

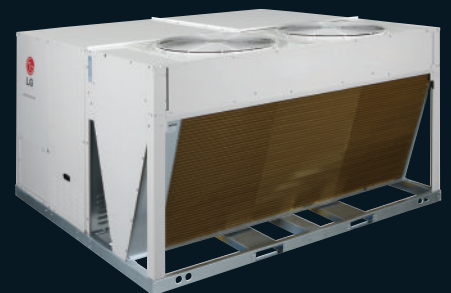
LG

TOTAL HVAC SOLUTION PROVIDER

ENGINEERING PRODUCT DATA BOOK

Single Package

Cooling Only R410A(60Hz)
6CUK0-03A(Replaces 6CUK0-02A)



Single Package

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 engineering data book before you start the project.

We look forward to your continuing support.

LG Electronics Inc.

Single Package

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Single Package

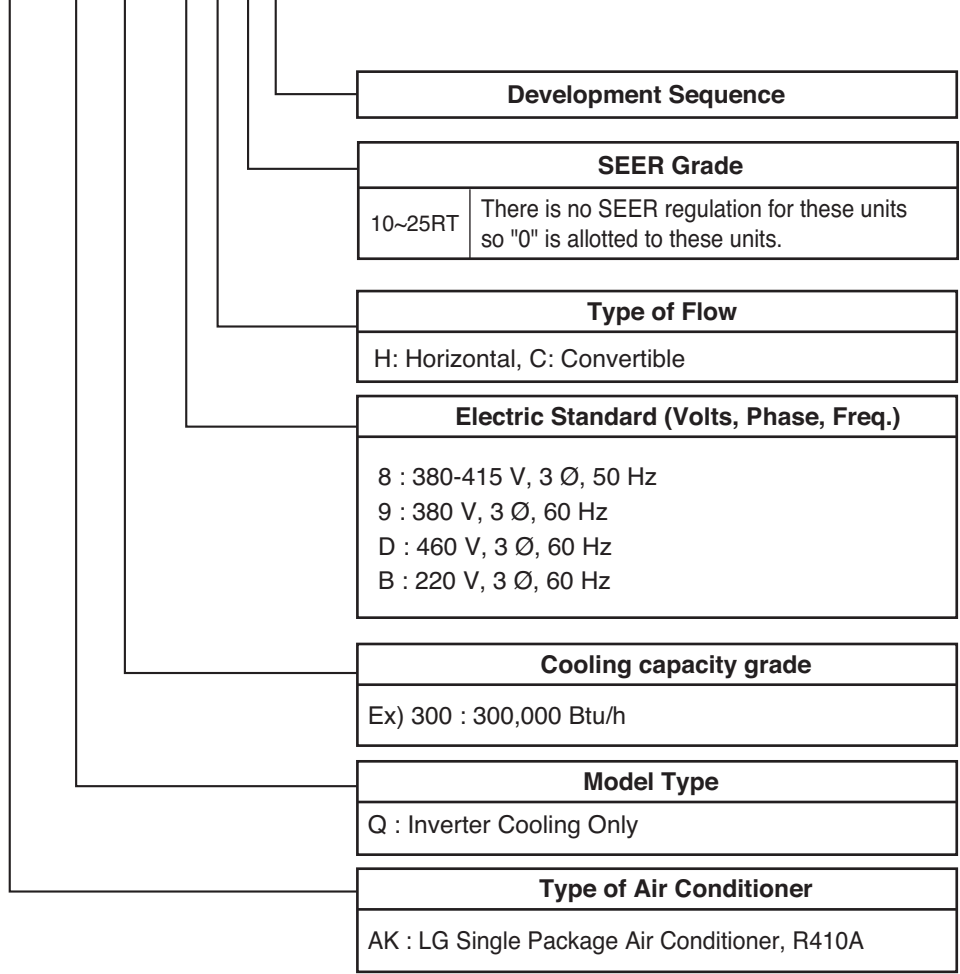
1. Model line up

■ 1 Series

Power Supply (V, Ø, Hz)	Model Name			
	10RT	12.5RT	20 RT	25 RT
220, 3, 60	AK-Q120BC01	AK-Q150BC01	AK-Q240BC01	AK-Q300BC01

2. Nomenclature

AK-Q300BC01

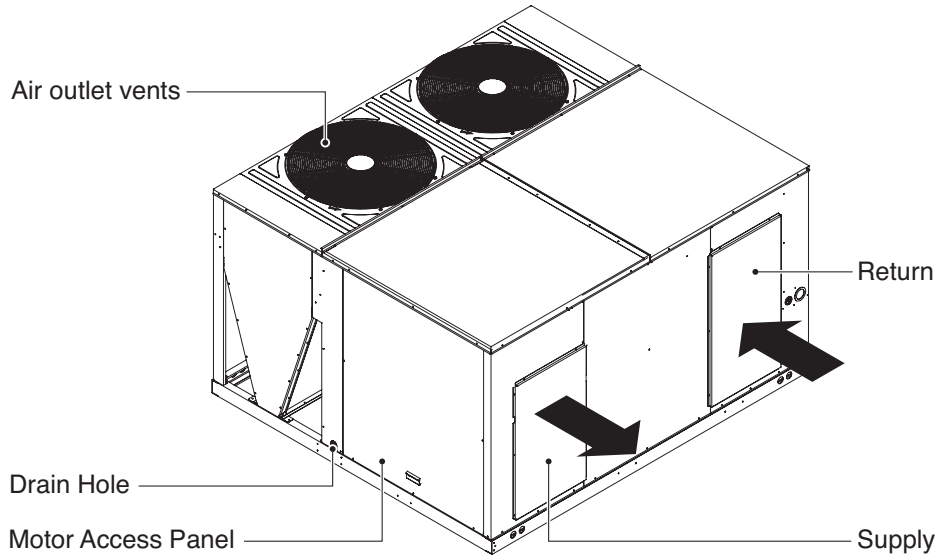


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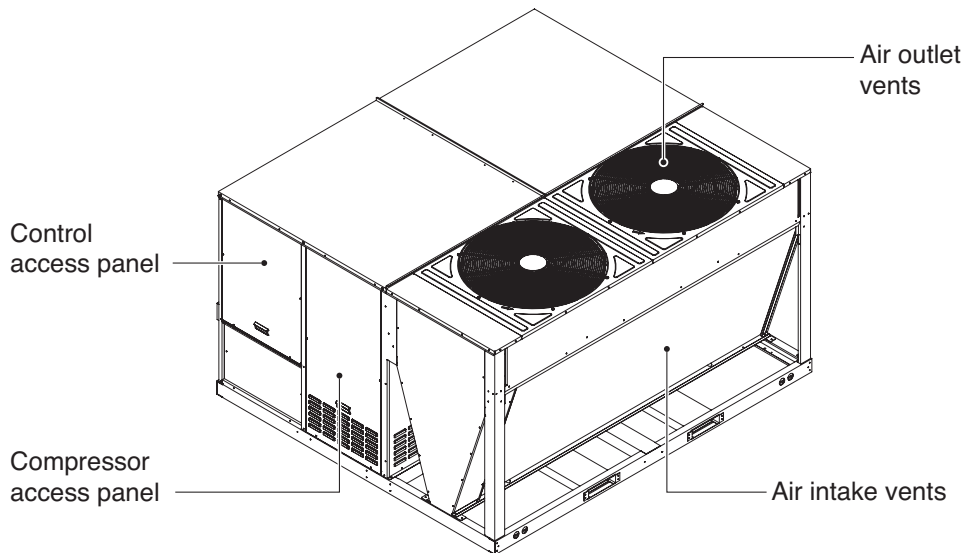
3. Features & Benefits

■ 10 / 12.5RT

Front View



Rear View

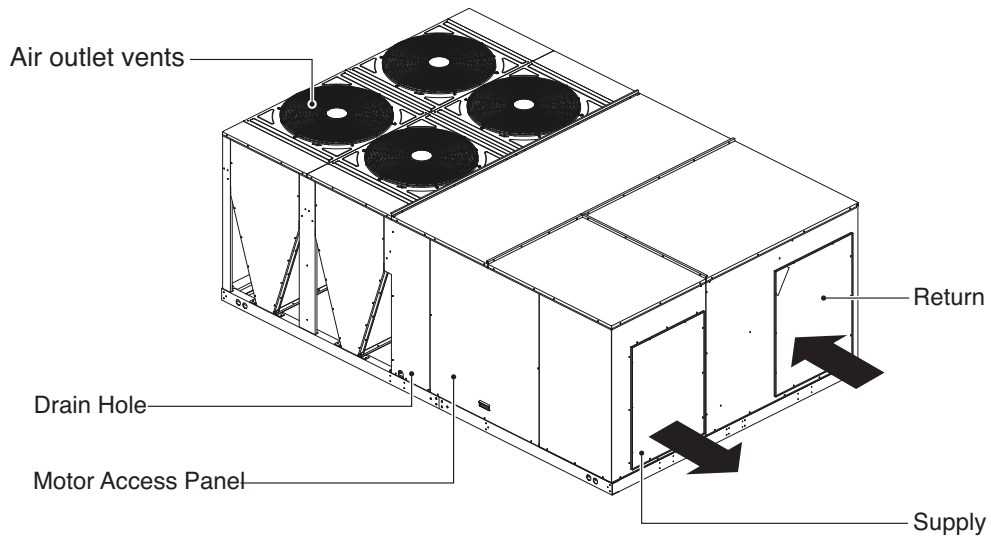


Single Package

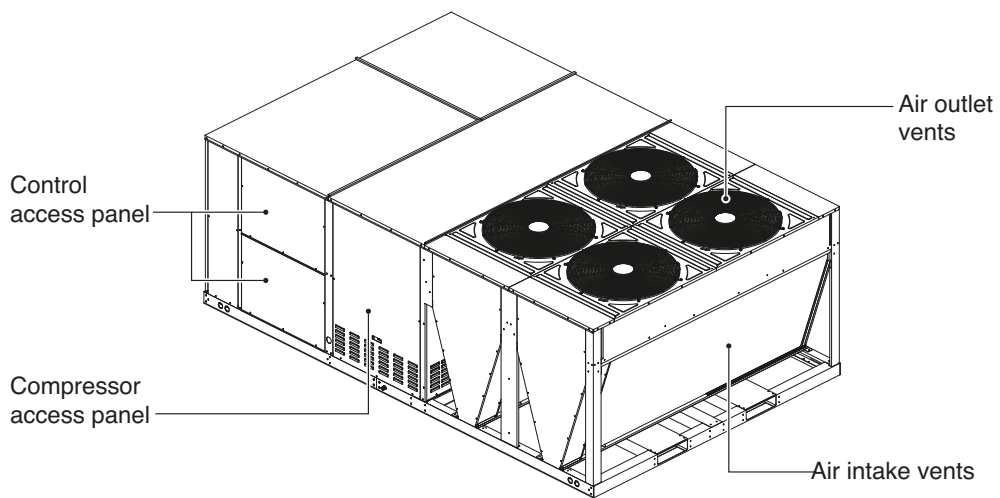
3. Features & Benefits

■ 20 / 25RT

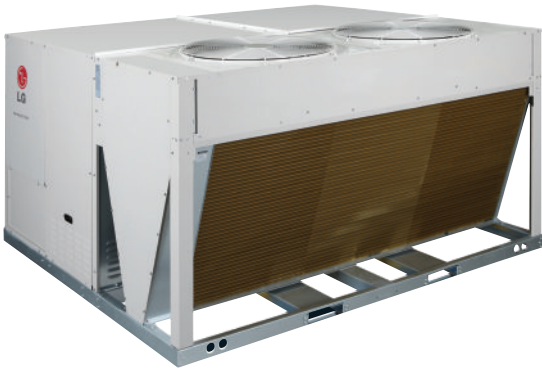
Front View



Rear View



3. Features & Benefits



■ Eco-friendly leadership

■ Higher Energy Efficiency

- LG BLDC Inverter Compressor
- BLDC Inverter Fan Motor
- Newly designed propeller fan
- Wide Louver Fin in Heat Exchanger

■ High Reliability & Comfort

- Enhanced Logic
- Emergency back up operation & Alternate-Cycling
- Auto Restart Operation
- Soft Start Function
- Automatic emergency back-up operation
- Night silent operation
- Pressure & Temperature Control

■ Easy Maintenance & Service

- Automatic test run
- Additional functions available with duct system

Higher Energy Efficiency

LG BLDC Inverter compressor

- Improved the energy efficiency by 11%, compared to the AC inverter compressor, by using the high efficiency LG BLDC inverter compressor.

We have developed a new compressor with better performance, higher efficiency, and a more enhanced reliability than the conventional compressors.

For the motor, which is the core of the compressor, the product uses a BLDC motor.

The BLDC motor is a highly efficient motor, where strong Nd magnetism inside the rotor produces magnetic torque and the metal part of the rotor produces reluctance torque to generate strong rotational force.

Efficiency is improved because it has no slip loss, which always occurs in the normal induction motor, and noise is also reduced due to its low torque ripple design.

In addition, because the LG BLDC inverter compressor has the back pressure structure in which the interior of the compressor is maintained at a high pressure, the compression efficiency is improved.

The compressor is also a high pressure type that makes oil lubrication smoother. Compared to the conventional models, the LG BLDC inverter compressor has more improved performance and reliability.

3. Features & Benefits

BLDC Inverter Fan Motor

- BLDC inverter fan motor reduced to motor energy consumption power 35% and improved to motor output 75%
The product is equipped with highly efficient BLDC motor.

The BLDC motor power consumption has been reduced and output has been improved, compared to the normal induction motor. With strong torque and powerful Neodymium magnet inside the rotor, the BLDC motor provides large air volume and high static pressure.

Newly designed propeller fan

- The Super Aero fan is a large air volume and high static pressure fan, and at the same time it produces low levels of noise.

To provide our customers with high cooling and heating performance at a minimum size, and as well as a pleasant environment ensured by quiet operation,

LG inverter single package uses various low noise technologies.

It has minimized operation noise by using a compressor with BLDC motors, low noise fan motors, new sound-proof technology, outdoor fans, and a newly developed shroud shape.

Wide Louver Fin in Heat Exchanger

- Fin Efficiency improvement by 14% Change heat exchange shape.

Improved efficiency by using wide louver fins with an increased thermal transfer area.

LG's patented chloride-induced corrosion resistant Gold-fin has low corrosion and erosion rates and high hydrophilicity.

Its performance will not be affected even in a humid area.

The exchangers of our outdoor unit are treated against corrosion and pollution.

This treatment guarantees the durability of the systems and high-level performance.

3. Features & Benefits

More Reliability

Emergency back up operation & Alternate-Cycling

- Minimizing any inconvenience that may occur in an emergency situation
 - For emergency, it makes back up operation possible before trouble-shooting
 - Error notice in indoor unit : 4 times per day (every 6hour)
 - To extend compressors life span by operating them alternately
 - To meet diverse load in operation

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), set temperature and fan speed.

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.

Automatic emergency back-up operation

- Minimizing any inconvenience that may occur in an emergency situation. For emergency, it makes back-up operation possible before trouble-shooting. Error notice in indoor unit : 4 time per day (every 6hour)

Night silent operation

- It is possible to operate air-conditioner silently by V-scroll compressor, Fan control technology and real-time sensing the outdoor temperature. The night silent operation function can save the running cost 55%.

Pressure & Temperature Control

- Conventional temperature control sensed temperature and calculated target pressure based on in/ outdoor temperature, desired temperature, etc. It was hard to respond to target load quickly.
To control the cycle, pressure sensor is added to the conventional temperature control to enable elaborate control to Improve reliability with stabilized system and quick and proper response.

3. Features & Benefits

More Convenience

Fast Cooling Operation

- With PI control logic, the set temperature is achieved more quickly and also the air conditioning efficiency is improved by 30% , It provides not only quick but powerful air conditioning operation.

Cooling & Fan Operation :

- LG air conditioners can provide cooling & fan operation. In the cooling mode, it cools the air with an operation range of -5~56°C. In the fan operation mode, only indoor fan at the selected speed will run, outdoor fan and compressor will be off.

Real time smart operation

- In situations where the cooling load difference is large, if performance of one side is high enough, performance of the other side can be overloaded.

To control these situations, the product uses the real-time power saving operation algorithm, which enables the product to automatically decide on the operation status for the indoor units and automatically control them to maintain an optimal operation level and reduce power consumption.

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.

Single Package

3. Features & Benefits

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 color coded.

Automatic test run

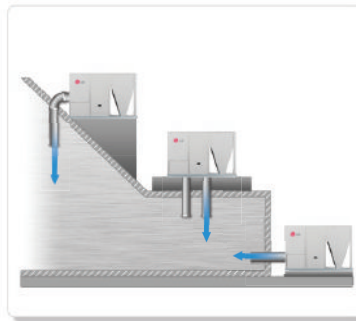
- Easy and fast automatic test run by dip switch, help you to save the checking time during the final stage of installation. If it detects errors, it sends error messages on PC screen.

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



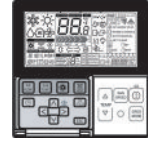
Single Package

3. Features & Benefits

Controller & Accessories

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.

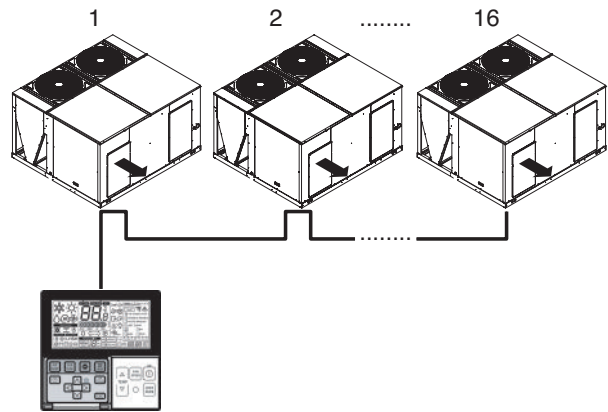


Two Thermistor Control(Return Air Control):(Accessory)

- There may be a significant difference between the return air temperature in the duct and the room temperature. Return air sensing temperature 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)

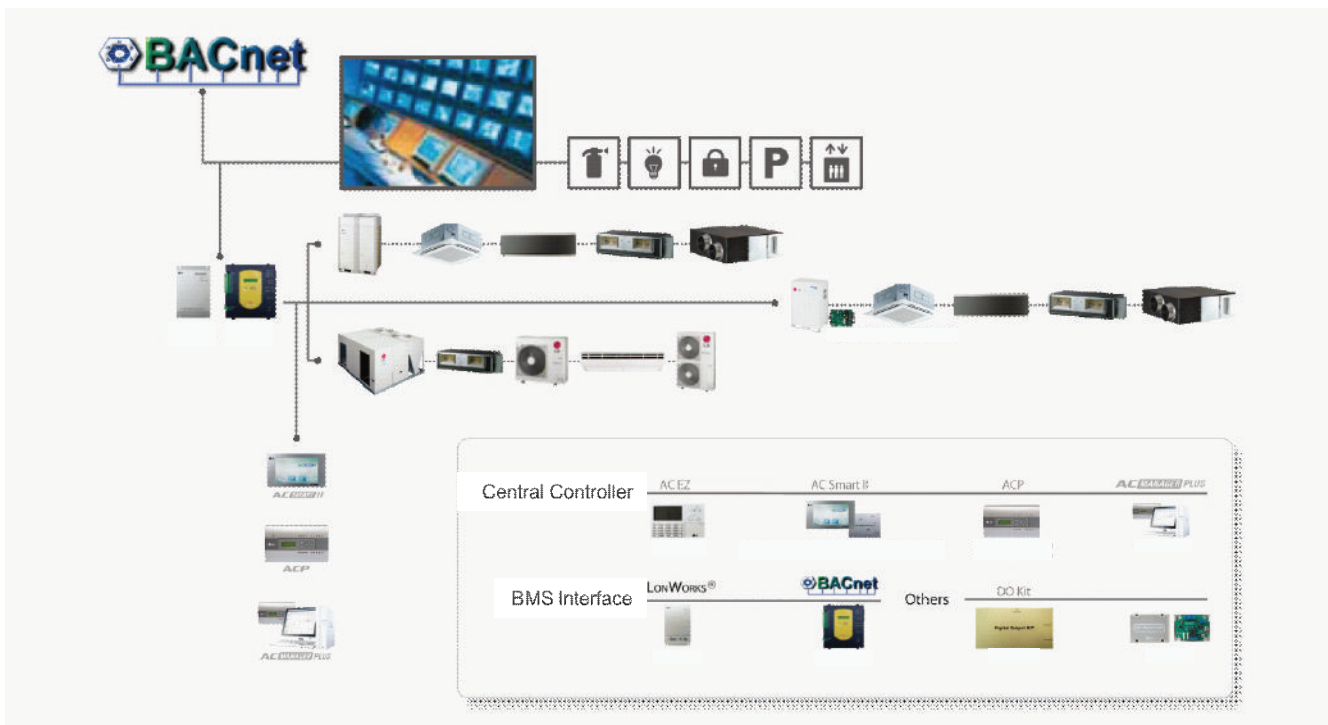
Group Control :(Accessory)

- 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.



V net :(Accessory)

- LG V-Net supports to interlock with all LG commercial air conditioner. In addition, LG V-Net can extend central control to BMS Interface (LonWork / BACnet) as well.






Single Package





3. Features & Benefits

Child Lock Function :

- It prevents the children or others from tampering with the control buttons.

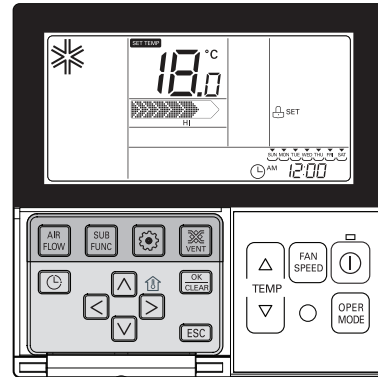
Press  button repeatedly until the  is flashing.

If moving to 'setup' icon area by using   button, 'setup' icon blinks, and child lock function is setup if pressing  button at that time.

When cancelling lock function, if moving to 'cancel' icon by pressing   button and then, pressing  button, child lock function is cancelled. Press  button to exit.

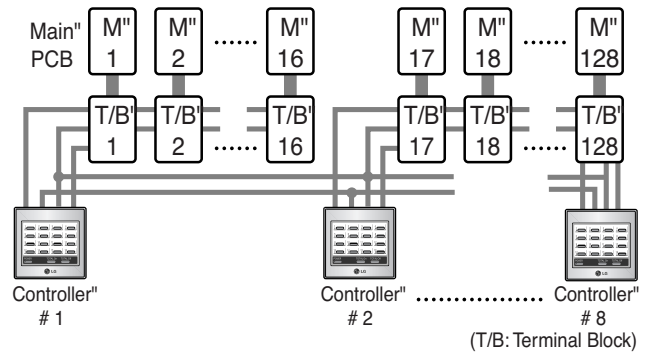
* After setup, it automatically gets out of setup mode if there is no button input for 25 seconds.

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



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.



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.



4. List of functions

Category	Functions	AK-Q120BC01	AK-Q150BC01
Air flow	Air supply outlet	1	1
	Airflow steps (fan/cool/heat)	1 / 1 / -	1 / 1 / -
	Jet cool/heat	X / X	X / X
Air purifying	Long-life prefilter (washable / anti-fungus)	O	O
Installation	E.S.P. control	X	X
	Electric heater	LKAEH098 / LKAEH188 / LKAEH09B / LKAEH18B	LKAEH188 / LKAEH18B
Reliability	Hot start	X	X
	Self diagnosis	O	O
	Soft dry operation	X	X
	Defrost / Deicing	X	X
	High pressure switch	O	O
	Low pressure switch	X	X
	Phase protection	O	O
	Restart delay (3-minutes)	O	O
	Soft start	O	O
	Test function	X	X
Convenience	Auto changeover	X	X
	Auto operation(artificial intelligence)	X	X
	Auto Restart	O	O
	Child lock	O	O
	Group control	PZCWRCG3	PZCWRCG3
	Sleep mode	X	X
	Timer(on/off)	O	O
	Timer(weekly)	O	O
	Two thermistor control	PQRSTA0	PQRSTA0
Night Silent Operation	O	O	
Individual control	Standard Wired remote controller	PQRCVSL0*** / PQRCVSL0QW / PREMTB001 / PREMTB01	PQRCVSL0*** / PQRCVSL0QW / PREMTB001 / PREMTB01
	Premium Wired remote controller	PREMTA000 / PREMTA000A / PREMTA000B	PREMTA000 / PREMTA000A / PREMTA000B
	Simple Wired remote controller	PQRCVCL0Q / PQRCVCL0QW	PQRCVCL0Q / PQRCVCL0QW
	Simple Wired remote controller(for hotel use)	PQRCHCA0Q / PQRCHCA0QW	PQRCHCA0Q / PQRCHCA0QW
	Extension wire for Wired remote controller	PZCWRC1	PZCWRC1
	Wireless remote controller*	PQWRHQ0FDB	PQWRHQ0FDB
Network Function	General central controller (Non LGAP)	X	X
	Network Solution(LGAP)	O	O
	Dry contact	PDRYCB000 / PDRYCB400 / PDRYCB300	PDRYCB000 / PDRYCB400 / PDRYCB300
	PI 485	X **	X **
Special function kit	Zone controller	X	X
	CTI(Communication transfer interface)	PKFC0	PKFC0
	Electronic thermostat	X	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.
- * : These functions can be operated only when the wired remote controller is connected.
The applicability of each function depends on the above table.
- ** : These models are not require PI 485 kit, because it can communicate through RS485 method by itself.
- *** : It is included by default when the product is manufactured.

4. List of functions

Category	Functions	AK-Q240BC01 / AK-Q300BC01
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	LKAEH368L / LKAEH36BL
Reliability	Hot start	X
	Self diagnosis	O
	Soft dry operation	X
	Defrost / Deicing	X
	High pressure switch	O
	Low pressure switch	X
	Phase protection	O
	Restart delay (3-minutes)	O
	Soft start	O
	Test function	X
Convenience	Auto changeover	X
	Auto operation(artificial intelligence)	X
	Auto Restart	O
	Child lock	O
	Group control	PZCWRCG3
	Sleep mode	X
	Timer(on/off)	O
	Timer(weekly)	O
	Two thermistor control	PQRSTA0
Night Silent Operation	O	
Individual control	Standard Wired remote controller	PQRCVSL0*** / PQRCVSL0QW / PREMTB001 / PREMTBB01
	Premium Wired remote controller	PREMTA000 / PREMTA000A / PREMTA000B
	Simple Wired remote controller	PQRCVCL0Q / PQRCVCL0QW
	Simple Wired remote controller(for hotel use)	PQRCHCA0Q / PQRCHCA0QW
	Extension wire for Wired remote controller	PZCWRC1
	Wireless remote controller*	PQWRHQ0FDB
Network Function	General central controller (Non LGAP)	X
	Network Solution(LGAP)	O
	Dry contact	PDRYCB000 / PDRYCB400 / PDRYCB300
	PI 485	X **
Special function kit	Zone controller	X
	CTI(Communication transfer interface)	PKFC0
	Electronic thermostat	X

Note :

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- Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.
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Single Package

4. List of functions

Device		AK-Q120BC01 / AK-Q150BC01 AK-Q240BC01 / AK-Q300BC01
Central Controller	AC Ez	PQCSZ250S0
	AC Smart IV	PACS4B000
	ACP IV	PACP4B000
	AC Manager IV	PACM4B000
	PI485	X*
BNU (Building Network Unit)	LONWORKS Gateway	PLNWKB000
	BACnet Gateway	PQNFB17C0
Low Ambient Kit		O (Logical operation)

Note :

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2. Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.
3. * : These models are not require PI 485 kit, because it can communicate through RS485 method by itself.

Single Package

5. Specifications

Nominal Capacity			RT	10	12.5
Model Name			-	AK-Q120BC01	AK-Q150BC01
Cooling Capacity	Net Capacity		kW	35.2	39.9
			kcal/h	30,240	34,280
			Btu/h	120,000	136,000
	Gross Capacity		kW	36.5	42.0
			kcal/h	31,400	36,100
			Btu/h	124,500	143,200
EER			Btu / Wh	11.0	10.0
IEER			Btu / Wh	17.0	15.0
Power Input	Cooling		kW	10.9	13.6
Power Supply			V, Ø, Hz	220 , 3 , 60	220 , 3 , 60
Indoor Coil	Fin Type		-	Louver	Louver
	Tube Size	Outer Dia.	mm (inch)	9.52 (3/8)	9.52 (3/8)
	(Row x Column x Fins per inch) x No.		-	(3 x 26 x 14) x 2	(3 x 26 x 14) x 2
	Face Area		m ² (ft ²)	2.18(23.47)	2.18(23.47)
Indoor Fan	Type			Sirocco Fan	Sirocco Fan
	Diameter		mm (inch)	380(15)	380 (15)
	Motor Output		Hp	3.0	3.0
	Air Flow Rate	Nominal	m ³ /min	113.3	141.6
		Nominal	ft ³ /min	4,000	5,000
	Drive type			Belt	Belt
Compressor (#1, A Cycle)	Type			HSS DC SCROLL	HSS DC SCROLL
	Motor Output	W x No.		5,300 x 1	5,300 x 1
	Oil Type			FVC68D	FVC68D
	Oil Charge	cc x No.		1,800 x 1	1,800 x 1
Compressor (#2, B Cycle)	Type			HSS Const. SCROLL	HSS Const. SCROLL
	Motor Output	W x No.		5,920 x 1	5,920 x 1
	Oil Type			FVC68D	FVC68D
	Oil Charge	cc x No.		1,800 x 1	1,800 x 1
Compressor (#3, A Cycle)	Type			-	-
	Motor Output	W x No.		-	-
	Oil Type			-	-
	Oil Charge	cc x No.		-	-
Compressor (#4, B Cycle)	Type			-	-
	Motor Output	W x No.		-	-
	Oil Type			-	-
	Oil Charge	cc x No.		-	-
Outdoor Coil	Fin Type			Wide Louver Plus(Gold)	Wide Louver Plus(Gold)
	Tube Size	Outer Dia.	mm(inch)	7 (9/32)	7 (9/32)
	(Row x Column x Fins per inch) x No.			(3 x 42 x 14) x 2	(3 x 42 x 14) x 2
	Face Area		m ² (ft ²)	3.53 (37.99)	3.53 (37.99)
Outdoor Fan	Type			Propeller Fan	Propeller Fan
	Diameter		mm(inch)	680 (26-25/32)	680 (26-25/32)
	Motor Output		W x No.	900 x 2	900 x 2
	Air Flow Rate		m ³ /min x No.	105 x 2	105 x 2
			ft ³ /min x No.	3,700 x 2	3,700 x 2
	Drive			BLDC Inverter	BLDC Inverter
Discharge Direction			Top	Top	
Dehumidification rate			l /h	11.8	13.8
Drain Connection Size				Male NPT 1	Male NPT 1
Refrigerant	Refrigerant name			R410A	R410A
	Precharged Amount		kg	13.0	13.0
	Control			EEV	EEV
Dimensions (W*H*D)			mm	2,230 x 1,237 x 1,958	2,230 x 1,237 x 1,958
			inch	87-25/32 x 48-11/16 x 77-3/32	87-25/32 x 48-11/16 x 77-3/32
Net Weight			kg(lbs)	580 (1,279)	580 (1,279)
Sound pressure levels	Cooling		dB(A)	75	75
Operation Range (Outdoor Temperature)		Cooling	Min. ~ Max. °C DB (°F DB)	-5 ~ 48 (23 ~ 118.4)	-5 ~ 48 (23 ~ 118.4)

Note :

- All data are based on the following conditions:
 - Indoor 26.7°C(80°F) DB / 19.4°C(67°F) WB
 - Outdoor 35°C(95°F) DB / 23.9°C(75°F) WB
- Wiring cable size must comply with the applicable local and national code.
- Due to our policy of innovation some specifications may be changed without notification.

- Sound Level Values are measured at Anechoic chamber. Its back ground noise is 55dB(A). Therefore, these values can be increased owing to ambient conditions during operation.
- EER : Energy Efficiency Ratio
IEER : Integrated Energy Efficiency Ratio

Single Package

5. Specifications

Nominal Capacity			RT	20	25
Model Name			-	AK-Q240BC01	AK-Q300BC01
Cooling Capacity	Net Capacity		kW	70.3	80.9
			kcal/h	60,500	69,600
			Btu/h	240,000	276,000
	Gross Capacity		kW	73.3	85.3
			kcal/h	63,000	73,400
			Btu/h	250,000	291,200
			Btu / Wh	10.6	10.0
EER			Btu / Wh	17	17.0
Power Input	Cooling		kW	22.7	27.6
Power Supply			V, Ø, Hz	220, 3, 60	220, 3, 60
Indoor Coil	Fin Type		-	Louver	Louver
	Tube Size	Outer Dia.	mm (inch)	9.52 (3/8)	9.52 (3/8)
	(Row x Column x Fins per inch) x No.		-	(3 x 26 x 14) x 2	(3 x 26 x 14) x 2
	Face Area		m ² (ft ²)	2.18(23.47)	2.18(23.47)
Indoor Fan	Type			Sirocco Fan	Sirocco Fan
	Diameter		mm (inch)	457(18)	457(18)
	Motor Output		Hp	7.5	7.5
	Air Flow Rate	Nominal	m ³ /min	226.5	260.5
		Nominal	ft ³ /min	8,000	9,200
	Drive type			Belt	Belt
Compressor (#1, A Cycle)	Type			HSS DC SCROLL	HSS DC SCROLL
	Motor Output	W x No.		5,300 x 1	5,300 x 1
	Oil Type			FVC68D	FVC68D
	Oil Charge	cc x No.		1,800 X 1	1,800 X 1
Compressor (#2, B Cycle)	Type			HSS DC SCROLL	HSS DC SCROLL
	Motor Output	W x No.		5,300 x 1	5,300 x 1
	Oil Type			FVC68D	FVC68D
	Oil Charge	cc x No.		1,800 X 1	1,800 X 1
Compressor (#3, A Cycle)	Type			HSS Const SCROLL	HSS Const SCROLL
	Motor Output	W x No.		5,920 x 1	5,920 x 1
	Oil Type			FVC68D	FVC68D
	Oil Charge	cc x No.		1,800 X 1	1,800 X 1
Compressor (#4, B Cycle)	Type			HSS Const SCROLL	HSS Const SCROLL
	Motor Output	W x No.		5,920 x 1	5,920 x 1
	Oil Type			FVC68D	FVC68D
	Oil Charge	cc x No.		1,800 X 1	1,800 X 1
Outdoor Coil	Fin Type			Wide Louver Plus (Gold)	Wide Louver Plus (Gold)
	Tube Size	Outer Dia.	mm(inch)	7 (9/32)	7 (9/32)
	(Row x Column x Fins per inch) x No.			(3 x 42 x 14) x 4	(3 x 42 x 14) x 4
	Face Area		m ² (ft ²)	6.32(68.02)	6.32(68.02)
Outdoor Fan	Type			Propeller Fan	Propeller Fan
	Diameter		mm(inch)	680 (26-25/32)	680 (26-25/32)
	Motor Output		W x No.	900 x 4	900 x 4
	Air Flow Rate		m ³ /min x No.	105 x 4	105 x 4
			ft ³ /min x No.	3,700 x 4	3,700 x 4
	Drive			BLDC Inverter	BLDC Inverter
Discharge Direction			Top	Top	
Dehumidification rate			l / h	24.42	24.42
Drain Connection Size				Male NPT 1	Male NPT 1
Refrigerant	Refrigerant name			R410A	R410A
	Precharged Amount		kg	21.0	21.0
	Control			EEV	EEV
Dimensions (W*H*D)			mm	2,230 x 1,242 x 3,520	2,230 x 1,242 x 3,520
			inch	87-25/32 x 48-29/32 x 138-19/32	87-25/32 x 48-29/32 x 138-19/32
Net Weight			kg(lbs)	1,040(2,293)	1,040(2,293)
Sound pressure levels	Cooling		dB(A)	85	85
Operation Range (Outdoor Temperature)	Cooling	Min. ~ Max.	°C DB (°F DB)	-5 ~ 48 (23 ~ 118.4)	-5 ~ 48 (23 ~ 118.4)

Note :

- All data are based on the following conditions:
 - Indoor 26.7°C(80°F) DB / 19.4°C(67°F) WB
 - Outdoor 35°C(95°F) DB / 23.9°C(75°F) WB
- Wiring cable size must comply with the applicable local and national code.
- Due to our policy of innovation some specifications may be changed without notification.

- Sound Level Values are measured at Anechoic chamber.
 Its back ground noise is 55dB(A).
 Therefore, these values can be increased owing to ambient conditions during operation.
- EER : Energy Efficiency Ratio
 IEER : Integrated Energy Efficiency Ratio

Single Package

6. Dimensions

10 / 12.5 RT

Single packaged cooling unit are designed for outdoor mounting with vertical condenser discharge. They can be located either at ground level or on roof.

Each unit contains an operating charge of Refrigerant as shipped.

[Unit : mm (inch)]

Product Dimensions (Figure 1A)

Tool	10 / 12.5 RT
A	1,237 (48-11/16)
B	2,230 (87-25/32)
C	1,958 (77-3/32)
D	36 (1-13/32)
E	60 (2-3/8)
F	1,111 (47-3/4)

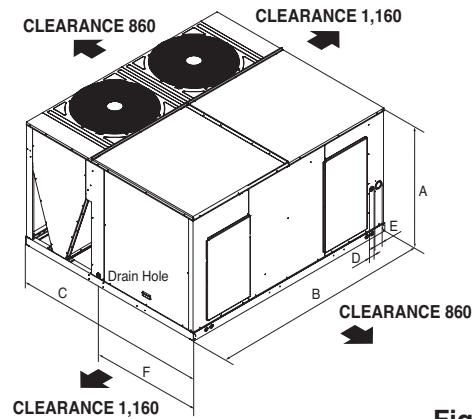


Figure 1A

Horizontal Flow Application (Figure 1B)

Tool	10 / 12.5 RT
A	484 (19-1/16)
B	864 (34-1/32)
C	482 (18-31/32)
D	206 (8-1/8)
E	126 (4-31/32)
F	913 (35-15/16)
G	130 (5-1/8)
H	800 (31-1/2)

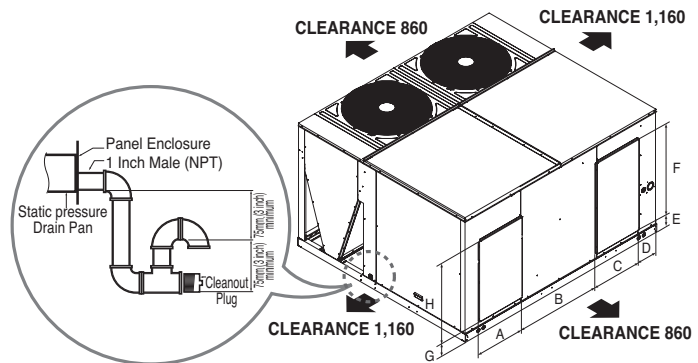
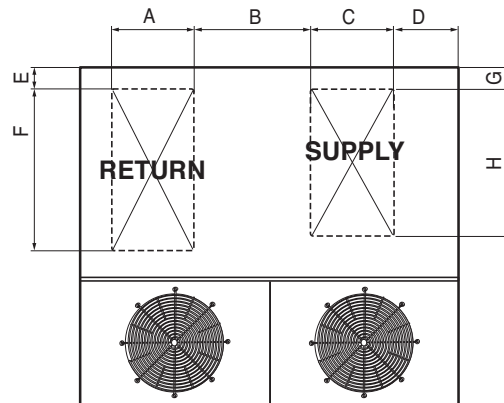


Figure 1B

Down Flow Application (Figure 1C)

Tool	10 / 12.5 RT
A	484 (19-1/16)
B	427 (16-13/16)
C	482 (18-31/32)
D	642 (25-9/32)
E	92 (3-5/8)
F	800 (31-1/2)
G	92 (3-5/8)
H	913 (35-15/16)



TOP VIEW

Figure 1C

Single Package

6. Dimensions

20 / 25 RT

Single packaged cooling unit are designed for outdoor mounting with vertical condenser discharge. They can be located either at ground level or on roof.

Each unit contains an operating charge of Refrigerant as shipped.

Product Dimensions (Figure 1A)

Tool	20 / 25 RT
A	1,242 (48-29/32)
B	2,230 (87-25/32)
C	3,520 (138-19/32)
D	1,911 (75-1/4)

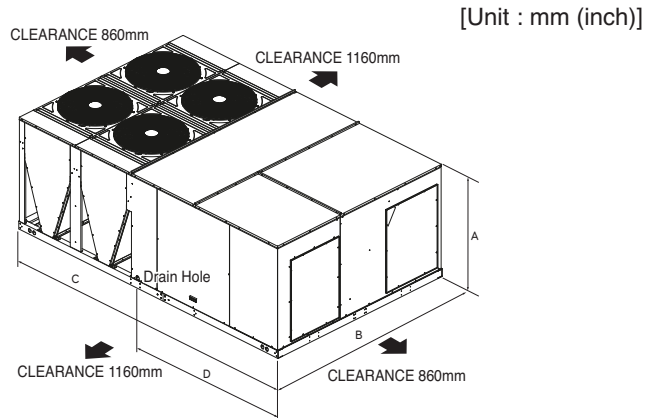


Figure 1A

Horizontal Flow Application (Figure 1B)

Tool	20 / 25 RT
A	616 (24-1/4)
B	678 (26-11/16)
C	655 (25-25/32)
D	60 (2-3/8)
E	125 (4-29/32)
F	882 (34-23/32)
G	115 (4-17/32)
H	860 (33-27/32)

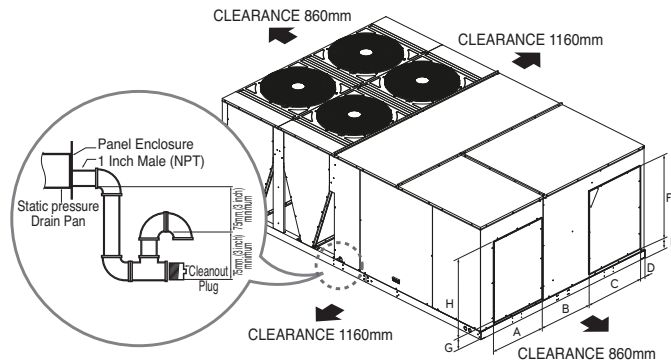


Figure 1B

Down Flow Application (Figure 1C)

Tool	20 / 25 RT
A	655 (25-25/32)
B	457 (18)
C	616 (24-1/4)
D	196 (7-23/32)
E	116 (4-9/16)
F	882 (34-23/32)
G	116 (4-9/16)
H	860 (33-27/32)

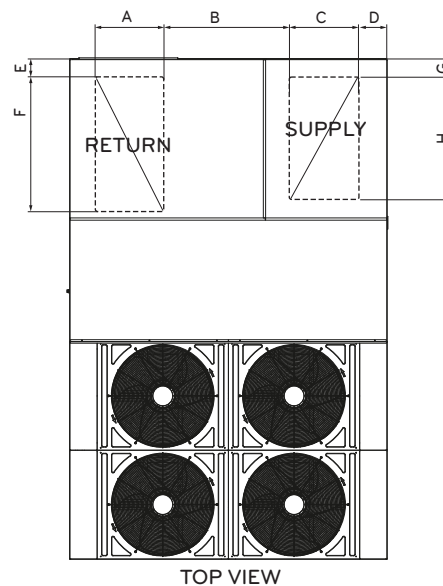


Figure 1C

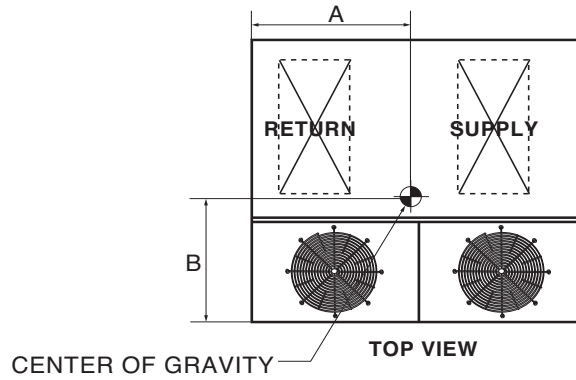
Single Package

6. Dimensions

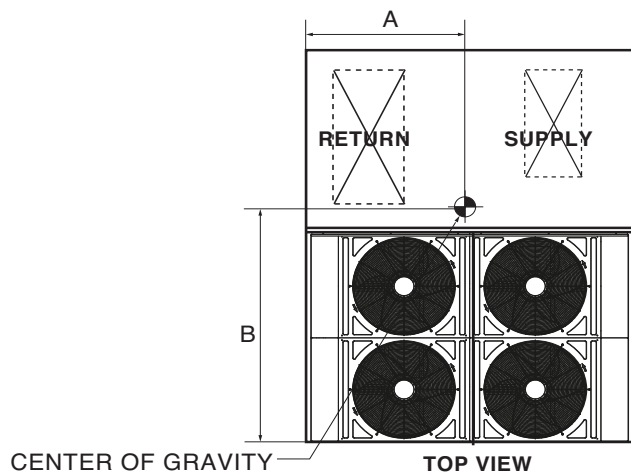
Weights

Maximum Weight [kg (lb)] and Center of Gravity Dimensions [mm (inch)]

Model Name	Maximum Weights [kg (lb)]		Center of Gravity [mm (inch)]	
	Shipping	Net	A	B
AK-Q120BC01 AK-Q150BC01	620 (1,367)	580 (1,279)	1,016 (40)	991 (39)



Model Name	Maximum Weights [kg (lb)]		Center of Gravity [mm (inch)]	
	Shipping	Net	A	B
AK-Q240BC01 AK-Q300BC01	1,070(2,359)	1,040(2,293)	995 (39)	1,786 (70)

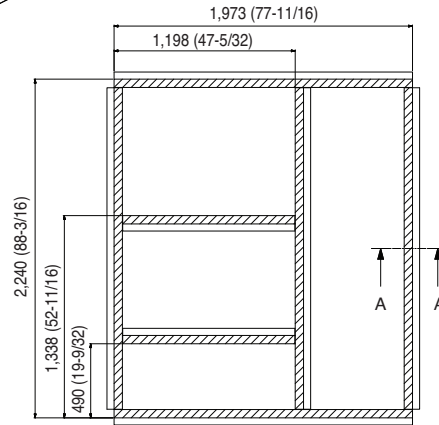
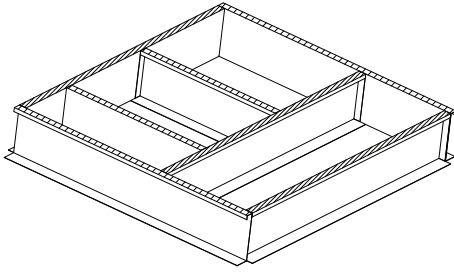


Note: 1. Corner weights are given for information only.
2. Weights are approximate.

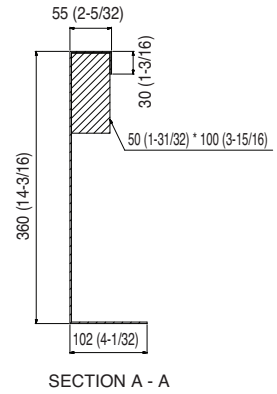
Single Package

7. Roof Curbs

10 / 12.5RT

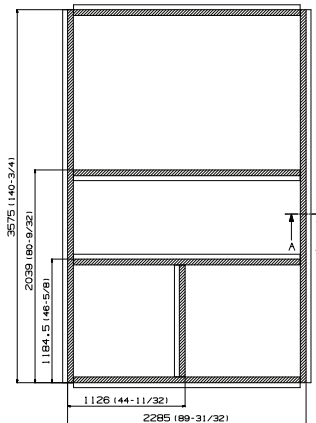
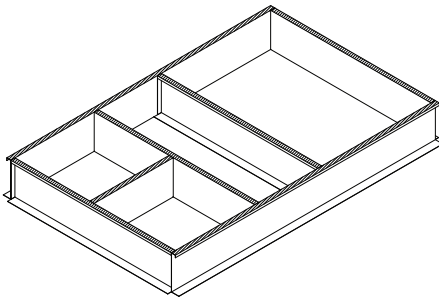


[Unit : mm (inch)]

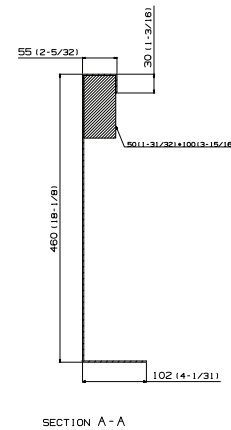


- Note:** ① Roof Curb – Galvanized steel
② Remove the Fork Guides for Roof Curb installation

20 / 25RT



[Unit : mm (inch)]

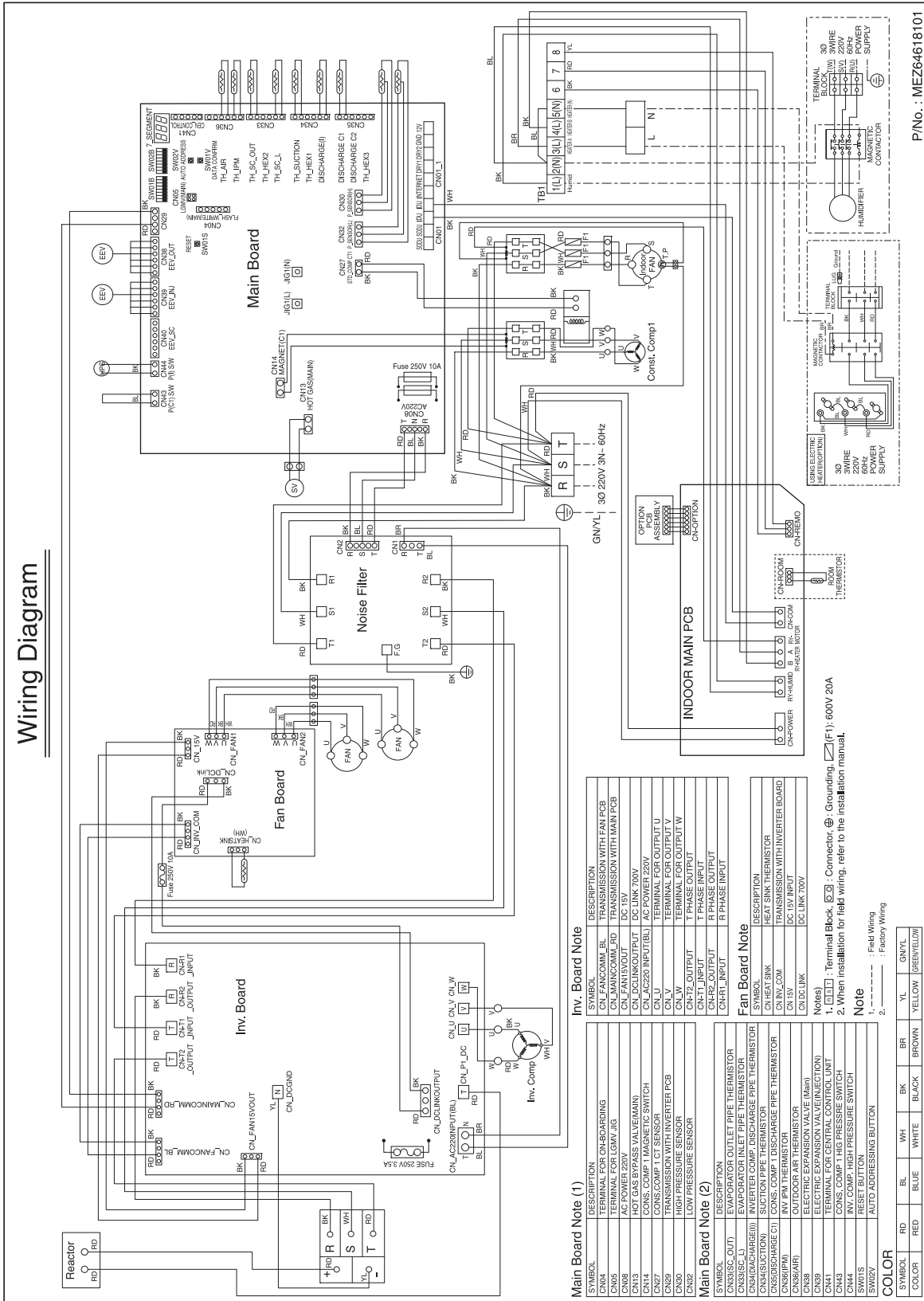


- Note:** ① Roof Curb – Galvanized steel
② Remove the Fork Guides for Roof Curb installation

8. Wiring diagrams

Model : AK-Q120BC01 / AK-Q150BC01

Wiring Diagram



P/No. : MEZ64618101

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
CN4	TERMINAL FOR ON-BOARDING	CN_FANCOMM_BK	TRANSMISSION WITH FAN PCB
CN5	TERMINAL FOR LGWV JIG	CN_MAINCOMM_RD	TRANSMISSION WITH MAIN PCB
CN8	AC POWER 220V	CN_FAN15VOUT	DC 15V
CN13	HOT GAS BYPASS VALVEMAIN	CN_DCINLINKOUTPUT	DC LINK 700V
CN14	CONS. COMP 1 MAGNETIC SWITCH	CN_AC220_INPUT(BL)	AC POWER 220V
CN15	TRANSMISSION WITH INVERTER PCB	CN_V	TERMINAL FOR OUTPUT U
CN20	HIGH PRESSURE SENSOR	CN_W	TERMINAL FOR OUTPUT W
CN22	LOW PRESSURE SENSOR	CN_T2_OUTPUT	T PHASE OUTPUT
CN33(SC_OUT)	EVAPORATOR OUTLET PIPE THERMISTOR	CN_T1_INPUT	T PHASE INPUT
CN33(SC_LJ)	EVAPORATOR INLET PIPE THERMISTOR	CN_R2_OUTPUT	R PHASE OUTPUT
CN34(DIACHARGE(B))	INVERTER COMP. DISCHARGE PIPE THERMISTOR	CN_R1_INPUT	R PHASE INPUT
CN34(SUCTION)	SUCTION PIPE THERMISTOR	CN_HEAT_SINK	HEAT SINK THERMISTOR
CN35(DISCHARGE C1)	CONS. COMP 1 DISCHARGE PIPE THERMISTOR	CN_INV_COM	TRANSMISSION WITH INVERTER BOARD
CN36(4W)	OUTDOOR AIR THERMISTOR	CN_15V	DC 15V INPUT
CN38	ELECTRIC EXPANSION VALVE (Main)	CN_DC_LINK	DC LINK 700V
CN39	ELECTRIC EXPANSION VALVE (A/ECTION)		
CN43	TERMINAL FOR CENTRAL CONTROL UNIT		
CN44	CONS. COMP 1 HIGH PRESSURE SWITCH		
CN45	INV. COMP. HIGH PRESSURE SWITCH		
SW20V	AUTO ADDRESSING BUTTON		

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
CN_INV_COM	TRANSMISSION WITH MAIN PCB	CN_INV_COM	TRANSMISSION WITH INVERTER BOARD
CN_15V	DC 15V INPUT	CN_DC_LINK	DC LINK 700V

Main Board Note (1)

SYMBOL	DESCRIPTION
CN_FANCOMM_BK	TRANSMISSION WITH FAN PCB
CN_MAINCOMM_RD	TRANSMISSION WITH MAIN PCB
CN_FAN15VOUT	DC 15V
CN_DCINLINKOUTPUT	DC LINK 700V
CN_AC220_INPUT(BL)	AC POWER 220V
CN_V	TERMINAL FOR OUTPUT U
CN_W	TERMINAL FOR OUTPUT W
CN_T2_OUTPUT	T PHASE OUTPUT
CN_T1_INPUT	T PHASE INPUT
CN_R2_OUTPUT	R PHASE OUTPUT
CN_R1_INPUT	R PHASE INPUT

Main Board Note (2)

SYMBOL	DESCRIPTION
CN33(SC_OUT)	EVAPORATOR OUTLET PIPE THERMISTOR
CN33(SC_LJ)	EVAPORATOR INLET PIPE THERMISTOR
CN34(DIACHARGE(B))	INVERTER COMP. DISCHARGE PIPE THERMISTOR
CN34(SUCTION)	SUCTION PIPE THERMISTOR
CN35(DISCHARGE C1)	CONS. COMP 1 DISCHARGE PIPE THERMISTOR
CN36(4W)	OUTDOOR AIR THERMISTOR
CN38	ELECTRIC EXPANSION VALVE (Main)
CN39	ELECTRIC EXPANSION VALVE (A/ECTION)
CN43	TERMINAL FOR CENTRAL CONTROL UNIT
CN44	CONS. COMP 1 HIGH PRESSURE SWITCH
CN45	INV. COMP. HIGH PRESSURE SWITCH
SW20V	AUTO ADDRESSING BUTTON

Fan Board Note

SYMBOL	DESCRIPTION
CN_HEAT_SINK	HEAT SINK THERMISTOR
CN_INV_COM	TRANSMISSION WITH INVERTER BOARD
CN_15V	DC 15V INPUT
CN_DC_LINK	DC LINK 700V

Notes

- Terminal Block, : Connector, : Grounding, (F1) : 600V 20A
- When installation for field wiring, refer to the installation manual.

Note

- : Field Wiring
- : Factory Wiring

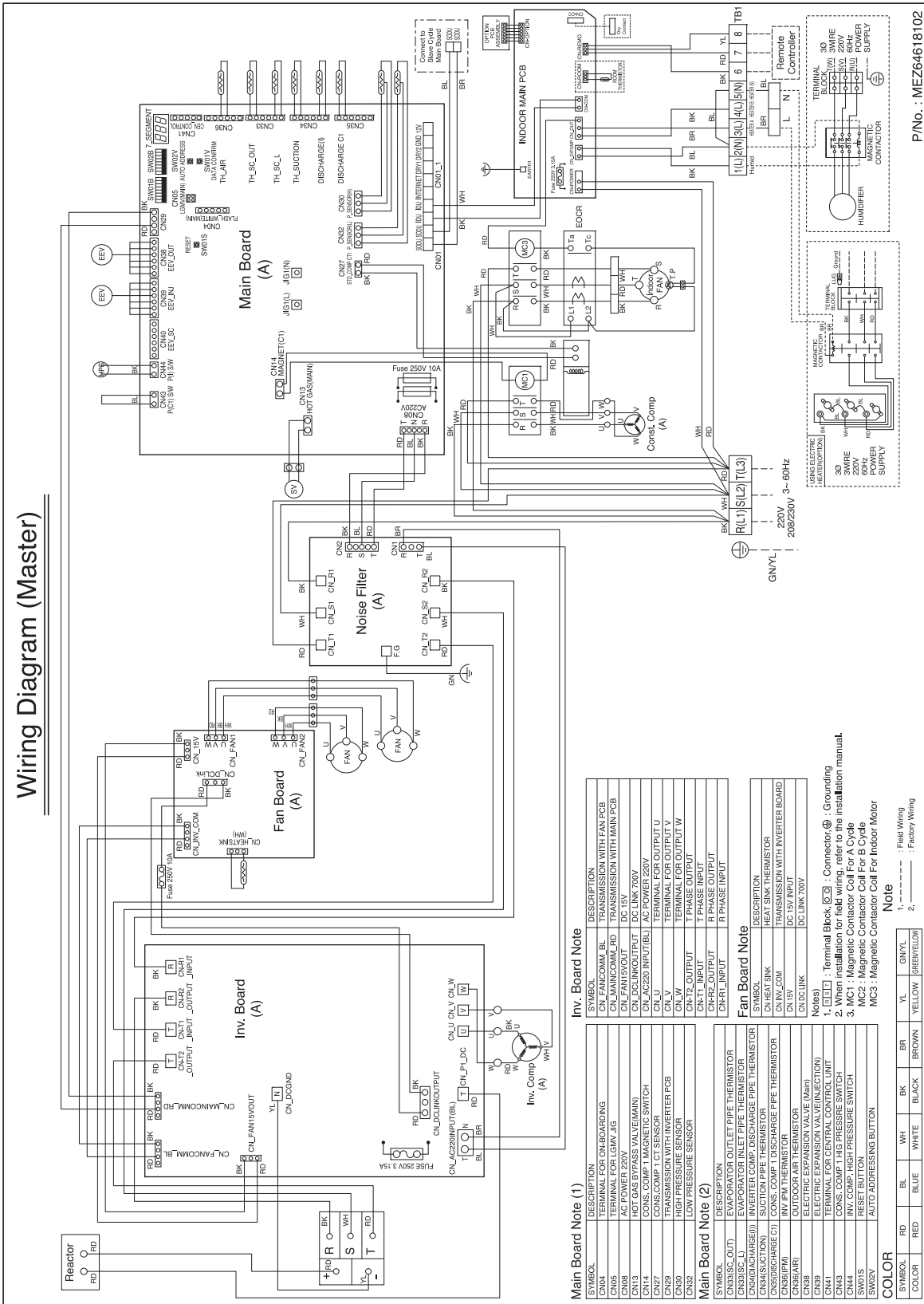
COLOR

SYMBOL	RD	BL	WH	BK	BR	YL	GN/YL
COLOR	RED	BLUE	WHITE	BLACK	BROWN	YELLOW	(GREEN/YELLOW)

8. Wiring diagrams

Model : AK-Q240BC01 / AK-Q300BC01 [Master]

Wiring Diagram (Master)



P/No. : MEZ64618102

Main Board Note (1)

SYMBOL	DESCRIPTION
CN04	TERMINAL FOR ON-BOARDING
CN05	TERMINAL FOR LG/AV/JIG
CN08	AC POWER 220V
CN13	HOT GAS BYPASS VALVE(MAIN)
CN14	CONS. COMP. MAGNETIC SWITCH
CN15	TRANSMISSION WITH INVERTER PCB
CN20	HIGH PRESSURE SENSOR
CN22	LOW PRESSURE SENSOR
CN33(SC, OUT)	EVAPORATOR OUTLET PIPE THERMISTOR
CN33(SCLU)	EVAPORATOR INLET PIPE THERMISTOR
CN34(DIACHARGE(I))	INVERTER COMP. DISCHARGE PIPE THERMISTOR
CN34(SUCTION)	SUCTION PIPE THERMISTOR
CN35(DISCHARGE C1)	CONS. COMP. DISCHARGE PIPE THERMISTOR
CN35(4R)	OUTDOOR AIR THERMISTOR
CN36(4R)	ELECTRIC EXPANSION VALVE (Main)
CN36	TERMINAL FOR CENTRAL CONTROL UNIT
CN41	CONS. COMP. 1 HIGH PRESSURE SWITCH
CN44	INV. COMP. HIGH PRESSURE SWITCH
CN45	CONS. COMP. 2 HIGH PRESSURE SWITCH
SW03V	AUTO-ADDRESSING BUTTON

Inv. Board Note

SYMBOL	DESCRIPTION
CN_FANCOMA.BL	TRANSMISSION WITH FAN PCB
CN_FANCOMA.LD	TRANSMISSION WITH MAIN PCB
CN_FAN15VOUT	DC 15V
CN_DCLINKOUTPUT	DC LINK 700V
CN_AC220 INPUT(BL)	AC POWER 220V
CN_V	TERMINAL FOR OUTPUT U
CN_W	TERMINAL FOR OUTPUT W
CN-T2_OUTPUT	T PHASE OUTPUT
CN-T1_INPUT	T PHASE INPUT
CN-R2_OUTPUT	R PHASE OUTPUT
CN-R1_INPUT	R PHASE INPUT

Fan Board Note

SYMBOL	DESCRIPTION
CN_HEAT_SINK	HEAT SINK THERMISTOR
CN_INV_COM	TRANSMISSION WITH INVERTER BOARD
CN_15V	DC 15V INPUT
CN_DC_LINK	DC LINK 700V

Notes

- [Terminal Block] : Terminal Block, [Symbol] : Connector, [Symbol] : Grounding
- When installation for field wiring, refer to the installation manual.
- MC1 : Magnetic Contactor Coil For A Cycle
MC2 : Magnetic Contactor Coil For B Cycle
MC3 : Magnetic Contactor Coil For Indoor Motor

Color Legend

COLOR	RD	BL	WH	BK	BR	YL	GN/YL
SYMBOL	RED	BLUE	WHITE	BLACK	BROWN	YELLOW	GREEN/YELLOW

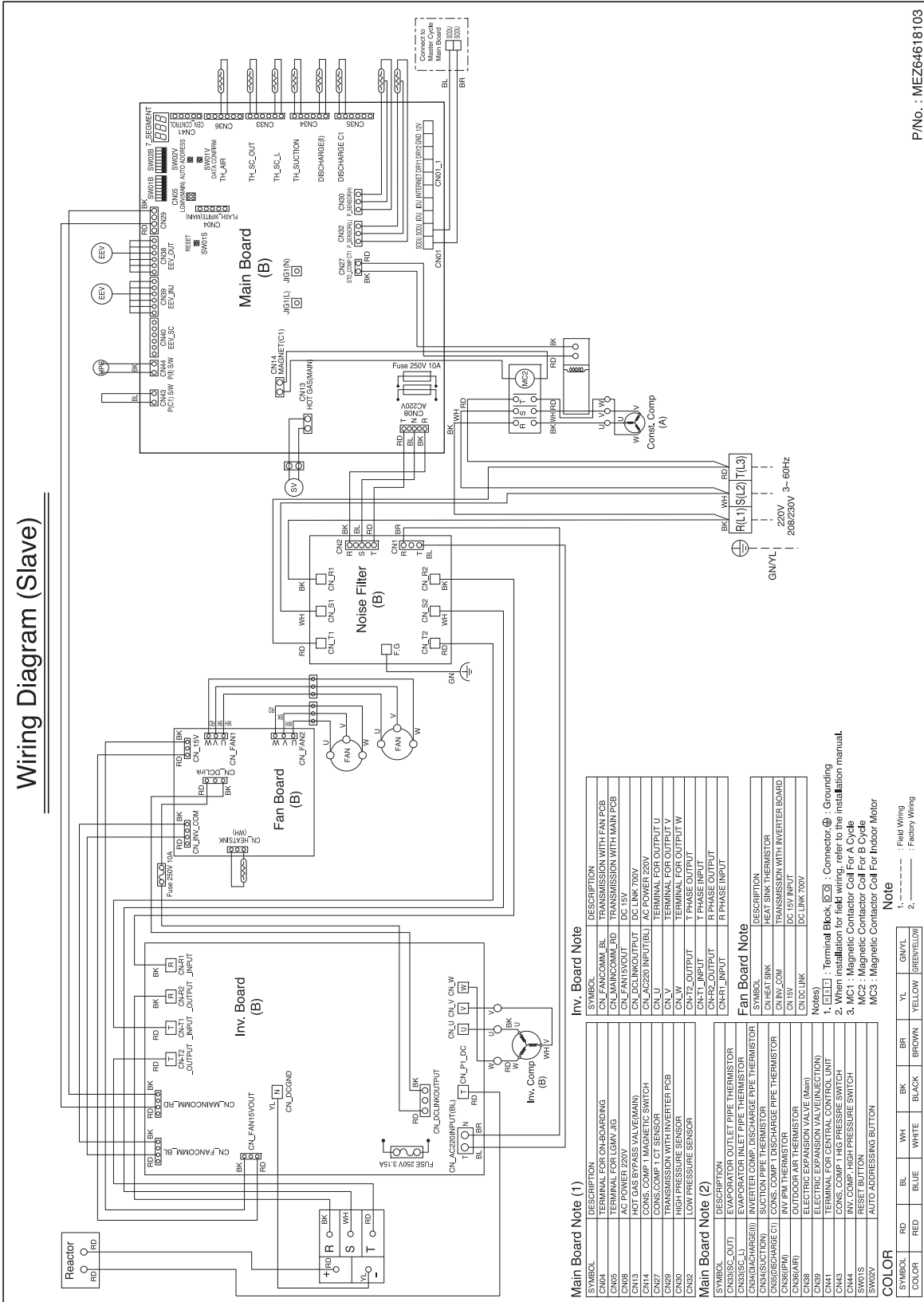
Note

- Field Wiring
- Factory Wiring

8. Wiring diagrams

Model : AK-Q240BC01 / AK-Q300BC01 [Slave]

Wiring Diagram (Slave)



Main Board Note (1)

SYMBOL	DESCRIPTION
CN04	TERMINAL FOR ON-BOARDING
CN05	TERMINAL FOR LG/V/IG
CN08	AC POWER 220V
CN13	HOT GAS BYPASS VALVE(MAIN)
CN14	CONS. COMP 1 MAGNETIC SWITCH
CN15	TRANSMISSION WITH INVERTER PCB
CN30	HIGH PRESSURE SENSOR
CN32	LOW PRESSURE SENSOR

Main Board Note (2)

SYMBOL	DESCRIPTION
CN33SC_OUT	EVAPORATOR OUTLET PIPE THERMISTOR
CN33SLU	EVAPORATOR INLET PIPE THERMISTOR
CN34DISCHARGE(I)	INVERTER COMP. DISCHARGE PIPE THERMISTOR
CN34SUCTION	SUCTION PIPE THERMISTOR
CN35DISCHARGE(C)	CONS. COMP 1 DISCHARGE PIPE THERMISTOR
CN35SUCTION	CONS. COMP 1 SUCTION PIPE THERMISTOR
CN36AIR	OUT DOOR AIR THERMISTOR
CN38	ELECTRIC EXPANSION VALVE (Main)
CN39	ELECTRIC EXPANSION VALVE (A/ELECTION)
CN41	TERMINAL FOR CENTRAL CONTROL UNIT
CN43	CONS. COMP 1 HIGH PRESSURE SWITCH
CN44	INV. COMP. HIGH PRESSURE SWITCH
SW03V	AUTO-ADDRESSING BUTTON

Inv. Board Note

SYMBOL	DESCRIPTION
CN_FANCOMA.BL	TRANSMISSION WITH FAN PCB
CN_MAINCOMA.RD	TRANSMISSION WITH MAIN PCB
CN_FAN15VOUT	DC 15V
CN_DCINKOUTPUT	DC LINK 700V
CN_AC220 INPUT(BL)	AC POWER 220V
CN_V	TERMINAL FOR OUTPUT U
CN_W	TERMINAL FOR OUTPUT W
CN-T2_OUTPUT	T PHASE OUTPUT
CN-T1_INPUT	T PHASE INPUT
CN-R2_OUTPUT	R PHASE OUTPUT
CN-R1_INPUT	R PHASE INPUT

Fan Board Note

SYMBOL	DESCRIPTION
CN_HEAT_SINK	HEAT SINK THERMISTOR
CN_INV_COM	TRANSMISSION WITH INVERTER BOARD
CN_15V	DC 15V INPUT
CN_DC_LINK	DC LINK 700V

Notes

- [] : Terminal Block, [] : Connector, [] : Grounding
- When installation for field wiring, refer to the installation manual.
- MC1 : Magnetic Contactor Coil For A Cycle
MC2 : Magnetic Contactor Coil For B Cycle
MC3 : Magnetic Contactor Coil For Indoor Motor

Color

SYMBOL	RD	BL	WH	BK	BR	GN/YL
COLOR	RED	BLUE	WHITE	BLACK	BROWN	YELLOW (GREEN/YELLOW)

Note

- : Field Wiring
- : Factory Wiring

P/No. : MEZ64618103

9. Capacity tables

25RT AK-Q300BC01 (SI)

Table with columns for Outdoor DB(°C) and Indoor WB(°C). Major sections for 27.5 and 35.0. Sub-sections for 16.1, 19.4, 22.8. Data includes I/s, DB(°C), TGC, SHC, and PI for various models like 3474, 3908, 4342, 4776, and 5210.

Table with columns for Outdoor DB(°C) and Indoor WB(°C). Major sections for 40.0, 46.0, and 48.0. Sub-sections for 16.1, 19.4, 22.8. Data includes I/s, DB(°C), TGC, SHC, and PI for various models like 3474, 3908, 4342, 4776, and 5210.

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)
Net Cooling Capacity = TGC - Fan motor heat
Fan motor heat = 1.28 x BkW (Refer to the Fan performance data)
5. SHC = Sensible Heat Capacity(Unit : kW)
6. PI = Power Input(kW), Sum of Compressor & Outdoor Fan Power Input
7. The rated capacity at the outdoor temperature of 27.5 DB is the same as that at IEER B test condition.
The rated capacity at the outdoor temperature of 35.0 DB is the same as that at IEER A test condition.

9. Capacity tables

25RT AK-Q300BC01 (English)

Outdoor DB(°F)		81.5									95.0								
Indoor WB(°F)		61.0			67.0			73.0			61.0			67.0			73.0		
CFM	DB(°F)	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI	TGC	SHC	PI
7360	75	241.1	165.7	6.99	266.6	124.6	7.21	286.6	55.5	7.35	241.1	190.8	22.22	266.6	143.5	22.93	286.6	63.9	23.35
	80	251.5	189.8	7.02	271.3	157.0	7.24	286.7	102.5	7.37	251.5	218.6	22.29	271.3	180.8	23.00	286.7	118.0	23.42
	85	261.0	208.2	7.04	275.3	188.0	7.26	285.9	142.0	7.39	261.0	239.7	22.36	275.3	216.4	23.06	285.9	163.5	23.49
	90	269.6	219.9	7.06	278.2	209.7	7.28	284.2	173.8	7.41	269.6	253.3	22.43	278.2	241.5	23.13	284.2	200.1	23.56
8280	75	251.2	182.7	7.06	277.7	137.4	7.28	298.5	61.1	7.41	251.2	210.3	22.42	277.7	158.2	23.13	298.5	70.4	23.56
	80	262.0	209.2	7.08	282.7	173.1	7.30	298.7	112.9	7.44	262.0	240.9	22.49	282.7	199.3	23.20	298.7	130.1	23.63
	85	271.9	229.5	7.10	286.8	207.2	7.32	297.8	156.5	7.46	271.9	264.2	22.56	286.8	238.6	23.27	297.8	180.2	23.70
	90	280.9	242.4	7.12	289.8	231.1	7.34	296.0	191.5	7.48	280.9	279.2	22.62	289.8	266.1	23.34	296.0	220.5	23.77
9200	75	258.7	198.8	7.13	286.1	149.5	7.36	307.5	66.5	7.49	258.7	228.9	22.66	286.1	172.2	23.38	307.5	76.6	23.81
	80	269.9	227.7	7.15	291.2	188.4	7.38	307.7	122.9	7.52	269.9	262.2	22.73	291.2	216.9	23.45	307.7	141.5	23.88
	85	280.1	249.7	7.18	295.4	225.5	7.40	306.8	170.4	7.54	280.1	280.1	22.80	295.4	259.7	23.52	306.8	196.2	23.95
	90	289.3	263.9	7.20	298.6	251.6	7.42	305.0	208.5	7.56	289.3	289.3	22.87	298.6	289.7	23.59	305.0	240.0	24.02
10120	75	263.6	212.8	7.17	291.5	160.0	7.40	313.4	71.2	7.53	263.6	245.0	22.79	291.5	184.3	23.51	313.4	82.0	23.94
	80	275.1	243.7	7.19	296.7	201.6	7.42	313.5	131.6	7.56	275.1	275.1	22.86	296.7	232.2	23.58	313.5	151.5	24.01
	85	285.4	267.3	7.21	301.0	241.3	7.44	312.6	182.3	7.58	285.4	285.4	22.92	301.0	277.9	23.65	312.6	209.9	24.09
	90	294.8	282.4	7.24	304.2	269.2	7.46	310.7	223.1	7.60	294.8	294.8	22.99	304.2	304.2	23.72	310.7	256.9	24.16
11040	75	266.0	225.3	7.21	294.1	169.5	7.44	316.2	75.4	7.58	266.0	259.5	22.91	294.1	195.1	23.64	316.2	86.8	24.07
	80	277.6	258.1	7.23	299.4	213.5	7.46	316.4	139.3	7.60	277.6	277.6	22.98	299.4	245.9	23.71	316.4	160.4	24.15
	85	288.0	283.1	7.25	303.7	255.6	7.48	315.5	193.1	7.62	288.0	288.0	23.05	303.7	294.3	23.78	315.5	222.3	24.22
	90	297.5	297.5	7.28	307.0	285.1	7.51	313.6	236.3	7.64	297.5	297.5	23.12	307.0	307.0	23.85	313.6	272.1	24.29

Outdoor DB(°F)		104.0									114.8						118.4											
Indoor WB(°F)		61.0			67.0			73.0			61.0			67.0			73.0			61.0			67.0			73.0		
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			
7360	75	241.1	175.2	27.48	266.6	131.8	28.34	286.6	58.6	28.87	227.4	167.4	32.76	251.4	125.9	33.80	270.3	56.0	34.42	216.4	159.7	33.36	239.2	120.1	34.41	257.2	53.4	35.05
	80	251.5	200.7	27.56	271.3	166.0	28.43	286.7	108.3	28.95	237.3	191.8	32.86	256.0	158.7	33.90	270.5	103.5	34.53	225.8	182.9	33.46	243.6	151.3	34.52	257.3	98.7	35.16
	85	261.0	220.1	27.64	275.3	198.7	28.51	285.9	150.1	29.04	246.2	210.3	32.96	259.7	189.9	34.00	269.7	143.5	34.63	234.3	200.6	33.56	247.1	181.1	34.62	256.6	136.8	35.26
	90	269.6	232.5	27.72	278.2	221.7	28.60	284.2	183.7	29.13	254.3	222.2	33.06	262.5	211.9	34.10	268.1	175.6	34.73	242.0	211.9	33.66	249.7	202.0	34.72	255.1	167.4	35.37
8280	75	251.2	193.1	27.72	277.7	145.2	28.59	298.5	64.6	29.12	236.9	184.6	33.06	262.0	138.8	34.10	281.6	61.8	34.73	225.4	176.0	33.66	249.2	132.4	34.72	268.0	58.9	35.36
	80	262.0	221.2	27.80	282.7	183.0	28.68	298.7	119.4	29.21	247.2	211.4	33.15	266.7	174.9	34.20	281.8	114.1	34.83	235.2	201.6	33.76	253.7	166.8	34.83	268.1	108.8	35.47
	85	271.9	242.6	27.89	286.8	219.0	28.77	297.8	165.5	29.30	256.5	231.9	33.25	270.5	209.3	34.30	281.0	158.2	34.94	244.1	221.1	33.86	257.4	199.6	34.93	267.3	150.8	35.57
	90	280.9	256.3	27.97	289.8	244.4	28.85	296.0	202.5	29.39	265.0	245.0	33.35	273.4	233.5	34.41	279.3	193.5	35.04	252.1	233.6	33.96	260.1	222.7	35.03	265.7	184.5	35.68
9200	75	258.7	210.2	28.02	286.1	158.1	28.90	307.5	70.3	29.43	244.1	200.9	33.41	269.8	151.1	34.46	290.1	67.2	35.10	232.2	191.6	34.02	256.8	144.1	35.09	276.0	64.1	35.74
	80	269.9	240.8	28.10	291.2	199.2	28.99	307.7	130.0	29.52	254.6	230.1	33.51	274.7	190.4	34.57	290.2	124.2	35.21	242.3	219.4	34.12	261.4	181.5	35.20	276.2	118.4	35.85
	85	280.1	264.0	28.19	295.4	238.4	29.07	306.8	180.1	29.61	264.3	252.3	33.61	278.7	227.8	34.67	289.4	172.1	35.31	251.4	240.6	34.22	265.1	217.3	35.30	275.4	164.1	35.96
	90	289.3	279.0	28.27	298.6	266.0	29.16	305.0	220.4	29.70	272.9	266.6	33.71	281.7	254.2	34.77	287.7	210.6	35.42	259.7	254.2	34.32	268.0	242.4	35.41	273.7	200.8	36.06
10120	75	263.6	224.9	28.17	291.5	169.2	29.06	313.4	75.3	29.60	248.7	215.0	33.59	275.0	161.7	34.65	295.6	72.0	35.29	236.6	205.0	34.21	261.6	154.2	35.28	281.3	68.6	35.94
	80	275.1	257.7	28.26	296.7	213.2	29.15	313.5	139.1	29.69	259.5	246.3	33.69	279.9	203.7	34.76	295.7	132.9	35.40	246.9	234.8	34.31	266.3	194.3	35.39	281.4	126.8	36.05
	85	285.4	282.6	28.34	301.0	255.1	29.23	312.6	192.8	29.78	269.3	269.3	33.80	283.9	243.8	34.86	294.9	184.2	35.51	256.2	256.2	34.41	270.2	232.5	35.50	280.6	175.7	36.15
	90	294.8	294.8	28.43	304.2	284.6	29.32	310.7	235.9	29.86	278.1	278.1	33.90	287.0	272.0	34.97	293.1	225.4	35.61	264.6	264.6	34.51	273.1	259.4	35.60	278.9	215.0	36.26
11040	75	266.0	238.2	28.33	294.1	179.1	29.22	316.2	79.7	29.76	251.0	227.7	33.78	277.5	171.2	34.84	298.3	76.2	35.49	238.8	217.1	34.40	264.0	163.3	35.48	283.8	72.7	36.14
	80	277.6	272.9	28.41	299.4	225.7	29.31	316.4	147.3	29.85	261.8	260.8	33.88	282.5	215.8	34.95	298.4	140.8	35.60	249.1	248.7	34.50	268.7	205.7	35.59	284.0	134.2	36.25
	85	288.0	288.0	28.50	303.7	270.2	29.40	315.5	204.1	29.94	271.7	271.7	33.98	286.5	258.2	35.05	297.6	195.1	35.70	258.5	258.5	34.60	272.6	246.2	35.69	283.2	186.0	36.35
	90	297.5	297.5	28.58	307.0	301.4	29.48	313.6	249.8	30.03	280.6	280.6	34.08	289.6	288.1	35.16	295.8	238.7	35.81	267.0	267.0	34.71	275.5	274.7	35.80	281.4	227.6	36.46

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 ft per minute
4. TGC = Total Gross Cooling Capacity(Unit : MBH = kBtu/h)
Net Cooling Capacity = TGC - Fan motor heat
Fan motor heat = 3.1 x BHP (Refer to the Fan performance data)

5. SHC = Sensible Heat Capacity(Unit : MBH = kBtu/h)
6. PI = Power Input(kW), Sum of Compressor & Outdoor Fan Power Input
7. The rated capacity at the outdoor temperature of 81.5 DB is the same as that at IEER B test condition.
The rated capacity at the outdoor temperature of 95.0 DB is the same as that at IEER A test condition.

Single Package

10. Fan Performance data

Evaporator Fan Performance Data AK-Q120BC01 (SI)

l/s	External Static Pressure(mmAq.)																				
	2.54		5.08		7.62		10.16		12.70		15.24		17.78		20.32		22.86		25.40		
	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM
1,510	-	-	-	-	577	0.53	609	0.57	642	0.62	674	0.67	705	0.72	737	0.78	768	0.83	798	0.90	
1,699	-	-	576	0.57	607	0.62	639	0.68	670	0.73	700	0.79	730	0.85	760	0.91	790	0.98	820	1.04	
1,888	580	0.65	610	0.70	640	0.76	670	0.82	700	0.88	729	0.95	758	1.01	787	1.08	815	1.16	843	1.23	
2,077	618	0.81	647	0.87	676	0.94	704	1.00	732	1.07	760	1.14	788	1.22	815	1.29	842	1.37	869	1.46	
2,265	658	1.01	686	1.08	713	1.15	740	1.22	767	1.30	794	1.38	820	1.46	846	1.55	872	1.63	897	1.72	

l/s	External Static Pressure(mmAq.)																				
	27.94		30.48		33.02		35.56		38.10		40.64		43.18		45.72		48.26		50.80		
	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM
1,510	829	0.96	859	1.03	889	1.09	918	1.17	948	1.24	976	1.32	1005	1.40	1033	1.48	1061	1.57	1089	1.65	
1,699	849	1.12	877	1.19	906	1.27	934	1.34	962	1.43	990	1.51	1017	1.60	1044	1.69	1071	1.78	1097	1.88	
1,888	871	1.31	898	1.39	925	1.47	952	1.56	979	1.65	1005	1.74	1031	1.84	1057	1.93	1082	2.03	-	-	
2,077	895	1.54	922	1.63	947	1.72	973	1.82	998	1.91	1023	2.01	1048	2.11	1072	2.22	1096	2.32	-	-	
2,265	922	1.82	947	1.91	971	2.01	996	2.11	1020	2.21	1043	2.32	-	-	-	-	-	-	-	-	

• Test condition :

① Voltage : 220V

② Operating Mode : Fan operation mode with clean filter, dry coil without electric heater.

3 HP Standard Motor & Standard Drive

3 HP Standard Motor & High static Drive

Evaporator Fan Performance Data AK-Q120BC01 (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		1.0		
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM
3,200	-	-	-	-	577	0.70	609	0.76	642	0.83	674	0.89	705	0.97	737	1.04	768	1.12	798	1.20	
3,600	-	-	576	0.77	607	0.84	639	0.91	670	0.98	700	1.06	730	1.14	760	1.22	790	1.31	820	1.40	
4,000	580	0.87	610	0.94	640	1.02	670	1.10	700	1.18	729	1.27	758	1.36	787	1.45	815	1.55	843	1.65	
4,400	618	1.09	647	1.17	676	1.25	704	1.34	732	1.44	760	1.53	788	1.63	815	1.74	842	1.84	869	1.95	
4,800	658	1.35	686	1.45	713	1.54	740	1.64	767	1.74	794	1.85	820	1.96	846	2.07	872	2.19	897	2.31	

CFM	External Static Pressure(in.Aq.)																				
	1.1		1.2		1.3		1.4		1.5		1.6		1.7		1.8		1.9		2.0		
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM
3,200	829	1.29	859	1.38	889	1.47	918	1.56	948	1.66	976	1.77	1005	1.88	1033	1.99	1061	2.10	1089	2.22	
3,600	849	1.50	877	1.59	906	1.70	934	1.80	962	1.91	990	2.03	1017	2.14	1044	2.26	1071	2.39	1097	2.52	
4,000	871	1.76	898	1.86	925	1.98	952	2.09	979	2.21	1005	2.34	1031	2.46	1057	2.59	1082	2.73	-	-	
4,400	895	2.07	922	2.19	947	2.31	973	2.44	998	2.56	1023	2.70	1048	2.83	1072	2.97	1096	3.12	-	-	
4,800	922	2.43	947	2.56	971	2.69	996	2.83	1020	2.97	1043	3.11	-	-	-	-	-	-	-	-	

• Test condition :

① Voltage : 220V

② Operating Mode : Fan operation mode with clean filter, dry coil without electric heater.

3 HP Standard Motor & Standard Drive

3 HP Standard Motor & High static Drive

Fan speed Data AK-Q120BC01

Fan speed Data (RPM)										
Fixed Pulley			Variable Pulley Turn open							V-Belt
Spec.	O.D(mm)	P.D(mm)	0 Turn	1 Turn	2 Turn	3 Turn	4 Turn	5 Turn	6 Turn	NO.
Standard	230	219	775	738	700	663	625	587	550	B-57
High Static	164	155	1,096	1,043	989	936	883	830	777	B-53

• Factory set at 3 turns open.

• Oversized Motor & Drive are field supplied Accessory.

Single Package

10. Fan Performance data

Evaporator Fan Performance Data AK-Q150BC01 (SI)

l/s	External Static Pressure(mmAq.)																			
	2.54		5.08		7.62		10.16		12.70		15.24		17.78		20.32		22.86		25.40	
	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW
1,888	-	-	610	0.70	640	0.77	670	0.82	700	0.88	729	0.95	758	1.01	787	1.08	815	1.16	843	1.23
2,124	627	0.86	656	0.92	685	0.99	713	1.05	741	1.12	768	1.20	796	1.27	823	1.35	849	1.44	876	1.52
2,360	679	1.12	706	1.20	733	1.27	759	1.35	786	1.43	811	1.51	837	1.60	862	1.68	887	1.78	912	1.87
2,596	734	1.45	759	1.53	784	1.62	809	1.70	834	1.79	858	1.88	882	1.98	906	2.08	929	2.18	952	2.28
2,832	792	1.84	816	1.93	840	2.02	863	2.12	886	2.22	908	2.32	931	2.42	953	2.53	974	2.64	996	2.75

l/s	External Static Pressure(mmAq.)																			
	27.94		30.48		33.02		35.56		38.10		40.64		43.18		45.72		48.26		50.80	
	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW
1,888	871	1.31	898	1.39	925	1.47	952	1.56	979	1.65	1005	1.74	1031	1.84	1057	1.93	1082	2.03	1107	2.14
2,124	902	1.61	928	1.70	953	1.79	978	1.89	1003	1.98	1028	2.08	1052	2.19	1076	2.29	1100	2.40	1123	2.52
2,360	937	1.97	961	2.06	984	2.17	1008	2.27	1031	2.38	1054	2.49	1077	2.60	1099	2.72	1121	2.83	1143	2.96
2,596	975	2.38	997	2.49	1019	2.60	1041	2.72	1063	2.83	1084	2.95	1105	3.07	1126	3.20	1146	3.33	1166	3.45
2,832	1017	2.86	1037	2.98	1058	3.10	1078	3.22	1098	3.35	1118	3.48	1137	3.61	1156	3.74	1174	3.88	1193	4.02

• Test condition :

① Voltage : 220V

② Operating Mode : Fan operation mode with clean filter, dry coil without electric heater.

3 HP Standard Motor & Standard Drive

3 HP Standard Motor & High static Drive

5 HP Oversized Motor & Drive

Evaporator Fan Performance Data AK-Q150BC01 (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		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4,000	-	-	610	0.94	640	1.03	670	1.10	700	1.18	729	1.27	758	1.36	787	1.45	815	1.55	843	1.65
4,500	627	1.15	656	1.23	685	1.32	713	1.41	741	1.51	768	1.61	796	1.71	823	1.82	849	1.93	876	2.04
5,000	679	1.51	706	1.60	733	1.70	759	1.81	786	1.92	811	2.03	837	2.14	862	2.26	887	2.38	912	2.51
5,500	734	1.95	759	2.06	784	2.17	809	2.28	834	2.40	858	2.53	882	2.65	906	2.78	929	2.92	952	3.06
6,000	792	2.47	816	2.59	840	2.71	863	2.84	886	2.97	908	3.11	931	3.25	953	3.39	974	3.54	996	3.69

CFM	External Static Pressure(in.Aq.)																			
	1.1		1.2		1.3		1.4		1.5		1.6		1.7		1.8		1.9		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
4,000	871	1.76	898	1.86	925	1.98	952	2.09	979	2.21	1005	2.34	1031	2.46	1057	2.59	1082	2.73	1107	2.86
4,500	902	2.16	928	2.28	953	2.40	978	2.53	1003	2.66	1028	2.80	1052	2.93	1076	3.08	1100	3.22	1123	3.37
5,000	937	2.64	961	2.77	984	2.91	1008	3.05	1031	3.19	1054	3.34	1077	3.49	1099	3.64	1121	3.80	1143	3.96
5,500	975	3.20	997	3.34	1019	3.49	1041	3.64	1063	3.80	1084	3.96	1105	4.12	1126	4.29	1146	4.46	1166	4.63
6,000	1017	3.84	1037	4.00	1058	4.16	1078	4.32	1098	4.49	1118	4.66	1137	4.84	1156	5.02	1174	5.20	1193	5.38

• Test condition :

① Voltage : 220V

② Operating Mode : Fan operation mode with clean filter, dry coil without electric heater.

3 HP Standard Motor & Standard Drive

3 HP Standard Motor & High static Drive

5 HP Oversized Motor & Drive

Fan speed Data AK-Q150BC01

Fan speed Data (RPM)										
Fixed Pulley			Variable Pulley Turn open							V-Belt
Spec.	O.D(mm)	P.D(mm)	0 Turn	1 Turn	2 Turn	3 Turn	4 Turn	5 Turn	6 Turn	NO.
Standard	210	199	853	812	771	729	688	646	605	B-56
High Static	149	140	1,213	1,154	1,095	1,037	978	919	860	B-52
Oversized Motor & Drive	149	140	1,213	1,154	1,095	1,037	978	919	860	B-52

• Factory set at 3 turns open.

• Oversized Motor & Drive are field supplied Accessory.

Single Package

10. Fan Performance data

Evaporator Fan Performance Data AK-Q240BC01 (SI)

l/s	External Static Pressure(mmAq.)																				
	2.54		5.08		7.62		10.16		12.70		15.24		17.78		20.32		22.86		25.40		
	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM
3,021	-	-	-	-	526	2.30	539	2.45	553	2.61	569	2.77	586	2.92	604	3.08	624	3.24	645	3.39	
3,398	517	2.17	525	2.33	536	2.49	548	2.64	562	2.80	578	2.96	595	3.11	614	3.27	634	3.43	654	3.58	
3,776	529	2.40	537	2.56	547	2.71	560	2.87	574	3.03	590	3.18	607	3.34	626	3.50	645	3.65	666	3.81	
4,154	543	2.66	551	2.82	562	2.97	575	3.13	589	3.29	605	3.44	622	3.60	640	3.76	660	3.91	681	4.07	
4,531	560	2.96	569	3.12	579	3.27	592	3.43	606	3.59	622	3.74	639	3.90	658	4.06	677	4.21	698	4.37	

l/s	External Static Pressure(mmAq.)																				
	27.94		30.48		33.02		35.56		38.10		40.64		43.18		45.72		48.26		50.80		
	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM
3,021	667	3.55	690	3.71	713	3.86	738	4.02	764	4.17	791	4.33	818	4.49	846	4.64	875	4.80	905	4.96	
3,398	676	3.74	699	3.90	723	4.05	748	4.21	773	4.36	800	4.52	827	4.68	856	4.83	885	4.99	914	5.15	
3,776	688	3.97	711	4.12	735	4.28	760	4.43	785	4.59	812	4.75	839	4.90	868	5.06	897	5.22	926	5.37	
4,154	703	4.23	726	4.38	749	4.54	774	4.69	800	4.85	826	5.01	854	5.16	882	5.32	911	5.48	941	5.63	
4,531	720	4.53	743	4.68	767	4.84	792	4.99	817	5.15	844	5.30	871	5.46	899	5.62	-	-	-	-	

- Test condition :
 - ① Voltage : 220V
 - ② Operating Mode : Fan operation mode with clean filter, dry coil without electric heater.

- 5HP Standard Motor & Standard Drive
 7.5HP Oversized Motor & Drive
 7.5HP Oversized Motor & High Static Drive

Evaporator Fan Performance Data AK-Q240BC01 (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		1.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6,400	507	2.66	515	2.87	526	3.08	539	3.29	553	3.50	569	3.71	586	3.92	604	4.13	624	4.34	645	4.55
7,200	517	2.92	525	3.13	536	3.34	548	3.55	562	3.76	578	3.97	595	4.18	614	4.39	634	4.60	654	4.81
8,000	529	3.22	537	3.43	547	3.64	560	3.85	574	4.06	590	4.27	607	4.48	626	4.69	645	4.90	666	5.11
8,800	543	3.57	551	3.78	562	3.99	575	4.20	589	4.41	605	4.62	622	4.83	640	5.04	660	5.25	681	5.46
9,600	560	3.97	569	4.18	579	4.39	592	4.60	606	4.81	622	5.02	639	5.23	658	5.44	677	5.65	698	5.86

CFM	External Static Pressure(in.Aq.)																			
	1.1		1.2		1.3		1.4		1.5		1.6		1.7		1.8		1.9		2.0	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
6,400	667	4.76	690	4.97	713	5.18	738	5.39	764	5.60	791	5.81	818	6.02	846	6.23	875	6.44	905	6.65
7,200	676	5.02	699	5.22	723	5.43	748	5.64	773	5.85	800	6.06	827	6.27	856	6.48	885	6.69	914	6.90
8,000	688	5.32	711	5.53	735	5.73	760	5.94	785	6.15	812	6.36	839	6.57	868	6.78	897	6.99	926	7.20
8,800	703	5.67	726	5.88	749	6.08	774	6.29	800	6.50	826	6.71	854	6.92	882	7.13	911	7.34	941	7.55
9,600	720	6.07	743	6.28	767	6.48	792	6.69	817	6.90	844	7.11	871	7.32	899	7.53	-	-	-	-

- Test condition :
 - ① Voltage : 220V
 - ② Operating Mode : Fan operation mode with clean filter, dry coil without electric heater.

- 5HP Standard Motor & Standard Drive
 7.5HP Oversized Motor & Drive
 7.5HP Oversized Motor & High Static Drive

Fan speed Data AK-Q240BC01

Fan speed Data (RPM)										
Fixed Pulley			Variable Pulley Turn open							V-Belt
Spec.	O.D(mm)	P.D(mm)	0 Turn	1 Turn	2 Turn	3 Turn	4 Turn	5 Turn	6 Turn	NO.
Standard	508	497	736	701	666	631	596	561	526	B-85
Oversized Motor & Drive	432	421	869	827	786	745	703	662	621	B-78
Oversized Motor & High	381	370	988	941	894	847	800	753	706	B-74

- Factory set at 3 turns open.
- Oversized Motor & Drive are field supplied Accessory.

Single Package

10. Fan Performance data

Evaporator Fan Performance Data AK-Q300BC01 (SI)

l/s	External Static Pressure(mmAq.)																				
	2.54		5.08		7.62		10.16		12.70		15.24		17.78		20.32		22.86		25.40		
	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM
3,776	529	2.40	537	2.55	547	2.71	560	2.87	574	3.02	590	3.18	607	3.34	626	3.49	645	3.65	666	3.81	
4,248	547	2.73	555	2.88	566	3.04	579	3.20	593	3.35	609	3.51	626	3.67	644	3.82	664	3.98	685	4.14	
4,342	556	2.92	565	3.00	575	3.23	588	3.39	602	3.54	618	3.70	635	3.86	653	4.01	673	4.17	694	4.33	
4,720	570	3.12	579	3.28	589	3.43	602	3.59	616	3.75	632	3.90	649	4.06	668	4.22	687	4.37	708	4.53	
5,192	599	3.58	607	3.73	618	3.89	630	4.05	644	4.20	660	4.36	677	4.51	696	4.67	716	4.83	736	4.98	
5,664	633	4.10	641	4.25	652	4.41	664	4.57	678	4.72	694	4.88	711	5.04	730	5.19	750	5.35	770	5.51	

l/s	External Static Pressure(mmAq.)																				
	27.94		30.48		33.02		35.56		38.10		40.64		43.18		45.72		48.26		50.80		
	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM	BkW	RPM
3,776	688	3.96	711	4.12	735	4.28	760	4.43	785	4.59	812	4.75	839	4.90	868	5.06	897	5.22	926	5.37	
4,248	707	4.29	730	4.45	753	4.61	778	4.76	804	4.92	830	5.08	858	5.23	886	5.39	915	5.55	945	5.70	
4,342	716	4.48	739	4.64	762	4.80	787	4.95	813	5.11	839	5.27	867	5.42	-	-	-	-	-	-	
4,720	730	4.69	753	4.84	777	5.00	801	5.16	827	5.31	854	5.47	881	5.63	-	-	-	-	-	-	
5,192	758	5.14	781	5.30	805	5.45	830	5.61	-	-	-	-	-	-	-	-	-	-	-	-	
5,664	792	5.66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

- Test condition :
 - ① Voltage : 220V, 60Hz
 - ② Operating Mode : Fan operation mode with clean filter, dry coil without electric heater.

<input type="checkbox"/>	7.5HP Standard Motor & Low static Drive
<input type="checkbox"/>	7.5HP Standard Motor & Standard Drive
<input type="checkbox"/>	7.5HP Standard Motor & High static Drive

Evaporator Fan Performance Data AK-Q300BC01 (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		1.0		
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM
8,000	529	3.21	537	3.42	547	3.63	560	3.84	574	4.05	590	4.26	607	4.47	626	4.68	645	4.89	666	5.10	
9,000	547	3.66	555	3.87	566	4.08	579	4.29	593	4.50	609	4.71	626	4.92	644	5.13	664	5.34	685	5.55	
9,200	556	3.91	565	4.12	575	4.33	588	4.54	602	4.75	618	4.96	635	5.17	653	5.38	673	5.59	694	5.80	
10,000	570	4.18	579	4.39	589	4.60	602	4.81	616	5.02	632	5.23	649	5.44	668	5.65	687	5.86	708	6.07	
11,000	599	4.79	607	5.00	618	5.21	630	5.42	644	5.63	660	5.84	677	6.05	696	6.26	716	6.47	736	6.68	
12,000	633	5.49	641	5.70	652	5.91	664	6.12	678	6.33	694	6.54	711	6.75	730	6.96	750	7.17	770	7.38	

CFM	External Static Pressure(in.Aq.)																				
	1.1		1.2		1.3		1.4		1.5		1.6		1.7		1.8		1.9		2.0		
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM
8,000	688	5.31	711	5.52	735	5.73	760	5.94	785	6.15	812	6.36	839	6.57	868	6.78	897	6.99	926	7.20	
9,000	707	5.76	730	5.97	753	6.18	778	6.39	804	6.60	830	6.81	858	7.02	886	7.23	915	7.44	945	7.65	
9,200	716	6.01	739	6.22	762	6.43	787	6.64	813	6.85	839	7.06	867	7.27	-	-	-	-	-	-	
10,000	730	6.28	753	6.49	777	6.70	801	6.91	827	7.12	854	7.33	881	7.54	-	-	-	-	-	-	
11,000	758	6.89	781	7.10	805	7.31	830	7.52	-	-	-	-	-	-	-	-	-	-	-	-	
12,000	792	7.59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

- Test condition :
 - ① Voltage : 220V, 60Hz
 - ② Operating Mode : Fan operation mode with clean filter, dry coil without electric heater.

<input type="checkbox"/>	7.5HP Standard Motor & Low static Drive
<input type="checkbox"/>	7.5HP Standard Motor & Standard Drive
<input type="checkbox"/>	7.5HP Standard Motor & High static Drive

Fan speed Data AK-Q300BC01

Fan speed Data (RPM)										
Fixed Pulley			Variable Pulley Turn open							V-Belt
Spec.	O.D(mm)	P.D(mm)	0 Turn	1 Turn	2 Turn	3 Turn	4 Turn	5 Turn	6 Turn	NO.
Low Static	559	548	667	636	604	572	540	509	477	B-88
Standard	457	446	820	781	742	703	664	625	586	B-81
High Static	368	357	1024	976	927	878	829	781	732	B-73

- Factory set at 3 turns open.
- Oversized Motor & Drive are field supplied Accessory.

11. Electric Characteristics

Accessory Static Pressure Drops

Model	Air Flow		Standard filter		Panel filter (2inch)		Electric heater					
	CFM	l/s	in.Aq.	mmAq.	in.Aq.	mmAq.	9kW		18kW		36kW	
							in.Aq.	mmAq.	in.Aq.	mmAq.	in.Aq.	mmAq.
AK-Q120BC01	4,000	1,888	0.016	0.41	0.052	1.32	0.01	0.25	0.07	1.78		
AK-Q150BC01	5,000	2,360	0.021	0.54	0.079	2.01	-	-	0.06	1.52	-	-
AK-Q240BC01	8,000	3,775	0.052	1.32	0.125	3.17	-	-	-	-	0.09	2.29
AK-Q300BC01	9,200	4,342	0.097	2.47	0.149	3.79	-	-	-	-	0.17	4.32

Electric Heating Capacity

Model	Total		No. of Stages	Stage 1		Stage 2	
	Input(kW)	Output(MBH)		Input(kW)	Output(MBH)	Input(kW)	Output(MBH)
AK-Q120BC01	9	30.72	1	9	30.72	-	-
AK-Q150BC01	18	61.43	1	18	61.43	-	-
AK-Q240BC01 AK-Q300BC01	36	122.86	2	18	61.43	18	61.43

Note:

- The output ratings shown above is at 240V.
For other voltage, Output = Capacity Multiplier x Rated Output
- Electric Heater Voltage range is 208-240V.

< Correction Coefficient >

Voltage	Capacity Multiplier
208	0.75
220	0.84
230	0.92
240	1.00
380	0.84
400	0.92
415	1.00

Air Temperature Rise Across Electric Heater(°F)

Model	Stage	9kW	18kW	36kW
AK-Q120BC01 (4,000CFM)	1	7.1	14.2	-
AK-Q150BC01 (5,000CFM)	1	-	11.4	-
AK-Q240BC01 (8,000CFM)	2	-	-	14.2
AK-Q300BC01 (10,000CFM)	2	-	-	11.4

- 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. Electric Characteristics

Electrical Data Unit Wiring - Cooling

Model	Standard indoor fan motor			Oversized indoor fan motor		
	MCA	MOP	MFA	MCA	MOP	MFA
AK-Q120BC01	71.1	98.4	90	77	104.3	100
AK-Q150BC01	71.1	98.4	90	77	104.3	100
AK-Q240BC01	132.8	160.1	150	138.9	166.2	150
AK-Q300BC01	138.9	166.2	150	-	-	-

① MCA : Minimum Circuit Amperes

MCA = (1.25 x Ampere of largest motor) + Load2 + Load3 + Load4.

② MOP : Maximum Over-current Protective Device

MOP = (2.25 x Ampere of largest motor) + Load2 + Load3 + Load4.

③ MFA: Maximum Fuse Amperes(A)

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

Electrical Data Unit Wiring with Electric Heating

Model	Heater Model No.	Heater Capacity(kW)	Standard indoor fan motor			Oversized indoor fan motor		
			MCA	MOP	MFA	MCA	MOP	MFA
AK-Q120BC01	LKAEH09B	9	25.5	60	60	38.1	50	50
	LKAEH18B	18	42.6	60	60	61.5	70	70
AK-Q150BC01	LKAEH18B	18	42.6	60	60	61.5	70	70
AK-Q240BC01	LKAEH36BL	36	84.6	150	150	92.1	160	160
AK-Q300BC01	LKAEH36BL	36	92.1	160	160	-	-	-

① MCA : Minimum Circuit Amperes

MCA = (1.25 x Ampere of largest motor) + Load2 + Load3 + Load4.

② MOP : Maximum Over-current Protective Device

MOP = (2.25 x Ampere of largest motor) + Load2 + Load3 + Load4.

③ MFA: Maximum Fuse Amperes(A)

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

11. Electric Characteristics

Electrical Characteristics Indoor Fan Motor

Model	Standard indoor fan motor					Oversized indoor fan motor				
	No.	Phase	HP	FLA	LRA	No.	Phase	HP	FLA	LRA
AK-Q120BC01	1	3	3	8.5	81	1	3	5	14.4	100
AK-Q150BC01	1	3	3	8.5	81	1	3	5	14.4	100
AK-Q240BC01	1	3	5	14.4	100	1	3	7.5	20.5	139
AK-Q300BC01	1	3	7.5	20.5	139	-	-	-	-	-

① FLA : Full Load Amperes (A)

② LRA : Locked Rotor Amperes (A)

Electrical Characteristics Compressor and Outdoor Fan Motor

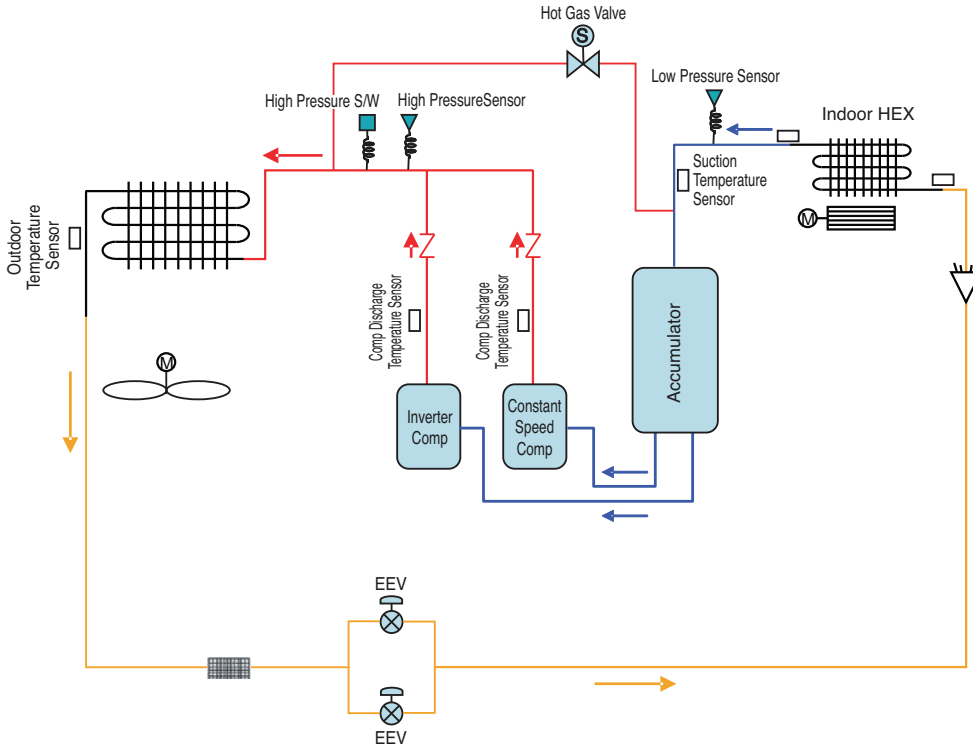
Model	Compressor (INV)				Compressor (Constant speed)					Outdoor Fan Motor			
	No.	Phase	HP	FLA	No.	Phase	HP	FLA	LRA	No.	Phase	HP	FLA
AK-Q120BC01	1	3	8	27.3	1	3	7	20.5	140	2	3	1.2	4
AK-Q150BC01	1	3	8	27.3	1	3	7	20.5	140	2	3	1.2	4
AK-Q240BC01	2	3	8	27.3	2	3	7	20.5	140	4	3	1.2	4
AK-Q300BC01	2	3	8	27.3	2	3	7	20.5	140	4	3	1.2	4











① FLA : Full Load Amperes (A)

② LRA : Locked Rotor Amperes (A)

12. Piping diagrams

10 / 12.5RT

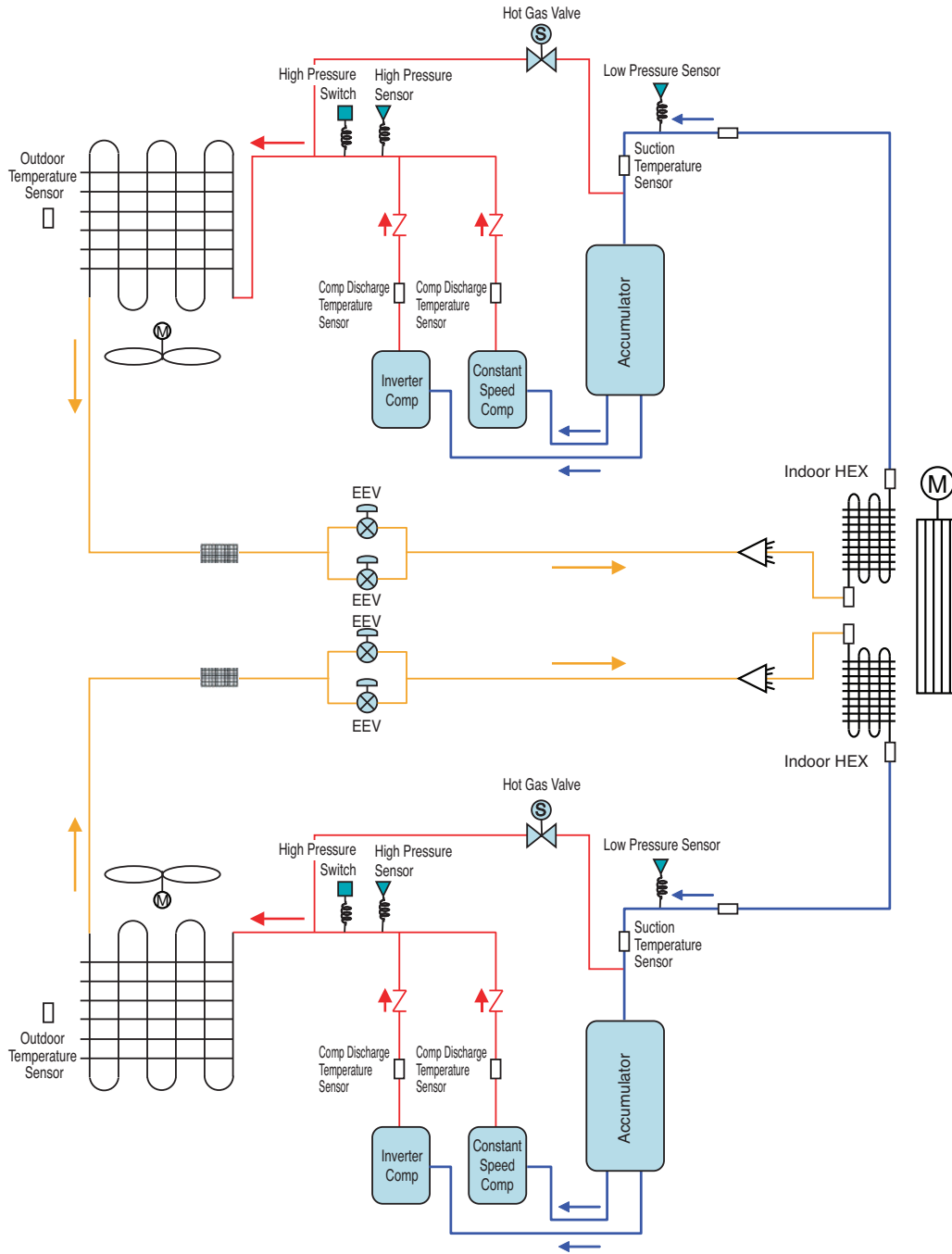


Remarks	 Pressure Sensor	 Temperature Sensor	 Check valve	 Hot Gas valve
	 Pressure Switch	 EEV	 Strainer	 Distributor
	 Motor + Fan (Propeller Fan)	 Motor + Fan (Sirocco Fan)		

Single Package

12. Piping diagrams

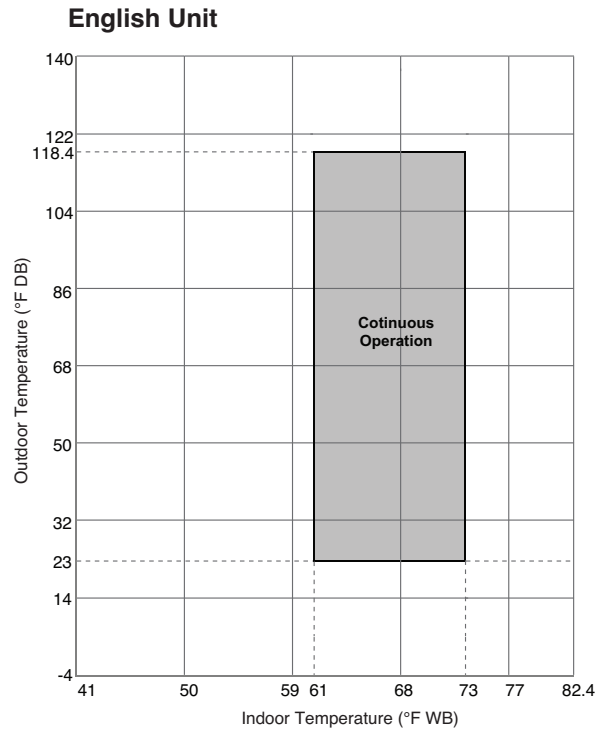
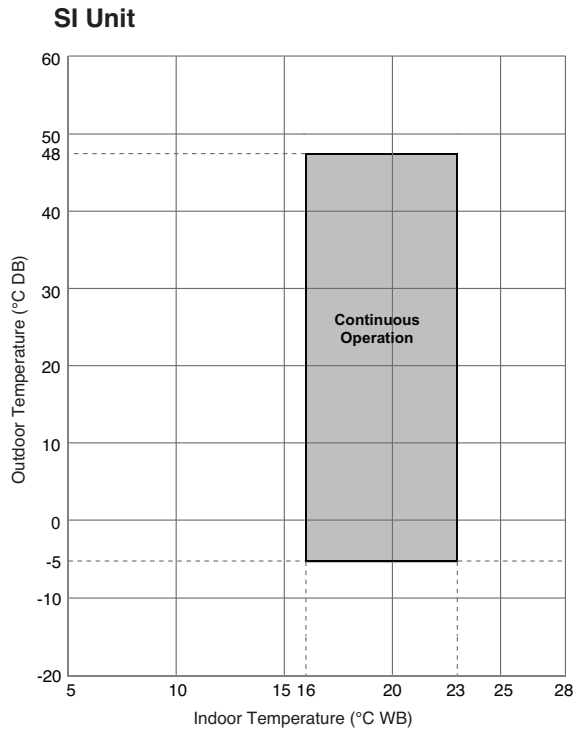
■ 20 / 25RT



Remarks	Pressure Sensor	Temperature Sensor	Check valve	Hot Gas valve
	Pressure Switch	EEV	Strainer	Distributor
	Motor + Fan (Propeller Fan)	Motor + Fan (Sirocco Fan)		

13. Operation range

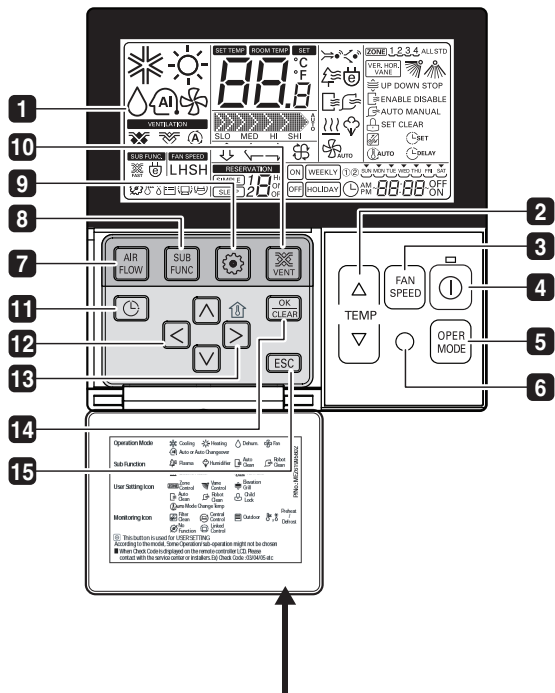
■ 1 Series




- Without low ambient kit, unit can be operated when outdoor temperature goes down to -5°C.

14. Controller

1) LCD wired remote controller



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 OPERATION MODE SELECTION BUTTON
- 6 WIRELESS REMOTE CONTROLLER RECEIVER
- 7 AIR FLOW BUTTON
- 8 SUB FUNCTION 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

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



P/No.: MFL67452910



Air Conditioner

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Printed in Korea February / 2016
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The air conditioners manufactured by LG have received ISO9001 certificate for quality assurance and ISO14001 certificate for environmental management system.