUPPLY FOR COMP U PHASE
CN_V	POWER SUPPLY FOR COMP V PHASE
CN_W	POWER SUPPLY FOR COMP W PHASE
CN_INPUT_T	POWER SUPPLY FOR MAIN T PHASE
CN_INPUT_S	POWER SUPPLY FOR MAIN S PHASE
CN_INPUT_R	POWER SUPPLY FOR MAIN R PHASE
CN_FANSEL	FOR CLASSIFYING INVERTER NUMBER 1,2
CN_REACTOR	FOR REACTOR TERMINAL
CN_JIG_PC	ONBOARDING TERMINAL
CN2	ONBOARDING TERMINAL

◆EXTERNAL PCB NOTE

SYMBOL	DESCRIPTION
CN09_CYCLE_BL	MAIN PCB COMMUNICATION TERMINAL
CN10_AC_IN_WH	AC POWER 220 V INPUT TERMINAL
CN47_COMM_WH	MAIN PCB COMMUNICATION TERMINAL
CN48_COMM_TB	TERMINAL BLOCK

◆NOISE FILTER NOTE

SYMBOL	DESCRIPTION
CN1	AC POWER 220 V
CN_IN_R, S, T	POWER INPUT TERMINAL
CN_INV_R, S, T	INV PCB POWER OUTPUT TERMINAL
CN_F,G	EARTH WIRE

Note

1. ———— : Factory Wiring
2. – – – – – – : Field Wiring
3. [ ] : Optional or Factory installed *

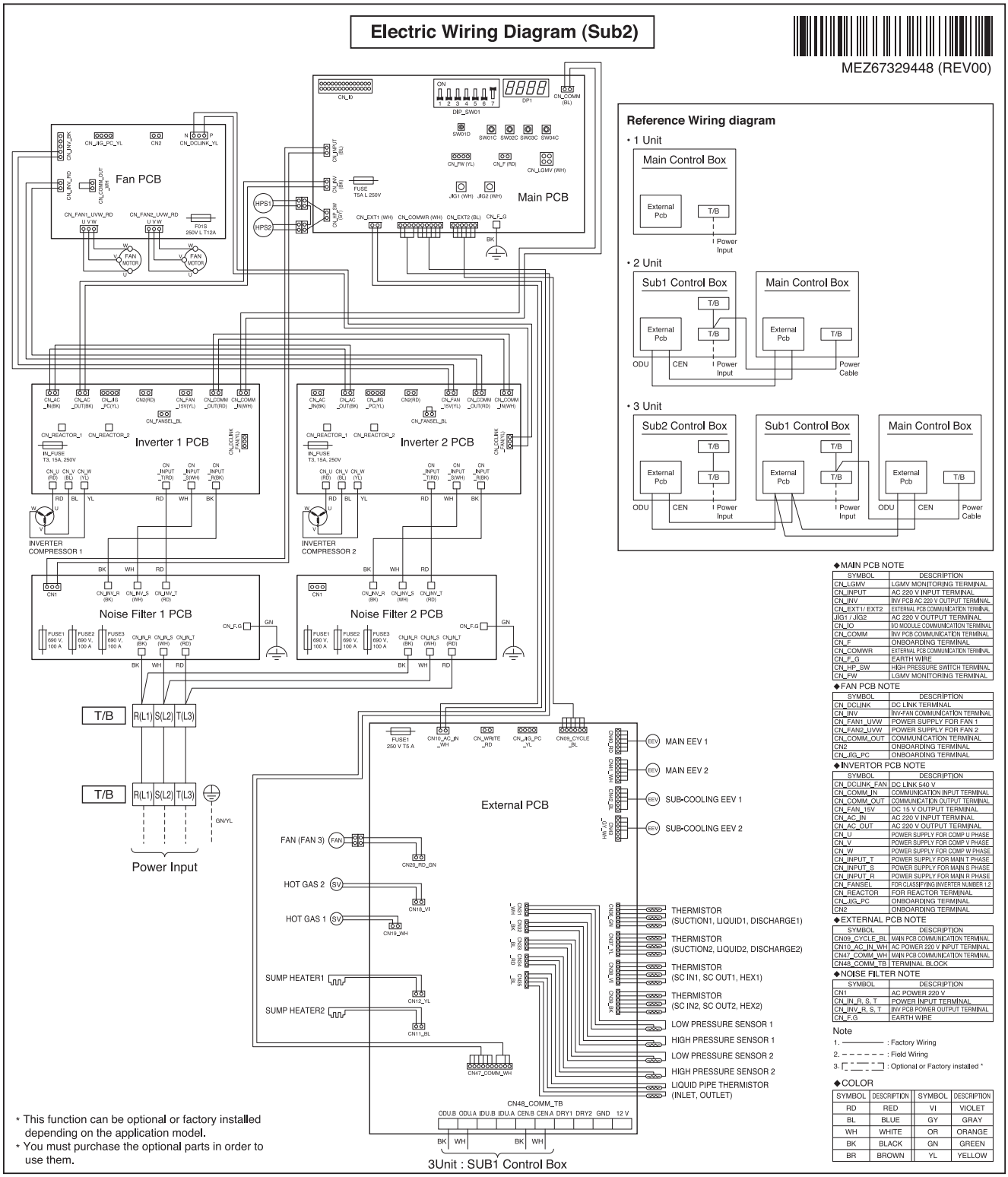
◆COLOR

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
RD	RED	VI	VIOLET
BL	BLUE	GY	GRAY
WH	WHITE	OR	ORANGE
BK	BLACK	GN	GREEN
BR	BROWN	YL	YELLOW

* This function can be optional or factory installed depending on the application model.
* You must purchase the optional parts in order to use them.

8. Wiring Diagrams

■ 3 Unit - Sub2



◆MAIN PCB NOTE

SYMBOL	DESCRIPTION
CN_LGMV	LGMV MONITORING TERMINAL
CN_INPUT	AC 220 V INPUT TERMINAL
CN_INV	INV PCB AC 220 V OUTPUT TERMINAL
CN_EXT1/ EXT2	EXTERNAL PCB COMMUNICATION TERMINAL
JIG1 / JIG2	AC 220 V OUTPUT TERMINAL
CN_IO	I/O MODULE COMMUNICATION TERMINAL
CN_COMM	INV PCB COMMUNICATION TERMINAL
CN_F	ONBOARDING TERMINAL
CN_COMWR	EXTERNAL PCB COMMUNICATION TERMINAL
CN_F_G	EARTH WIRE
CN_HP_SW	HIGH PRESSURE SWITCH TERMINAL
CN_FW	LGMV MONITORING TERMINAL

◆FAN PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK	DC LINK TERMINAL
CN_INV	INV-FAN COMMUNICATION TERMINAL
CN_FAN1_UVW	POWER SUPPLY FOR FAN 1
CN_FAN2_UVW	POWER SUPPLY FOR FAN 2
CN_COMM_OUT	COMMUNICATION TERMINAL
CN2	ONBOARDING TERMINAL
CN_JIG_PC	ONBOARDING TERMINAL

◆INVERTOR PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK_FAN	DC LINK 540 V
CN_COMM_IN	COMMUNICATION INPUT TERMINAL
CN_COMM_OUT	COMMUNICATION OUTPUT TERMINAL
CN_FAN_15V	DC 15 V OUTPUT TERMINAL
CN_AC_IN	AC 220 V INPUT TERMINAL
CN_AC_OUT	AC 220 V OUTPUT TERMINAL
CN_U	POWER SUPPLY FOR COMP U PHASE
CN_V	POWER SUPPLY FOR COMP V PHASE
CN_W	POWER SUPPLY FOR COMP W PHASE
CN_INPUT_T	POWER SUPPLY FOR MAIN T PHASE
CN_INPUT_S	POWER SUPPLY FOR MAIN S PHASE
CN_INPUT_R	POWER SUPPLY FOR MAIN R PHASE
CN_FANSEL	FOR CLASSIFYING INVERTER NUMBER 1,2
CN_REACTOR	FOR REACTOR TERMINAL
CN_JIG_PC	ONBOARDING TERMINAL
CN2	ONBOARDING TERMINAL

◆EXTERNAL PCB NOTE

SYMBOL	DESCRIPTION
CN09_CYCLE_BL	MAIN PCB COMMUNICATION TERMINAL
CN10_AC_IN_WH	AC POWER 220 V INPUT TERMINAL
CN47_COMM_WH	MAIN PCB COMMUNICATION TERMINAL
CN48_COMM_TB	TERMINAL BLOCK

◆NOISE FILTER NOTE

SYMBOL	DESCRIPTION
CN1	AC POWER 220 V
CN_IN_R, S, T	POWER INPUT TERMINAL
CN_INV_R, S, T	INV PCB POWER OUTPUT TERMINAL
CN_F,G	EARTH WIRE

Note

1. ———— : Factory Wiring
2. - - - - - - : Field Wiring
3. [ ] : Optional or Factory installed *

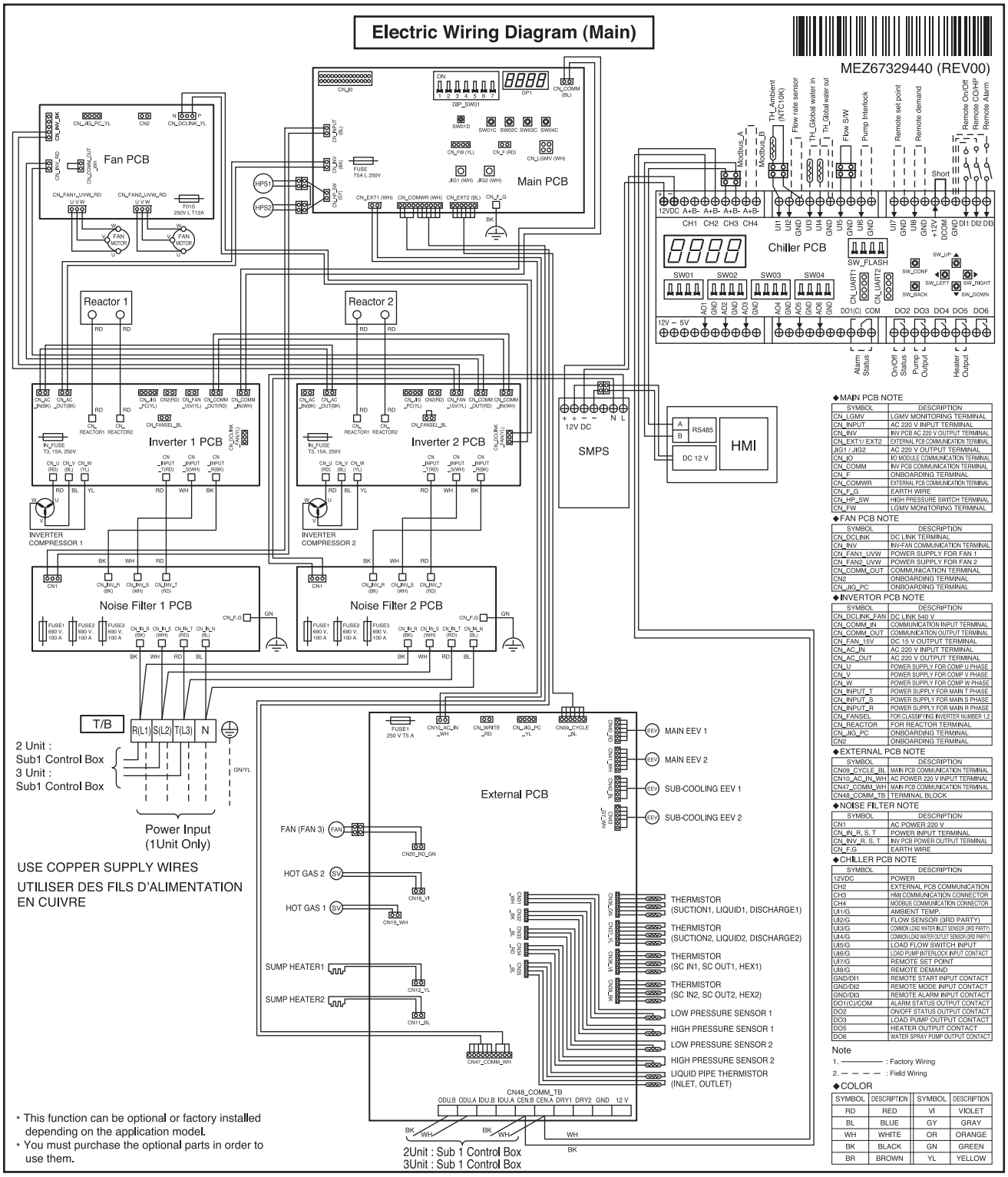
◆COLOR

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
RD	RED	VI	VIOLET
BL	BLUE	GY	GRAY
WH	WHITE	OR	ORANGE
BK	BLACK	GN	GREEN
BR	BROWN	YL	YELLOW

8. Wiring Diagrams

8.2 380V

■ 1 Unit, 2 Unit - Main, 3 Unit - Main



◆MAIN PCB NOTE

SYMBOL	DESCRIPTION
CN_LGMV	LGMV MONITORING TERMINAL
CN_INPUT	AC 220 V INPUT TERMINAL
CN_INV	INV PCB AC 220 V OUTPUT TERMINAL
CN_EXT1/ EXT2	EXTERNAL PCB COMMUNICATION TERMINAL
JIG1 / JIG2	AC 220 V OUTPUT TERMINAL
CN_IO	IO MODULE COMMUNICATION TERMINAL
CN_COMM	INV PCB COMMUNICATION TERMINAL
CN_F	ONBOARDING TERMINAL
CN_COMWR	EXTERNAL PCB COMMUNICATION TERMINAL
CN_F_G	EARTH WIRE
CN_HP_SW	HIGH PRESSURE SWITCH TERMINAL
CN_FW	LGMV MONITORING TERMINAL

◆FAN PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK	DC LINK TERMINAL
CN_INV	INV-FAN COMMUNICATION TERMINAL
CN_FAN1_UVW	POWER SUPPLY FOR FAN 1
CN_FAN2_UVW	POWER SUPPLY FOR FAN 2
CN_COMM_OUT	COMMUNICATION TERMINAL
CN2	ONBOARDING TERMINAL
CN_JIG_PC	ONBOARDING TERMINAL

◆INVERTOR PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK_FAN	DC LINK 540 V
CN_COMM_IN	COMMUNICATION INPUT TERMINAL
CN_COMM_OUT	COMMUNICATION OUTPUT TERMINAL
CN_FAN_15V	DC 15 V OUTPUT TERMINAL
CN_AC_IN	AC 220 V INPUT TERMINAL
CN_AC_OUT	AC 220 V OUTPUT TERMINAL
CN_U	POWER SUPPLY FOR COMP U PHASE
CN_V	POWER SUPPLY FOR COMP V PHASE
CN_W	POWER SUPPLY FOR COMP W PHASE
CN_INPUT_T	POWER SUPPLY FOR MAIN T PHASE
CN_INPUT_S	POWER SUPPLY FOR MAIN S PHASE
CN_INPUT_R	POWER SUPPLY FOR MAIN R PHASE
CN_FANSEL	FOR CLASSIFYING INVERTER NUMBER 1,2
CN_REACTOR	FOR REACTOR TERMINAL
CN_JIG_PC	ONBOARDING TERMINAL
CN2	ONBOARDING TERMINAL

◆EXTERNAL PCB NOTE

SYMBOL	DESCRIPTION
CN09_CYCLE_BL	MAIN PCB COMMUNICATION TERMINAL
CN10_AC_IN_WH	AC POWER 220 V INPUT TERMINAL
CN47_COMM_WH	MAIN PCB COMMUNICATION TERMINAL
CN48_COMM_TB	TERMINAL BLOCK

◆NOISE FILTER NOTE

SYMBOL	DESCRIPTION
CN1	AC POWER 220 V
CN_IN_R, S, T	POWER INPUT TERMINAL
CN_INV_R, S, T	INV PCB POWER OUTPUT TERMINAL
CN_F,G	EARTH WIRE

◆CHILLER PCB NOTE

SYMBOL	DESCRIPTION
12VDC	POWER
CH2	EXTERNAL PCB COMMUNICATION
CH3	HMI COMMUNICATION CONNECTOR
CH4	MODBUS COMMUNICATION CONNECTOR
UI1/G	AMBIENT TEMP.
UI2/G	FLOW SENSOR (3RD PARTY)
UI3/G	COMMON LOAD WATER INLET SENSOR (3RD PARTY)
UI4/G	COMMON LOAD WATER OUTLET SENSOR(3RD PARTY)
UI5/G	LOAD FLOW SWITCH INPUT
UI6/G	LOAD PUMP INTERLOCK INPUT CONTACT
UI7/G	REMOTE SET POINT
UI8/G	REMOTE DEMAND
GND/DI1	REMOTE START INPUT CONTACT
GND/DI2	REMOTE MODE INPUT CONTACT
GND/DI3	REMOTE ALARM INPUT CONTACT
DO1(C)/COM	ALARM STATUS OUTPUT CONTACT
DO2	ON/OFF STATUS OUTPUT CONTACT
DO3	LOAD PUMP OUTPUT CONTACT
DO5	HEATER OUTPUT CONTACT
DO6	WATER SPRAY PUMP OUTPUT CONTACT

Note
1. ———— : Factory Wiring
2. — — — — : Field Wiring

◆COLOR

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
RD	RED	VI	VIOLET
BL	BLUE	GY	GRAY
WH	WHITE	OR	ORANGE
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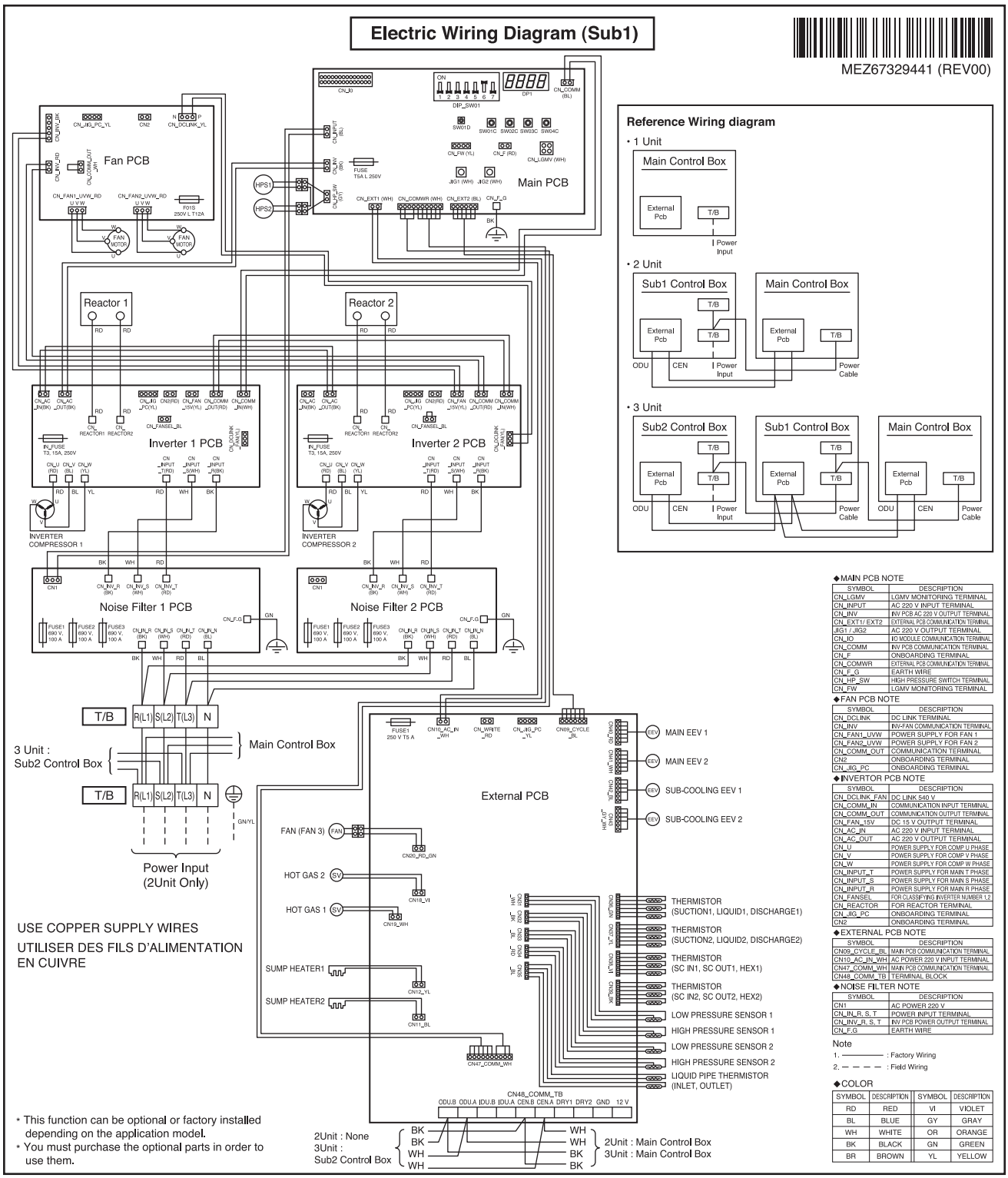
BR	BROWN	YL	YELLOW

8. Wiring Diagrams

■ 2 Unit - Sub, 3 Unit - Sub1



◆MAIN PCB NOTE

SYMBOL	DESCRIPTION
CN_LGMV	LGMV MONITORING TERMINAL
CN_INPUT	AC 220 V INPUT TERMINAL
CN_INV	INV PCB AC 220 V OUTPUT TERMINAL
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JIG1 / JIG2	AC 220 V OUTPUT TERMINAL
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CN_COMM	INV PCB COMMUNICATION TERMINAL
CN_F	ONBOARDING TERMINAL
CN_COMWR	EXTERNAL PCB COMMUNICATION TERMINAL
CN_F_G	EARTH WIRE
CN_HP_SW	HIGH PRESSURE SWITCH TERMINAL
CN_FW	LGMV MONITORING TERMINAL

◆FAN PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK	DC LINK TERMINAL
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CN_FAN2_UVW	POWER SUPPLY FOR FAN 2
CN_COMM_OUT	COMMUNICATION TERMINAL
CN2	ONBOARDING TERMINAL
CN_JIG_PC	ONBOARDING TERMINAL

◆INVERTOR PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK_FAN	DC LINK 540 V
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CN_COMM_OUT	COMMUNICATION OUTPUT TERMINAL
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CN_AC_IN	AC 220 V INPUT TERMINAL
CN_AC_OUT	AC 220 V OUTPUT TERMINAL
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CN_V	POWER SUPPLY FOR COMP V PHASE
CN_W	POWER SUPPLY FOR COMP W PHASE
CN_INPUT_T	POWER SUPPLY FOR MAIN T PHASE
CN_INPUT_S	POWER SUPPLY FOR MAIN S PHASE
CN_INPUT_R	POWER SUPPLY FOR MAIN R PHASE
CN_FANSEL	FOR CLASSIFYING INVERTER NUMBER 1,2
CN_REACTOR	FOR REACTOR TERMINAL
CN_JIG_PC	ONBOARDING TERMINAL
CN2	ONBOARDING TERMINAL

◆EXTERNAL PCB NOTE

SYMBOL	DESCRIPTION
CN09_CYCLE_BL	MAIN PCB COMMUNICATION TERMINAL
CN10_AC_IN_WH	AC POWER 220 V INPUT TERMINAL
CN47_COMM_WH	MAIN PCB COMMUNICATION TERMINAL
CN48_COMM_TB	TERMINAL BLOCK

◆NOISE FILTER NOTE

SYMBOL	DESCRIPTION
CN1	AC POWER 220 V
CN_IN_R, S, T	POWER INPUT TERMINAL
CN_INV_R, S, T	INV PCB POWER OUTPUT TERMINAL
CN_F.G	EARTH WIRE

Note

1. ———— : Factory Wiring
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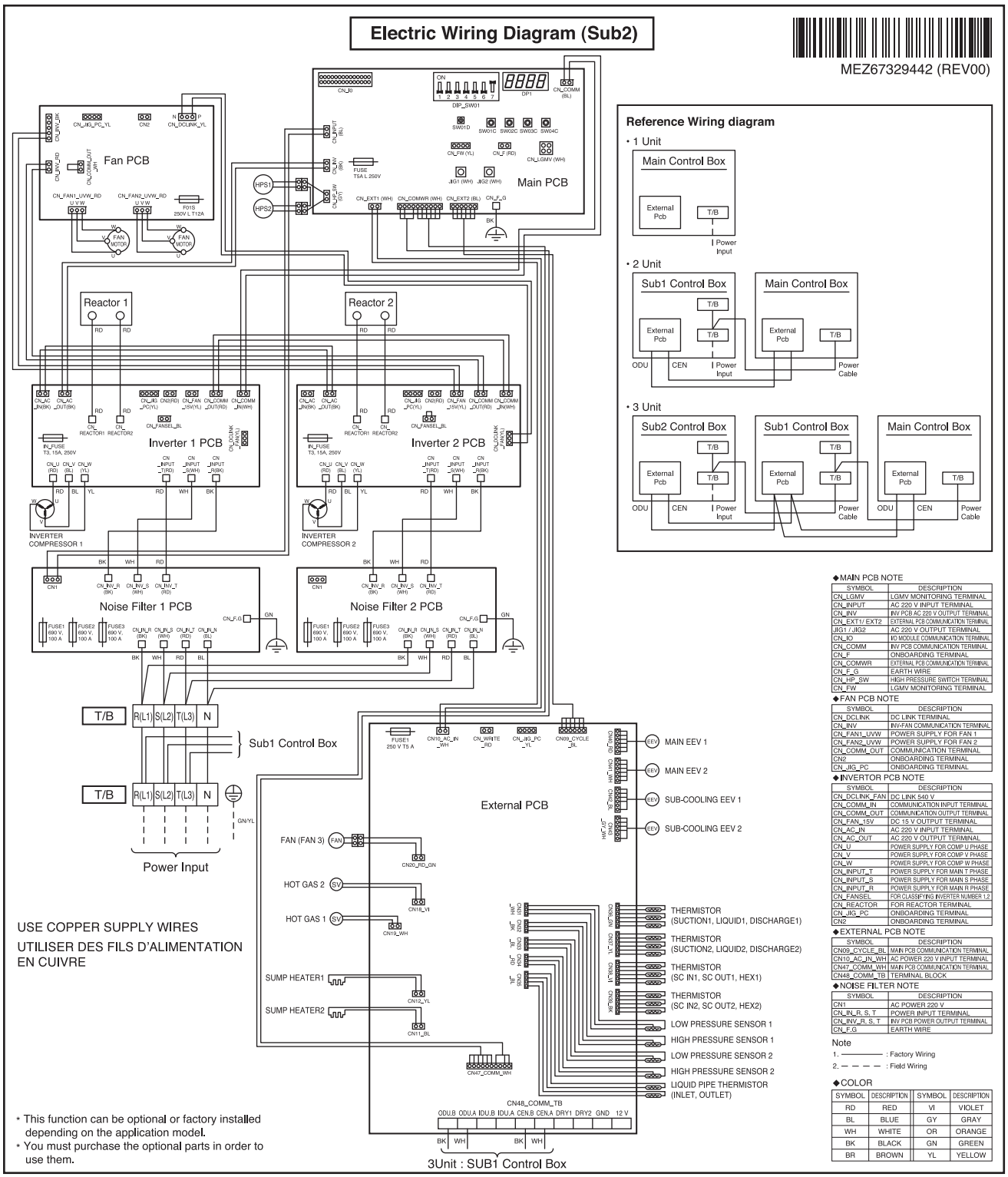
◆COLOR

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
RD	RED	VI	VIOLET
BL	BLUE	GY	GRAY
WH	WHITE	OR	ORANGE
BK	BLACK	GN	GREEN
BR	BROWN	YL	YELLOW

8. Wiring Diagrams

■ 3 Unit - Sub2



SYMBOL	DESCRIPTION
CN_LGMV	LGMV MONITORING TERMINAL
CN_INPUT	AC 220 V INPUT TERMINAL
CN_INV	INV PCB AC 220 V OUTPUT TERMINAL
CN_EXT1/ EXT2	EXTERNAL PCB COMMUNICATION TERMINAL
JIG1 / JIG2	AC 220 V OUTPUT TERMINAL
CN_IO	IO MODULE COMMUNICATION TERMINAL
CN_COMM	INV PCB COMMUNICATION TERMINAL
CN_F	ONBOARDING TERMINAL
CN_COMWR	EXTERNAL PCB COMMUNICATION TERMINAL
CN_F_G	EARTH WIRE
CN_HP_SW	HIGH PRESSURE SWITCH TERMINAL
CN_FW	LGMV MONITORING TERMINAL

SYMBOL	DESCRIPTION
CN_DCLINK	DC LINK TERMINAL
CN_INV	INV-FAN COMMUNICATION TERMINAL
CN_FAN1_UVW	POWER SUPPLY FOR FAN 1
CN_FAN2_UVW	POWER SUPPLY FOR FAN 2
CN_COMM_OUT	COMMUNICATION TERMINAL
CN2	ONBOARDING TERMINAL
CN_JIG_PC	ONBOARDING TERMINAL

SYMBOL	DESCRIPTION
CN_DCLINK_FAN	DC LINK 540 V
CN_COMM_IN	COMMUNICATION INPUT TERMINAL
CN_COMM_OUT	COMMUNICATION OUTPUT TERMINAL
CN_FAN_15V	DC 15 V OUTPUT TERMINAL
CN_AC_IN	AC 220 V INPUT TERMINAL
CN_AC_OUT	AC 220 V OUTPUT TERMINAL
CN_U	POWER SUPPLY FOR COMP U PHASE
CN_V	POWER SUPPLY FOR COMP V PHASE
CN_W	POWER SUPPLY FOR COMP W PHASE
CN_INPUT_T	POWER SUPPLY FOR MAIN T PHASE
CN_INPUT_S	POWER SUPPLY FOR MAIN S PHASE
CN_INPUT_R	POWER SUPPLY FOR MAIN R PHASE
CN_FANSEL	FOR CLASSIFYING INVERTER NUMBER 1,2
CN_REACTOR	FOR REACTOR TERMINAL
CN_JIG_PC	ONBOARDING TERMINAL
CN2	ONBOARDING TERMINAL

SYMBOL	DESCRIPTION
CN09_CYCLE_BL	MAIN PCB COMMUNICATION TERMINAL
CN10_AC_IN_WH	AC POWER 220 V INPUT TERMINAL
CN47_COMM_WH	MAIN PCB COMMUNICATION TERMINAL
CN48_COMM_TB	TERMINAL BLOCK

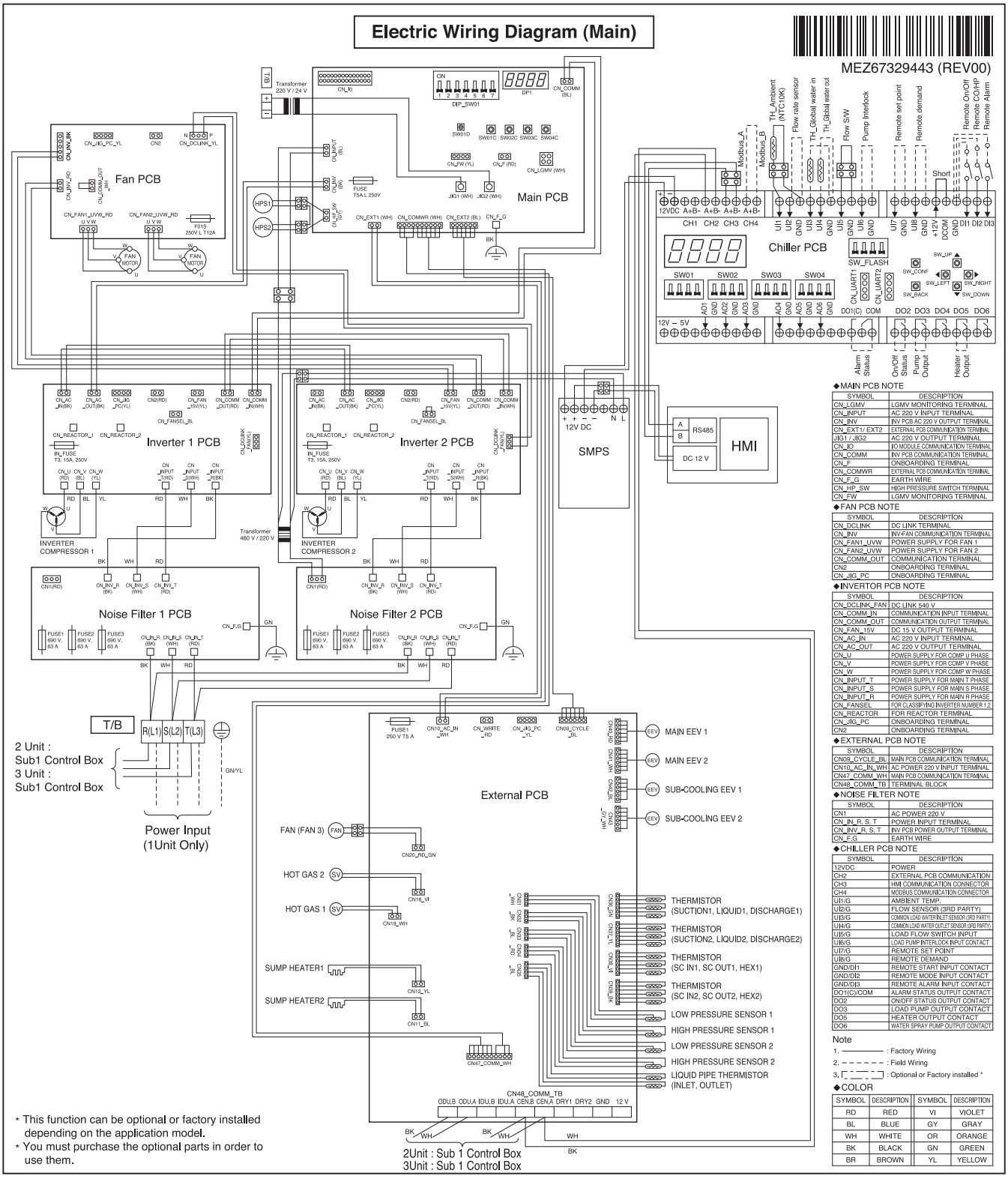
SYMBOL	DESCRIPTION
CN1	AC POWER 220 V
CN_IN_R, S, T	POWER INPUT TERMINAL
CN_INV_R, S, T	INV PCB POWER OUTPUT TERMINAL
CN_F,G	EARTH WIRE

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
RD	RED	VI	VIOLET
BL	BLUE	GY	GRAY
WH	WHITE	OR	ORANGE
BK	BLACK	GN	GREEN
BR	BROWN	YL	YELLOW

8. Wiring Diagrams

8.3 460V

■ 1 Unit, 2 Unit - Main, 3 Unit - Main



◆MAIN PCB NOTE

SYMBOL	DESCRIPTION
CN_LGMV	LGMV MONITORING TERMINAL
CN_INPUT	AC 220 V INPUT TERMINAL
CN_INV	INV PCB AC 220 V OUTPUT TERMINAL
CN_EXT1/ EXT2	EXTERNAL PCB COMMUNICATION TERMINAL
JIG1 / JIG2	AC 220 V OUTPUT TERMINAL
CN_IO	I/O MODULE COMMUNICATION TERMINAL
CN_COMM	INV PCB COMMUNICATION TERMINAL
CN_F	ONBOARDING TERMINAL
CN_COMWR	EXTERNAL PCB COMMUNICATION TERMINAL
CN_F_G	EARTH WIRE
CN_HP_SW	HIGH PRESSURE SWITCH TERMINAL
CN_FW	LGMV MONITORING TERMINAL

◆FAN PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK	DC LINK TERMINAL
CN_INV	INV-FAN COMMUNICATION TERMINAL
CN_FAN1_UVW	POWER SUPPLY FOR FAN 1
CN_FAN2_UVW	POWER SUPPLY FOR FAN 2
CN_COMM_OUT	COMMUNICATION TERMINAL
CN2	ONBOARDING TERMINAL
CN_JIG_PC	ONBOARDING TERMINAL

◆INVERTOR PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK_FAN	DC LINK 540 V
CN_COMM_IN	COMMUNICATION INPUT TERMINAL
CN_COMM_OUT	COMMUNICATION OUTPUT TERMINAL
CN_FAN_15V	DC 15 V OUTPUT TERMINAL
CN_AC_IN	AC 220 V INPUT TERMINAL
CN_AC_OUT	AC 220 V OUTPUT TERMINAL
CN_U	POWER SUPPLY FOR COMP U PHASE
CN_V	POWER SUPPLY FOR COMP V PHASE
CN_W	POWER SUPPLY FOR COMP W PHASE
CN_INPUT_T	POWER SUPPLY FOR MAIN T PHASE
CN_INPUT_S	POWER SUPPLY FOR MAIN S PHASE
CN_INPUT_R	POWER SUPPLY FOR MAIN R PHASE
CN_FANSEL	FOR CLASSIFYING INVERTER NUMBER 1,2
CN_REACTOR	FOR REACTOR TERMINAL
CN_JIG_PC	ONBOARDING TERMINAL
CN2	ONBOARDING TERMINAL

◆EXTERNAL PCB NOTE

SYMBOL	DESCRIPTION
CN09_CYCLE_BL	MAIN PCB COMMUNICATION TERMINAL
CN10_AC_IN_WH	AC POWER 220 V INPUT TERMINAL
CN47_COMM_WH	MAIN PCB COMMUNICATION TERMINAL
CN48_COMM_TB	TERMINAL BLOCK

◆NOISE FILTER NOTE

SYMBOL	DESCRIPTION
CN1	AC POWER 220 V
CN_IN_R, S, T	POWER INPUT TERMINAL
CN_INV_R, S, T	INV PCB POWER OUTPUT TERMINAL
CN_F_G	EARTH WIRE

◆CHILLER PCB NOTE

SYMBOL	DESCRIPTION
12VDC	POWER
CH2	EXTERNAL PCB COMMUNICATION
CH3	HMI COMMUNICATION CONNECTOR
CH4	MODBUS COMMUNICATION CONNECTOR
U1/G	AMBIENT TEMP.
U2/G	FLOW SENSOR (3RD PARTY)
U3/G	COMMON LOAD WATER INLET SENSOR (3RD PARTY)
U4/G	COMMON LOAD WATER OUTLET SENSOR (3RD PARTY)
U5/G	LOAD FLOW SWITCH INPUT
U6/G	LOAD PUMP INTERLOCK INPUT CONTACT
U7/G	REMOTE SET POINT
U8/G	REMOTE DEMAND
GND/DI1	REMOTE START INPUT CONTACT
GND/DI2	REMOTE MODE INPUT CONTACT
GND/DI3	REMOTE ALARM INPUT CONTACT
DO1(C)/COM	ALARM STATUS OUTPUT CONTACT
DO2	ON/OFF STATUS OUTPUT CONTACT
DO3	LOAD PUMP OUTPUT CONTACT
DO5	HEATER OUTPUT CONTACT
DO6	WATER SPRAY PUMP OUTPUT CONTACT

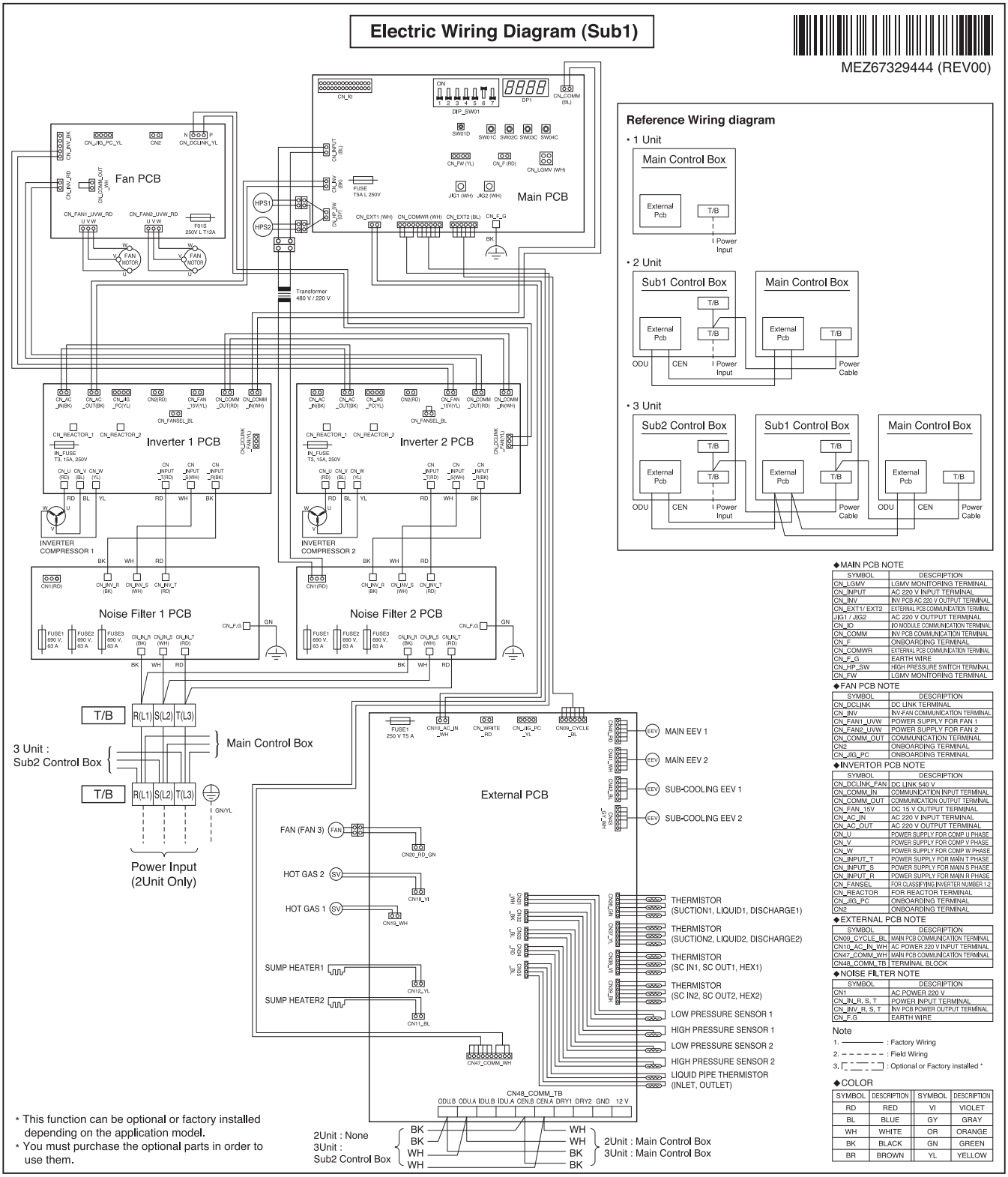
Note
1. ——— : Factory Wiring
2. - - - - - - : Field Wiring
3. [- - - -] : Optional or Factory installed *

◆COLOR

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
RD	RED	VI	VIOLET
BL	BLUE	GY	GRAY
WH	WHITE	OR	ORANGE
BK	BLACK	GN	GREEN
BR	BROWN	YL	YELLOW

8. Wiring Diagrams

■ 2 Unit - Sub, 3 Unit - Sub1



◆MAIN PCB NOTE

SYMBOL	DESCRIPTION
CN_LGMV	LGMV MONITORING TERMINAL
CN_INPUT	AC 220 V INPUT TERMINAL
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CN_IO	I/O MODULE COMMUNICATION TERMINAL
CN_COMM	INV PCB COMMUNICATION TERMINAL
CN_F	ONBOARDING TERMINAL
CN_COMWR	EXTERNAL PCB COMMUNICATION TERMINAL
CN_F_G	EARTH WIRE
CN_HP_SW	HIGH PRESSURE SWITCH TERMINAL
CN_FW	LGMV MONITORING TERMINAL

◆FAN PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK	DC LINK TERMINAL
CN_INV	INV-FAN COMMUNICATION TERMINAL
CN_FAN1_UVW	POWER SUPPLY FOR FAN 1
CN_FAN2_UVW	POWER SUPPLY FOR FAN 2
CN_COMM_OUT	COMMUNICATION TERMINAL
CN2	ONBOARDING TERMINAL
CN_JIG_PC	ONBOARDING TERMINAL

◆INVERTOR PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK_FAN	DC LINK 540 V
CN_COMM_IN	COMMUNICATION INPUT TERMINAL
CN_COMM_OUT	COMMUNICATION OUTPUT TERMINAL
CN_FAN_15V	DC 15 V OUTPUT TERMINAL
CN_AC_IN	AC 220 V INPUT TERMINAL
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CN_U	POWER SUPPLY FOR COMP U PHASE
CN_V	POWER SUPPLY FOR COMP V PHASE
CN_W	POWER SUPPLY FOR COMP W PHASE
CN_INPUT_T	POWER SUPPLY FOR MAIN T PHASE
CN_INPUT_S	POWER SUPPLY FOR MAIN S PHASE
CN_INPUT_R	POWER SUPPLY FOR MAIN R PHASE
CN_F_ANSEL	FOR CLASSIFYING INVERTER NUMBER 1,2
CN_REACTOR	FOR REACTOR TERMINAL
CN_JIG_PC	ONBOARDING TERMINAL
CN2	ONBOARDING TERMINAL

◆EXTERNAL PCB NOTE

SYMBOL	DESCRIPTION
CN09_CYCLE_BL	MAIN PCB COMMUNICATION TERMINAL
CN10_AC_IN_WH	AC POWER 220 V INPUT TERMINAL
CN47_COMM_WH	MAIN PCB COMMUNICATION TERMINAL
CN48_COMM_TB	TERMINAL BLOCK

◆NOISE FILTER NOTE

SYMBOL	DESCRIPTION
CN1	AC POWER 220 V
CN_IN_R, S, T	POWER INPUT TERMINAL
CN_INV_R, S, T	INV PCB POWER OUTPUT TERMINAL
CN_F_G	EARTH WIRE

Note

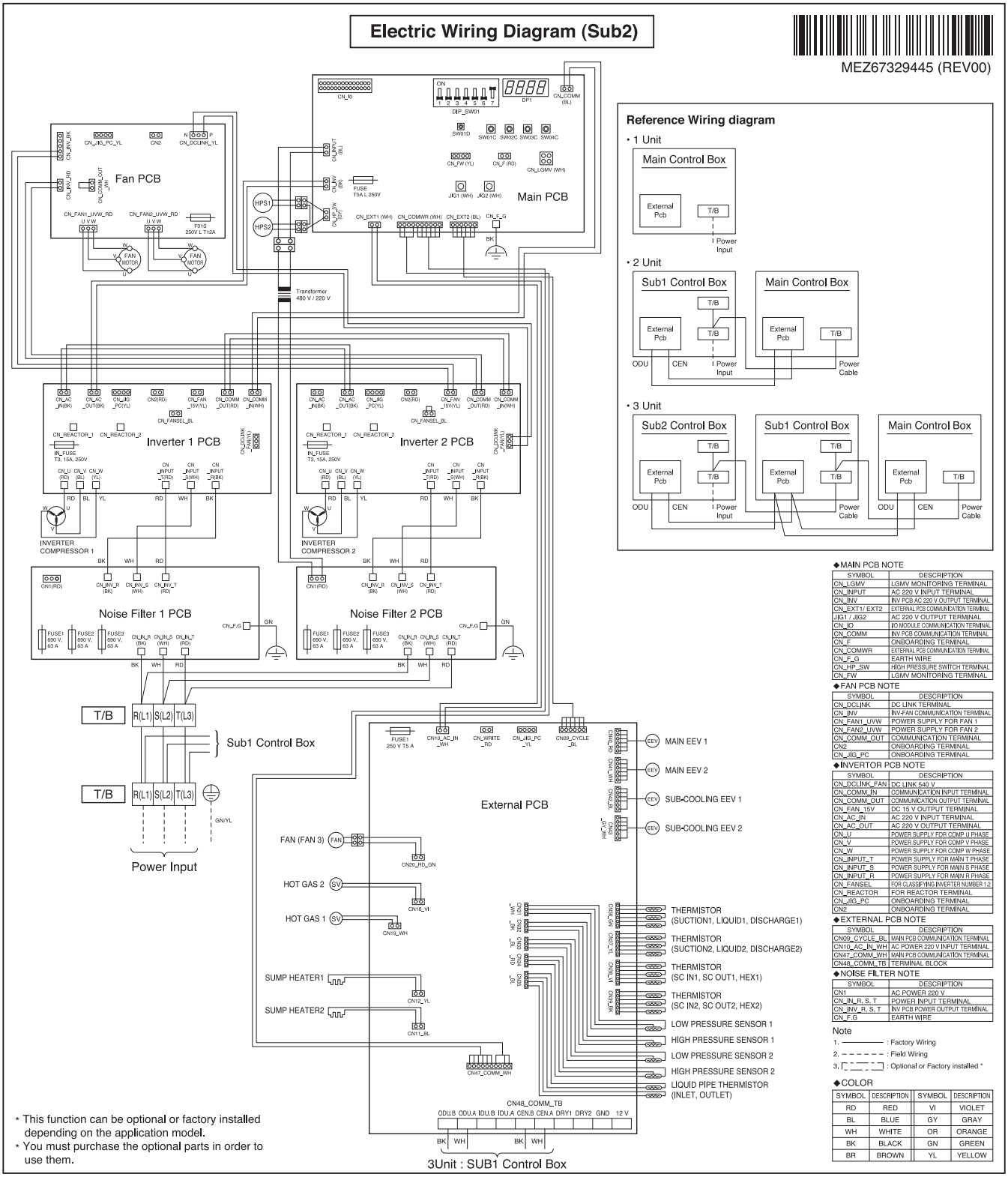
1. ——— : Factory Wiring
2. - - - - - - : Field Wiring
3. [ ] : Optional or Factory installed *

◆COLOR

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
RD	RED	VI	VIOLET
BL	BLUE	GY	GRAY
WH	WHITE	OR	ORANGE
BK	BLACK	GN	GREEN
BR	BROWN	YL	YELLOW

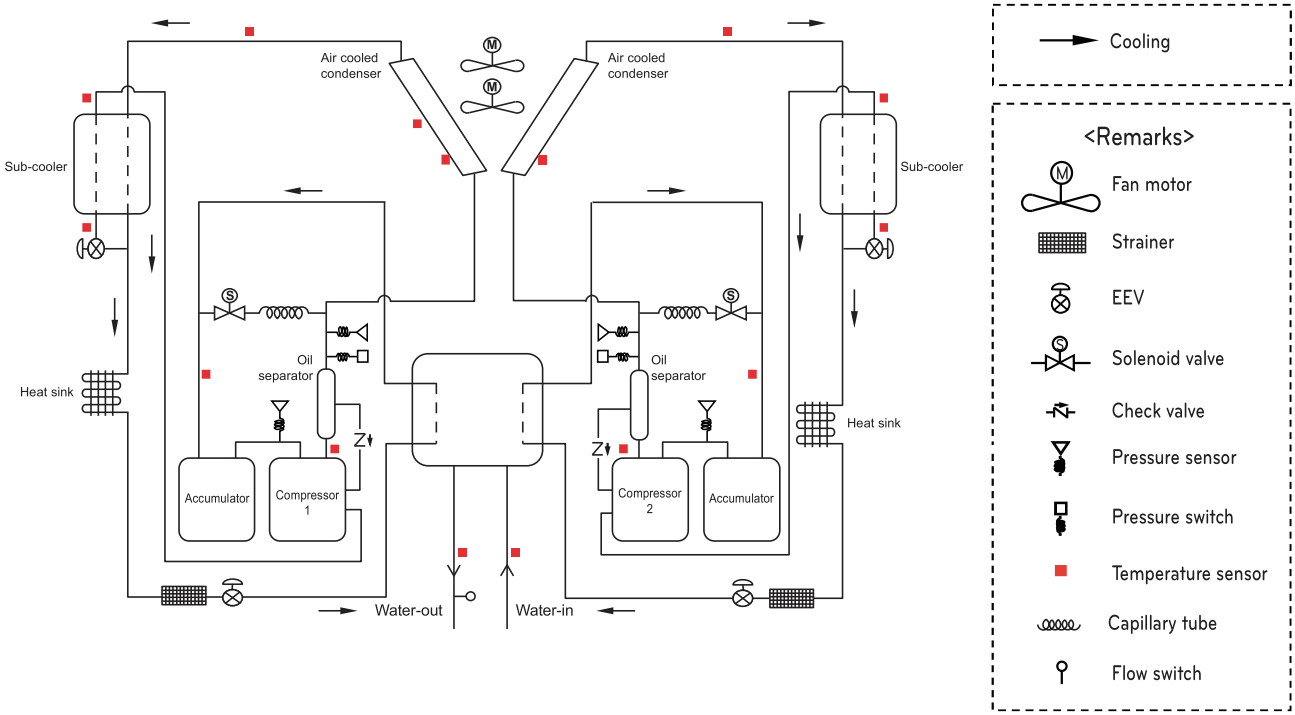
8. Wiring Diagrams

■ 3 Unit - Sub2



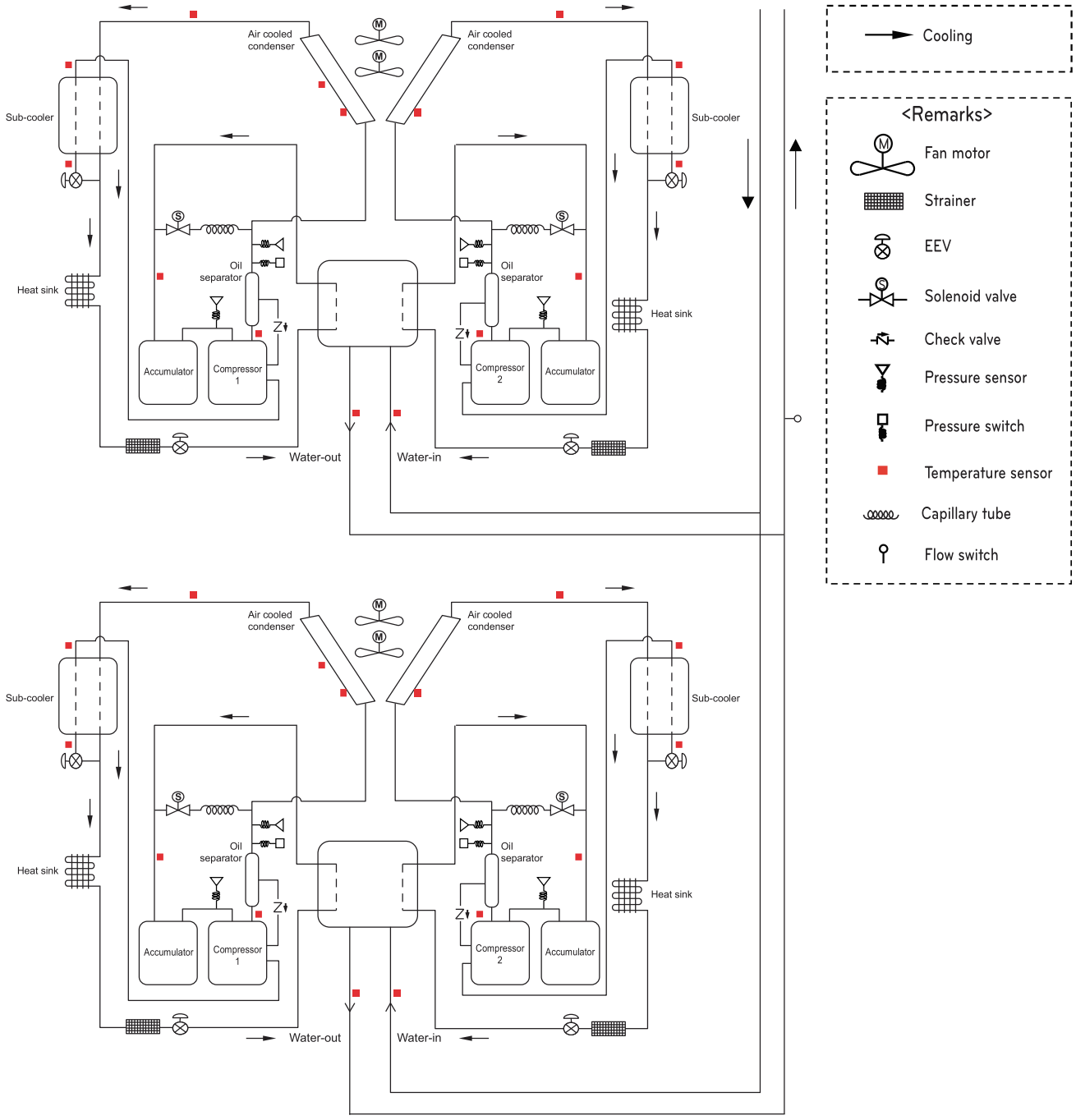
9. Piping Diagrams

1 Unit



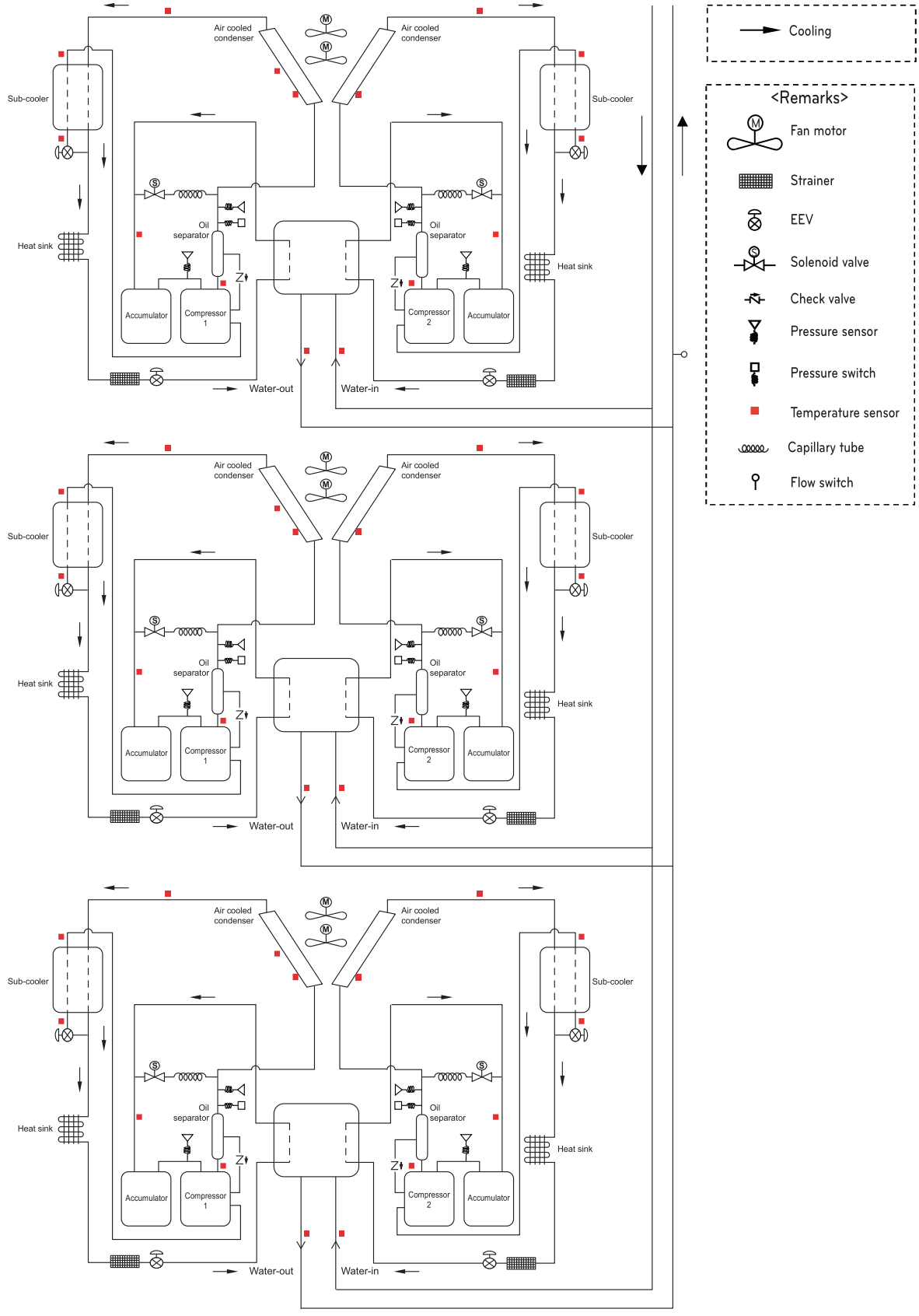
9. Piping Diagrams

2 Unit



9. Piping Diagrams

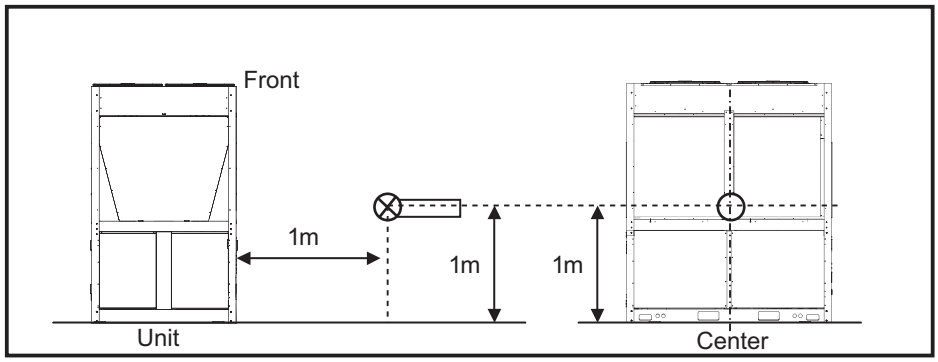
■ 3 Unit



10. Sound Levels

■ Sound Pressure Levels

<Measurement Scene>

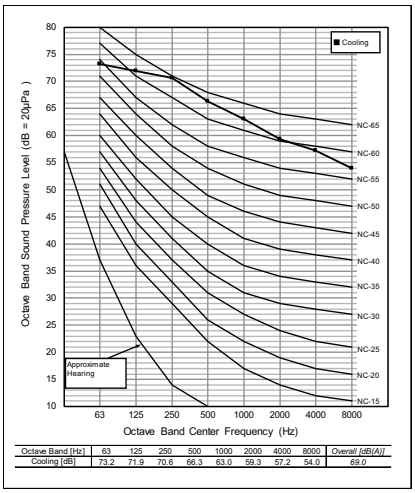


※ External Appearance of unit could be different by each model.

Note

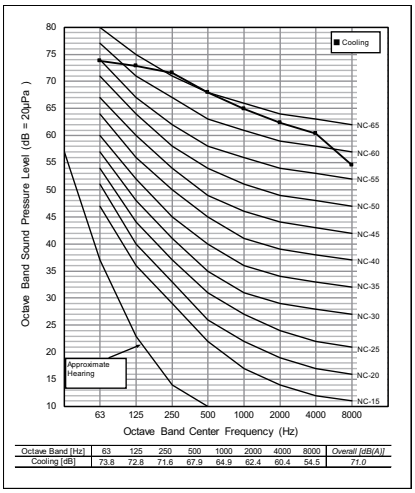
1. Data is valid at free field condition.
2. Reference accoustic pressure 0dB = 20μPa.
3. Data is valid at nominal operation condition.
   Refer to the Model Specifications for nominal conditions(Power source and Ambient temperature, etc)
4. Sound levels can be increased in accordance with installation and operating conditions. (Operating conditions include some functional condition like Static pressure mode, air guide use, Room target temperature setting, etc and these functions are different in accordance with each model.)
5. Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment in installed.
6. Sound pressure level is measured on the rated condition in the anechoic rooms by ISO 3745 standard.
   Therefore, these values can be increased owing to ambient conditions during operation.

KCAH017LDTC



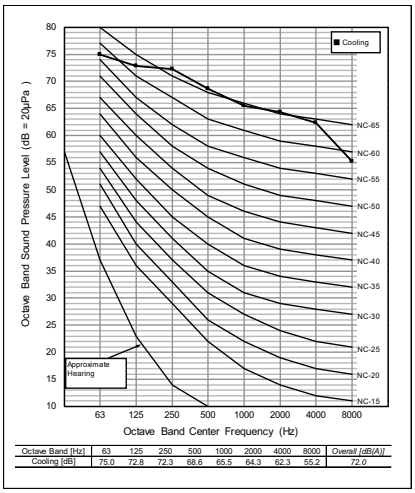
Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	73.2	71.9	70.6	66.3	63.0	59.3	57.2	54.0	*69.0*

KCAH020*DTC



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	73.8	72.8	71.6	67.9	64.9	62.4	60.4	54.5	*71.0*

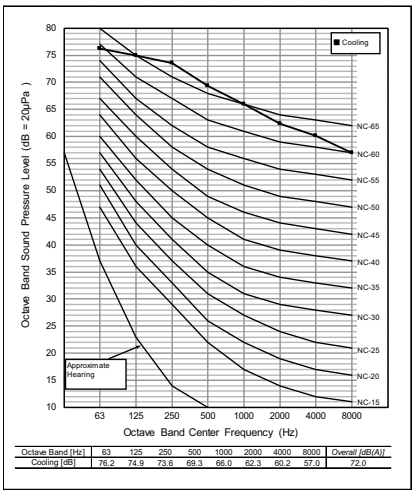
KCAH023*DTC



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	75.0	72.8	72.3	68.6	65.5	64.3	62.3	55.2	*72.0*

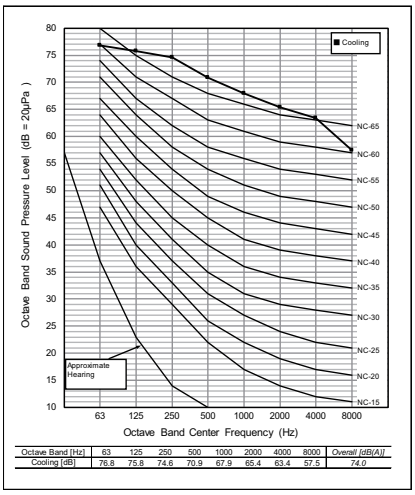
10. Sound Levels

KCAH033*DTC



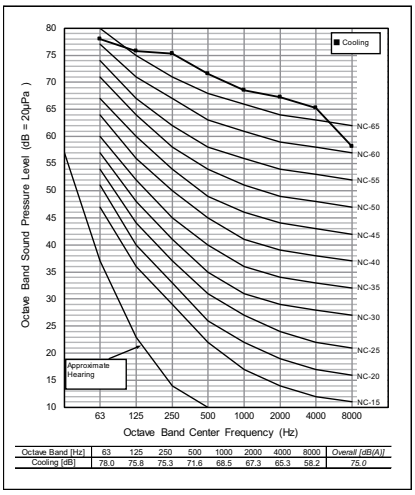
Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	76.2	74.9	73.6	69.3	66.0	62.3	60.2	57.0	*72.0*

KCAH040*DTC



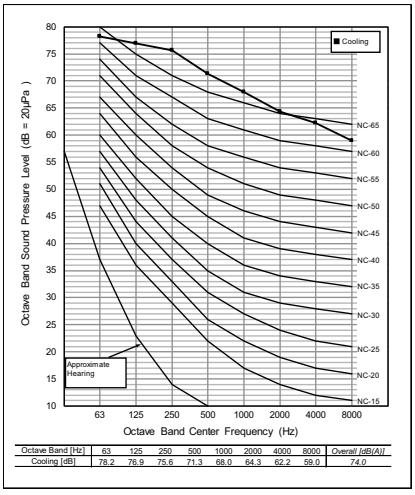
Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	76.8	75.8	74.6	70.9	67.9	65.4	63.4	57.5	*74.0*

KCAH045*DTC



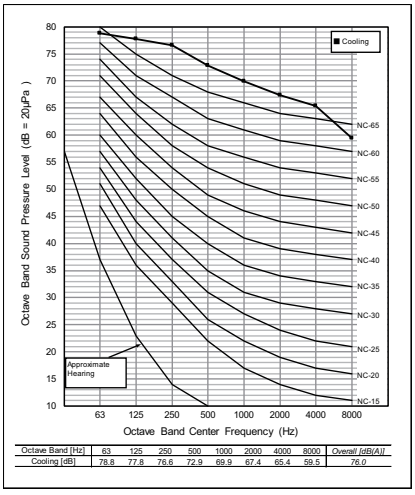
Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	78.0	75.8	75.3	71.6	68.5	67.3	65.3	58.2	*75.0*

KCAH050*DTC



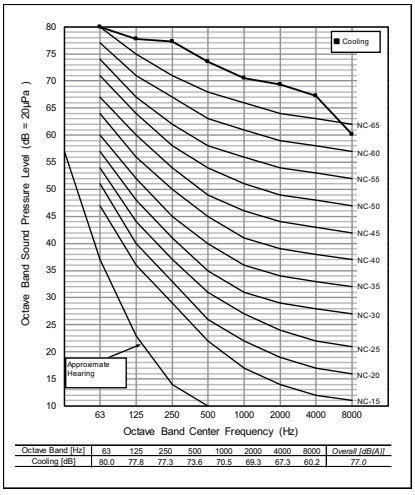
Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	78.2	76.9	75.6	71.3	68.0	64.3	62.2	59.0	*74.0*

KCAH060*DTC



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	78.8	77.8	76.6	72.9	69.9	67.4	65.4	59.5	*76.0*

KCAH067*DTC



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	80.0	77.8	77.3	73.6	70.5	69.3	67.3	60.2	*77.0*

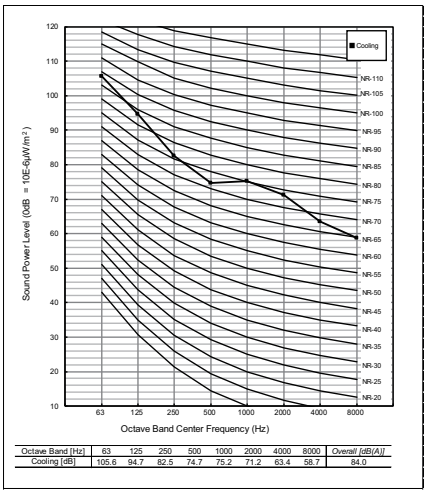
10. Sound Levels

■ Sound Power Levels

Note

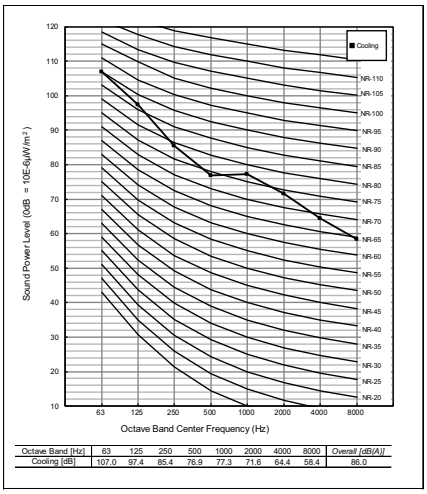
1. Data is valid at diffuse field condition.
2. Data is valid at nominal operation condition.
   Refer to the Model Specifications for nominal conditions(Power source and Ambient temperature, etc)
3. Sound level can be increased in static pressure mode or used air guide.
4. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient).
5. Reference acoustic intensity 0dB = 10E-6μW/m^2
6. Sound power level is measured in accordance with ISO 9614:2009 by sound intensity method on rated condition. Therefore, these values can be increased owing to operation conditions.

KCAH017LDTC



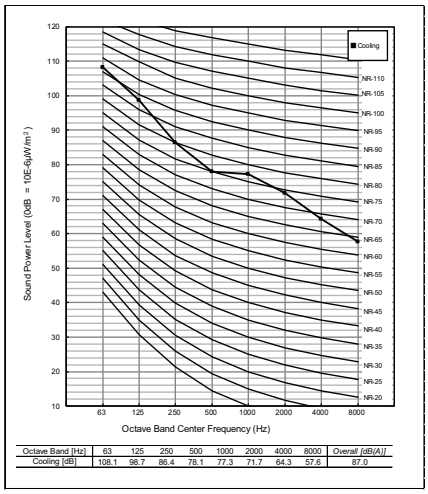
Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	105.6	94.7	82.5	74.7	75.2	71.2	63.4	58.7	84.0

KCAH020*DTC



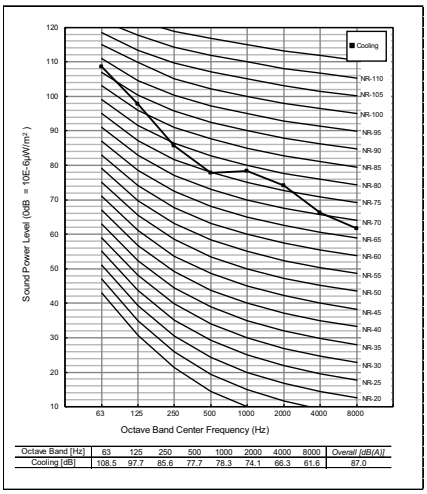
Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	107.0	97.4	85.4	76.9	77.3	71.6	64.4	58.4	86.0

KCAH023*DTC



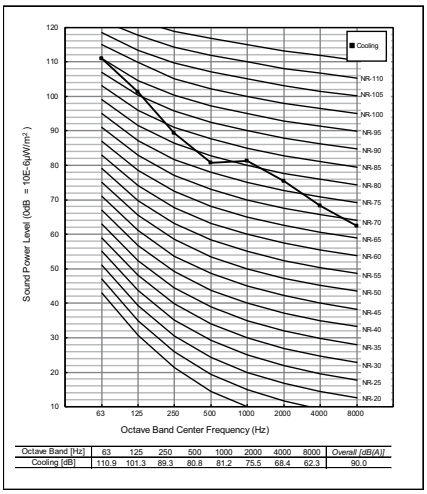
Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	108.1	98.7	86.4	78.1	77.3	71.7	64.3	57.6	87.0

KCAH033*DTC



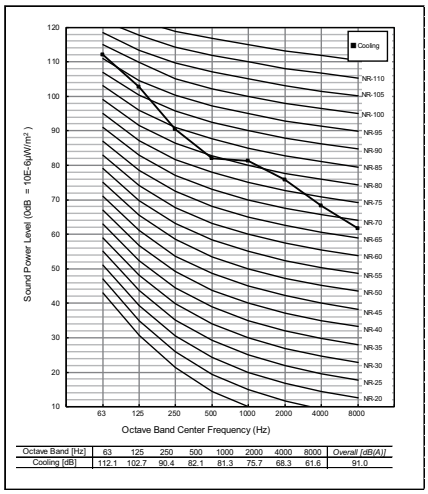
Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	108.5	97.7	85.6	77.7	78.3	74.1	66.3	61.6	87.0

KCAH040*DTC



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	110.9	101.3	89.3	80.8	81.2	75.5	68.4	62.3	90.0

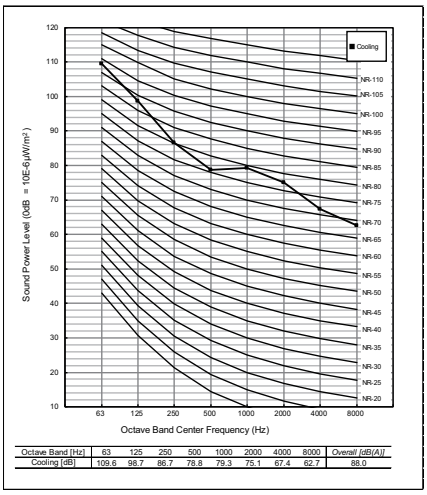
KCAH045*DTC



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	112.1	102.7	90.4	82.1	81.3	75.7	68.3	61.6	91.0

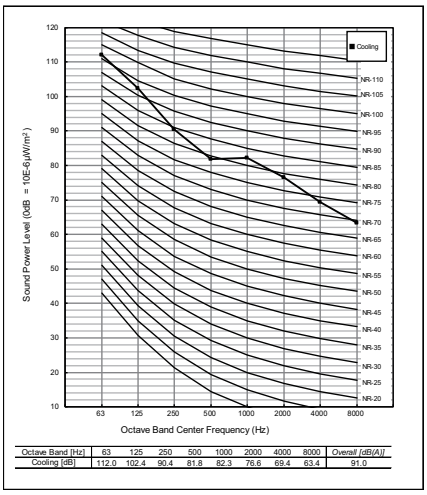
10. Sound Levels

KCAH050*DTC



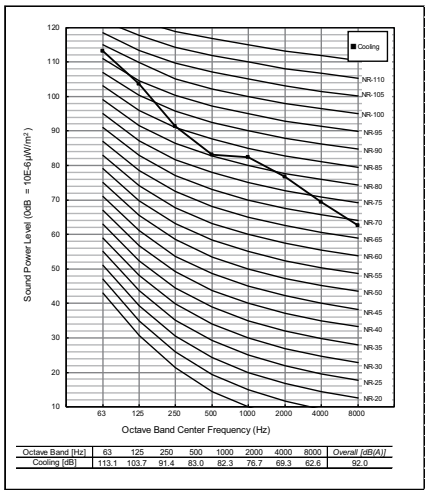
Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	109.6	98.7	86.7	78.8	79.3	75.1	67.4	62.7	88.0

KCAH060*DTC



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	112.0	102.4	90.4	81.8	82.3	76.6	69.4	63.4	91.0

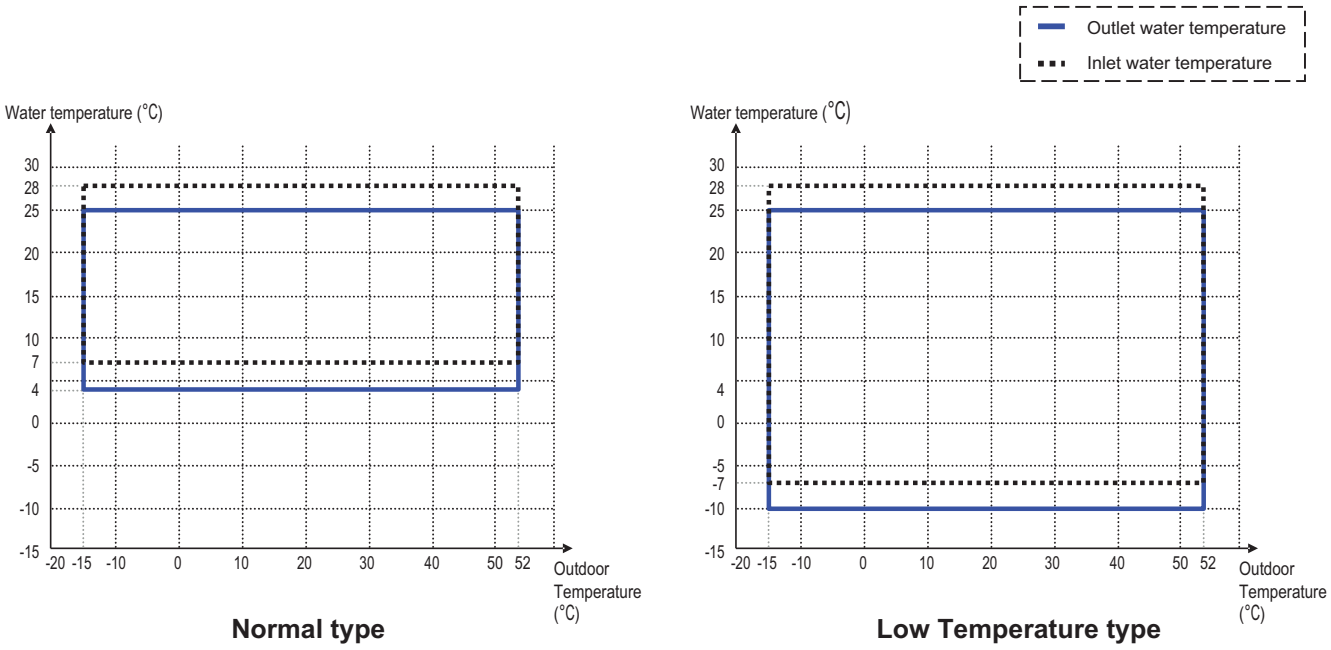
KCAH067*DTC



Octave Band [Hz]	63	125	250	500	1000	2000	4000	8000	*Overall [dB(A)]*
Cooling [dB]	113.1	103.7	91.4	83.0	82.3	76.7	69.3	62.6	92.0

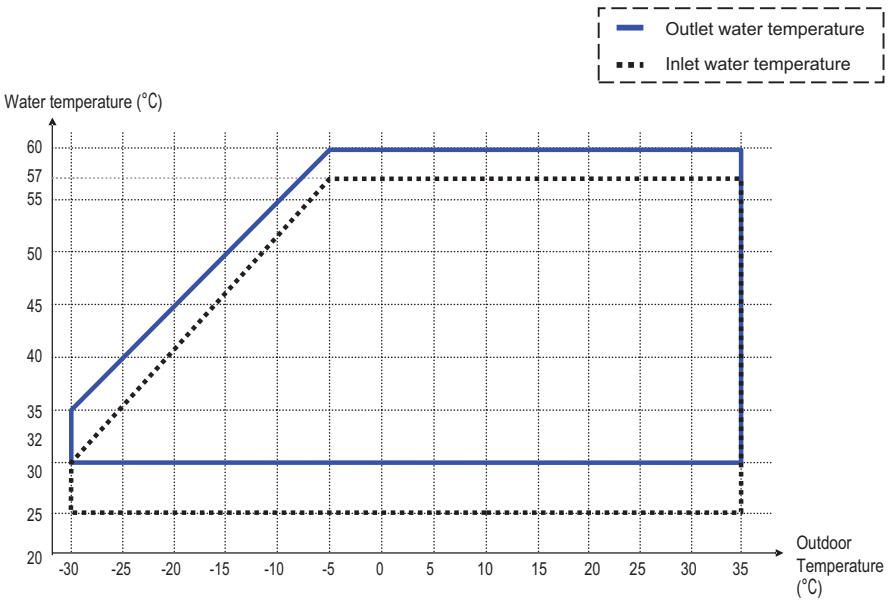
11. Operation Limits

Cooling



Normal type **Low Temperature type**

Heating



Note

- When running cooling operation with outdoor temperature is less than -10 °C, depending on inlet temperature, the product does not operate normally, or can take a long time for running. In this case, please running operation after raising the inlet temperature by circulating load water.
- When operating in a low temperature type (water outlet temperature : less than 4 °C), you must inject antifreeze and manage the concentration of the antifreeze at a freezing temperature of 15 °C or less.

12. Specifications of Production

■ Manufacturing specification

1) Use the parts and material of KS standard products or equivalent products for those not specified in this specification, and all parts should be designed with structure that is easy for replacement, repair, and inspection.
2) If there is a problem in the chiller, or if there is an abnormal status of chilled water temperature and flow amount, etc., immediately stop the chiller operation and you have to be equipped with marking equipment or function that can easily identify these.
3) There should be a protection circuit to prevent freezer damage by blackout or frequent voltage variation from Electronic Power company.
4) Chiller should be able to operate silently without abnormal noise or abnormal vibration.
5) Chiller should be composed of the central controller and the circuit possible for wired/wireless Start/Stop operation.
6) Easy combination should be possible with compact product design and module type design, and basic module insertion and assembly installation should be possible regardless of the volume.
7) It should be the structure possible for substitute operation even if compressor or some cycle parts fail and cooling operation should be possible during parts replacement, repair, or inspection
8) The main power cable equivalent or above the specification presented in the product specification of each corresponding model should be used for the chiller, each communication line and power cable should use cable pipe for protection, and the cable pipe with the material that can block external noise according to the installation environment should be used.

■ Air cooled type scroll chiller product specification

1. **Case**
   1) It should have the structure that is easy for disassembly and assembly for easy maintenance/repair.
   2) It should have a beautiful exterior and it should be insulated to prevent dew condensation.
   3) It should have the structure preventing vibration and abnormal noise.
   4) It should have the structure that can be grounded.
2. **Compressor**
   1) R32 refrigerant should be used, case shape should be sealed type, format should be the combination of two inverter scroll compressors, it should be flexible to respond to load, and it should be a high efficiency system that can optimize energy efficiency through inverter control.
   2) Vibration prevention rubber should be used to prevent transfer of noise and vibration during operation.
   3) The frequency variable boundary of inverter scroll compressor should be minimum 30Hz and maximum 120Hz.
3. **Condenser**
   1) Condenser heat pipe should use purity 99.9 % or above Phosphorus Deoxidized Copper without joint, and it should have the structure with Al fin attached to increase the heating area. (Cross fin & Tube type)
   2) Use wide louver fin for Al fin, and pipe extension should be carried out for efficient heat transfer.
   3) Condenser air cooled type heat exchanger arrangement should be 3 rows 48 levels 16FPI.
   4) The pressure endurance test for high pressure part refrigerant side should be carried out at 4.2 MPa or above (designed pressure 4.2 MPa), and there should be problems such as leakage or deformation.
   5) The condensing coil that passed pressure endurance test should be vacuumed to completely remove moisture inside.
   6) Use propeller type fan, and it should be able to give sufficient wind amount required for condensing. Also, it should have sufficient strength for the number of rotations, and it should be operated silently through balance test.
   7) Motor should be BLDC type that can increase efficiency.
   8) Fan and Motor should be connected directly.

12. Specifications of Production

4. **Electronic Expansion Valve**
   1) It is the part that insulates and expands high pressure fluid refrigerant at condenser exit in low temperature / low pressure state, and during cooling operation, line shape electronic expansion valve should be activated to adjust adequate refrigerant amount according to the evaporator load.
   2) Based on data of various sensors installed in the freezer, microcomputer unit should be able to analyze operation status of the system and compressor to control the most adequate refrigerant amount linearly.
   3) By applying electric pulse signal to stepping motor, it should be able to play the role of adjusting the refrigerant flow amount.
5. **Evaporator**
   1) Evaporator should be shell and tube heat exchanger type.
   2) There should be no water leakage, and the durability should be guaranteed.
   3) It should have the structure that can connect to chilled water pipe.
   4) Heat exchanger should be sensible heat exchange structure that the refrigerant and coolant are not mixed.
   5) It should be a structure that each of coolant and refrigerant are flown into countercurrem structure heat exchanger and after heat is exchanged with each other through the thin valve inside heat exchanger, discharged outside heat exchanger.
   6) In the destruction test, it should endure 18 MPa pressure.
6. **Control equipment**
   1) It is the controller to operate overall system in optimal condition with the microcomputer unit installed in the freezer, and based on the 4 measurement values including intake refrigerant gas pressure, discharged refrigerant gas pressure, discharged refrigerant gas temperature, and heat exchanger refrigerant temperature, it should be able to control electronic expansion valve, compressor(inverter), etc.
   2) There should be a function that can check all sensors connected to the freezer and various operation statuses.
   3) It should be equipped with self protection equipment and system protection function.
   4) Module type control interface should be applied so that simple product control is possible in series installation, and relocation and re-installation of HMI controller should be possible without separate control equipment.
7. **Refrigerant Piping**
   1) Refrigerant pipe should be purity 99.9% or above Phosphorus Deoxidized Copper without joint, and it should be piped for fluent refrigerant flow between each component.
   2) Install strainer in the pipe to filter foreign objects.
   3) The pipe from expansion valve to evaporator should be insulated to prevent moisture condensation on the surfaceof the pipe and to prevent flash gas generation of refrigerant fluid at the same time.
   4) Liquid injection pipe that activates electronic valve to flow fluid refrigerant to the suction pipe when discharged gastemperature is above the rated temperature should be installed to protect compressor and freezer.
   5) After completing the piping, carry out the pressure endurance test on refrigerant side at 4.2 MPa or above(designed pressure 4.2 MPa), and there should be no leakage or deformation.
   6) After carrying out air-tight test, completely vacuum inside so that there is absolutely no moisture.
8. **Safety devices**
   1) Refrigerant pressure (Normal refrigerant pressure)
      a. High pressure switch
      b. High pressure protection (Sensor)
   2) Temperature
      a. compressor discharge temperature overheating detection (Sensor)
      b. IPM temperature detection (Sensor)
      c. Freeze and burst protection (Sensor)
      d. Power Module application (Sensor)
   3) Chilled water flow
      a. Chilled water flow switch (Factory wiried)
   4) Voltage and current (control logic)

12. Specifications of Production

a. Revere phase detection and protection (Voltage monitoring system)
b. Compressor over-current protection
c. Fan motor over-current protection

5) Fuse

■ Accessory compatibility

- ACP 5 Central Controller : PACP5A000

Installation

1. Selecting Installation Location
2. Installation Guide at the Seaside
3. Water Pipe Connection
4. Unit Combination

1. Selecting Installation Location

■ Precaution when selecting the installation location

Select the location that fits the following conditions to install the product.

- Location without direct heat from other heat source
- Location where noise of the chiller does not have negative impact to the neighbors
- Check the installation direction of the unit for the seasonal wind during the winter.
  Install the product so that the seasonal wind does not affect only one side of the product.
- Location not exposed to strong winds
- Location that can support the weight of the chiller
- Location with space for air flow and service
- Install the boundary sign, danger sign or barricade, if necessary.
- It is recommended to install a fence around chiller so that people or animals will not be able to access the area.
- When installing the product in areas with high humidity during the winter (Coast, seaside, lakeside), install the product where it is well ventilated and has plenty of exposure to sunlight. (Ex: Roof top with sunlight)
- If the product does not run during the winter, establish a plan to use the anti-freeze for the water supply.
- To prevent the condensed water from flowing, insulate the connected evaporator and pipe.
- To smoothly drain the condensed water, establish an inclined structure.
- Avoid installing the product at locations with the following conditions.
  - Location with corrosive gas such as acid or alkali gas. (Coolant can leak from the corroded pipes.)
  - Location with electromagnetic wave. (It can cause the product to malfunction from defective parts.)
  - Location where flammable gas is generated or flows to prevent fire.
  - Location with high level of carbon fiber or dust
  - Special location exposed to oil, steam or emulsified gas

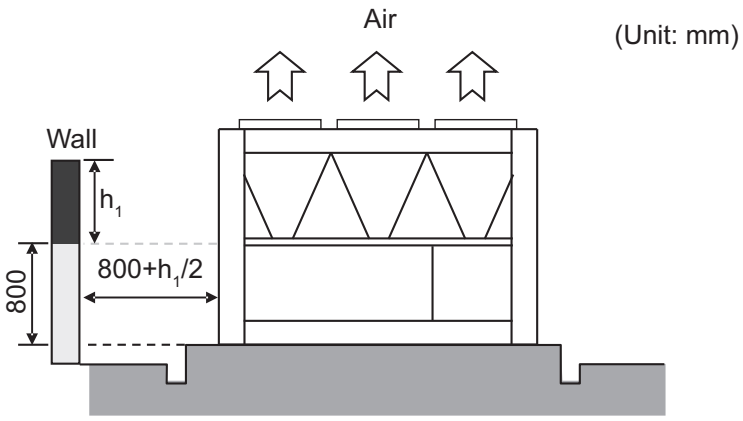
1. Selecting Installation Location

■ Installation Space for Ventilation

When installing the product, secure minimum space as shown below considering the service, suction and discharge of air flow.

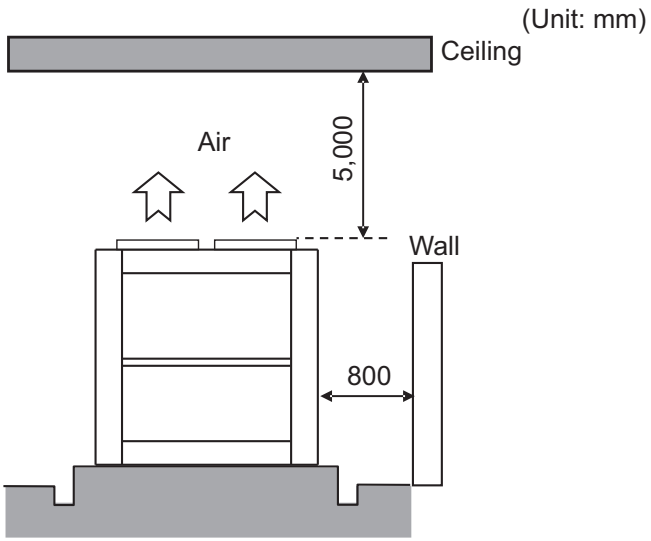
◆ Consider the ventilation condition.

The air cooled chiller must be installed on open space or must have appropriate ventilation. When installed along the wall, there must be sufficient space for ventilation.



Note

If the side of the chiller is near the wall and the height of the wall is less than 800 mm, the distance between the wall and the chiller must be at least 800 mm. If the side of the chiller is near the wall and the wall is 800 mm or higher, space of half of h1 must additionally be secured on top of the 800 mm for the distance between the wall and the chiller.



Note

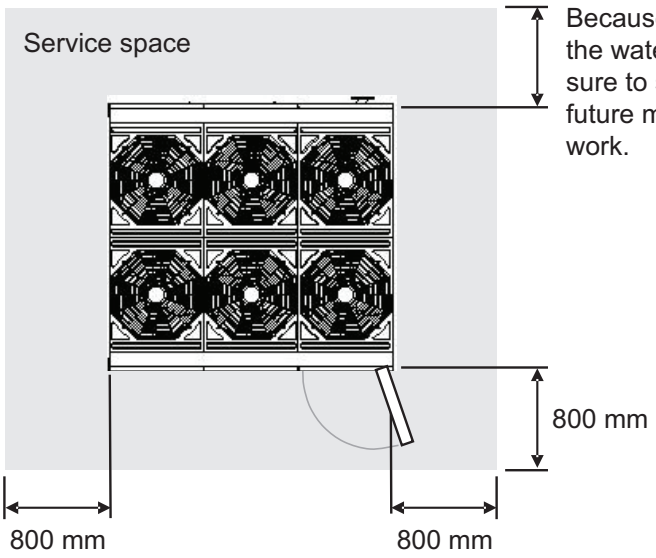
If there is a ceiling on the top part of the chiller, the distance from the chiller to the ceiling must be 5000 mm or above.

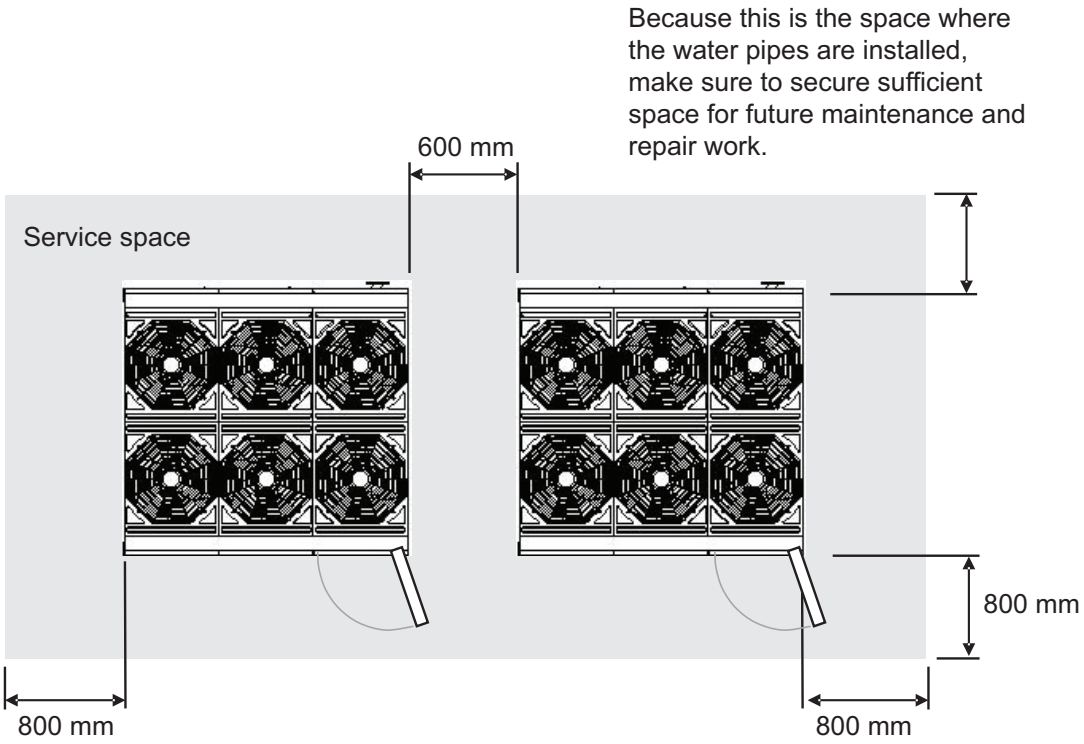
If the front or rear side of the chiller is close to the wall, the distance from the wall to the chiller must be 800 mm or above.

1. Selecting Installation Location

◆ Consider the service space.

There must be sufficient space for maintenance and repair work around the chiller.





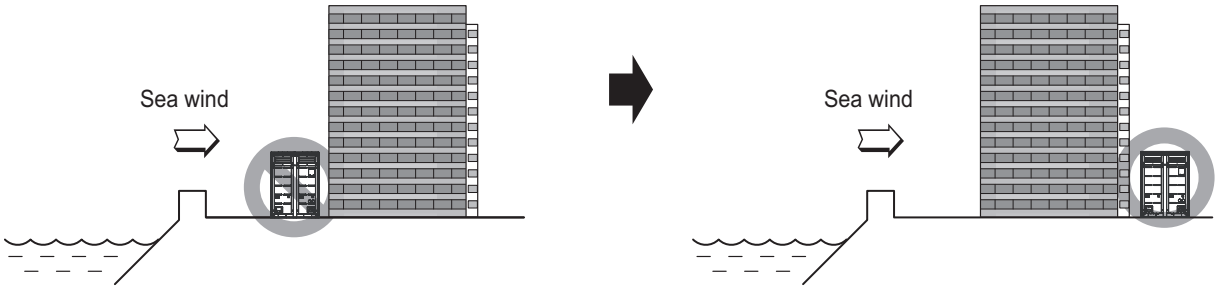
2. Installation Guide at the Seaside

⚠ CAUTION

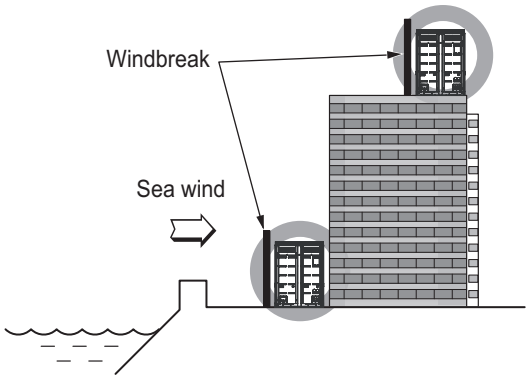
- **It should not be installed in areas where corrosive gases, such as acid or alkaline gas, are produced.**
- **Do not install the product where it could be exposed to sea wind (salty wind) directly. It can result corrosion on the product. Corrosion, particularly on the condenser and evaporator fins, could cause product malfunction or inefficient performance.**
- **If it is installed close to the seaside, it should avoid direct exposure to the sea wind. Otherwise it needs additional corrosion resistance treatment on the heat exchanger.**

2.1 Selecting the location of Chiller

- If the unit is to be installed close to the seaside, direct exposure to the sea wind should be avoided. Install the unit on the opposite side of the sea wind direction.



- If the product has to be installed inevitably facing the coast, install a wall around the unit.



- It should be strong enough like concrete to prevent the sea wind from the sea.
- The height and width should be more than 150% of the unit.
- It should be kept more than 100 cm of space between outdoor unit and the windbreak for easy air flow.

- Select a well-drained place.

3. Water Pipe Connection

3.1 Water Pipe System Diagram

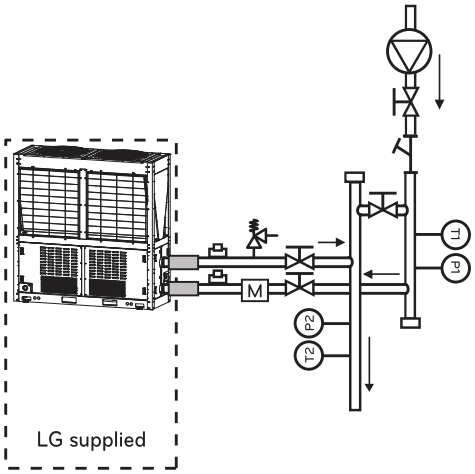
- Connect the pipe so that the entrance of the cold (hot) water pipe is correct.
- Permitted water pressure resistance of cold water pipe system is 1MPa.
- To prevent any external heat loss or dew drops forming during the cooling operation on the water pipe system, apply thermal insulation treatment.
- Install the air vent at the output end of the water pipe. (Air vent)
- If the thermometer is installed on the inlet/outlet of the cold/hot water pipe, the operating condition of the chiller can be checked.
- Always install the strainer (20 Mesh or above) that can be cleaned on the water pipe inlet side to filter any alien particles from entering the heat exchanger.
- Always install the strainer on the leveled pipe. (If sand, trash or rust gets mixed to the cold water system, it can cause product failure due to corrosion of metallic parts.)
- Install the on/off valve on the cold water inlet/outlet and bypass pipe on the pipe direction of the device side.
  - For the pipe system, it is recommended to install the bypass and clean the pipe before installing the product and during the annual pipe cleaning.
  - On/Off valve blocks the old water to the chiller that is not operating to reduce the power of the pump. Therefore select whether to install to fit the need of the site.
- Install the pressure gauge and thermometer on the inlet and outlet of the water pipe.
- Always install the flexible joint to reduce the vibration of the pipe and product.
  - Vibration of water pipe system is absorbed to prevent water leakage.
- For the cold water system part, make sure to use the component that complies with designed water pressure or above.
- Before supplying cold water to the chiller, clean inside the pipe system to remove any negative impact of particles to the product.

3. Water Pipe Connection

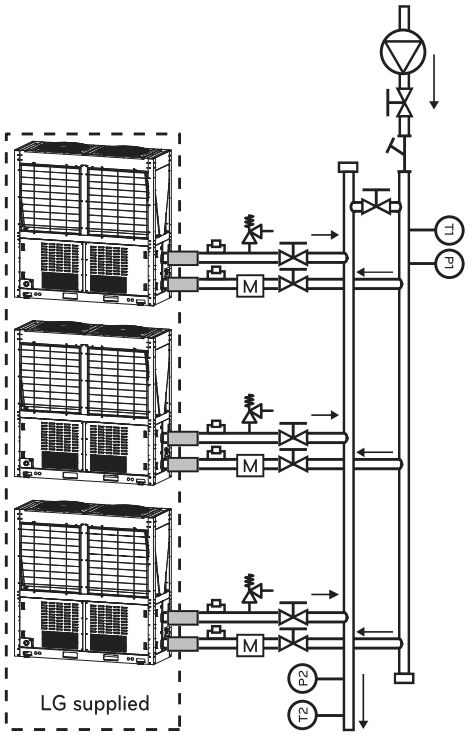
■ Installation method A

[Reverse return piping]

- Independent product installation



- Multiple product installation



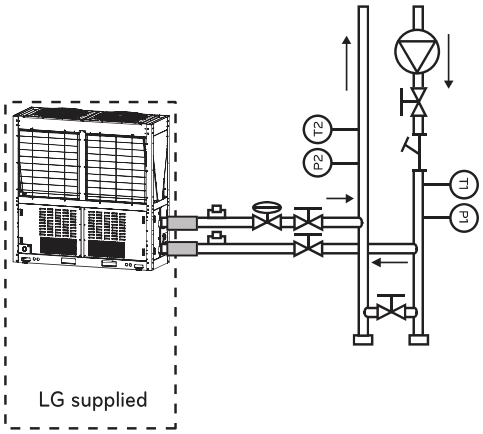
Symbol	Description	Symbol	Description
	Valve	T1, T2	Temperature sensor (1: Inlet 2: Outlet)
	Strainer	P1, P2	Pressure gauge (1: Inlet, 2 Outlet)
	Flexible joint		Cold water pump
	Service port for cleaning		Safe relief valve
M	Magnetic separator		

3. Water Pipe Connection

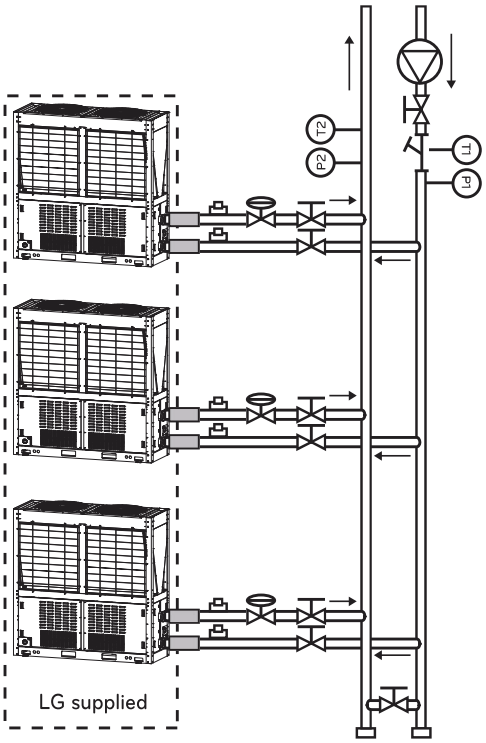
■ Installation method B

[Direct return piping]

- Independent product installation



- Multiple product installation



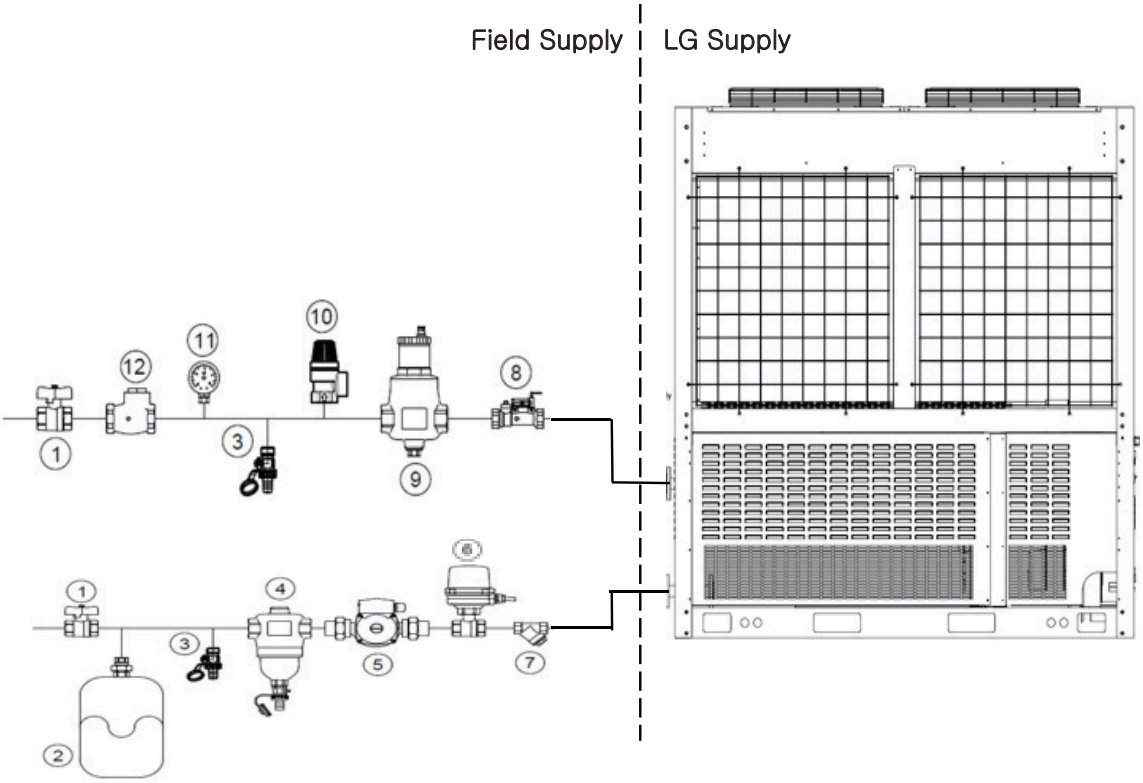
Symbol	Description	Symbol	Description
	Valve	T1, T2	Temperature sensor (1: Inlet 2: Outlet)
	Strainer	P1, P2	Pressure gauge (1: Inlet, 2 Outlet)
	Flexible joint		Cold water pump
	Service port for cleaning		Balancing valve

3. Water Pipe Connection

3.2 Water Cycle Minimum Requirements

If below components are not installed it can result in serious damage of the product.

- For selecting the components of the hydraulic system, be sure they are above the design water pressure.
- For the water pipe, diffusion-tight water pipes are recommended instead of steel pipes.
- For the drain pipe size, use the same diameter as the product connected or larger.



1	Shut-Off valve
2	Expansion tank
3	Service port
4	Magnetic dirt separator
5	Pump
6	Strainer
7	Balancing valve with flow meter
8	Automatic air separator
9	Pressure safety relief valve
10	Pressure Meter
11	Check valve
12	Buffer tank

3. Water Pipe Connection

- For selecting the components of the hydraulic system, be sure they are above the design water pressure.
- For the water pipe, diffusely tight water pipes are recommended instead of steel pipes.
- For the drain pipe size, use the same diameter as the product connected or larger.
- Always install a natural drainage so that the drained water does not flows back
- Install insulated material across the total hydraulic piping to prevent condensation and to pre-vent low cooling or heating capacity during heat transfer losses.
- If the temperature is higher than 30°C and the humidity is higher than 80% the insulation mate-rial must be minimum 20mm thick to prevent condensation.Install the shut-off valve (1) to block the water by closing the valve when replacing the compo-nent or cleaning.
- Install an expansion tank (2) based on the water volume of the hydraulic system.
- Install the drain valve (3) that can be used for draining the water inside when replacing the com-ponent or providing service.
- Install a magnetic dirt separator (4) at the inlet water pipeIf the air separator is not installed there can be formed air bubbles inside the hydraulic system. Flow error will be showed first on remote controller, however finally a plate heat exchanger may burst during combined circumstances.
- Install a circulation pump (5) which meets the water flow specifications mentioned inside prod-uct data book.
- Install a flow switch (6) which is adjust based on the minimum water flow rate mentioned inside product data book.
- Install the strainer (7) at the inlet water pipe connection to protect the heat exchanger.

  Do not charge water into the water pipe directly during product operation.

  If the strainer is not installed, component malfunction of product may occur.
  - For the strainer, use one with 30 mesh or above with measurement diameter of 0.6mm or less.
  - Always install the strainer on the horizontal pipe.
- Install a balancing valve with flow meter (8)
- Install an automatic air separator in the outlet water pipe (9)
- Install pressure safety relief valve (10) in vertical upright position that meets the design water pressure to prevent unit or water pipe damage
- Install a thermometer (11) in the outlet water pipe.
- Install in case of cascade hydraulic systems or bivalent systems a flow-check valve (12) at each outlet water pipe.
- Install a buffer tank (13) of at least 10L/kW heating capacity in order to have a correct defrost cycle, if there is no knowledge about the type an dimensions of the heating system. If there is no buffer tank installed, the product can be damaged during normal operation or defrost opera-tion.
- After product operation for 2 weeks in case of new installation, clean the water filter. In the beginning of operation small particular dirt from installing process can block the filter which can lead to damage of the product.
- In any case take in mind to add Glycol inside hydraulic circuit.

3. Water Pipe Connection

3.3 Water Pipe Connection

⚠ CAUTION

- If the winter outdoor temperature is 0°C or below, take following measures to prevent the pipe from freezing as shown below.
  - If the outdoor temperature is low, the circulation water can freeze to damage the heat exchanger of the product when the product is stopped.
- If there is possibility of damage from low outdoor temperature, operate the pump to prevent the water from freezing.
  - If the product does not operate for a long period of time during the winter season, remove all the circulation water to prevent the damage of heat exchanger and pipe from freezing.
  - Add anti-freeze additive to prevent the circulation water from freezing during the winter season.
- Maintain the cold water flux within the designed flux to ensure appropriate chiller performance and reduce the tube damage from rusting, scaling and corrosion. LG is not responsible for any damage ofchiller from poor water quality management or inappropriate processing water.

■ Water Pipe installation

- Appropriate pressure of pipe connection is flange connection of 1 MPa or below.
- Size of the water pipe must be the same as that of the product or larger.
- If there is risk of dew drops forming, always install the thermal insulation material on the outlet pipe of the cold water.
- To avoid connected water pipe from creeping from the load, use appropriate hook for support.
- To prevent the pipe connected part from freezing during the winter season, always install the drain valve at the most bottom of the pipe system.
- Cold water inlet pipe is located at the bottom and the outlet pipe is installed on the top.
- After connecting the water pipe, the connection must be covered with at least 25.4 mm of insulation.
- When connecting the water pipe, remove the rear panel and connect.

System Capacity (RT)	**20**	**40**	**60**	**80**	**100**	**120**	**140**	**160**	**180**	**200**	**220**	**240**	**260**	**280**	**300**
Common pipe size	65 A	80 A	100 A	100 A	125 A	125 A	125 A	150 A	150 A	150 A	200 A	200 A	200 A	200 A	200 A

■ Cold water Pump control

- If the cold water pump is not operating for a long period of time or if the anti-freeze liquid is not used as the cold water, the anti-freeze pump control must be installed to prevent the pipe from freezing.
- The vibration of the pump can transfer to the pipe to cause noise indoors. As the plan to prevent the noise from spreading in the pump, install flexible joints at the inlet/outlet and use the anti-vibration amount for the pump support.

■ Water Quality

The water quality of the cold (hot) water is described as follows. The water quality must not fall below the following standard. If so, it can be judged to have risk within relatively short period of time.

3. Water Pipe Connection

Item		Water	
		Circulation type cold water	Cold water
Reference	PH(25°C)	6.5 - 8.0	6.5 - 8.0
	Conduction rate (25°C μs/cm)	500 or below	200 or below
	Alkali level (PPM)	100 or below	50 or below
	Hardness (PPM)	100 or below	50 or below
	Chlorine ion (PPM)	100 or below	50 or below
	Lactic acid ion (PPM)	100 or below	50 or below
	Iron (PPM)	0.1 or below	0.3 or below
	Sulfur ion (PPM)	Not detected	Not detected
	Ammonium ion (PPM)	0.5 or below	0.2 or below
	Silica (PPM)	50 or below	30 or below

■ Precaution to prevent freezing

If cooling operation is performed in Winter, or if water inside the cycle is not removed in the resting phase,you have to add freeze and burst prevention solution to protect from freeze and burst.

Freezer characteristics change by adding freeze and burst prevention solution, so it should be adjusted.

Refer to the following table for the adjustment coefficient after adding freeze and burst prevention solution.

Antifreeze Type	Item	Antifreeze % by wt				
		10%	20%	30%	40%	50%
Ethylene glycol	Cooling	0.996	0.991	0.987	0.983	0.979
	Heating	0.993	0.985	0.977	0.969	0.961
	Pressure Drop	1.024	1.068	1.124	1.188	1.263
Propylene glycol	Cooling	0.993	0.987	0.980	0.974	0.968
	Heating	0.966	0.973	0.960	0.948	0.935
	Pressure Drop	1.040	1.098	1.174	1.273	1.405

Glycol Solution is required for Freezing temperature operation at or below 5°C (See table for percentage of glycol concentration as a function of outdoor temperature)

Freezing temperature	-3℃	-7℃	-15℃	-20℃	-25℃	-30℃
Ethylene glycol	10%	20%	30%	40%	42%	45%
Propylene glycol	10%	20%	35%	40%	45%	50%

4. Unit Group

■ Table 1 : Standard Group

Below standard group will provide the maximum efficiency among all possible group, which does not require the constant flow valve, provided that installation method A is used.

Set Model	Unit Group				
	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
KC*H066*A*C	KC*H033*D*C	KC*H033*D*C			
KC*H080*A*C	KC*H040*D*C	KC*H040*D*C			
KC*H083*A*C	KC*H033*D*C	KC*H050*D*C			
KC*H090*A*C	KC*H045*D*C	KC*H045*D*C			
KC*H100*A*C	KC*H050*D*C	KC*H050*D*C			
KC*H112*A*C	KC*H045*D*C	KC*H067*D*C			
KC*H116*A*C	KC*H033*D*C	KC*H033*D*C	KC*H050*D*C		
KC*H120*A*C	KC*H060*D*C	KC*H060*D*C			
KC*H133*A*C	KC*H033*D*C	KC*H050*D*C	KC*H050*D*C		
KC*H134*A*C	KC*H067*D*C	KC*H067*D*C			
KC*H140*A*C	KC*H040*D*C	KC*H040*D*C	KC*H060*D*C		
KC*H150*A*C	KC*H050*D*C	KC*H050*D*C	KC*H050*D*C		
KC*H157*A*C	KC*H045*D*C	KC*H045*D*C	KC*H067*D*C		
KC*H160*A*C	KC*H040*D*C	KC*H060*D*C	KC*H060*D*C		
KC*H166*A*C	KC*H033*D*C	KC*H033*D*C	KC*H050*D*C	KC*H050*D*C	
KC*H180*A*C	KC*H060*D*C	KC*H060*D*C	KC*H060*D*C		
KC*H183*A*C	KC*H033*D*C	KC*H050*D*C	KC*H050*D*C	KC*H050*D*C	
KC*H200*A*C	KC*H050*D*C	KC*H050*D*C	KC*H050*D*C	KC*H050*D*C	
KC*H201*A*C	KC*H067*D*C	KC*H067*D*C	KC*H067*D*C		
KC*H216*A*C	KC*H033*D*C	KC*H033*D*C	KC*H050*D*C	KC*H050*D*C	KC*H050*D*C
KC*H220*A*C	KC*H040*D*C	KC*H060*D*C	KC*H060*D*C	KC*H060*D*C	
KC*H224*A*C	KC*H045*D*C	KC*H045*D*C	KC*H067*D*C	KC*H067*D*C	
KC*H233*A*C	KC*H033*D*C	KC*H050*D*C	KC*H050*D*C	KC*H050*D*C	KC*H050*D*C
KC*H240*A*C	KC*H060*D*C	KC*H060*D*C	KC*H060*D*C	KC*H060*D*C	
KC*H246*A*C	KC*H045*D*C	KC*H067*D*C	KC*H067*D*C	KC*H067*D*C	
KC*H250*A*C	KC*H050*D*C	KC*H050*D*C	KC*H050*D*C	KC*H050*D*C	KC*H050*D*C
KC*H260*A*C	KC*H040*D*C	KC*H040*D*C	KC*H060*D*C	KC*H060*D*C	KC*H060*D*C
KC*H268*A*C	KC*H067*D*C	KC*H067*D*C	KC*H067*D*C	KC*H067*D*C	
KC*H280*A*C	KC*H040*D*C	KC*H060*D*C	KC*H060*D*C	KC*H060*D*C	KC*H060*D*C
KC*H291*A*C	KC*H045*D*C	KC*H045*D*C	KC*H067*D*C	KC*H067*D*C	KC*H067*D*C
KC*H300*A*C	KC*H060*D*C	KC*H060*D*C	KC*H060*D*C	KC*H060*D*C	KC*H060*D*C
KC*H313*A*C	KC*H045*D*C	KC*H067*D*C	KC*H067*D*C	KC*H067*D*C	KC*H067*D*C
KC*H335*A*C	KC*H067*D*C	KC*H067*D*C	KC*H067*D*C	KC*H067*D*C	KC*H067*D*C

Note

For more information, please refer to Table 2.

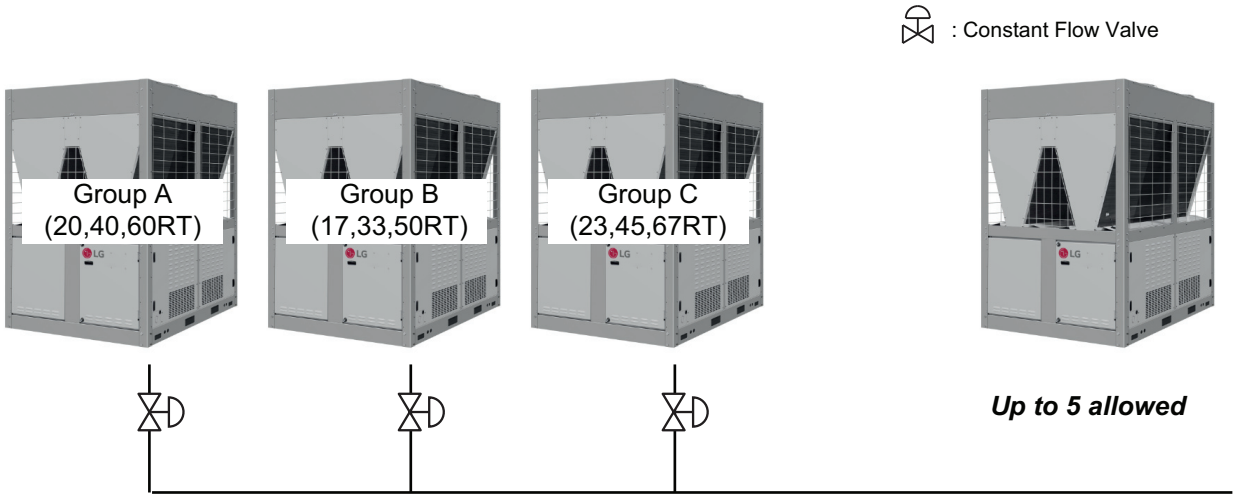
4. Unit Group

■ Table 2 : All Possible Group

Up to 5 units in the same group do not require a constant flow valve when installed using Installation Method A. If any other installation method is used, a constant flow valve must be installed

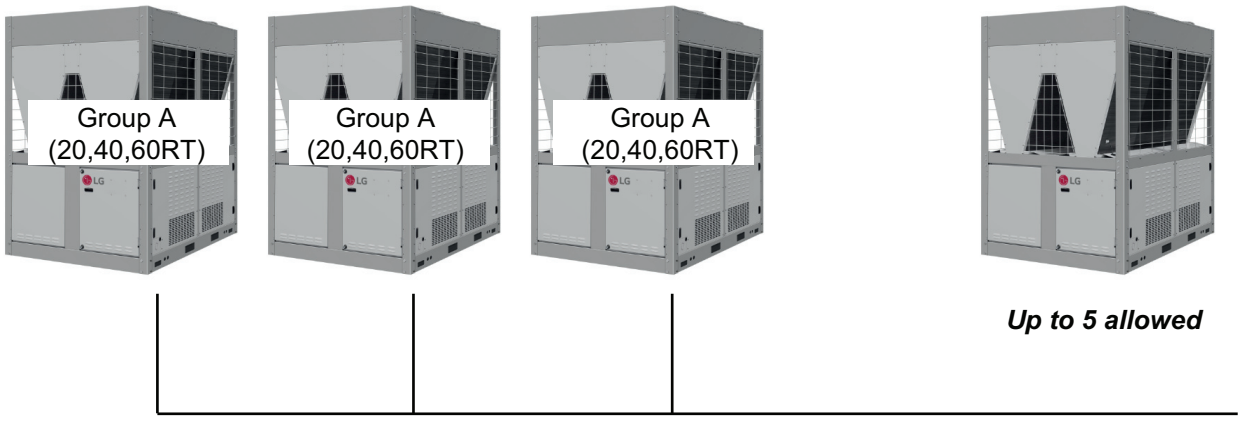
Group A	Group B	Group C
20 RT	17 RT	23 RT
40 RT	33 RT	45 RT
60 RT	50 RT	67 RT

Case 1: Combined WITH constant flow valve



Case 2: Combined WITHOUT constant flow valve

Applicable only when installed using Installation Method A (Reverse Return Piping)



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The air conditioners manufactured by LG have received ISO9001 certificate for quality assurance and ISO14001 certificate for environmental management system.
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