Single Package

Heat Pump (50Hz, R410A)
5CUK0-01A

LG TOTAL HVAC SOLUTION PROVIDER

ENGINEERING PRODUCT DATA BOOK

LG
Life's Good

Introduction

Preface

Thank you very much for your special patronage of LG air conditioners.

LG's "Roof Top or Single Package" is an ideal choice when we talk about high load applications.

As the name Roof Top signifies, this unit is generally installed on the top of the roof. Also the Single Package signifies that both condenser and evaporator are enclosed in a single body(same as window type). The unit is used along with ducts and has flexible air flow as per installation conditions. The air flow can be horizontal or vertically downward which offers wider flexibility in the field applications.

This unit is ideal for Single story and Double story houses as they offer high static pressure.

With its easy installation and simple control system, this product is suitable for Factories, Shopping malls, Multiplex, Hotels etc.

A lot of information regarding the design & installation of this system is provided in this edition. This new product series contains data on the same pattern.

Please utilize all the information for conducting your business efficiently.

Make sure the specification, dimensions and other technical data are same as provided in enginering data book before you start the project.

We look forward to your continuing support.

LG Electronics Inc.

Air Conditioning & Energy Solution Company

Single Package

1. Model line up
2. Nomenclature
3. Features & Benefits
4. List of functions
5. Specifications
6. Dimensions
7. Roof Curbs
8. Wiring diagrams
9. Selection procedure
10. Performance data
11. Electrical data
12. Piping diagrams
13. Operation range
14. Controller
15. Installation guide at the seaside
16. Appendix

1. Model line up

1.1 Heat Pump

Nominal Capacity	Model		Power Supply
RT	Refrigerant	Model Name	V, Ø, Hz
10	R410A	AK-H1208C02	380-415V, 3Ø, 50Hz
15		AK-H1808C02	
20		AK-H2408C02	

2. Nomenclature

AK-H1808C02

Development Sequence

SEER Grade

Type \ SEER		10	11	12	13	14	15
3~5RT	MICOM Control	0	1	2	3	4	5
	Mechanical Cont.	A	B	C	D	E	F
6~30RT	There is no SEER regulation for these units so "0" is allotted to these units.						

Type of Flow

C: Convertible

Electric Standard (Volts, Freq., Phase)

8 : 380-415V, 3Ø, 50Hz

Heating Capacity

Ex) 120 : 120,000 Btu/h Class
180 : 180,000 Btu/h Class
240 : 240,000 Btu/h Class

Model Type

H : Heat Pump

Type of Air Conditioner

AK : LG Single Package Air Conditioner,
Changwon, R410A

3. Features & Benefits

■ Easy Installation, Maintenance & Sevice

- Compact & light weight design
- U-shape Air Flow.
- Safety Condenser Fin Guard
- Forklift Base rail
- Easy access Panel.

■ Reliablity

- Time delay relay is standard component
- Low pressure Switch is standard component
- LG Scroll compressor with internal high-pressure & over-current protector
- Strainer is adopted
- Durable painting steel cabinet
- Factory charged refrigerant
- Belt-drive blower Motor.
- Direct-drive PSC condenser fan Motor

Easy Installation, Maintenance & Service

The unit can be installed outside to save valuable indoor space or where no ceiling space is available. Install the unit on the ground or on the roof. This means that the installation is totally flexible depending on your requirements.

Since the unit has not been split into two, maintenance is easy, especially because all access panels are on the same side of the unit and all wiring inside has been colour coded.

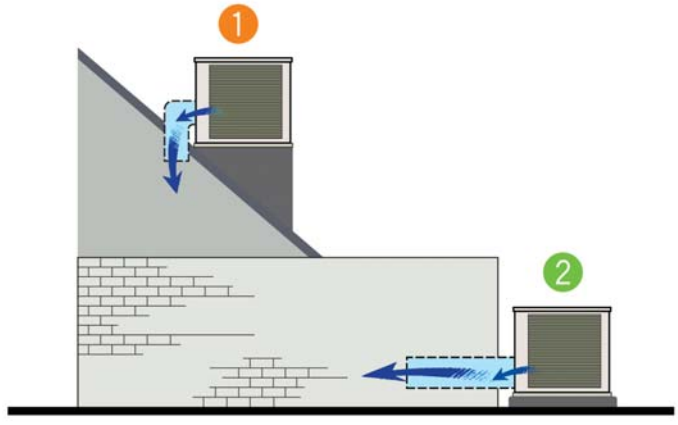
Additional functions available with duct system

All units come standard in Reverse Cycle, however electric heating can be added (Electric Heating provided by Specialist Dealers). You have complete control over the fresh air input, amount of air purification and zone controls (extras provided by Specialist Dealers), all using the powerful LG control system.

Typical Installation

① Roof Jack Installation

② Slab on Ground Installation



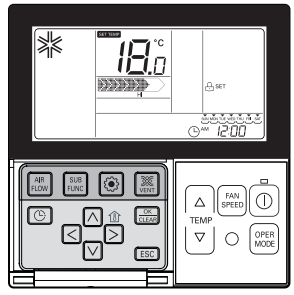
3. Features & Benefits

Auto Restart Operation :

- Whenever there is electricity failure the system shuts off and resumption of the power, unit will start in the same mode as prior to the power failure. Memorized condition are on / off condition, operating mode (cooling/heating), set temperature and fan speed.

LCD Wired Remote Control :

- It can control all the functions of the unit. You can check/set temperature, change operation mode, set timer & also diagnose the error of the unit. It also has the weekly program.

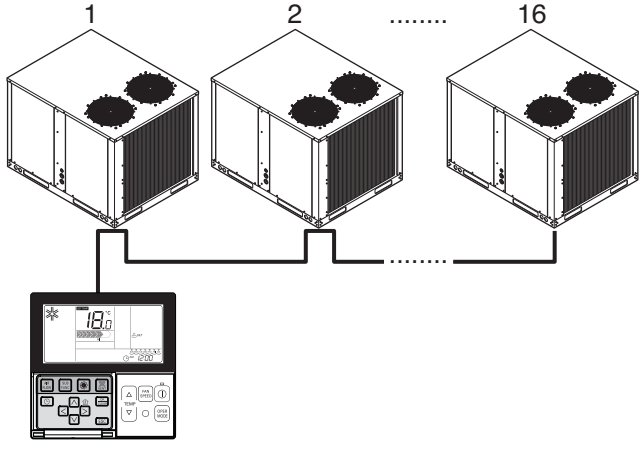


Two Thermistor Control(Return Air Control):(Accessory)

- There may be a significant difference between the return air temperature in the duct and the room temperature. Return air sensing tempeaturee is designed to control temperature more accurately by applying additional thermistor which senses the return air temperature inside the duct specially.
  After selecting the duct thermistor, which is connected to the main PCB, the room temperature measurement by LCD wired remote control thermistor is neglected. It helps to control the room temperature more accurately.(Thermistor is a field-installed accessory)

Group Control : (Accessory)

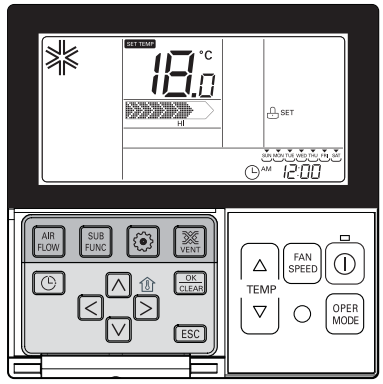
- It enables to control max of 16 units with the help of one wired remote controller. All the units will follow same setting of temperature & other sub functions.



3. Features & Benefits

Child Lock Function :

- It prevents the children or others from tampering with the control buttons.
  Press [⚙] button repeatedly until the 🔒 is flashing.
  If moving to 'setup' icon area by using [◁] [▷] button, 'setup' icon blinks, and child lock function is setup if pressing [OK CLEAR] button at that time.
  When cancelling lock function, if moving to 'cancel' icon by pressing [◁] [▷] button and then, pressing [OK CLEAR] button, child lock function is cancelled. Press [ESC] button to exit.



❊ After setup, it automatically gets out of setup mode if there is no button input for 25 seconds.

❊ When exiting without pressing set button, the manipulated value is not reflected.

Defrost / Deicing :

- In the heating mode, it prevents the ice formation on the outdoor unit. The heating cycle is reversed to the cooling cycle to defrost the evaporator pipe of the outdoor unit. While defrost cycle, the compressor is on and indoor fan, outdoor fan and 4-way valve are off.

Hot Start Function :

- During starting of the unit in the heating mode it prevents cold air blow from the unit.It starts the indoor fan only after indoor unit pipe temperature reaches a preset value.

Time Delay Relay :

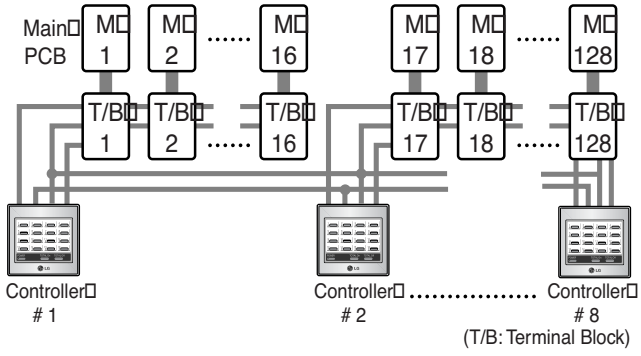
- It delays restarting of the compressor by three minutes thereby preventing damage to the compressor .

Self Diagnosis Function :

- This function provides diagnosis of the unit. An error code will be displayed on the LCD wired remote controller & diagnosis can be done as per the code indication.The same is also printed on key cover of the LCD wired remote controller.

Central Control :(Accessory)

- It enables to control 16 x 8 = 128 units with the help of 8 controllers. All units can be put on and off from one Central Room.For Setting Temperature, Fan Speed and other sub functions, access the LCD wired remote controller of each unit.



Single Package
3. Features & Benefits

Weekly Program :

- It provides on / off schedule of operation for a period of one week.

Wireless Remote Control:(Accessory)

- It provides ease of control.

Electric Heater:(Accessory)

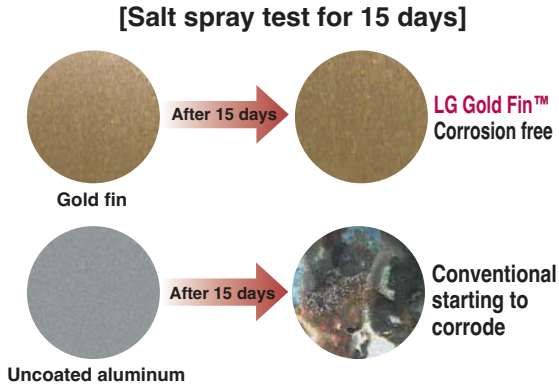
- Electric Heater can be used to provide heat in addition to cycle heat. It also provides quick heating. It can also work as a stand alone heater with only fan operation.

Fire Alarm Function:

- By purchasing a fire alarm locally, installation of the fire alarm is possible.In case of any fire, alarm will sound and the unit will be completely stopped.

Energy Saving Gold Fin:

- Single Package Heat Exchanger fins are coated with anticorrosive & hydrophilic layers. It prevents the corrosion of heat exchanger. Fins remains as new even after long time and maintains efficiency of heat exchanger. Saves power & maintenance Cost.



Soft Start Function:

- All single package air conditioners has soft start function i.e. Indoor fan, outdoor fan & compressor start in sequence to prevent overcurrent during starting.

4. List of functions

Category	Functions	AK-H1208C02/AK-H1808C02/AK-H2408C02
Air flow	Air supply outlet	1
	Airflow steps (fan/cool/heat)	1 / 1 / -
	Jet cool/heat	X / X
Air purifying	Long-life prefilter (washable / anti-fungus)	O
Installation	E.S.P. control	X
	Electric heater	LKAEH09B / LKAEH18B(D) / LKAEH36B(D) / LKAEH36BL
Reliability	Hot start	X
	Self diagnosis	O
	Soft dry operation	X
	Defrost / Deicing	X
	High pressure switch	O
	Low pressure switch	O
	Phase protection	O
	Restart delay (3-minutes)	O
	Soft start	O
	Test function	O
Convenience	Auto changeover	X
	Auto operation(artificial intelligence)	X
	Auto Restart	O
	Child lock	O
	Group control	PZCWRCG3
	Sleep mode	O
	Timer(on/off)	O
	Timer(weekly)	O
	Two thermistor control	PQRSTA0
	Night Silent Operation	X
Individual control	Wired remote controller	O
	Deluxe wired remote controller	X
	Simple wired remote controller	X
	Simple Wired remote controller(for hotel use)	X
	Extension wire for Wired remote controller	PZCWRC1
	Wireless remote controller	PQWRCSF0
Network Function	General central controller (Non LGAP)	X
	Network Solution(LGAP)	O
	Dry contact	PQDSA(1)/PQDSB(1)/PQDSBC/PQDSBNGCM1/PQDSBCGCD0
	PDI(power distribution indicator)	X
	PI 485	PNF-P14A0C
Special function kit	Zone controller	X
	CTI(Communication transfer interface)	PKFC0
	Electronic thermostat	X

Note :
O : Applied X : Not applied
Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.
Please refer to the Electric Heating Capacity data for electric heater's information available according to each model.

4. List of functions

Device		AK-H1208C02/AK-H1808C02/AK-H2408C02
Central Controller	Simple Controller	PQCSB101S0
	AC Ez	PQCSZ250S0
	AC Smart II	PQCSW320A1E
	ACP(Advanced Control Platform)	PQCPA11A0E / PQCPB11A0E
	AC Manager	PQCSS520A0E
	DO(Digital Output) Kit	PQNFP00T0
BNU (Building Network Unit)	LONWORKS Gateway	PQNFB16A1
	BACnet Gateway	PQNFB17B0
ODU Dry Contact		X
Low Ambient Kit		X

Note :
O : Applied X : Not applied
Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.

5. Specifications

Nominal Capacity				(RT)	10		15		20	
Models					AK-H1208C02		AK-H1808C02		AK-H2408C02	
Cooling	Gross Capacity			kW	34.6		50.1		69.1	
				Btu/h	118,000		171,000		235,900	
	Net Capacity			kW	32.8		48.6		65.9	
				Btu/h	112,000		166,000		225,000	
Heating Capacity	Net Capacity			kW	32.8		52.8		73.3	
				Btu/h	112,000		180,000		250,000	
Electrical Data	Power Supply			V, Ø, Hz	380-415, 3, 50		380-415, 3, 50		380-415, 3, 50	
	M.C.A		Cooling	A	38.2		57.2		74.4	
	(with Standard Motor)		Heating	A	38.2		57.2		74.4	
	Power Input		Cooling	W	14,400		20,000		26,500	
			Heating	W	11,600		17,000		27,800	
Performance	Air Circulation(Nominal)			CFM	3,700		5,500		8,000	
	EER			Btu/h W	7.78		8.30		8.50	
	SEER			Btu/h W	-		-		-	
	COP			W/W	2.83		3.10		2.64	
	Sound Rating			bell	9.20		9.20		9.20	
Indoor Coil	Type				High efficiency		High efficiency		High efficiency	
	Tube Size(O.D)			mm(inch)	9.52(3/8)		9.52(3/8)		9.52(3/8)	
	Rows / Column / FPI				3R / 44C / 16FPI		3R / 44C / 16FPI		3R / 52C / 16FPI	
	Length			mm(inch)	900(35 7/16)		1,000(39 6/16)		1,000(39 6/16)	
	Face Area			m^2(sq.ft)	1.01(10.8)		1.12(12.1)		1.32(14.2)	
Indoor Fan	Type x No. Used				Centrifugal Blower x 1		Centrifugal Blower x 1		Centrifugal Blower x 1	
	Diameter			mm(inch)	380(14 31/32)		380(15)		460(18)	
	Width			mm(inch)	280(11 1/32)		380(15)		460(18)	
	Drive Type / Motor Step				Belt / 1		Belt / 1		Belt / 1	
	No. Motors				1		1		1	
	Motor Output(Standard / Oversized)			Hp	3.0 / 5.0		4.0 / 5.0		5.0 / 7.5	
	Motor rpm(Standard / Oversized)				1,400 / 1,430		1,380 ~ 1,400 / 1,400 ~ 1,430		2,892 ~ 2,900 / 2,870 ~ 2,900	
Compressor	Type x Quantity				SCROLL x 2(Non Tropical)		SCROLL x 3(Non Tropical)		SCROLL x 4(Non Tropical)	
	Model				ARA073YAA		AR073YAB		AR073YAB	
	Maker				LG		LG		LG	
	Capacity			Btu/h	62,000		61,000		61,000	
	Motor Type				Three Phase		Three Phase		Three Phase	
	Motor Input			W	6,020		6,289		6,289	
	Oil Type				FVC68D(PVE)		FVC68D(PVE)		FVC68D(PVE)	
	Oil Charge			cc	1,800±10		2,325±10		2,325±10	
Outdoor Coil	Type				High efficiency	High efficiency	Corrugate	Corrugate	Corrugate	Corrugate
	Tube Size(O.D)			mm(inch)	9.52(3/8)	9.52(3/8)	7(9/32)	7(9/32)	7(9/32)	7(9/32)
	Rows / Column / FPI				2R / 32C / 17FPI	2R / 32C / 17FPI	3R / 52C / 17FPI	2R / 42C / 17FPI	3R / 46C / 17FPI	3R / 46C / 17FPI
	Length			mm(inch)	1,100(43 5/16)	1,100(43 5/16)	1,300(51 3/16)	1,300(51 3/16)	2,000(78 12/16)	2,000(78 12/16)
	Face Area			m^2(sq.ft)	0.89(9.58)	0.89(9.58)	1.42(15.3)	1.15(12.3)	1.93(20.8)	1.93(20.8)
Outdoor Fan	Type x No. Used				Propeller x 2		Propeller x 2		Propeller x 4	
	Diameter			inch	23.6		23.6		22.0	
	Drive Type				Direct		Direct		Direct	
	Air Circulation			CFM	3,125		3,125		3,125	
	No. Motor / Motor Output(Hp)			Hp	2EA / 0.5		2EA / 0.5		4EA / 0.4	
	Motor RPM				910		910		950	
Dehumidification Rate				l/h	8.10		13.3		20.0	
Drain Connection Size(inch)					1		1		1	
Refrigerant	Refrigerant Charge			kg	4.1/Circuit		4.65	2.9	5.6/Circuit	
				lbs	9.04/Circuit		10.25	6.39	12.35/Circuit	
				Type	R410A		R410A	R410A	R410A	
	Refrigerant Control				Capillary Tube		Capillary Tube	Capillary Tube	Capillary Tube	
Dimensions	Outdoor Unit or S/Package			mm	2,170 x 1,227 x 1,392		2,230 x 1,244 x 1,540		2,898 x 1,250 x 2,200	
	(W x H x D)			inch	85 7/16 x 48 13/16 x 54 7/16		87 13/16 x 49 x 60 10/16		114 2/16 x 49 3/16 x 86 10/16	
Net Weight	Indoor Unit			kg(lbs)	-		-		-	
	Outdoor Unit or S/Package			kg(lbs)	450(992)		550(1,212)		900(1,984)	
Fliter	Size x No. Used				925 x 418 x 1EA		1,045 x 980 x 1EA		510 x 625 x 2EA	
	Filter Rack Thickness			inch	1, 2		1, 2		1, 2	
Operation Range	Cooling	Min. ~ Max.		°C DB (°F DB)	-5 ~ 48(23.0 ~ 118.4)		-5 ~ 48(23.0 ~ 118.4)		-5 ~ 48(23.0 ~ 118.4)	
(Outdoor Temperature)	Heating	Min. ~ Max.		°C DB (°F DB)	-5 ~ 24(23.0 ~ 75.2)		-5 ~ 24(23.0 ~ 75.2)		-5 ~ 24(23.0 ~ 75.2)	

Notes:
1. Capacities are based on the following conditions:
   Cooling: - Indoor Temperature 26.7°C(80°F) DB/19.4°C(67°F) WB
   - Outdoor Temperature 35°C(95°F) DB/23.9°C(75°F) WB
   Heating: - Indoor Temperature 21.1°C(70°F) DB/15.6°C(60°F) WB
   - Outdoor Temperature 8.3°C(47°F) DB/6.1°C(43°F) WB
2. Nominal CFM : Fan operation mode with clean filter, dry coil.
3. The specification may be subject to change without notic for purpose of improvement.

6. Dimensions

Model : AK-H1208C02

UNIT Dimensions (Figure B)

Unit: inch(mm)

UNITS	10RT
H	48-5/16 (1,227)
I	54-13/16 (1,392)
J	85-7/16 (2,170)
K	45-1/16 (1,144)
L	7-2/16 (181)
M	4 (102)

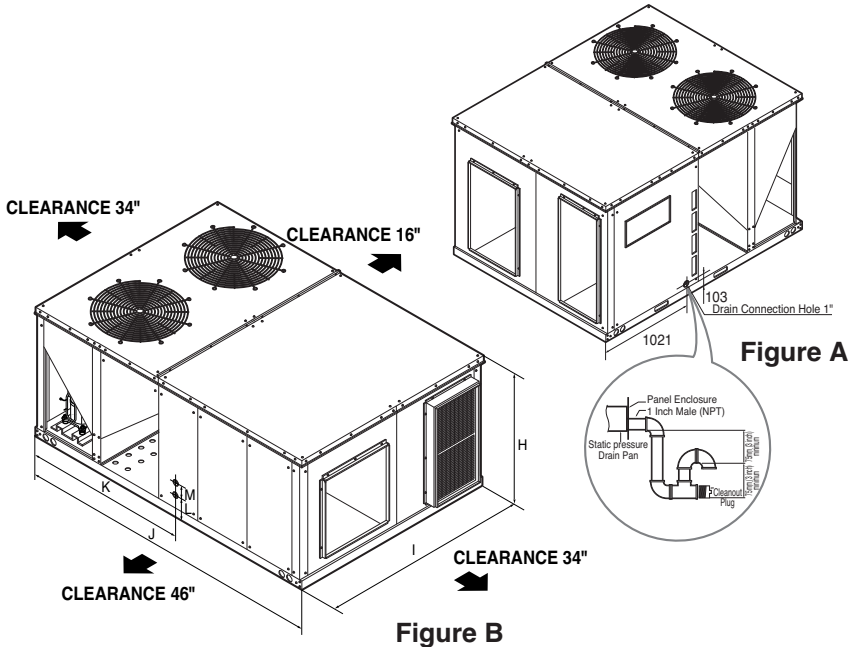


Figure A

Figure B

HORIZONTAL FLOW APPLICATION (Figure C)

Unit: inch(mm)

UNITS	10RT
A	18-8/16 (470)
B	11-15/16 (303)
C	15-8/16 (393)
D	1-8/16 (38)
E	3-15/16 (100)
F	35-8/16 (902)
G	4-(102)
H	30-10/16 (778)

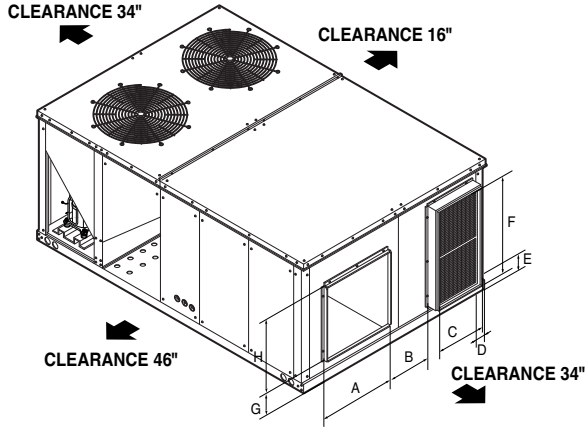


Figure C

DOWN FLOW APPLICATION (Figure D)

Unit: inch(mm)

UNITS	10RT
A	15-6/16 (390)
B	12-8/16 (317)
C	18-10/16 (473)
D	6-4/16 (158)
E	2-11/16 (68)
F	35-7/16 (900)
G	2-11/16 (68)
H	30-11/16 (780)

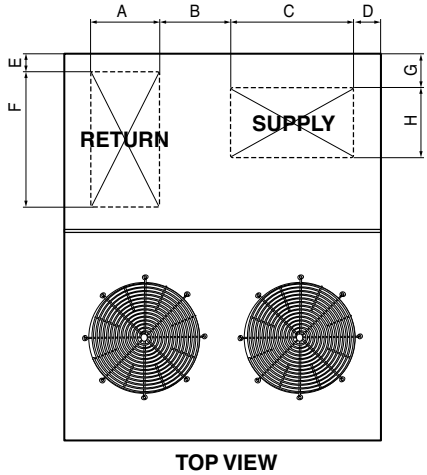


Figure D

6. Dimensions

Model : AK-H1808C02

UNIT Dimensions (Figure A)

Unit: inch(mm)

UNITS	15RT
A	49 (1,244)
B	60-10/16 (1,540)
C	87-13/16 (2,230)
D	44-3/16 (1,123)
E	7-1/16 (180)
F	3-15/16 (100)

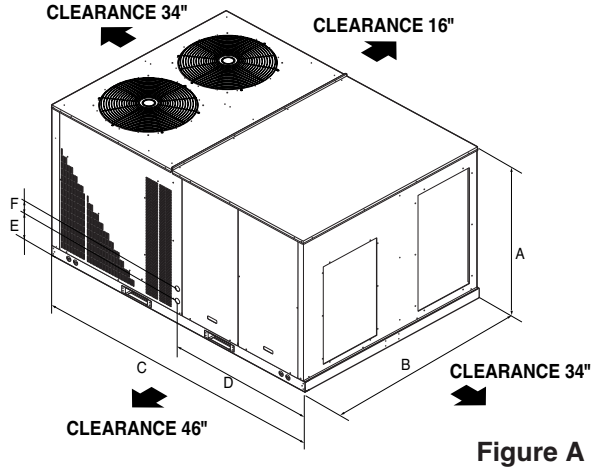


Figure A

HORIZONTAL FLOW APPLICATION (Figure B)

Unit: inch(mm)

UNITS	15RT
A	37-6/16 (950)
B	5-11/16 (145)
C	2-11/16 (68)
D	17-15/16 (455)
E	14-6/16 (365)
F	18-12/16 (476)
G	5-2/16 (130)
H	31-3/16 (800)

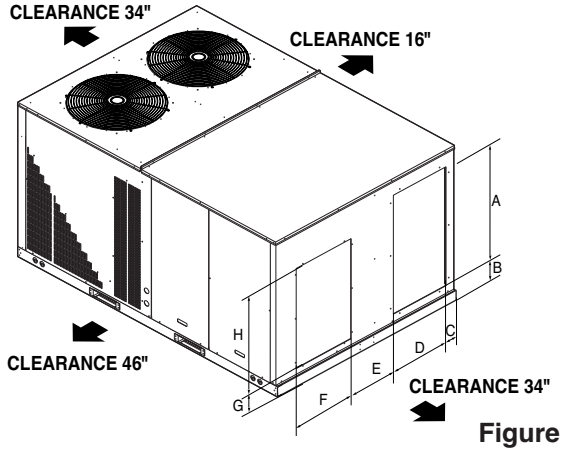


Figure B

DOWN FLOW APPLICATION (Figure C)

Unit: inch(mm)

UNITS	15RT
A	7-15/16 (455)
B	14-5/16 (364)
C	18-12/16 (476)
D	6-15/16 (177)
E	3-14/16 (98)
F	37-6/16 (950)
G	3-14/16 (98)
H	31-3/16 (800)

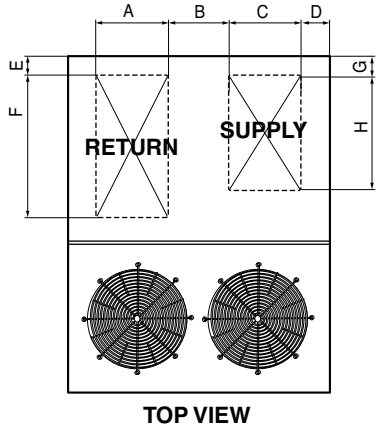


Figure C
Figure D

6. Dimensions

Model : AK-H2408C02

UNIT Dimensions (Figure A)

Unit: inch(mm)

UNITS	20RT
H	49-3/16 (1,250)
I	86-10/16 (2,200)
J	114-2/16 (2,898)
K	7-1/16 (180)
L	49-1/16 (1,246)
M	3-2/16 (80)
N	3-2/16 (80)

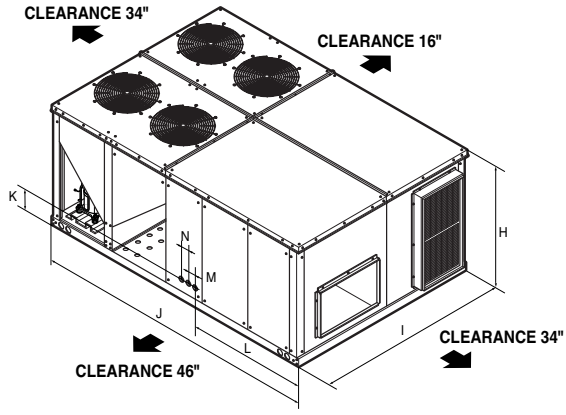


Figure B

HORIZONTAL FLOW APPLICATION (Figure B)

Unit: inch(mm)

UNITS	20RT
A	34-12/16 (882)
B	17-(432)
C	23-11/16 (602)
D	3-6/16 (86)
E	6 -10/16 (168)
F	39-7/16 (1,002)
G	5-6/16 (137)
H	25-11/16 (652)

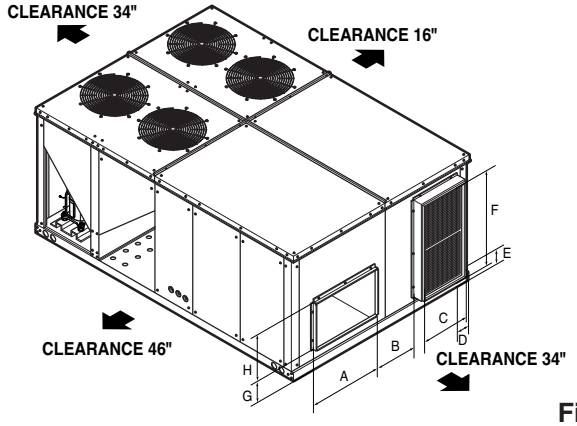
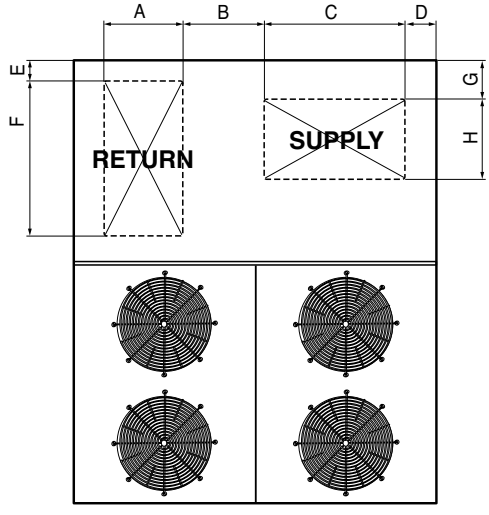


Figure B

DOWN FLOW APPLICATION (Figure C)

Unit: inch(mm)

UNITS	20RT
A	23-5/8 (600)
B	15-5/8 (396)
C	34-12/16 (882)
D	6-10/16 (168)
E	6-9/16 (167)
F	39-6/16 (1,000)
G	6-13/16 (173)
H	25-13/16 (655)



TOP VIEW

Figure C

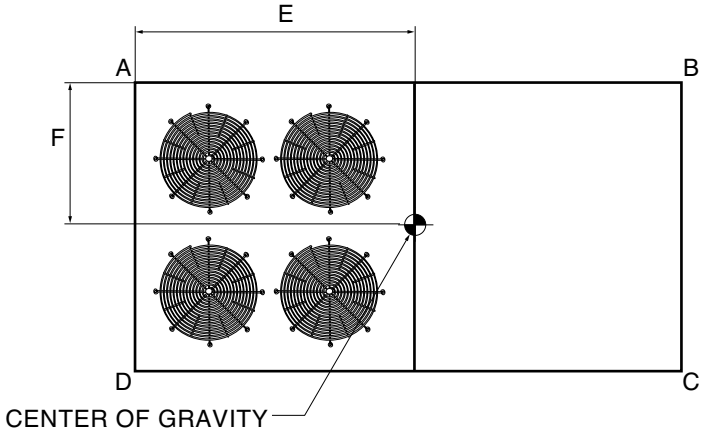
6. Dimensions

Weights

Maximum Unit and Corner Weights (lbs) and Center of Gravity Dimensions (In.)

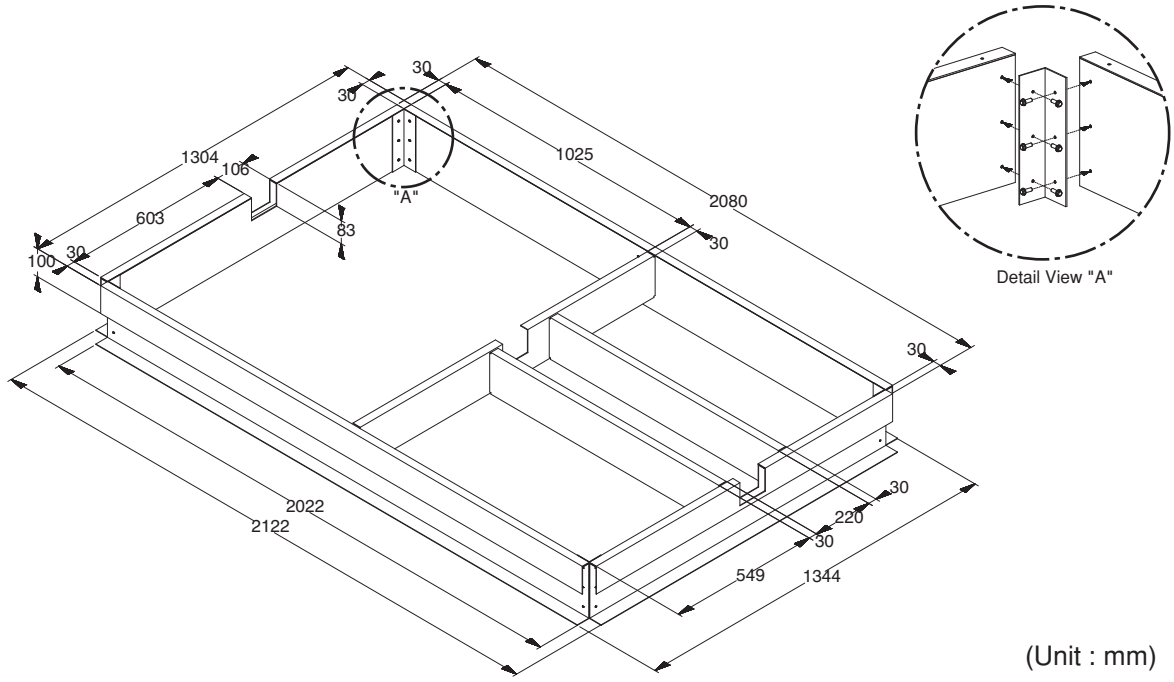
RT	Model Name	Maximum Weights (lbs)	Corner Weights (lbs)				Center of Gravity (mm)	
		Net	A	B	C	D	E	F
10	AK-H1208C02	992	260	196	146	168	37	20
15	AK-H1808C02	1,212	411	310	228	264	40	28
20	AK-H2408C02	1,984	639	438	320	411	43	31

Note: 1.Corner weights are given for information only.
2. Weights are approximate.



7. Roof Curbs

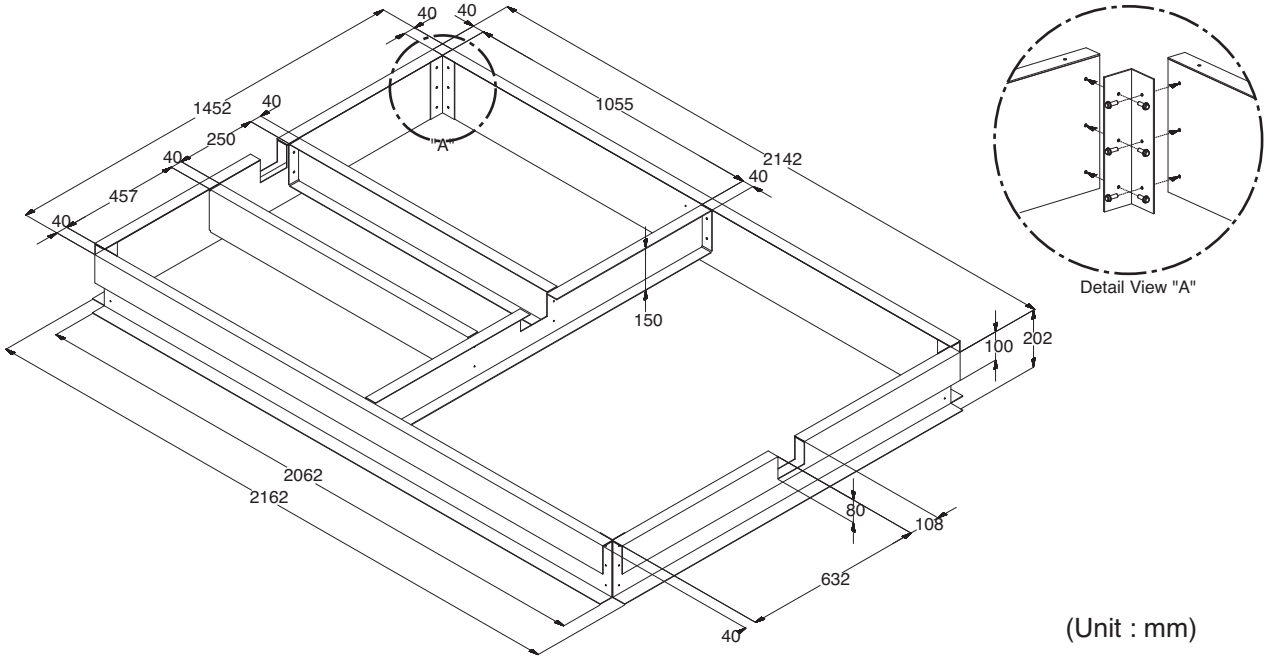
Model : AK-H1208C02



(Unit : mm)

Note: ① Roof Curb – Galvanized steel
② Remove the Fork Guides for Roof Curb installation

Model : AK-H1808C02

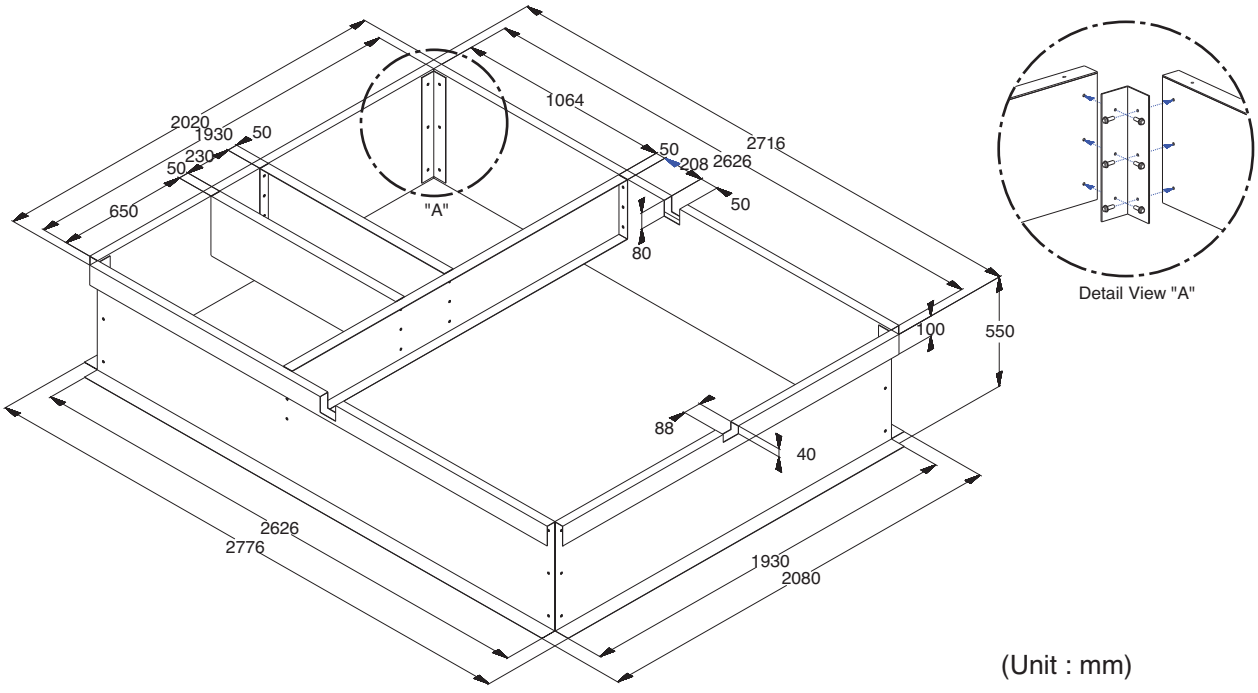


(Unit : mm)

Note: ① Roof Curb – Galvanized steel
② Remove the Fork Guides for Roof Curb installation

7. Roof Curbs

Model : AK-H2408C0

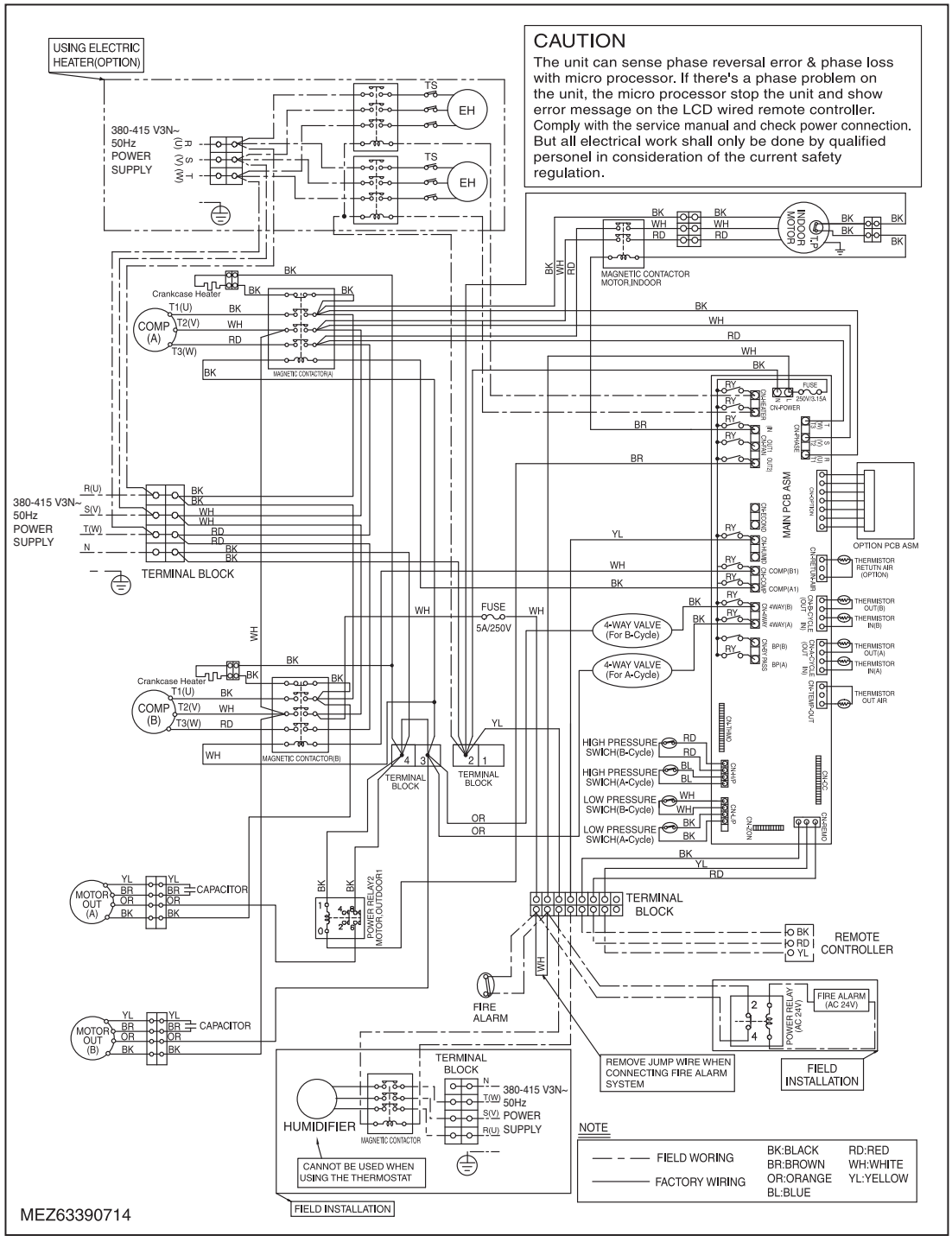


(Unit : mm)

Note: ① Roof Curb – Galvanized steel
② Remove the Fork Guides for Roof Curb installation

8. Wiring diagrams

Model : AK-H1208C02

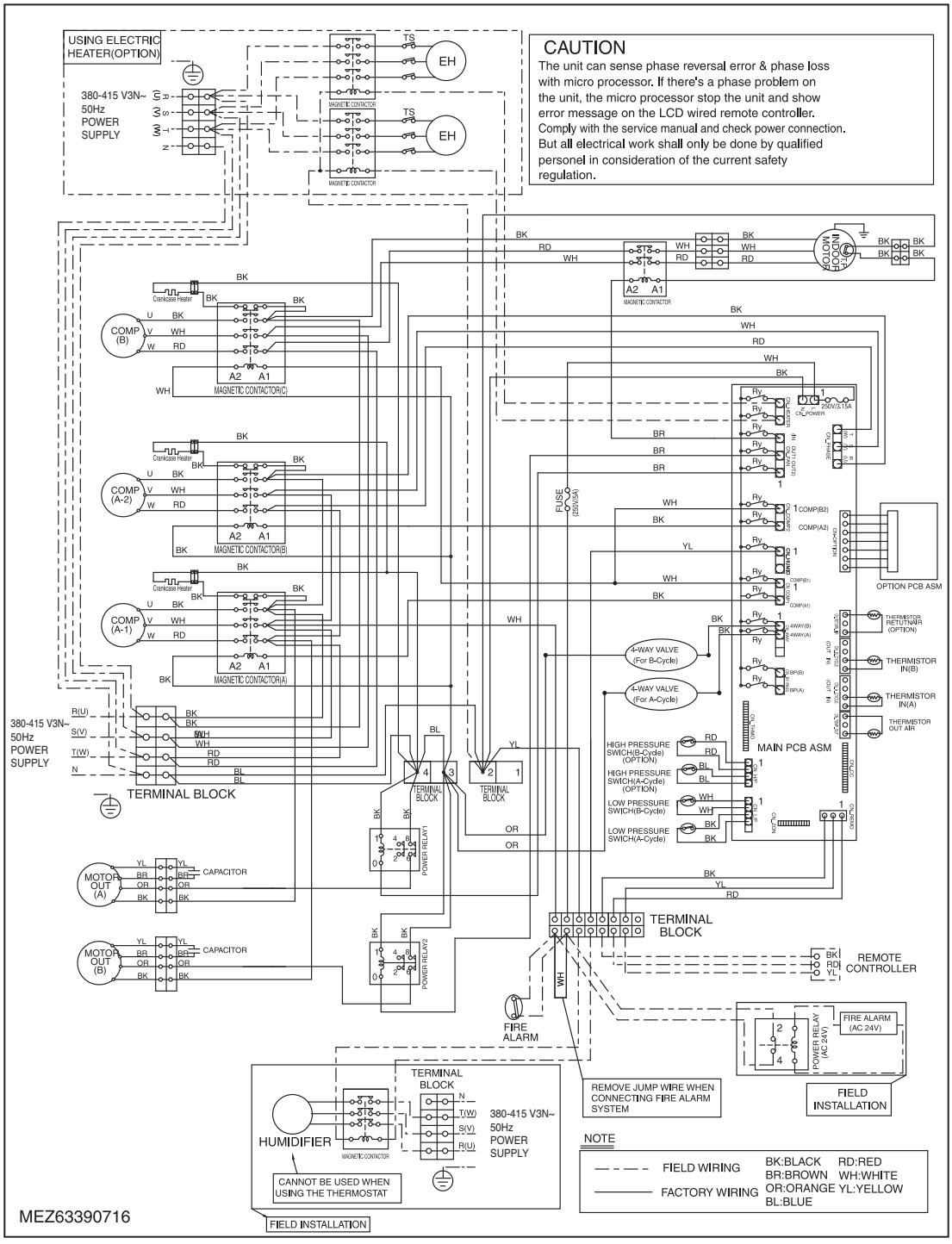


Notes:

RY	RELAY	EH	ELECTRIC HEATER	COMP	COMPRESSOR
BK	BLACK	OR	ORANGE	YL	YELLOW
BR	BROWN	RD	RED	BL	BLUE
WH	WHITE	———	FACTORY WIRING	– · –	FIELD WIRING

8. Wiring diagrams

Model : AK-H1808C02

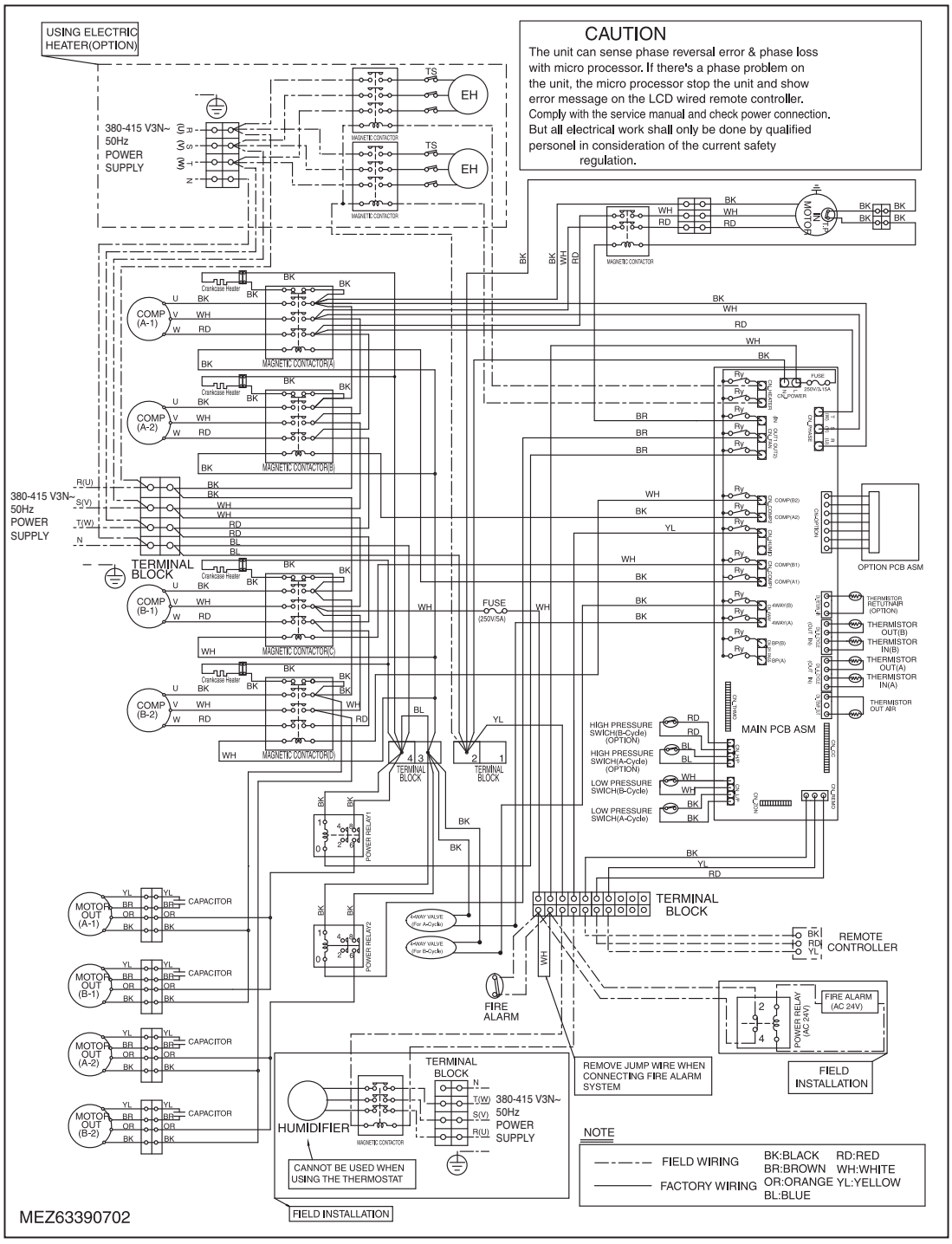


Notes:

RY	RELAY	EH	ELECTRIC HEATER	COMP	COMPRESSOR
BK	BLACK	OR	ORANGE	YL	YELLOW
BR	BROWN	RD	RED	BL	BLUE
WH	WHITE	———	FACTORY WIRING	– · –	FIELD WIRING

8. Wiring diagrams

Model : AK-H2408C02



Notes:

RY	RELAY	EH	ELECTRIC HEATER	COMP	COMPRESSOR
BK	BLACK	OR	ORANGE	YL	YELLOW
BR	BROWN	RD	RED	BL	BLUE
WH	WHITE	———	FACTORY WIRING	– · –	FIELD WIRING

9. Selection procedure

Selection Procedure - Heat pump(English)

Cooling

Step 1. **Based on building's cooling load calculation from ASHRAE or any approved standard method.**

a. Cooling Capacity .....200,000 Btu/h
b. Sensible Cooling Capacity.....170,000 Btu/h
c. Heating Capacity .....200,000 Btu/h
d. Outdoor Entering-air Temperature .....95°F
e. Outdoor Air winter design Temperature(DB) .....39.2°F
f. Indoor Air winter design Temperature(DB).....70°F
g. Indoor Entering-air Temperature(DB/WB) .....80°F/67°F
f. Indoor air-flow.....8,000 CFM
g. Electrical Characteristics(V-Ph-Hz) .....380-415 - 3 - 50
h. External static pressure .....0.70 in.Aq.

Step 2. **Select unit based on required cooling capacity.**

Based on total cooling capacity choose suitable model from Specifications table.

20RT unit can be selected.

Verify the unit performance at the given conditions in accordance with step #3.

Step 3. From Gross Cooing Capacity(MBH) 20 ton EK-H2408C02 (English) table, at 8,000 CFM and 95 DB ambient temperature, with 80°F DB. 67°F WB air entering temperature.
Total cooling capacity= 235,900 Btu/h, Sensible capacity = 186,400 Btu/h

To find the capacity at intermediate points between any two values mentioned in the capacity table, interpolation should be used. Extrapolation is not recommended.

Selection Procedure

Step 4. The capacity estimated at step #3 is the gross capacity of the selected unit. The generated heat from indoor motor is a function of CFM & static pressure. The total unit static pressure is as follows:

External Static(Duct system)	0.70 in. Aq.
Standard Filter	0.1 in. Aq.
Economizer Fresh Damper (OA) 10%	Refer to the economizer applied models. (From table Accessory Static Pressure Drops)
Total static pressure	0.8 in. Aq.

Evaporator fan motor performance table has deducted the pressure drop for filter already in the unit. Therefore, the actual total static pressure is 0.7 in. Aq.
(When installing the economizer to the product, it should be added pressure drop of Economizer Fresh Damper (OA) 10% to total static pressure.)
With 8,000CFM and 0.7 in Aq., Evaporator Fan Performance EK-H2408C02 (English) table shows 3.6 BHP for this unit.
FAN MOTOR HEAT;
3.1 x Fan BHP = MBH
3.1 x 3.6 = 11.20 MBH
Now subtract the fan motor heat from the gross cooling capacity of the unit;

Net cooling capacity	235.9 MBH - 11.2 MBH = 224.7 MBH
Net sensible cooling	186.4 MBH - 11.2 = 175.2 MBH

• MBH = kBtu/h

Step 5. If the selected unit performance will not meet the required load, either total or sensible cooling, the next higher size unit should be selected.

Heating

Step 1. Calculate the building heating load using the ASHRAE calculation or from other standard accepted method.

Step 2. From Heating Capacity EK-H2408C02 (English), The heating capacity is 238,000 Btu/h at 8,000 CFM with 39.2°F outdoor DB temperature and 68°F indoor DB temperature. The required heating capacity is 200,000 Btu/h.
Since heating capacity 238,000 Btu/h is greater than required heating capacity 200,000 Btu/h. So additional electric heat is not required.

Step 3. If the selected unit performance will not meet the required load. The additional electric heater should be selected from Electric Heating Capacity table.

9. Selection procedure

Selection Procedure - Heat pump(SI)

Cooling

Step 1. **Based on building's cooling load calculation from ASHRAE or any approved standard method.**

a. Cooling Capacity .....58.6 kW
b. Sensible Cooling Capacity.....49.8 kW
c. Heating Capacity .....58.6 kW
d. Outdoor Entering-air Temperature .....35°C
e. Outdoor Air winter design Temperature(DB) .....4°C
f. Indoor Air winter design Temperature(DB).....21.1°C
g. Indoor Entering-air Temp.(D.B/W.B) .....26.7°C / 19.4°C
f. Indoor air-flow.....3,776 l/s
g. Electrical Characteristics(V-Ph-Hz) .....380-415 - 3 - 50
h. External static pressure .....17.78mm Aq.

Step 2. **Select unit based on required cooling capacity.**

Based on total cooling capacity, choose suitable model from Specifications table.

20RT unit can be selected.

Verify the unit performance at the given conditions in accordance with step #3.

Step 3. From Gross Cooing Capacity(kW) 20 ton EK-H2408C02 (SI) table, at 3,776 l/s and 35°C outdoor ambient temperature, with 26.7°C DB. 19.4°C WB air entering temperature.
Total cooling capacity= 69.1kW, Sensible capacity = 54.6kW

To find capacity at intermediate conditions not in the table.

Interpolation should be used when design conditions are between two numbers that are in the capacity table. Extra-polation is not recommended.

9. Selection procedure

Selection Procedure

Step 4. The capacity estimated at step #3 is the gross capacity of the selected unit. The generated heat from indoor motor is a function of l/s & static pressure. To determine the total unit static pressure.

External Static(Duct system)	17.78 mm Aq.
Standard Filter	2.54 mm Aq.
Economizer Fresh Damper (OA) 10%	Refer to the economizer applied models. (From table Accessory Static Pressure Drops)
Total static pressure	20.32 mm Aq.

Evaporator fan motor performance table has deducted the pressure drop for filter already in the unit. Therefore, the actual total static pressure is 17.78 mm Aq.
(When installing the economizer to the product, it should be added pressure drop of Economizer Fresh Damper (OA) 10% to total static pressure.)
With 3,776 l/s and 17.78 mm Aq., Evaporator Fan Performance EK-H2408C02 (SI) table shows 2.68 BkW for this unit.
FAN MOTOR HEAT;
1.22 x Fan Bkw = kW
1.22 x 2.68 = 3.27kW
Now subtract the fan motor heat from the gross cooling capacity of the unit;

Net cooling capacity	69.1kW - 2.68 kW = 66.42 kW
Net sensible cooling	54.6kW - 2.68 kW = 51.92 kW

Step 5. If the selected unit performance will not meet the required load, either total or sensible cooling, the next higher size unit should be selected.

Heating

Step 1. Calculate the building heating load using the ASHRAE calculation or from other standard accepted method.

Step 2. From Heating Capacity EK-H2408C02 (SI) table, The heating capacity is 69.7 kW at 3,776 l/s with 4°C outdoor temperature and 20°C indoor temperature. The required heating capacity is 58.6kW. Since heating capacity 69.7kW is greater than required heating capacity 58.6kW. So, additional electric heat is not required.

Step 3. If the selected unit performance will not meet the required load. The additional electric heater should be selected from Electric Heating Capacity table.

10. Performance data

10.1 Cooling Capacity

10RT AK-H1208C02 (SI)

Outdoor DB(°C)		29.4									35.0								
Indoor WB(°C)		16.1			19.4			22.8			16.1			19.4			22.8		
l/s	DB(°C)	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI
1397	23.9	29.6	24.0	12.38	32.8	18.2	12.77	35.2	8.0	13.00	28.6	24.5	13.65	31.6	18.6	14.08	34.0	8.2	14.34
	26.7	30.9	27.6	12.41	33.4	22.8	12.80	35.2	14.9	13.04	29.8	28.1	13.69	32.2	23.2	14.12	34.0	15.2	14.39
	29.4	32.1	30.3	12.45	33.8	27.5	12.84	35.1	20.7	13.08	31.0	30.8	13.73	32.6	28.0	14.17	33.9	21.0	14.43
	32.2	33.1	31.9	12.49	34.2	30.5	12.88	34.9	25.2	13.12	32.0	32.0	13.77	33.0	31.1	14.21	33.7	25.6	14.47
1571	23.9	31.0	25.7	12.48	34.3	19.4	12.88	36.9	8.6	13.12	29.9	26.1	13.76	33.1	19.8	14.19	35.6	8.7	14.46
	26.7	32.4	29.5	12.52	34.9	24.3	12.92	36.9	15.9	13.15	31.2	30.0	13.80	33.7	24.8	14.23	35.6	16.2	14.50
	29.4	33.6	32.3	12.56	35.4	29.3	12.95	36.8	22.0	13.19	32.4	32.4	13.84	34.2	29.9	14.28	35.5	22.5	14.54
	32.2	34.7	34.0	12.60	35.8	32.6	12.99	36.6	26.8	13.23	33.5	33.5	13.88	34.5	33.2	14.32	35.3	27.3	14.59
1746	23.9	31.8	27.5	12.59	35.2	20.9	12.99	37.8	9.2	13.23	30.7	28.1	13.92	34.0	21.3	14.36	36.5	9.4	14.62
	26.7	33.2	31.6	12.63	35.8	26.1	13.03	37.9	17.1	13.27	32.1	32.1	13.96	34.6	26.6	14.40	36.5	17.4	14.67
	29.4	34.5	34.5	12.67	36.4	31.5	13.06	37.8	23.7	13.31	33.3	33.3	14.00	35.1	32.1	14.44	36.4	24.1	14.71
	32.2	35.6	35.6	12.70	36.7	35.0	13.10	37.5	28.8	13.35	34.4	34.4	14.04	35.4	35.4	14.49	36.2	29.4	14.76
1921	23.9	32.4	28.8	12.70	35.8	21.8	13.10	38.5	9.6	13.34	31.2	29.4	13.97	34.5	22.3	14.41	37.1	9.8	14.68
	26.7	33.8	33.1	12.73	36.5	27.3	13.14	38.5	17.9	13.38	32.6	32.6	14.01	35.2	27.9	14.46	37.2	18.3	14.72
	29.4	35.1	35.1	12.77	37.0	32.9	13.18	38.4	24.8	13.42	33.8	33.8	14.06	35.7	33.6	14.50	37.1	25.2	14.77
	32.2	36.2	36.2	12.81	37.4	36.6	13.22	38.2	30.2	13.46	34.9	34.9	14.10	36.1	36.1	14.54	36.8	30.7	14.81
2095	23.9	32.8	29.7	12.80	36.3	22.5	13.21	39.0	9.9	13.45	31.6	30.3	14.08	35.0	23.0	14.52	37.6	10.1	14.79
	26.7	34.2	34.2	12.84	36.9	28.2	13.25	39.0	18.5	13.49	33.0	33.0	14.12	35.6	28.8	14.57	37.6	18.8	14.84
	29.4	35.5	35.5	12.88	37.5	34.0	13.29	38.9	25.6	13.53	34.3	34.3	14.16	36.1	34.6	14.61	37.5	26.0	14.88
	32.2	36.7	36.7	12.92	37.9	37.7	13.33	38.7	31.1	13.57	35.4	35.4	14.21	36.5	36.5	14.65	37.3	31.7	14.93

Outdoor DB(°C)		40.6									46.1									51.7								
Indoor WB(°C)		16.1			19.4			22.8			16.1			19.4			22.8			16.1			19.4			22.8		
l/s	DB(°C)	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI
1397	23.9	27.6	23.9	14.68	30.5	18.1	15.15	32.8	8.0	15.43	26.0	23.2	15.54	28.8	17.6	16.03	31.0	7.8	16.32	24.1	22.2	16.25	26.7	16.8	16.77	28.7	7.4	17.08
	26.7	28.8	27.4	14.73	31.1	22.6	15.19	32.8	14.8	15.47	27.2	26.7	15.58	29.3	22.0	16.08	31.0	14.4	16.37	25.2	25.2	16.30	27.1	21.0	16.82	28.7	13.8	17.13
	29.4	29.9	29.9	14.77	31.5	27.3	15.24	32.7	20.5	15.52	28.2	28.2	15.63	29.7	26.5	16.12	30.9	20.0	16.42	26.1	26.1	16.35	27.5	25.3	16.87	28.6	19.1	17.18
	32.2	30.9	30.9	14.82	31.8	30.3	15.28	32.5	25.0	15.57	29.1	29.1	15.68	30.1	29.5	16.17	30.7	24.3	16.47	27.0	27.0	16.40	27.8	27.8	16.92	28.4	23.2	17.23
1571	23.9	28.9	25.5	14.79	31.9	19.3	15.26	34.3	8.5	15.54	27.3	24.8	15.64	30.1	18.8	16.14	32.4	8.3	16.44	25.2	23.7	16.36	27.9	17.9	16.88	30.0	7.9	17.19
	26.7	30.1	29.3	14.84	32.5	24.2	15.30	34.3	15.8	15.59	28.4	28.4	15.69	30.7	23.5	16.19	32.4	15.4	16.49	26.3	26.3	16.41	28.4	22.4	16.93	30.0	14.7	17.24
	29.4	31.3	31.3	14.88	33.0	29.1	15.35	34.2	21.9	15.63	29.5	29.5	15.74	31.1	28.3	16.23	32.3	21.3	16.54	27.3	27.3	16.46	28.8	27.0	16.98	29.9	20.3	17.29
	32.2	32.3	32.3	14.92	33.3	32.3	15.40	34.0	26.7	15.68	30.5	30.5	15.78	31.5	31.5	16.28	32.1	25.9	16.59	28.2	28.2	16.51	29.1	29.1	17.03	29.8	24.8	17.34
1746	23.9	29.6	27.4	14.90	32.8	20.7	15.37	35.2	9.1	15.65	28.0	26.6	15.75	30.9	20.2	16.25	33.3	8.9	16.55	25.9	25.4	16.47	28.7	19.2	16.99	30.8	8.5	17.30
	26.7	30.9	30.9	14.94	33.4	25.9	15.41	35.3	17.0	15.70	29.2	29.2	15.80	31.5	25.2	16.30	33.3	16.5	16.60	27.0	27.0	16.52	29.2	24.1	17.04	30.8	15.8	17.35
	29.4	32.1	32.1	14.99	33.8	31.2	15.46	35.2	23.5	15.75	30.3	30.3	15.85	31.9	30.4	16.35	33.2	22.9	16.65	28.1	28.1	16.57	29.6	29.0	17.09	30.7	21.8	17.41
	32.2	33.2	33.2	15.03	34.2	34.2	15.51	34.9	28.6	15.79	31.3	31.3	15.89	32.3	32.3	16.39	33.0	27.9	16.70	29.0	29.0	16.62	29.9	29.9	17.14	30.5	26.6	17.46
1921	23.9	30.2	28.6	15.00	33.3	21.7	15.48	35.8	9.6	15.77	28.5	27.9	15.86	31.5	21.1	16.36	33.8	9.3	16.66	26.4	26.4	16.57	29.1	20.1	17.10	31.3	8.9	17.41
	26.7	31.5	31.5	15.05	33.9	27.2	15.52	35.9	17.8	15.81	29.7	29.7	15.91	32.0	26.4	16.41	33.8	17.3	16.71	27.5	27.5	16.62	29.7	25.2	17.15	31.3	16.5	17.47
	29.4	32.6	32.6	15.10	34.4	32.7	15.57	35.8	24.6	15.86	30.8	30.8	15.95	32.5	31.8	16.46	33.7	23.9	16.76	28.5	28.5	16.67	30.1	30.1	17.20	31.3	22.9	17.52
	32.2	33.7	33.7	15.14	34.8	34.8	15.62	35.5	30.0	15.91	31.8	31.8	16.00	32.8	32.8	16.51	33.5	29.2	16.81	29.5	29.5	16.72	30.4	30.4	17.25	31.1	27.8	17.57
2095	23.9	30.5	29.5	15.11	33.8	22.4	15.59	36.3	9.9	15.88	28.8	28.8	15.96	31.9	21.8	16.47	34.3	9.6	16.77	26.7	26.7	16.68	29.5	20.8	17.21	31.7	9.2	17.53
	26.7	31.9	31.9	15.16	34.4	28.0	15.64	36.3	18.4	15.93	30.1	30.1	16.01	32.4	27.3	16.52	34.3	17.9	16.82	27.9	27.9	16.73	30.0	26.0	17.26	31.7	17.0	17.58
	29.4	33.1	33.1	15.20	34.9	33.7	15.68	36.2	25.4	15.97	31.2	31.2	16.06	32.9	32.8	16.57	34.2	24.7	16.88	28.9	28.9	16.78	30.5	30.5	17.31	31.7	23.6	17.63
	32.2	34.2	34.2	15.25	35.2	35.2	15.73	36.0	30.9	16.02	32.2	32.2	16.11	33.3	33.3	16.62	34.0	30.1	16.93	29.9	29.9	16.83	30.8	30.8	17.36	31.5	28.7	17.69

Notes:

1. All capacities are gross, evaporator fan motor heat is not deducted. To obtain net cooling capacity, subtract evaporator fan motor heat.
2. DB = Dry Bulb Temperature (°C), WB = Wet Bulb Temperature (°C).
3. l/s = Liters per second.
4. TGC = Total Gross Cooling Capacity(Unit : kW).
5. SHC = Sensible Heating Capacity(Unit : kW).
6. PI = Power Input(kW), Sum of Compressor & Outdoor Fan Power Input.

10RT AK-H1208C02 (English)

Outdoor DB(°F)		85									95								
Indoor WB(°F)		61			67			73			61			67			73		
CFM	DB(°F)	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI
2960	75	101.2	82.1	12.38	111.8	62.1	12.77	120.2	27.4	13.00	97.6	83.6	13.65	107.9	63.3	14.08	116.0	28.0	14.34
	80	105.5	94.2	12.41	113.9	77.8	12.80	120.3	51.0	13.04	101.8	96.0	13.69	109.8	79.3	14.12	116.1	51.9	14.39
	85	109.5	103.3	12.45	115.5	93.7	12.84	120.0	70.5	13.08	105.7	105.2	13.73	111.4	95.5	14.17	115.7	71.8	14.43
	90	113.1	108.8	12.49	116.7	104.1	12.88	119.2	85.8	13.12	109.1	109.1	13.77	112.6	106.1	14.21	115.0	87.5	14.47
3330	75	105.9	87.6	12.48	117.1	66.3	12.88	125.8	29.3	13.12	102.1	89.2	13.76	112.9	67.6	14.19	121.4	29.8	14.46
	80	110.5	100.5	12.52	119.2	83.0	12.92	125.9	54.4	13.15	106.6	102.5	13.80	114.9	84.6	14.23	121.5	55.4	14.50
	85	114.6	110.2	12.56	120.9	100.0	12.95	125.5	75.2	13.19	110.6	110.6	13.84	116.6	101.9	14.28	121.1	76.6	14.54
	90	118.4	116.0	12.60	122.2	111.1	12.99	124.8	91.6	13.23	114.2	114.2	13.88	117.9	113.2	14.32	120.4	93.3	14.59
3700	75	108.7	94.0	12.59	120.2	71.2	12.99	129.2	31.4	13.23	104.8	95.8	13.92	115.9	72.6	14.36	124.6	32.0	14.62
	80	113.4	108.0	12.63	122.3	89.2	13.03	129.2	58.4	13.27	109.4	109.4	13.96	118.0	90.9	14.40	124.7	59.5	14.67
	85	117.7	117.7	12.67	124.1	107.4	13.06	128.9	80.8	13.31	113.5	113.5	14.00	119.7	109.4	14.44	124.3	82.3	14.71
	90	121.5	121.5	12.70	125.4	119.3	13.10	128.1	98.3	13.35	117.2	117.2	14.04	121.0	121.0	14.49	123.6	100.2	14.76
4070	75	110.5	98.4	12.70	122.2	74.5	13.10	131.4	32.9	13.34	106.6	100.3	13.97	117.9	76.0	14.41	126.8	33.5	14.68
	80	115.3	113.0	12.73	124.4	93.3	13.14	131.4	61.1	13.38	111.3	111.3	14.01	120.0	95.1	14.46	126.8	62.3	14.72
	85	119.7	119.7	12.77	126.2	112.4	13.18	131.1	84.6	13.42	115.5	115.5	14.06	121.8	114.6	14.50	126.5	86.2	14.77
	90	123.6	123.6	12.81	127.6	124.9	13.22	130.3	103.0	13.46	119.2	119.2	14.10	123.1	123.1	14.54	125.7	104.9	14.81
4440	75	112.0	101.5	12.80	123.8	76.9	13.21	133.1	33.9	13.45	108.0	103.5	14.08	119.4	78.4	14.52	128.4	34.6	14.79
	80	116.8	116.6	12.84	126.0	96.3	13.25	133.1	63.1	13.49	112.7	112.7	14.12	121.6	98.1	14.57	128.4	64.3	14.84
	85	121.2	121.2	12.88	127.8	116.0	13.29	132.8	87.2	13.53	116.9	116.9	14.16	123.3	118.2	14.61	128.1	88.9	14.88
	90	125.2	125.2	12.92	129.2	128.8	13.33	132.0	106.2	13.57	120.8	120.8	14.21	124.6	124.6	14.65	127.3	108.2	14.93

Outdoor DB(°F)		105									115									125								
Indoor WB(°F)		61			67			73			61			67			73			61			67			73		
CFM	DB(°F)	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI
2960	75	94.2	81.5	14.68	104.1	61.7	15.15	112.0	27.2	15.43	88.9	79.3	15.54	98.3	60.1	16.03	105.6	26.5	16.32	82.3	75.7	16.25	91.0	57.3	16.77	97.9	25.3	17.08
	80	98.3	93.6	14.73	106.0	77.3	15.19	112.0	50.6	15.47	92.7	91.1	15.58	100.0	75.2	16.08	105.7	49.3	16.37	85.9	85.9	16.30	92.7	71.8	16.82	97.9	47.0	17.13
	85	102.0	102.0	14.77	107.5	93.1	15.24	111.7	70.0	15.52	96.2	96.2	15.63	101.5	90.6	16.12	105.4	68.1	16.42	89.1	89.1	16.35	94.0	86.4	16.87	97.6	65.0	17.18
	90	105.3	105.3	14.82	108.7	103.4	15.28	111.0	85.3	15.57	99.4	99.4	15.68	102.6	100.6	16.17	104.8	83.0	16.47	92.1	92.1	16.40	95.0	95.0	16.92	97.0	79.2	17.23
3330	75	98.6	87.0	14.79	109.0	65.8	15.26	117.2	29.1	15.54	93.0	84.6	15.64	102.8	64.1	16.14	110.6	28.3	16.44	86.2	80.8	16.36	95.3	61.2	16.88	102.4	27.0	17.19
	80	102.8	99.9	14.84	110.9	82.5	15.30	117.2	54.0	15.59	97.0	97.0	15.69	104.7	80.3	16.19	110.6	52.6	16.49	89.9	89.9	16.41	97.0	76.6	16.93	102.5	50.2	17.24
	85	106.7	106.7	14.88	112.5	99.3	15.35	116.9	74.7	15.63	100.7	100.7	15.74	106.2	96.6	16.23	110.3	72.7	16.54	93.3	93.3	16.46	98.4	92.2	16.98	102.2	69.4	17.29
	90	110.2	110.2	14.92	113.7	110.3	15.40	116.2	91.0	15.68	104.0	104.0	15.78	107.3	107.3	16.28	109.6	88.5	16.59	96.3	96.3	16.51	99.4	99.4	17.03	101.5	84.5	17.34
3700	75	101.2	93.4	14.90	111.9	70.7	15.37	120.3	31.2	15.65	95.5	90.9	15.75	105.6	68.8	16.25	113.5	30.4	16.55	88.4	86.7	16.47	97.8	65.7	16.99	105.1	29.0	17.30
	80	105.6	105.6	14.94	113.9	88.5	15.41	120.3	58.0	15.70	99.6	99.6	15.80	107.5	86.2	16.30	113.6	56.4	16.60	92.3	92.3	16.52	99.5	82.2	17.04	105.2	53.9	17.35
	85	109.6	109.6	14.99	115.5	106.6	15.46	120.0	80.2	15.75	103.4	103.4	15.85	109.0	103.8	16.35	113.2	78.1	16.65	95.8	95.8	16.57	101.0	99.0	17.09	104.9	74.5	17.41
	90	113.1	113.1	15.03	116.8	116.8	15.51	119.3	97.7	15.79	106.8	106.8	15.89	110.2	110.2	16.39	112.5	95.1	16.70	98.9	98.9	16.62	102.1	102.1	17.14	104.2	90.7	17.46
4070	75	102.9	97.8	15.00	113.8	74.0	15.48	122.3	32.7	15.77	97.1	95.1	15.86	107.4	72.0	16.36	115.4	31.8	16.66	90.0	90.0	16.57	99.5	68.8	17.10	106.9	30.3	17.41
	80	107.4	107.4	15.05	115.8	92.7	15.52	122.4	60.7	15.81	101.3	101.3	15.91	109.3	90.2	16.41	115.5	59.1	16.71	93.9	93.9	16.62	101.2	86.1	17.15	107.0	56.4	17.47
	85	111.4	111.4	15.10	117.5	111.6	15.57	122.0	84.0	15.86	105.2	105.2	15.95	110.9	108.7	16.46	115.2	81.7	16.76	97.4	97.4	16.67	102.7	102.7	17.20	106.7	78.0	17.52
	90	115.1	115.1	15.14	118.8	118.8	15.62	121.3	102.3	15.91	108.6	108.6	16.00	112.1	112.1	16.51	114.5	99.5	16.81	100.6	100.6	16.72	103.8	103.8	17.25	106.0	95.0	17.57
4440	75	104.2	100.8	15.11	115.2	76.4	15.59	123.9	33.7	15.88	98.4	98.1	15.96	108.8	74.3	16.47	116.9	32.8	16.77	91.1	91.1	16.68	100.7	70.9	17.21	108.3	31.3	17.53
	80	108.8	108.8	15.16	117.3	95.6	15.64	124.0	62.6	15.93	102.6	102.6	16.01	110.7	93.1	16.52	117.0	61.0	16.82	95.1	95.1	16.73	102.5	88.8	17.26	108.3	58.2	17.58
	85	112.9	112.9	15.20	119.0	115.2	15.68	123.6	86.6	15.97	106.5	106.5	16.06	112.3	112.1	16.57	116.6	84.3	16.88	98.7	98.7	16.78	104.0	104.0	17.31	108.0	80.5	17.63
	90	116.6	116.6	15.25	120.3	120.3	15.73	122.9	105.5	16.02	110.0	110.0	16.11	113.5	113.5	16.62	115.9	102.7	16.93	101.9	101.9	16.83	105.1	105.1	17.36	107.4	98.0	17.69

Notes:

1. All capacities are gross, evaporator fan motor heat is not deducted. To obtain net cooling capacity, subtract evaporator fan motor heat.
2. DB = Dry Bulb Temperature (°F), WB = Wet Bulb Temperature (°F).
3. CFM = Cubic Feet per minute.
4. TGC = Total Gross Cooling Capacity(Unit : MBH = kBtu/h).
5. SHC = Sensible Heating Capacity(Unit : MBH = kBtu/h).
6. PI = Power Input(kW), Sum of Compressor & Outdoor Fan Power Input.

10. Performance data

15RT AK-H1808C02 (SI)

Outdoor DB(°C)		29.4									35.0								
Indoor WB(°C)		16.1			19.4			22.8			16.1			19.4			22.8		
l/s	DB(°C)	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI
2076	23.9	43.0	36.2	17.19	47.5	27.4	17.73	51.1	12.1	18.06	41.4	36.9	18.96	45.8	27.9	19.56	49.3	12.3	19.92
	26.7	44.8	41.6	17.24	48.3	34.3	17.78	51.1	22.5	18.11	43.2	42.4	19.02	46.6	35.0	19.62	49.3	22.9	19.98
	29.4	46.5	45.6	17.29	49.0	41.3	17.84	50.9	31.1	18.17	44.9	44.9	19.07	47.3	42.1	19.68	49.1	31.7	20.04
	32.2	48.0	48.0	17.34	49.6	45.9	17.89	50.6	37.9	18.22	46.3	46.3	19.13	47.8	46.8	19.73	48.8	38.6	20.10
2336	23.9	45.0	38.6	17.34	49.7	29.2	17.88	53.4	12.9	18.22	43.4	39.4	19.11	47.9	29.8	19.71	51.5	13.2	20.08
	26.7	46.9	44.4	17.39	50.6	36.6	17.94	53.5	24.0	18.27	45.2	45.2	19.17	48.8	37.3	19.77	51.6	24.4	20.14
	29.4	48.7	48.6	17.44	51.3	44.1	17.99	53.3	33.2	18.33	47.0	47.0	19.22	49.5	45.0	19.83	51.4	33.8	20.20
	32.2	50.3	50.3	17.49	51.9	49.0	18.05	53.0	40.4	18.38	48.5	48.5	19.28	50.0	49.9	19.89	51.1	41.2	20.26
2596	23.9	46.1	41.5	17.49	51.0	31.4	18.04	54.9	13.9	18.37	44.5	42.3	19.33	49.2	32.0	19.94	52.9	14.1	20.31
	26.7	48.1	47.6	17.54	51.9	39.3	18.09	54.9	25.8	18.43	46.4	46.4	19.39	50.1	40.1	20.00	52.9	26.3	20.37
	29.4	50.0	50.0	17.59	52.7	47.4	18.15	54.7	35.6	18.48	48.2	48.2	19.45	50.8	48.3	20.06	52.8	36.3	20.43
	32.2	51.6	51.6	17.64	53.3	52.6	18.20	54.4	43.4	18.54	49.8	49.8	19.50	51.4	51.4	20.12	52.5	44.2	20.49
2856	23.9	46.9	43.4	17.63	51.9	32.9	18.19	55.8	14.5	18.53	45.3	44.3	19.41	50.1	33.5	20.02	53.8	14.8	20.39
	26.7	49.0	49.0	17.69	52.8	41.2	18.25	55.8	27.0	18.58	47.2	47.2	19.46	51.0	42.0	20.08	53.8	27.5	20.45
	29.4	50.8	50.8	17.74	53.6	49.6	18.30	55.7	37.3	18.64	49.0	49.0	19.52	51.7	50.5	20.14	53.7	38.0	20.51
	32.2	52.5	52.5	17.79	54.2	54.2	18.35	55.3	45.4	18.70	50.6	50.6	19.58	52.3	52.3	20.20	53.4	46.3	20.57
3115	23.9	47.5	44.8	17.78	52.6	33.9	18.34	56.5	15.0	18.68	45.9	45.6	19.55	50.7	34.6	20.17	54.5	15.3	20.55
	26.7	49.6	49.6	17.84	53.5	42.5	18.40	56.5	27.8	18.74	47.8	47.8	19.61	51.6	43.3	20.23	54.5	28.4	20.61
	29.4	51.5	51.5	17.89	54.3	51.2	18.45	56.4	38.5	18.80	49.7	49.7	19.67	52.4	52.1	20.29	54.4	39.2	20.67
	32.2	53.2	53.2	17.94	54.9	54.9	18.51	56.0	46.9	18.85	51.3	51.3	19.73	52.9	52.9	20.35	54.1	47.8	20.73

Outdoor DB(°C)		40.6									46.1									51.7								
Indoor WB(°C)		16.1			19.4			22.8			16.1			19.4			22.8			16.1			19.4			22.8		
l/s	DB(°C)	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI
2076	23.9	40.0	36.0	20.39	44.2	27.2	21.04	47.5	12.0	21.43	37.7	35.0	21.58	41.7	26.5	22.26	44.9	11.7	22.67	35.0	33.4	22.57	38.6	25.3	23.29	41.6	11.2	23.72
	26.7	41.7	41.3	20.46	45.0	34.1	21.10	47.6	22.3	21.49	39.4	39.4	21.64	42.5	33.2	22.33	44.9	21.7	22.74	36.5	36.5	22.64	39.3	31.7	23.36	41.6	20.7	23.79
	29.4	43.3	43.3	20.52	45.7	41.1	21.16	47.4	30.9	21.56	40.9	40.9	21.71	43.1	40.0	22.39	44.8	30.1	22.81	37.8	37.8	22.71	39.9	38.1	23.43	41.5	28.7	23.86
	32.2	44.7	44.7	20.58	46.1	45.6	21.23	47.1	37.6	21.62	42.2	42.2	21.77	43.6	43.6	22.46	44.5	36.6	22.88	39.1	39.1	22.78	40.3	40.3	23.50	41.2	34.9	23.93
2336	23.9	41.9	38.4	20.54	46.3	29.0	21.19	49.7	12.8	21.58	39.5	37.3	21.73	43.7	28.3	22.41	46.9	12.5	22.83	36.6	35.6	22.72	40.4	27.0	23.44	43.5	11.9	23.87
	26.7	43.7	43.7	20.60	47.1	36.4	21.25	49.8	23.8	21.65	41.2	41.2	21.79	44.5	35.4	22.48	47.0	23.2	22.90	38.2	38.2	22.79	41.2	33.8	23.51	43.5	22.1	23.95
	29.4	45.3	45.3	20.67	47.8	43.8	21.32	49.6	33.0	21.71	42.8	42.8	21.86	45.1	42.6	22.55	46.8	32.1	22.97	39.6	39.6	22.86	41.8	40.7	23.58	43.4	30.6	24.02
	32.2	46.8	46.8	20.73	48.3	48.3	21.38	49.3	40.1	21.78	44.2	44.2	21.92	45.6	45.6	22.62	46.5	39.1	23.03	40.9	40.9	22.93	42.2	42.2	23.65	43.1	37.3	24.09
2596	23.9	43.0	41.2	20.69	47.5	31.2	21.34	51.1	13.8	21.74	40.5	40.1	21.88	44.8	30.4	22.57	48.2	13.4	22.99	37.6	37.6	22.87	41.5	29.0	23.59	44.6	12.8	24.03
	26.7	44.8	44.8	20.75	48.4	39.1	21.41	51.1	25.6	21.81	42.3	42.3	21.94	45.6	38.0	22.63	48.2	24.9	23.05	39.2	39.2	22.94	42.3	36.3	23.66	44.7	23.8	24.10
	29.4	46.5	46.5	20.82	49.1	47.0	21.47	50.9	35.4	21.87	43.9	43.9	22.01	46.3	45.8	22.70	48.1	34.4	23.12	40.7	40.7	23.01	42.9	42.9	23.73	44.5	32.9	24.18
	32.2	48.0	48.0	20.88	49.6	49.6	21.54	50.6	43.1	21.94	45.3	45.3	22.07	46.8	46.8	22.77	47.8	41.9	23.19	42.0	42.0	23.08	43.3	43.3	23.81	44.3	40.0	24.25
2856	23.9	43.7	43.1	20.84	48.3	32.7	21.50	51.9	14.4	21.90	41.2	41.2	22.02	45.6	31.8	22.72	49.0	14.0	23.14	38.2	38.2	23.02	42.2	30.3	23.75	45.4	13.4	24.19
	26.7	45.6	45.6	20.90	49.2	40.9	21.56	52.0	26.8	21.96	43.0	43.0	22.09	46.4	39.8	22.79	49.0	26.1	23.21	39.9	39.9	23.09	43.0	38.0	23.82	45.4	24.9	24.26
	29.4	47.3	47.3	20.97	49.9	49.3	21.63	51.8	37.0	22.03	44.6	44.6	22.16	47.1	47.1	22.86	48.9	36.1	23.28	41.4	41.4	23.16	43.6	43.6	23.89	45.3	34.4	24.33
	32.2	48.9	48.9	21.03	50.4	50.4	21.69	51.5	45.1	22.09	46.1	46.1	22.22	47.6	47.6	22.92	48.6	43.9	23.35	42.7	42.7	23.23	44.1	44.1	23.96	45.0	41.9	24.41
3115	23.9	44.3	44.3	20.99	48.9	33.7	21.65	52.6	14.9	22.05	41.8	41.8	22.17	46.2	32.8	22.87	49.6	14.5	23.30	38.7	38.7	23.17	42.8	31.3	23.90	46.0	13.8	24.34
	26.7	46.2	46.2	21.05	49.8	42.2	21.72	52.6	27.6	22.12	43.6	43.6	22.24	47.0	41.1	22.94	49.7	26.9	23.37	40.4	40.4	23.24	43.5	39.2	23.97	46.0	25.7	24.42
	29.4	47.9	47.9	21.11	50.5	50.5	21.78	52.5	38.2	22.19	45.2	45.2	22.31	47.7	47.7	23.01	49.5	37.2	23.44	41.9	41.9	23.31	44.2	44.2	24.04	45.9	35.5	24.49
	32.2	49.5	49.5	21.18	51.1	51.1	21.85	52.2	46.5	22.25	46.7	46.7	22.37	48.2	48.2	23.08	49.2	45.3	23.51	43.3	43.3	23.38	44.6	44.6	24.12	45.6	43.2	24.56

Notes:

1. All capacities are gross, evaporator fan motor heat is not deducted. To obtain net cooling capacity, subtract evaporator fan motor heat.
2. DB = Dry Bulb Temperature (°C), WB = Wet Bulb Temperature (°C).
3. l/s = Liters per second.
4. TGC = Total Gross Cooling Capacity(Unit : kW).
5. SHC = Sensible Heating Capacity(Unit : kW).
6. PI = Power Input(kW), Sum of Compressor & Outdoor Fan Power Input.

15RT AK-H1808C02 (English)

Outdoor DB(°F)		85									95								
Indoor WB(°F)		61			67			73			61			67			73		
CFM	DB(°F)	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI
4400	75	146.6	123.5	17.19	162.1	93.6	17.73	174.3	41.3	18.06	141.4	125.9	18.96	156.4	95.4	19.56	168.1	42.1	19.92
	80	153.0	141.9	17.24	165.0	117.2	17.78	174.3	76.7	18.11	147.6	144.6	19.02	159.2	119.4	19.62	168.2	78.2	19.98
	85	158.7	155.5	17.29	167.4	141.1	17.84	173.8	106.1	18.17	153.1	153.1	19.07	161.5	143.8	19.68	167.7	108.2	20.04
	90	163.9	163.7	17.34	169.2	156.8	17.89	172.8	129.2	18.22	158.2	158.2	19.13	163.2	159.8	19.73	166.7	131.7	20.10
4950	75	153.4	131.8	17.34	169.6	99.8	17.88	182.4	44.1	18.22	148.0	134.3	19.11	163.6	101.7	19.71	175.9	44.9	20.08
	80	160.1	151.4	17.39	172.7	125.0	17.94	182.4	81.9	18.27	154.4	154.3	19.17	166.6	127.4	19.77	176.0	83.4	20.14
	85	166.1	165.9	17.44	175.2	150.6	17.99	181.9	113.2	18.33	160.3	160.3	19.22	169.0	153.4	19.83	175.5	115.4	20.20
	90	171.6	171.6	17.49	177.0	167.3	18.05	180.8	137.9	18.38	165.5	165.5	19.28	170.8	170.5	19.89	174.4	140.5	20.26
5500	75	157.5	141.5	17.49	174.1	107.2	18.04	187.2	47.3	18.37	151.9	144.3	19.33	168.0	109.2	19.94	180.6	48.2	20.31
	80	164.3	162.5	17.54	177.3	134.2	18.09	187.3	87.9	18.43	158.5	158.5	19.39	171.0	136.8	20.00	180.7	89.6	20.37
	85	170.5	170.5	17.59	179.8	161.7	18.15	186.8	121.6	18.48	164.5	164.5	19.45	173.5	164.8	20.06	180.2	123.9	20.43
	90	176.1	176.1	17.64	181.7	179.6	18.20	185.6	148.1	18.54	169.9	169.9	19.50	175.3	175.3	20.12	179.1	150.9	20.49
6050	75	160.2	148.2	17.63	177.1	112.2	18.19	190.4	49.5	18.53	154.5	151.0	19.41	170.9	114.4	20.02	183.7	50.5	20.39
	80	167.1	167.1	17.69	180.3	140.5	18.25	190.5	92.0	18.58	161.2	161.2	19.46	173.9	143.2	20.08	183.8	93.8	20.45
	85	173.4	173.4	17.74	182.9	169.3	18.30	190.0	127.3	18.64	167.3	167.3	19.52	176.4	172.5	20.14	183.3	129.7	20.51
	90	179.1	179.1	17.79	184.9	184.9	18.35	188.8	155.0	18.70	172.8	172.8	19.58	178.3	178.3	20.20	182.1	158.0	20.57
6600	75	162.2	152.9	17.78	179.4	115.8	18.34	192.8	51.1	18.68	156.5	155.8	19.55	173.0	118.0	20.17	186.0	52.1	20.55
	80	169.3	169.3	17.84	182.6	145.0	18.40	192.9	94.9	18.74	163.3	163.3	19.61	176.2	147.7	20.23	186.1	96.8	20.61
	85	175.7	175.7	17.89	185.2	174.6	18.45	192.4	131.3	18.80	169.5	169.5	19.67	178.7	177.9	20.29	185.6	133.8	20.67
	90	181.4	181.4	17.94	187.2	187.2	18.51	191.2	159.9	18.85	175.0	175.0	19.73	180.6	180.6	20.35	184.5	163.0	20.73

Outdoor DB(°F)		105									115									125								
Indoor WB(°F)		61			67			73			61			67			73			61			67			73		
CFM	DB(°F)	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI
4400	75	136.5	122.7	20.39	150.9	92.9	21.04	162.2	41.0	21.43	128.8	119.4	21.58	142.4	90.4	22.26	153.1	39.9	22.67	119.3	114.0	22.57	131.9	86.3	23.29	141.8	38.1	23.72
	80	142.4	140.9	20.46	153.6	116.4	21.10	162.3	76.2	21.49	134.4	134.4	21.64	145.0	113.2	22.33	153.2	74.2	22.74	124.5	124.5	22.64	134.3	108.1	23.36	141.9	70.8	23.79
	85	147.8	147.8	20.52	155.8	140.1	21.16	161.9	105.4	21.56	139.5	139.5	21.71	147.1	136.4	22.39	152.7	102.6	22.81	129.2	129.2	22.71	136.2	130.2	23.43	141.5	97.9	23.86
	90	152.6	152.6	20.58	157.5	155.7	21.23	160.9	128.4	21.62	144.0	144.0	21.77	148.6	148.6	22.46	151.8	124.9	22.88	133.4	133.4	22.78	137.7	137.7	23.50	140.6	119.2	23.93
4950	75	142.8	130.9	20.54	157.9	99.1	21.19	169.8	43.8	21.58	134.8	127.4	21.73	149.0	96.5	22.41	160.2	42.6	22.83	124.9	121.6	22.72	138.0	92.1	23.44	148.4	40.6	23.87
	80	149.0	149.0	20.60	160.8	124.2	21.25	169.9	81.3	21.65	140.6	140.6	21.79	151.7	120.8	22.48	160.3	79.1	22.90	130.3	130.3	22.79	140.5	115.3	23.51	148.5	75.5	23.95
	85	154.7	154.7	20.67	163.1	149.5	21.32	169.4	112.5	21.71	145.9	145.9	21.86	153.9	145.5	22.55	159.8	109.4	22.97	135.2	135.2	22.86	142.6	138.9	23.58	148.1	104.5	24.02
	90	159.7	159.7	20.73	164.8	164.8	21.38	168.4	137.0	21.78	150.7	150.7	21.92	155.6	155.6	22.62	158.9	133.3	23.03	139.6	139.6	22.93	144.1	144.1	23.65	147.2	127.2	24.09
5500	75	146.6	140.6	20.69	162.1	106.5	21.34	174.3	47.0	21.74	138.4	136.8	21.88	153.0	103.6	22.57	164.5	45.7	22.99	128.2	128.2	22.87	141.7	98.9	23.59	152.3	43.6	24.03
	80	153.0	153.0	20.75	165.0	133.3	21.41	174.4	87.3	21.81	144.4	144.4	21.94	155.7	129.7	22.63	164.6	85.0	23.05	133.7	133.7	22.94	144.3	123.8	23.66	152.4	81.1	24.10
	85	158.8	158.8	20.82	167.4	160.6	21.47	173.9	120.8	21.87	149.8	149.8	22.01	158.0	156.3	22.70	164.1	117.5	23.12	138.8	138.8	23.01	146.3	146.3	23.73	152.0	112.2	24.18
	90	164.0	164.0	20.88	169.2	169.2	21.54	172.8	147.1	21.94	154.7	154.7	22.07	159.7	159.7	22.77	163.1	143.1	23.19	143.3	143.3	23.08	147.9	147.9	23.81	151.1	136.6	24.25
6050	75	149.1	147.2	20.84	164.9	111.5	21.50	177.3	49.2	21.90	140.7	140.7	22.02	155.6	108.5	22.72	167.3	47.9	23.14	130.4	130.4	23.02	144.1	103.5	23.75	155.0	45.7	24.19
	80	155.6	155.6	20.90	167.8	139.6	21.56	177.4	91.4	21.96	146.8	146.8	22.09	158.4	135.8	22.79	167.4	89.0	23.21	136.0	136.0	23.09	146.7	129.6	23.82	155.0	84.9	24.26
	85	161.5	161.5	20.97	170.3	168.1	21.63	176.9	126.4	22.03	152.4	152.4	22.16	160.7	160.7	22.86	166.9	123.0	23.28	141.1	141.1	23.16	148.8	148.8	23.89	154.6	117.4	24.33
	90	166.8	166.8	21.03	172.1	172.1	21.69	175.8	154.0	22.09	157.4	157.4	22.22	162.4	162.4	22.92	165.9	149.8	23.35	145.8	145.8	23.23	150.4	150.4	23.96	153.6	143.0	24.41
6600	75	151.1	151.1	20.99	167.0	115.0	21.65	179.5	50.7	22.05	142.6	142.6	22.17	157.6	111.9	22.87	169.4	49.4	23.30	132.0	132.0	23.17	146.0	106.8	23.90	156.9	47.1	24.34
	80	157.6	157.6	21.05	170.0	144.0	21.72	179.6	94.3	22.12	148.7	148.7	22.24	160.4	140.1	22.94	169.5	91.8	23.37	137.8	137.8	23.24	148.6	133.7	23.97	157.0	87.6	24.42
	85	163.6	163.6	21.11	172.5	172.5	21.78	179.1	130.4	22.19	154.3	154.3	22.31	162.8	162.8	23.01	169.0	126.9	23.44	143.0	143.0	23.31	150.7	150.7	24.04	156.6	121.1	24.49
	90	168.9	168.9	21.18	174.3	174.3	21.85	178.0	158.8	22.25	159.4	159.4	22.37	164.5	164.5	23.08	168.0	154.6	23.51	147.6	147.6	23.38	152.4	152.4	24.12	155.6	147.5	24.56

Notes:
1. All capacities are gross, evaporator fan motor heat is not deducted. To obtain net cooling capacity, subtract evaporator fan motor heat.
2. DB = Dry Bulb Temperature (°F), WB = Wet Bulb Temperature (°F).
3. CFM = Cubic Feet per minute.
4. TGC = Total Gross Cooling Capacity(Unit : MBH = kBtu/h).
5. SHC = Sensible Heating Capacity(Unit : MBH = kBtu/h).
6. PI = Power Input(kW), Sum of Compressor & Outdoor Fan Power Input.

10. Performance data

20RT AK-H2408C02 (SI)

Outdoor DB(°C)		29.4									35.0								
Indoor WB(°C)		16.1			19.4			22.8			16.1			19.4			22.8		
l/s	DB(°C)	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI
3020	23.9	59.3	49.3	22.77	65.5	37.3	23.49	70.4	16.5	23.93	57.2	50.3	25.12	63.2	38.1	25.91	67.9	16.8	26.40
	26.7	61.8	56.6	22.84	66.7	46.8	23.56	70.5	30.6	24.00	59.6	57.7	25.20	64.3	47.7	25.99	68.0	31.2	26.47
	29.4	64.2	62.1	22.91	67.7	56.3	23.63	70.3	42.4	24.07	61.9	61.9	25.27	65.3	57.4	26.07	67.8	43.2	26.55
	32.2	66.3	65.4	22.98	68.4	62.6	23.71	69.8	51.6	24.14	63.9	63.9	25.35	66.0	63.8	26.15	67.4	52.6	26.63
3398	23.9	62.0	52.6	22.97	68.6	39.8	23.70	73.7	17.6	24.14	59.8	53.6	25.32	66.1	40.6	26.12	71.1	17.9	26.60
	26.7	64.7	60.4	23.04	69.8	49.9	23.77	73.7	32.7	24.21	62.4	61.6	25.40	67.3	50.9	26.20	71.1	33.3	26.68
	29.4	67.1	66.2	23.11	70.8	60.1	23.84	73.5	45.2	24.28	64.8	64.8	25.47	68.3	61.2	26.27	70.9	46.1	26.76
	32.2	69.3	69.3	23.18	71.6	66.8	23.91	73.1	55.0	24.35	66.9	66.9	25.55	69.0	68.0	26.35	70.5	56.1	26.84
3775	23.9	63.7	56.5	23.17	70.4	42.8	23.90	75.7	18.9	24.34	61.4	57.6	25.61	67.9	43.6	26.42	73.0	19.2	26.91
	26.7	66.4	64.9	23.24	71.6	53.6	23.97	75.7	35.1	24.42	64.1	64.1	25.69	69.1	54.6	26.50	73.0	35.8	26.99
	29.4	68.9	68.9	23.31	72.7	64.5	24.04	75.5	48.5	24.49	66.5	66.5	25.77	70.1	65.8	26.58	72.8	49.5	27.07
	32.2	71.2	71.2	23.38	73.5	71.7	24.12	75.0	59.1	24.56	68.7	68.7	25.84	70.9	70.9	26.66	72.4	60.2	27.15
4153	23.9	64.7	59.2	23.37	71.6	44.8	24.10	77.0	19.8	24.55	62.5	60.3	25.71	69.1	45.7	26.52	74.2	20.2	27.02
	26.7	67.6	67.6	23.44	72.9	56.1	24.18	77.0	36.7	24.62	65.2	65.2	25.79	70.3	57.2	26.60	74.3	37.4	27.10
	29.4	70.1	70.1	23.51	73.9	67.6	24.25	76.8	50.8	24.70	67.6	67.6	25.87	71.3	68.8	26.68	74.1	51.8	27.18
	32.2	72.4	72.4	23.58	74.7	74.7	24.32	76.3	61.9	24.77	69.9	69.9	25.94	72.1	72.1	26.76	73.6	63.1	27.26
4530	23.9	65.6	61.0	23.56	72.5	46.2	24.31	78.0	20.4	24.76	63.3	62.2	25.91	69.9	47.1	26.73	75.2	20.8	27.22
	26.7	68.4	68.4	23.63	73.8	57.9	24.38	78.0	37.9	24.83	66.0	66.0	25.99	71.2	59.0	26.81	75.2	38.6	27.31
	29.4	71.0	71.0	23.70	74.9	69.7	24.45	77.8	52.4	24.91	68.5	68.5	26.07	72.2	71.0	26.89	75.0	53.4	27.39
	32.2	73.3	73.3	23.77	75.7	75.7	24.53	77.3	63.8	24.98	70.7	70.7	26.14	73.0	73.0	26.97	74.6	65.0	27.47

Outdoor DB(°C)		40.6									46.1									51.7								
Indoor WB(°C)		16.1			19.4			22.8			16.1			19.4			22.8			16.1			19.4			22.8		
l/s	DB(°C)	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI
3020	23.9	55.2	49.0	27.02	61.0	37.1	27.87	65.6	16.4	28.39	52.1	47.7	28.59	57.6	36.1	29.49	61.9	15.9	30.04	48.2	45.5	29.91	53.3	34.4	30.85	57.3	15.2	31.43
	26.7	57.6	56.2	27.10	62.1	46.4	27.96	65.6	30.4	28.48	54.3	54.3	28.68	58.6	45.2	29.58	61.9	29.6	30.13	50.3	50.3	30.00	54.3	43.1	30.95	57.3	28.3	31.52
	29.4	59.7	59.7	27.18	63.0	55.9	28.04	65.4	42.1	28.56	56.4	56.4	28.76	59.4	54.4	29.67	61.7	40.9	30.22	52.2	52.2	30.09	55.1	52.0	31.04	57.2	39.1	31.62
	32.2	61.7	61.7	27.27	63.7	62.1	28.13	65.0	51.2	28.65	58.2	58.2	28.85	60.1	60.1	29.76	61.4	49.9	30.31	53.9	53.9	30.18	55.6	55.6	31.13	56.8	47.6	31.71
3398	23.9	57.7	52.3	27.22	63.8	39.6	28.08	68.6	17.5	28.60	54.5	50.9	28.79	60.2	38.5	29.70	64.8	17.0	30.25	50.5	48.5	30.11	55.8	36.8	31.06	60.0	16.2	31.63
	26.7	60.2	60.0	27.30	65.0	49.6	28.16	68.7	32.5	28.68	56.8	56.8	28.88	61.3	48.2	29.79	64.8	31.6	30.34	52.7	52.7	30.20	56.8	46.0	31.15	60.0	30.1	31.73
	29.4	62.5	62.5	27.38	65.9	59.7	28.25	68.5	44.9	28.77	59.0	59.0	28.96	62.2	58.1	29.88	64.6	43.7	30.43	54.6	54.6	30.29	57.6	55.4	31.24	59.8	41.7	31.82
	32.2	64.6	64.6	27.46	66.6	66.3	28.33	68.0	54.7	28.86	60.9	60.9	29.05	62.9	62.9	29.97	64.2	53.2	30.52	56.4	56.4	30.38	58.2	58.2	31.34	59.5	50.8	31.92
3775	23.9	59.3	56.1	27.42	65.5	42.5	28.28	70.4	18.8	28.81	55.9	54.6	28.99	61.8	41.4	29.90	66.5	18.3	30.46	51.8	51.8	30.30	57.3	39.5	31.26	61.6	17.4	31.84
	26.7	61.8	61.8	27.50	66.7	53.2	28.37	70.5	34.9	28.89	58.4	58.4	29.07	62.9	51.8	29.99	66.5	33.9	30.55	54.1	54.1	30.40	58.3	49.4	31.35	61.6	32.4	31.94
	29.4	64.2	64.2	27.58	67.7	64.1	28.45	70.3	48.2	28.98	60.6	60.6	29.16	63.9	62.4	30.08	66.3	46.9	30.64	56.1	56.1	30.49	59.1	59.1	31.45	61.4	44.8	32.03
	32.2	66.3	66.3	27.66	68.4	68.4	28.54	69.9	58.7	29.07	62.5	62.5	29.25	64.5	64.5	30.17	65.9	57.1	30.73	57.9	57.9	30.58	59.8	59.8	31.54	61.1	54.5	32.13
4153	23.9	60.3	58.7	27.61	66.6	44.5	28.48	71.7	19.6	29.01	56.9	56.9	29.18	62.9	43.3	30.10	67.6	19.1	30.66	52.7	52.7	30.50	58.3	41.3	31.46	62.6	18.2	32.05
	26.7	62.9	62.9	27.70	67.8	55.7	28.57	71.7	36.5	29.10	59.4	59.4	29.27	64.0	54.2	30.19	67.6	35.5	30.75	55.0	55.0	30.59	59.3	51.7	31.56	62.7	33.9	32.14
	29.4	65.3	65.3	27.78	68.8	67.1	28.66	71.5	50.5	29.19	61.6	61.6	29.36	65.0	65.0	30.28	67.5	49.1	30.85	57.1	57.1	30.68	60.2	60.2	31.65	62.5	46.9	32.24
	32.2	67.4	67.4	27.86	69.6	69.6	28.74	71.0	61.5	29.27	63.6	63.6	29.45	65.6	65.6	30.38	67.0	59.8	30.94	58.9	58.9	30.78	60.8	60.8	31.75	62.1	57.1	32.34
4531	23.9	61.1	60.6	27.81	67.5	45.9	28.69	72.6	20.3	29.22	57.6	57.6	29.38	63.7	44.7	30.31	68.5	19.7	30.87	53.4	53.4	30.70	59.0	42.6	31.67	63.4	18.8	32.25
	26.7	63.7	63.7	27.89	68.7	57.5	28.77	72.6	37.6	29.31	60.1	60.1	29.47	64.8	55.9	30.40	68.5	36.6	30.96	55.7	55.7	30.79	60.1	53.4	31.76	63.5	35.0	32.35
	29.4	66.1	66.1	27.98	69.7	69.2	28.86	72.4	52.1	29.40	62.4	62.4	29.56	65.8	65.8	30.49	68.3	50.7	31.05	57.8	57.8	30.88	60.9	60.9	31.86	63.3	48.3	32.45
	32.2	68.3	68.3	28.06	70.5	70.5	28.95	72.0	63.4	29.48	64.4	64.4	29.64	66.5	66.5	30.58	67.9	61.7	31.15	59.7	59.7	30.98	61.6	61.6	31.95	62.9	58.9	32.55

Notes:

1. All capacities are gross, evaporator fan motor heat is not deducted. To obtain net cooling capacity, subtract evaporator fan motor heat.
2. DB = Dry Bulb Temperature (°C), WB = Wet Bulb Temperature (°C).
3. l/s = Liters per second.
4. TGC = Total Gross Cooling Capacity(Unit : kW).
5. SHC = Sensible Heating Capacity(Unit : kW).
6. PI = Power Input(kW), Sum of Compressor & Outdoor Fan Power Input.

20RT AK-H2408C02 (English)

Outdoor DB(°F)		85									95								
Indoor WB(°F)		61			67			73			61			67			73		
CFM	DB(°F)	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI
6400	75	202.2	168.3	22.77	223.6	127.5	23.49	240.4	56.3	23.93	195.1	171.5	25.12	215.7	129.9	25.91	231.9	57.3	26.40
	80	211.0	193.3	22.84	227.6	159.6	23.56	240.5	104.5	24.00	203.6	197.0	25.20	219.6	162.7	25.99	232.0	106.5	26.47
	85	219.0	211.8	22.91	230.9	192.2	23.63	239.8	144.6	24.07	211.2	211.2	25.27	222.8	195.9	26.07	231.4	147.3	26.55
	90	226.2	223.1	22.98	233.4	213.6	23.71	238.4	176.1	24.14	218.2	218.2	25.35	225.1	217.6	26.15	230.0	179.4	26.63
7200	75	211.7	179.6	22.97	234.0	136.0	23.70	251.6	60.0	24.14	204.2	183.0	25.32	225.7	138.6	26.12	242.7	61.2	26.60
	80	220.8	206.2	23.04	238.2	170.3	23.77	251.7	111.5	24.21	213.0	210.2	25.40	229.8	173.6	26.20	242.8	113.7	26.68
	85	229.2	226.0	23.11	241.6	205.1	23.84	251.0	154.3	24.28	221.1	221.1	25.47	233.1	209.0	26.27	242.1	157.2	26.76
	90	236.7	236.7	23.18	244.2	227.9	23.91	249.5	187.9	24.35	228.3	228.3	25.55	235.6	232.2	26.35	240.7	191.4	26.84
8000	75	217.3	192.8	23.17	240.2	146.0	23.90	258.3	64.5	24.34	209.6	196.5	25.61	231.7	148.8	26.42	249.1	65.7	26.91
	80	226.7	221.4	23.24	244.5	182.9	23.97	258.4	119.8	24.42	218.7	218.7	25.69	235.9	186.4	26.50	249.3	122.1	26.99
	85	235.2	235.2	23.31	248.1	220.2	24.04	257.6	165.6	24.49	226.9	226.9	25.77	239.3	224.4	26.58	248.6	168.8	27.07
	90	243.0	243.0	23.38	250.7	244.7	24.12	256.1	201.7	24.56	234.4	234.4	25.84	241.9	241.9	26.66	247.0	205.6	27.15
8800	75	221.0	201.9	23.37	244.3	152.9	24.10	262.7	67.5	24.55	213.2	205.7	25.71	235.7	155.8	26.52	253.4	68.8	27.02
	80	230.6	230.6	23.44	248.7	191.5	24.18	262.8	125.4	24.62	222.4	222.4	25.79	239.9	195.1	26.60	253.5	127.8	27.10
	85	239.3	239.3	23.51	252.3	230.6	24.25	262.0	173.4	24.70	230.8	230.8	25.87	243.4	235.0	26.68	252.8	176.7	27.18
	90	247.1	247.1	23.58	255.0	255.0	24.32	260.5	211.2	24.77	238.4	238.4	25.94	246.0	246.0	26.76	251.3	215.2	27.26
9600	75	223.8	208.2	23.56	247.5	157.7	24.31	266.0	69.6	24.76	215.9	212.2	25.91	238.7	160.7	26.73	256.7	70.9	27.22
	80	233.5	233.5	23.63	251.9	197.5	24.38	266.2	129.3	24.83	225.3	225.3	25.99	243.0	201.3	26.81	256.8	131.8	27.31
	85	242.3	242.3	23.70	255.5	237.8	24.45	265.4	178.9	24.91	233.8	233.8	26.07	246.5	242.4	26.89	256.1	182.3	27.39
	90	250.3	250.3	23.77	258.3	258.3	24.53	263.8	217.9	24.98	241.5	241.5	26.14	249.2	249.2	26.97	254.5	222.0	27.47

Outdoor DB(°F)		105									115									125								
Indoor WB(°F)		61			67			73			61			67			73			61			67			73		
CFM	DB(°F)	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI
6400	75	188.3	167.2	27.02	208.2	126.6	27.87	223.8	55.9	28.39	177.7	162.7	28.59	196.5	123.2	29.49	211.2	54.4	30.04	164.6	155.2	29.91	182.0	117.6	30.85	195.6	51.9	31.43
	80	196.4	192.0	27.10	211.9	158.5	27.96	223.9	103.8	28.48	185.4	185.4	28.68	200.0	154.3	29.58	211.3	101.0	30.13	171.7	171.7	30.00	185.2	147.2	30.95	195.7	96.4	31.52
	85	203.9	203.9	27.18	215.0	190.9	28.04	223.3	143.6	28.56	192.4	192.4	28.76	202.9	185.8	29.67	210.7	139.7	30.22	178.2	178.2	30.09	187.9	177.3	31.04	195.2	133.4	31.62
	90	210.6	210.6	27.27	217.3	212.1	28.13	221.9	174.9	28.65	198.7	198.7	28.85	205.1	205.1	29.76	209.4	170.2	30.31	184.0	184.0	30.18	189.9	189.9	31.13	194.0	162.4	31.71
7200	75	197.1	178.3	27.22	217.9	135.1	28.08	234.2	59.6	28.60	186.0	173.6	28.79	205.6	131.4	29.70	221.0	58.0	30.25	172.2	165.6	30.11	190.4	125.4	31.06	204.7	55.4	31.63
	80	205.6	204.8	27.30	221.8	169.1	28.16	234.3	110.8	28.68	194.0	194.0	28.88	209.3	164.6	29.79	221.1	107.8	30.34	179.7	179.7	30.20	193.9	157.1	31.15	204.8	102.9	31.73
	85	213.4	213.4	27.38	225.0	203.7	28.25	233.7	153.2	28.77	201.3	201.3	28.96	212.3	198.2	29.88	220.5	149.1	30.43	186.5	186.5	30.29	196.7	189.2	31.24	204.3	142.3	31.82
	90	220.4	220.4	27.46	227.4	226.3	28.33	232.2	186.6	28.86	207.9	207.9	29.05	214.6	214.6	29.97	219.2	181.6	30.52	192.6	192.6	30.38	198.8	198.8	31.34	203.0	173.3	31.92
8000	75	202.3	191.5	27.42	223.6	145.0	28.28	240.4	64.0	28.81	190.9	186.4	28.99	211.1	141.1	29.90	226.9	62.3	30.46	176.8	176.8	30.30	195.5	134.7	31.26	210.2	59.5	31.84
	80	211.0	211.0	27.50	227.7	181.6	28.37	240.5	118.9	28.89	199.2	199.2	29.07	214.8	176.7	29.99	227.0	115.8	30.55	184.5	184.5	30.40	199.0	168.7	31.35	210.3	110.5	31.94
	85	219.0	219.0	27.58	231.0	218.7	28.45	239.9	164.5	28.98	206.7	206.7	29.16	217.9	212.9	30.08	226.4	160.1	30.64	191.4	191.4	30.49	201.9	201.9	31.45	209.7	152.8	32.03
	90	226.2	226.2	27.66	233.4	233.4	28.54	238.4	200.3	29.07	213.5	213.5	29.25	220.3	220.3	30.17	225.0	195.0	30.73	197.7	197.7	30.58	204.0	204.0	31.54	208.4	186.1	32.13
8800	75	205.7	200.5	27.61	227.5	151.8	28.48	244.5	67.0	29.01	194.2	194.2	29.18	214.7	147.8	30.10	230.8	65.2	30.66	179.8	179.8	30.50	198.8	141.0	31.46	213.8	62.2	32.05
	80	214.7	214.7	27.70	231.6	190.1	28.57	244.7	124.5	29.10	202.6	202.6	29.27	218.5	185.0	30.19	230.9	121.2	30.75	187.6	187.6	30.59	202.4	176.6	31.56	213.9	115.7	32.14
	85	222.8	222.8	27.78	234.9	229.0	28.66	244.0	172.2	29.19	210.2	210.2	29.36	221.7	221.7	30.28	230.2	167.6	30.85	194.7	194.7	30.68	205.3	205.3	31.65	213.3	160.0	32.24
	90	230.1	230.1	27.86	237.4	237.4	28.74	242.5	209.7	29.27	217.1	217.1	29.45	224.1	224.1	30.38	228.8	204.1	30.94	201.1	201.1	30.78	207.5	207.5	31.75	212.0	194.8	32.34
9600	75	208.4	206.8	27.81	230.4	156.6	28.69	247.7	69.1	29.22	196.7	196.7	29.38	217.4	152.4	30.31	233.7	67.3	30.87	182.2	182.2	30.70	201.4	145.5	31.67	216.5	64.2	32.25
	80	217.4	217.4	27.89	234.5	196.1	28.77	247.8	128.5	29.31	205.2	205.2	29.47	221.3	190.9	30.40	233.9	125.0	30.96	190.0	190.0	30.79	205.0	182.2	31.76	216.6	119.3	32.35
	85	225.6	225.6	27.98	237.9	236.2	28.86	247.1	177.7	29.40	212.9	212.9	29.56	224.5	224.5	30.49	233.2	172.9	31.05	197.2	197.2	30.88	208.0	208.0	31.86	216.0	165.0	32.45
	90	233.0	233.0	28.06	240.5	240.5	28.95	245.6	216.4	29.48	219.9	219.9	29.64	226.9	226.9	30.58	231.8	210.6	31.15	203.7	203.7	30.98	210.2	210.2	31.95	214.7	200.9	32.55

Notes:
1. All capacities are gross, evaporator fan motor heat is not deducted. To obtain net cooling capacity, subtract evaporator fan motor heat.
2. DB = Dry Bulb Temperature (°F), WB = Wet Bulb Temperature (°F).
3. CFM = Cubic Feet per minute.
4. TGC = Total Gross Cooling Capacity(Unit : MBH = kBtu/h).
5. SHC = Sensible Heating Capacity(Unit : MBH = kBtu/h).
6. PI = Power Input(kW), Sum of Compressor & Outdoor Fan Power Input.

10. Performance data

10.2 Heating Capacity

10RT AK-H1208C02 (SI)

Indoor		Outdoor WB(°F)															
		-10.0		-5.0		0		2.0		4.0		6.0		10.0		15.0	
AFR(l/s)	DB(°C)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
1397	16.0	20.8	9.2	24.5	10.0	28.4	10.9	29.8	11.2	31.3	11.6	33.0	11.8	35.7	12.4	39.5	13.3
	18.0	20.2	9.5	23.8	10.4	27.5	11.3	28.9	11.6	30.3	12.0	32.0	12.2	34.6	12.8	38.2	13.7
	20.0	19.6	9.8	23.1	10.7	26.7	11.7	28.0	12.0	29.4	12.4	30.8	12.6	33.6	13.2	37.1	14.2
	22.0	18.9	10.1	22.2	11.0	25.7	12.0	27.0	12.4	28.3	12.8	29.9	13.0	32.4	13.7	35.7	14.6
	24.0	18.2	10.4	21.5	11.4	24.8	12.4	26.1	12.8	27.3	13.2	28.9	13.4	31.3	14.1	34.5	15.1
1746	16.0	21.2	8.4	24.9	9.2	28.9	10.0	30.3	10.3	31.8	10.6	33.6	10.8	36.3	11.3	40.1	12.2
	18.0	20.5	8.7	24.2	9.5	27.9	10.3	29.4	10.6	30.8	11.0	32.5	11.1	35.2	11.7	38.8	12.6
	20.0	19.9	9.0	23.4	9.8	27.1	10.7	28.5	11.0	29.8	11.3	31.3	11.5	34.1	12.1	37.7	13.0
	22.0	19.2	9.2	22.6	10.1	26.1	11.0	27.4	11.3	28.8	11.7	30.4	11.9	32.9	12.5	36.3	13.4
	24.0	18.5	9.5	21.8	10.4	25.2	11.3	26.5	11.7	27.8	12.0	29.4	12.2	31.8	12.9	35.1	13.8
2095	16.0	21.6	8.0	25.5	8.7	29.4	9.5	30.9	9.8	32.4	10.1	34.2	10.3	37.1	10.8	40.9	11.6
	18.0	20.9	8.3	24.6	9.0	28.5	9.8	29.9	10.2	31.4	10.5	33.2	10.6	35.9	11.2	39.6	12.0
	20.0	20.3	8.5	23.9	9.3	27.7	10.2	29.1	10.5	30.4	10.8	32.0	11.0	34.8	11.6	38.4	12.4
	22.0	19.6	8.8	23.0	9.6	26.7	10.5	28.0	10.8	29.3	11.1	31.0	11.3	33.6	11.9	37.0	12.8
	24.0	18.9	9.1	22.3	9.9	25.7	10.8	27.0	11.2	28.3	11.5	29.9	11.7	32.4	12.3	35.8	13.2

10RT AK-H1208C02 (English)

Indoor		Outdoor WB(°F)															
		14.0		23.0		32.0		35.6		39.2		42.8		50.0		59.0	
AFR(CFM)	DB(°F)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
2960	60.8	71.1	9.2	83.8	10.0	97.0	10.9	101.8	11.2	106.7	11.6	112.7	11.8	122.0	12.4	134.7	13.3
	64.4	68.9	9.5	81.2	10.4	93.9	11.3	98.6	11.6	103.3	12.0	109.2	12.2	118.2	12.8	130.4	13.7
	68.0	66.8	9.8	78.7	10.7	91.1	11.7	95.7	12.0	100.2	12.4	105.3	12.6	114.7	13.2	126.6	14.2
	71.6	64.4	10.1	75.9	11.0	87.8	12.0	92.2	12.4	96.6	12.8	102.1	13.0	110.5	13.7	122.0	14.6
	75.2	62.2	10.4	73.3	11.4	84.8	12.4	89.0	12.8	93.3	13.2	98.6	13.4	106.7	14.1	117.8	15.1
3700	60.8	72.3	8.4	85.2	9.2	98.5	10.0	103.5	10.3	108.4	10.6	114.6	10.8	124.0	11.3	136.9	12.2
	64.4	70.0	8.7	82.5	9.5	95.4	10.3	100.2	10.6	105.0	11.0	111.0	11.1	120.1	11.7	132.6	12.6
	68.0	67.9	9.0	80.0	9.8	92.6	10.7	97.2	11.0	101.9	11.3	107.0	11.5	116.5	12.1	128.6	13.0
	71.6	65.5	9.2	77.1	10.1	89.2	11.0	93.7	11.3	98.2	11.7	103.8	11.9	112.3	12.5	124.0	13.4
	75.2	63.2	9.5	74.5	10.4	86.2	11.3	90.5	11.7	94.8	12.0	100.2	12.2	108.5	12.9	119.7	13.8
4440	60.8	73.8	8.0	86.9	8.7	100.5	9.5	105.6	9.8	110.6	10.1	116.9	10.3	126.5	10.8	139.7	11.6
	64.4	71.4	8.3	84.1	9.0	97.3	9.8	102.2	10.2	107.1	10.5	113.2	10.6	122.5	11.2	135.2	12.0
	68.0	69.3	8.5	81.6	9.3	94.4	10.2	99.2	10.5	103.9	10.8	109.2	11.0	118.9	11.6	131.2	12.4
	71.6	66.8	8.8	78.7	9.6	91.0	10.5	95.6	10.8	100.2	11.1	105.9	11.3	114.6	11.9	126.5	12.8
	75.2	64.5	9.1	76.0	9.9	87.9	10.8	92.3	11.2	96.7	11.5	102.2	11.7	110.7	12.3	122.1	13.2

Correction Factor for Heating Capacity due to Frost on Heat Exchanger and Defrosting Operation.
The heating capacity in the "Heating Capacity Table" above indicates the actual heating capacity excluding the effect of frost on the heat exchanger and the defrosting operation. Therefore, use the following factor to calculate the average heating capacity including capacity reduction by frost on the exchanger and defrosting operation.

Correction Factor

Outdoor Air Temperature (°CWB, RH=85%)	10	-6	-4	-2	0	2	4	6
Correction Factor	0.95	0.95	0.89	0.87	0.87	0.89	0.91	1.00

Notes:
1. All capacities are net, indoor fan motor heat is deducted.
2. Capacities are based on the following conditions.
   Outdoor air : 85%RH. However, the condition on nominal capacity is 7°CDB/6°CWB.
3. TC=Total Capacity(SI Unit : kW, English Unit : MBH = kBtu/h.
4. PI=Power Input(Comp.+indoor fan motor+outdoor fan motor) (kW).
5. Air Flow Rate(SI : l/s, English : CFM).

10. Performance data

15RT AK-H1808C02 (SI)

Indoor		Outdoor WB(°F)															
		-10.0		-5.0		0		2.0		4.0		6.0		10.0		15.0	
AFR(l/s)	DB(°C)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
2001	16.0	35.0	13.6	41.3	14.8	47.8	16.1	50.2	16.6	52.6	17.1	55.5	17.4	60.1	18.3	66.4	19.6
	18.0	33.9	14.0	40.0	15.3	46.3	16.7	48.6	17.2	50.9	17.7	53.8	18.0	58.2	19.0	64.3	20.3
	20.0	32.9	14.5	38.8	15.8	44.9	17.2	47.1	17.8	49.4	18.3	51.9	18.6	56.5	19.6	62.4	21.0
	22.0	31.7	14.9	37.4	16.3	43.3	17.8	45.4	18.3	47.6	18.9	50.3	19.2	54.5	20.2	60.1	21.6
	24.0	30.6	15.4	36.1	16.8	41.8	18.3	43.9	18.9	46.0	19.5	48.6	19.8	52.6	20.8	58.0	22.3
2501	16.0	35.6	12.4	42.0	13.5	48.5	14.8	51.0	15.2	53.4	15.7	56.4	15.9	61.1	16.8	67.4	18.0
	18.0	34.5	12.8	40.6	14.0	47.0	15.3	49.4	15.7	51.7	16.2	54.7	16.5	59.2	17.3	65.3	18.6
	20.0	33.5	13.2	39.4	14.5	45.6	15.8	47.9	16.2	50.2	16.7	52.7	17.0	57.4	17.9	63.4	19.2
	22.0	32.3	13.7	38.0	14.9	44.0	16.3	46.2	16.8	48.4	17.3	51.1	17.6	55.3	18.5	61.1	19.8
	24.0	31.1	14.1	36.7	15.4	42.5	16.8	44.6	17.3	46.7	17.8	49.4	18.1	53.4	19.1	59.0	20.4
3001	16.0	36.3	11.8	42.8	12.9	49.5	14.1	52.0	14.5	54.5	15.0	57.6	15.2	62.3	16.0	68.8	17.1
	18.0	35.2	12.2	41.5	13.4	48.0	14.6	50.4	15.0	52.8	15.5	55.8	15.7	60.4	16.6	66.6	17.7
	20.0	34.1	12.6	40.2	13.8	46.5	15.0	48.9	15.5	51.2	16.0	53.8	16.2	58.6	17.1	64.6	18.3
	22.0	32.9	13.0	38.8	14.2	44.9	15.5	47.1	16.0	49.4	16.5	52.2	16.8	56.5	17.6	62.3	18.9
	24.0	31.8	13.4	37.4	14.7	43.3	16.0	45.5	16.5	47.7	17.0	50.4	17.3	54.5	18.2	60.2	19.5

15RT AK-H1808C02 (English)

Indoor		Outdoor WB(°F)															
		14.0		23.0		32.0		35.6		39.2		42.8		50.0		59.0	
AFR(CFM)	DB(°F)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
4240	60.8	119.7	13.6	141.0	14.8	163.1	16.1	171.3	16.6	179.5	17.1	189.6	17.4	205.3	18.3	226.6	19.6
	64.4	115.9	14.0	136.5	15.3	157.9	16.7	165.9	17.2	173.8	17.7	183.6	18.0	198.8	19.0	219.4	20.3
	68.0	112.4	14.5	132.4	15.8	153.2	17.2	160.9	17.8	168.6	18.3	177.1	18.6	192.9	19.6	212.9	21.0
	71.6	108.4	14.9	127.6	16.3	147.7	17.8	155.1	18.3	162.5	18.9	171.7	19.2	185.9	20.2	205.2	21.6
	75.2	104.6	15.4	123.3	16.8	142.6	18.3	149.8	18.9	156.9	19.5	165.8	19.8	179.5	20.8	198.1	22.3
5300	60.8	121.6	12.4	143.3	13.5	165.7	14.8	174.1	15.2	182.4	15.7	192.7	15.9	208.6	16.8	230.3	18.0
	64.4	117.8	12.8	138.7	14.0	160.5	15.3	168.5	15.7	176.6	16.2	186.6	16.5	202.0	17.3	223.0	18.6
	68.0	114.2	13.2	134.6	14.5	155.7	15.8	163.5	16.2	171.4	16.7	180.0	17.0	196.0	17.9	216.3	19.2
	71.6	110.1	13.7	129.7	14.9	150.1	16.3	157.6	16.8	165.2	17.3	174.5	17.6	188.9	18.5	208.5	19.8
	75.2	106.3	14.1	125.3	15.4	144.9	16.8	152.2	17.3	159.5	17.8	168.5	18.1	182.4	19.1	201.4	20.4
6360	60.8	124.1	11.8	146.1	12.9	169.1	14.1	177.6	14.5	186.1	15.0	196.6	15.2	212.8	16.0	234.9	17.1
	64.4	120.1	12.2	141.5	13.4	163.7	14.6	172.0	15.0	180.2	15.5	190.4	15.7	206.1	16.6	227.5	17.7
	68.0	116.6	12.6	137.3	13.8	158.9	15.0	166.8	15.5	174.8	16.0	183.6	16.2	200.0	17.1	220.7	18.3
	71.6	112.3	13.0	132.3	14.2	153.1	15.5	160.8	16.0	168.5	16.5	178.1	16.8	192.7	17.6	212.7	18.9
	75.2	108.5	13.4	127.8	14.7	147.9	16.0	155.3	16.5	162.7	17.0	171.9	17.3	186.1	18.2	205.4	19.5

Correction Factor for Heating Capacity due to Frost on Heat Exchanger and Defrosting Operation.
The heating capacity in the "Heating Capacity Table" above indicates the actual heating capacity excluding the effect of frost on the heat exchanger and the defrosting operation. Therefore, use the following factor to calculate the average heating capacity including capacity reduction by frost on the exchanger and defrosting operation.

Correction Factor

Outdoor Air Temperature (°FWB, RH=85%)	14	21.2	24.8	28.4	32	35.6	39.2	42.8
Correction Factor	0.95	0.95	0.89	0.87	0.87	0.89	0.91	1.00

Notes:
1. All capacities are net, indoor fan motor heat is deducted.
2. Capacities are based on the following conditions.
   Outdoor air : 85%RH. However, the condition on nominal capacity is 7°CDB/6°CWB.
3. TC=Total Capacity(SI Unit : kW, English Unit : MBH = kBtu/h.
4. PI=Power Input(Comp.+indoor fan motor+outdoor fan motor) (kW).
5. Air Flow Rate(SI : l/s, English : CFM).

10. Performance data

20RT AK-H2408C02 (SI)

Indoor		Outdoor WB(°F)															
		-10.0		-5.0		0		2.0		4.0		6.0		10.0		15.0	
AFR(l/s)	DB(°C)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
3020	16.0	48.7	22.1	57.3	24.2	66.3	26.4	69.7	27.2	73.0	28.0	77.1	28.5	83.5	30.0	92.2	32.1
	18.0	47.1	22.9	55.5	25.0	64.2	27.3	67.5	28.1	70.7	28.9	74.7	29.4	80.9	31.0	89.3	33.2
	20.0	45.7	23.6	53.9	25.8	62.3	28.2	65.5	29.0	68.6	29.9	72.1	30.4	78.5	32.0	86.6	34.3
	22.0	44.1	24.4	51.9	26.7	60.1	29.0	63.1	29.9	66.1	30.8	69.9	31.4	75.6	33.0	83.5	35.4
	24.0	42.6	25.2	50.1	27.5	58.0	29.9	60.9	30.9	63.8	31.8	67.5	32.3	73.0	34.0	80.6	36.5
3775	16.0	49.5	20.3	58.3	22.1	67.4	24.1	70.8	24.9	74.2	25.6	78.4	26.0	84.9	27.4	93.7	29.4
	18.0	47.9	20.9	56.4	22.9	65.3	24.9	68.6	25.7	71.8	26.5	75.9	26.9	82.2	28.3	90.7	30.4
	20.0	46.5	21.6	54.8	23.6	63.3	25.7	66.5	26.5	69.7	27.3	73.2	27.8	79.7	29.3	88.0	31.3
	22.0	44.8	22.3	52.8	24.4	61.1	26.6	64.1	27.4	67.2	28.2	71.0	28.7	76.9	30.2	84.8	32.3
	24.0	43.3	23.0	51.0	25.1	59.0	27.4	61.9	28.2	64.9	29.1	68.6	29.6	74.2	31.1	81.9	33.3
4530	16.0	50.5	19.3	59.5	21.1	68.8	23.0	72.2	23.7	75.7	24.4	80.0	24.8	86.6	26.2	95.6	28.0
	18.0	48.9	20.0	57.6	21.8	66.6	23.8	70.0	24.5	73.3	25.3	77.5	25.7	83.8	27.0	92.5	29.0
	20.0	47.4	20.6	55.9	22.6	64.6	24.6	67.9	25.3	71.1	26.1	74.7	26.5	81.3	27.9	89.8	29.9
	22.0	45.7	21.3	53.8	23.3	62.3	25.4	65.4	26.1	68.6	26.9	72.4	27.4	78.4	28.8	86.5	30.9
	24.0	44.1	22.0	52.0	24.0	60.2	26.1	63.2	26.9	66.2	27.7	70.0	28.2	75.7	29.7	83.6	31.8

20RT AK-H2408C02 (English)

Indoor		Outdoor WB(°F)															
		14.0		23.0		32.0		35.6		39.2		42.8		50.0		59.0	
AFR(CFM)	DB(°F)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
6400	60.8	166.2	22.1	195.8	24.2	226.5	26.4	237.9	27.2	249.3	28.0	263.4	28.5	285.1	30.0	314.7	32.1
	64.4	160.9	22.9	189.6	25.0	219.3	27.3	230.4	28.1	241.4	28.9	255.0	29.4	276.1	31.0	304.7	33.2
	68.0	156.1	23.6	183.9	25.8	212.8	28.2	223.5	29.0	234.2	29.9	246.0	30.4	267.9	32.0	295.7	34.3
	71.6	150.5	24.4	177.3	26.7	205.1	29.0	215.4	29.9	225.7	30.8	238.5	31.4	258.2	33.0	285.0	35.4
	75.2	145.3	25.2	171.2	27.5	198.1	29.9	208.0	30.9	218.0	31.8	230.3	32.3	249.3	34.0	275.2	36.5
8000	60.8	168.9	20.3	199.0	22.1	230.2	24.1	241.8	24.9	253.3	25.6	267.7	26.0	289.7	27.4	319.8	29.4
	64.4	163.5	20.9	192.7	22.9	222.9	24.9	234.1	25.7	245.3	26.5	259.2	26.9	280.6	28.3	309.7	30.4
	68.0	158.7	21.6	186.9	23.6	216.3	25.7	227.1	26.5	238.0	27.3	250.0	27.8	272.2	29.3	300.5	31.3
	71.6	152.9	22.3	180.2	24.4	208.5	26.6	218.9	27.4	229.4	28.2	242.4	28.7	262.4	30.2	289.6	32.3
	75.2	147.7	23.0	174.0	25.1	201.3	27.4	211.4	28.2	221.5	29.1	234.1	29.6	253.4	31.1	279.7	33.3
9600	60.8	172.3	19.3	203.0	21.1	234.8	23.0	246.6	23.7	258.4	24.4	273.1	24.8	295.6	26.2	326.3	28.0
	64.4	166.8	20.0	196.6	21.8	227.4	23.8	238.8	24.5	250.3	25.3	264.4	25.7	286.2	27.0	315.9	29.0
	68.0	161.9	20.6	190.7	22.6	220.6	24.6	231.7	25.3	242.8	26.1	255.1	26.5	277.7	27.9	306.5	29.9
	71.6	156.0	21.3	183.8	23.3	212.7	25.4	223.3	26.1	234.0	26.9	247.3	27.4	267.7	28.8	295.5	30.9
	75.2	150.7	22.0	177.5	24.0	205.4	26.1	215.7	26.9	226.0	27.7	238.8	28.2	258.5	29.7	285.3	31.8

Correction Factor for Heating Capacity due to Frost on Heat Exchanger and Defrosting Operation.
The heating capacity in the "Heating Capacity Table" above indicates the actual heating capacity excluding the effect of frost on the heat exchanger and the defrosting operation. Therefore, use the following factor to calculate the average heating capacity including capacity reduction by frost on the exchanger and defrosting operation.

Correction Factor

Outdoor Air Temperature (°FWB, RH=85%)	14	21.2	24.8	28.4	32	35.6	39.2	42.8
Correction Factor	0.95	0.95	0.89	0.87	0.87	0.89	0.91	1.00

Notes:
1. All capacities are net, indoor fan motor heat is deducted.
2. Capacities are based on the following conditions.
   Outdoor air : 85%RH. However, the condition on nominal capacity is 7°CDB/6°CWB.
3. TC=Total Capacity(SI Unit : kW, English Unit : MBH = kBtu/h.
4. PI=Power Input(Comp.+indoor fan motor+outdoor fan motor) (kW).
5. Air Flow Rate(SI : l/s, English : CFM).

10.3 Fan Performance data

Evaporator Fan Performance Data AK-H1208C02 (SI)

l/s	External Static Pressure(mm Aq.)																							
	2.5		5.1		7.5		10.2		12.7		15.2		17.8		20.3		22.9		25.4		27.9		30.5	
	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW
1397	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	756	0.91	777	0.95	799	0.99	822	1.04
1572	-	-	-	-	-	-	-	-	-	-	746	1.02	763	1.06	782	1.10	802	1.14	823	1.19	845	1.24	868	1.29
1746	-	-	747	1.17	757	1.19	770	1.22	785	1.25	801	1.29	818	1.34	837	1.38	856	1.44	877	1.50	900	1.56	923	1.63
1921	802	1.47	810	1.49	821	1.52	834	1.56	848	1.60	864	1.65	882	1.71	900	1.77	920	1.84	941	1.91	963	2.00	986	2.09
2096	875	1.89	883	1.92	894	1.96	907	2.01	921	2.07	937	2.13	954	2.21	973	2.29	993	2.38	1014	2.47	1036	2.58	1059	2.70

l/s	External Static Pressure(mm Aq.)															
	33.0		35.6		38.1		40.6		43.2		45.7		48.3		50.8	
	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW
1397	846	1.09	871	1.14	897	1.20	924	1.26	951	1.33	980	1.40	1009	1.48	1039	1.57
1572	892	1.35	917	1.42	943	1.49	970	1.57	997	1.66	1026	1.75	1055	1.85	1085	1.96
1746	947	1.71	972	1.79	998	1.88	1024	1.98	1052	2.09	1081	2.21	1110	2.34	1140	2.47
1921	1010	2.18	1035	2.29	1061	2.41	1088	2.53	1116	2.67	1144	2.82	1173	2.99	1204	3.16
2096	1083	2.82	1108	2.96	1134	3.11	1161	3.28	1188	3.45	1217	3.65	1246	3.86	-	-

3Hp STANDARD MOTOR & DRIVE

5Hp OVERSIZED MOTOR & DRIVE

- Fan motor heat (KW) = 1.22 x Fan Bkw
- Test condition : ① Voltage : 415V
  ② Operating Mode : Fan operation mode with clean filter, dry coil without electric heater.
- Do not operate the unit at a cooling airflow that is less then 165 l/s / 0.35 KW.
- l/s of cooling capacity test : 1605 l/s at 10.16mmAq.

10. Performance data

Evaporator Fan Performance Data AK-H1208C02 (English)

CFM	External Static Pressure(inches of water.)																							
	0.1		0.2		0.3		0.4		0.5		0.6		0.7		0.8		0.9		1		1.1		1.2	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2960	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	756	1.22	777	1.27	799	1.33	822	1.39
3330	-	-	-	-	-	-	-	-	-	-	746	1.37	763	1.42	782	1.47	802	1.53	823	1.59	845	1.66	868	1.73
3700	-	-	747	1.56	757	1.59	770	1.63	785	1.68	801	1.73	818	1.79	837	1.86	856	1.93	877	2.01	900	2.09	923	2.19
4070	802	1.96	810	2.00	821	2.04	834	2.09	848	2.15	864	2.21	882	2.29	900	2.37	920	2.46	941	2.56	963	2.67	986	2.80
4440	875	2.54	883	2.58	894	2.63	907	2.70	921	2.77	937	2.86	954	2.96	973	3.06	993	3.18	1014	3.31	1036	3.46	1059	3.61

CFM	External Static Pressure(inches of water.)															
	1.3		1.4		1.5		1.6		1.7		1.8		1.9		2	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2960	846	1.45	871	1.53	897	1.60	924	1.69	951	1.78	980	1.88	1009	1.99	1039	2.11
3330	892	1.81	917	1.90	943	2.00	970	2.11	997	2.22	1026	2.34	1055	2.48	1085	2.63
3700	947	2.29	972	2.40	998	2.53	1024	2.66	1052	2.80	1081	2.96	1110	3.13	1140	3.32
4070	1010	2.93	1035	3.07	1061	3.23	1088	3.40	1116	3.58	1144	3.78	1173	4.00	1204	4.24
4440	1083	3.78	1108	3.97	1134	4.17	1161	4.39	1188	4.63	1217	4.89	1246	5.17		-

3Hp STANDARD MOTOR & DRIVE

5Hp OVERSIZED MOTOR & DRIVE

- Fan motor heater (MBH) = 3.1 x Fan BHP
- Test Condition : ① Voltage : 415V
  ② Operating Mode : Fan operation mode with clean filter, dry coil without electric heater.
- Do not operate the unit at a cooling airflow that is less then 350CFM/1.2MBH.
- CFM of cooling capacity test : 3400 CFM at 0.4 in Aq.

Fan speed Data AK-H1208C02(rpm)

	6 Turn Open	5 Turn Open	4 Turn Open	3 Turn Open	2 Turn Open	1 Turn Open	0 Turn Open
Standard Motor & Drive Fan Speed	742	793	843	894	945	996	1046
Oversize Motor & Drive Fan Speed	889	950	1010	1071	1132	1193	1254

- Factory set at 3 turns open.

Evaporator Fan Performance Data AK-H1808C02 (SI)

l/s	External Static Pressure(mm Aq.)																							
	2.54		5.08		7.62		10.16		12.7		15.24		17.78		20.32		22.86		25.4		27.94		30.48	
	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW
2077	565	0.08	591	0.32	618	0.50	644	0.65	671	0.78	697	0.91	724	1.02	750	1.12	777	1.22	803	1.31	830	1.40	856	1.48
2336	597	0.37	624	0.61	650	0.79	677	0.94	703	1.07	730	1.20	756	1.31	783	1.41	809	1.51	836	1.60	862	1.69	889	1.77
2596	636	0.72	662	0.95	689	1.13	715	1.28	742	1.42	768	1.54	795	1.65	821	1.75	848	1.85	874	1.94	901	2.03	927	2.11
2856	680	1.12	707	1.35	733	1.53	760	1.68	786	1.82	813	1.94	839	2.05	866	2.15	892	2.25	919	2.34	945	2.43	972	2.51
3115	731	1.57	758	1.81	784	1.99	811	2.14	837	2.27	864	2.40	890	2.51	917	2.61	943	2.71	970	2.80	996	2.89	1023	2.97

l/s	External Static Pressure(mm Aq.)															
	33.02		35.56		38.1		40.64		43.18		45.72		48.26		50.8	
	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW
2077	883	1.56	909	1.64	936	1.71	962	1.78	989	1.85	1015	1.92	1042	1.99	1068	2.05
2336	915	1.85	942	1.93	968	2.00	995	2.07	1021	2.14	1048	2.21	1074	2.28	1101	2.34
2596	954	2.19	980	2.27	1007	2.35	1033	2.42	1060	2.49	1086	2.56	1112	2.62	1139	2.69
2856	998	2.59	1025	2.67	1051	2.75	1078	2.82	1104	2.89	1131	2.95	1157	3.02	1184	3.08
3115	1049	3.05	1076	3.13	1102	3.20	1129	3.27	1155	3.34	1182	3.41	1208	3.48	1235	3.54

4Hp STANDARD MOTOR & DRIVE
4Hp STANDARD MOTOR & HIGH STATIC DRIVE
5Hp OVERSIZED MOTOR & DRIVE

- Fan motor heat (kW) = 1.22 x Fan BkW
- Test condition : ①Voltage : 415V
  ② Operating Mode : Fan operation mode with clean filter, dry coil without electric heater.
- Do not operate the unit at a cooling airflow that is less then 165 l/s / 0.35 kW.
- l/s of cooling capacity test : 2596 l/s at 10.16mmAq.

10. Performance data

Evaporator Fan Performance Data AK-H1808C02 (English)

CFM	External Static Pressure(in. Aq.)																							
	0.1		0.2		0.3		0.4		0.5		0.6		0.7		0.8		0.9		1		1.1		1.2	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4400	565	0.11	591	0.43	618	0.67	644	0.87	671	1.05	697	1.21	724	1.36	750	1.50	777	1.63	803	1.76	830	1.87	856	1.98
4950	597	0.50	624	0.82	650	1.06	677	1.26	703	1.44	730	1.60	756	1.75	783	1.89	809	2.02	836	2.15	862	2.26	889	2.37
5500	636	0.96	662	1.28	689	1.52	715	1.72	742	1.90	768	2.06	795	2.21	821	2.35	848	2.48	874	2.61	901	2.72	927	2.84
6050	680	1.50	707	1.81	733	2.05	760	2.26	786	2.44	813	2.60	839	2.75	866	2.89	892	3.02	919	3.14	945	3.26	972	3.37
6600	731	2.11	758	2.43	784	2.67	811	2.87	837	3.05	864	3.21	890	3.36	917	3.50	943	3.63	970	3.75	996	3.87	1023	3.98

CFM	External Static Pressure(in. Aq.)															
	1.3		1.4		1.5		1.6		1.7		1.8		1.9		2	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4400	883	2.09	909	2.20	936	2.30	962	2.39	989	2.49	1015	2.58	1042	2.66	1068	2.75
4950	915	2.48	942	2.59	968	2.69	995	2.78	1021	2.88	1048	2.97	1074	3.05	1101	3.14
5500	954	2.94	980	3.05	1007	3.15	1033	3.24	1060	3.34	1086	3.43	1112	3.52	1139	3.60
6050	998	3.48	1025	3.58	1051	3.68	1078	3.78	1104	3.87	1131	3.96	1157	4.05	1184	4.14
6600	1049	4.09	1076	4.19	1102	4.29	1129	4.39	1155	4.48	1182	4.58	1208	4.66	1235	4.75

4Hp STANDARD MOTOR & DRIVE
4Hp STANDARD MOTOR & HIGH STATIC DRIVE
5Hp OVERSIZED MOTOR & DRIVE

- Fan motor heat (MBH) = 3.1 x Fan BHP
- Test Condition : ① Voltage : 415V
  ② Operating Mode : Fan operation mode with clean filter, dry coil without electric heater.
- Do not operate the unit at a cooling airflow that is less then 350CFM/1.2MBH.
- CFM of cooling capacity test : 5500 CFM at 0.4 in Aq.

Fan speed Data AK-H1808C02 (rpm)

	6 Turn open	5 Turn open	4 Turn open	3 Turn open	2 Turn open	1 Turn open	0 Turn open
Standard Motor & Drive Fan Speed	623	665	708	751	793	836	879
Standard Motor & High Static Drive	816	872	928	983	1039	1095	1151
Oversize Motor & Drive Fan Speed	907	969	1032	1094	1156	1218	1280

- Factory set at 3 turns open.

10. Performance data

Evaporator Fan Performance Data AK-H2408C02 (SI)

l/s	External Static Pressure(mm Aq.)																							
	2.54		5.08		7.62		10.16		12.7		15.24		17.78		20.32		22.86		25.4		27.94		30.48	
	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW
3021	-	-	569	1.35	590	1.46	611	1.56	633	1.67	654	1.77	676	1.88	697	1.98	719	2.09	740	2.20	762	2.30	783	2.41
3398	577	1.60	598	1.71	620	1.81	641	1.92	663	2.03	684	2.13	706	2.24	727	2.34	748	2.45	770	2.55	791	2.66	813	2.76
3776	614	2.05	635	2.15	657	2.26	678	2.37	700	2.47	721	2.58	743	2.68	764	2.79	786	2.89	807	3.00	828	3.10	850	3.21
4154	659	2.59	681	2.70	702	2.81	723	2.91	745	3.02	766	3.12	788	3.23	809	3.33	831	3.44	852	3.54	874	3.65	895	3.75
4531	713	3.25	735	3.35	756	3.46	778	3.56	799	3.67	821	3.77	842	3.88	864	3.99	885	4.09	906	4.20	928	4.30	944	4.41

l/s	External Static Pressure(mm Aq.)															
	33.02		35.56		38.1		40.64		43.18		45.72		48.26		50.8	
	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW
3021	805	2.51	826	2.62	848	2.72	869	2.83	891	2.93	912	3.04	933	3.15	955	3.25
3398	834	2.87	856	2.97	877	3.08	899	3.19	920	3.29	942	3.40	963	3.50	985	3.61
3776	871	3.32	893	3.42	914	3.53	936	3.63	957	3.74	979	3.84	1000	3.95	1022	4.05
4154	917	3.86	938	3.97	960	4.07	981	4.18	1002	4.28	1024	4.39	1045	4.49	1067	4.60
4531	971	4.51	992	4.62	1014	4.72	1035	4.83	1057	4.94	1078	5.04	1100	5.15	1121	5.25

5Hp STANDARD MOTOR & DRIVE
5Hp STANDARD MOTOR & HIGH STATIC DRIVE
7.5Hp OVERSIZED MOTOR & DRIVE

- Fan motor heat (kW) = 1.22 x Fan BkW
- Test condition : ① Voltage : 415V
  ② Operating Mode : Fan operation mode with clean filter, dry coil without electric heater.
- Do not operate the unit at a cooling airflow that is less then 165 l/s / 0.35 kW.
- l/s of cooling capacity test : 3776 l/s at 8.38mmAq.

10. Performance data

Evaporator Fan Performance Data AK-H2408C02 (English)

CFM	External Static Pressure(in. Aq.)																							
	0.1		0.2		0.3		0.4		0.5		0.6		0.7		0.8		0.9		1		1.1		1.2	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6400	-	-	569	1.81	590	1.95	611	2.10	633	2.24	654	2.38	676	2.52	697	2.66	719	2.80	740	2.94	762	3.09	783	3.23
7200	577	2.15	598	2.29	620	2.43	641	2.57	663	2.72	684	2.86	706	3.00	727	3.14	748	3.28	770	3.42	791	3.56	813	3.71
8000	614	2.75	635	2.89	657	3.03	678	3.17	700	3.31	721	3.46	743	3.60	764	3.74	786	3.88	807	4.02	828	4.16	850	4.30
8800	659	3.48	681	3.62	702	3.76	723	3.90	745	4.04	766	4.19	788	4.33	809	4.47	831	4.61	852	4.75	874	4.89	895	5.03
9600	713	4.35	735	4.50	756	4.64	778	4.78	799	4.92	821	5.06	842	5.20	864	5.35	885	5.49	906	5.63	928	5.77	944	5.91

CFM	External Static Pressure(in. Aq.)															
	1.3		1.4		1.5		1.6		1.7		1.8		1.9		2	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6400	805	3.37	826	3.51	848	3.65	869	3.79	891	3.93	912	'4.08	933	4.22	955	4.36
7200	834	3.85	856	3.99	877	4.13	899	4.27	920	4.41	942	'4.56	963	4.70	985	4.84
8000	871	4.45	893	4.59	914	4.73	936	4.87	957	5.01	979	'5.15	1000	5.29	1022	5.44
8800	917	5.18	938	5.32	960	5.46	981	5.60	1002	5.74	1024	'5.88	1045	6.03	1067	6.17
9600	971	6.05	992	6.19	1014	6.34	1035	6.48	1057	6.62	1078	'6.76	1100	6.90	1121	7.04

5Hp STANDARD MOTOR & DRIVE
5Hp STANDARD MOTOR & HIGH STATIC DRIVE
7.5Hp OVERSIZED MOTOR & DRIVE

- Fan motor heat (MBH) = 3.1 x Fan BHP
- Test Condition : ① Voltage : 415V
  ② Operating Mode : Fan operation mode with clean filter, dry coil without electric heater.
- Do not operate the unit at a cooling airflow that is less then 350CFM/1.2MBH.
- CFM of cooling capacity test : 8000 CFM at 0.33 in Aq.

Fan speed Data AK-H2408C02(rpm)

	6 Turn open	5 Turn open	4 Turn open	3 Turn open	2 Turn open	1 Turn open	0 Turn open
Standard Motor & Drive Fan Speed	550	586	623	659	696	733	769
Standard Motor & High Static Drive	739	788	837	886	935	984	1034
Oversize Motor & Drive Fan Speed	893	953	1012	1072	1131	1191	1250

- Factory set at 3 turns open.

10. Performance data

Accessory Static Pressure Drops

Model Name	CFM	l/s	Standard Filter		Electric Heater					
					9kW		18kW		36kW	
			in Aq	mm Aq	in. Aq.	mm Aq.	in. Aq.	mm Aq.	in. Aq.	mm Aq.
AK-H1208C02	2960	1397	0.06	1.52	0.01	0.25	0.07	1.78	-	-
	3700	1746	0.10	2.54	0.01	0.25	0.10	2.54	-	-
	4440	2095	0.14	3.56	0.02	0.51	0.15	3.81	-	-
AK-H1808C02	4400	2077	0.06	1.52	-	-	0.04	1.02	0.04	1.02
	5500	2596	0.09	2.29	-	-	0.06	1.52	0.07	1.78
	6600	3115	0.13	3.3	-	-	0.1	2.54	0.11	2.79
AK-H2408C02	6400	3021	0.07	1.78	-	-	-	-	0.07	1.78
	8000	3776	0.10	2.54	-	-	-	-	0.13	3.30
	9600	4531	0.14	3.56	-	-	-	-	0.17	4.32

Model Name	CFM	l/s	Economizer With Dampers					
			Return Damper (RA)		Fresh Damper (OA)			
			0%		10%		100%	
			mmAq	inAq	mmAq	inAq	mmAq	inAq
AK-H1208C02	2960	1397	1.36	0.05	1.61	0.06	7.90	0.31
	3700	1746	1.70	0.07	2.01	0.08	9.87	0.39
	4440	2095	2.04	0.08	2.41	0.09	11.85	0.47
AK-H1808C02	4400	2077	2.02	0.08	2.02	0.08	10.07	0.40
	5500	2596	2.53	0.10	2.53	0.10	12.59	0.50
	6600	3115	3.03	0.12	3.71	0.15	17.12	0.67
AK-H2408C02	6400	3021	3.02	0.12	3.26	0.13	30.26	1.19
	8000	3776	3.78	0.15	4.08	0.16	37.83	1.49
	9600	4531	4.54	0.18	5.36	0.21	49.30	1.94

Notes :
1. Economizer tested with 1" AL filter.
2. OA = Outside Air and RA = Return Air.
3. OA 10% is minimum position. 100% is maximum position.

Electric Heating Capacity

Model Name	Total		No. of Stages	Stage 1		Stage 2	
	Input(kW)	Output(MBH)		Input(kW)	Output(MBH)	Input(kW)	Output(MBH)
AK-H1208C02	9	30.72	1	9	30.72	-	-
	18	61.43	1	18	61.43	-	-
AK-H1808C02	18	61.43	1	18	61.43	-	-
	36	122.86	2	18	61.43	18	61.43
AK-H2408C02	36	122.86	2	18	61.43	18	61.43

Note: 1. The output ratings shown above is at 415V.
For other voltage, Output = Capacity Multiplier x Rated Output
2. E/heater Voltage range is 380~415V.

< Correction Coefficient>

Voltage	Capacity Multiplier
380	0.84
400	0.92
415	1.0

Air Temperature Rise Across Electric Heater(°F)

Capacity	Stage	AK-H1208C02 (3,700CFM)	AK-H1808C02 (5,500CFM)	AK-H2408C02 (8,000CFM)
9kW	1	7.69	-	-
18kW	1	15.4	10.3	-
36kW	2	-	20.7	14.2

• Temp. Rise across Electric Heater $= \frac{(kW \times 3413)}{(1.08 \times CFM)}$

• If you want to take temp rise at different airflow use above equation.

11. Electrical data

Electrical Data Unit wiring

RT	MODEL	Unit Operating Voltage Range	Standard indoor fan motor			Oversized indoor fan motor		
			*M.C.A.	*M.F.S.	*M.C.B.	*M.C.A.	*M.F.S.	*M.C.B.
10	AK-H1208C02	380-415	38.2	40.0	40.0	-	-	-
15	AK-H1808C02	380-415	57.2	80.0	80.0	57.8	80.0	80.0
20	AK-H2408C02	380-415	74.4	100.0	100.0	78.5	100.0	100.0

Note: *M.C.A.: Minimum Circuit Ampacity
*M.F.S.: Maximum Fuse Size
*M.C.B.: Maximum Circuit Breaker

Electrical Data Unit wiring with electric heater + heat pump cycle

MODEL	Electric Heater (kW)	Unit Operating Voltage Range	Standard indoor fan motor			Oversized indoor fan motor		
			*M.C.A.	*M.F.S.	*M.C.B.	*M.C.A.	*M.F.S.	*M.C.B.
AK-H1208C02	9	380-415V, 3Ø, 50Hz	55.3	60.0	60.0	-	-	-
	18		72.4	70.0	70.0	-	-	-
AK-H1808C02	18		91.4	110.0	110.0	92.0	110.0	110.0
	36		125.5	140.0	140.0	126.1	140.0	140.0
AK-H2408C02	36		142.8	150.0	150.0	146.9	150.0	150.0

Note: Heater kW ratings are at 380/415 V unit.

Electrical Characteristics --- Evaporator Fan Motor --- 50 Hz

MODEL	Standard evaporator fan motor						Oversized evaporator fan motor					
	No	Volts	Phase	HP	FLA	LRA	No	Volts	Phase	HP	FLA	LRA
AK-H1208C02	1	380-415	3	3.0	5.0	31.0	1	380-415	3.0	4.0	6.5	26.0
AK-H1808C02				4.0	6.5	26.0	1	380-415	3.0	5.0	7.1	42.0
AK-H2408C02				5.0	7.1	42.0	1	380-415	3.0	7.5	11.2	63.0

Note: • FLA-Full Load Amps.
• LRA-Locked Rotor Amps.

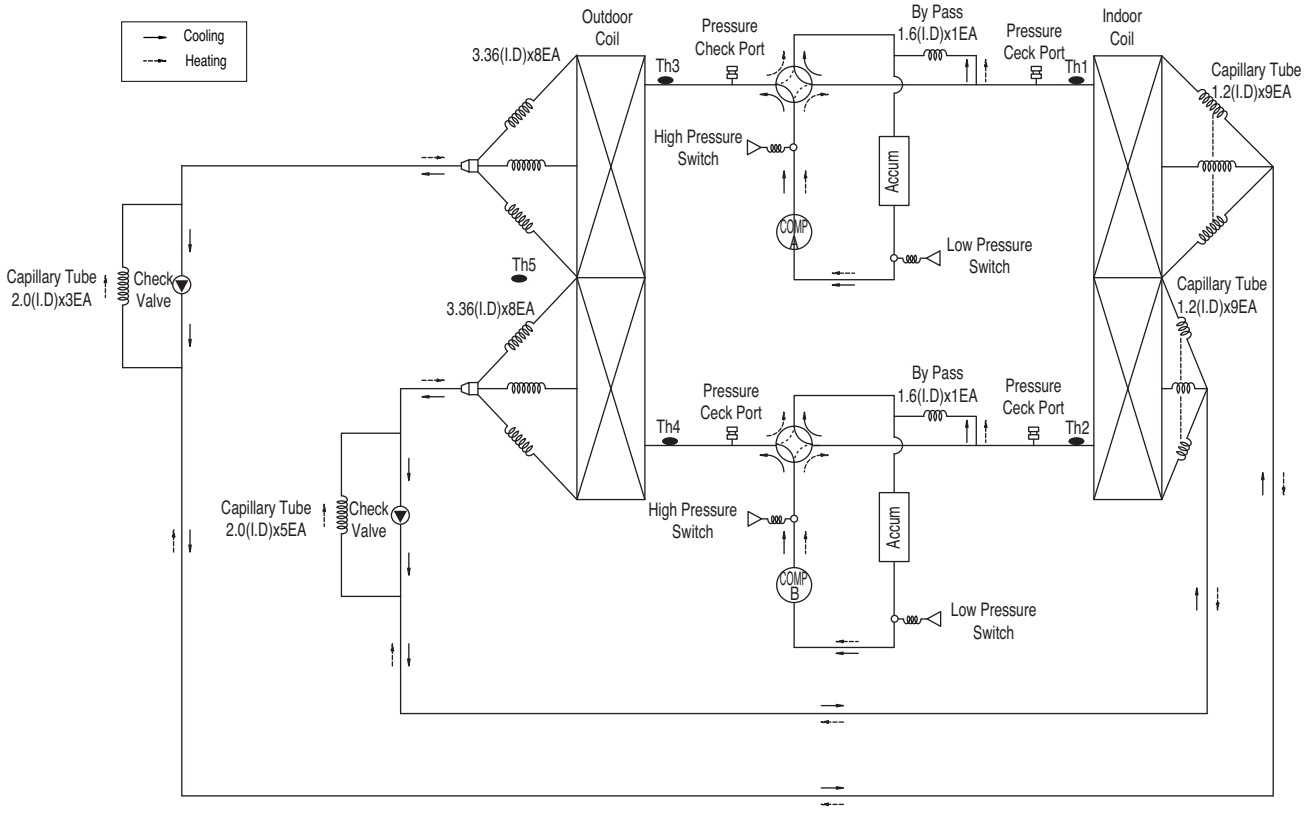
Electrical Characteristics --- Compressor and Outdoor Fan Motor --- 50 Hz

MODEL	Compressor						Outdoor Fan Motor					
	No	Volts	Phase	HP	FLA	LRA	No	Volts	Phase	HP	FLA	LRA
AK-H1208C02	2	380-415	3	7.0	10.4	74.0	1	380~415	1	0.50	3.40	10.5
AK-H1808C02	3			5.0	12.2	75.0	2		1	0.50	3.40	10.80
AK-H2408C02	4			5.0	12.2	75.0	4		1	0.40	2.30	5.20

Note: • FLA-Full Load Amps.
• LRA-Locked Rotor Amps.

12. Piping diagrams

Model No.: AK-H1208C02

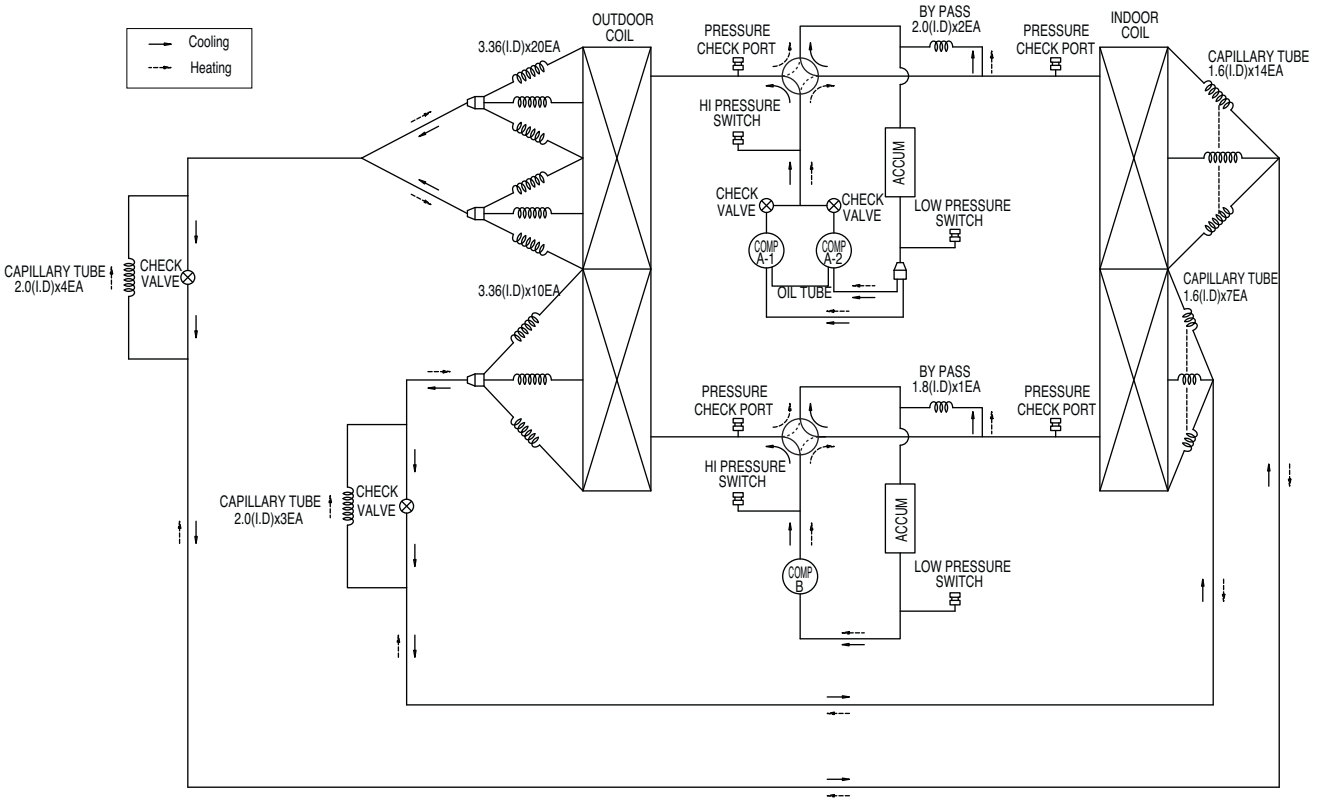


Notes

Th : Thermistor
Th1 : Thermistor Eva. For A Cycle
Th2 : Thermistor Eva. For B Cycle
Th3 : Thermistor Cond. For A Cycle
Th4 : Thermistor Cond. For B Cycle
Th5 : Outdoor Temp. Thermistor

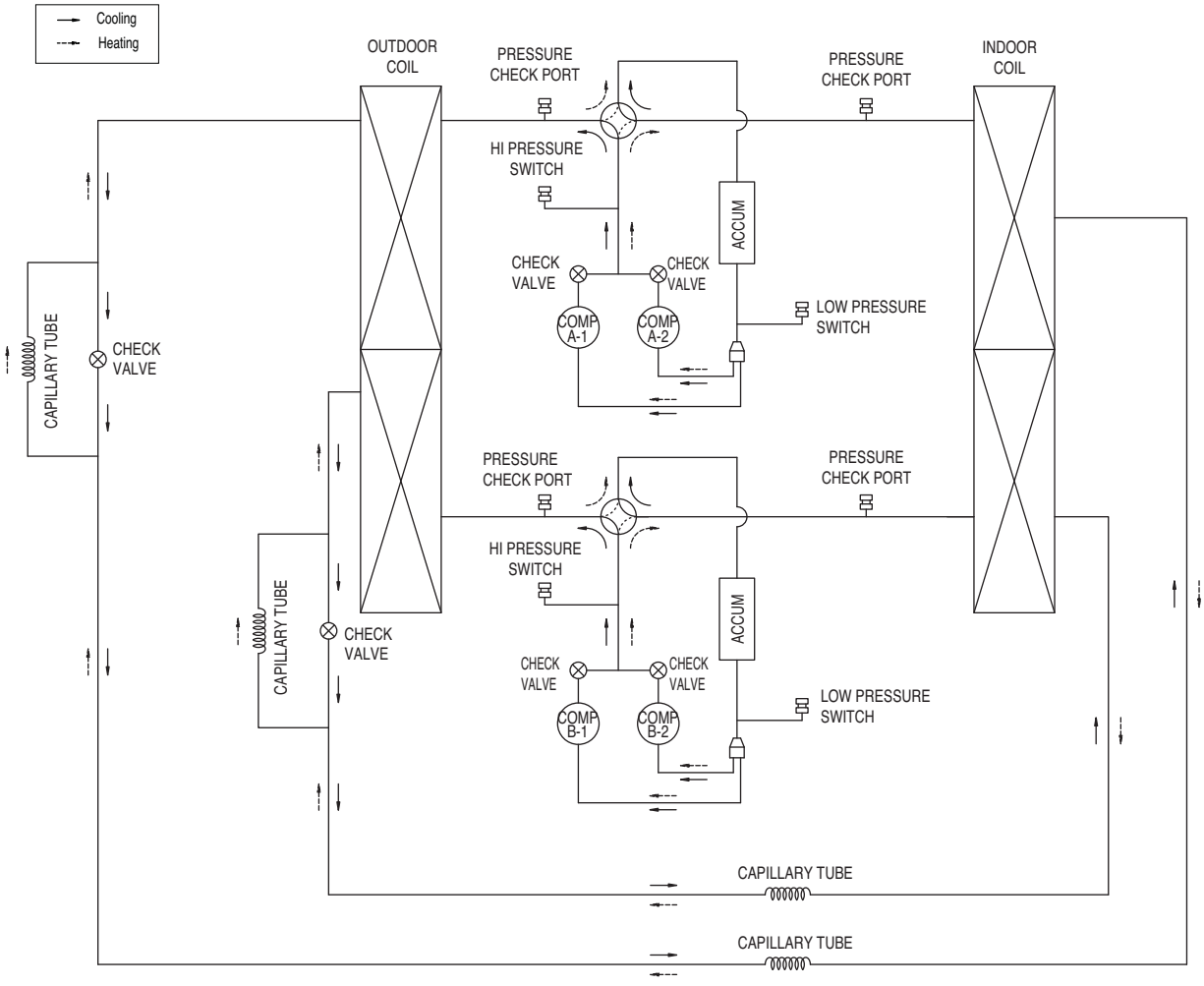
12. Piping diagrams

Model No.: AK-H1808C02



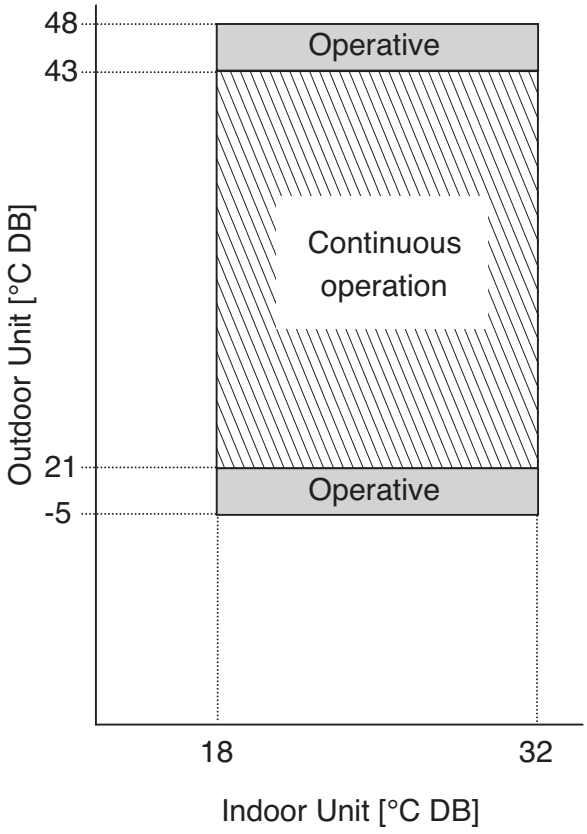
12. Piping diagrams

Model No.: AK-H2408C02

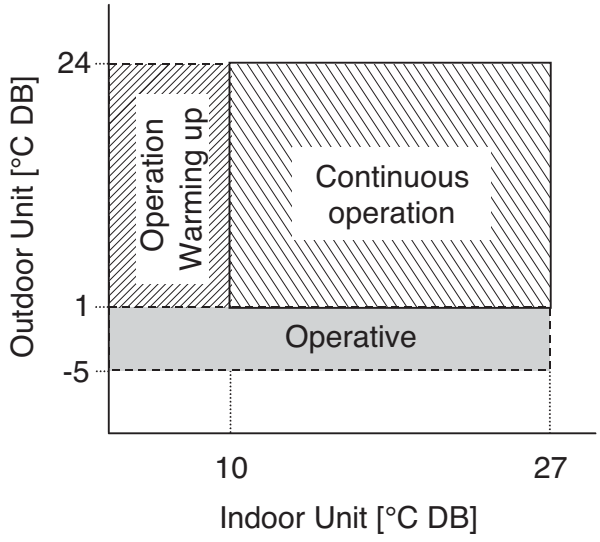


13. Operation range

Cooling



Heating

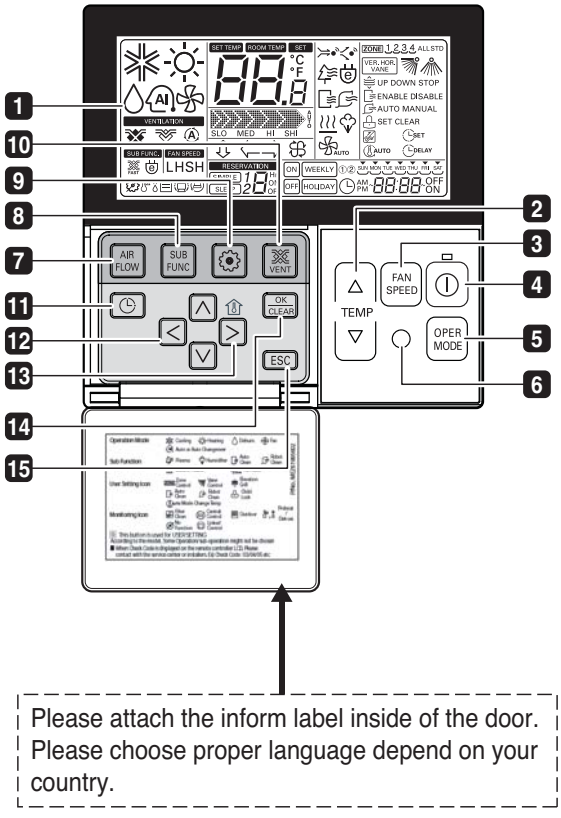


• Although low ambient kit is installed, in case outdoor temperature goes below 0°C, the cooling capacity can be dropped and operation characteristics can be slightly different.

Operative: Intermittent operation according to operation condition (indoor/outdoor temperature, humidity, and load) the heating capacity can be drop

14. Controller

14.1 LCD Wired remote contoller



Please attach the inform label inside of the door.
Please choose proper language depend on your country.

1. **OPERATION INDICATION SCREEN**
2. **SET TEMPERATURE BUTTON**
3. **FAN SPEED BUTTON**
4. **ON/OFF BUTTON**
5. **OPRATION MODE SELECTION BUTTON**
6. **WIRELESS REMOTE CONTROLLER RECEIVER**
7. **AIR FLOW BUTTON**
8. **SUBFUNCTION BUTTON**
9. **FUNCTION SETTING BUTTON**
10. **VENTILATION BUTTON**
11. **RESERVATION**
12. **UP, DOWN, LEFT, RIGHT BUTTON**
    - To check the indoor temperature, press ⇧ button.
13. **ROOM TEMPERATURE BUTTON**
14. **SETTING/CANCEL BUTTON**
15. **EXIT BUTTON**

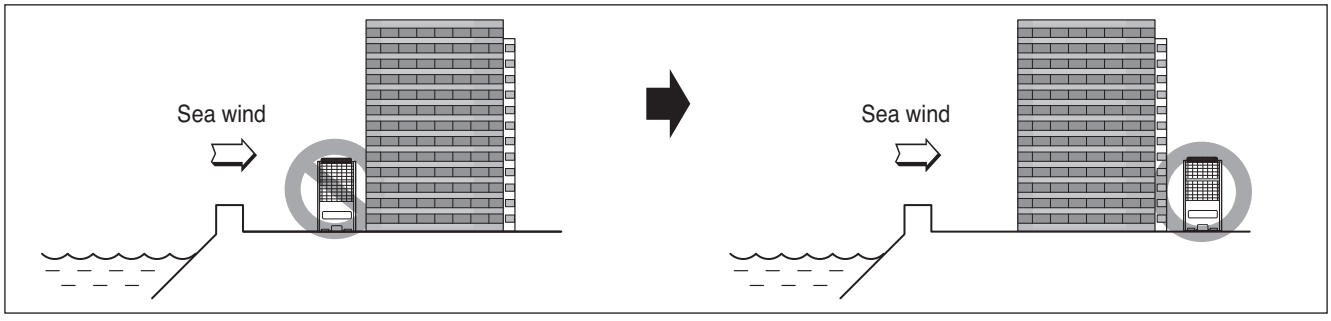
15. Installation guide at the seaside

CAUTION

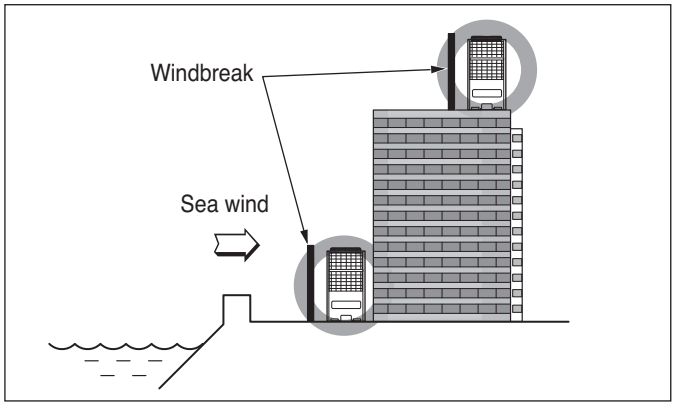
1. **Air conditioners should not be installed in areas where corrosive gases, such as acid or alkaline gas, are produced.**
2. **Do not install the product where it could be exposed to sea wind (salty wind) directly. It can result corrosion on the product. Corrosion, particularly on the condenser and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

Selecting the location(Outdoor Unit)

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



2) In case, to install the outdoor unit on the seaside, set up a windbreak not to be exposed to the sea wind.



- It should be strong enough like concrete to prevent the sea wind from the sea.
- The height and width should be more than 150% of the outdoor unit.
- It should be keep more than 70 cm of space between outdoor unit and the windbreak for easy air flow.

3) Select a well-drained place.

1. If you can't meet above guide line in the seaside installation, please contact LG Electronics for the additional anticorrosion treatment.
2. Periodic (more than once/year) cleaning of the dust or salt particles stuck on the heat exchanger by using water

16. Appendix

Unit Conversion

Cooling Capacity

RT	Btu/h	kcal/h	W
1	12,000	3024.2	3516.7

Volume

CMM	CFM	l/s
1	35.3	16.67

Length

m	cm	mm	inch
1	100	1000	39.37

Power

HP	W	kW
1	746	0.746

Temperature

$$C = \frac{5}{9}(F - 32)$$

Where,

C is Temperature in °C

F is Temperature in °F

LG
Life's Good

P/No.: MFL67452906

LG Electronics

Air Conditioner
20 Yeouido-dong, Yeongdeungpo-gu,
Yeouido P.O.Box 335 Seoul,
150-721, Korea.
http://www.lgeaircon.com

Printed in Korea July / 2013

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