LG TOTAL HVAC SOLUTION PROVIDER

ENGINEERING PRODUCT DATA BOOK

Air-Cooled Scroll Chiller

(R410A)

0BHW0-02C(Replaces 0BHW0-02B)

162279 C SA US

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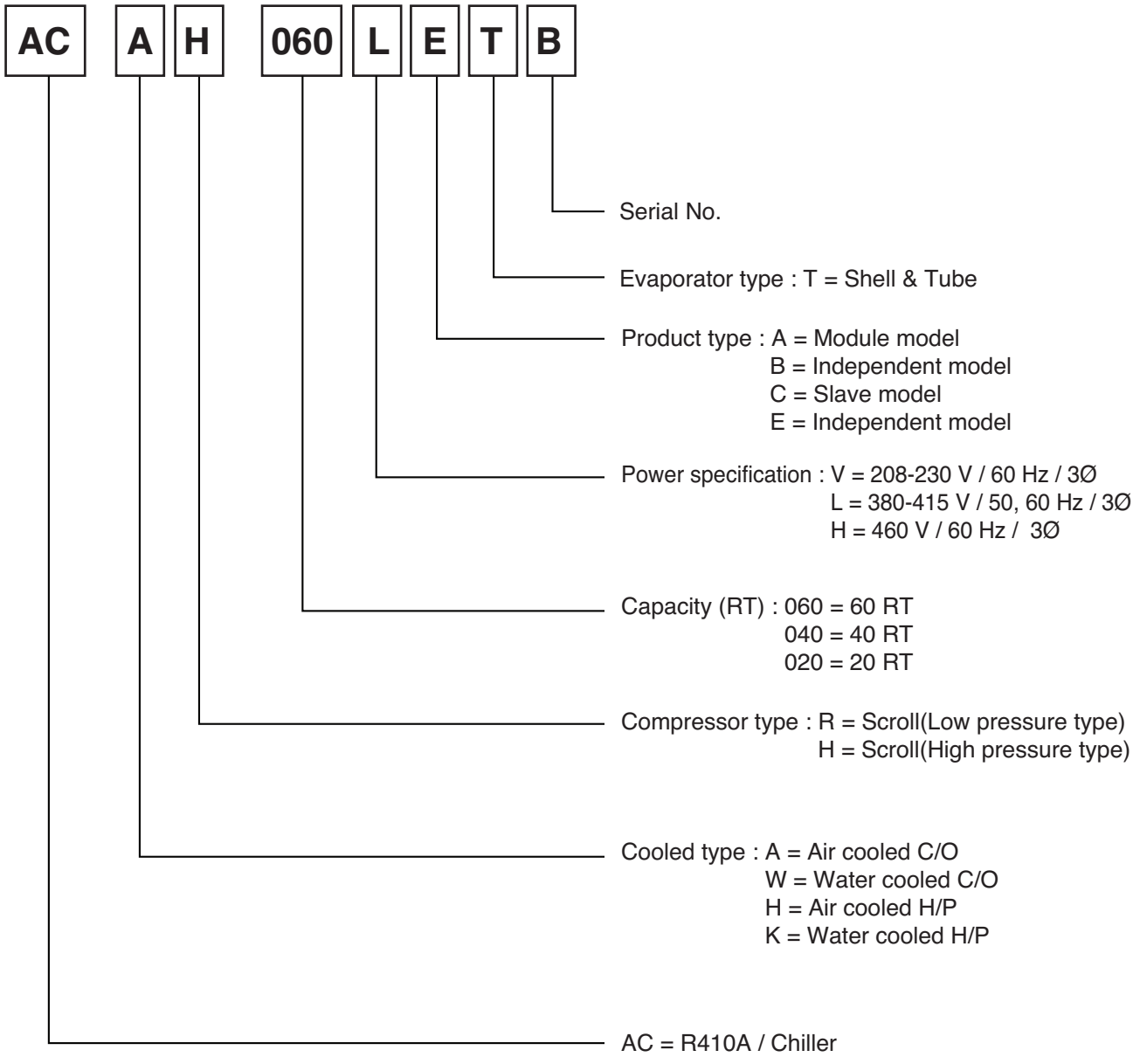
P/No. : MFL67285211

Air-Cooled Scroll Chiller (R410A)

1. Nomenclature



2. Selection Procedure

■ Selection guide

The product information required in various requirements is written in detail from Chapter 6.
If you need a product for special system application or product with the condition outside this PDB, please get consultation 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 model by looking at Chapter 8 Cooling/heating capability change table.
When you select the candidate model, do not select a model with less volume than the required rated capability, 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°C/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 following table for the adjustment coefficient after adding freeze and burst prevention solution.

Antifreeze Type	Item	Antifreeze % by wt				
		10 %	20 %	30 %	40 %	50 %
Methanol	Cooling	0.998	0.997	0.995	0.993	0.992
	Heating	0.995	0.990	0.985	0.979	0.974
	Pressure Drop	1.023	1.057	1.091	1.122	1.160
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

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.

Determine inverter scroll chiller unit size and operating conditions required to meet given capacity at given conditions.

Step I
Given
Capacity : 115 kW
Leaving chilled water Temp : 7 °C
Cooler Water Temp different : 5 °C
Condenser Entering Ari temp : 35 °C
Fouling Factor : 0.018

Note: For other than approximately 6 to 8 °C temperature difference, unit selection must be made using the selection software.(LATS ISC). and contact LG consultant.

Step II
From chiller ratings table on page 7 to 24 and pressure drop curves on page 25,
determine operating data for selected unit.
Unit : ACAH040LBAA
Capacity : 123 kW X fouling factor coefficient(1.0) = 123 kW (see 100% capacity table)
Power input : 46.4 kW X fouling factor coefficient(1.0) = 46.4 kW
Cooling water flow : 353 LPM
Pressure drop : 34 kPa
Note: If the chiller load is larger than the demand capacity, Check the partial load capacity table.

Step III
Review if the calculated specification is suitable for the site.

3. Specifications

■ 220V

Inverter Scroll Chiller		Model	ACAH020VETB	ACAH033VETB	ACAH040VETB
			C/O	C/O	C/O
Power		Phase,Lines,V	3,3,220	3,3,220	3,3,220
Capacity		kW	65	114	130
		RT	18.5	32.4	37
Input Power		kW	21.7	36.8	43.3
Efficiency		W/W	3.00	3.10	3.00
IPLV		W/W	5.0	5.1	5.0
Sound Pressure		dB(A)	64	66	67
Compressor	Type	-	Inverter Scroll	Inverter Scroll	Inverter Scroll
	No. of Compressor	EA	2	4	4
	Oil Type	-	PVE	PVE	PVE
	Oil charge	cc	1,400 x 2	1,400 x 4	1,400 x 4
	Sump Heater	W	60 x 2	60 x 4	60 x 4
Refrigrant	Type	-	R410A	R410A	R410A
	Amount of Charged	kg	6.5 x 2	6.5 x 4	6.5 x 4
Evaporator	Type	-	Shell&Tube	Shell&Tube	Shell&Tube
	Pressure drop	kPa	38.8	29.6	38.8
	Operating maximum pressure(Refrigrant / Water)	kg/cm^2	42/10	42/10	42/10
	Water Flow Rate (Standard)	LPM	186	327	372
	Water Flow Rate (Min. / Max.)	LPM	130/242	229/425	260/484
	Inlet/Outlet diameter (Water pipe)	mm	50A/50A	65A/65A	65A/65A
Fan motor	Type	-	BLDC	BLDC	BLDC
	No. of Fan	EA	2	4	4
	No. of Vanes (per fan)	EA	6	6	6
	Air Flow Rate	CMM	246x2 @1,000rpm	246x4 @1,000rpm	246x4 @1,000rpm
	Motor power	W	900x2	900x4	900x4
Expansion unit		-	EEV	EEV	EEV
Weight		kg	560	1,034	1,034
Dimension	W	mm	765	1,528	1,528
	H	mm	2,200	2,200	2,200
	D	mm	2,154	2,154	2,154
Footprint		m^2/RT	0.089	0.102	0.089
Protection Devices	High/Low Pressure	-	○	○	○
	Anti Frost	-	○	○	○
Remote Control		-	Modbus	Modbus	Modbus
Outlet Temperature		°C	5~20	5~20	5~20
Ambient Temperature		°C	-15~48	-15~48	-15~48
Guaranteed Load Capacity Range		20 % ~ 100 %			

Notes:

1. Due to our policy of innovation some specifications may be changed without prior notification.
2. 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
3. The AHRI Certified® mark indicates LG Electronics participation in the AHRI Certification program. For verification of individual certified products, go to www.ahridirectory.org.
4. The ACAH***VETB / ACAH***HETB models are certified by AHRI to AHRI Standard 550/590.
5. Selection Software Name : LATS ISC
   Selection Software Version no. : "For the latest version no. of selection software, go to www.ahridirectory.org."

3. Specifications

Inverter Scroll Chiller		Model	ACAH050VETB	ACAH060VETB
			C/O	C/O
Power		Phase,Lines,V	3,3,220	3,3,220
Capacity		kW	171	195
		RT	48.6	55.4
Input Power		kW	55.2	65.0
Efficiency		W/W	3.10	3.00
IPLV		W/W	5.1	5.0
Sound Pressure		dB(A)	68	69
Compressor	Type	-	Inverter Scroll	Inverter Scroll
	No. of Compressor	EA	6	6
	Oil Type	-	PVE	PVE
	Oil charge	cc	1,400 x 6	1,400 x 6
	Sump Heater	W	60 x 6	60 x 6
Refrigrant	Type	-	R410A	R410A
	Amount of Charged	kg	6.5 x 6	6.5 x 6
Evaporator	Type	-	Shell&Tube	Shell&Tube
	Pressure drop	kPa	29.6	38.8
	Operating maximum pressure(Refrigrant / Water)	kg/cm^2	42/10	42/10
	Water Flow Rate (Standard)	LPM	491	558
	Water Flow Rate (Min. / Max.)	LPM	343/637	391/725
	Inlet/Outlet diameter (Water pipe)	mm	65A/65A	65A/65A
Fan motor	Type	-	BLDC	BLDC
	No. of Fan	EA	6	6
	No. of Vanes (per fan)	EA	6	6
	Air Flow Rate	CMM	246x6 @1,000rpm	246x6 @1,000rpm
	Motor power	W	900x6	900x6
Expansion unit		-	EEV	EEV
Weight		kg	1,522	1,522
Dimension	W	mm	2,291	2,291
	H	mm	2,200	2,200
	D	mm	2,154	2,154
Footprint		m^2/RT	0.101	0.089
Protection Devices	High/Low Pressure	-	○	○
	Anti Frost	-	○	○
Remote Control		-	Modbus	Modbus
Outlet Temperature		°C	5~20	5~20
Ambient Temperature		°C	-15~48	-15~48
Guaranteed Load Capacity Range		20 % ~ 100 %		

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   Selection Software Version no. : "For the latest version no. of selection software, go to www.ahridirectory.org."

3. Specifications

■ 380V

Inverter Scroll Chiller		Model	ACAH020LETB	ACAH023LETB	ACAH033LETB
			C/O	C/O	C/O
Power		Phase,Lines,V	3,4,380-415	3,4,380-415	3,4,380-415
Capacity		kW	65	74	114
		RT	18.5	21.0	32.4
Input Power		kW	21.5	28.5	36.2
Efficiency		W/W	3.02	2.60	3.15
IPLV		W/W	5.3	5.1	5.4
Sound Pressure		dB(A)	64	66	66
Compressor	Type	-	Inverter Scroll	Inverter Scroll	Inverter Scroll
	No. of Compressor	EA	2	2	4
	Oil Type	-	PVE	PVE	PVE
	Oil charge	cc	1,400 x 2	1,400 x 2	1,400 x 4
	Sump Heater	W	60 x 2	60 x 2	60 x 4
Refrigrant	Type	-	R410A	R410A	R410A
	Amount of Charged	kg	6.5 x 2	6.5 x 2	6.5 x 4
Evaporator	Type	-	Shell&Tube	Shell&Tube	Shell&Tube
	Pressure drop	kPa	38.8	49.2	29.6
	Operating maximum pressure(Refrigrant / Water)	kg/cm^2	42/10	42/10	42/10
	Water Flow Rate (Standard)	LPM	186	211	327
	Water Flow Rate (Min. / Max.)	LPM	130/242	147/274	229/425
	Inlet/Outlet diameter (Water pipe)	mm	50A/50A	50A/50A	65A/65A
Fan motor	Type	-	BLDC	BLDC	BLDC
	No. of Fan	EA	2	2	4
	No. of Vanes (per fan)	EA	6	6	6
	Air Flow Rate	CMM	246 x 2 @1,000rpm	246 x 2 @1,000rpm	246 x 4 @1,000rpm
	Motor power	W	900 x 2	900 x 2	900 x 4
Expansion unit		-	EEV	EEV	EEV
Weight		kg	560	560	1,034
Dimension	W	mm	765	765	1,528
	H	mm	2,200	2,200	2,200
	D	mm	2,154	2,154	2,154
Footprint		m^2/RT	0.089	0.078	0.102
Protection Devices	High/Low Pressure	-	○	○	○
	Anti Frost	-	○	○	○
Remote Control		-	Modbus	Modbus	Modbus
Outlet Temperature		°C	5~20	5~20	5~20
Ambient Temperature		°C	-15~48	-15~48	-15~48
Guaranteed Load Capacity Range		20 % ~ 100 %			

Notes:

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3. Specifications

Inverter Scroll Chiller		Model	ACAH040LETB	ACAH045LETB	ACAH050LETB
			C/O	C/O	C/O
Power		Phase,Lines,V	3,4,380-415	3,4,380-415	3,4,380-415
Capacity		kW	130	148	171
		RT	37.0	42.1	48.6
Input Power		kW	43.0	56.9	54.3
Efficiency		W/W	3.02	2.60	3.15
IPLV		W/W	5.3	5.1	5.4
Sound Pressure		dB(A)	67	69	68
Compressor	Type	-	Inverter Scroll	Inverter Scroll	Inverter Scroll
	No. of Compressor	EA	4	4	6
	Oil Type	-	PVE	PVE	PVE
	Oil charge	cc	1,400 x 4	1,400 x 4	1,400 x 6
	Sump Heater	W	60 x 4	60 x 4	60 x 6
Refrigrant	Type	-	R410A	R410A	R410A
	Amount of Charged	kg	6.5 x 4	6.5 x 4	6.5 x 6
Evaporator	Type	-	Shell&Tube	Shell&Tube	Shell&Tube
	Pressure drop	kPa	38.8	49.2	29.6
	Operating maximum pressure(Refrigrant / Water)	kg/cm^2	42/10	42/10	42/10
	Water Flow Rate (Standard)	LPM	372	422	491
	Water Flow Rate (Min. / Max.)	LPM	260/484	288/534	343/637
	Inlet/Outlet diameter (Water pipe)	mm	65A/65A	65A/65A	65A/65A
Fan motor	Type	-	BLDC	BLDC	BLDC
	No. of Fan	EA	4	4	6
	No. of Vanes (per fan)	EA	6	6	6
	Air Flow Rate	CMM	246 x 4 @1,000rpm	246 x 4 @1,000rpm	246 x 6 @1,000rpm
	Motor power	W	900 x 4	900 x 4	900 x 6
Expansion unit		-	EEV	EEV	EEV
Weight		kg	1,034	1,034	1,522
Dimension	W	mm	1,528	1,528	2,291
	H	mm	2,200	2,200	2,200
	D	mm	2,154	2,154	2,154
Footprint		m^2/RT	0.089	0.078	0.101
Protection Devices	High/Low Pressure	-	○	○	○
	Anti Frost	-	○	○	○
Remote Control		-	Modbus	Modbus	Modbus
Outlet Temperature		°C	5~20	5~20	5~20
Ambient Temperature		°C	-15~48	-15~48	-15~48
Guaranteed Load Capacity Range		20 % ~ 100 %			

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3. Specifications

Inverter Scroll Chiller		Model	ACAH060LETB	ACAH067LETB
			C/O	C/O
Power		Phase,Lines,V	3,4,380-415	3,4,380-415
Capacity		kW	195	222
		RT	55.4	63.1
Input Power		kW	64.6	85.4
Efficiency		W/W	3.02	2.60
IPLV		W/W	5.3	5.1
Sound Pressure		dB(A)	69	71
Compressor	Type	-	Inverter Scroll	Inverter Scroll
	No. of Compressor	EA	6	6
	Oil Type	-	PVE	PVE
	Oil charge	cc	1,400 x 6	1,400 x 6
	Sump Heater	W	60 x 6	60 x 6
Refrigrant	Type	-	R410A	R410A
	Amount of Charged	kg	6.5 x 6	6.5 x 6
Evaporator	Type	-	Shell&Tube	Shell&Tube
	Pressure drop	kPa	38.8	49.2
	Operating maximum pressure(Refrigrant / Water)	kg/cm^2	42/10	42/10
	Water Flow Rate (Standard)	LPM	558	633
	Water Flow Rate (Min. / Max.)	LPM	391/725	443/823
	Inlet/Outlet diameter (Water pipe)	mm	65A/65A	65A/65A
Fan motor	Type	-	BLDC	BLDC
	No. of Fan	EA	6	6
	No. of Vanes (per fan)	EA	6	6
	Air Flow Rate	CMM	246 x 6 @1,000rpm	246 x 6 @1,000rpm
	Motor power	W	900 x 6	900 x 6
Expansion unit		-	EEV	EEV
Weight		kg	1,522	1,522
Dimension	W	mm	2,291	2,291
	H	mm	2,200	2,200
	D	mm	2,154	2,154
Footprint		m^2/RT	0.089	0.078
Protection Devices	High/Low Pressure	-	○	○
	Anti Frost	-	○	○
Remote Control		-	Modbus	Modbus
Outlet Temperature		°C	5~20	5~20
Ambient Temperature		°C	-15~48	-15~48
Guaranteed Load Capacity Range		20 % ~ 100 %		

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3. Specifications

■ 460V

Inverter Scroll Chiller		Model	ACAH020HETB	ACAH023HETB	ACAH033HETB
			C/O	C/O	C/O
Power		Phase,Lines,V	3,3,460	3,3,460	3,3,460
Capacity		kW	65	74	114
		RT	18.5	21.0	32.4
Input Power		kW	21.5	28.5	36.2
Efficiency		W/W	3.02	2.60	3.15
IPLV		W/W	5.3	5.1	5.4
Sound Pressure		dB(A)	64	66	66
Compressor	Type	-	Inverter Scroll	Inverter Scroll	Inverter Scroll
	No. of Compressor	EA	2	2	4
	Oil Type	-	PVE	PVE	PVE
	Oil charge	cc	1,400 x 2	1,400 x 2	1,400 x 4
	Sump Heater	W	60 x 2	60 x 2	60 x 4
Refrigrant	Type	-	R410A	R410A	R410A
	Amount of Charged	kg	6.5 x 2	6.5 x 2	6.5 x 4
Evaporator	Type	-	Shell&Tube	Shell&Tube	Shell&Tube
	Pressure drop	kPa	38.8	49.2	29.6
	Operating maximum pressure(Refrigrant / Water)	kg/cm^2	42/10	42/10	42/10
	Water Flow Rate (Standard)	LPM	186	211	327
	Water Flow Rate (Min. / Max.)	LPM	130/242	147/274	229/425
	Inlet/Outlet diameter (Water pipe)	mm	50A/50A	50A/50A	65A/65A
Fan motor	Type	-	BLDC	BLDC	BLDC
	No. of Fan	EA	2	2	4
	No. of Vanes (per fan)	EA	6	6	6
	Air Flow Rate	CMM	246 x 2 @1,000rpm	246 x 2 @1,000rpm	246 x 4 @1,000rpm
	Motor power	W	900 x 2	900 x 2	900 x 4
Expansion unit		-	EEV	EEV	EEV
Weight		kg	560	560	1,034
Dimension	W	mm	765	765	1,528
	H	mm	2,200	2,200	2,200
	D	mm	2,154	2,154	2,154
Footprint		m^2/RT	0.089	0.078	0.102
Protection Devices	High/Low Pressure	-	○	○	○
	Anti Frost	-	○	○	○
Remote Control		-	Modbus	Modbus	Modbus
Outlet Temperature		°C	5~20	5~20	5~20
Ambient Temperature		°C	-15~48	-15~48	-15~48
Guaranteed Load Capacity Range		20 % ~ 100 %			

Notes:

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5. Selection Software Name : LATS ISC
   Selection Software Version no. : "For the latest version no. of selection software, go to www.ahridirectory.org."

3. Specifications

Inverter Scroll Chiller		Model	ACAH040HETB	ACAH045HETB	ACAH050HETB
			C/O	C/O	C/O
Power		Phase,Lines,V	3,3,460	3,3,460	3,3,460
Capacity		kW	130	148	171
		RT	37.0	42.1	48.6
Input Power		kW	43.0	56.9	54.3
Efficiency		W/W	3.02	2.60	3.15
IPLV		W/W	5.3	5.1	5.4
Sound Pressure		dB(A)	67	69	68
Compressor	Type	-	Inverter Scroll	Inverter Scroll	Inverter Scroll
	No. of Compressor	EA	4	4	6
	Oil Type	-	PVE	PVE	PVE
	Oil charge	cc	1,400 x 4	1,400 x 4	1,400 x 6
	Sump Heater	W	60 x 4	60 x 4	60 x 6
Refrigrant	Type	-	R410A	R410A	R410A
	Amount of Charged	kg	6.5 x 4	6.5 x 4	6.5 x 6
Evaporator	Type	-	Shell&Tube	Shell&Tube	Shell&Tube
	Pressure drop	kPa	38.8	49.2	29.6
	Operating maximum pressure(Refrigrant / Water)	kg/cm^2	42/10	42/10	42/10
	Water Flow Rate (Standard)	LPM	372	422	491
	Water Flow Rate (Min. / Max.)	LPM	260/484	288/534	343/637
	Inlet/Outlet diameter (Water pipe)	mm	65A/65A	65A/65A	65A/65A
Fan motor	Type	-	BLDC	BLDC	BLDC
	No. of Fan	EA	4	4	6
	No. of Vanes (per fan)	EA	6	6	6
	Air Flow Rate	CMM	246 x 4 @1,000rpm	246 x 4 @1,000rpm	246 x 6 @1,000rpm
	Motor power	W	900 x 4	900 x 4	900 x 6
Expansion unit		-	EEV	EEV	EEV
Weight		kg	1,034	1,034	1,522
Dimension	W	mm	1,528	1,528	2,291
	H	mm	2,200	2,200	2,200
	D	mm	2,154	2,154	2,154
Footprint		m^2/RT	0.089	0.078	0.101
Protection Devices	High/Low Pressure	-	○	○	○
	Anti Frost	-	○	○	○
Remote Control		-	Modbus	Modbus	Modbus
Outlet Temperature		°C	5~20	5~20	5~20
Ambient Temperature		°C	-15~48	-15~48	-15~48
Guaranteed Load Capacity Range		20 % ~ 100 %			

Notes:

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   Selection Software Version no. : "For the latest version no. of selection software, go to www.ahridirectory.org."

3. Specifications

Inverter Scroll Chiller		Model	ACAH060HETB	ACAH067HETB
			C/O	C/O
Power		Phase,Lines,V	3,3,460	3,3,460
Capacity		kW	195	222
		RT	55.4	63.1
Input Power		kW	64.6	85.4
Efficiency		W/W	3.02	2.60
IPLV		W/W	5.3	5.1
Sound Pressure		dB(A)	69	71
Compressor	Type	-	Inverter Scroll	Inverter Scroll
	No. of Compressor	EA	6	6
	Oil Type	-	PVE	PVE
	Oil charge	cc	1,400 x 6	1,400 x 6
	Sump Heater	W	60 x 6	60 x 6
Refrigrant	Type	-	R410A	R410A
	Amount of Charged	kg	6.5 x 6	6.5 x 6
Evaporator	Type	-	Shell&Tube	Shell&Tube
	Pressure drop	kPa	38.8	49.2
	Operating maximum pressure(Refrigrant / Water)	kg/cm^2	42/10	42/10
	Water Flow Rate (Standard)	LPM	558	633
	Water Flow Rate (Min. / Max.)	LPM	391/725	443/823
	Inlet/Outlet diameter (Water pipe)	mm	65A/65A	65A/65A
Fan motor	Type	-	BLDC	BLDC
	No. of Fan	EA	6	6
	No. of Vanes (per fan)	EA	6	6
	Air Flow Rate	CMM	246 x 6 @1,000rpm	246 x 6 @1,000rpm
	Motor power	W	900 x 6	900 x 6
Expansion unit		-	EEV	EEV
Weight		kg	1,522	1,522
Dimension	W	mm	2,291	2,291
	H	mm	2,200	2,200
	D	mm	2,154	2,154
Footprint		m^2/RT	0.089	0.078
Protection Devices	High/Low Pressure	-	○	○
	Anti Frost	-	○	○
Remote Control		-	Modbus	Modbus
Outlet Temperature		°C	5~20	5~20
Ambient Temperature		°C	-15~48	-15~48
Guaranteed Load Capacity Range		20 % ~ 100 %		

Notes:

1. Due to our policy of innovation some specifications may be changed without prior notification.
2. 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
3. The AHRI Certified® mark indicates LG Electronics participation in the AHRI Certification program. For verification of individual certified products, go to www.ahridirectory.org.
4. The ACAH***VETB / ACAH***HETB models are certified by AHRI to AHRI Standard 550/590.
5. Selection Software Name : LATS ISC
   Selection Software Version no. : "For the latest version no. of selection software, go to www.ahridirectory.org."

4. Performance Data

■ 220V

■ ACAH020VETB (ΔT = 5°C)

Flow Rate		Outdoor Temperature (°C)													
186 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	65,000	15,021	65,000	15,545	65,000	16,069	65,000	16,637	65,000	17,206	65,000	17,882	65,000	18,651
	7	65,000	14,382	65,000	14,900	65,000	15,437	65,000	15,980	65,000	16,527	65,000	17,190	65,000	17,861
	9	65,000	13,387	65,000	13,881	65,000	14,394	65,000	14,907	65,000	15,426	65,000	16,058	65,000	16,831
	11	65,000	12,607	65,000	13,108	65,000	13,628	65,000	14,152	65,000	14,701	65,000	15,332	65,000	16,003
	13	65,000	11,963	65,000	12,427	65,000	12,907	65,000	13,390	65,000	13,879	65,000	14,482	65,000	15,092
	15	65,000	11,246	65,000	11,690	65,000	12,153	65,000	12,619	65,000	13,089	65,000	13,673	65,000	14,263
	20	65,000	10,571	65,000	10,998	65,000	11,443	65,000	11,893	65,000	12,344	65,000	12,909	65,000	13,481

Flow Rate		Outdoor Temperature (°C)													
186 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	65,000	19,421	65,000	20,148	65,000	20,876	65,000	22,692	65,000	26,681	46,046	21,297	30,225	15,859
	7	65,000	18,539	65,000	19,257	65,000	20,094	65,000	21,700	65,000	25,465	48,373	21,354	32,435	16,243
	9	65,000	17,474	65,000	18,156	65,000	18,847	65,000	20,443	65,000	23,467	50,700	20,624	34,645	15,989
	11	65,000	16,654	65,000	17,334	65,000	18,040	65,000	19,527	65,000	22,445	52,065	20,257	36,855	16,268
	13	65,000	15,707	65,000	16,356	65,000	17,016	65,000	18,552	65,000	21,188	54,318	19,951	39,065	16,278
	15	65,000	14,858	65,000	15,485	65,000	16,121	65,000	17,436	65,000	19,992	56,572	19,605	41,392	16,273
	20	65,000	14,054	65,000	14,660	65,000	15,273	65,000	16,387	65,000	18,863	58,825	19,234	43,719	16,217

■ ACAH020VETB (ΔT = 7°C)

Flow Rate		Outdoor Temperature (°C)													
137 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	66,885	15,096	66,885	15,623	66,885	16,149	66,885	16,721	66,885	17,292	66,885	17,971	66,885	18,745
	7	66,885	14,454	66,885	14,975	66,885	15,514	66,885	16,060	66,885	16,610	66,885	17,276	66,885	17,951
	9	66,885	13,454	66,885	13,950	66,885	14,466	66,885	14,981	66,885	15,503	66,885	16,138	66,885	16,915
	11	66,885	12,670	66,885	13,173	66,885	13,696	66,885	14,223	66,885	14,775	66,885	15,409	66,885	16,084
	13	66,885	12,023	66,885	12,489	66,885	12,971	66,885	13,457	66,885	13,949	66,885	14,555	66,885	15,167
	15	66,885	11,302	66,885	11,749	66,885	12,214	66,885	12,682	66,885	13,155	66,885	13,742	66,885	14,335
	20	66,885	10,624	66,885	11,053	66,885	11,500	66,885	11,953	66,885	12,406	66,885	12,973	66,885	13,548

Flow Rate		Outdoor Temperature (°C)													
137 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	66,885	19,518	66,885	20,249	66,885	20,980	66,885	22,805	66,885	26,815	47,381	21,403	31,102	15,939
	7	66,885	18,632	66,885	19,354	66,885	20,195	66,885	21,809	66,885	25,592	49,776	21,460	33,376	16,325
	9	66,885	17,562	66,885	18,247	66,885	18,941	66,885	20,545	66,885	23,584	52,170	20,727	35,650	16,068
	11	66,885	16,738	66,885	17,421	66,885	18,130	66,885	19,624	66,885	22,557	53,575	20,358	37,924	16,349
	13	66,885	15,786	66,885	16,438	66,885	17,101	66,885	18,645	66,885	21,294	55,893	20,051	40,198	16,359
	15	66,885	14,932	66,885	15,562	66,885	16,202	66,885	17,523	66,885	20,092	58,213	19,703	42,592	16,355
	20	66,885	14,124	66,885	14,733	66,885	15,350	66,885	16,469	66,885	18,957	60,531	19,330	44,987	16,298

4. Performance Data

■ ACAH020VETB (ΔT = 10°C)

Flow Rate		Outdoor Temperature (°C)													
100 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	69,680	15,216	69,680	15,747	69,680	16,278	69,680	16,854	69,680	17,430	69,680	18,114	69,680	18,894
	7	69,680	14,569	69,680	15,094	69,680	15,638	69,680	16,188	69,680	16,742	69,680	17,414	69,680	18,094
	9	69,680	13,561	69,680	14,061	69,680	14,581	69,680	15,101	69,680	15,627	69,680	16,267	69,680	17,050
	11	69,680	12,771	69,680	13,278	69,680	13,805	69,680	14,336	69,680	14,893	69,680	15,531	69,680	16,212
	13	69,680	12,118	69,680	12,588	69,680	13,074	69,680	13,564	69,680	14,060	69,680	14,671	69,680	15,288
	15	69,680	11,392	69,680	11,842	69,680	12,311	69,680	12,783	69,680	13,260	69,680	13,851	69,680	14,449
	20	69,680	10,708	69,680	11,140	69,680	11,592	69,680	12,048	69,680	12,505	69,680	13,077	69,680	13,656

Flow Rate		Outdoor Temperature (°C)													
100 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	69,680	19,673	69,680	20,410	69,680	21,147	69,680	22,987	69,680	27,028	49,361	21,574	32,401	16,065
	7	69,680	18,780	69,680	19,508	69,680	20,356	69,680	21,982	69,680	25,796	51,856	21,631	34,770	16,455
	9	69,680	17,702	69,680	18,392	69,680	19,092	69,680	20,709	69,680	23,772	54,350	20,892	37,139	16,196
	11	69,680	16,871	69,680	17,560	69,680	18,274	69,680	19,781	69,680	22,737	55,814	20,520	39,509	16,479
	13	69,680	15,912	69,680	16,569	69,680	17,237	69,680	18,793	69,680	21,463	58,229	20,210	41,878	16,489
	15	69,680	15,051	69,680	15,686	69,680	16,331	69,680	17,663	69,680	20,252	60,645	19,860	44,372	16,485
	20	69,680	14,236	69,680	14,850	69,680	15,472	69,680	16,600	69,680	19,108	63,060	19,484	46,867	16,428

■ ACAH033VETB (ΔT = 5°C)

Flow Rate		Outdoor Temperature (°C)													
327 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	114,000	25,439	114,000	26,327	114,000	27,214	114,000	28,177	114,000	29,141	114,000	30,286	114,000	31,589
	7	114,000	24,357	114,000	25,235	114,000	26,145	114,000	27,065	114,000	27,992	114,000	29,114	114,000	30,250
	9	114,000	22,672	114,000	23,509	114,000	24,376	114,000	25,246	114,000	26,126	114,000	27,197	114,000	28,506
	11	114,000	21,351	114,000	22,200	114,000	23,082	114,000	23,969	114,000	24,899	114,000	25,967	114,000	27,103
	13	114,000	20,261	114,000	21,045	114,000	21,860	114,000	22,678	114,000	23,507	114,000	24,528	114,000	25,559
	15	114,000	19,045	114,000	19,799	114,000	20,583	114,000	21,372	114,000	22,169	114,000	23,157	114,000	24,156
	20	114,000	15,820	114,000	16,429	114,000	17,061	114,000	17,693	114,000	18,482	114,000	19,430	114,000	20,220

Flow Rate		Outdoor Temperature (°C)													
327 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	114,000	32,891	114,000	34,123	114,000	35,641	114,000	38,432	114,000	45,188	91,542	39,714	57,570	27,970
	7	114,000	31,398	114,000	32,614	114,000	34,137	114,000	36,774	114,000	43,129	94,780	39,245	62,225	28,854
	9	114,000	29,595	114,000	30,749	114,000	32,205	114,000	34,623	114,000	39,744	98,017	37,400	66,880	28,579
	11	114,000	28,207	114,000	29,357	114,000	30,839	114,000	33,072	114,000	38,013	101,255	36,953	71,535	29,236
	13	114,000	26,602	114,000	27,702	114,000	29,104	114,000	31,420	114,000	35,885	104,492	36,000	76,190	29,396
	15	114,000	25,163	114,000	26,227	114,000	27,589	114,000	29,530	114,000	33,858	107,730	35,019	80,845	29,430
	20	114,000	21,168	114,000	22,116	114,000	22,748	114,000	24,327	114,000	28,277	114,000	31,278	85,500	25,994

4. Performance Data

■ ACAH033VETB (ΔT = 7°C)

Flow Rate		Outdoor Temperature (°C)													
240 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	117,306	24,750	117,306	25,613	117,306	26,477	117,306	27,414	117,306	28,352	117,306	29,465	117,306	30,732
	7	117,306	23,697	117,306	24,552	117,306	25,437	117,306	26,331	117,306	27,234	117,306	28,325	117,306	29,431
	9	117,306	22,058	117,306	22,871	117,306	23,716	117,306	24,562	117,306	25,418	117,306	26,460	117,306	27,734
	11	117,306	20,773	117,306	21,598	117,306	22,456	117,306	23,319	117,306	24,225	117,306	25,263	117,306	26,368
	13	117,306	19,712	117,306	20,475	117,306	21,268	117,306	22,063	117,306	22,870	117,306	23,864	117,306	24,867
	15	117,306	18,529	117,306	19,263	117,306	20,025	117,306	20,793	117,306	21,569	117,306	22,530	117,306	23,502
	20	117,306	17,418	117,306	18,122	117,306	18,855	117,306	19,596	117,306	20,341	117,306	21,270	117,306	22,212

Flow Rate		Outdoor Temperature (°C)													
240 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	117,306	32,000	117,306	33,198	117,306	34,676	117,306	37,391	117,306	43,963	94,197	41,336	59,240	29,113
	7	117,306	30,547	117,306	31,730	117,306	33,212	117,306	35,778	117,306	41,960	97,529	40,848	64,030	30,033
	9	117,306	28,794	117,306	29,916	117,306	31,333	117,306	33,685	117,306	38,667	100,859	38,928	68,820	29,746
	11	117,306	27,443	117,306	28,561	117,306	30,003	117,306	32,176	117,306	36,983	104,191	38,462	73,610	30,431
	13	117,306	25,881	117,306	26,951	117,306	28,315	117,306	30,568	117,306	34,913	107,522	37,470	78,400	30,597
	15	117,306	24,481	117,306	25,516	117,306	26,841	117,306	28,730	117,306	32,940	110,854	36,449	83,190	30,632
	20	117,306	23,156	117,306	24,157	117,306	25,444	117,306	27,001	117,306	31,079	117,306	35,305	87,980	27,056

4. Performance Data

■ ACAH033VETB (ΔT = 10°C)

Flow Rate		Outdoor Temperature (°C)													
175 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	122,208	24,947	122,208	25,817	122,208	26,687	122,208	27,633	122,208	28,578	122,208	29,699	122,208	30,977
	7	122,208	23,885	122,208	24,747	122,208	25,639	122,208	26,541	122,208	27,450	122,208	28,550	122,208	29,665
	9	122,208	22,233	122,208	23,053	122,208	23,904	122,208	24,758	122,208	25,620	122,208	26,670	122,208	27,955
	11	122,208	20,938	122,208	21,770	122,208	22,635	122,208	23,505	122,208	24,417	122,208	25,464	122,208	26,578
	13	122,208	19,869	122,208	20,638	122,208	21,437	122,208	22,239	122,208	23,052	122,208	24,054	122,208	25,065
	15	122,208	18,677	122,208	19,416	122,208	20,185	122,208	20,958	122,208	21,740	122,208	22,709	122,208	23,689
	20	122,208	17,557	122,208	18,267	122,208	19,005	122,208	19,752	122,208	20,503	122,208	21,440	122,208	22,389

Flow Rate		Outdoor Temperature (°C)													
175 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	122,208	32,255	122,208	33,462	122,208	34,952	122,208	37,688	122,208	44,313	98,133	41,665	61,715	29,344
	7	122,208	30,791	122,208	31,983	122,208	33,476	122,208	36,063	122,208	42,294	101,604	41,173	66,705	30,272
	9	122,208	29,023	122,208	30,154	122,208	31,582	122,208	33,953	122,208	38,975	105,074	39,238	71,695	29,983
	11	122,208	27,661	122,208	28,789	122,208	30,242	122,208	32,432	122,208	37,277	108,545	38,769	76,686	30,673
	13	122,208	26,088	122,208	27,165	122,208	28,541	122,208	30,812	122,208	35,191	112,015	37,769	81,676	30,840
	15	122,208	24,676	122,208	25,719	122,208	27,055	122,208	28,958	122,208	33,203	115,487	36,740	86,666	30,876
	20	122,208	23,341	122,208	24,350	122,208	25,647	122,208	27,216	122,208	31,327	122,208	35,586	91,656	27,271

4. Performance Data

■ ACAH040VETB (ΔT = 5°C)

Flow Rate		Outdoor Temperature (°C)													
372 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	130,000	29,973	130,000	31,018	130,000	32,063	130,000	33,198	130,000	34,333	130,000	35,681	130,000	37,217
	7	130,000	28,697	130,000	29,732	130,000	30,803	130,000	31,886	130,000	32,978	130,000	34,301	130,000	35,640
	9	130,000	26,712	130,000	27,697	130,000	28,721	130,000	29,745	130,000	30,781	130,000	32,042	130,000	33,584
	11	130,000	25,157	130,000	26,155	130,000	27,194	130,000	28,239	130,000	29,335	130,000	30,594	130,000	31,933
	13	130,000	23,870	130,000	24,796	130,000	25,754	130,000	26,718	130,000	27,695	130,000	28,898	130,000	30,114
	15	130,000	22,439	130,000	23,327	130,000	24,250	130,000	25,180	130,000	26,119	130,000	27,283	130,000	28,461
	20	130,000	21,093	130,000	21,944	130,000	22,834	130,000	23,732	130,000	24,632	130,000	25,758	130,000	26,899

Flow Rate		Outdoor Temperature (°C)													
372 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	130,000	38,752	130,000	40,203	130,000	41,655	130,000	45,279	130,000	53,240	92,092	42,495	60,450	31,646
	7	130,000	36,993	130,000	38,426	130,000	40,096	130,000	43,300	130,000	50,812	96,746	42,609	64,870	32,412
	9	130,000	34,868	130,000	36,229	130,000	37,607	130,000	40,792	130,000	46,826	101,400	41,154	69,290	31,903
	11	130,000	33,232	130,000	34,589	130,000	35,997	130,000	38,964	130,000	44,787	104,130	40,421	73,710	32,460
	13	130,000	31,342	130,000	32,637	130,000	33,953	130,000	37,018	130,000	42,278	108,637	39,810	78,130	32,481
	15	130,000	29,647	130,000	30,899	130,000	32,168	130,000	34,791	130,000	39,891	113,143	39,119	82,784	32,472
	20	130,000	28,043	130,000	29,252	130,000	30,476	130,000	32,699	130,000	37,639	117,650	38,380	87,438	32,360

4. Performance Data

■ ACAH040VETB (ΔT = 7°C)

Flow Rate		Outdoor Temperature (°C)													
274 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	133,770	30,123	133,770	31,173	133,770	32,224	133,770	33,364	133,770	34,505	133,770	35,859	133,770	37,403
	7	133,770	28,841	133,770	29,881	133,770	30,957	133,770	32,046	133,770	33,143	133,770	34,472	133,770	35,819
	9	133,770	26,845	133,770	27,836	133,770	28,865	133,770	29,893	133,770	30,935	133,770	32,202	133,770	33,752
	11	133,770	25,282	133,770	26,286	133,770	27,330	133,770	28,380	133,770	29,482	133,770	30,747	133,770	32,093
	13	133,770	23,990	133,770	24,920	133,770	25,883	133,770	26,852	133,770	27,833	133,770	29,042	133,770	30,264
	15	133,770	22,551	133,770	23,443	133,770	24,371	133,770	25,306	133,770	26,249	133,770	27,420	133,770	28,603
	20	133,770	21,199	133,770	22,054	133,770	22,948	133,770	23,850	133,770	24,755	133,770	25,887	133,770	27,034

Flow Rate		Outdoor Temperature (°C)													
274 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	133,770	38,946	133,770	40,404	133,770	41,864	133,770	45,506	133,770	53,506	94,763	42,708	62,203	31,804
	7	133,770	37,178	133,770	38,618	133,770	40,297	133,770	43,517	133,770	51,067	99,552	42,822	66,751	32,574
	9	133,770	35,043	133,770	36,410	133,770	37,795	133,770	40,996	133,770	47,060	104,341	41,359	71,299	32,063
	11	133,770	33,398	133,770	34,762	133,770	36,177	133,770	39,158	133,770	45,011	107,150	40,623	75,848	32,623
	13	133,770	31,499	133,770	32,800	133,770	34,123	133,770	37,203	133,770	42,490	111,787	40,009	80,396	32,643
	15	133,770	29,795	133,770	31,053	133,770	32,329	133,770	34,965	133,770	40,091	116,424	39,315	85,185	32,634
	20	133,770	28,183	133,770	29,398	133,770	30,629	133,770	32,862	133,770	37,827	121,062	38,572	89,974	32,522

4. Performance Data

■ ACAH040VETB (ΔT = 10°C)

Flow Rate		Outdoor Temperature (°C)													
200 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	139,360	30,363	139,360	31,421	139,360	32,480	139,360	33,630	139,360	34,779	139,360	36,145	139,360	37,700
	7	139,360	29,071	139,360	30,118	139,360	31,203	139,360	32,301	139,360	33,407	139,360	34,747	139,360	36,104
	9	139,360	27,059	139,360	28,057	139,360	29,094	139,360	30,131	139,360	31,182	139,360	32,459	139,360	34,021
	11	139,360	25,484	139,360	26,495	139,360	27,547	139,360	28,606	139,360	29,717	139,360	30,991	139,360	32,348
	13	139,360	24,181	139,360	25,119	139,360	26,089	139,360	27,065	139,360	28,055	139,360	29,274	139,360	30,505
	15	139,360	22,731	139,360	23,630	139,360	24,565	139,360	25,507	139,360	26,458	139,360	27,638	139,360	28,831
	20	139,360	21,367	139,360	22,230	139,360	23,131	139,360	24,040	139,360	24,952	139,360	26,093	139,360	27,249

Flow Rate		Outdoor Temperature (°C)													
200 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	139,360	39,256	139,360	40,726	139,360	42,197	139,360	45,868	139,360	53,932	98,723	43,048	64,802	32,057
	7	139,360	37,474	139,360	38,926	139,360	40,617	139,360	43,863	139,360	51,473	103,712	43,163	69,541	32,833
	9	139,360	35,322	139,360	36,700	139,360	38,096	139,360	41,322	139,360	47,435	108,701	41,689	74,279	32,318
	11	139,360	33,664	139,360	35,038	139,360	36,465	139,360	39,470	139,360	45,369	111,627	40,946	79,017	32,882
	13	139,360	31,750	139,360	33,061	139,360	34,395	139,360	37,500	139,360	42,828	116,459	40,327	83,755	32,903
	15	139,360	30,032	139,360	31,300	139,360	32,586	139,360	35,244	139,360	40,410	121,289	39,628	88,744	32,894
	20	139,360	28,407	139,360	29,632	139,360	30,873	139,360	33,124	139,360	38,128	126,121	38,879	93,734	32,781

4. Performance Data

■ ACAH050VETB (ΔT = 5°C)

Flow Rate		Outdoor Temperature (°C)													
491 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	171,000	38,159	171,000	39,490	171,000	40,820	171,000	42,266	171,000	43,712	171,000	45,428	171,000	47,383
	7	171,000	36,536	171,000	37,853	171,000	39,217	171,000	40,597	171,000	41,988	171,000	43,671	171,000	45,375
	9	171,000	34,008	171,000	35,263	171,000	36,565	171,000	37,868	171,000	39,188	171,000	40,795	171,000	42,759
	11	171,000	32,027	171,000	33,299	171,000	34,623	171,000	35,953	171,000	37,349	171,000	38,950	171,000	40,655
	13	171,000	30,392	171,000	31,568	171,000	32,790	171,000	34,017	171,000	35,261	171,000	36,792	171,000	38,339
	15	171,000	28,568	171,000	29,699	171,000	30,875	171,000	32,058	171,000	33,254	171,000	34,736	171,000	36,235
	20	171,000	23,731	171,000	24,643	171,000	25,591	171,000	26,539	171,000	27,724	171,000	29,145	171,000	30,330

Flow Rate		Outdoor Temperature (°C)													
491 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	171,000	49,337	171,000	51,184	171,000	53,462	171,000	57,648	171,000	67,782	137,313	59,571	86,355	41,955
	7	171,000	47,096	171,000	48,921	171,000	51,205	171,000	55,161	171,000	64,693	142,169	58,867	93,338	43,281
	9	171,000	44,393	171,000	46,124	171,000	48,308	171,000	51,934	171,000	59,616	147,026	56,101	100,320	42,868
	11	171,000	42,310	171,000	44,036	171,000	46,258	171,000	49,608	171,000	57,019	151,882	55,429	107,302	43,855
	13	171,000	39,903	171,000	41,553	171,000	43,656	171,000	47,130	171,000	53,827	156,739	54,000	114,285	44,094
	15	171,000	37,744	171,000	39,340	171,000	41,384	171,000	44,295	171,000	50,787	161,595	52,528	121,267	44,145
	20	171,000	31,752	171,000	33,174	171,000	34,121	171,000	36,491	171,000	42,415	171,000	46,917	128,250	38,991

■ ACAH050VETB (ΔT = 7°C)

Flow Rate		Outdoor Temperature (°C)													
360 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	175,959	37,093	175,959	38,386	175,959	39,680	175,959	41,085	175,959	42,491	175,959	44,158	175,959	46,058
	7	175,959	35,514	175,959	36,795	175,959	38,121	175,959	39,462	175,959	40,814	175,959	42,450	175,959	44,107
	9	175,959	33,057	175,959	34,277	175,959	35,542	175,959	36,810	175,959	38,093	175,959	39,655	175,959	41,564
	11	175,959	31,132	175,959	32,369	175,959	33,654	175,959	34,948	175,959	36,305	175,959	37,861	175,959	39,517
	13	175,959	29,542	175,959	30,686	175,959	31,874	175,959	33,065	175,959	34,275	175,959	35,764	175,959	37,267
	15	175,959	27,769	175,959	28,869	175,959	30,012	175,959	31,162	175,959	32,325	175,959	33,765	175,959	35,222
	20	175,959	26,104	175,959	27,160	175,959	28,258	175,959	29,369	175,959	30,484	175,959	31,877	175,959	33,289

Flow Rate		Outdoor Temperature (°C)													
360 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	175,959	47,958	175,959	49,753	175,959	51,968	175,959	56,037	175,959	65,886	141,295	61,950	88,859	43,630
	7	175,959	45,781	175,959	47,553	175,959	49,773	175,959	53,667	175,959	62,884	146,292	61,218	96,045	45,009
	9	175,959	43,153	175,959	44,834	175,959	46,958	175,959	50,482	175,959	57,949	151,290	58,341	103,229	44,580
	11	175,959	41,128	175,959	42,804	175,959	44,965	175,959	48,221	175,959	55,425	156,287	57,643	110,414	45,606
	13	175,959	38,788	175,959	40,390	175,959	42,436	175,959	45,812	175,959	52,323	161,284	56,156	117,599	45,855
	15	175,959	36,689	175,959	38,240	175,959	40,227	175,959	43,056	175,959	49,367	166,281	54,626	124,784	45,908
	20	175,959	34,704	175,959	36,204	175,959	38,132	175,959	40,466	175,959	46,578	175,959	52,911	131,969	40,548

■ ACAH050VETB (ΔT = 10°C)

Flow Rate		Outdoor Temperature (°C)													
263 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	183,312	37,388	183,312	38,692	183,312	39,996	183,312	41,412	183,312	42,829	183,312	44,509	183,312	46,425
	7	183,312	35,796	183,312	37,088	183,312	38,425	183,312	39,776	183,312	41,139	183,312	42,788	183,312	44,458
	9	183,312	33,320	183,312	34,550	183,312	35,825	183,312	37,104	183,312	38,396	183,312	39,970	183,312	41,895
	11	183,312	31,380	183,312	32,626	183,312	33,922	183,312	35,226	183,312	36,594	183,312	38,163	183,312	39,832
	13	183,312	29,777	183,312	30,930	183,312	32,128	183,312	33,328	183,312	34,548	183,312	36,049	183,312	37,564
	15	183,312	27,990	183,312	29,099	183,312	30,250	183,312	31,410	183,312	32,582	183,312	34,034	183,312	35,503
	20	183,312	26,312	183,312	27,376	183,312	28,483	183,312	29,602	183,312	30,727	183,312	32,131	183,312	33,554

Flow Rate		Outdoor Temperature (°C)													
263 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	183,312	48,340	183,312	50,149	183,312	52,382	183,312	56,483	183,312	66,411	147,200	62,443	92,573	43,978
	7	183,312	46,145	183,312	47,932	183,312	50,170	183,312	54,094	183,312	63,385	152,405	61,706	100,058	45,368
	9	183,312	43,496	183,312	45,191	183,312	47,332	183,312	50,884	183,312	58,411	157,612	58,805	107,543	44,935
	11	183,312	41,455	183,312	43,145	183,312	45,322	183,312	48,605	183,312	55,866	162,818	58,102	115,028	45,969
	13	183,312	39,097	183,312	40,712	183,312	42,773	183,312	46,177	183,312	52,739	168,024	56,603	122,514	46,220
	15	183,312	36,981	183,312	38,544	183,312	40,547	183,312	43,399	183,312	49,760	173,230	55,061	129,998	46,273
	20	183,312	34,980	183,312	36,492	183,312	38,436	183,312	40,788	183,312	46,949	183,312	53,332	137,484	40,870

■ ACAH060VETB (ΔT = 5°C)

Flow Rate		Outdoor Temperature (°C)													
558 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	195,000	44,994	195,000	46,563	195,000	48,132	195,000	49,835	195,000	51,539	195,000	53,563	195,000	55,868
	7	195,000	43,079	195,000	44,632	195,000	46,240	195,000	47,866	195,000	49,506	195,000	51,491	195,000	53,502
	9	195,000	40,098	195,000	41,578	195,000	43,115	195,000	44,651	195,000	46,208	195,000	48,100	195,000	50,415
	11	195,000	37,764	195,000	39,263	195,000	40,822	195,000	42,391	195,000	44,037	195,000	45,926	195,000	47,937
	13	195,000	35,833	195,000	37,223	195,000	38,661	195,000	40,108	195,000	41,574	195,000	43,380	195,000	45,205
	15	195,000	33,685	195,000	35,017	195,000	36,403	195,000	37,799	195,000	39,208	195,000	40,956	195,000	42,724
	20	195,000	31,664	195,000	32,942	195,000	34,277	195,000	35,625	195,000	36,976	195,000	38,667	195,000	40,380

Flow Rate		Outdoor Temperature (°C)													
558 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	195,000	58,173	195,000	60,351	195,000	62,531	195,000	67,971	195,000	79,921	138,138	63,792	90,675	47,505
	7	195,000	55,532	195,000	57,683	195,000	60,191	195,000	65,000	195,000	76,277	145,119	63,962	97,305	48,655
	9	195,000	52,343	195,000	54,385	195,000	56,454	195,000	61,234	195,000	70,293	152,100	61,778	103,935	47,892
	11	195,000	49,887	195,000	51,923	195,000	54,036	195,000	58,490	195,000	67,232	156,195	60,678	110,565	48,728
	13	195,000	47,050	195,000	48,993	195,000	50,969	195,000	55,570	195,000	63,466	162,955	59,760	117,195	48,759
	15	195,000	44,504	195,000	46,384	195,000	48,289	195,000	52,227	195,000	59,883	169,715	58,724	124,176	48,745
	20	195,000	42,096	195,000	43,912	195,000	45,750	195,000	49,086	195,000	56,502	176,475	57,614	131,157	48,577

■ ACAH060VETB (ΔT = 7°C)

Flow Rate		Outdoor Temperature (°C)													
411 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	200,655	45,219	200,655	46,796	200,655	48,373	200,655	50,085	200,655	51,797	200,655	53,830	200,655	56,147
	7	200,655	43,295	200,655	44,855	200,655	46,471	200,655	48,106	200,655	49,753	200,655	51,748	200,655	53,769
	9	200,655	40,299	200,655	41,785	200,655	43,330	200,655	44,875	200,655	46,439	200,655	48,341	200,655	50,667
	11	200,655	37,953	200,655	39,459	200,655	41,026	200,655	42,603	200,655	44,257	200,655	46,155	200,655	48,176
	13	200,655	36,012	200,655	37,409	200,655	38,854	200,655	40,308	200,655	41,782	200,655	43,597	200,655	45,431
	15	200,655	33,853	200,655	35,192	200,655	36,585	200,655	37,988	200,655	39,404	200,655	41,161	200,655	42,938
	20	200,655	31,823	200,655	33,107	200,655	34,448	200,655	35,803	200,655	37,161	200,655	38,860	200,655	40,582

Flow Rate		Outdoor Temperature (°C)													
411 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	200,655	58,464	200,655	60,652	200,655	62,844	200,655	68,311	200,655	80,321	142,144	64,111	93,305	47,742
	7	200,655	55,809	200,655	57,972	200,655	60,492	200,655	65,325	200,655	76,659	149,327	64,282	100,127	48,899
	9	200,655	52,604	200,655	54,657	200,655	56,736	200,655	61,541	200,655	70,644	156,511	62,087	106,949	48,131
	11	200,655	50,136	200,655	52,183	200,655	54,307	200,655	58,783	200,655	67,568	160,725	60,981	113,771	48,972
	13	200,655	47,285	200,655	49,238	200,655	51,224	200,655	55,848	200,655	63,784	167,681	60,059	120,594	49,002
	15	200,655	44,727	200,655	46,616	200,655	48,530	200,655	52,488	200,655	60,183	174,637	59,018	127,777	48,989
	20	200,655	42,307	200,655	44,131	200,655	45,979	200,655	49,332	200,655	56,784	181,593	57,902	134,961	48,820

■ ACAH060VETB (ΔT = 10°C)

Flow Rate		Outdoor Temperature (°C)													
300 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	209,040	45,579	209,040	47,168	209,040	48,758	209,040	50,483	209,040	52,209	209,040	54,259	209,040	56,594
	7	209,040	43,639	209,040	45,212	209,040	46,841	209,040	48,489	209,040	50,149	209,040	52,160	209,040	54,197
	9	209,040	40,620	209,040	42,118	209,040	43,675	209,040	45,232	209,040	46,808	209,040	48,725	209,040	51,070
	11	209,040	38,255	209,040	39,773	209,040	41,353	209,040	42,942	209,040	44,609	209,040	46,523	209,040	48,560
	13	209,040	36,299	209,040	37,707	209,040	39,163	209,040	40,629	209,040	42,115	209,040	43,944	209,040	45,793
	15	209,040	34,123	209,040	35,472	209,040	36,876	209,040	38,291	209,040	39,718	209,040	41,489	209,040	43,279
	20	209,040	32,076	209,040	33,370	209,040	34,723	209,040	36,088	209,040	37,457	209,040	39,170	209,040	40,905

Flow Rate		Outdoor Temperature (°C)													
300 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	209,040	45,579	209,040	47,168	209,040	48,758	209,040	50,483	209,040	52,209	209,040	54,259	209,040	56,594
	7	209,040	43,639	209,040	45,212	209,040	46,841	209,040	48,489	209,040	50,149	209,040	52,160	209,040	54,197
	9	209,040	40,620	209,040	42,118	209,040	43,675	209,040	45,232	209,040	46,808	209,040	48,725	209,040	51,070
	11	209,040	38,255	209,040	39,773	209,040	41,353	209,040	42,942	209,040	44,609	209,040	46,523	209,040	48,560
	13	209,040	36,299	209,040	37,707	209,040	39,163	209,040	40,629	209,040	42,115	209,040	43,944	209,040	45,793
	15	209,040	34,123	209,040	35,472	209,040	36,876	209,040	38,291	209,040	39,718	209,040	41,489	209,040	43,279
	20	209,040	32,076	209,040	33,370	209,040	34,723	209,040	36,088	209,040	37,457	209,040	39,170	209,040	40,905

4. Performance Data

■ 380V

■ ACAH020LETB (ΔT = 5°C)

Flow Rate		Outdoor Temperature (°C)													
186 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	65,000	14,883	65,000	15,402	65,000	15,921	65,000	16,484	65,000	17,047	65,000	17,717	65,000	18,479
	7	65,000	14,249	65,000	14,763	65,000	15,295	65,000	15,833	65,000	16,375	65,000	17,032	65,000	17,697
	9	65,000	13,263	65,000	13,753	65,000	14,261	65,000	14,769	65,000	15,284	65,000	15,910	65,000	16,676
	11	65,000	12,491	65,000	12,987	65,000	13,503	65,000	14,022	65,000	14,566	65,000	15,191	65,000	15,856
	13	65,000	11,853	65,000	12,312	65,000	12,788	65,000	13,266	65,000	13,752	65,000	14,349	65,000	14,953
	15	65,000	11,142	65,000	11,582	65,000	12,041	65,000	12,503	65,000	12,969	65,000	13,547	65,000	14,132
	20	65,000	10,474	65,000	10,896	65,000	11,338	65,000	11,784	65,000	12,231	65,000	12,790	65,000	13,356

Flow Rate		Outdoor Temperature (°C)													
186 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	65,000	19,242	65,000	19,962	65,000	20,683	65,000	22,483	65,000	26,435	46,046	21,100	30,225	15,713
	7	65,000	18,368	65,000	19,080	65,000	19,909	65,000	21,500	65,000	25,230	48,373	21,157	32,435	16,094
	9	65,000	17,313	65,000	17,989	65,000	18,673	65,000	20,254	65,000	23,251	50,700	20,434	34,645	15,841
	11	65,000	16,501	65,000	17,175	65,000	17,874	65,000	19,347	65,000	22,238	52,065	20,070	36,855	16,118
	13	65,000	15,563	65,000	16,205	65,000	16,859	65,000	18,381	65,000	20,993	54,318	19,767	39,065	16,128
	15	65,000	14,721	65,000	15,342	65,000	15,972	65,000	17,275	65,000	19,808	56,572	19,424	41,392	16,123
	20	65,000	13,924	65,000	14,525	65,000	15,133	65,000	16,236	65,000	18,689	58,825	19,057	43,719	16,068

■ ACAH020LETB (ΔT = 7°C)

Flow Rate		Outdoor Temperature (°C)													
137 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	66,885	14,957	66,885	15,479	66,885	16,000	66,885	16,566	66,885	17,133	66,885	17,805	66,885	18,572
	7	66,885	14,321	66,885	14,837	66,885	15,371	66,885	15,912	66,885	16,457	66,885	17,117	66,885	17,785
	9	66,885	13,330	66,885	13,821	66,885	14,332	66,885	14,843	66,885	15,360	66,885	15,990	66,885	16,759
	11	66,885	12,554	66,885	13,052	66,885	13,570	66,885	14,092	66,885	14,639	66,885	15,267	66,885	15,935
	13	66,885	11,912	66,885	12,374	66,885	12,852	66,885	13,333	66,885	13,820	66,885	14,421	66,885	15,027
	15	66,885	11,198	66,885	11,640	66,885	12,101	66,885	12,565	66,885	13,034	66,885	13,615	66,885	14,202
	20	66,885	10,526	66,885	10,951	66,885	11,394	66,885	11,843	66,885	12,292	66,885	12,854	66,885	13,423

Flow Rate		Outdoor Temperature (°C)													
137 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	66,885	19,338	66,885	20,062	66,885	20,787	66,885	22,595	66,885	26,568	47,381	21,206	31,102	15,792
	7	66,885	18,460	66,885	19,175	66,885	20,009	66,885	21,608	66,885	25,356	49,776	21,263	33,376	16,174
	9	66,885	17,400	66,885	18,079	66,885	18,767	66,885	20,356	66,885	23,367	52,170	20,536	35,650	15,920
	11	66,885	16,583	66,885	17,260	66,885	17,963	66,885	19,444	66,885	22,349	53,575	20,171	37,924	16,198
	13	66,885	15,640	66,885	16,287	66,885	16,943	66,885	18,473	66,885	21,098	55,894	19,866	40,198	16,208
	15	66,885	14,794	66,885	15,419	66,885	16,052	66,885	17,362	66,885	19,907	58,212	19,521	42,592	16,204
	20	66,885	13,994	66,885	14,597	66,885	15,208	66,885	16,317	66,885	18,783	60,531	19,152	44,987	16,148

■ ACAH020LETB (ΔT = 10°C)

Flow Rate		Outdoor Temperature (°C)													
100 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	69,680	15,076	69,680	15,602	69,680	16,128	69,680	16,698	69,680	17,269	69,680	17,947	69,680	18,720
	7	69,680	14,435	69,680	14,955	69,680	15,493	69,680	16,039	69,680	16,588	69,680	17,253	69,680	17,927
	9	69,680	13,436	69,680	13,931	69,680	14,446	69,680	14,961	69,680	15,483	69,680	16,117	69,680	16,893
	11	69,680	12,654	69,680	13,156	69,680	13,678	69,680	14,204	69,680	14,755	69,680	15,388	69,680	16,062
	13	69,680	12,007	69,680	12,472	69,680	12,954	69,680	13,439	69,680	13,930	69,680	14,535	69,680	15,147
	15	69,680	11,287	69,680	11,733	69,680	12,198	69,680	12,665	69,680	13,137	69,680	13,723	69,680	14,315
	20	69,680	10,610	69,680	11,038	69,680	11,485	69,680	11,937	69,680	12,390	69,680	12,956	69,680	13,530

Flow Rate		Outdoor Temperature (°C)													
100 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	69,680	19,492	69,680	20,222	69,680	20,952	69,680	22,775	69,680	26,779	49,361	21,375	32,401	15,917
	7	69,680	18,607	69,680	19,328	69,680	20,168	69,680	21,780	69,680	25,558	51,856	21,432	34,770	16,303
	9	69,680	17,538	69,680	18,223	69,680	18,916	69,680	20,518	69,680	23,553	54,350	20,700	37,139	16,047
	11	69,680	16,715	69,680	17,398	69,680	18,106	69,680	19,598	69,680	22,527	55,814	20,331	39,509	16,327
	13	69,680	15,765	69,680	16,416	69,680	17,078	69,680	18,620	69,680	21,266	58,229	20,024	41,878	16,338
	15	69,680	14,912	69,680	15,542	69,680	16,180	69,680	17,500	69,680	20,065	60,645	19,677	44,372	16,333
	20	69,680	14,105	69,680	14,714	69,680	15,329	69,680	16,447	69,680	18,932	63,060	19,305	46,867	16,277

■ ACAH023LETB (ΔT = 5°C)

Flow Rate		Outdoor Temperature (°C)													
211 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	74,000	19,722	74,000	20,410	74,000	21,097	74,000	21,845	74,000	22,592	74,000	23,479	74,000	24,490
	7	74,000	18,883	74,000	19,564	74,000	20,269	74,000	20,982	74,000	21,701	74,000	22,571	74,000	23,452
	9	74,000	17,577	74,000	18,225	74,000	18,898	74,000	19,572	74,000	20,254	74,000	21,085	74,000	22,100
	11	74,000	16,553	74,000	17,210	74,000	17,895	74,000	18,582	74,000	19,304	74,000	20,131	74,000	21,012
	13	74,000	15,708	74,000	16,316	74,000	16,947	74,000	17,581	74,000	18,224	74,000	19,016	74,000	19,815
	15	74,000	14,765	74,000	15,350	74,000	15,958	74,000	16,569	74,000	17,187	74,000	17,953	74,000	18,727
	20	74,000	13,878	74,000	14,441	74,000	15,027	74,000	15,616	74,000	16,209	74,000	16,950	74,000	17,699

Flow Rate		Outdoor Temperature (°C)													
211 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	74,000	25,500	74,000	26,454	74,000	27,341	74,000	29,795	65,860	30,419	47,360	22,056	31,080	16,251
	7	74,000	24,342	74,000	25,284	74,000	26,280	74,000	28,500	66,415	29,629	49,333	22,191	33,581	16,960
	9	74,000	22,944	74,000	23,838	74,000	24,889	74,000	26,842	66,970	28,839	51,307	22,277	36,082	17,590
	11	74,000	21,868	74,000	22,760	74,000	23,405	74,000	25,639	67,525	28,048	53,280	22,315	38,584	18,144
	13	74,000	20,623	74,000	21,476	74,000	22,272	74,000	24,358	68,080	27,258	55,253	22,306	41,085	18,623
	15	74,000	19,508	74,000	20,332	74,000	21,204	74,000	22,893	74,000	26,249	57,227	20,638	43,586	17,649
	20	74,000	18,454	74,000	19,250	74,000	20,187	74,000	21,516	74,000	24,766	59,200	20,144	44,474	16,991

■ ACAH023LETB (ΔT = 7°C)

Flow Rate		Outdoor Temperature (°C)													
156 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	76,146	19,821	76,146	20,512	76,146	21,203	76,146	21,955	76,146	22,705	76,146	23,597	76,146	24,612
	7	76,146	18,978	76,146	19,662	76,146	20,370	76,146	21,087	76,146	21,810	76,146	22,684	76,146	23,569
	9	76,146	17,665	76,146	18,316	76,146	18,992	76,146	19,670	76,146	20,355	76,146	21,190	76,146	22,210
	11	76,146	16,636	76,146	17,296	76,146	17,984	76,146	18,675	76,146	19,400	76,146	20,232	76,146	21,117
	13	76,146	15,786	76,146	16,398	76,146	17,032	76,146	17,669	76,146	18,315	76,146	19,111	76,146	19,915
	15	76,146	14,839	76,146	15,426	76,146	16,038	76,146	16,652	76,146	17,273	76,146	18,043	76,146	18,821
	20	76,146	13,948	76,146	14,513	76,146	15,102	76,146	15,694	76,146	16,290	76,146	17,034	76,146	17,787

Flow Rate		Outdoor Temperature (°C)													
156 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	76,146	25,627	76,146	26,586	76,146	27,478	76,146	29,944	67,770	30,571	48,733	22,166	31,981	16,333
	7	76,146	24,463	76,146	25,411	76,146	26,412	76,146	28,643	68,341	29,777	50,764	22,302	34,555	17,045
	9	76,146	23,059	76,146	23,957	76,146	25,014	76,146	26,976	68,912	28,983	52,795	22,388	37,129	17,678
	11	76,146	21,977	76,146	22,874	76,146	23,522	76,146	25,768	69,483	28,188	54,825	22,426	39,703	18,234
	13	76,146	20,726	76,146	21,583	76,146	22,384	76,146	24,480	70,054	27,394	56,856	22,417	42,276	18,716
	15	76,146	19,606	76,146	20,434	76,146	21,310	76,146	23,008	76,146	26,380	58,886	20,741	44,850	17,737
	20	76,146	18,546	76,146	19,346	76,146	20,288	76,146	21,623	76,146	24,890	60,917	20,245	45,764	17,076

■ ACAH023LETB (ΔT = 10°C)

Flow Rate		Outdoor Temperature (°C)													
114 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	79,328	19,979	79,328	20,675	79,328	21,372	79,328	22,129	79,328	22,886	79,328	23,784	79,328	24,808
	7	79,328	19,129	79,328	19,819	79,328	20,532	79,328	21,255	79,328	21,983	79,328	22,865	79,328	23,756
	9	79,328	17,805	79,328	18,462	79,328	19,144	79,328	19,826	79,328	20,517	79,328	21,359	79,328	22,387
	11	79,328	16,769	79,328	17,434	79,328	18,127	79,328	18,824	79,328	19,555	79,328	20,393	79,328	21,285
	13	79,328	15,912	79,328	16,528	79,328	17,168	79,328	17,810	79,328	18,461	79,328	19,263	79,328	20,073
	15	79,328	14,957	79,328	15,549	79,328	16,165	79,328	16,785	79,328	17,410	79,328	18,186	79,328	18,971
	20	79,328	14,059	79,328	14,628	79,328	15,222	79,328	15,819	79,328	16,420	79,328	17,170	79,328	17,929

Flow Rate		Outdoor Temperature (°C)													
114 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	79,328	25,831	79,328	26,798	79,328	27,696	79,328	30,182	70,602	30,815	50,770	22,343	33,318	16,463
	7	79,328	24,658	79,328	25,613	79,328	26,622	79,328	28,871	71,197	30,014	52,885	22,480	35,999	17,181
	9	79,328	23,242	79,328	24,148	79,328	25,213	79,328	27,191	71,792	29,213	55,001	22,567	38,680	17,819
	11	79,328	22,152	79,328	23,056	79,328	23,709	79,328	25,973	72,387	28,413	57,116	22,605	41,362	18,380
	13	79,328	20,891	79,328	21,755	79,328	22,562	79,328	24,675	72,982	27,612	59,232	22,596	44,043	18,865
	15	79,328	19,762	79,328	20,597	79,328	21,480	79,328	23,191	79,328	26,590	61,347	20,906	46,724	17,878
	20	79,328	18,694	79,328	19,500	79,328	20,450	79,328	21,796	79,328	25,088	63,462	20,406	47,676	17,212

■ ACAH033LETB (ΔT = 5°C)

Flow Rate		Outdoor Temperature (°C)													
327 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	114,000	25,042	114,000	25,915	114,000	26,789	114,000	27,738	114,000	28,687	114,000	29,812	114,000	31,095
	7	114,000	23,976	114,000	24,841	114,000	25,737	114,000	26,642	114,000	27,555	114,000	28,659	114,000	29,778
	9	114,000	22,318	114,000	23,141	114,000	23,995	114,000	24,852	114,000	25,718	114,000	26,772	114,000	28,061
	11	114,000	21,018	114,000	21,853	114,000	22,721	114,000	23,594	114,000	24,510	114,000	25,561	114,000	26,679
	13	114,000	19,945	114,000	20,717	114,000	21,519	114,000	22,323	114,000	23,140	114,000	24,145	114,000	25,160
	15	114,000	18,748	114,000	19,490	114,000	20,262	114,000	21,038	114,000	21,823	114,000	22,795	114,000	23,779
	20	114,000	17,623	114,000	18,336	114,000	19,078	114,000	19,828	114,000	20,581	114,000	21,521	114,000	22,474

Flow Rate		Outdoor Temperature (°C)													
327 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	114,000	32,378	114,000	33,590	114,000	35,085	114,000	37,832	114,000	44,481	91,542	41,824	57,570	29,456
	7	114,000	30,908	114,000	32,104	114,000	33,603	114,000	36,200	114,000	42,455	94,780	41,330	62,225	30,387
	9	114,000	29,133	114,000	30,268	114,000	31,702	114,000	34,082	114,000	39,123	98,017	39,387	66,880	30,097
	11	114,000	27,766	114,000	28,898	114,000	30,357	114,000	32,556	114,000	37,419	101,255	38,916	71,535	30,790
	13	114,000	26,187	114,000	27,269	114,000	28,649	114,000	30,929	114,000	35,325	104,492	37,912	76,190	30,958
	15	114,000	24,770	114,000	25,817	114,000	27,158	114,000	29,069	114,000	33,329	107,730	36,879	80,845	30,994
	20	114,000	23,429	114,000	24,442	114,000	25,744	114,000	27,320	114,000	31,446	114,000	35,721	85,500	27,375

■ ACAH033LETB (ΔT = 7°C)

Flow Rate		Outdoor Temperature (°C)													
240 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	117,306	25,167	117,306	26,045	117,306	26,923	117,306	27,876	117,306	28,830	117,306	29,961	117,306	31,250
	7	117,306	24,096	117,306	24,965	117,306	25,865	117,306	26,775	117,306	27,693	117,306	28,802	117,306	29,927
	9	117,306	22,429	117,306	23,257	117,306	24,115	117,306	24,976	117,306	25,846	117,306	26,906	117,306	28,201
	11	117,306	21,123	117,306	21,962	117,306	22,835	117,306	23,712	117,306	24,633	117,306	25,689	117,306	26,813
	13	117,306	20,044	117,306	20,820	117,306	21,627	117,306	22,435	117,306	23,256	117,306	24,266	117,306	25,286
	15	117,306	18,842	117,306	19,588	117,306	20,363	117,306	21,143	117,306	21,932	117,306	22,909	117,306	23,898
	20	117,306	17,712	117,306	18,428	117,306	19,173	117,306	19,927	117,306	20,684	117,306	21,629	117,306	22,587

Flow Rate		Outdoor Temperature (°C)													
240 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	117,306	32,540	117,306	33,757	117,306	35,261	117,306	38,021	117,306	44,704	94,197	42,033	59,240	29,603
	7	117,306	31,062	117,306	32,265	117,306	33,771	117,306	36,381	117,306	42,667	97,528	41,537	64,030	30,539
	9	117,306	29,279	117,306	30,420	117,306	31,861	117,306	34,252	117,306	39,319	100,860	39,584	68,820	30,248
	11	117,306	27,905	117,306	29,043	117,306	30,509	117,306	32,718	117,306	37,606	104,191	39,111	73,610	30,944
	13	117,306	26,318	117,306	27,405	117,306	28,793	117,306	31,084	117,306	35,501	107,523	38,102	78,400	31,112
	15	117,306	24,894	117,306	25,946	117,306	27,294	117,306	29,214	117,306	33,496	110,854	37,064	83,190	31,149
	20	117,306	23,547	117,306	24,564	117,306	25,873	117,306	27,456	117,306	31,603	117,306	35,900	87,980	27,512

■ ACAH033LETB (ΔT = 10°C)

Flow Rate		Outdoor Temperature (°C)													
175 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	122,208	25,368	122,208	26,252	122,208	27,137	122,208	28,098	122,208	29,060	122,208	30,200	122,208	31,499
	7	122,208	24,288	122,208	25,164	122,208	26,071	122,208	26,988	122,208	27,913	122,208	29,032	122,208	30,165
	9	122,208	22,608	122,208	23,442	122,208	24,307	122,208	25,175	122,208	26,052	122,208	27,120	122,208	28,426
	11	122,208	21,291	122,208	22,137	122,208	23,016	122,208	23,901	122,208	24,829	122,208	25,894	122,208	27,026
	13	122,208	20,204	122,208	20,986	122,208	21,799	122,208	22,613	122,208	23,441	122,208	24,459	122,208	25,487
	15	122,208	18,992	122,208	19,744	122,208	20,525	122,208	21,312	122,208	22,107	122,208	23,092	122,208	24,089
	20	122,208	17,853	122,208	18,575	122,208	19,326	122,208	20,085	122,208	20,848	122,208	21,801	122,208	22,766

Flow Rate		Outdoor Temperature (°C)													
175 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	122,208	32,799	122,208	34,026	122,208	35,541	122,208	38,324	122,208	45,060	98,133	42,368	61,715	29,839
	7	122,208	31,310	122,208	32,522	122,208	34,040	122,208	36,671	122,208	43,007	101,604	41,867	66,705	30,782
	9	122,208	29,512	122,208	30,662	122,208	32,115	122,208	34,525	122,208	39,632	105,074	39,899	71,695	30,488
	11	122,208	28,127	122,208	29,274	122,208	30,751	122,208	32,979	122,208	37,906	108,545	39,422	76,686	31,190
	13	122,208	26,527	122,208	27,623	122,208	29,022	122,208	31,331	122,208	35,784	112,016	38,405	81,676	31,360
	15	122,208	25,092	122,208	26,152	122,208	27,511	122,208	29,446	122,208	33,762	115,487	37,359	86,666	31,397
	20	122,208	23,734	122,208	24,760	122,208	26,079	122,208	27,675	122,208	31,855	122,208	36,186	91,656	27,731

■ ACAH040LETB (ΔT = 5°C)

Flow Rate		Outdoor Temperature (°C)													
372 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	130,000	29,765	130,000	30,803	130,000	31,841	130,000	32,968	130,000	34,095	130,000	35,434	130,000	36,959
	7	130,000	28,499	130,000	29,526	130,000	30,589	130,000	31,665	130,000	32,750	130,000	34,063	130,000	35,393
	9	130,000	26,527	130,000	27,505	130,000	28,522	130,000	29,539	130,000	30,568	130,000	31,820	130,000	33,351
	11	130,000	24,982	130,000	25,974	130,000	27,005	130,000	28,043	130,000	29,132	130,000	30,382	130,000	31,712
	13	130,000	23,705	130,000	24,624	130,000	25,575	130,000	26,533	130,000	27,503	130,000	28,698	130,000	29,905
	15	130,000	22,284	130,000	23,165	130,000	24,082	130,000	25,006	130,000	25,938	130,000	27,094	130,000	28,263
	20	130,000	20,947	130,000	21,792	130,000	22,676	130,000	23,567	130,000	24,461	130,000	25,580	130,000	26,713

Flow Rate		Outdoor Temperature (°C)													
372 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	130,000	38,484	130,000	39,924	130,000	41,367	130,000	44,966	130,000	52,871	92,092	42,201	60,450	31,426
	7	130,000	36,736	130,000	38,160	130,000	39,818	130,000	43,000	130,000	50,460	96,746	42,314	64,870	32,187
	9	130,000	34,627	130,000	35,978	130,000	37,346	130,000	40,509	130,000	46,501	101,400	40,868	69,290	31,682
	11	130,000	33,002	130,000	34,349	130,000	35,747	130,000	38,694	130,000	44,476	104,130	40,141	73,710	32,235
	13	130,000	31,125	130,000	32,411	130,000	33,718	130,000	36,762	130,000	41,985	108,637	39,534	78,130	32,256
	15	130,000	29,441	130,000	30,685	130,000	31,945	130,000	34,550	130,000	39,615	113,143	38,848	82,784	32,247
	20	130,000	27,848	130,000	29,049	130,000	30,265	130,000	32,472	130,000	37,378	117,650	38,114	87,438	32,136

■ ACAH040LETB (ΔT = 7°C)

Flow Rate		Outdoor Temperature (°C)													
274 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	133,770	29,914	133,770	30,957	133,770	32,000	133,770	33,133	133,770	34,265	133,770	35,611	133,770	37,144
	7	133,770	28,641	133,770	29,674	133,770	30,742	133,770	31,824	133,770	32,914	133,770	34,234	133,770	35,570
	9	133,770	26,659	133,770	27,643	133,770	28,665	133,770	29,686	133,770	30,721	133,770	31,979	133,770	33,518
	11	133,770	25,107	133,770	26,104	133,770	27,140	133,770	28,183	133,770	29,278	133,770	30,534	133,770	31,871
	13	133,770	23,824	133,770	24,748	133,770	25,703	133,770	26,666	133,770	27,641	133,770	28,841	133,770	30,055
	15	133,770	22,395	133,770	23,281	133,770	24,203	133,770	25,131	133,770	26,067	133,770	27,230	133,770	28,405
	20	133,770	21,052	133,770	21,901	133,770	22,789	133,770	23,685	133,770	24,584	133,770	25,708	133,770	26,847

Flow Rate		Outdoor Temperature (°C)													
274 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	133,770	38,676	133,770	40,124	133,770	41,574	133,770	45,191	133,770	53,135	94,763	42,412	62,203	31,583
	7	133,770	36,920	133,770	38,351	133,770	40,018	133,770	43,215	133,770	50,713	99,552	42,525	66,751	32,348
	9	133,770	34,800	133,770	36,158	133,770	37,533	133,770	40,712	133,770	46,734	104,341	41,073	71,299	31,841
	11	133,770	33,167	133,770	34,521	133,770	35,926	133,770	38,887	133,770	44,699	107,150	40,341	75,848	32,397
	13	133,770	31,281	133,770	32,573	133,770	33,887	133,770	36,946	133,770	42,195	111,787	39,731	80,396	32,417
	15	133,770	29,588	133,770	30,838	133,770	32,105	133,770	34,723	133,770	39,813	116,424	39,042	85,185	32,408
	20	133,770	27,988	133,770	29,195	133,770	30,417	133,770	32,635	133,770	37,565	121,062	38,304	89,974	32,296

■ ACAH040LETB (ΔT = 10°C)

Flow Rate		Outdoor Temperature (°C)													
200 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	139,360	30,152	139,360	31,204	139,360	32,255	139,360	33,397	139,360	34,538	139,360	35,894	139,360	37,439
	7	139,360	28,869	139,360	29,910	139,360	30,987	139,360	32,077	139,360	33,176	139,360	34,506	139,360	35,854
	9	139,360	26,871	139,360	27,863	139,360	28,893	139,360	29,923	139,360	30,966	139,360	32,234	139,360	33,785
	11	139,360	25,307	139,360	26,311	139,360	27,356	139,360	28,408	139,360	29,511	139,360	30,777	139,360	32,124
	13	139,360	24,013	139,360	24,945	139,360	25,908	139,360	26,878	139,360	27,861	139,360	29,071	139,360	30,294
	15	139,360	22,573	139,360	23,466	139,360	24,395	139,360	25,331	139,360	26,275	139,360	27,446	139,360	28,631
	20	139,360	21,219	139,360	22,076	139,360	22,970	139,360	23,874	139,360	24,779	139,360	25,912	139,360	27,060

Flow Rate		Outdoor Temperature (°C)													
200 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	139,360	38,984	139,360	40,443	139,360	41,905	139,360	45,550	139,360	53,558	98,723	42,750	64,802	31,835
	7	139,360	37,214	139,360	38,656	139,360	40,336	139,360	43,559	139,360	51,116	103,712	42,864	69,541	32,606
	9	139,360	35,077	139,360	36,446	139,360	37,832	139,360	41,036	139,360	47,106	108,701	41,400	74,279	32,094
	11	139,360	33,431	139,360	34,796	139,360	36,212	139,360	39,197	139,360	45,055	111,627	40,663	79,017	32,654
	13	139,360	31,530	139,360	32,832	139,360	34,156	139,360	37,240	139,360	42,531	116,459	40,048	83,755	32,675
	15	139,360	29,824	139,360	31,084	139,360	32,360	139,360	35,000	139,360	40,130	121,290	39,353	88,744	32,666
	20	139,360	28,210	139,360	29,427	139,360	30,659	139,360	32,895	139,360	37,864	126,121	38,609	93,734	32,554

4. Performance Data

■ ACAH045LETB (ΔT = 5°C)

Flow Rate		Outdoor Temperature (°C)													
422 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	148,000	39,444	148,000	40,820	148,000	42,195	148,000	43,691	148,000	45,185	148,000	46,958	148,000	48,980
	7	148,000	37,766	148,000	39,129	148,000	40,538	148,000	41,964	148,000	43,403	148,000	45,142	148,000	46,903
	9	148,000	35,154	148,000	36,450	148,000	37,796	148,000	39,144	148,000	40,508	148,000	42,169	148,000	44,199
	11	148,000	33,107	148,000	34,420	148,000	35,789	148,000	37,164	148,000	38,607	148,000	40,262	148,000	42,023
	13	148,000	31,416	148,000	32,632	148,000	33,895	148,000	35,162	148,000	36,448	148,000	38,031	148,000	39,631
	15	148,000	29,530	148,000	30,699	148,000	31,916	148,000	33,138	148,000	34,374	148,000	35,906	148,000	37,455
	20	148,000	27,756	148,000	28,881	148,000	30,053	148,000	31,231	148,000	32,418	148,000	33,899	148,000	35,397

Flow Rate		Outdoor Temperature (°C)													
422 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	148,000	50,999	148,000	52,908	148,000	54,682	148,000	59,589	131,720	60,838	94,720	44,112	62,160	32,503
	7	148,000	48,683	148,000	50,569	148,000	52,561	148,000	56,900	132,830	59,258	98,667	44,382	67,162	33,920
	9	148,000	45,888	148,000	47,677	148,000	49,779	148,000	53,684	133,940	57,677	102,613	44,554	72,165	35,181
	11	148,000	43,735	148,000	45,519	148,000	46,810	148,000	51,279	135,050	56,096	106,560	44,630	77,167	36,288
	13	148,000	41,246	148,000	42,951	148,000	44,545	148,000	48,717	136,160	54,516	110,507	44,612	82,170	37,245
	15	148,000	39,016	148,000	40,665	148,000	42,409	148,000	45,786	148,000	52,497	114,453	41,276	87,172	35,297
	20	148,000	36,908	148,000	38,499	148,000	40,375	148,000	43,032	148,000	49,533	118,400	40,288	88,948	33,982

■ ACAH045LETB (ΔT = 7°C)

Flow Rate		Outdoor Temperature (°C)													
312 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	152,292	39,642	152,292	41,024	152,292	42,406	152,292	43,909	152,292	45,411	152,292	47,193	152,292	49,225
	7	152,292	37,955	152,292	39,324	152,292	40,740	152,292	42,174	152,292	43,620	152,292	45,368	152,292	47,138
	9	152,292	35,329	152,292	36,633	152,292	37,985	152,292	39,339	152,292	40,711	152,292	42,380	152,292	44,420
	11	152,292	33,272	152,292	34,592	152,292	35,968	152,292	37,350	152,292	38,800	152,292	40,464	152,292	42,233
	13	152,292	31,573	152,292	32,795	152,292	34,064	152,292	35,338	152,292	36,630	152,292	38,221	152,292	39,829
	15	152,292	29,677	152,292	30,853	152,292	32,075	152,292	33,304	152,292	34,546	152,292	36,085	152,292	37,642
	20	152,292	27,895	152,292	29,026	152,292	30,203	152,292	31,387	152,292	32,580	152,292	34,069	152,292	35,574

Flow Rate		Outdoor Temperature (°C)													
312 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	152,292	51,254	152,292	53,173	152,292	54,955	152,292	59,887	135,540	61,143	97,467	44,332	63,963	32,665
	7	152,292	48,927	152,292	50,822	152,292	52,824	152,292	57,185	136,682	59,554	101,528	44,604	69,110	34,090
	9	152,292	46,118	152,292	47,915	152,292	50,027	152,292	53,952	137,824	57,966	105,589	44,777	74,258	35,356
	11	152,292	43,954	152,292	45,747	152,292	47,044	152,292	51,535	138,966	56,377	109,650	44,853	79,405	36,469
	13	152,292	41,452	152,292	43,166	152,292	44,767	152,292	48,961	140,109	54,788	113,711	44,835	84,553	37,431
	15	152,292	39,211	152,292	40,868	152,292	42,621	152,292	46,015	152,292	52,760	117,772	41,482	89,700	35,474
	20	152,292	37,093	152,292	38,692	152,292	40,577	152,292	43,247	152,292	49,780	121,834	40,489	91,527	34,152

■ ACAH045LETB (ΔT = 10°C)

Flow Rate		Outdoor Temperature (°C)													
227 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	158,656	39,957	158,656	41,350	158,656	42,743	158,656	44,259	158,656	45,772	158,656	47,569	158,656	49,616
	7	158,656	38,257	158,656	39,637	158,656	41,065	158,656	42,509	158,656	43,967	158,656	45,729	158,656	47,513
	9	158,656	35,611	158,656	36,924	158,656	38,287	158,656	39,652	158,656	41,035	158,656	42,718	158,656	44,774
	11	158,656	33,537	158,656	34,868	158,656	36,254	158,656	37,648	158,656	39,109	158,656	40,786	158,656	42,569
	13	158,656	31,824	158,656	33,056	158,656	34,336	158,656	35,619	158,656	36,922	158,656	38,525	158,656	40,146
	15	158,656	29,914	158,656	31,099	158,656	32,331	158,656	33,569	158,656	34,821	158,656	36,373	158,656	37,942
	20	158,656	28,117	158,656	29,257	158,656	30,444	158,656	31,637	158,656	32,839	158,656	34,340	158,656	35,857

Flow Rate		Outdoor Temperature (°C)													
227 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	158,656	51,662	158,656	53,596	158,656	55,393	158,656	60,364	141,204	61,629	101,540	44,685	66,636	32,925
	7	158,656	49,316	158,656	51,226	158,656	53,244	158,656	57,640	142,394	60,028	105,771	44,959	71,998	34,361
	9	158,656	46,485	158,656	48,296	158,656	50,426	158,656	54,382	143,584	58,427	110,001	45,133	77,361	35,638
	11	158,656	44,304	158,656	46,111	158,656	47,418	158,656	51,945	144,774	56,826	114,232	45,210	82,723	36,759
	13	158,656	41,782	158,656	43,510	158,656	45,124	158,656	49,350	145,964	55,225	118,463	45,192	88,086	37,729
	15	158,656	39,524	158,656	41,194	158,656	42,960	158,656	46,382	158,656	53,180	122,694	41,813	93,448	35,756
	20	158,656	37,388	158,656	39,000	158,656	40,900	158,656	43,591	158,656	50,177	126,925	40,811	95,352	34,424

■ ACAH050LETB (ΔT = 5°C)

Flow Rate		Outdoor Temperature (°C)													
491 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	171,000	37,563	171,000	38,873	171,000	40,183	171,000	41,607	171,000	43,030	171,000	44,718	171,000	46,642
	7	171,000	35,964	171,000	37,262	171,000	38,605	171,000	39,963	171,000	41,332	171,000	42,988	171,000	44,667
	9	171,000	33,477	171,000	34,712	171,000	35,993	171,000	37,278	171,000	38,576	171,000	40,158	171,000	42,092
	11	171,000	31,527	171,000	32,779	171,000	34,082	171,000	35,392	171,000	36,765	171,000	38,342	171,000	40,019
	13	171,000	29,917	171,000	31,075	171,000	32,278	171,000	33,485	171,000	34,710	171,000	36,218	171,000	37,740
	15	171,000	28,122	171,000	29,236	171,000	30,392	171,000	31,557	171,000	32,735	171,000	34,193	171,000	35,669
	20	171,000	26,435	171,000	27,504	171,000	28,616	171,000	29,741	171,000	30,871	171,000	32,282	171,000	33,711

Flow Rate		Outdoor Temperature (°C)													
491 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	171,000	48,567	171,000	50,384	171,000	52,628	171,000	56,748	171,000	66,722	137,313	62,736	86,355	44,184
	7	171,000	46,362	171,000	48,157	171,000	50,405	171,000	54,300	171,000	63,682	142,169	61,995	93,338	45,581
	9	171,000	43,700	171,000	45,403	171,000	47,554	171,000	51,123	171,000	58,685	147,026	59,081	100,320	45,146
	11	171,000	41,650	171,000	43,347	171,000	45,535	171,000	48,833	171,000	56,129	151,882	58,374	107,303	46,185
	13	171,000	39,280	171,000	40,903	171,000	42,974	171,000	46,394	171,000	52,987	156,739	56,869	114,285	46,436
	15	171,000	37,155	171,000	38,725	171,000	40,737	171,000	43,603	171,000	49,993	161,595	55,319	121,268	46,490
	20	171,000	35,144	171,000	36,663	171,000	38,616	171,000	40,980	171,000	47,169	171,000	53,582	128,250	41,062

■ ACAH050LETB (ΔT = 7°C)

Flow Rate		Outdoor Temperature (°C)													
360 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	175,959	37,751	175,959	39,068	175,959	40,384	175,959	41,815	175,959	43,245	175,959	44,942	175,959	46,876
	7	175,959	36,144	175,959	37,448	175,959	38,798	175,959	40,163	175,959	41,539	175,959	43,203	175,959	44,890
	9	175,959	33,644	175,959	34,885	175,959	36,173	175,959	37,464	175,959	38,769	175,959	40,359	175,959	42,302
	11	175,959	31,685	175,959	32,943	175,959	34,252	175,959	35,568	175,959	36,949	175,959	38,534	175,959	40,219
	13	175,959	30,066	175,959	31,231	175,959	32,440	175,959	33,652	175,959	34,884	175,959	36,399	175,959	37,929
	15	175,959	28,262	175,959	29,382	175,959	30,544	175,959	31,715	175,959	32,898	175,959	34,364	175,959	35,848
	20	175,959	26,567	175,959	27,642	175,959	28,759	175,959	29,890	175,959	31,025	175,959	32,443	175,959	33,880

Flow Rate		Outdoor Temperature (°C)													
360 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	175,959	48,810	175,959	50,636	175,959	52,891	175,959	57,031	175,959	67,056	141,295	63,050	88,859	44,405
	7	175,959	46,593	175,959	48,398	175,959	50,657	175,959	54,572	175,959	64,001	146,292	62,305	96,044	45,809
	9	175,959	43,919	175,959	45,630	175,959	47,791	175,959	51,379	175,959	58,978	151,290	59,377	103,229	45,371
	11	175,959	41,858	175,959	43,564	175,959	45,763	175,959	49,077	175,959	56,409	156,287	58,666	110,414	46,416
	13	175,959	39,477	175,959	41,107	175,959	43,189	175,959	46,626	175,959	53,252	161,284	57,153	117,599	46,669
	15	175,959	37,341	175,959	38,918	175,959	40,941	175,959	43,821	175,959	50,243	166,281	55,596	124,784	46,723
	20	175,959	35,320	175,959	36,847	175,959	38,809	175,959	41,184	175,959	47,405	175,959	53,850	131,969	41,267

■ ACAH050LETB (ΔT = 10°C)

Flow Rate		Outdoor Temperature (°C)													
263 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	183,312	38,052	183,312	39,379	183,312	40,706	183,312	42,147	183,312	43,589	183,312	45,299	183,312	47,249
	7	183,312	36,432	183,312	37,746	183,312	39,107	183,312	40,483	183,312	41,869	183,312	43,547	183,312	45,248
	9	183,312	33,912	183,312	35,163	183,312	36,461	183,312	37,762	183,312	39,078	183,312	40,680	183,312	42,639
	11	183,312	31,937	183,312	33,206	183,312	34,525	183,312	35,852	183,312	37,243	183,312	38,840	183,312	40,539
	13	183,312	30,306	183,312	31,479	183,312	32,698	183,312	33,920	183,312	35,161	183,312	36,689	183,312	38,231
	15	183,312	28,487	183,312	29,616	183,312	30,787	183,312	31,967	183,312	33,160	183,312	34,638	183,312	36,133
	20	183,312	26,779	183,312	27,862	183,312	28,988	183,312	30,128	183,312	31,272	183,312	32,701	183,312	34,150

Flow Rate		Outdoor Temperature (°C)													
263 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	183,312	49,198	183,312	51,039	183,312	53,312	183,312	57,485	183,312	67,590	147,200	63,552	92,573	44,758
	7	183,312	46,964	183,312	48,783	183,312	51,060	183,312	55,006	183,312	64,510	152,406	62,801	100,058	46,173
	9	183,312	44,268	183,312	45,993	183,312	48,172	183,312	51,788	183,312	59,448	157,612	59,849	107,543	45,733
	11	183,312	42,191	183,312	43,911	183,312	46,127	183,312	49,468	183,312	56,858	162,818	59,133	115,028	46,785
	13	183,312	39,791	183,312	41,435	183,312	43,533	183,312	46,997	183,312	53,676	168,024	57,608	122,514	47,040
	15	183,312	37,638	183,312	39,228	183,312	41,267	183,312	44,170	183,312	50,643	173,230	56,038	129,999	47,095
	20	183,312	35,601	183,312	37,140	183,312	39,118	183,312	41,512	183,312	47,782	183,312	54,279	137,484	41,596

■ ACAH060LETB (ΔT = 5°C)

Flow Rate		Outdoor Temperature (°C)													
558 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	195,000	44,648	195,000	46,205	195,000	47,762	195,000	49,452	195,000	51,142	195,000	53,151	195,000	55,438
	7	195,000	42,748	195,000	44,289	195,000	45,884	195,000	47,498	195,000	49,125	195,000	51,095	195,000	53,090
	9	195,000	39,790	195,000	41,258	195,000	42,783	195,000	44,308	195,000	45,852	195,000	47,730	195,000	50,027
	11	195,000	37,474	195,000	38,961	195,000	40,508	195,000	42,065	195,000	43,698	195,000	45,573	195,000	47,568
	13	195,000	35,558	195,000	36,937	195,000	38,363	195,000	39,799	195,000	41,255	195,000	43,047	195,000	44,858
	15	195,000	33,426	195,000	34,747	195,000	36,123	195,000	37,508	195,000	38,907	195,000	40,641	195,000	42,395
	20	195,000	31,421	195,000	32,688	195,000	34,013	195,000	35,351	195,000	36,692	195,000	38,370	195,000	40,069

Flow Rate		Outdoor Temperature (°C)													
558 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	195,000	57,726	195,000	59,887	195,000	62,050	195,000	67,449	195,000	79,306	138,138	63,301	90,675	47,139
	7	195,000	55,105	195,000	57,240	195,000	59,728	195,000	64,600	195,000	75,691	145,119	63,470	97,305	48,281
	9	195,000	51,940	195,000	53,967	195,000	56,020	195,000	60,763	195,000	69,752	152,100	61,303	103,935	47,524
	11	195,000	49,503	195,000	51,524	195,000	53,621	195,000	58,040	195,000	66,715	156,195	60,211	110,565	48,353
	13	195,000	46,688	195,000	48,616	195,000	50,577	195,000	55,143	195,000	62,978	162,955	59,301	117,195	48,384
	15	195,000	44,162	195,000	46,027	195,000	47,917	195,000	51,826	195,000	59,423	169,715	58,272	124,176	48,370
	20	195,000	41,772	195,000	43,574	195,000	45,398	195,000	48,709	195,000	56,067	176,475	57,171	131,157	48,204

■ ACAH060LETB (ΔT = 7°C)

Flow Rate		Outdoor Temperature (°C)													
411 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	200,655	44,871	200,655	46,436	200,655	48,001	200,655	49,699	200,655	51,398	200,655	53,416	200,655	55,715
	7	200,655	42,962	200,655	44,510	200,655	46,113	200,655	47,736	200,655	49,370	200,655	51,350	200,655	53,356
	9	200,655	39,989	200,655	41,464	200,655	42,997	200,655	44,530	200,655	46,081	200,655	47,969	200,655	50,277
	11	200,655	37,661	200,655	39,155	200,655	40,710	200,655	42,275	200,655	43,916	200,655	45,800	200,655	47,806
	13	200,655	35,735	200,655	37,121	200,655	38,555	200,655	39,998	200,655	41,461	200,655	43,262	200,655	45,082
	15	200,655	33,593	200,655	34,921	200,655	36,304	200,655	37,696	200,655	39,101	200,655	40,845	200,655	42,607
	20	200,655	31,578	200,655	32,852	200,655	34,183	200,655	35,528	200,655	36,875	200,655	38,561	200,655	40,270

Flow Rate		Outdoor Temperature (°C)													
411 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	200,655	58,015	200,655	60,186	200,655	62,361	200,655	67,786	200,655	79,703	142,144	63,618	93,305	47,375
	7	200,655	55,380	200,655	57,526	200,655	60,026	200,655	64,923	200,655	76,069	149,327	63,788	100,127	48,523
	9	200,655	52,200	200,655	54,237	200,655	56,300	200,655	61,067	200,655	70,101	156,511	61,609	106,949	47,761
	11	200,655	49,750	200,655	51,781	200,655	53,889	200,655	58,331	200,655	67,048	160,725	60,512	113,771	48,595
	13	200,655	46,921	200,655	48,860	200,655	50,830	200,655	55,418	200,655	63,293	167,681	59,597	120,594	48,625
	15	200,655	44,383	200,655	46,257	200,655	48,157	200,655	52,085	200,655	59,720	174,637	58,564	127,777	48,612
	20	200,655	41,981	200,655	43,792	200,655	45,625	200,655	48,952	200,655	56,348	181,593	57,457	134,961	48,445

■ ACAH060LETB (ΔT = 10°C)

Flow Rate		Outdoor Temperature (°C)													
300 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	209,040	45,228	209,040	46,806	209,040	48,383	209,040	50,095	209,040	51,807	209,040	53,841	209,040	56,159
	7	209,040	43,304	209,040	44,865	209,040	46,480	209,040	48,116	209,040	49,763	209,040	51,759	209,040	53,780
	9	209,040	40,307	209,040	41,794	209,040	43,339	209,040	44,884	209,040	46,448	209,040	48,350	209,040	50,678
	11	209,040	37,961	209,040	39,467	209,040	41,035	209,040	42,612	209,040	44,266	209,040	46,165	209,040	48,186
	13	209,040	36,020	209,040	37,417	209,040	38,862	209,040	40,317	209,040	41,791	209,040	43,606	209,040	45,441
	15	209,040	33,860	209,040	35,199	209,040	36,593	209,040	37,996	209,040	39,412	209,040	41,170	209,040	42,946
	20	209,040	31,829	209,040	33,113	209,040	34,456	209,040	35,811	209,040	37,169	209,040	38,868	209,040	40,590

Flow Rate		Outdoor Temperature (°C)													
300 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	209,040	58,476	209,040	60,665	209,040	62,857	209,040	68,325	209,040	80,337	148,084	64,124	97,204	47,752
	7	209,040	55,821	209,040	57,984	209,040	60,504	209,040	65,440	209,040	76,675	155,568	64,295	104,311	48,909
	9	209,040	52,615	209,040	54,669	209,040	56,748	209,040	61,553	209,040	70,659	163,051	62,100	111,418	48,141
	11	209,040	50,146	209,040	52,194	209,040	54,318	209,040	58,795	209,040	67,582	167,441	60,994	118,526	48,982
	13	209,040	47,295	209,040	49,248	209,040	51,234	209,040	55,860	209,040	63,797	174,688	60,072	125,633	49,013
	15	209,040	44,736	209,040	46,625	209,040	48,540	209,040	52,499	209,040	60,195	181,934	59,030	133,117	48,999
	20	209,040	42,316	209,040	44,141	209,040	45,988	209,040	49,342	209,040	56,796	189,181	57,914	140,600	48,830

■ ACAH067LETB (ΔT = 5°C)

Flow Rate		Outdoor Temperature (°C)													
633 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	222,000	59,167	222,000	61,229	222,000	63,292	222,000	65,536	222,000	67,777	222,000	70,437	222,000	73,470
	7	222,000	56,649	222,000	58,693	222,000	60,807	222,000	62,946	222,000	65,104	222,000	67,713	222,000	70,355
	9	222,000	52,730	222,000	54,676	222,000	56,694	222,000	58,715	222,000	60,762	222,000	63,254	222,000	66,299
	11	222,000	49,660	222,000	51,631	222,000	53,684	222,000	55,747	222,000	57,911	222,000	60,394	222,000	63,035
	13	222,000	47,124	222,000	48,948	222,000	50,842	222,000	52,743	222,000	54,672	222,000	57,047	222,000	59,446
	15	222,000	44,295	222,000	46,049	222,000	47,874	222,000	49,708	222,000	51,561	222,000	53,859	222,000	56,182
	20	222,000	41,634	222,000	43,322	222,000	45,080	222,000	46,847	222,000	48,627	222,000	50,849	222,000	53,096

Flow Rate		Outdoor Temperature (°C)													
633 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	222,000	76,499	222,000	79,362	222,000	82,023	222,000	89,384	197,580	91,258	142,080	66,168	93,240	48,754
	7	222,000	73,025	222,000	75,853	222,000	78,841	222,000	85,400	199,245	88,887	148,000	66,573	100,744	50,880
	9	222,000	68,832	222,000	71,515	222,000	74,668	222,000	80,526	200,910	86,516	153,920	66,831	108,247	52,771
	11	222,000	65,603	222,000	68,279	222,000	70,215	222,000	76,918	202,575	84,145	159,840	66,944	115,751	54,431
	13	222,000	61,868	222,000	64,427	222,000	66,817	222,000	73,075	204,240	81,774	165,760	66,918	123,254	55,868
	15	222,000	58,525	222,000	60,997	222,000	63,613	222,000	68,680	222,000	78,746	171,680	61,914	130,758	52,946
	20	222,000	55,362	222,000	57,749	222,000	60,562	222,000	64,548	222,000	74,299	177,600	60,431	133,422	50,973

■ ACAH067LETB (ΔT = 7°C)

Flow Rate		Outdoor Temperature (°C)													
468 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	228,438	59,462	228,438	61,536	228,438	63,609	228,438	65,864	228,438	68,116	228,438	70,790	228,438	73,837
	7	228,438	56,933	228,438	58,987	228,438	61,111	228,438	63,261	228,438	65,429	228,438	68,052	228,438	70,707
	9	228,438	52,994	228,438	54,949	228,438	56,977	228,438	59,009	228,438	61,066	228,438	63,570	228,438	66,631
	11	228,438	49,908	228,438	51,889	228,438	53,952	228,438	56,025	228,438	58,201	228,438	60,695	228,438	63,350
	13	228,438	47,359	228,438	49,193	228,438	51,097	228,438	53,007	228,438	54,946	228,438	57,332	228,438	59,744
	15	228,438	44,516	228,438	46,279	228,438	48,113	228,438	49,956	228,438	51,818	228,438	54,128	228,438	56,463
	20	228,438	41,843	228,438	43,539	228,438	45,305	228,438	47,081	228,438	48,870	228,438	51,103	228,438	53,361

Flow Rate		Outdoor Temperature (°C)													
468 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	228,438	76,881	228,438	79,759	228,438	82,433	228,438	89,831	203,310	91,714	146,200	66,499	95,944	48,998
	7	228,438	73,390	228,438	76,233	228,438	79,235	228,438	85,827	205,023	89,331	152,292	66,906	103,665	51,135
	9	228,438	69,176	228,438	71,872	228,438	75,041	228,438	80,928	206,736	86,948	158,384	67,165	111,386	53,035
	11	228,438	65,931	228,438	68,621	228,438	70,566	228,438	77,303	208,450	84,565	164,475	67,279	119,108	54,703
	13	228,438	62,178	228,438	64,749	228,438	67,151	228,438	73,441	210,163	82,183	170,567	67,252	126,829	56,147
	15	228,438	58,817	228,438	61,302	228,438	63,931	228,438	69,023	228,438	79,140	176,659	62,224	134,550	53,211
	20	228,438	55,639	228,438	58,038	228,438	60,865	228,438	64,870	228,438	74,671	182,750	60,734	137,291	51,228

■ ACAH067LETB (ΔT = 10°C)

Flow Rate		Outdoor Temperature (°C)													
341 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	237,984	59,936	237,984	62,025	237,984	64,115	237,984	66,388	237,984	68,658	237,984	71,353	237,984	74,425
	7	237,984	57,386	237,984	59,456	237,984	61,597	237,984	63,764	237,984	65,950	237,984	68,594	237,984	71,269
	9	237,984	53,416	237,984	55,386	237,984	57,431	237,984	59,479	237,984	61,552	237,984	64,076	237,984	67,161
	11	237,984	50,306	237,984	52,302	237,984	54,382	237,984	56,471	237,984	58,664	237,984	61,179	237,984	63,854
	13	237,984	47,736	237,984	49,584	237,984	51,503	237,984	53,429	237,984	55,383	237,984	57,788	237,984	60,219
	15	237,984	44,871	237,984	46,648	237,984	48,496	237,984	50,354	237,984	52,231	237,984	54,559	237,984	56,912
	20	237,984	42,176	237,984	43,885	237,984	45,666	237,984	47,456	237,984	49,259	237,984	51,510	237,984	53,786

Flow Rate		Outdoor Temperature (°C)													
341 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	237,984	77,493	237,984	80,394	237,984	83,089	237,984	90,546	211,806	92,444	152,310	67,028	99,953	49,388
	7	237,984	73,974	237,984	76,840	237,984	79,866	237,984	86,510	213,591	90,042	158,656	67,439	107,997	51,542
	9	237,984	69,727	237,984	72,445	237,984	75,639	237,984	81,573	215,376	87,640	165,002	67,700	116,041	53,457
	11	237,984	66,456	237,984	69,167	237,984	71,128	237,984	77,918	217,160	85,239	171,348	67,815	124,085	55,139
	13	237,984	62,673	237,984	65,265	237,984	67,686	237,984	74,025	218,945	82,837	177,695	67,788	132,129	56,594
	15	237,984	59,285	237,984	61,790	237,984	64,440	237,984	69,573	237,984	79,770	184,041	62,719	140,173	53,634
	20	237,984	56,082	237,984	58,500	237,984	61,349	237,984	65,387	237,984	75,265	190,387	61,217	143,028	51,636

■ 460V

■ ACAH020HETB (ΔT = 5°C)

Flow Rate		Outdoor Temperature (°C)													
186 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	65,000	14,883	65,000	15,402	65,000	15,921	65,000	16,484	65,000	17,047	65,000	17,717	65,000	18,479
	7	65,000	14,249	65,000	14,763	65,000	15,295	65,000	15,833	65,000	16,375	65,000	17,032	65,000	17,697
	9	65,000	13,263	65,000	13,753	65,000	14,261	65,000	14,769	65,000	15,284	65,000	15,910	65,000	16,676
	11	65,000	12,491	65,000	12,987	65,000	13,503	65,000	14,022	65,000	14,566	65,000	15,191	65,000	15,856
	13	65,000	11,853	65,000	12,312	65,000	12,788	65,000	13,266	65,000	13,752	65,000	14,349	65,000	14,953
	15	65,000	11,142	65,000	11,582	65,000	12,041	65,000	12,503	65,000	12,969	65,000	13,547	65,000	14,132
	20	65,000	10,474	65,000	10,896	65,000	11,338	65,000	11,784	65,000	12,231	65,000	12,790	65,000	13,356

Flow Rate		Outdoor Temperature (°C)													
186 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	65,000	19,242	65,000	19,962	65,000	20,683	65,000	22,483	65,000	26,435	46,046	21,100	30,225	15,713
	7	65,000	18,368	65,000	19,080	65,000	19,909	65,000	21,500	65,000	25,230	48,373	21,157	32,435	16,094
	9	65,000	17,313	65,000	17,989	65,000	18,673	65,000	20,254	65,000	23,251	50,700	20,434	34,645	15,841
	11	65,000	16,501	65,000	17,175	65,000	17,874	65,000	19,347	65,000	22,238	52,065	20,070	36,855	16,118
	13	65,000	15,563	65,000	16,205	65,000	16,859	65,000	18,381	65,000	20,993	54,318	19,767	39,065	16,128
	15	65,000	14,721	65,000	15,342	65,000	15,972	65,000	17,275	65,000	19,808	56,572	19,424	41,392	16,123
	20	65,000	13,924	65,000	14,525	65,000	15,133	65,000	16,236	65,000	18,689	58,825	19,057	43,719	16,068

■ ACAH020HETB (ΔT = 7°C)

Flow Rate		Outdoor Temperature (°C)													
137 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	66,885	14,957	66,885	15,479	66,885	16,000	66,885	16,566	66,885	17,133	66,885	17,805	66,885	18,572
	7	66,885	14,321	66,885	14,837	66,885	15,371	66,885	15,912	66,885	16,457	66,885	17,117	66,885	17,785
	9	66,885	13,330	66,885	13,821	66,885	14,332	66,885	14,843	66,885	15,360	66,885	15,990	66,885	16,759
	11	66,885	12,554	66,885	13,052	66,885	13,570	66,885	14,092	66,885	14,639	66,885	15,267	66,885	15,935
	13	66,885	11,912	66,885	12,374	66,885	12,852	66,885	13,333	66,885	13,820	66,885	14,421	66,885	15,027
	15	66,885	11,198	66,885	11,640	66,885	12,101	66,885	12,565	66,885	13,034	66,885	13,615	66,885	14,202
	20	66,885	10,526	66,885	10,951	66,885	11,394	66,885	11,843	66,885	12,292	66,885	12,854	66,885	13,423

Flow Rate		Outdoor Temperature (°C)													
137 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	66,885	19,338	66,885	20,062	66,885	20,787	66,885	22,595	66,885	26,568	47,381	21,206	31,102	15,792
	7	66,885	18,460	66,885	19,175	66,885	20,009	66,885	21,608	66,885	25,356	49,776	21,263	33,376	16,174
	9	66,885	17,400	66,885	18,079	66,885	18,767	66,885	20,356	66,885	23,367	52,170	20,536	35,650	15,920
	11	66,885	16,583	66,885	17,260	66,885	17,963	66,885	19,444	66,885	22,349	53,575	20,171	37,924	16,198
	13	66,885	15,640	66,885	16,287	66,885	16,943	66,885	18,473	66,885	21,098	55,894	19,866	40,198	16,208
	15	66,885	14,794	66,885	15,419	66,885	16,052	66,885	17,362	66,885	19,907	58,212	19,521	42,592	16,204
	20	66,885	13,994	66,885	14,597	66,885	15,208	66,885	16,317	66,885	18,783	60,531	19,152	44,987	16,148

■ ACAH020HETB (ΔT = 10°C)

Flow Rate		Outdoor Temperature (°C)													
100 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	69,680	15,076	69,680	15,602	69,680	16,128	69,680	16,698	69,680	17,269	69,680	17,947	69,680	18,720
	7	69,680	14,435	69,680	14,955	69,680	15,493	69,680	16,039	69,680	16,588	69,680	17,253	69,680	17,927
	9	69,680	13,436	69,680	13,931	69,680	14,446	69,680	14,961	69,680	15,483	69,680	16,117	69,680	16,893
	11	69,680	12,654	69,680	13,156	69,680	13,678	69,680	14,204	69,680	14,755	69,680	15,388	69,680	16,062
	13	69,680	12,007	69,680	12,472	69,680	12,954	69,680	13,439	69,680	13,930	69,680	14,535	69,680	15,147
	15	69,680	11,287	69,680	11,733	69,680	12,198	69,680	12,665	69,680	13,137	69,680	13,723	69,680	14,315
	20	69,680	10,610	69,680	11,038	69,680	11,485	69,680	11,937	69,680	12,390	69,680	12,956	69,680	13,530

Flow Rate		Outdoor Temperature (°C)													
100 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	69,680	19,492	69,680	20,222	69,680	20,952	69,680	22,775	69,680	26,779	49,361	21,375	32,401	15,917
	7	69,680	18,607	69,680	19,328	69,680	20,168	69,680	21,780	69,680	25,558	51,856	21,432	34,770	16,303
	9	69,680	17,538	69,680	18,223	69,680	18,916	69,680	20,518	69,680	23,553	54,350	20,700	37,139	16,047
	11	69,680	16,715	69,680	17,398	69,680	18,106	69,680	19,598	69,680	22,527	55,814	20,331	39,509	16,327
	13	69,680	15,765	69,680	16,416	69,680	17,078	69,680	18,620	69,680	21,266	58,229	20,024	41,878	16,338
	15	69,680	14,912	69,680	15,542	69,680	16,180	69,680	17,500	69,680	20,065	60,645	19,677	44,372	16,333
	20	69,680	14,105	69,680	14,714	69,680	15,329	69,680	16,447	69,680	18,932	63,060	19,305	46,867	16,277

■ ACAH023HETB (ΔT = 5°C)

Flow Rate		Outdoor Temperature (°C)													
211 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	74,000	19,722	74,000	20,410	74,000	21,097	74,000	21,845	74,000	22,592	74,000	23,479	74,000	24,490
	7	74,000	18,883	74,000	19,564	74,000	20,269	74,000	20,982	74,000	21,701	74,000	22,571	74,000	23,452
	9	74,000	17,577	74,000	18,225	74,000	18,898	74,000	19,572	74,000	20,254	74,000	21,085	74,000	22,100
	11	74,000	16,553	74,000	17,210	74,000	17,895	74,000	18,582	74,000	19,304	74,000	20,131	74,000	21,012
	13	74,000	15,708	74,000	16,316	74,000	16,947	74,000	17,581	74,000	18,224	74,000	19,016	74,000	19,815
	15	74,000	14,765	74,000	15,350	74,000	15,958	74,000	16,569	74,000	17,187	74,000	17,953	74,000	18,727
	20	74,000	13,878	74,000	14,441	74,000	15,027	74,000	15,616	74,000	16,209	74,000	16,950	74,000	17,699

Flow Rate		Outdoor Temperature (°C)													
211 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	74,000	25,500	74,000	26,454	74,000	27,341	74,000	29,795	65,860	30,419	47,360	22,056	31,080	16,251
	7	74,000	24,342	74,000	25,284	74,000	26,280	74,000	28,500	66,415	29,629	49,333	22,191	33,581	16,960
	9	74,000	22,944	74,000	23,838	74,000	24,889	74,000	26,842	66,970	28,839	51,307	22,277	36,082	17,590
	11	74,000	21,868	74,000	22,760	74,000	23,405	74,000	25,639	67,525	28,048	53,280	22,315	38,584	18,144
	13	74,000	20,623	74,000	21,476	74,000	22,272	74,000	24,358	68,080	27,258	55,253	22,306	41,085	18,623
	15	74,000	19,508	74,000	20,332	74,000	21,204	74,000	22,893	74,000	26,249	57,227	20,638	43,586	17,649
	20	74,000	18,454	74,000	19,250	74,000	20,187	74,000	21,516	74,000	24,766	59,200	20,144	44,474	16,991

4. Performance Data

■ ACAH023HETB (ΔT = 7°C)

Flow Rate		Outdoor Temperature (°C)													
156 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	76,146	19,821	76,146	20,512	76,146	21,203	76,146	21,955	76,146	22,705	76,146	23,597	76,146	24,612
	7	76,146	18,978	76,146	19,662	76,146	20,370	76,146	21,087	76,146	21,810	76,146	22,684	76,146	23,569
	9	76,146	17,665	76,146	18,316	76,146	18,992	76,146	19,670	76,146	20,355	76,146	21,190	76,146	22,210
	11	76,146	16,636	76,146	17,296	76,146	17,984	76,146	18,675	76,146	19,400	76,146	20,232	76,146	21,117
	13	76,146	15,786	76,146	16,398	76,146	17,032	76,146	17,669	76,146	18,315	76,146	19,111	76,146	19,915
	15	76,146	14,839	76,146	15,426	76,146	16,038	76,146	16,652	76,146	17,273	76,146	18,043	76,146	18,821
	20	76,146	13,948	76,146	14,513	76,146	15,102	76,146	15,694	76,146	16,290	76,146	17,034	76,146	17,787

Flow Rate		Outdoor Temperature (°C)													
156 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	76,146	25,627	76,146	26,586	76,146	27,478	76,146	29,944	67,770	30,571	48,733	22,166	31,981	16,333
	7	76,146	24,463	76,146	25,411	76,146	26,412	76,146	28,643	68,341	29,777	50,764	22,302	34,555	17,045
	9	76,146	23,059	76,146	23,957	76,146	25,014	76,146	26,976	68,912	28,983	52,795	22,388	37,129	17,678
	11	76,146	21,977	76,146	22,874	76,146	23,522	76,146	25,768	69,483	28,188	54,825	22,426	39,703	18,234
	13	76,146	20,726	76,146	21,583	76,146	22,384	76,146	24,480	70,054	27,394	56,856	22,417	42,276	18,716
	15	76,146	19,606	76,146	20,434	76,146	21,310	76,146	23,008	76,146	26,380	58,886	20,741	44,850	17,737
	20	76,146	18,546	76,146	19,346	76,146	20,288	76,146	21,623	76,146	24,890	60,917	20,245	45,764	17,076

■ ACAH023HETB (ΔT = 10°C)

Flow Rate		Outdoor Temperature (°C)													
114 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	79,328	19,979	79,328	20,675	79,328	21,372	79,328	22,129	79,328	22,886	79,328	23,784	79,328	24,808
	7	79,328	19,129	79,328	19,819	79,328	20,532	79,328	21,255	79,328	21,983	79,328	22,865	79,328	23,756
	9	79,328	17,805	79,328	18,462	79,328	19,144	79,328	19,826	79,328	20,517	79,328	21,359	79,328	22,387
	11	79,328	16,769	79,328	17,434	79,328	18,127	79,328	18,824	79,328	19,555	79,328	20,393	79,328	21,285
	13	79,328	15,912	79,328	16,528	79,328	17,168	79,328	17,810	79,328	18,461	79,328	19,263	79,328	20,073
	15	79,328	14,957	79,328	15,549	79,328	16,165	79,328	16,785	79,328	17,410	79,328	18,186	79,328	18,971
	20	79,328	14,059	79,328	14,628	79,328	15,222	79,328	15,819	79,328	16,420	79,328	17,170	79,328	17,929

Flow Rate		Outdoor Temperature (°C)													
114 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	79,328	25,831	79,328	26,798	79,328	27,696	79,328	30,182	70,602	30,815	50,770	22,343	33,318	16,463
	7	79,328	24,658	79,328	25,613	79,328	26,622	79,328	28,871	71,197	30,014	52,885	22,480	35,999	17,181
	9	79,328	23,242	79,328	24,148	79,328	25,213	79,328	27,191	71,792	29,213	55,001	22,567	38,680	17,819
	11	79,328	22,152	79,328	23,056	79,328	23,709	79,328	25,973	72,387	28,413	57,116	22,605	41,362	18,380
	13	79,328	20,891	79,328	21,755	79,328	22,562	79,328	24,675	72,982	27,612	59,232	22,596	44,043	18,865
	15	79,328	19,762	79,328	20,597	79,328	21,480	79,328	23,191	79,328	26,590	61,347	20,906	46,724	17,878
	20	79,328	18,694	79,328	19,500	79,328	20,450	79,328	21,796	79,328	25,088	63,462	20,406	47,676	17,212

■ ACAH033HETB (ΔT = 5°C)

Flow Rate		Outdoor Temperature (°C)													
327 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	114,000	25,042	114,000	25,915	114,000	26,789	114,000	27,738	114,000	28,687	114,000	29,812	114,000	31,095
	7	114,000	23,976	114,000	24,841	114,000	25,737	114,000	26,642	114,000	27,555	114,000	28,659	114,000	29,778
	9	114,000	22,318	114,000	23,141	114,000	23,995	114,000	24,852	114,000	25,718	114,000	26,772	114,000	28,061
	11	114,000	21,018	114,000	21,853	114,000	22,721	114,000	23,594	114,000	24,510	114,000	25,561	114,000	26,679
	13	114,000	19,945	114,000	20,717	114,000	21,519	114,000	22,323	114,000	23,140	114,000	24,145	114,000	25,160
	15	114,000	18,748	114,000	19,490	114,000	20,262	114,000	21,038	114,000	21,823	114,000	22,795	114,000	23,779
	20	114,000	17,623	114,000	18,336	114,000	19,078	114,000	19,828	114,000	20,581	114,000	21,521	114,000	22,474

Flow Rate		Outdoor Temperature (°C)													
327 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	114,000	32,378	114,000	33,590	114,000	35,085	114,000	37,832	114,000	44,481	91,542	41,824	57,570	29,456
	7	114,000	30,908	114,000	32,104	114,000	33,603	114,000	36,200	114,000	42,455	94,780	41,330	62,225	30,387
	9	114,000	29,133	114,000	30,268	114,000	31,702	114,000	34,082	114,000	39,123	98,017	39,387	66,880	30,097
	11	114,000	27,766	114,000	28,898	114,000	30,357	114,000	32,556	114,000	37,419	101,255	38,916	71,535	30,790
	13	114,000	26,187	114,000	27,269	114,000	28,649	114,000	30,929	114,000	35,325	104,492	37,912	76,190	30,958
	15	114,000	24,770	114,000	25,817	114,000	27,158	114,000	29,069	114,000	33,329	107,730	36,879	80,845	30,994
	20	114,000	23,429	114,000	24,442	114,000	25,744	114,000	27,320	114,000	31,446	114,000	35,721	85,500	27,375

■ ACAH033HETB (ΔT = 7°C)

Flow Rate		Outdoor Temperature (°C)													
240 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	117,306	25,167	117,306	26,045	117,306	26,923	117,306	27,876	117,306	28,830	117,306	29,961	117,306	31,250
	7	117,306	24,096	117,306	24,965	117,306	25,865	117,306	26,775	117,306	27,693	117,306	28,802	117,306	29,927
	9	117,306	22,429	117,306	23,257	117,306	24,115	117,306	24,976	117,306	25,846	117,306	26,906	117,306	28,201
	11	117,306	21,123	117,306	21,962	117,306	22,835	117,306	23,712	117,306	24,633	117,306	25,689	117,306	26,813
	13	117,306	20,044	117,306	20,820	117,306	21,627	117,306	22,435	117,306	23,256	117,306	24,266	117,306	25,286
	15	117,306	18,842	117,306	19,588	117,306	20,363	117,306	21,143	117,306	21,932	117,306	22,909	117,306	23,898
	20	117,306	17,712	117,306	18,428	117,306	19,173	117,306	19,927	117,306	20,684	117,306	21,629	117,306	22,587

Flow Rate		Outdoor Temperature (°C)													
240 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	117,306	32,540	117,306	33,757	117,306	35,261	117,306	38,021	117,306	44,704	94,197	42,033	59,240	29,603
	7	117,306	31,062	117,306	32,265	117,306	33,771	117,306	36,381	117,306	42,667	97,528	41,537	64,030	30,539
	9	117,306	29,279	117,306	30,420	117,306	31,861	117,306	34,252	117,306	39,319	100,860	39,584	68,820	30,248
	11	117,306	27,905	117,306	29,043	117,306	30,509	117,306	32,718	117,306	37,606	104,191	39,111	73,610	30,944
	13	117,306	26,318	117,306	27,405	117,306	28,793	117,306	31,084	117,306	35,501	107,523	38,102	78,400	31,112
	15	117,306	24,894	117,306	25,946	117,306	27,294	117,306	29,214	117,306	33,496	110,854	37,064	83,190	31,149
	20	117,306	23,547	117,306	24,564	117,306	25,873	117,306	27,456	117,306	31,603	117,306	35,900	87,980	27,512

■ ACAH033HETB (ΔT = 10°C)

Flow Rate		Outdoor Temperature (°C)													
175 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	122,208	25,368	122,208	26,252	122,208	27,137	122,208	28,098	122,208	29,060	122,208	30,200	122,208	31,499
	7	122,208	24,288	122,208	25,164	122,208	26,071	122,208	26,988	122,208	27,913	122,208	29,032	122,208	30,165
	9	122,208	22,608	122,208	23,442	122,208	24,307	122,208	25,175	122,208	26,052	122,208	27,120	122,208	28,426
	11	122,208	21,291	122,208	22,137	122,208	23,016	122,208	23,901	122,208	24,829	122,208	25,894	122,208	27,026
	13	122,208	20,204	122,208	20,986	122,208	21,799	122,208	22,613	122,208	23,441	122,208	24,459	122,208	25,487
	15	122,208	18,992	122,208	19,744	122,208	20,525	122,208	21,312	122,208	22,107	122,208	23,092	122,208	24,089
	20	122,208	17,853	122,208	18,575	122,208	19,326	122,208	20,085	122,208	20,848	122,208	21,801	122,208	22,766

Flow Rate		Outdoor Temperature (°C)													
175 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	122,208	32,799	122,208	34,026	122,208	35,541	122,208	38,324	122,208	45,060	98,133	42,368	61,715	29,839
	7	122,208	31,310	122,208	32,522	122,208	34,040	122,208	36,671	122,208	43,007	101,604	41,867	66,705	30,782
	9	122,208	29,512	122,208	30,662	122,208	32,115	122,208	34,525	122,208	39,632	105,074	39,899	71,695	30,488
	11	122,208	28,127	122,208	29,274	122,208	30,751	122,208	32,979	122,208	37,906	108,545	39,422	76,686	31,190
	13	122,208	26,527	122,208	27,623	122,208	29,022	122,208	31,331	122,208	35,784	112,016	38,405	81,676	31,360
	15	122,208	25,092	122,208	26,152	122,208	27,511	122,208	29,446	122,208	33,762	115,487	37,359	86,666	31,397
	20	122,208	23,734	122,208	24,760	122,208	26,079	122,208	27,675	122,208	31,855	122,208	36,186	91,656	27,731

■ ACAH040HETB (ΔT = 5°C)

Flow Rate		Outdoor Temperature (°C)													
372 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	130,000	29,765	130,000	30,803	130,000	31,841	130,000	32,968	130,000	34,095	130,000	35,434	130,000	36,959
	7	130,000	28,499	130,000	29,526	130,000	30,589	130,000	31,665	130,000	32,750	130,000	34,063	130,000	35,393
	9	130,000	26,527	130,000	27,505	130,000	28,522	130,000	29,539	130,000	30,568	130,000	31,820	130,000	33,351
	11	130,000	24,982	130,000	25,974	130,000	27,005	130,000	28,043	130,000	29,132	130,000	30,382	130,000	31,712
	13	130,000	23,705	130,000	24,624	130,000	25,575	130,000	26,533	130,000	27,503	130,000	28,698	130,000	29,905
	15	130,000	22,284	130,000	23,165	130,000	24,082	130,000	25,006	130,000	25,938	130,000	27,094	130,000	28,263
	20	130,000	20,947	130,000	21,792	130,000	22,676	130,000	23,567	130,000	24,461	130,000	25,580	130,000	26,713

Flow Rate		Outdoor Temperature (°C)													
372 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	130,000	38,484	130,000	39,924	130,000	41,367	130,000	44,966	130,000	52,871	92,092	42,201	60,450	31,426
	7	130,000	36,736	130,000	38,160	130,000	39,818	130,000	43,000	130,000	50,460	96,746	42,314	64,870	32,187
	9	130,000	34,627	130,000	35,978	130,000	37,346	130,000	40,509	130,000	46,501	101,400	40,868	69,290	31,682
	11	130,000	33,002	130,000	34,349	130,000	35,747	130,000	38,694	130,000	44,476	104,130	40,141	73,710	32,235
	13	130,000	31,125	130,000	32,411	130,000	33,718	130,000	36,762	130,000	41,985	108,637	39,534	78,130	32,256
	15	130,000	29,441	130,000	30,685	130,000	31,945	130,000	34,550	130,000	39,615	113,143	38,848	82,784	32,247
	20	130,000	27,848	130,000	29,049	130,000	30,265	130,000	32,472	130,000	37,378	117,650	38,114	87,438	32,136

■ ACAH040HETB (ΔT = 7°C)

Flow Rate		Outdoor Temperature (°C)													
274 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	133,770	29,914	133,770	30,957	133,770	32,000	133,770	33,133	133,770	34,265	133,770	35,611	133,770	37,144
	7	133,770	28,641	133,770	29,674	133,770	30,742	133,770	31,824	133,770	32,914	133,770	34,234	133,770	35,570
	9	133,770	26,659	133,770	27,643	133,770	28,665	133,770	29,686	133,770	30,721	133,770	31,979	133,770	33,518
	11	133,770	25,107	133,770	26,104	133,770	27,140	133,770	28,183	133,770	29,278	133,770	30,534	133,770	31,871
	13	133,770	23,824	133,770	24,748	133,770	25,703	133,770	26,666	133,770	27,641	133,770	28,841	133,770	30,055
	15	133,770	22,395	133,770	23,281	133,770	24,203	133,770	25,131	133,770	26,067	133,770	27,230	133,770	28,405
	20	133,770	21,052	133,770	21,901	133,770	22,789	133,770	23,685	133,770	24,584	133,770	25,708	133,770	26,847

Flow Rate		Outdoor Temperature (°C)													
274 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	133,770	38,676	133,770	40,124	133,770	41,574	133,770	45,191	133,770	53,135	94,763	42,412	62,203	31,583
	7	133,770	36,920	133,770	38,351	133,770	40,018	133,770	43,215	133,770	50,713	99,552	42,525	66,751	32,348
	9	133,770	34,800	133,770	36,158	133,770	37,533	133,770	40,712	133,770	46,734	104,341	41,073	71,299	31,841
	11	133,770	33,167	133,770	34,521	133,770	35,926	133,770	38,887	133,770	44,699	107,150	40,341	75,848	32,397
	13	133,770	31,281	133,770	32,573	133,770	33,887	133,770	36,946	133,770	42,195	111,787	39,731	80,396	32,417
	15	133,770	29,588	133,770	30,838	133,770	32,105	133,770	34,723	133,770	39,813	116,424	39,042	85,185	32,408
	20	133,770	27,988	133,770	29,195	133,770	30,417	133,770	32,635	133,770	37,565	121,062	38,304	89,974	32,296

■ ACAH040HETB (ΔT = 10°C)

Flow Rate		Outdoor Temperature (°C)													
200 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	139,360	30,152	139,360	31,204	139,360	32,255	139,360	33,397	139,360	34,538	139,360	35,894	139,360	37,439
	7	139,360	28,869	139,360	29,910	139,360	30,987	139,360	32,077	139,360	33,176	139,360	34,506	139,360	35,854
	9	139,360	26,871	139,360	27,863	139,360	28,893	139,360	29,923	139,360	30,966	139,360	32,234	139,360	33,785
	11	139,360	25,307	139,360	26,311	139,360	27,356	139,360	28,408	139,360	29,511	139,360	30,777	139,360	32,124
	13	139,360	24,013	139,360	24,945	139,360	25,908	139,360	26,878	139,360	27,861	139,360	29,071	139,360	30,294
	15	139,360	22,573	139,360	23,466	139,360	24,395	139,360	25,331	139,360	26,275	139,360	27,446	139,360	28,631
	20	139,360	21,219	139,360	22,076	139,360	22,970	139,360	23,874	139,360	24,779	139,360	25,912	139,360	27,060

Flow Rate		Outdoor Temperature (°C)													
200 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	139,360	38,984	139,360	40,443	139,360	41,905	139,360	45,550	139,360	53,558	98,723	42,750	64,802	31,835
	7	139,360	37,214	139,360	38,656	139,360	40,336	139,360	43,559	139,360	51,116	103,712	42,864	69,541	32,606
	9	139,360	35,077	139,360	36,446	139,360	37,832	139,360	41,036	139,360	47,106	108,701	41,400	74,279	32,094
	11	139,360	33,431	139,360	34,796	139,360	36,212	139,360	39,197	139,360	45,055	111,627	40,663	79,017	32,654
	13	139,360	31,530	139,360	32,832	139,360	34,156	139,360	37,240	139,360	42,531	116,459	40,048	83,755	32,675
	15	139,360	29,824	139,360	31,084	139,360	32,360	139,360	35,000	139,360	40,130	121,290	39,353	88,744	32,666
	20	139,360	28,210	139,360	29,427	139,360	30,659	139,360	32,895	139,360	37,864	126,121	38,609	93,734	32,554

4. Performance Data

■ ACAH045HETB (ΔT = 5°C)

Flow Rate		Outdoor Temperature (°C)													
422 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	148,000	39,444	148,000	40,820	148,000	42,195	148,000	43,691	148,000	45,185	148,000	46,958	148,000	48,980
	7	148,000	37,766	148,000	39,129	148,000	40,538	148,000	41,964	148,000	43,403	148,000	45,142	148,000	46,903
	9	148,000	35,154	148,000	36,450	148,000	37,796	148,000	39,144	148,000	40,508	148,000	42,169	148,000	44,199
	11	148,000	33,107	148,000	34,420	148,000	35,789	148,000	37,164	148,000	38,607	148,000	40,262	148,000	42,023
	13	148,000	31,416	148,000	32,632	148,000	33,895	148,000	35,162	148,000	36,448	148,000	38,031	148,000	39,631
	15	148,000	29,530	148,000	30,699	148,000	31,916	148,000	33,138	148,000	34,374	148,000	35,906	148,000	37,455
	20	148,000	27,756	148,000	28,881	148,000	30,053	148,000	31,231	148,000	32,418	148,000	33,899	148,000	35,397

Flow Rate		Outdoor Temperature (°C)													
422 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	148,000	50,999	148,000	52,908	148,000	54,682	148,000	59,589	131,720	60,838	94,720	44,112	62,160	32,503
	7	148,000	48,683	148,000	50,569	148,000	52,561	148,000	56,900	132,830	59,258	98,667	44,382	67,162	33,920
	9	148,000	45,888	148,000	47,677	148,000	49,779	148,000	53,684	133,940	57,677	102,613	44,554	72,165	35,181
	11	148,000	43,735	148,000	45,519	148,000	46,810	148,000	51,279	135,050	56,096	106,560	44,630	77,167	36,288
	13	148,000	41,246	148,000	42,951	148,000	44,545	148,000	48,717	136,160	54,516	110,507	44,612	82,170	37,245
	15	148,000	39,016	148,000	40,665	148,000	42,409	148,000	45,786	148,000	52,497	114,453	41,276	87,172	35,297
	20	148,000	36,908	148,000	38,499	148,000	40,375	148,000	43,032	148,000	49,533	118,400	40,288	88,948	33,982

■ ACAH045HETB (ΔT = 7°C)

Flow Rate		Outdoor Temperature (°C)													
312 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	152,292	39,642	152,292	41,024	152,292	42,406	152,292	43,909	152,292	45,411	152,292	47,193	152,292	49,225
	7	152,292	37,955	152,292	39,324	152,292	40,740	152,292	42,174	152,292	43,620	152,292	45,368	152,292	47,138
	9	152,292	35,329	152,292	36,633	152,292	37,985	152,292	39,339	152,292	40,711	152,292	42,380	152,292	44,420
	11	152,292	33,272	152,292	34,592	152,292	35,968	152,292	37,350	152,292	38,800	152,292	40,464	152,292	42,233
	13	152,292	31,573	152,292	32,795	152,292	34,064	152,292	35,338	152,292	36,630	152,292	38,221	152,292	39,829
	15	152,292	29,677	152,292	30,853	152,292	32,075	152,292	33,304	152,292	34,546	152,292	36,085	152,292	37,642
	20	152,292	27,895	152,292	29,026	152,292	30,203	152,292	31,387	152,292	32,580	152,292	34,069	152,292	35,574

Flow Rate		Outdoor Temperature (°C)													
312 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	152,292	51,254	152,292	53,173	152,292	54,955	152,292	59,887	135,540	61,143	97,467	44,332	63,963	32,665
	7	152,292	48,927	152,292	50,822	152,292	52,824	152,292	57,185	136,682	59,554	101,528	44,604	69,110	34,090
	9	152,292	46,118	152,292	47,915	152,292	50,027	152,292	53,952	137,824	57,966	105,589	44,777	74,258	35,356
	11	152,292	43,954	152,292	45,747	152,292	47,044	152,292	51,535	138,966	56,377	109,650	44,853	79,405	36,469
	13	152,292	41,452	152,292	43,166	152,292	44,767	152,292	48,961	140,109	54,788	113,711	44,835	84,553	37,431
	15	152,292	39,211	152,292	40,868	152,292	42,621	152,292	46,015	152,292	52,760	117,772	41,482	89,700	35,474
	20	152,292	37,093	152,292	38,692	152,292	40,577	152,292	43,247	152,292	49,780	121,834	40,489	91,527	34,152

■ ACAH045HETB (ΔT = 10°C)

Flow Rate		Outdoor Temperature (°C)													
227 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	158,656	39,957	158,656	41,350	158,656	42,743	158,656	44,259	158,656	45,772	158,656	47,569	158,656	49,616
	7	158,656	38,257	158,656	39,637	158,656	41,065	158,656	42,509	158,656	43,967	158,656	45,729	158,656	47,513
	9	158,656	35,611	158,656	36,924	158,656	38,287	158,656	39,652	158,656	41,035	158,656	42,718	158,656	44,774
	11	158,656	33,537	158,656	34,868	158,656	36,254	158,656	37,648	158,656	39,109	158,656	40,786	158,656	42,569
	13	158,656	31,824	158,656	33,056	158,656	34,336	158,656	35,619	158,656	36,922	158,656	38,525	158,656	40,146
	15	158,656	29,914	158,656	31,099	158,656	32,331	158,656	33,569	158,656	34,821	158,656	36,373	158,656	37,942
	20	158,656	28,117	158,656	29,257	158,656	30,444	158,656	31,637	158,656	32,839	158,656	34,340	158,656	35,857

Flow Rate		Outdoor Temperature (°C)													
227 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	158,656	51,662	158,656	53,596	158,656	55,393	158,656	60,364	141,204	61,629	101,540	44,685	66,636	32,925
	7	158,656	49,316	158,656	51,226	158,656	53,244	158,656	57,640	142,394	60,028	105,771	44,959	71,998	34,361
	9	158,656	46,485	158,656	48,296	158,656	50,426	158,656	54,382	143,584	58,427	110,001	45,133	77,361	35,638
	11	158,656	44,304	158,656	46,111	158,656	47,418	158,656	51,945	144,774	56,826	114,232	45,210	82,723	36,759
	13	158,656	41,782	158,656	43,510	158,656	45,124	158,656	49,350	145,964	55,225	118,463	45,192	88,086	37,729
	15	158,656	39,524	158,656	41,194	158,656	42,960	158,656	46,382	158,656	53,180	122,694	41,813	93,448	35,756
	20	158,656	37,388	158,656	39,000	158,656	40,900	158,656	43,591	158,656	50,177	126,925	40,811	95,352	34,424

■ ACAH050HETB (ΔT = 5°C)

Flow Rate		Outdoor Temperature (°C)													
491 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	171,000	37,563	171,000	38,873	171,000	40,183	171,000	41,607	171,000	43,030	171,000	44,718	171,000	46,642
	7	171,000	35,964	171,000	37,262	171,000	38,605	171,000	39,963	171,000	41,332	171,000	42,988	171,000	44,667
	9	171,000	33,477	171,000	34,712	171,000	35,993	171,000	37,278	171,000	38,576	171,000	40,158	171,000	42,092
	11	171,000	31,527	171,000	32,779	171,000	34,082	171,000	35,392	171,000	36,765	171,000	38,342	171,000	40,019
	13	171,000	29,917	171,000	31,075	171,000	32,278	171,000	33,485	171,000	34,710	171,000	36,218	171,000	37,740
	15	171,000	28,122	171,000	29,236	171,000	30,392	171,000	31,557	171,000	32,735	171,000	34,193	171,000	35,669
	20	171,000	26,435	171,000	27,504	171,000	28,616	171,000	29,741	171,000	30,871	171,000	32,282	171,000	33,711

Flow Rate		Outdoor Temperature (°C)													
491 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	171,000	37,563	171,000	38,873	171,000	40,183	171,000	41,607	171,000	43,030	171,000	44,718	171,000	46,642
	7	171,000	35,964	171,000	37,262	171,000	38,605	171,000	39,963	171,000	41,332	171,000	42,988	171,000	44,667
	9	171,000	33,477	171,000	34,712	171,000	35,993	171,000	37,278	171,000	38,576	171,000	40,158	171,000	42,092
	11	171,000	31,527	171,000	32,779	171,000	34,082	171,000	35,392	171,000	36,765	171,000	38,342	171,000	40,019
	13	171,000	29,917	171,000	31,075	171,000	32,278	171,000	33,485	171,000	34,710	171,000	36,218	171,000	37,740
	15	171,000	28,122	171,000	29,236	171,000	30,392	171,000	31,557	171,000	32,735	171,000	34,193	171,000	35,669
	20	171,000	26,435	171,000	27,504	171,000	28,616	171,000	29,741	171,000	30,871	171,000	32,282	171,000	33,711

■ ACAH050HETB (ΔT = 7°C)

Flow Rate		Outdoor Temperature (°C)													
360 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	175,959	37,751	175,959	39,068	175,959	40,384	175,959	41,815	175,959	43,245	175,959	44,942	175,959	46,876
	7	175,959	36,144	175,959	37,448	175,959	38,798	175,959	40,163	175,959	41,539	175,959	43,203	175,959	44,890
	9	175,959	33,644	175,959	34,885	175,959	36,173	175,959	37,464	175,959	38,769	175,959	40,359	175,959	42,302
	11	175,959	31,685	175,959	32,943	175,959	34,252	175,959	35,568	175,959	36,949	175,959	38,534	175,959	40,219
	13	175,959	30,066	175,959	31,231	175,959	32,440	175,959	33,652	175,959	34,884	175,959	36,399	175,959	37,929
	15	175,959	28,262	175,959	29,382	175,959	30,544	175,959	31,715	175,959	32,898	175,959	34,364	175,959	35,848
	20	175,959	26,567	175,959	27,642	175,959	28,759	175,959	29,890	175,959	31,025	175,959	32,443	175,959	33,880

Flow Rate		Outdoor Temperature (°C)													
360 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	175,959	48,810	175,959	50,636	175,959	52,891	175,959	57,031	175,959	67,056	141,295	63,050	88,859	44,405
	7	175,959	46,593	175,959	48,398	175,959	50,657	175,959	54,572	175,959	64,001	146,292	62,305	96,044	45,809
	9	175,959	43,919	175,959	45,630	175,959	47,791	175,959	51,379	175,959	58,978	151,290	59,377	103,229	45,371
	11	175,959	41,858	175,959	43,564	175,959	45,763	175,959	49,077	175,959	56,409	156,287	58,666	110,414	46,416
	13	175,959	39,477	175,959	41,107	175,959	43,189	175,959	46,626	175,959	53,252	161,284	57,153	117,599	46,669
	15	175,959	37,341	175,959	38,918	175,959	40,941	175,959	43,821	175,959	50,243	166,281	55,596	124,784	46,723
	20	175,959	35,320	175,959	36,847	175,959	38,809	175,959	41,184	175,959	47,405	175,959	53,850	131,969	41,267

■ ACAH050HETB (ΔT = 10°C)

Flow Rate		Outdoor Temperature (°C)													
263 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	183,312	38,052	183,312	39,379	183,312	40,706	183,312	42,147	183,312	43,589	183,312	45,299	183,312	47,249
	7	183,312	36,432	183,312	37,746	183,312	39,107	183,312	40,483	183,312	41,869	183,312	43,547	183,312	45,248
	9	183,312	33,912	183,312	35,163	183,312	36,461	183,312	37,762	183,312	39,078	183,312	40,680	183,312	42,639
	11	183,312	31,937	183,312	33,206	183,312	34,525	183,312	35,852	183,312	37,243	183,312	38,840	183,312	40,539
	13	183,312	30,306	183,312	31,479	183,312	32,698	183,312	33,920	183,312	35,161	183,312	36,689	183,312	38,231
	15	183,312	28,487	183,312	29,616	183,312	30,787	183,312	31,967	183,312	33,160	183,312	34,638	183,312	36,133
	20	183,312	26,779	183,312	27,862	183,312	28,988	183,312	30,128	183,312	31,272	183,312	32,701	183,312	34,150

Flow Rate		Outdoor Temperature (°C)													
263 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	183,312	49,198	183,312	51,039	183,312	53,312	183,312	57,485	183,312	67,590	147,200	63,552	92,573	44,758
	7	183,312	46,964	183,312	48,783	183,312	51,060	183,312	55,006	183,312	64,510	152,406	62,801	100,058	46,173
	9	183,312	44,268	183,312	45,993	183,312	48,172	183,312	51,788	183,312	59,448	157,612	59,849	107,543	45,733
	11	183,312	42,191	183,312	43,911	183,312	46,127	183,312	49,468	183,312	56,858	162,818	59,133	115,028	46,785
	13	183,312	39,791	183,312	41,435	183,312	43,533	183,312	46,997	183,312	53,676	168,024	57,608	122,514	47,040
	15	183,312	37,638	183,312	39,228	183,312	41,267	183,312	44,170	183,312	50,643	173,230	56,038	129,999	47,095
	20	183,312	35,601	183,312	37,140	183,312	39,118	183,312	41,512	183,312	47,782	183,312	54,279	137,484	41,596

■ ACAH060HETB (ΔT = 5°C)

Flow Rate		Outdoor Temperature (°C)													
558 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	195,000	44,648	195,000	46,205	195,000	47,762	195,000	49,452	195,000	51,142	195,000	53,151	195,000	55,438
	7	195,000	42,748	195,000	44,289	195,000	45,884	195,000	47,498	195,000	49,125	195,000	51,095	195,000	53,090
	9	195,000	39,790	195,000	41,258	195,000	42,783	195,000	44,308	195,000	45,852	195,000	47,730	195,000	50,027
	11	195,000	37,474	195,000	38,961	195,000	40,508	195,000	42,065	195,000	43,698	195,000	45,573	195,000	47,568
	13	195,000	35,558	195,000	36,937	195,000	38,363	195,000	39,799	195,000	41,255	195,000	43,047	195,000	44,858
	15	195,000	33,426	195,000	34,747	195,000	36,123	195,000	37,508	195,000	38,907	195,000	40,641	195,000	42,395
	20	195,000	31,421	195,000	32,688	195,000	34,013	195,000	35,351	195,000	36,692	195,000	38,370	195,000	40,069

Flow Rate		Outdoor Temperature (°C)													
558 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	195,000	57,726	195,000	59,887	195,000	62,050	195,000	67,449	195,000	79,306	138,138	63,301	90,675	47,139
	7	195,000	55,105	195,000	57,240	195,000	59,728	195,000	64,600	195,000	75,691	145,119	63,470	97,305	48,281
	9	195,000	51,940	195,000	53,967	195,000	56,020	195,000	60,763	195,000	69,752	152,100	61,303	103,935	47,524
	11	195,000	49,503	195,000	51,524	195,000	53,621	195,000	58,040	195,000	66,715	156,195	60,211	110,565	48,353
	13	195,000	46,688	195,000	48,616	195,000	50,577	195,000	55,143	195,000	62,978	162,955	59,301	117,195	48,384
	15	195,000	44,162	195,000	46,027	195,000	47,917	195,000	51,826	195,000	59,423	169,715	58,272	124,176	48,370
	20	195,000	41,772	195,000	43,574	195,000	45,398	195,000	48,709	195,000	56,067	176,475	57,171	131,157	48,204

■ ACAH060HETB (ΔT = 7°C)

Flow Rate		Outdoor Temperature (°C)													
411 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	200,655	44,871	200,655	46,436	200,655	48,001	200,655	49,699	200,655	51,398	200,655	53,416	200,655	55,715
	7	200,655	42,962	200,655	44,510	200,655	46,113	200,655	47,736	200,655	49,370	200,655	51,350	200,655	53,356
	9	200,655	39,989	200,655	41,464	200,655	42,997	200,655	44,530	200,655	46,081	200,655	47,969	200,655	50,277
	11	200,655	37,661	200,655	39,155	200,655	40,710	200,655	42,275	200,655	43,916	200,655	45,800	200,655	47,806
	13	200,655	35,735	200,655	37,121	200,655	38,555	200,655	39,998	200,655	41,461	200,655	43,262	200,655	45,082
	15	200,655	33,593	200,655	34,921	200,655	36,304	200,655	37,696	200,655	39,101	200,655	40,845	200,655	42,607
	20	200,655	31,578	200,655	32,852	200,655	34,183	200,655	35,528	200,655	36,875	200,655	38,561	200,655	40,270

Flow Rate		Outdoor Temperature (°C)													
411 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	200,655	58,015	200,655	60,186	200,655	62,361	200,655	67,786	200,655	79,703	142,144	63,618	93,305	47,375
	7	200,655	55,380	200,655	57,526	200,655	60,026	200,655	64,923	200,655	76,069	149,327	63,788	100,127	48,523
	9	200,655	52,200	200,655	54,237	200,655	56,300	200,655	61,067	200,655	70,101	156,511	61,609	106,949	47,761
	11	200,655	49,750	200,655	51,781	200,655	53,889	200,655	58,331	200,655	67,048	160,725	60,512	113,771	48,595
	13	200,655	46,921	200,655	48,860	200,655	50,830	200,655	55,418	200,655	63,293	167,681	59,597	120,594	48,625
	15	200,655	44,383	200,655	46,257	200,655	48,157	200,655	52,085	200,655	59,720	174,637	58,564	127,777	48,612
	20	200,655	41,981	200,655	43,792	200,655	45,625	200,655	48,952	200,655	56,348	181,593	57,457	134,961	48,445

■ ACAH060HETB (ΔT = 10°C)

Flow Rate		Outdoor Temperature (°C)													
300 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	209,040	45,228	209,040	46,806	209,040	48,383	209,040	50,095	209,040	51,807	209,040	53,841	209,040	56,159
	7	209,040	43,304	209,040	44,865	209,040	46,480	209,040	48,116	209,040	49,763	209,040	51,759	209,040	53,780
	9	209,040	40,307	209,040	41,794	209,040	43,339	209,040	44,884	209,040	46,448	209,040	48,350	209,040	50,678
	11	209,040	37,961	209,040	39,467	209,040	41,035	209,040	42,612	209,040	44,266	209,040	46,165	209,040	48,186
	13	209,040	36,020	209,040	37,417	209,040	38,862	209,040	40,317	209,040	41,791	209,040	43,606	209,040	45,441
	15	209,040	33,860	209,040	35,199	209,040	36,593	209,040	37,996	209,040	39,412	209,040	41,170	209,040	42,946
	20	209,040	31,829	209,040	33,113	209,040	34,456	209,040	35,811	209,040	37,169	209,040	38,868	209,040	40,590

Flow Rate		Outdoor Temperature (°C)													
300 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	209,040	58,476	209,040	60,665	209,040	62,857	209,040	68,325	209,040	80,337	148,084	64,124	97,204	47,752
	7	209,040	55,821	209,040	57,984	209,040	60,504	209,040	65,440	209,040	76,675	155,568	64,295	104,311	48,909
	9	209,040	52,615	209,040	54,669	209,040	56,748	209,040	61,553	209,040	70,659	163,051	62,100	111,418	48,141
	11	209,040	50,146	209,040	52,194	209,040	54,318	209,040	58,795	209,040	67,582	167,441	60,994	118,526	48,982
	13	209,040	47,295	209,040	49,248	209,040	51,234	209,040	55,860	209,040	63,797	174,688	60,072	125,633	49,013
	15	209,040	44,736	209,040	46,625	209,040	48,540	209,040	52,499	209,040	60,195	181,934	59,030	133,117	48,999
	20	209,040	42,316	209,040	44,141	209,040	45,988	209,040	49,342	209,040	56,796	189,181	57,914	140,600	48,830

■ ACAH067HETB (ΔT = 5°C)

Flow Rate		Outdoor Temperature (°C)													
633 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	222,000	59,167	222,000	61,229	222,000	63,292	222,000	65,536	222,000	67,777	222,000	70,437	222,000	73,470
	7	222,000	56,649	222,000	58,693	222,000	60,807	222,000	62,946	222,000	65,104	222,000	67,713	222,000	70,355
	9	222,000	52,730	222,000	54,676	222,000	56,694	222,000	58,715	222,000	60,762	222,000	63,254	222,000	66,299
	11	222,000	49,660	222,000	51,631	222,000	53,684	222,000	55,747	222,000	57,911	222,000	60,394	222,000	63,035
	13	222,000	47,124	222,000	48,948	222,000	50,842	222,000	52,743	222,000	54,672	222,000	57,047	222,000	59,446
	15	222,000	44,295	222,000	46,049	222,000	47,874	222,000	49,708	222,000	51,561	222,000	53,859	222,000	56,182
	20	222,000	41,634	222,000	43,322	222,000	45,080	222,000	46,847	222,000	48,627	222,000	50,849	222,000	53,096

Flow Rate		Outdoor Temperature (°C)													
633 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	222,000	76,499	222,000	79,362	222,000	82,023	222,000	89,384	197,580	91,258	142,080	66,168	93,240	48,754
	7	222,000	73,025	222,000	75,853	222,000	78,841	222,000	85,400	199,245	88,887	148,000	66,573	100,744	50,880
	9	222,000	68,832	222,000	71,515	222,000	74,668	222,000	80,526	200,910	86,516	153,920	66,831	108,247	52,771
	11	222,000	65,603	222,000	68,279	222,000	70,215	222,000	76,918	202,575	84,145	159,840	66,944	115,751	54,431
	13	222,000	61,868	222,000	64,427	222,000	66,817	222,000	73,075	204,240	81,774	165,760	66,918	123,254	55,868
	15	222,000	58,525	222,000	60,997	222,000	63,613	222,000	68,680	222,000	78,746	171,680	61,914	130,758	52,946
	20	222,000	55,362	222,000	57,749	222,000	60,562	222,000	64,548	222,000	74,299	177,600	60,431	133,422	50,973

■ ACAH067HETB (ΔT = 7°C)

Flow Rate		Outdoor Temperature (°C)													
468 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	228,438	59,462	228,438	61,536	228,438	63,609	228,438	65,864	228,438	68,116	228,438	70,790	228,438	73,837
	7	228,438	56,933	228,438	58,987	228,438	61,111	228,438	63,261	228,438	65,429	228,438	68,052	228,438	70,707
	9	228,438	52,994	228,438	54,949	228,438	56,977	228,438	59,009	228,438	61,066	228,438	63,570	228,438	66,631
	11	228,438	49,908	228,438	51,889	228,438	53,952	228,438	56,025	228,438	58,201	228,438	60,695	228,438	63,350
	13	228,438	47,359	228,438	49,193	228,438	51,097	228,438	53,007	228,438	54,946	228,438	57,332	228,438	59,744
	15	228,438	44,516	228,438	46,279	228,438	48,113	228,438	49,956	228,438	51,818	228,438	54,128	228,438	56,463
	20	228,438	41,843	228,438	43,539	228,438	45,305	228,438	47,081	228,438	48,870	228,438	51,103	228,438	53,361

Flow Rate		Outdoor Temperature (°C)													
468 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	228,438	76,881	228,438	79,759	228,438	82,433	228,438	89,831	203,310	91,714	146,200	66,499	95,944	48,998
	7	228,438	73,390	228,438	76,233	228,438	79,235	228,438	85,827	205,023	89,331	152,292	66,906	103,665	51,135
	9	228,438	69,176	228,438	71,872	228,438	75,041	228,438	80,928	206,736	86,948	158,384	67,165	111,386	53,035
	11	228,438	65,931	228,438	68,621	228,438	70,566	228,438	77,303	208,450	84,565	164,475	67,279	119,108	54,703
	13	228,438	62,178	228,438	64,749	228,438	67,151	228,438	73,441	210,163	82,183	170,567	67,252	126,829	56,147
	15	228,438	58,817	228,438	61,302	228,438	63,931	228,438	69,023	228,438	79,140	176,659	62,224	134,550	53,211
	20	228,438	55,639	228,438	58,038	228,438	60,865	228,438	64,870	228,438	74,671	182,750	60,734	137,291	51,228

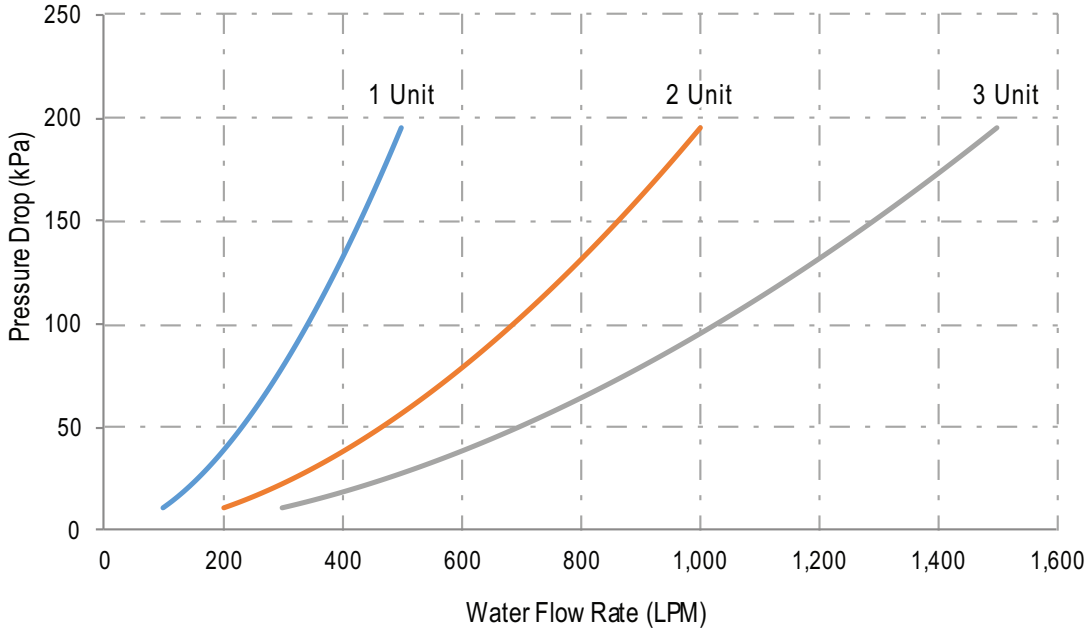
■ ACAH067HETB (ΔT = 10°C)

Flow Rate		Outdoor Temperature (°C)													
341 LPM		-15		-10		-5		0		5		10		15	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	237,984	59,936	237,984	62,025	237,984	64,115	237,984	66,388	237,984	68,658	237,984	71,353	237,984	74,425
	7	237,984	57,386	237,984	59,456	237,984	61,597	237,984	63,764	237,984	65,950	237,984	68,594	237,984	71,269
	9	237,984	53,416	237,984	55,386	237,984	57,431	237,984	59,479	237,984	61,552	237,984	64,076	237,984	67,161
	11	237,984	50,306	237,984	52,302	237,984	54,382	237,984	56,471	237,984	58,664	237,984	61,179	237,984	63,854
	13	237,984	47,736	237,984	49,584	237,984	51,503	237,984	53,429	237,984	55,383	237,984	57,788	237,984	60,219
	15	237,984	44,871	237,984	46,648	237,984	48,496	237,984	50,354	237,984	52,231	237,984	54,559	237,984	56,912
	20	237,984	42,176	237,984	43,885	237,984	45,666	237,984	47,456	237,984	49,259	237,984	51,510	237,984	53,786

Flow Rate		Outdoor Temperature (°C)													
341 LPM		20		25		30		35		40		45		48	
		Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)	Capacity (W)	Power Input (W)
Outlet Water Temp. (°C)	5	237,984	77,493	237,984	80,394	237,984	83,089	237,984	90,546	211,806	92,444	152,310	67,028	99,953	49,388
	7	237,984	73,974	237,984	76,840	237,984	79,866	237,984	86,510	213,591	90,042	158,656	67,439	107,997	51,542
	9	237,984	69,727	237,984	72,445	237,984	75,639	237,984	81,573	215,376	87,640	165,002	67,700	116,041	53,457
	11	237,984	66,456	237,984	69,167	237,984	71,128	237,984	77,918	217,160	85,239	171,348	67,815	124,085	55,139
	13	237,984	62,673	237,984	65,265	237,984	67,686	237,984	74,025	218,945	82,837	177,695	67,788	132,129	56,594
	15	237,984	59,285	237,984	61,790	237,984	64,440	237,984	69,573	237,984	79,770	184,041	62,719	140,173	53,634
	20	237,984	56,082	237,984	58,500	237,984	61,349	237,984	65,387	237,984	75,265	190,387	61,217	143,028	51,636

5. Head loss of Cold water

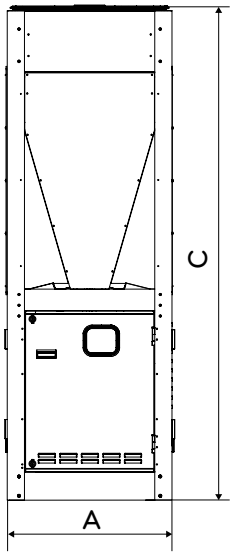
■ ACAH Series evaporator head loss graph



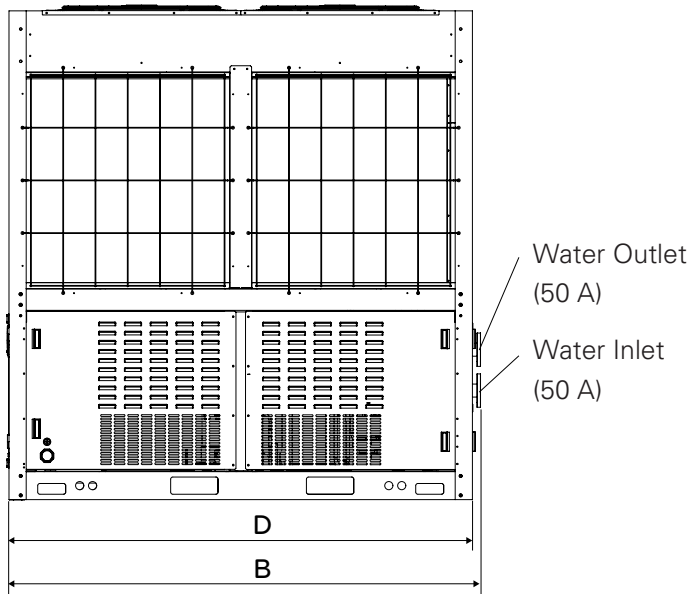
* LPM : Liter Per Minute

6. Dimensions

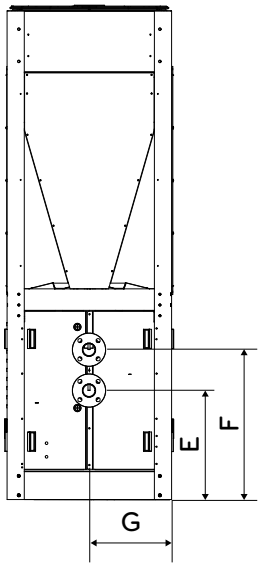
■ 1 Unit



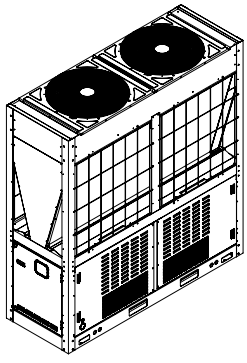
Front view



Side view



Rear view

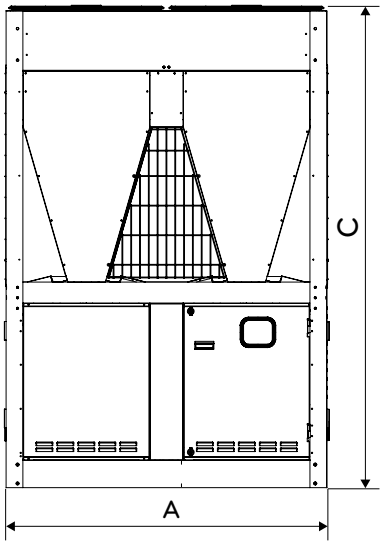


(Unit : mm)

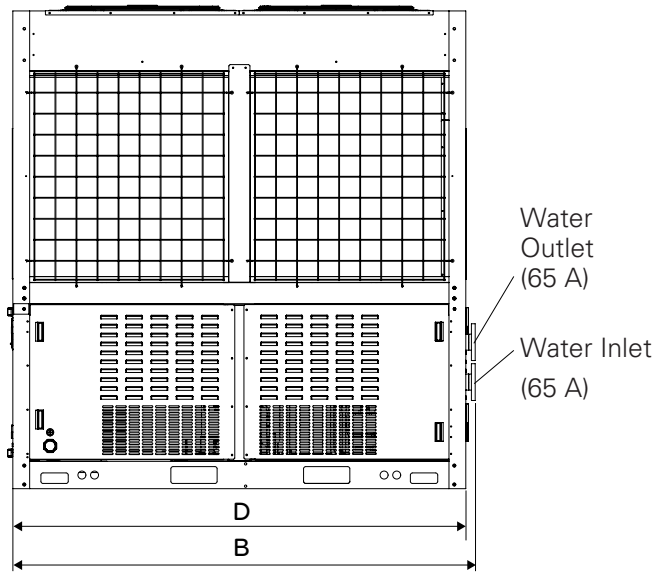
Classification	Dimension
A	765
B	2,198
C	2,200
D	2,154
E	507
F	700
G	384

6. Dimensions

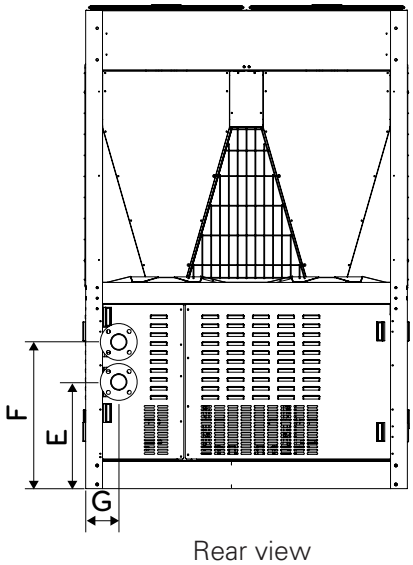
■ 2 Unit



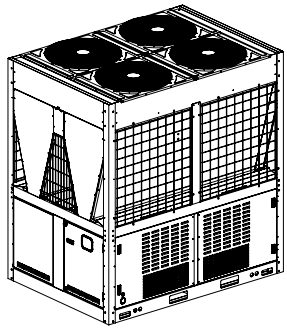
Front view



Side view



Rear view

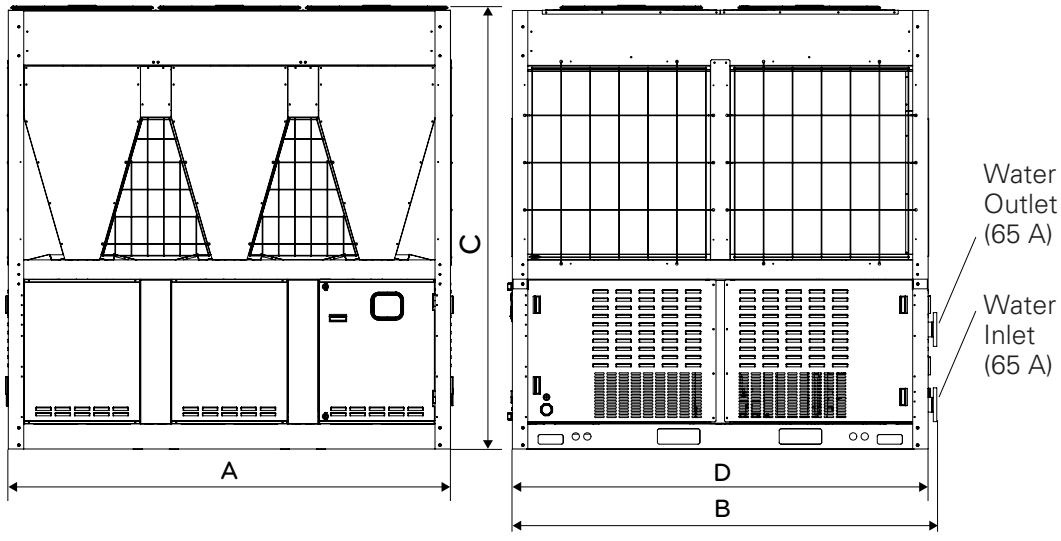


(Unit : mm)

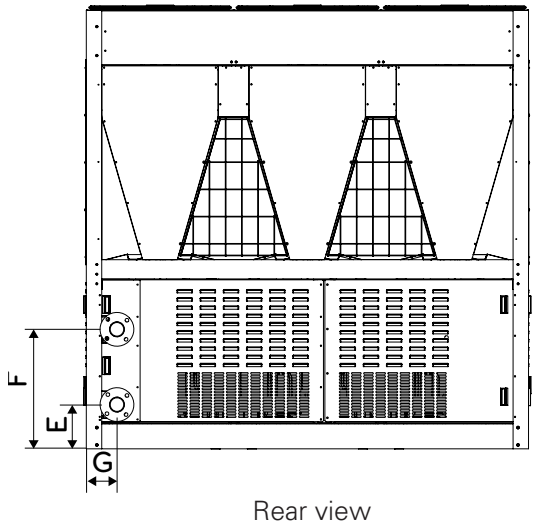
Classification	Dimension
A	1,528
B	2,199
C	2,200
D	2,154
E	434
F	700
G	157

6. Dimensions

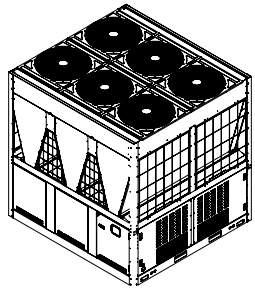
■ 3 Unit



Front view　　Side view



Rear view



(Unit : mm)

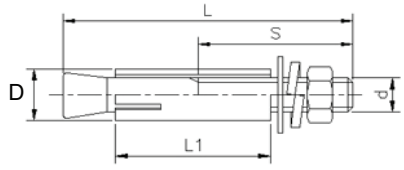
Classification	Dimension
A	2,291
B	2,199
C	2,200
D	2,154
E	434
F	700
G	157

7. Base of 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 200mm and it must be at least doubled in areas with double the snowfall of 100mm 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.

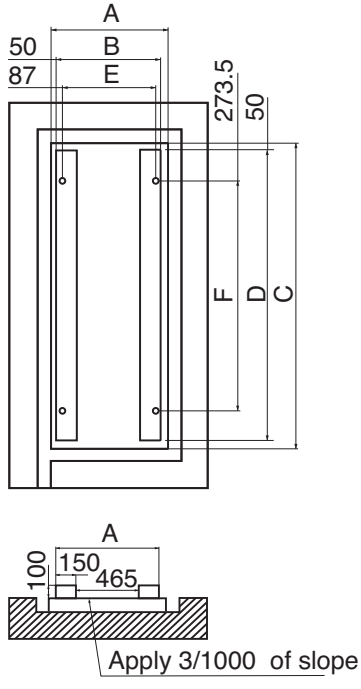
· Shape of anchor bolt



· Specification of anchor bolt

Screw size (d)	L	S	D	L1	Used drill	Depth of drill (min.)	Pullout load (N)
15.88mm(M16)	125	70	22	65	22	65	42,140

· Dimension

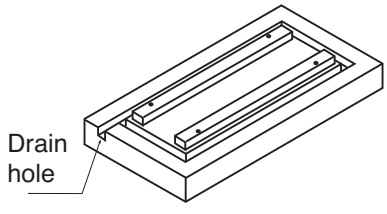


< 1 Unit Drawing of base >

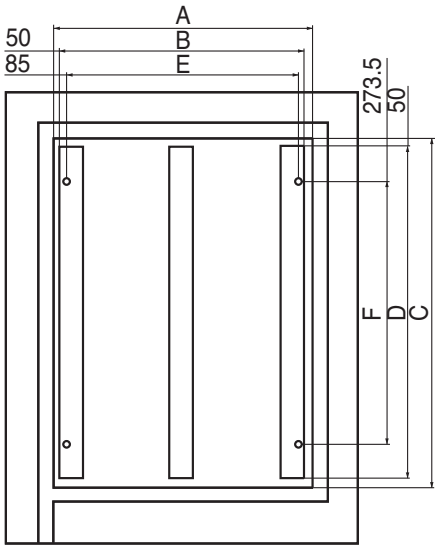
· Shape of anchor bolt

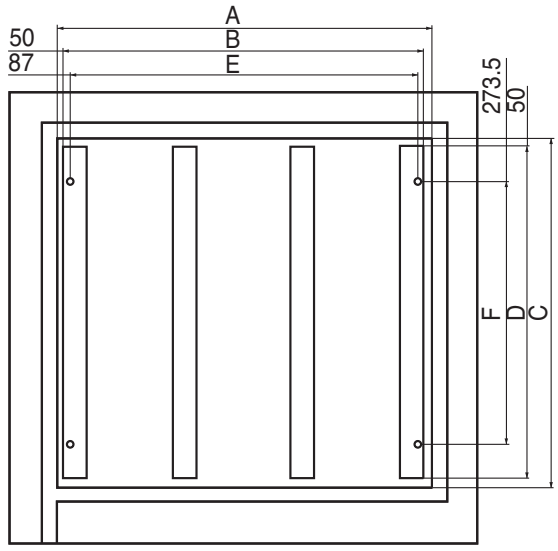
(Unit : mm)

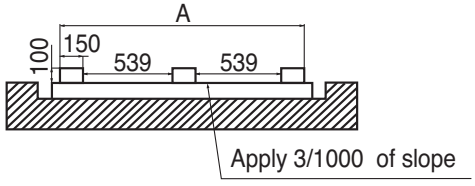
	1 Unit	2 Unit	3 Unit
A	865	1,628	2,391
B	765	1,528	2,291
C	2,254	2,254	2,254
D	2,154	2,154	2,154
E	691	1,456	2,217
F	1,707	1,707	1,707

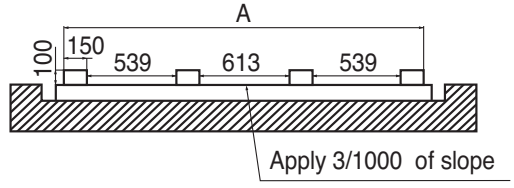


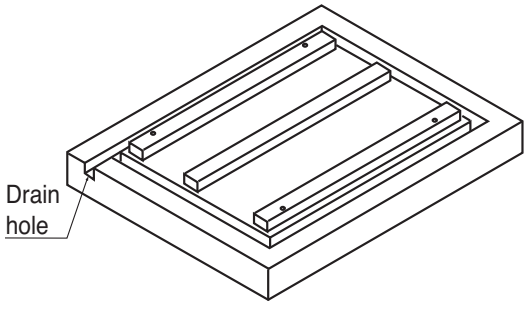
7. Base of Installation

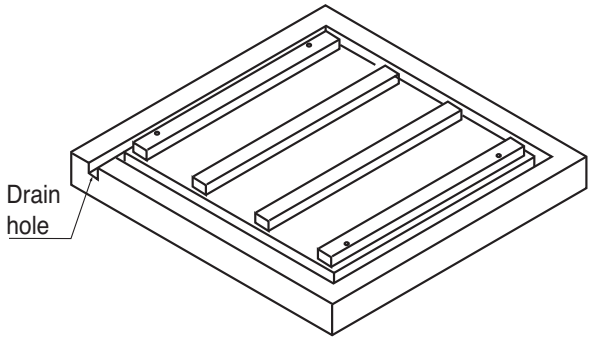












< 2 Unit Drawing of base >

< 3 Unit Drawing of base >

8. Electric Characteristics

Electric specification

ACAH	Unit		Power Supply		COMP		OFM	
	Voltage	Voltage range	MCA	MFA	MSC	RLA	kW	FLA
020VETB	208 - 230	Min. : 187, Max. : 253	72.9	100	20.4	57.5	1.8	8
033VETB	208 - 230	Min. : 187, Max. : 253	117.4	125	40.8	95.2	3.6	16
040VETB	208 - 230	Min. : 187, Max. : 253	138.4	150	40.8	115.0	3.6	16
050VETB	208 - 230	Min. : 187, Max. : 253	117.4+61.8	125+80	40.7+20.4	95.2+47.6	3.6+1.8	16+8
060VETB	208 - 230	Min. : 187, Max. : 253	138.4+72.9	150+100	40.7+20.4	115.0+57.5	3.6+1.8	16+8
020LETB	380 – 415	Min. : 342, Max. : 456	39	60	11.8	30.2	1.8	5
023LETB	380 – 415	Min. : 342, Max. : 456	48	60	11.8	38.2	1.8	5
033LETB	380 – 415	Min. : 342, Max. : 456	72*	100	23.6	55.2	3.6	10
040LETB	380 – 415	Min. : 342, Max. : 456	78	100	23.6	60.4	3.6	10
045LETB	380 – 415	Min. : 342, Max. : 456	96	125	23.6	76.4	3.6	10
050LETB	380 – 415	Min. : 342, Max. : 456	108	125	35.4	82.8	5.4	15
060LETB	380 – 415	Min. : 342, Max. : 456	117	125	35.4	90.6	5.4	15
067LETB	380 - 415	Min. : 342, Max. : 456	144	200	35.4	114.6	5.4	15
020HETB	460	Min. : 414, Max. : 506	31	50	9.7	24.9	1.8	5
023HETB	460	Min. : 414, Max. : 506	41	50	9.7	31.6	1.8	5
033HETB	460	Min. : 414, Max. : 506	51	60	19.5	45.6	3.6	10
040HETB	460	Min. : 414, Max. : 506	62	80	19.5	49.9	3.6	10
045HETB	460	Min. : 414, Max. : 506	83	100	19.5	63.1	3.6	10
050HETB	460	Min. : 414, Max. : 506	76	100	29.2	68.4	5.4	15
060HETB	460	Min. : 414, Max. : 506	93	125	29.2	74.8	5.4	15
067HETB	460	Min. : 414, Max. : 506	124	150	29.2	94.7	5.4	15

Notes:

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 range
   The chiller must be operated at the voltage within the upper and lower limit supplied from the power terminal to operate normally.
3. Maximum voltage variance permitted between phases is 2%.
4. MCA is the criteria of selecting the wiring standard.
5. MFA is used when selecting circuit breaker and grounding error circuit breaker (Electricity leakage circuit breaker).

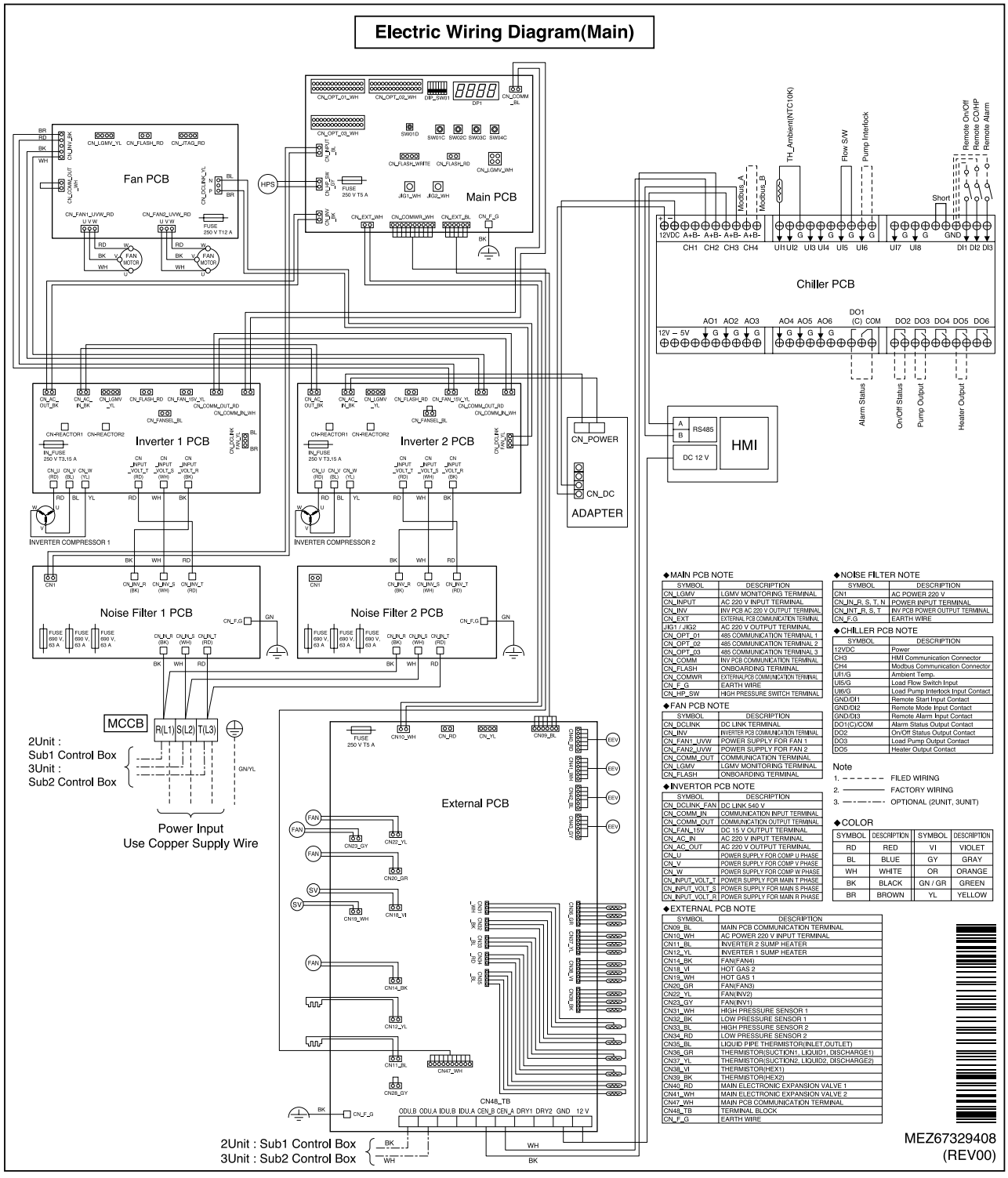
* For Russia only, MCA of ACAH033LETB is 76.

MCA: Minimum Circuit Ampere, A
MFA: Maximum Fuse Ampere, A
RLA: Rated Load Ampere, A
MSC: Maximum Start Current, A

9. Wiring Diagrams

ACAH***VETB

■ 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_EXT	EXTERNAL PCB COMMUNICATION TERMINAL
JIG1 / JIG2	AC 220 V OUTPUT TERMINAL
CN_OPT_01	485 COMMUNICATION TERMINAL 1
CN_OPT_02	485 COMMUNICATION TERMINAL 2
CN_OPT_03	485 COMMUNICATION TERMINAL 3
CN_COMM	INV PCB COMMUNICATION TERMINAL
CN_FLASH	ONBOARDING TERMINAL
CN_COMWR	EXTERNAL PCB COMMUNICATION TERMINAL
CN_F_G	EARTH WIRE
CN_HP_SW	HIGH PRESSURE SWITCH TERMINAL

◆FAN PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK	DC LINK TERMINAL
CN_INV	INVERTER PCB COMMUNICATION TERMINAL
CN_FAN1_UVW	POWER SUPPLY FOR FAN 1
CN_FAN2_UVW	POWER SUPPLY FOR FAN 2
CN_COMM_OUT	COMMUNICATION TERMINAL
CN_LGMV	LGMV MONITORING TERMINAL
CN_FLASH	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_VOLT_T	POWER SUPPLY FOR MAIN T PHASE
CN_INPUT_VOLT_S	POWER SUPPLY FOR MAIN S PHASE
CN_INPUT_VOLT_R	POWER SUPPLY FOR MAIN R PHASE

◆EXTERNAL PCB NOTE

SYMBOL	DESCRIPTION
CN09_BL	MAIN PCB COMMUNICATION TERMINAL
CN10_WH	AC POWER 220 V INPUT TERMINAL
CN11_BL	INVERTER 2 SUMP HEATER
CN12_YL	INVERTER 1 SUMP HEATER
CN14_BK	FAN(FAN4)
CN18_VI	HOT GAS 2
CN19_WH	HOT GAS 1
CN20_GR	FAN(FAN3)
CN22_YL	FAN(INV2)
CN23_GY	FAN(INV1)
CN31_WH	HIGH PRESSURE SENSOR 1
CN32_BK	LOW PRESSURE SENSOR 1
CN33_BL	HIGH PRESSURE SENSOR 2
CN34_RD	LOW PRESSURE SENSOR 2
CN35_BL	LIQUID PIPE THERMISTOR(INLET,OUTLET)
CN36_GR	THERMISTOR(SUCTION1, LIQUID1, DISCHARGE1)
CN37_YL	THERMISTOR(SUCTION2, LIQUID2, DISCHARGE2)
CN38_VI	THERMISTOR(RHEX1)
CN39_BK	THERMISTOR(HEX2)
CN40_RD	MAIN ELECTRONIC EXPANSION VALVE 1
CN41_WH	MAIN ELECTRONIC EXPANSION VALVE 2
CN47_WH	MAIN PCB COMMUNICATION TERMINAL
CN48_TB	TERMINAL BLOCK
CN_F_G	EARTH WIRE

◆NOISE FILTER NOTE

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

◆CHILLER PCB NOTE

SYMBOL	DESCRIPTION
12VDC	Power
CH3	HMI Communication Connector
CH4	Modbus Communication Connector
UI1/G	Ambient Temp.
UI5/G	Load Flow Switch Input
UI6/G	Load Pump Interlock Input Contact
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

Note
1. - - - - - - FILED WIRING
2. ——— FACTORY WIRING
3. —·—·— OPTIONAL (2UNIT, 3UNIT)

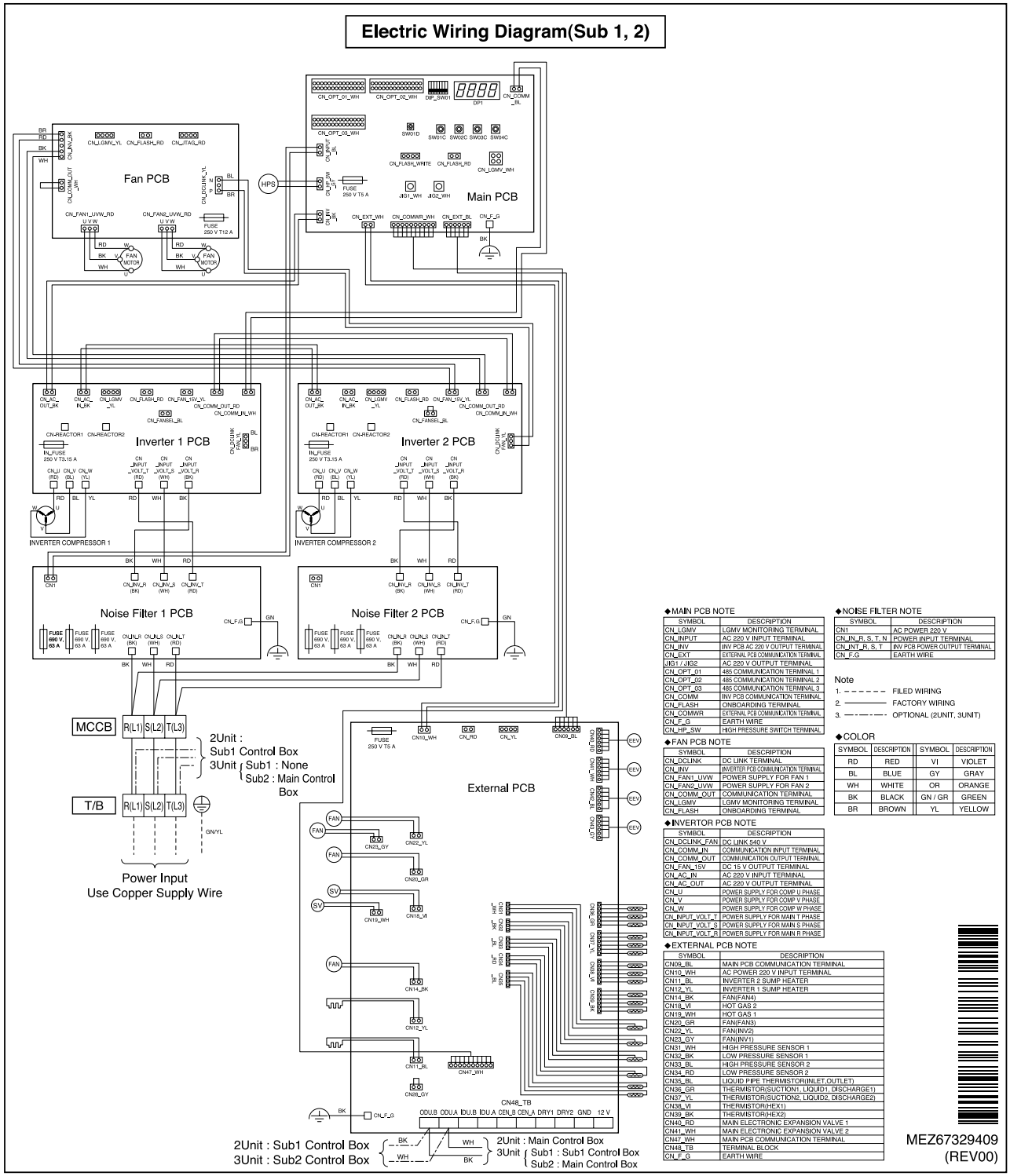
◆COLOR

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

MEZ67329408
(REV00)

9. Wiring Diagrams

■ 2 UNIT (Sub), 3 UNIT (Sub1, 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_EXT	EXTERNAL PCB COMMUNICATION TERMINAL
JIG1 / JIG2	AC 220 V OUTPUT TERMINAL
CN_OPT_01	485 COMMUNICATION TERMINAL 1
CN_OPT_02	485 COMMUNICATION TERMINAL 2
CN_OPT_03	485 COMMUNICATION TERMINAL 3
CN_COMM	INV PCB COMMUNICATION TERMINAL
CN_FLASH	ONBOARDING TERMINAL
CN_COMWR	EXTERNAL PCB COMMUNICATION TERMINAL
CN_F_G	EARTH WIRE
CN_HP_SW	HIGH PRESSURE SWITCH TERMINAL

◆NOISE FILTER NOTE

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

Note
1. - - - - - - FILED WIRING
2. ——— FACTORY WIRING
3. —·—·— OPTIONAL (2UNIT, 3UNIT)

◆FAN PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK	DC LINK TERMINAL
CN_INV	INVERTER PCB COMMUNICATION TERMINAL
CN_FAN1_UVW	POWER SUPPLY FOR FAN 1
CN_FAN2_UVW	POWER SUPPLY FOR FAN 2
CN_COMM_OUT	COMMUNICATION TERMINAL
CN_LGMV	LGMV MONITORING TERMINAL
CN_FLASH	ONBOARDING TERMINAL

◆COLOR

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

◆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_VOLT_T	POWER SUPPLY FOR MAIN T PHASE
CN_INPUT_VOLT_S	POWER SUPPLY FOR MAIN S PHASE
CN_INPUT_VOLT_R	POWER SUPPLY FOR MAIN R PHASE

◆EXTERNAL PCB NOTE

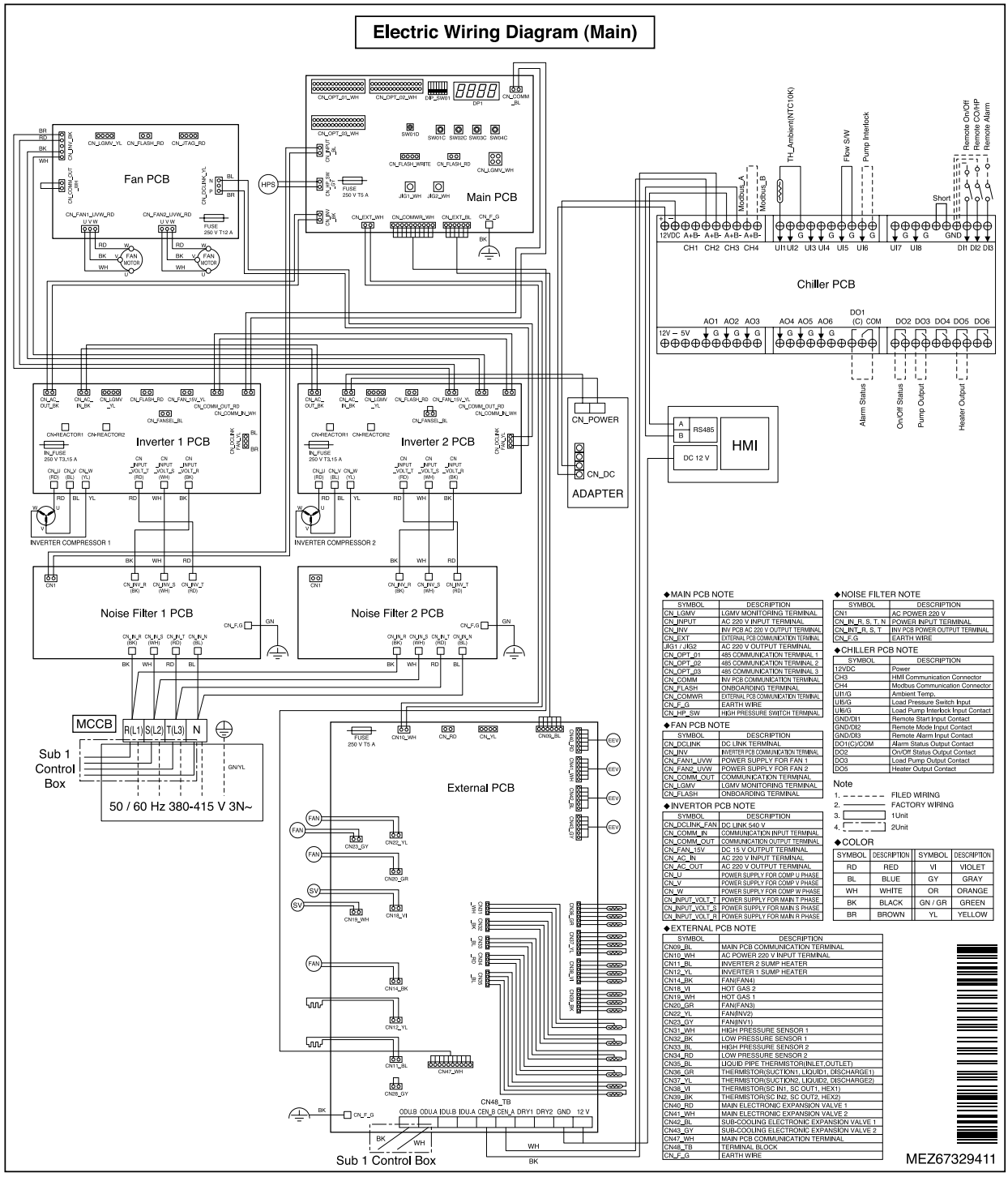
SYMBOL	DESCRIPTION
CN09_BL	MAIN PCB COMMUNICATION TERMINAL
CN10_WH	AC POWER 220 V INPUT TERMINAL
CN11_BL	INVERTER 2 SUMP HEATER
CN12_YL	INVERTER 1 SUMP HEATER
CN14_BK	FAN(FAN4)
CN18_VI	HOT GAS 2
CN19_WH	HOT GAS 1
CN20_GR	FAN(FAN3)
CN22_YL	FAN(INV2)
CN23_GY	FAN(INV1)
CN31_WH	HIGH PRESSURE SENSOR 1
CN32_BK	LOW PRESSURE SENSOR 1
CN33_BL	HIGH PRESSURE SENSOR 2
CN34_RD	LOW PRESSURE SENSOR 2
CN35_BL	LIQUID PIPE THERMISTOR(INLET,OUTLET)
CN36_GR	THERMISTOR(SUCTION1, LIQUID1, DISCHARGE1)
CN37_YL	THERMISTR(SUCTION2, LIQUID2, DISCHARGE2)
CN38_VI	THERMISTOR(HEX1)
CN39_BK	THERMISTOR(HEX2)
CN40_RD	MAIN ELECTRONIC EXPANSION VALVE 1
CN41_WH	MAIN ELECTRONIC EXPANSION VALVE 2
CN47_WH	MAIN PCB COMMUNICATION TERMINAL
CN48_TB	TERMINAL BLOCK
CN_F_G	EARTH WIRE

MEZ67329409
(REV00)

9. Wiring Diagrams

ACAH***LETB

■ 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_EXT	EXTERNAL PCB COMMUNICATION TERMINAL
JIG1 / JIG2	AC 220 V OUTPUT TERMINAL
CN_OPT_01	485 COMMUNICATION TERMINAL 1
CN_OPT_02	485 COMMUNICATION TERMINAL 2
CN_OPT_03	485 COMMUNICATION TERMINAL 3
CN_COMM	INV PCB COMMUNICATION TERMINAL
CN_FLASH	ONBOARDING TERMINAL
CN_COMMR	EXTERNAL PCB COMMUNICATION TERMINAL
CN_F_G	EARTH WIRE
CN_HP_SW	HIGH PRESSURE SWITCH TERMINAL

◆FAN PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK	DC LINK TERMINAL
CN_INV	INVERTER PCB COMMUNICATION TERMINAL
CN_FAN1_UVW	POWER SUPPLY FOR FAN 1
CN_FAN2_UVW	POWER SUPPLY FOR FAN 2
CN_COMM_OUT	COMMUNICATION TERMINAL
CN_LGMV	LGMV MONITORING TERMINAL
CN_FLASH	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_VOLT_T	POWER SUPPLY FOR MAIN T PHASE
CN_INPUT_VOLT_S	POWER SUPPLY FOR MAIN S PHASE
CN_INPUT_VOLT_R	POWER SUPPLY FOR MAIN R PHASE

◆EXTERNAL PCB NOTE

SYMBOL	DESCRIPTION
CN09_BL	MAIN PCB COMMUNICATION TERMINAL
CN10_WH	AC POWER 220 V INPUT TERMINAL
CN11_BL	INVERTER 2 SUMP HEATER
CN12_YL	INVERTER 1 SUMP HEATER
CN14_BK	FAN(FAN4)
CN18_VI	HOT GAS 2
CN19_WH	HOT GAS 1
CN20_GR	FAN(FAN3)
CN22_YL	FAN(INV2)
CN23_GY	FAN(INV1)
CN31_WH	HIGH PRESSURE SENSOR 1
CN32_BK	LOW PRESSURE SENSOR 1
CN33_BL	HIGH PRESSURE SENSOR 2
CN34_RD	LOW PRESSURE SENSOR 2
CN35_BL	LIQUID PIPE THERMISTOR(INLET,OUTLET)
CN36_GR	THERMISTOR(SUCTION1, LIQUID1, DISCHARGE1)
CN37_YL	THERMISTOR(SUCTION2, LIQUID2, DISCHARGE2)
CN38_VI	THERMISTOR(SC IN1, SC OUT1, HEX1)
CN39_BK	THERMISTOR(SC IN2, SC OUT2, HEX2)
CN40_RD	MAIN ELECTRONIC EXPANSION VALVE 1
CN41_WH	MAIN ELECTRONIC EXPANSION VALVE 2
CN42_BL	SUB-COOLING ELECTRONIC EXPANSION VALVE 1
CN43_GY	SUB-COOLING ELECTRONIC EXPANSION VALVE 2
CN47_WH	MAIN PCB COMMUNICATION TERMINAL
CN48_TB	TERMINAL BLOCK
CN_F_G	EARTH WIRE

◆NOISE FILTER NOTE

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

◆CHILLER PCB NOTE

SYMBOL	DESCRIPTION
12VDC	Power
CH3	HMI Communication Connector
CH4	Modbus Communication Connector
UI1/G	Ambient Temp.
UI5/G	Load Pressure Switch Input
UI6/G	Load Pump Interlock Input Contact
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

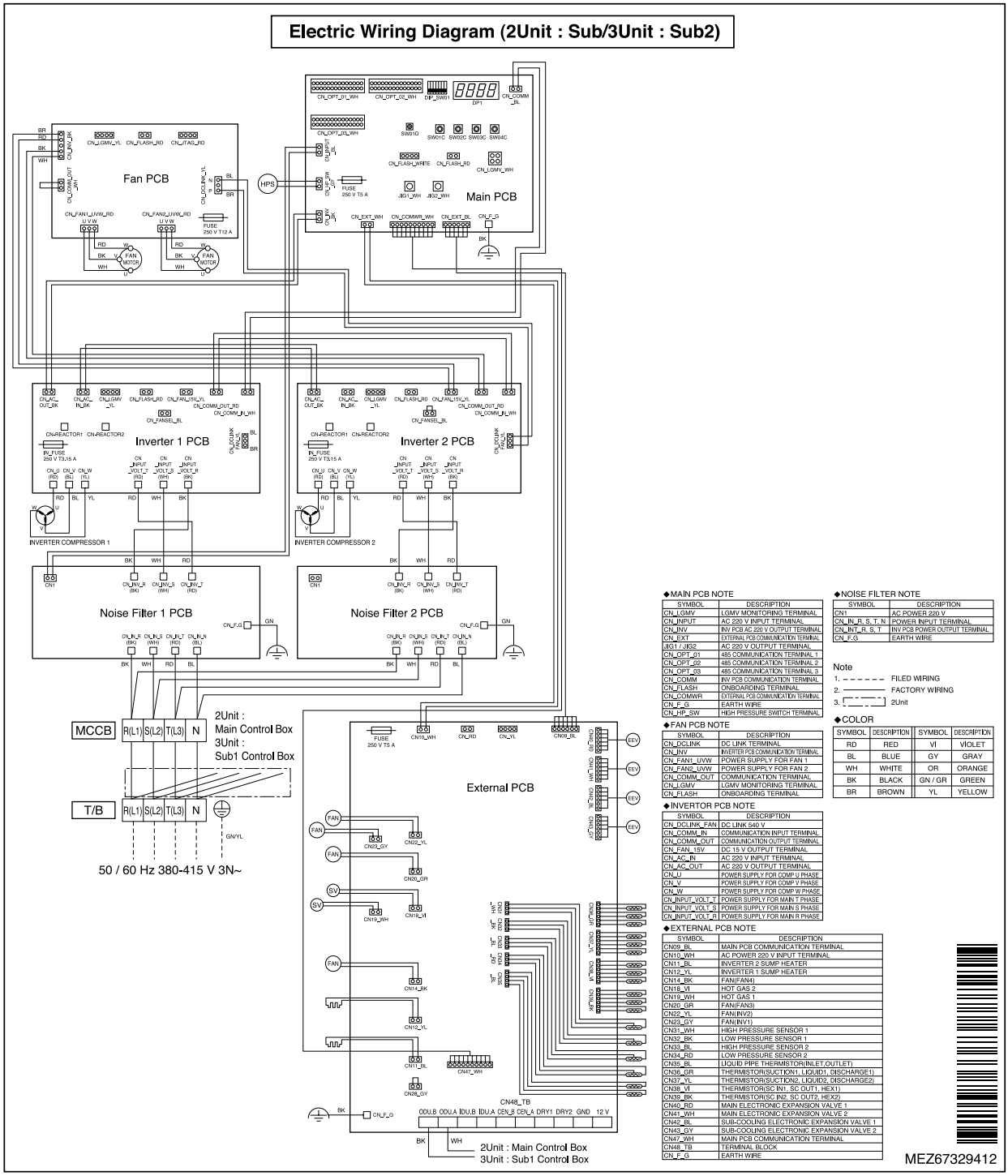
Note
1. FILED WIRING
2. FACTORY WIRING
3. 1Unit
4. 2Unit

◆COLOR

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

9. Wiring Diagrams

■ 2 UNIT (Sub), 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_EXT	EXTERNAL PCB COMMUNICATION TERMINAL
JIG1 / JIG2	AC 220 V OUTPUT TERMINAL
CN_OPT_01	485 COMMUNICATION TERMINAL 1
CN_OPT_02	485 COMMUNICATION TERMINAL 2
CN_OPT_03	485 COMMUNICATION TERMINAL 3
CN_COMM	INV PCB COMMUNICATION TERMINAL
CN_FLASH	ONBOARDING TERMINAL
CN_COMWR	EXTERNAL PCB COMMUNICATION TERMINAL
CN_F_G	EARTH WIRE
CN_HP_SW	HIGH PRESSURE SWITCH TERMINAL

◆NOISE FILTER NOTE

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

Note
1. ------ FILED WIRING
2. —— FACTORY WIRING
3. [ ] 2Unit

◆COLOR

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

◆FAN PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK	DC LINK TERMINAL
CN_INV	INVERTER PCB COMMUNICATION TERMINAL
CN_FAN1_UVW	POWER SUPPLY FOR FAN 1
CN_FAN2_UVW	POWER SUPPLY FOR FAN 2
CN_COMM_OUT	COMMUNICATION TERMINAL
CN_LGMV	LGMV MONITORING TERMINAL
CN_FLASH	ONBOARDING TERMINAL

◆INVERTOR PCB NOTE

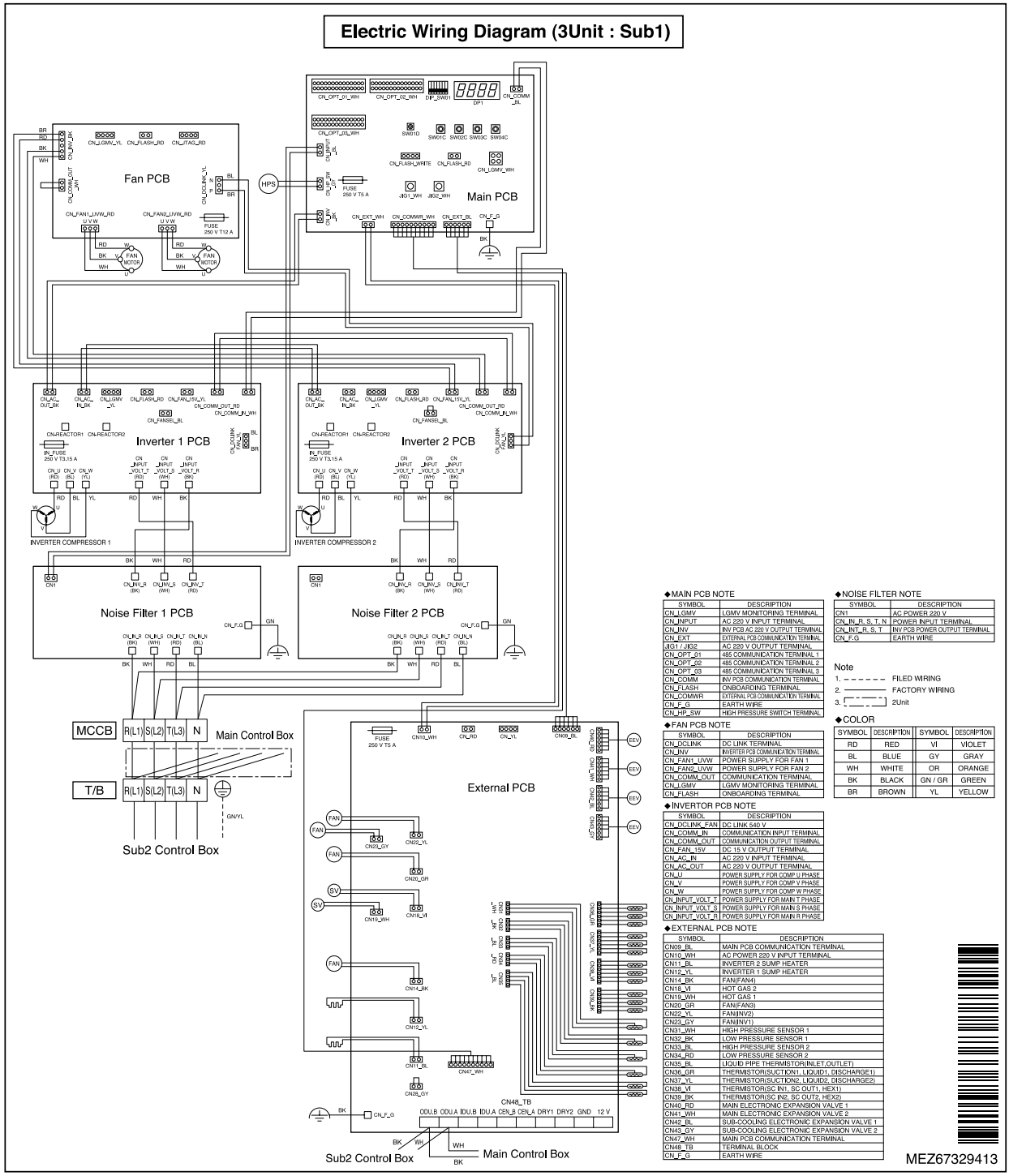
SYMBOL	DESCRIPTION
CN_DCLINK_FAN	DC LINK 540 V
CN_COMM_IN	COMMUNICATION INPUT TERMINAL
CN_COMM_OUT	COMMUNICATION OUTPUT TERMINAL
CN_FAN_15V	DC 15 V OUTPUT TERMINAL
CN_AC_IN	AC 220 V INPUT TERMINAL
CN_AC_OUT	AC 220 V OUTPUT TERMINAL
CN_U	POWER SUPPLY FOR COMP U PHASE
CN_V	POWER SUPPLY FOR COMP V PHASE
CN_W	POWER SUPPLY FOR COMP W PHASE
CN_INPUT_VOLT_T	POWER SUPPLY FOR MAIN T PHASE
CN_INPUT_VOLT_S	POWER SUPPLY FOR MAIN S PHASE
CN_INPUT_VOLT_R	POWER SUPPLY FOR MAIN R PHASE

◆EXTERNAL PCB NOTE

SYMBOL	DESCRIPTION
CN09_BL	MAIN PCB COMMUNICATION TERMINAL
CN10_WH	AC POWER 220 V INPUT TERMINAL
CN11_BL	INVERTER 2 SUMP HEATER
CN12_YL	INVERTER 1 SUMP HEATER
CN14_BK	FAN(FAN4)
CN18_VI	HOT GAS 2
CN19_WH	HOT GAS 1
CN20_GR	FAN(FAN3)
CN22_YL	FAN(INV2)
CN23_GY	FAN(INV1)
CN31_WH	HIGH PRESSURE SENSOR 1
CN32_BK	LOW PRESSURE SENSOR 1
CN33_BL	HIGH PRESSURE SENSOR 2
CN34_RD	LOW PRESSURE SENSOR 2
CN35_BL	LIQUID PIPE THERMISTOR(INLET,OUTLET)
CN36_GR	THERMISTOR(SUCTION1, LIQUID1, DISCHARGE1)
CN37_YL	THERMISTOR(SUCTION2, LIQUID2, DISCHARGE2)
CN38_VI	THERMISTOR(SC IN1, SC OUT1, HEX1)
CN39_BK	THERMISTOR(SC IN2, SC OUT2, HEX2)
CN40_RD	MAIN ELECTRONIC EXPANSION VALVE 1
CN41_WH	MAIN ELECTRONIC EXPANSION VALVE 2
CN42_BL	SUB-COOLING ELECTRONIC EXPANSION VALVE 1
CN43_GY	SUB-COOLING ELECTRONIC EXPANSION VALVE 2
CN47_WH	MAIN PCB COMMUNICATION TERMINAL
CN48_TB	TERMINAL BLOCK
CN_F_G	EARTH WIRE

9. Wiring Diagrams

■ 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_EXT	EXTERNAL PCB COMMUNICATION TERMINAL
JIG1 / JIG2	AC 220 V OUTPUT TERMINAL
CN_OPT_01	485 COMMUNICATION TERMINAL 1
CN_OPT_02	485 COMMUNICATION TERMINAL 2
CN_OPT_03	485 COMMUNICATION TERMINAL 3
CN_COMM	INV PCB COMMUNICATION TERMINAL
CN_FLASH	ONBOARDING TERMINAL
CN_COMMWR	EXTERNAL PCB COMMUNICATION TERMINAL
CN_F_G	EARTH WIRE
CN_HP_SW	HIGH PRESSURE SWITCH TERMINAL

◆NOISE FILTER NOTE

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

Note
1. FILED WIRING
2. FACTORY WIRING
3. 2Unit

◆FAN PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK	DC LINK TERMINAL
CN_INV	INVERTER PCB COMMUNICATION TERMINAL
CN_FAN1_UVW	POWER SUPPLY FOR FAN 1
CN_FAN2_UVW	POWER SUPPLY FOR FAN 2
CN_COMM_OUT	COMMUNICATION TERMINAL
CN_LGMV	LGMV MONITORING TERMINAL
CN_FLASH	ONBOARDING TERMINAL

◆COLOR

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

◆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_VOLT_T	POWER SUPPLY FOR MAIN T PHASE
CN_INPUT_VOLT_S	POWER SUPPLY FOR MAIN S PHASE
CN_INPUT_VOLT_R	POWER SUPPLY FOR MAIN R PHASE

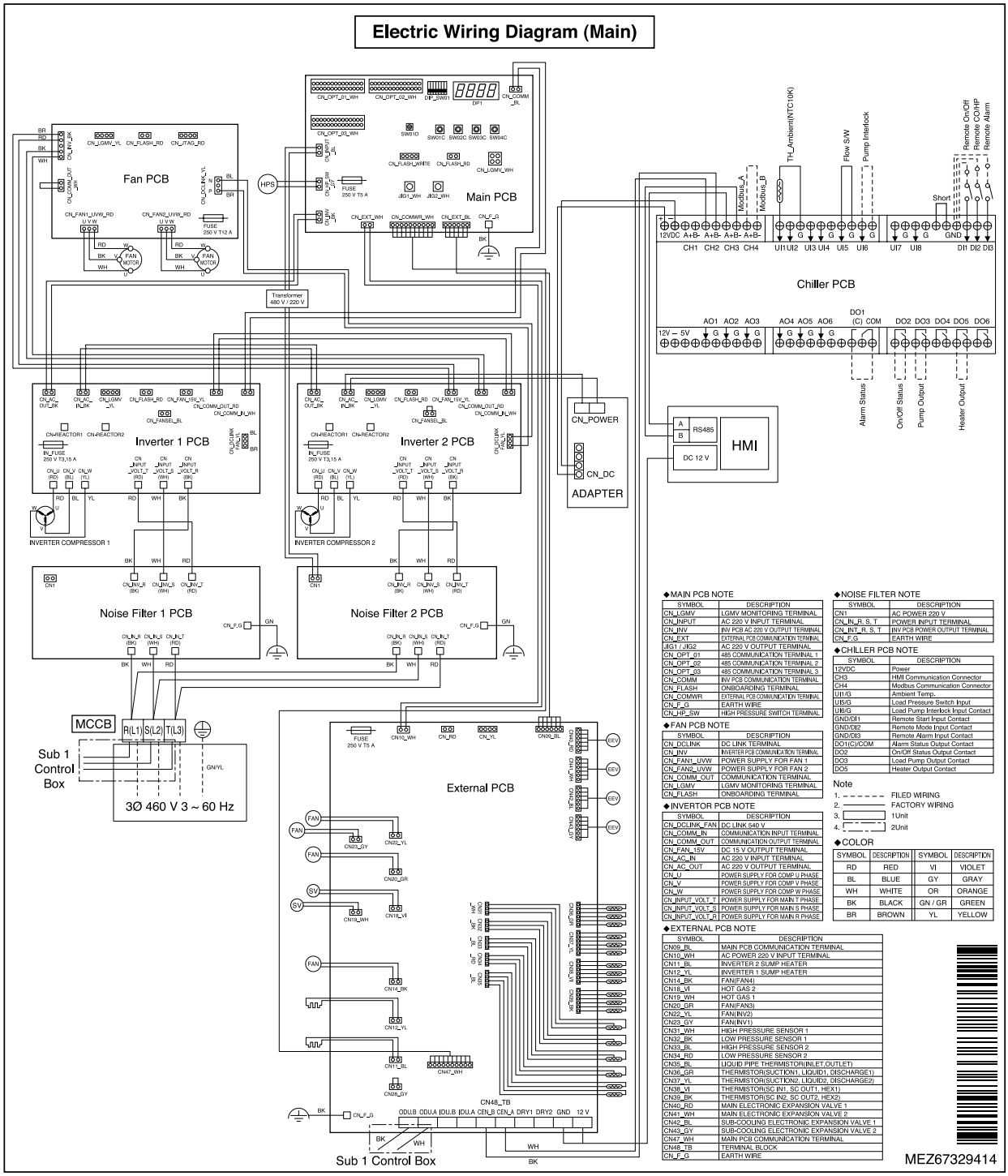
◆EXTERNAL PCB NOTE

SYMBOL	DESCRIPTION
CN09_BL	MAIN PCB COMMUNICATION TERMINAL
CN10_WH	AC POWER 220 V INPUT TERMINAL
CN11_BL	INVERTER 2 SUMP HEATER
CN12_YL	INVERTER 1 SUMP HEATER
CN14_BK	FAN(FAN4)
CN18_VI	HOT GAS 2
CN19_WH	HOT GAS 1
CN20_GR	FAN(FAN3)
CN22_YL	FAN(INV2)
CN23_GY	FAN(INV1)
CN31_WH	HIGH PRESSURE SENSOR 1
CN32_BK	LOW PRESSURE SENSOR 1
CN33_BL	HIGH PRESSURE SENSOR 2
CN34_RD	LOW PRESSURE SENSOR 2
CN35_BL	LIQUID PIPE THERMISTOR(INLET,OUTLET)
CN36_GR	THERMISTOR(SUCTION1, LIQUID1, DISCHARGE1)
CN37_YL	THERMISTOR(SUCTION2, LIQUID2, DISCHARGE2)
CN38_VI	THERMISTOR(SC IN1, SC OUT1, HEX1)
CN39_BK	THERMISTOR(SC IN2, SC OUT2, HEX2)
CN40_RD	MAIN ELECTRONIC EXPANSION VALVE 1
CN41_WH	MAIN ELECTRONIC EXPANSION VALVE 2
CN42_BL	SUB-COOLING ELECTRONIC EXPANSION VALVE 1
CN43_GY	SUB-COOLING ELECTRONIC EXPANSION VALVE 2
CN47_WH	MAIN PCB COMMUNICATION TERMINAL
CN48_TB	TERMINAL BLOCK
CN_F_G	EARTH WIRE

9. Wiring Diagrams

ACAH***HETB

■ 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_EXT	EXTERNAL PCB COMMUNICATION TERMINAL
JIG1 / JIG2	AC 220 V OUTPUT TERMINAL
CN_OPT_01	485 COMMUNICATION TERMINAL 1
CN_OPT_02	485 COMMUNICATION TERMINAL 2
CN_OPT_03	485 COMMUNICATION TERMINAL 3
CN_COMM	INV PCB COMMUNICATION TERMINAL
CN_FLASH	ONBOARDING TERMINAL
CN_COMWR	EXTERNAL PCB COMMUNICATION TERMINAL
CN_F_G	EARTH WIRE
CN_HP_SW	HIGH PRESSURE SWITCH TERMINAL

◆FAN PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK	DC LINK TERMINAL
CN_INV	INVERTER PCB COMMUNICATION TERMINAL
CN_FAN1_UVW	POWER SUPPLY FOR FAN 1
CN_FAN2_UVW	POWER SUPPLY FOR FAN 2
CN_COMM_OUT	COMMUNICATION TERMINAL
CN_LGMV	LGMV MONITORING TERMINAL
CN_FLASH	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_VOLT_T	POWER SUPPLY FOR MAIN T PHASE
CN_INPUT_VOLT_S	POWER SUPPLY FOR MAIN S PHASE
CN_INPUT_VOLT_R	POWER SUPPLY FOR MAIN R PHASE

◆EXTERNAL PCB NOTE

SYMBOL	DESCRIPTION
CN09_BL	MAIN PCB COMMUNICATION TERMINAL
CN10_WH	AC POWER 220 V INPUT TERMINAL
CN11_BL	INVERTER 2 SUMP HEATER
CN12_YL	INVERTER 1 SUMP HEATER
CN14_BK	FAN(FAN4)
CN18_VI	HOT GAS 2
CN19_WH	HOT GAS 1
CN20_GR	FAN(FAN3)
CN22_YL	FAN(INV2)
CN23_GY	FAN(INV1)
CN31_WH	HIGH PRESSURE SENSOR 1
CN32_BK	LOW PRESSURE SENSOR 1
CN33_BL	HIGH PRESSURE SENSOR 2
CN34_RD	LOW PRESSURE SENSOR 2
CN35_BL	LIQUID PIPE THERMISTOR(INLET,OUTLET)
CN36_GR	THERMISTOR(SUCTION1, LIQUID1, DISCHARGE1)
CN37_YL	THERMISTOR(SUCTION2, LIQUID2, DISCHARGE2)
CN38_VI	THERMISTOR(SC IN1, SC OUT1, HEX1)
CN39_BK	THERMISTOR(SC IN2, SC OUT2, HEX2)
CN40_RD	MAIN ELECTRONIC EXPANSION VALVE 1
CN41_WH	MAIN ELECTRONIC EXPANSION VALVE 2
CN42_BL	SUB-COOLING ELECTRONIC EXPANSION VALVE 1
CN43_GY	SUB-COOLING ELECTRONIC EXPANSION VALVE 2
CN47_WH	MAIN PCB COMMUNICATION TERMINAL
CN48_TB	TERMINAL BLOCK
CN_F_G	EARTH WIRE

◆NOISE FILTER NOTE

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

◆CHILLER PCB NOTE

SYMBOL	DESCRIPTION
12VDC	Power
CH3	HMI Communication Connector
CH4	Modbus Communication Connector
UI1/G	Ambient Temp.
UI5/G	Load Pressure Switch Input
UI6/G	Load Pump Interlock Input Contact
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

Note

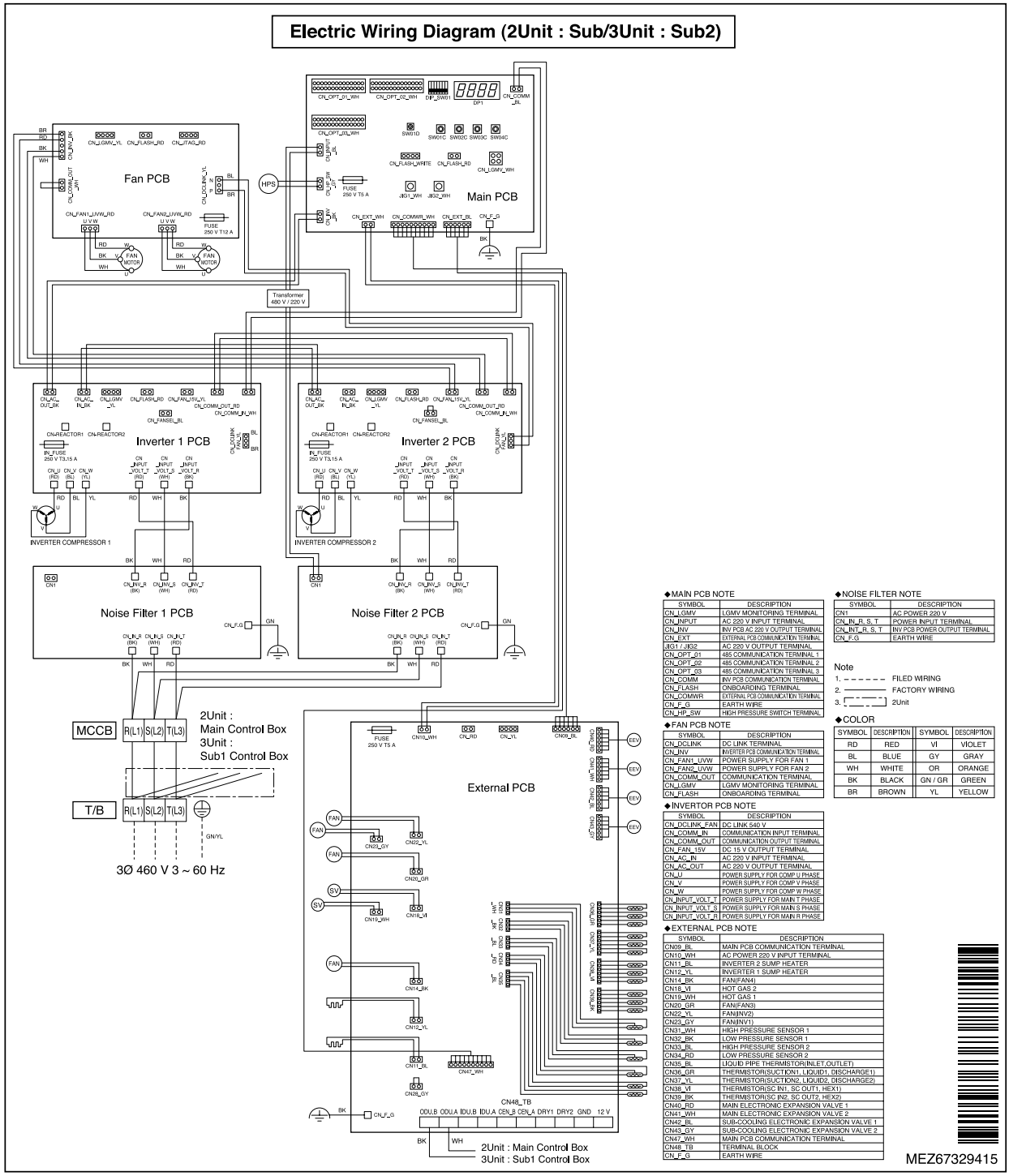
1. ------ FILED WIRING
2. —— FACTORY WIRING
3. [ ] 1Unit
4. [ ] 2Unit

◆COLOR

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

9. Wiring Diagrams

■ 2 UNIT (Sub), 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_EXT	EXTERNAL PCB COMMUNICATION TERMINAL
JIG1 / JIG2	AC 220 V OUTPUT TERMINAL
CN_OPT_01	485 COMMUNICATION TERMINAL 1
CN_OPT_02	485 COMMUNICATION TERMINAL 2
CN_OPT_03	485 COMMUNICATION TERMINAL 3
CN_COMM	INV PCB COMMUNICATION TERMINAL
CN_FLASH	ONBOARDING TERMINAL
CN_COMMWR	EXTERNAL PCB COMMUNICATION TERMINAL
CN_F_G	EARTH WIRE
CN_HP_SW	HIGH PRESSURE SWITCH TERMINAL

◆NOISE FILTER NOTE

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

Note
1. - - - - - - FILED WIRING
2. ——— FACTORY WIRING
3. [- - - -] 2Unit

◆FAN PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK	INVERTER PCB COMMUNICATION TERMINAL
CN_INV	INVERTER PCB COMMUNICATION TERMINAL
CN_FAN1_UVW	POWER SUPPLY FOR FAN 1
CN_FAN2_UVW	POWER SUPPLY FOR FAN 2
CN_COMM_OUT	COMMUNICATION TERMINAL
CN_LGMV	LGMV MONITORING TERMINAL
CN_FLASH	ONBOARDING TERMINAL

◆COLOR

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

◆INVERTOR PCB NOTE

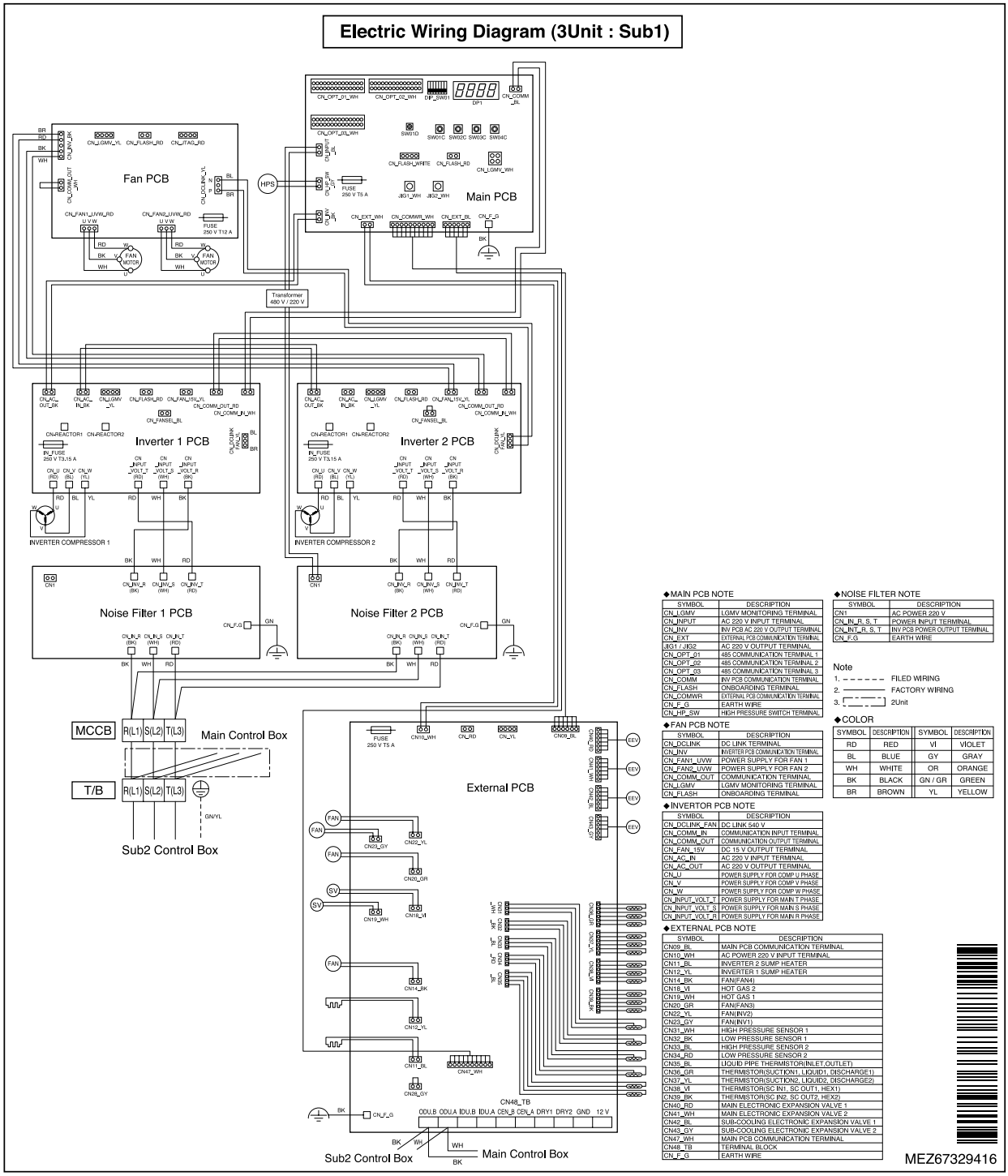
SYMBOL	DESCRIPTION
CN_DCLINK_FAN	DC LINK 540 V
CN_COMM_IN	COMMUNICATION INPUT TERMINAL
CN_COMM_OUT	COMMUNICATION OUTPUT TERMINAL
CN_FAN_15V	DC 15 V OUTPUT TERMINAL
CN_AC_IN	AC 220 V INPUT TERMINAL
CN_AC_OUT	AC 220 V OUTPUT TERMINAL
CN_U	POWER SUPPLY FOR COMP U PHASE
CN_V	POWER SUPPLY FOR COMP V PHASE
CN_W	POWER SUPPLY FOR COMP W PHASE
CN_INPUT_VOLT_T	POWER SUPPLY FOR MAIN T PHASE
CN_INPUT_VOLT_S	POWER SUPPLY FOR MAIN S PHASE
CN_INPUT_VOLT_R	POWER SUPPLY FOR MAIN R PHASE

◆EXTERNAL PCB NOTE

SYMBOL	DESCRIPTION
CN09_BL	MAIN PCB COMMUNICATION TERMINAL
CN10_WH	AC POWER 220 V INPUT TERMINAL
CN11_BL	INVERTER 2 SUMP HEATER
CN12_YL	INVERTER 1 SUMP HEATER
CN14_BK	FAN(FAN4)
CN18_VI	HOT GAS 2
CN19_WH	HOT GAS 1
CN20_GR	FAN(FAN3)
CN22_YL	FAN(INV2)
CN23_GY	FAN(INV1)
CN31_WH	HIGH PRESSURE SENSOR 1
CN32_BK	LOW PRESSURE SENSOR 1
CN33_BL	HIGH PRESSURE SENSOR 2
CN34_RD	LOW PRESSURE SENSOR 2
CN35_BL	LIQUID PIPE THERMISTOR(INLET,OUTLET)
CN36_GR	THERMISTOR(SUCTION1, LIQUID1, DISCHARGE1)
CN37_YL	THERMISTOR(SUCTION2, LIQUID2, DISCHARGE2)
CN38_VI	THERMISTOR(SC IN1, SC OUT1, HEX1)
CN39_BK	THERMISTOR(SC IN2, SC OUT2, HEX2)
CN40_RD	MAIN ELECTRONIC EXPANSION VALVE 1
CN41_WH	MAIN ELECTRONIC EXPANSION VALVE 2
CN42_BL	SUB-COOLING ELECTRONIC EXPANSION VALVE 1
CN43_GY	SUB-COOLING ELECTRONIC EXPANSION VALVE 2
CN47_WH	MAIN PCB COMMUNICATION TERMINAL
CN48_TB	TERMINAL BLOCK
CN_F_G	EARTH WIRE

9. Wiring Diagrams

■ 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_EXT	EXTERNAL PCB COMMUNICATION TERMINAL
JIG1 / JIG2	AC 220 V OUTPUT TERMINAL
CN_OPT_01	485 COMMUNICATION TERMINAL 1
CN_OPT_02	485 COMMUNICATION TERMINAL 2
CN_OPT_03	485 COMMUNICATION TERMINAL 3
CN_COMM	INV PCB COMMUNICATION TERMINAL
CN_FLASH	ONBOARDING TERMINAL
CN_COMWR	EXTERNAL PCB COMMUNICATION TERMINAL
CN_F_G	EARTH WIRE
CN_HP_SW	HIGH PRESSURE SWITCH TERMINAL

◆NOISE FILTER NOTE

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

Note
1. FILED WIRING
2. FACTORY WIRING
3. 2Unit

◆FAN PCB NOTE

SYMBOL	DESCRIPTION
CN_DCLINK	DC LINK TERMINAL
CN_INV	INVERTER PCB COMMUNICATION TERMINAL
CN_FAN1_UVW	POWER SUPPLY FOR FAN 1
CN_FAN2_UVW	POWER SUPPLY FOR FAN 2
CN_COMM_OUT	COMMUNICATION TERMINAL
CN_LGMV	LGMV MONITORING TERMINAL
CN_FLASH	ONBOARDING TERMINAL

◆COLOR

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

◆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_VOLT_T	POWER SUPPLY FOR MAIN T PHASE
CN_INPUT_VOLT_S	POWER SUPPLY FOR MAIN S PHASE
CN_INPUT_VOLT_R	POWER SUPPLY FOR MAIN R PHASE

◆EXTERNAL PCB NOTE

SYMBOL	DESCRIPTION
CN09_BL	MAIN PCB COMMUNICATION TERMINAL
CN10_WH	AC POWER 220 V INPUT TERMINAL
CN11_BL	INVERTER 2 SUMP HEATER
CN12_YL	INVERTER 1 SUMP HEATER
CN14_BK	FAN(FAN4)
CN18_VI	HOT GAS 2
CN19_WH	HOT GAS 1
CN20_GR	FAN(FAN3)
CN22_YL	FAN(INV2)
CN23_GY	FAN(INV1)
CN31_WH	HIGH PRESSURE SENSOR 1
CN32_BK	LOW PRESSURE SENSOR 1
CN33_BL	HIGH PRESSURE SENSOR 2
CN34_RD	LOW PRESSURE SENSOR 2
CN35_BL	LIQUID PIPE THERMISTOR(INLET,OUTLET)
CN36_GR	THERMISTOR(SUCTION1, LIQUID1, DISCHARGE1)
CN37_YL	THERMISTOR(SUCTION2, LIQUID2, DISCHARGE2)
CN38_VI	THERMISTOR(SC IN1, SC OUT1, HEX1)
CN39_BK	THERMISTOR(SC IN2, SC OUT2, HEX2)
CN40_RD	MAIN ELECTRONIC EXPANSION VALVE 1
CN41_WH	MAIN ELECTRONIC EXPANSION VALVE 2
CN42_BL	SUB-COOLING ELECTRONIC EXPANSION VALVE 1
CN43_GY	SUB-COOLING ELECTRONIC EXPANSION VALVE 2
CN47_WH	MAIN PCB COMMUNICATION TERMINAL
CN48_TB	TERMINAL BLOCK
CN_F_G	EARTH WIRE

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

■ Precaution for seasonal wind and winter season

In areas with heavy snow or in extremely cold areas, sufficient planning is required for the product to run smoothly.
Even in other areas, planning is required for seasonal wind during the winter season.

- Snow can go into the air discharge outlet of the condenser to freeze inside the chiller. Therefore install a large cover over the chiller for areas with heavy snowfall to prevent the snow from accumulating on the top.
- The chiller can freeze inside when the air inlet is clogged with snow. Therefore install the chiller on the base with at least twice the height of the average snow accumulation.
  (Default height of base: 300mm)
- If there is more than 100mm of snow on top of the chiller, always operate the unit after cleaning the snow.
- Do not install the product where there could be negative impact from snow in areas with heavy snowfall. Decide the installation direction of the chiller so that the side of the air heat exchanger does not face the direction of the snow.
  (Make the side of the air heat exchanger parallel to the direction of the snowfall.) Install a blocker with the height of the snow accumulation to avoid the snow around the chiller from being sucked into the coil side. (Prepare on site)
- If the wind comes in one direction of the unit where the seasonal wind is strong, there is a high chance that it can lead to issue with product capacity or imbalance of load. Therefore install the product so that it has consistent effect on the product cycle. If that is not possible, consider using a wind blocker or other devices. In areas with strong seasonal wind during the winter, apply the wind blocker hood, especially near the coastal area, without blocking the suction inlet of the chiller considering the direction of the wind. If the chiller is directly exposed to the seasonal wind during the winter, separately install a wind buffle. (Prepare on site)

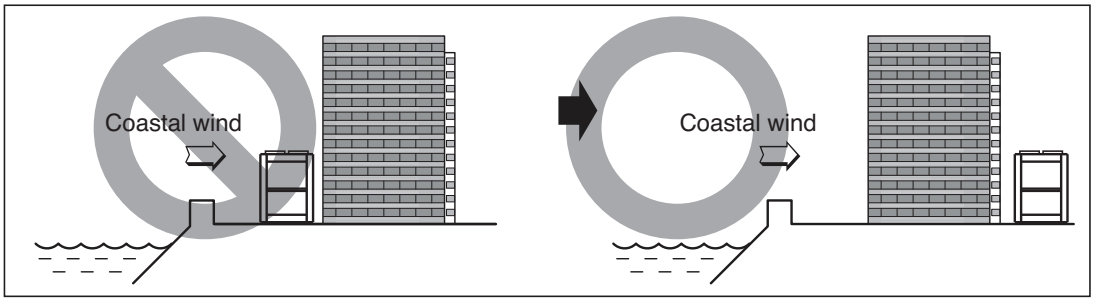
Installation Guide at the seaside

CAUTION

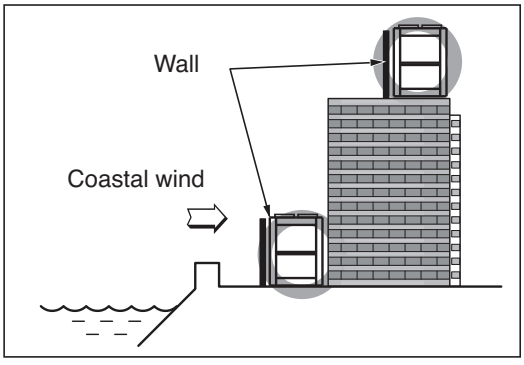
- When installing the chiller near the coast, make sure that it is not directly exposed to the coastal wind.
- When installing the chiller directly exposed to the coastal wind, separate anti-corrosive treatment must be done on the condenser of the chiller.

*** Selecting location of chiller**

Install the chiller where the building can block the coastal wind.



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



The wall must be made of sufficiently strong material such as concrete to block the coastal wind and must be 1.5 times larger than the size of the product to protect the product 1000mm apart. There must be 1000mm of clearance between the wall and the chiller for smooth circulation of air.

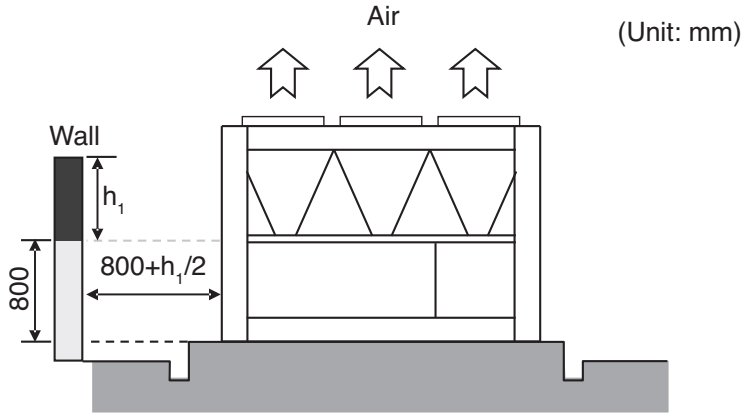
Install the product where the drainage is smooth.

10. Installation of Chiller

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

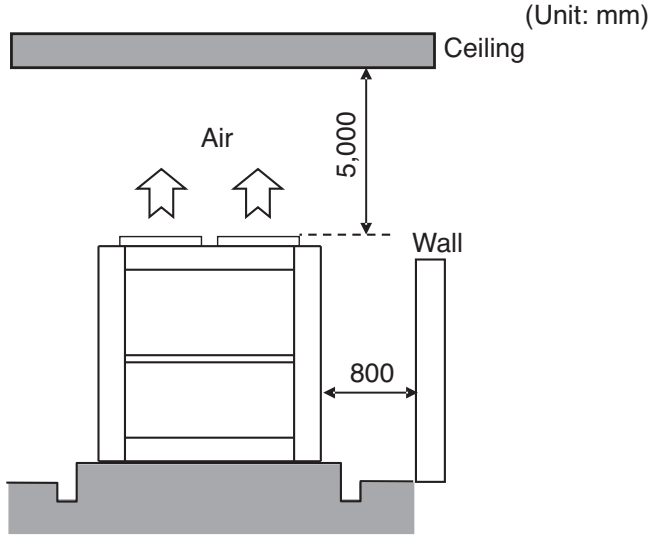
■ Consider the ventilation condition.

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.



Reference

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



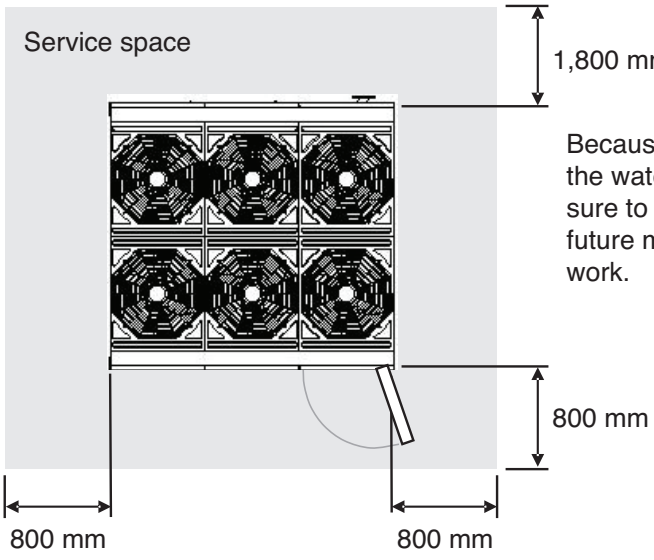
Reference

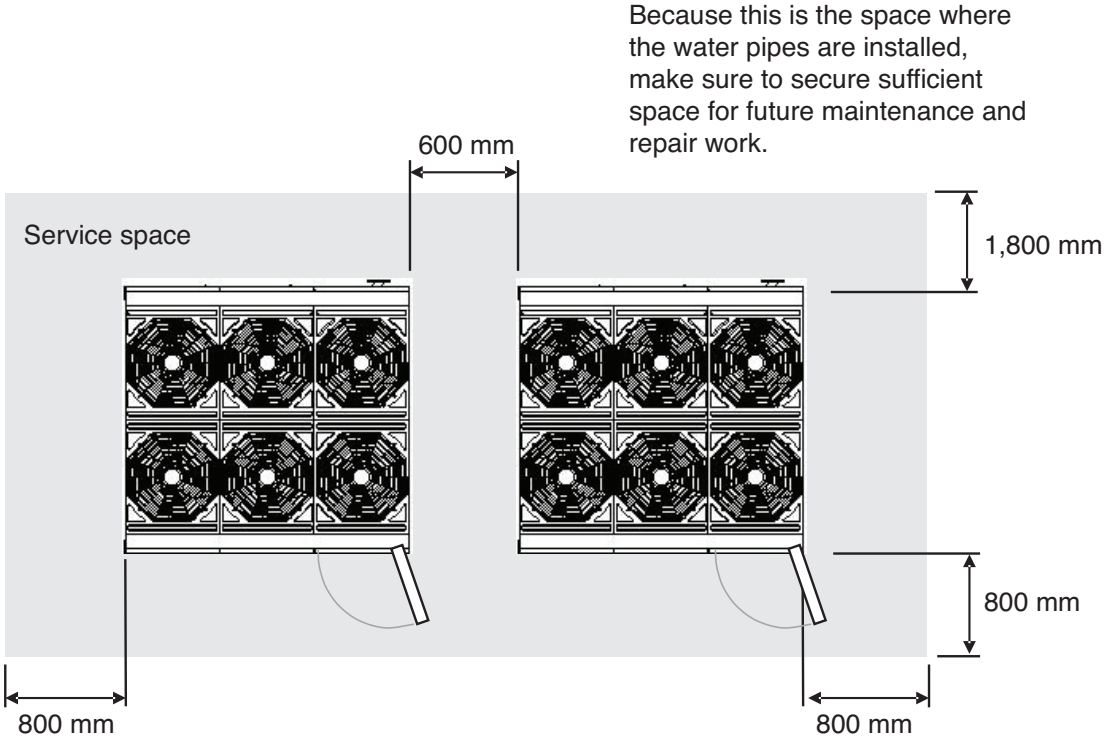
If there is a ceiling on the top part of the chiller, the distance from the chiller to the ceiling must be 5000mm or above.

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

Consider the service space.

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





10. Installation of Chiller

Water management

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.

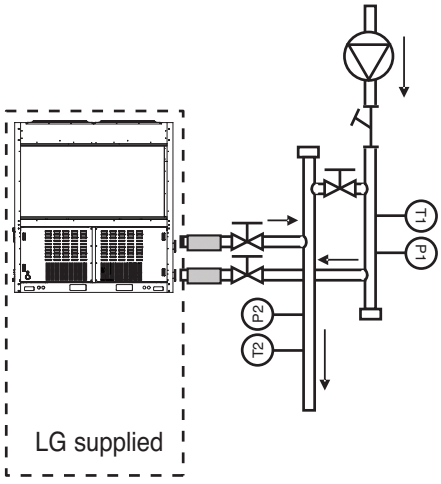
Item		Water	
		Circulation type cold water	Cold water
Reference	PH(25°C)	6.5 - 8.0	6.5 - 8.0
	Conduction rate (25°C μs/cm)	500 or below	200 or below
	Alkali level (PPM)	100 or below	50 or below
	Hardness (PPM)	100 or below	50 or below
	Chlorine ion (PPM)	100 or below	50 or below
	Lactic acid ion (PPM)	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

Water pipe connection

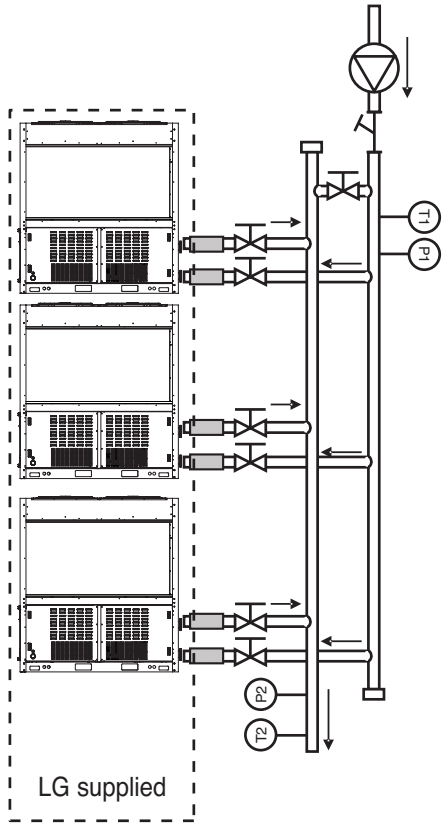
- Connect the pipe so that the entrance of the water pipe is correct.
- Permitted water pressure resistance of cold water pipe system is 1MPa
- To prevent any external heat loss or dew drops forming during the cooling operation on the water pipe system, apply thermal insulation treatment.
- Install the air vent at the output end of the water pipe. (Air vent)
- If the thermometer is installed on the inlet/outlet of the 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.

Installation mode A (Recommended method)

* Independent product installation



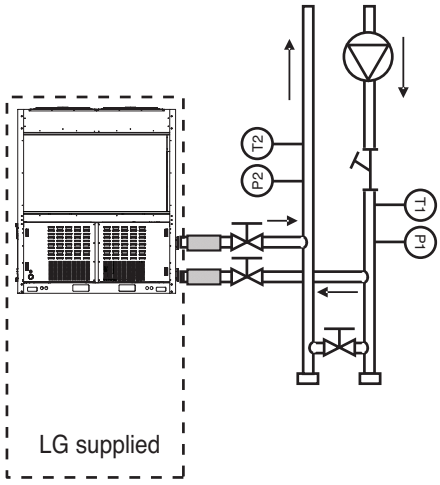
* Independent product installation



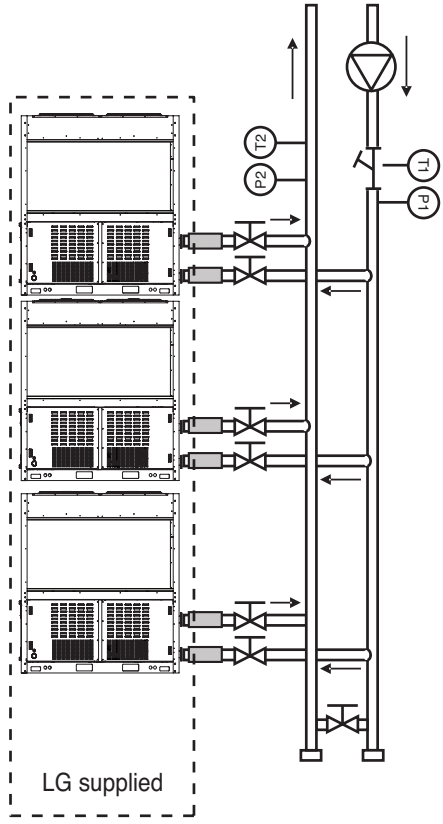
Symbol	Description	Symbol	Description
	Valve	T1	Temperature sensor (1: Inlet 2: Outlet)
	Strainer	P1	Pressure gauge (1: Inlet, 2 Outlet)
	Flexible joint		Cold water pump

Installation mode B

* Independent product installation



* Independent product installation



Symbol	Description	Symbol	Description
	Valve	T1	Temperature sensor (1: Inlet 2: Outlet)
	Strainer	P1	Pressure gauge (1: Inlet, 2 Outlet)
	Flexible joint		Cold water pump

10. Installation of Chiller

⚠ 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 of chiller 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.
- When connecting several chillers, refer to the following for common pipe size.

Full product capacity		20 RT	40 RT	60 RT	80 RT	100 RT	120 RT	140 RT	160 RT	180 RT
Common pipe size		65 A	80 A	100 A	100 A	125 A	125 A	125 A	150 A	150 A
Product	20 RT	●								
	40 RT		●		●●	●		●●	●	
	60 RT			●		●	●●	●	●●	●●●

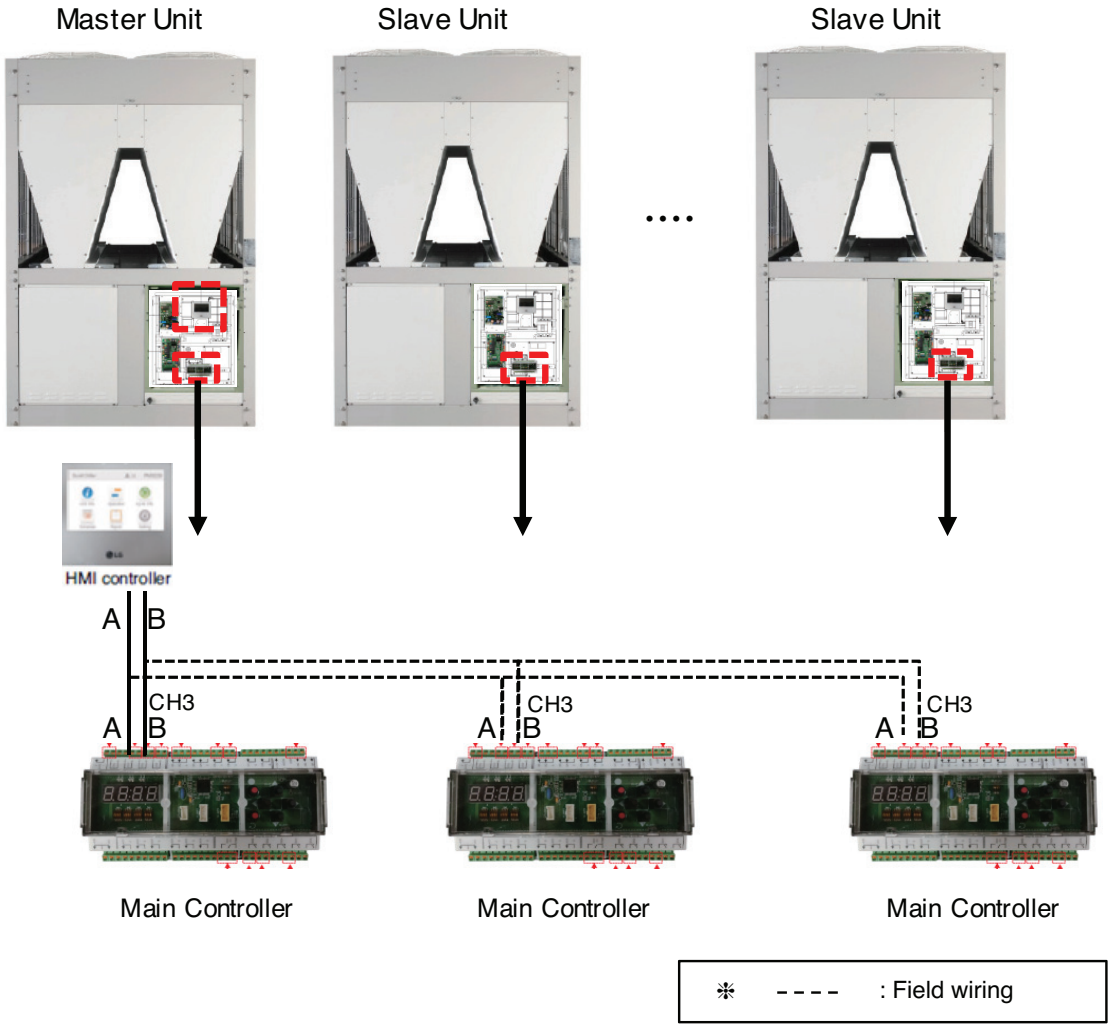
Full product capacity		200 RT	220 RT	240 RT	260 RT	280 RT	300 RT
Common pipe size		150 A	200 A	200 A	200 A	200 A	200 A
Product	20 RT						
	40 RT	●●	●		●●	●	
	60 RT	●●	●●●	●●●●	●●●	●●●●	●●●●●

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.

10. Installation of Chiller

Unit Combination



1) Communication line is divided A into B like a picture and is jump connected to Main Unit and Main Controller CH3 of Slave unit.
2) Communication line jump connected is divided A into B to HMI of Master Unit and in connected.
3) Use 2-line shield as a communication line
4) Separately install the communication and power cable of the chiller so that communication cable is not affected by the electric noise generated from power cable(Do not pass though the same electric pipe)
5) Unit combination is able to connect up to 5 units.

WARNING

If number and address of product to want to interlock is not set from HMI, Error will occur.(please refer to control>freezer interlocking control about HMI address setting)

If Main Controller address doesn't match HMI address, Error will occur. .(please refer to control>freezer address setting about Controller address setting)

■ 220 V

Set Model	Unit Combination				
ACAH020VETB	ACAH020VETB	-	-	-	-
ACAH033VETB	ACAH033VETB	-	-	-	-
ACAH040VETB	ACAH040VETB	-	-	-	-
ACAH050VETB	ACAH050VETB	-	-	-	-
ACAH060VATB	ACAH020VETB	ACAH040VETB	-	-	-
ACAH060VETB	ACAH060VETB	-	-	-	-
ACAH066VATB	ACAH033VETB	ACAH033VETB	-	-	-
ACAH073VATB	ACAH033VETB	ACAH040VETB	-	-	-
ACAH080VATB	ACAH040VETB	ACAH040VETB	-	-	-
ACAH083VATB	ACAH033VETB	ACAH050VETB	-	-	-
ACAH093VATB	ACAH033VETB	ACAH060VETB	-	-	-
ACAH100VATB	ACAH040VETB	ACAH060VETB	-	-	-
ACAH100VATB	ACAH050VETB	ACAH050VETB	-	-	-
ACAH100VATB	ACAH020VETB	ACAH040VETB	ACAH040VETB	-	-
ACAH110VATB	ACAH050VETB	ACAH060VETB	-	-	-
ACAH116VATB	ACAH033VETB	ACAH033VETB	ACAH050VETB	-	-
ACAH120VATB	ACAH060VETB	ACAH060VETB	-	-	-
ACAH126VATB	ACAH033VETB	ACAH033VETB	ACAH060VETB	-	-
ACAH133VATB	ACAH033VETB	ACAH040VETB	ACAH060VETB	-	-
ACAH140VATB	ACAH040VETB	ACAH040VETB	ACAH060VETB	-	-
ACAH140VATB	ACAH020VETB	ACAH040VETB	ACAH040VETB	ACAH040VETB	-
ACAH143VATB	ACAH033VETB	ACAH050VETB	ACAH060VETB	-	-
ACAH153VATB	ACAH033VETB	ACAH060VETB	ACAH060VETB	-	-
ACAH160VATB	ACAH040VETB	ACAH060VETB	ACAH060VETB	-	-
ACAH160VATB	ACAH050VETB	ACAH050VETB	ACAH060VETB	-	-
ACAH170VATB	ACAH050VETB	ACAH060VETB	ACAH060VETB	-	-
ACAH176VATB	ACAH033VETB	ACAH033VETB	ACAH050VETB	ACAH060VETB	-
ACAH180VATB	ACAH060VETB	ACAH060VETB	ACAH060VETB	-	-
ACAH180VATB	ACAH020VETB	ACAH040VETB	ACAH040VETB	ACAH040VETB	ACAH040VETB
ACAH186VATB	ACAH033VETB	ACAH033VETB	ACAH060VETB	ACAH060VETB	-
ACAH193VATB	ACAH033VETB	ACAH040VETB	ACAH060VETB	ACAH060VETB	-
ACAH200VATB	ACAH040VETB	ACAH040VETB	ACAH060VETB	ACAH060VETB	-
ACAH203VATB	ACAH033VETB	ACAH050VETB	ACAH060VETB	ACAH060VETB	-
ACAH213VATB	ACAH033VETB	ACAH060VETB	ACAH060VETB	ACAH060VETB	-
ACAH220VATB	ACAH040VETB	ACAH060VETB	ACAH060VETB	ACAH060VETB	-
ACAH220VATB	ACAH050VETB	ACAH050VETB	ACAH060VETB	ACAH060VETB	-
ACAH230VATB	ACAH050VETB	ACAH060VETB	ACAH060VETB	ACAH060VETB	-
ACAH236VATB	ACAH033VETB	ACAH033VETB	ACAH050VETB	ACAH060VETB	ACAH060VETB
ACAH240VATB	ACAH060VETB	ACAH060VETB	ACAH060VETB	ACAH060VETB	-
ACAH246VATB	ACAH033VETB	ACAH033VETB	ACAH060VETB	ACAH060VETB	ACAH060VETB

Set Model	Unit Combination				
ACAH253VATB	ACAH033VETB	ACAH040VETB	ACAH060VETB	ACAH060VETB	ACAH060VETB
ACAH260VATB	ACAH040VETB	ACAH040VETB	ACAH060VETB	ACAH060VETB	ACAH060VETB
ACAH263VATB	ACAH033VETB	ACAH050VETB	ACAH060VETB	ACAH060VETB	ACAH060VETB
ACAH273VATB	ACAH033VETB	ACAH060VETB	ACAH060VETB	ACAH060VETB	ACAH060VETB
ACAH280VATB	ACAH040VETB	ACAH060VETB	ACAH060VETB	ACAH060VETB	ACAH060VETB
ACAH280VATB	ACAH050VETB	ACAH050VETB	ACAH060VETB	ACAH060VETB	ACAH060VETB
ACAH290VATB	ACAH050VETB	ACAH060VETB	ACAH060VETB	ACAH060VETB	ACAH060VETB
ACAH300VATB	ACAH060VETB	ACAH060VETB	ACAH060VETB	ACAH060VETB	ACAH060VETB

■ 380 V

Set Model	Unit Combination				
ACAH020LETB	ACAH020LETB	-	-	-	-
ACAH023LETB	ACAH023LETB	-	-	-	-
ACAH033LETB	ACAH033LETB	-	-	-	-
ACAH040LETB	ACAH040LETB	-	-	-	-
ACAH043LATB	ACAH020LETB	ACAH023LETB	-	-	-
ACAH045LETB	ACAH045LETB	-	-	-	-
ACAH050LETB	ACAH050LETB	-	-	-	-
ACAH060LETB	ACAH060LETB	-	-	-	-
ACAH067LETB	ACAH067LETB	-	-	-	-
ACAH073LATB	ACAH033LETB	ACAH040LETB	-	-	-
ACAH080LATB	ACAH040LETB	ACAH040LETB	-	-	-
ACAH085LATB	ACAH040LETB	ACAH045LETB	-	-	-
ACAH090LATB	ACAH045LETB	ACAH045LETB	-	-	-
ACAH093LATB	ACAH033LETB	ACAH060LETB	-	-	-
ACAH100LATB	ACAH040LETB	ACAH060LETB	-	-	-
ACAH105LATB	ACAH045LETB	ACAH060LETB	-	-	-
ACAH107LATB	ACAH040LETB	ACAH067LETB	-	-	-
ACAH112LATB	ACAH045LETB	ACAH067LETB	-	-	-
ACAH117LATB	ACAH050LETB	ACAH067LETB	-	-	-
ACAH120LATB	ACAH060LETB	ACAH060LETB	-	-	-
ACAH127LATB	ACAH060LETB	ACAH067LETB	-	-	-
ACAH134LATB	ACAH067LETB	ACAH067LETB	-	-	-
ACAH135LATB	ACAH045LETB	ACAH045LETB	ACAH045LETB	-	-
ACAH140LATB	ACAH040LETB	ACAH040LETB	ACAH060LETB	-	-
ACAH140LATB	ACAH033LETB	ACAH040LETB	ACAH067LETB	-	-
ACAH140LATB	ACAH045LETB	ACAH045LETB	ACAH050LETB	-	-
ACAH147LATB	ACAH040LETB	ACAH040LETB	ACAH067LETB	-	-
ACAH150LATB	ACAH045LETB	ACAH045LETB	ACAH060LETB	-	-
ACAH152LATB	ACAH040LETB	ACAH045LETB	ACAH067LETB	-	-
ACAH157LATB	ACAH045LETB	ACAH045LETB	ACAH067LETB	-	-
ACAH157LATB	ACAH023LETB	ACAH067LETB	ACAH067LETB	-	-
ACAH160LATB	ACAH040LETB	ACAH060LETB	ACAH060LETB	-	-
ACAH165LATB	ACAH045LETB	ACAH060LETB	ACAH060LETB	-	-
ACAH167LATB	ACAH040LETB	ACAH060LETB	ACAH067LETB	-	-
ACAH170LATB	ACAH050LETB	ACAH060LETB	ACAH060LETB	-	-
ACAH172LATB	ACAH045LETB	ACAH060LETB	ACAH067LETB	-	-
ACAH174LATB	ACAH040LETB	ACAH067LETB	ACAH067LETB	-	-
ACAH175LATB	ACAH040LETB	ACAH045LETB	ACAH045LETB	ACAH045LETB	-
ACAH179LATB	ACAH045LETB	ACAH067LETB	ACAH067LETB	-	-
ACAH180LATB	ACAH060LETB	ACAH060LETB	ACAH060LETB	-	-

Set Model	Unit Combination				
ACAH180LATB	ACAH045LETB	ACAH045LETB	ACAH045LETB	ACAH045LETB	-
ACAH184LATB	ACAH050LETB	ACAH067LETB	ACAH067LETB	-	-
ACAH185LATB	ACAH045LETB	ACAH045LETB	ACAH045LETB	ACAH050LETB	-
ACAH187LATB	ACAH060LETB	ACAH060LETB	ACAH067LETB	-	-
ACAH187LATB	ACAH040LETB	ACAH040LETB	ACAH040LETB	ACAH067LETB	-
ACAH192LATB	ACAH040LETB	ACAH040LETB	ACAH045LETB	ACAH067LETB	-
ACAH194LATB	ACAH060LETB	ACAH067LETB	ACAH067LETB	-	-
ACAH197LATB	ACAH040LETB	ACAH045LETB	ACAH045LETB	ACAH067LETB	-
ACAH200LATB	ACAH040LETB	ACAH040LETB	ACAH060LETB	ACAH060LETB	-
ACAH200LATB	ACAH033LETB	ACAH040LETB	ACAH060LETB	ACAH067LETB	-
ACAH200LATB	ACAH020LETB	ACAH045LETB	ACAH045LETB	ACAH045LETB	ACAH045LETB
ACAH201LATB	ACAH067LETB	ACAH067LETB	ACAH067LETB	-	-
ACAH202LATB	ACAH045LETB	ACAH045LETB	ACAH045LETB	ACAH067LETB	-
ACAH202LATB	ACAH023LETB	ACAH045LETB	ACAH067LETB	ACAH067LETB	-
ACAH207LATB	ACAH040LETB	ACAH040LETB	ACAH060LETB	ACAH067LETB	-
ACAH210LATB	ACAH045LETB	ACAH045LETB	ACAH060LETB	ACAH060LETB	-
ACAH210LATB	ACAH040LETB	ACAH040LETB	ACAH040LETB	ACAH045LETB	ACAH045LETB
ACAH212LATB	ACAH040LETB	ACAH045LETB	ACAH060LETB	ACAH067LETB	-
ACAH214LATB	ACAH040LETB	ACAH040LETB	ACAH067LETB	ACAH067LETB	-
ACAH217LATB	ACAH045LETB	ACAH045LETB	ACAH060LETB	ACAH067LETB	-
ACAH217LATB	ACAH023LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB	-
ACAH217LATB	ACAH020LETB	ACAH023LETB	ACAH040LETB	ACAH067LETB	ACAH067LETB
ACAH219LATB	ACAH040LETB	ACAH045LETB	ACAH067LETB	ACAH067LETB	-
ACAH220LATB	ACAH040LETB	ACAH045LETB	ACAH045LETB	ACAH045LETB	ACAH045LETB
ACAH222LATB	ACAH045LETB	ACAH050LETB	ACAH060LETB	ACAH067LETB	-
ACAH224LATB	ACAH045LETB	ACAH045LETB	ACAH067LETB	ACAH067LETB	-
ACAH224LATB	ACAH023LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB	-
ACAH225LATB	ACAH045LETB	ACAH060LETB	ACAH060LETB	ACAH060LETB	-
ACAH225LATB	ACAH045LETB	ACAH045LETB	ACAH045LETB	ACAH045LETB	ACAH045LETB
ACAH227LATB	ACAH033LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB	-
ACAH229LATB	ACAH045LETB	ACAH050LETB	ACAH067LETB	ACAH067LETB	-
ACAH232LATB	ACAH040LETB	ACAH040LETB	ACAH040LETB	ACAH045LETB	ACAH067LETB
ACAH233LATB	ACAH033LETB	ACAH033LETB	ACAH040LETB	ACAH060LETB	ACAH067LETB
ACAH234LATB	ACAH040LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB	-
ACAH237LATB	ACAH040LETB	ACAH040LETB	ACAH045LETB	ACAH045LETB	ACAH067LETB
ACAH239LATB	ACAH045LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB	-
ACAH240LATB	ACAH023LETB	ACAH045LETB	ACAH045LETB	ACAH060LETB	ACAH067LETB
ACAH240LATB	ACAH033LETB	ACAH033LETB	ACAH040LETB	ACAH067LETB	ACAH067LETB
ACAH241LATB	ACAH040LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB	-
ACAH242LATB	ACAH040LETB	ACAH045LETB	ACAH045LETB	ACAH045LETB	ACAH067LETB

Set Model	Unit Combination				
ACAH244LATB	ACAH050LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB	-
ACAH246LATB	ACAH045LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB	-
ACAH247LATB	ACAH060LETB	ACAH060LETB	ACAH060LETB	ACAH067LETB	-
ACAH247LATB	ACAH045LETB	ACAH045LETB	ACAH045LETB	ACAH045LETB	ACAH067LETB
ACAH247LATB	ACAH023LETB	ACAH045LETB	ACAH045LETB	ACAH067LETB	ACAH067LETB
ACAH247LATB	ACAH040LETB	ACAH040LETB	ACAH040LETB	ACAH060LETB	ACAH067LETB
ACAH250LATB	ACAH033LETB	ACAH045LETB	ACAH045LETB	ACAH060LETB	ACAH067LETB
ACAH251LATB	ACAH050LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB	-
ACAH252LATB	ACAH040LETB	ACAH040LETB	ACAH045LETB	ACAH060LETB	ACAH067LETB
ACAH252LATB	ACAH045LETB	ACAH045LETB	ACAH045LETB	ACAH050LETB	ACAH067LETB
ACAH254LATB	ACAH060LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB	-
ACAH254LATB	ACAH040LETB	ACAH040LETB	ACAH040LETB	ACAH067LETB	ACAH067LETB
ACAH257LATB	ACAH040LETB	ACAH045LETB	ACAH045LETB	ACAH060LETB	ACAH067LETB
ACAH257LATB	ACAH033LETB	ACAH045LETB	ACAH045LETB	ACAH067LETB	ACAH067LETB
ACAH257LATB	ACAH023LETB	ACAH040LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB
ACAH257LATB	ACAH023LETB	ACAH033LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH257LATB	ACAH045LETB	ACAH045LETB	ACAH050LETB	ACAH050LETB	ACAH067LETB
ACAH259LATB	ACAH040LETB	ACAH040LETB	ACAH045LETB	ACAH067LETB	ACAH067LETB
ACAH260LATB	ACAH033LETB	ACAH040LETB	ACAH060LETB	ACAH060LETB	ACAH067LETB
ACAH260LATB	ACAH023LETB	ACAH050LETB	ACAH060LETB	ACAH060LETB	ACAH067LETB
ACAH261LATB	ACAH060LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB	-
ACAH262LATB	ACAH023LETB	ACAH045LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB
ACAH264LATB	ACAH040LETB	ACAH045LETB	ACAH045LETB	ACAH067LETB	ACAH067LETB
ACAH264LATB	ACAH023LETB	ACAH040LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH267LATB	ACAH040LETB	ACAH040LETB	ACAH060LETB	ACAH060LETB	ACAH067LETB
ACAH267LATB	ACAH033LETB	ACAH040LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB
ACAH267LATB	ACAH045LETB	ACAH045LETB	ACAH050LETB	ACAH060LETB	ACAH067LETB
ACAH267LATB	ACAH033LETB	ACAH033LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH267LATB	ACAH050LETB	ACAH050LETB	ACAH050LETB	ACAH050LETB	ACAH067LETB
ACAH268LATB	ACAH067LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB	-
ACAH269LATB	ACAH045LETB	ACAH045LETB	ACAH045LETB	ACAH067LETB	ACAH067LETB
ACAH269LATB	ACAH023LETB	ACAH045LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH270LATB	ACAH045LETB	ACAH045LETB	ACAH060LETB	ACAH060LETB	ACAH060LETB
ACAH272LATB	ACAH040LETB	ACAH045LETB	ACAH060LETB	ACAH060LETB	ACAH067LETB
ACAH272LATB	ACAH033LETB	ACAH045LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB
ACAH272LATB	ACAH045LETB	ACAH050LETB	ACAH050LETB	ACAH060LETB	ACAH067LETB
ACAH274LATB	ACAH040LETB	ACAH040LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB
ACAH274LATB	ACAH045LETB	ACAH045LETB	ACAH050LETB	ACAH067LETB	ACAH067LETB
ACAH274LATB	ACAH023LETB	ACAH050LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH277LATB	ACAH045LETB	ACAH045LETB	ACAH060LETB	ACAH060LETB	ACAH067LETB

Set Model	Unit Combination				
ACAH279LATB	ACAH040LETB	ACAH045LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB
ACAH279LATB	ACAH033LETB	ACAH045LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH279LATB	ACAH045LETB	ACAH050LETB	ACAH050LETB	ACAH067LETB	ACAH067LETB
ACAH280LATB	ACAH050LETB	ACAH050LETB	ACAH060LETB	ACAH060LETB	ACAH060LETB
ACAH281LATB	ACAH040LETB	ACAH040LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH282LATB	ACAH045LETB	ACAH050LETB	ACAH060LETB	ACAH060LETB	ACAH067LETB
ACAH284LATB	ACAH045LETB	ACAH045LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB
ACAH284LATB	ACAH023LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH284LATB	ACAH033LETB	ACAH050LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH285LATB	ACAH045LETB	ACAH060LETB	ACAH060LETB	ACAH060LETB	ACAH060LETB
ACAH286LATB	ACAH040LETB	ACAH045LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH287LATB	ACAH040LETB	ACAH060LETB	ACAH060LETB	ACAH060LETB	ACAH067LETB
ACAH287LATB	ACAH033LETB	ACAH060LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB
ACAH287LATB	ACAH050LETB	ACAH050LETB	ACAH060LETB	ACAH060LETB	ACAH067LETB
ACAH289LATB	ACAH045LETB	ACAH050LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB
ACAH291LATB	ACAH045LETB	ACAH045LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH291LATB	ACAH023LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH292LATB	ACAH045LETB	ACAH060LETB	ACAH060LETB	ACAH060LETB	ACAH067LETB
ACAH294LATB	ACAH040LETB	ACAH060LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB
ACAH294LATB	ACAH033LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH294LATB	ACAH050LETB	ACAH050LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB
ACAH296LATB	ACAH045LETB	ACAH050LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH299LATB	ACAH045LETB	ACAH060LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB
ACAH300LATB	ACAH060LETB	ACAH060LETB	ACAH060LETB	ACAH060LETB	ACAH060LETB
ACAH301LATB	ACAH040LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH301LATB	ACAH033LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH301LATB	ACAH050LETB	ACAH050LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH304LATB	ACAH050LETB	ACAH060LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB
ACAH306LATB	ACAH045LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH307LATB	ACAH060LETB	ACAH060LETB	ACAH060LETB	ACAH060LETB	ACAH067LETB
ACAH308LATB	ACAH040LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH311LATB	ACAH050LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH313LATB	ACAH045LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH314LATB	ACAH060LETB	ACAH060LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB
ACAH318LATB	ACAH050LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH321LATB	ACAH060LETB	ACAH060LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH328LATB	ACAH060LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB
ACAH335LATB	ACAH067LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB	ACAH067LETB

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Set Model	Unit Combination				
ACAH020HETB	ACAH020HETB	-	-	-	-
ACAH023HETB	ACAH023HETB	-	-	-	-
ACAH033HETB	ACAH033HETB	-	-	-	-
ACAH040HETB	ACAH040HETB	-	-	-	-
ACAH043HATB	ACAH020HETB	ACAH023HETB	-	-	-
ACAH045HETB	ACAH045HETB	-	-	-	-
ACAH050HETB	ACAH050HETB	-	-	-	-
ACAH060HETB	ACAH060HETB	-	-	-	-
ACAH067HETB	ACAH067HETB	-	-	-	-
ACAH073HATB	ACAH033HETB	ACAH040HETB	-	-	-
ACAH080HATB	ACAH040HETB	ACAH040HETB	-	-	-
ACAH085HATB	ACAH040HETB	ACAH045HETB	-	-	-
ACAH090HATB	ACAH045HETB	ACAH045HETB	-	-	-
ACAH093HATB	ACAH033HETB	ACAH060HETB	-	-	-
ACAH100HATB	ACAH040HETB	ACAH060HETB	-	-	-
ACAH105HATB	ACAH045HETB	ACAH060HETB	-	-	-
ACAH107HATB	ACAH040HETB	ACAH067HETB	-	-	-
ACAH112HATB	ACAH045HETB	ACAH067HETB	-	-	-
ACAH117HATB	ACAH050HETB	ACAH067HETB	-	-	-
ACAH120HATB	ACAH060HETB	ACAH060HETB	-	-	-
ACAH127HATB	ACAH060HETB	ACAH067HETB	-	-	-
ACAH134HATB	ACAH067HETB	ACAH067HETB	-	-	-
ACAH135HATB	ACAH045HETB	ACAH045HETB	ACAH045HETB	-	-
ACAH140HATB	ACAH040HETB	ACAH040HETB	ACAH060HETB	-	-
ACAH140HATB	ACAH033HETB	ACAH040HETB	ACAH067HETB	-	-
ACAH140HATB	ACAH045HETB	ACAH045HETB	ACAH050HETB	-	-
ACAH147HATB	ACAH040HETB	ACAH040HETB	ACAH067HETB	-	-
ACAH150HATB	ACAH045HETB	ACAH045HETB	ACAH060HETB	-	-
ACAH152HATB	ACAH040HETB	ACAH045HETB	ACAH067HETB	-	-
ACAH157HATB	ACAH045HETB	ACAH045HETB	ACAH067HETB	-	-
ACAH157HATB	ACAH023HETB	ACAH067HETB	ACAH067HETB	-	-
ACAH160HATB	ACAH040HETB	ACAH060HETB	ACAH060HETB	-	-
ACAH165HATB	ACAH045HETB	ACAH060HETB	ACAH060HETB	-	-
ACAH167HATB	ACAH040HETB	ACAH060HETB	ACAH067HETB	-	-
ACAH170HATB	ACAH050HETB	ACAH060HETB	ACAH060HETB	-	-
ACAH172HATB	ACAH045HETB	ACAH060HETB	ACAH067HETB	-	-
ACAH174HATB	ACAH040HETB	ACAH067HETB	ACAH067HETB	-	-
ACAH175HATB	ACAH040HETB	ACAH045HETB	ACAH045HETB	ACAH045HETB	-
ACAH179HATB	ACAH045HETB	ACAH067HETB	ACAH067HETB	-	-
ACAH180HATB	ACAH060HETB	ACAH060HETB	ACAH060HETB	-	-

Set Model	Unit Combination				
ACAH180HATB	ACAH045HETB	ACAH045HETB	ACAH045HETB	ACAH045HETB	-
ACAH184HATB	ACAH050HETB	ACAH067HETB	ACAH067HETB	-	-
ACAH185HATB	ACAH045HETB	ACAH045HETB	ACAH045HETB	ACAH050HETB	-
ACAH187HATB	ACAH060HETB	ACAH060HETB	ACAH067HETB	-	-
ACAH187HATB	ACAH040HETB	ACAH040HETB	ACAH040HETB	ACAH067HETB	-
ACAH192HATB	ACAH040HETB	ACAH040HETB	ACAH045HETB	ACAH067HETB	-
ACAH194HATB	ACAH060HETB	ACAH067HETB	ACAH067HETB	-	-
ACAH197HATB	ACAH040HETB	ACAH045HETB	ACAH045HETB	ACAH067HETB	-
ACAH200HATB	ACAH040HETB	ACAH040HETB	ACAH060HETB	ACAH060HETB	-
ACAH200HATB	ACAH033HETB	ACAH040HETB	ACAH060HETB	ACAH067HETB	-
ACAH200HATB	ACAH020HETB	ACAH045HETB	ACAH045HETB	ACAH045HETB	ACAH045HETB
ACAH201HATB	ACAH067HETB	ACAH067HETB	ACAH067HETB	-	-
ACAH202HATB	ACAH045HETB	ACAH045HETB	ACAH045HETB	ACAH067HETB	-
ACAH202HATB	ACAH023HETB	ACAH045HETB	ACAH067HETB	ACAH067HETB	-
ACAH207HATB	ACAH040HETB	ACAH040HETB	ACAH060HETB	ACAH067HETB	-
ACAH210HATB	ACAH045HETB	ACAH045HETB	ACAH060HETB	ACAH060HETB	-
ACAH210HATB	ACAH040HETB	ACAH040HETB	ACAH040HETB	ACAH045HETB	ACAH045HETB
ACAH212HATB	ACAH040HETB	ACAH045HETB	ACAH060HETB	ACAH067HETB	-
ACAH214HATB	ACAH040HETB	ACAH040HETB	ACAH067HETB	ACAH067HETB	-
ACAH217HATB	ACAH045HETB	ACAH045HETB	ACAH060HETB	ACAH067HETB	-
ACAH217HATB	ACAH023HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB	-
ACAH217HATB	ACAH020HETB	ACAH023HETB	ACAH040HETB	ACAH067HETB	ACAH067HETB
ACAH219HATB	ACAH040HETB	ACAH045HETB	ACAH067HETB	ACAH067HETB	-
ACAH220HATB	ACAH040HETB	ACAH045HETB	ACAH045HETB	ACAH045HETB	ACAH045HETB
ACAH222HATB	ACAH045HETB	ACAH050HETB	ACAH060HETB	ACAH067HETB	-
ACAH224HATB	ACAH045HETB	ACAH045HETB	ACAH067HETB	ACAH067HETB	-
ACAH224HATB	ACAH023HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB	-
ACAH225HATB	ACAH045HETB	ACAH060HETB	ACAH060HETB	ACAH060HETB	-
ACAH225HATB	ACAH045HETB	ACAH045HETB	ACAH045HETB	ACAH045HETB	ACAH045HETB
ACAH227HATB	ACAH033HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB	-
ACAH229HATB	ACAH045HETB	ACAH050HETB	ACAH067HETB	ACAH067HETB	-
ACAH232HATB	ACAH040HETB	ACAH040HETB	ACAH040HETB	ACAH045HETB	ACAH067HETB
ACAH233HATB	ACAH033HETB	ACAH033HETB	ACAH040HETB	ACAH060HETB	ACAH067HETB
ACAH234HATB	ACAH040HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB	-
ACAH237HATB	ACAH040HETB	ACAH040HETB	ACAH045HETB	ACAH045HETB	ACAH067HETB
ACAH239HATB	ACAH045HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB	-
ACAH240HATB	ACAH023HETB	ACAH045HETB	ACAH045HETB	ACAH060HETB	ACAH067HETB
ACAH240HATB	ACAH033HETB	ACAH033HETB	ACAH040HETB	ACAH067HETB	ACAH067HETB
ACAH241HATB	ACAH040HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB	-
ACAH242HATB	ACAH040HETB	ACAH045HETB	ACAH045HETB	ACAH045HETB	ACAH067HETB

Set Model	Unit Combination				
ACAH244HATB	ACAH050HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB	-
ACAH246HATB	ACAH045HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB	-
ACAH247HATB	ACAH060HETB	ACAH060HETB	ACAH060HETB	ACAH067HETB	-
ACAH247HATB	ACAH045HETB	ACAH045HETB	ACAH045HETB	ACAH045HETB	ACAH067HETB
ACAH247HATB	ACAH023HETB	ACAH045HETB	ACAH045HETB	ACAH067HETB	ACAH067HETB
ACAH247HATB	ACAH040HETB	ACAH040HETB	ACAH040HETB	ACAH060HETB	ACAH067HETB
ACAH250HATB	ACAH033HETB	ACAH045HETB	ACAH045HETB	ACAH060HETB	ACAH067HETB
ACAH251HATB	ACAH050HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB	-
ACAH252HATB	ACAH040HETB	ACAH040HETB	ACAH045HETB	ACAH060HETB	ACAH067HETB
ACAH252HATB	ACAH045HETB	ACAH045HETB	ACAH045HETB	ACAH050HETB	ACAH067HETB
ACAH254HATB	ACAH060HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB	-
ACAH254HATB	ACAH040HETB	ACAH040HETB	ACAH040HETB	ACAH067HETB	ACAH067HETB
ACAH257HATB	ACAH040HETB	ACAH045HETB	ACAH045HETB	ACAH060HETB	ACAH067HETB
ACAH257HATB	ACAH033HETB	ACAH045HETB	ACAH045HETB	ACAH067HETB	ACAH067HETB
ACAH257HATB	ACAH023HETB	ACAH040HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB
ACAH257HATB	ACAH023HETB	ACAH033HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH257HATB	ACAH045HETB	ACAH045HETB	ACAH050HETB	ACAH050HETB	ACAH067HETB
ACAH259HATB	ACAH040HETB	ACAH040HETB	ACAH045HETB	ACAH067HETB	ACAH067HETB
ACAH260HATB	ACAH033HETB	ACAH040HETB	ACAH060HETB	ACAH060HETB	ACAH067HETB
ACAH260HATB	ACAH023HETB	ACAH050HETB	ACAH060HETB	ACAH060HETB	ACAH067HETB
ACAH261HATB	ACAH060HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB	-
ACAH262HATB	ACAH023HETB	ACAH045HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB
ACAH264HATB	ACAH040HETB	ACAH045HETB	ACAH045HETB	ACAH067HETB	ACAH067HETB
ACAH264HATB	ACAH023HETB	ACAH040HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH267HATB	ACAH040HETB	ACAH040HETB	ACAH060HETB	ACAH060HETB	ACAH067HETB
ACAH267HATB	ACAH033HETB	ACAH040HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB
ACAH267HATB	ACAH045HETB	ACAH045HETB	ACAH050HETB	ACAH060HETB	ACAH067HETB
ACAH267HATB	ACAH033HETB	ACAH033HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH267HATB	ACAH050HETB	ACAH050HETB	ACAH050HETB	ACAH050HETB	ACAH067HETB
ACAH268HATB	ACAH067HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB	-
ACAH269HATB	ACAH045HETB	ACAH045HETB	ACAH045HETB	ACAH067HETB	ACAH067HETB
ACAH269HATB	ACAH023HETB	ACAH045HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH270HATB	ACAH045HETB	ACAH045HETB	ACAH060HETB	ACAH060HETB	ACAH060HETB
ACAH272HATB	ACAH040HETB	ACAH045HETB	ACAH060HETB	ACAH060HETB	ACAH067HETB
ACAH272HATB	ACAH033HETB	ACAH045HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB
ACAH272HATB	ACAH045HETB	ACAH050HETB	ACAH050HETB	ACAH060HETB	ACAH067HETB
ACAH274HATB	ACAH040HETB	ACAH040HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB
ACAH274HATB	ACAH045HETB	ACAH045HETB	ACAH050HETB	ACAH067HETB	ACAH067HETB
ACAH274HATB	ACAH023HETB	ACAH050HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH277HATB	ACAH045HETB	ACAH045HETB	ACAH060HETB	ACAH060HETB	ACAH067HETB

Set Model	Unit Combination				
ACAH279HATB	ACAH040HETB	ACAH045HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB
ACAH279HATB	ACAH033HETB	ACAH045HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH279HATB	ACAH045HETB	ACAH050HETB	ACAH050HETB	ACAH067HETB	ACAH067HETB
ACAH280HATB	ACAH050HETB	ACAH050HETB	ACAH060HETB	ACAH060HETB	ACAH060HETB
ACAH281HATB	ACAH040HETB	ACAH040HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH282HATB	ACAH045HETB	ACAH050HETB	ACAH060HETB	ACAH060HETB	ACAH067HETB
ACAH284HATB	ACAH045HETB	ACAH045HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB
ACAH284HATB	ACAH023HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH284HATB	ACAH033HETB	ACAH050HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH285HATB	ACAH045HETB	ACAH060HETB	ACAH060HETB	ACAH060HETB	ACAH060HETB
ACAH286HATB	ACAH040HETB	ACAH045HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH287HATB	ACAH040HETB	ACAH060HETB	ACAH060HETB	ACAH060HETB	ACAH067HETB
ACAH287HATB	ACAH033HETB	ACAH060HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB
ACAH287HATB	ACAH050HETB	ACAH050HETB	ACAH060HETB	ACAH060HETB	ACAH067HETB
ACAH289HATB	ACAH045HETB	ACAH050HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB
ACAH291HATB	ACAH045HETB	ACAH045HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH291HATB	ACAH023HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH292HATB	ACAH045HETB	ACAH060HETB	ACAH060HETB	ACAH060HETB	ACAH067HETB
ACAH294HATB	ACAH040HETB	ACAH060HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB
ACAH294HATB	ACAH033HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH294HATB	ACAH050HETB	ACAH050HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB
ACAH296HATB	ACAH045HETB	ACAH050HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH299HATB	ACAH045HETB	ACAH060HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB
ACAH300HATB	ACAH060HETB	ACAH060HETB	ACAH060HETB	ACAH060HETB	ACAH060HETB
ACAH301HATB	ACAH040HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH301HATB	ACAH033HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH301HATB	ACAH050HETB	ACAH050HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH304HATB	ACAH050HETB	ACAH060HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB
ACAH306HATB	ACAH045HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH307HATB	ACAH060HETB	ACAH060HETB	ACAH060HETB	ACAH060HETB	ACAH067HETB
ACAH308HATB	ACAH040HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH311HATB	ACAH050HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH313HATB	ACAH045HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH314HATB	ACAH060HETB	ACAH060HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB
ACAH318HATB	ACAH050HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH321HATB	ACAH060HETB	ACAH060HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH328HATB	ACAH060HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB
ACAH335HATB	ACAH067HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB	ACAH067HETB

11. Specification 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) R410A 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 130Hz.

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 14FPI.
   4) The pressure endurance test for high pressure part refrigerant side should be carried out at 4.18 MPa or above (designed pressure 3.8 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.

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 & tube type heat exchanger type, and the material should be carbon steel.
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. 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. Ref. 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 surface of 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 gas temperature 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 4.18 MPa or above (designed pressure 3.8 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 voltage 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 (Field wiring)
   4) Voltage and current (control logic)
      A. Revere phase detection and protection (Voltage monitoring system)
      B. Compressor over-current protection
      C. Fan motor over-current protection
   5) Fuse

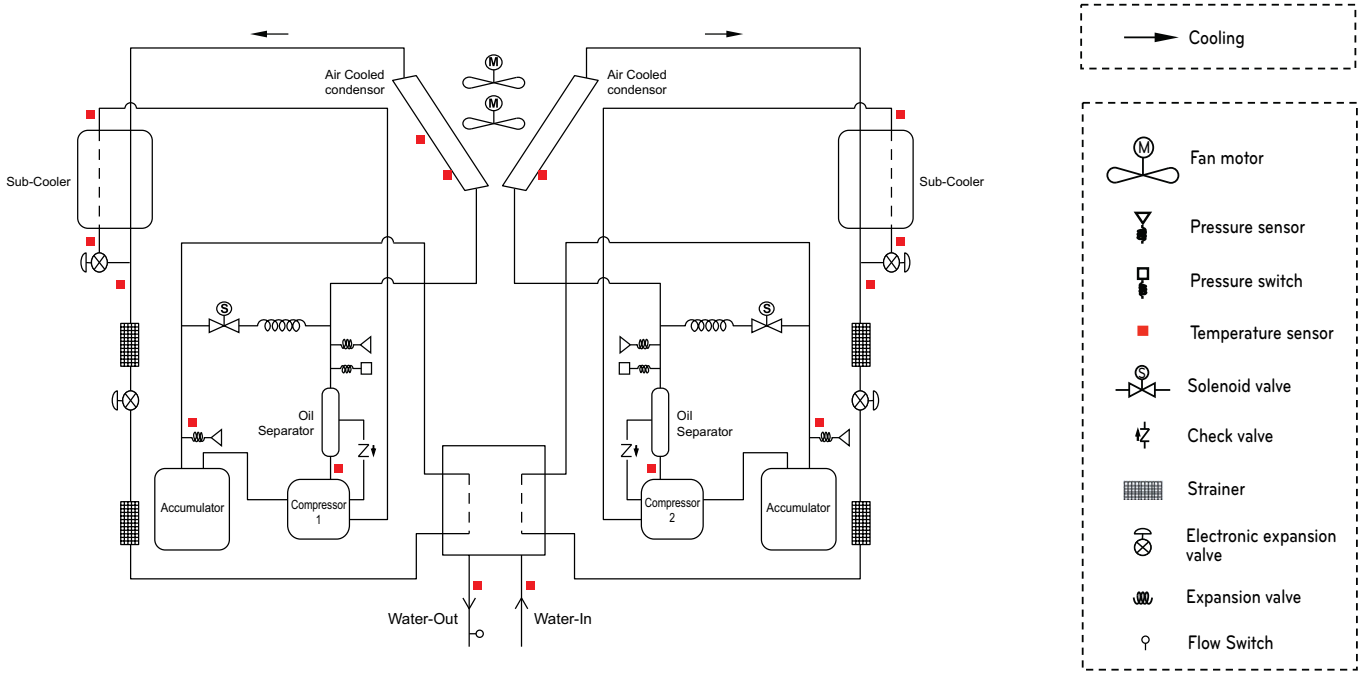
Accessory list

1	PACP5A000 (ACP 5 Central Control)

12. Appendix – Piping Diagram

■ 1 Unit

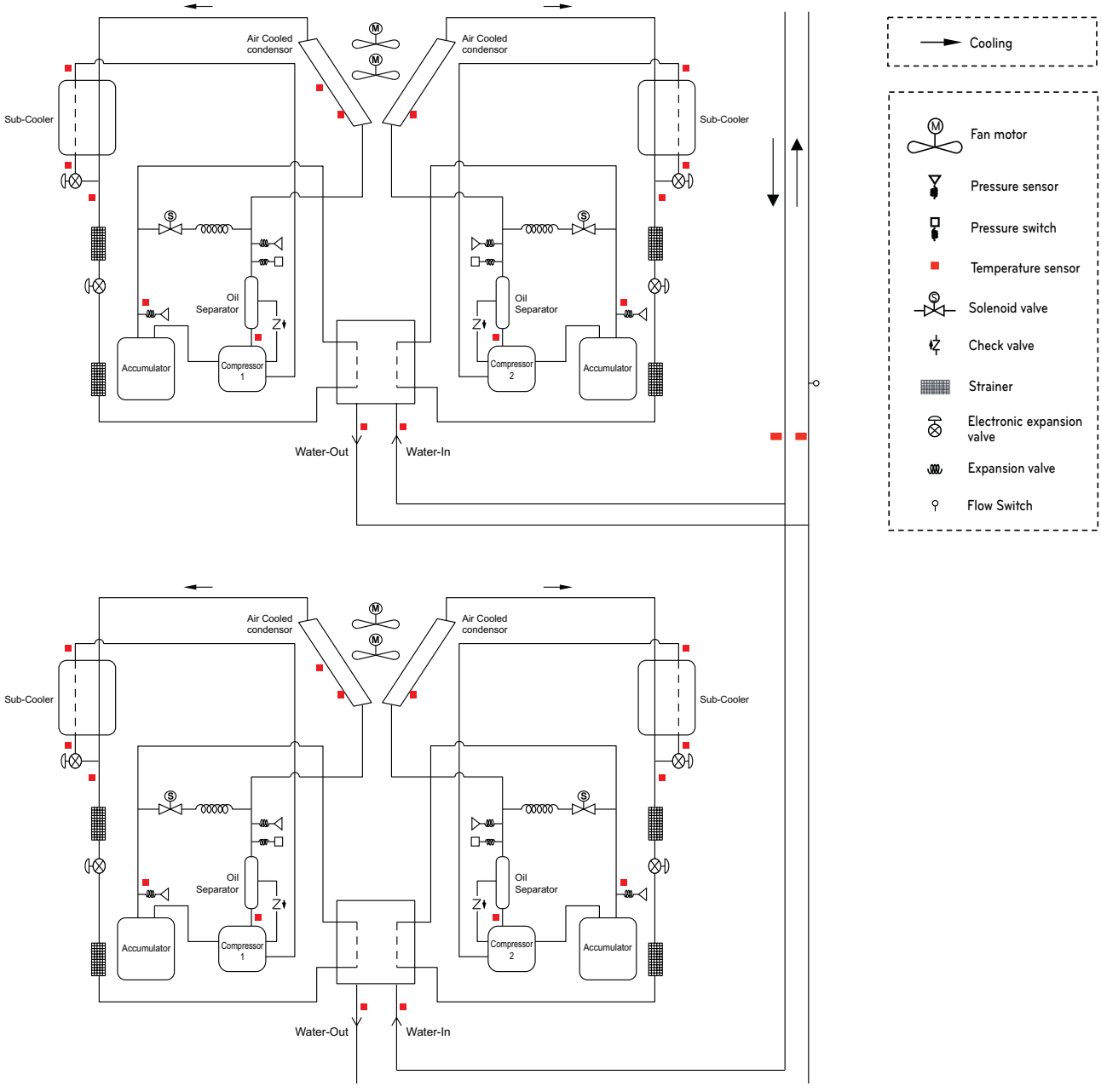
ACAH020VETB, ACAH020LETB, ACAH023LETB, ACAH020HETB, ACAH023HETB



12. Appendix – Piping Diagram

■ 2 Unit

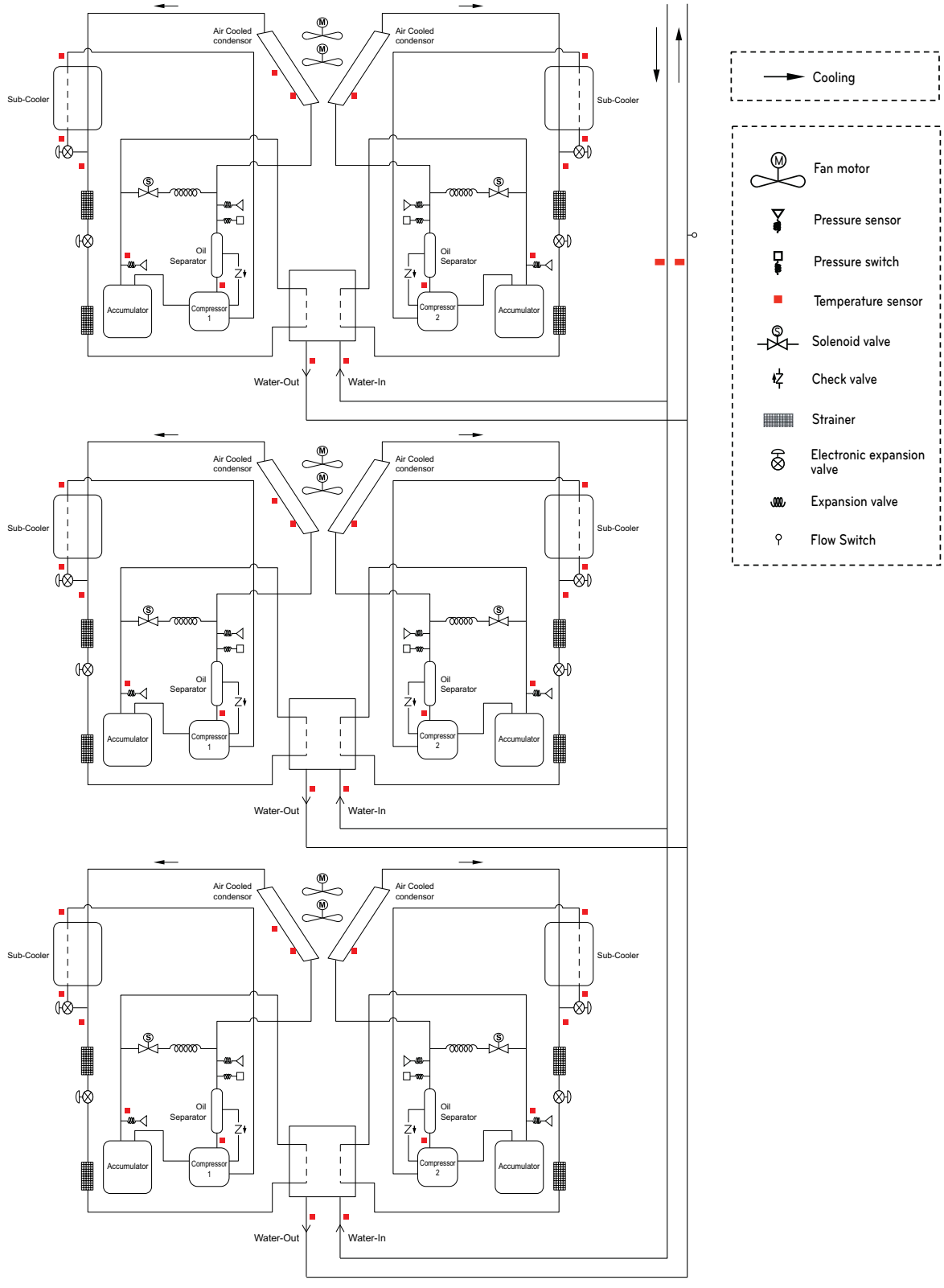
ACAH033VETB, ACAH040VETB, ACAH033LETB, ACAH040LETB, ACAH045LETB, ACAH033HETB, ACAH040HETB, ACAH045HETB



12. Appendix – Piping Diagram

■ 3Unit

ACAH050VETB, ACAH060VETB, ACAH050LETB, ACAH060LETB, ACAH067LETB, ACAH050HETB, ACAH060HETB, ACAH067HETB



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