

Models:

AMAC 20-150 C/CR

A4AC 20-150 C

A4AC 60-150 CR

A5AC 20-55 CR

ACSON[®]
International



Air-Cooled Mini Chiller

AMAC-C_(i)

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1. NOMENCLATURE

A	4	AC	20	C	R
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Brand	
A	:Acson

Refrigerant	
“ “	: Omitted if R22
4	: R407C
5	: R410A

Model Name	
AC	: Air-Cooled Mini Chiller

Capacity Index	
020	: 20,000 Btu/h

Chasis	
C	: C Series

Model Type	
“ “	: Omitted if cooling only
R	: Heat pump

PRODUCT LINE UP

AMAC-C/CR

AMAC		Nomenclature	PCB-MC01	LCD Panel - Chiller Panel	CE Mark	Scroll Compressor	Rotary Compressor	CCH (Crank Case Heater)	Terminal Block	Magnetic Contactor	Water Tank + Pump	Without Tank / Pump Only	Expansion tank	Gold Fin	Antifreeze & Auto pump on	Phase Protector	Three Phase Fan Motor	Capillary Tube	TXV	
COOLING ONLY	20C	AXAC	X	X	X		X		X	X	X		X	X	X			X		
		AXAD	X	X	X		X		X	X	X		X	X	X			X		
	25C	AXAC	X	X	X	X		X	X	X	X		X		X			X		
		AXAD	X	X	X	X		X	X	X	X		X	X	X			X		
	30C	AXAC	X	X	X	X		X	X	X	X		X		X			X		
		AXAD	X	X	X	X		X	X	X	X		X	X	X			X		
	40C	FXAC	X	X	X	X		X	X	X	X		X		X	X		X		
		FXAD	X	X	X	X		X	X	X	X		X	X	X	X		X		
	50C	FXAC	X	X	X	X		X	X	X	X		X		X	X		X		
		FXAD	X	X	X	X		X	X	X	X		X	X	X	X		X		
	60C	FXAC	X	X	X	X		X	X	X	X		X		X	X		X		
		FXAD	X	X	X	X		X	X	X	X		X	X	X	X		X		
	80C	FXAE	X	X	X	X		X	X	X		X	X	X	X	X			X	
		FXAF	X	X	X	X		X	X	X		X	X		X	X			X	
	100C	FXAE	X	X	X	X		X	X	X		X	X	X	X	X			X	
		FXAF	X	X	X	X		X	X	X		X	X		X	X			X	
	120C	FXAC	X	X	X	X		X	X	X		X	X	X	X	X			X	
		FXAD	X	X	X	X		X	X	X		X	X		X	X			X	
	150C	FXAC	X	X	X	X		X	X	X		X	X	X	X	X			X	
		FXAD	X	X	X	X		X	X	X		X	X		X	X			X	
HEATPUMP	20CR	AXAB	X	X	X		X		X	X	X		X	X	X			X		
	25CR	AXAB	X	X	X	X		X	X	X	X		X	X	X			X		
	30CR	AXAB	X	X	X	X		X	X	X	X		X	X	X			X		
	40CR	FXAC	X	X	X	X		X	X	X	X		X	X	X	X		X		
		FXAD	X	X	X	X		X	X	X	X		X	X	X	X		X		
	50CR	FXAC	X	X	X	X		X	X	X	X		X	X	X	X		X		
	60CR	FXAC	X	X	X	X		X	X	X	X		X	X	X	X		X		
	80CR	FXAE	X	X	X	X		X	X	X		X	X	X	X	X		X		
		FXAF	X	X	X	X		X	X	X		X	X	X	X	X		X		
	100CR	FXAE	X	X	X	X		X	X	X		X	X	X	X	X		X		
		FXAF	X	X	X	X		X	X	X		X	X	X	X	X		X		
	120CR	FXAC	X	X	X	X		X	X	X		X	X	X	X	X		X		
	150CR	FXAC	X	X	X	X		X	X	X		X	X	X	X	X		X		

A4AC-C/CR

			Classification																		
A4AC		Nomenclature	PCB-MC01	LCD Panel - Chiller Panel	CE Mark	Scroll Compressor	Rotary Compressor	CCH (Crank Case Heater)	Terminal Block	Isolator Switch	Magnetic Contactor	Water Tank + Pump	Pump Only	Expansion tank	Gold Fin	Antifreeze & Auto pump on	Phase Protector	Three Phase Fan Motor	Capillary Tube	TXV	
COOLING ONLY	20C	AXAC	X	X	X		X		X		X	X		X		X			X		
		AXAD	X	X	X		X		X		X	X		X	X	X			X		
	25C	AXAC	X	X	X	X		X	X		X	X		X		X			X		
		AXAD	X	X	X	X		X	X		X	X		X	X	X			X		
	30C	AXAC	X	X	X	X		X	X		X	X		X		X			X		
		AXAD	X	X	X	X		X	X		X	X		X	X	X			X		
	40C	FXAC	X	X	X	X		X	X		X	X		X		X	X		X		
		FXAD	X	X	X	X		X	X		X	X		X	X	X	X		X		
	50C	FXAC	X	X	X	X		X	X		X	X		X		X	X		X		
		FXAD	X	X	X	X		X	X		X	X		X	X	X	X		X		
	60C	FXAC	X	X	X	X		X	X		X	X		X		X	X		X		
		FXAD	X	X	X	X		X	X		X	X		X	X	X	X		X		
	80C	FXAI	X	X	X	X		X			X	X		X	X	X	X				X
		FXAJ	X	X	X	X		X			X	X		X	X		X	X			X
	100C	FXAI	X	X	X	X		X			X	X		X	X	X	X	X			X
		FXAJ	X	X	X	X		X			X	X		X	X		X	X			X
120C	FXAG	X	X	X	X		X			X	X		X	X	X	X	X			X	
	FXAH	X	X	X	X		X			X	X		X	X		X	X			X	
150C	FXAG	X	X	X	X		X			X	X		X	X	X	X	X			X	
	FXAH	X	X	X	X		X			X	X		X	X		X	X			X	
HEATPUMP	20CR																				
	25CR																				
	30CR																				
	40CR																				
	50CR																				
	60CR	FXAB	X	X	X	X		X	X		X	X		X	X	X	X		X		
	80CR	FXAE	X	X	X	X		X	X		X		X	X	X	X	X	X		X	
		FXAF	X	X	X	X		X		X	X		X	X	X	X	X	X		X	
	100CR	FXAE	X	X	X	X		X	X		X		X	X	X	X	X	X		X	
		FXAF	X	X	X	X		X		X	X		X	X	X	X	X	X		X	
	120CR	FXAD	X	X	X	X		X		X	X		X	X	X	X	X	X		X	
	150CR	FXAD	X	X	X	X					X	X		X	X	X	X	X		X	

A5AC-CR

			Classification																							
HEATPUMP		A5AC	Nomenclature	PCB - TC01	PCB - TC1.1r4	LCD Panel - Chiller Panel	CE Mark	Scroll Compressor	Rotary Compressor	CCH (Crank Case Heater)	Terminal Block	Isolator Switch	Magnetic Contactor	Water Tank + Pump	Pump Only	Expansion tank	Gold Fin	Antifreeze & Auto pump on	Phase Protector	Single Phase Fan Motor	Capillary Tube	TXV				
				20CR	AXAA	X		X	X		X		X		X	X		X	X	X	X			X		
				25CR	AXAA	X		X	X		X		X		X	X		X	X	X	X			X		
				30CR	EXAB		X	X	X		X		X					X	X	X	X			X	X	
				40CR	EXAC		X	X	X		X		X		X			X	X	X	X			X	X	
				50CR	EXAC		X	X	X		X		X		X			X	X	X	X			X	X	
55CR	EXAC		X	X	X			X		X					X	X	X	X			X	X				

2. FEATURES

REFRIGERANT CIRCUIT

Models AMAC/A4AC80~150C/CR has been designed with two separate refrigerant circuits, i.e. it has two compressors. By doing so, the unit has part loading capabilities, i.e. 0-50-100% of rated capacity. This will improve the reliability and energy efficiency of the unit, especially during low loading operations. Each circuit is factory brazed and evacuated before accurately charged with refrigerant to ensure optimum performance. Because each circuit is separated, there is no danger of cross-contamination should either one of the compressor experiences a burnt-up. Each circuit is also equipped with a carefully sized thermostatic expansion valve (for cooling only units) to give optimum performance characteristic. For the heatpump version, the expansion process is done with capillary tubes.

SCROLL COMPRESSOR

Scroll Compressors are used (for model which is available) for the units (AMAC/A4AC20C/CR using rotary compressor) to give quiet and reliable performance over a wide operating temperature range. However, in order to protect the compressors from damage, a phase protector (for model which is available) is provided to prevent the compressors from rotating in the wrong directions.

TANDEM COMPRESSOR

A5AC models are using R410A rotary compressors in tandem configuration. Tandem compressors are highly efficient and cost saving. It reduces mechanical losses, minimize gas flow losses and turbulence. There are 3 steps capacity loading (0-40-60-100%) for A5AC40/50CR and 2 steps capacity loading (0-50-100%) for A5AC30/55CR.

CONDENSER FAN MOTOR

Models AMAC/A4AC80~150C/CR is equipped with two high air flow propeller fan blades which are made of metal. The fans are driven vertically by weather proof motors which are single phase type.

EVAPORATOR

The heat exchanger is made of stainless steel plates closely arranged and brazed together (BPHE) to ensure high heat exchange efficiency. For models AMAC/A4AC80~150C/CR, the water flow through the BPHE in a channel on its own, while because of the two compressors, the refrigerant flows through another two separate channels. The refrigerant will either be in a counter-flow or parallel-flow with respect to the water, depending on the mode of operation (cooling or heating).

SAFETY PROTECTION

The safety protections provided for the mini chiller are:

- a) High and low pressure switches
- b) Differential water flow switch
- c) Compressor, water pump and fan motor overload protectors
- d) Anti-freeze protection sensor

During abnormal condition, chiller panel controller will turn off the unit and then display the faults of operation.

WATER TANK AND PIPING CONNECTION

The models A4AC/AMAC80~150C/CR does not come with a water buffer tank. However, the unit does come with an 8 liters expansion tank. Besides that, an optional 135L hydraulic tank is also available.

The external water piping connection can be made either from the left or right side of the unit. Connection is done with Ø1-1/4 " female thread couplings for both supply and return pipes.

Meanwhile, AMAC/A4AC20~60C/CR does come with a 22 L or 40 L (refer to specification) water buffer tank.

ANTIFREEZE PROTECTION

The chiller unit has several anti-freeze protection features:

- 1. Brazed plate heat exchanger anti-freeze**

The BPHE has a strip heater around it to prevent water freezing inside

- 2. Auto mode**

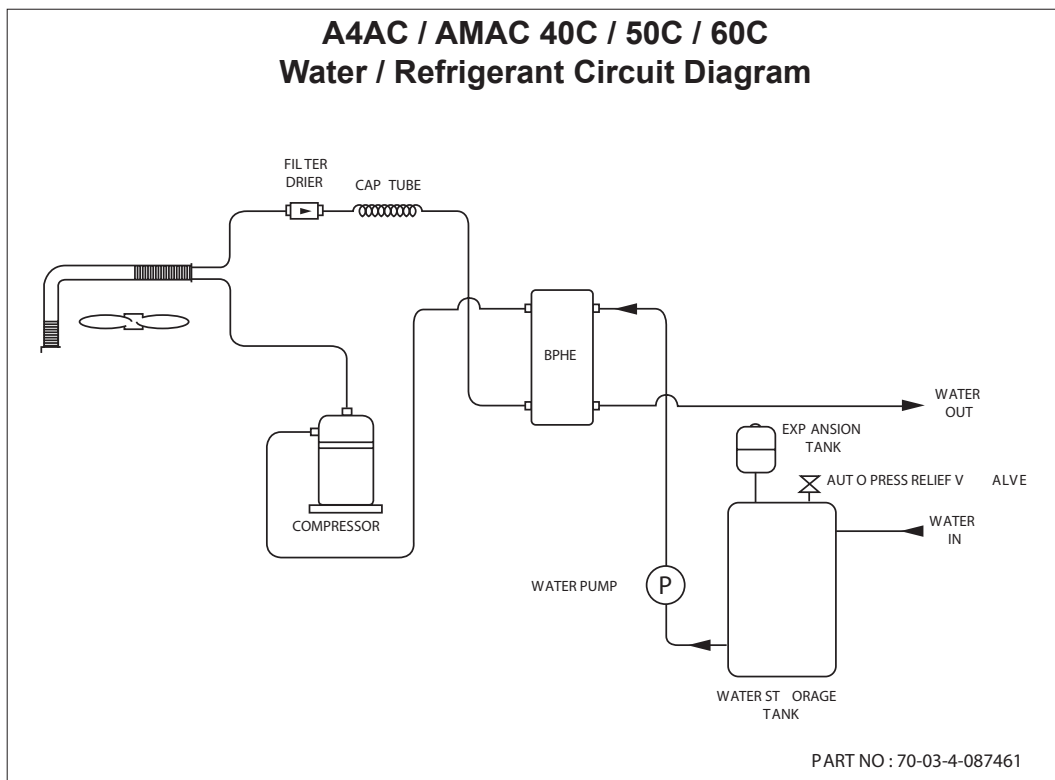
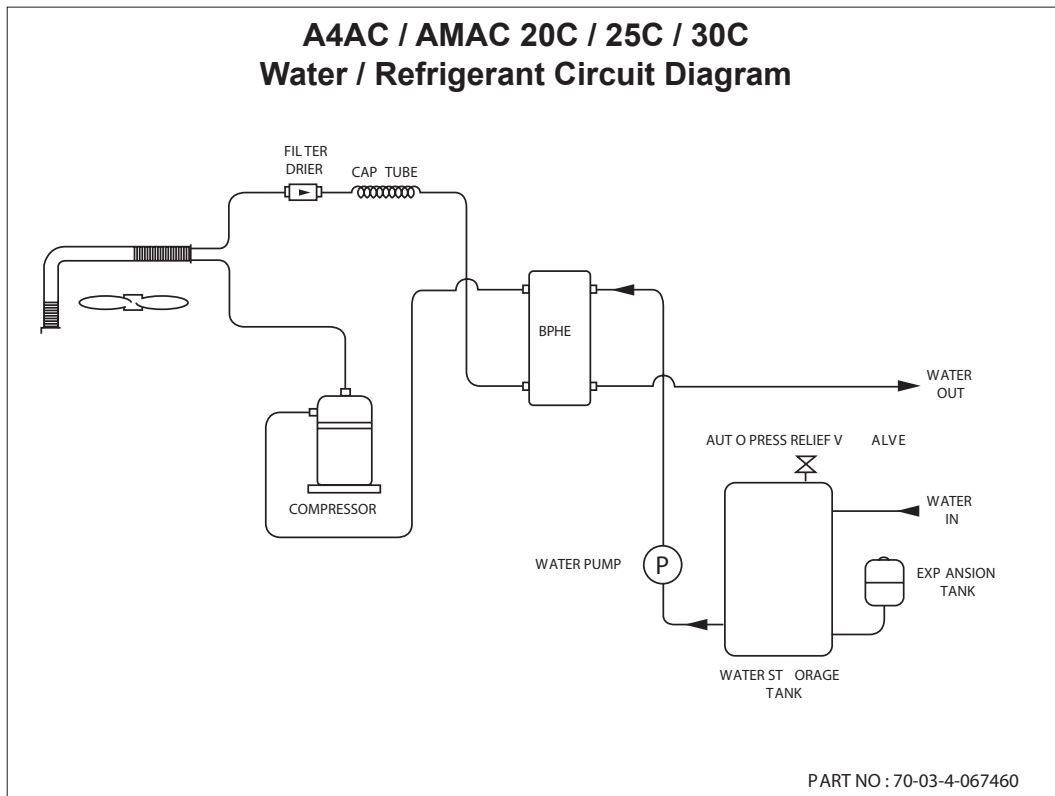
The chiller controller will force on the unit to the heat mode if the outdoor ambient air temperature becomes too cold.

MAINTENANCE

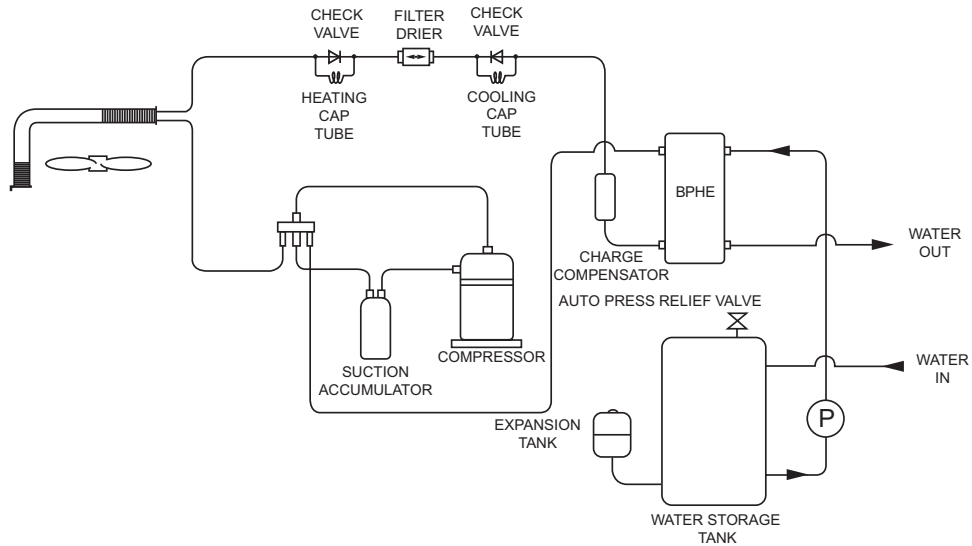
In order to facilitate of the controller, a rocker switch is provided to power-off the supply to the PCB. However, switching off the switch will not disconnect the main incoming power supply to the chiller unit.

3. APPLICATION INFORMATION

REFRIGERANT CIRCUIT DIAGRAM

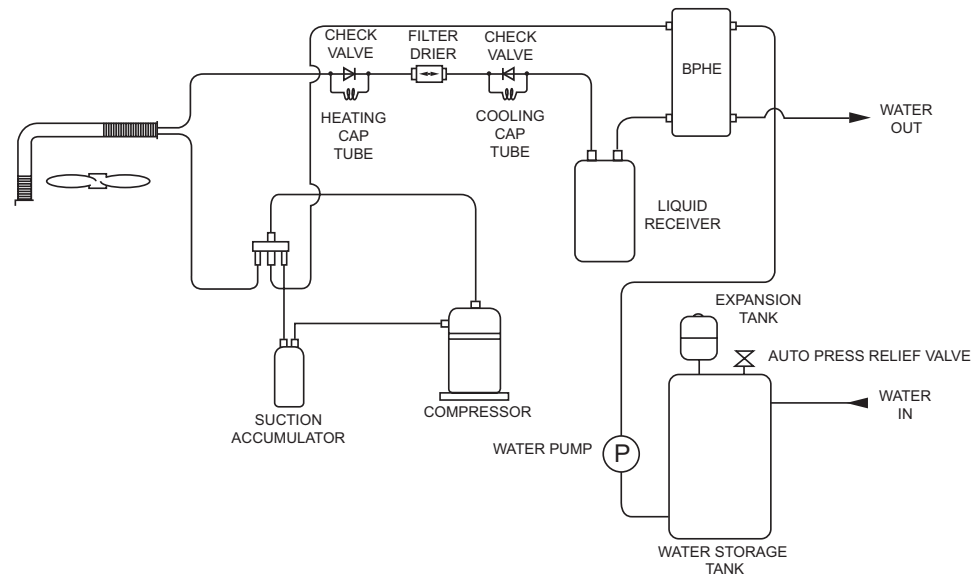


A4AC / AMAC 20CR / 25CR / 30CR Water / Refrigerant Circuit Diagram



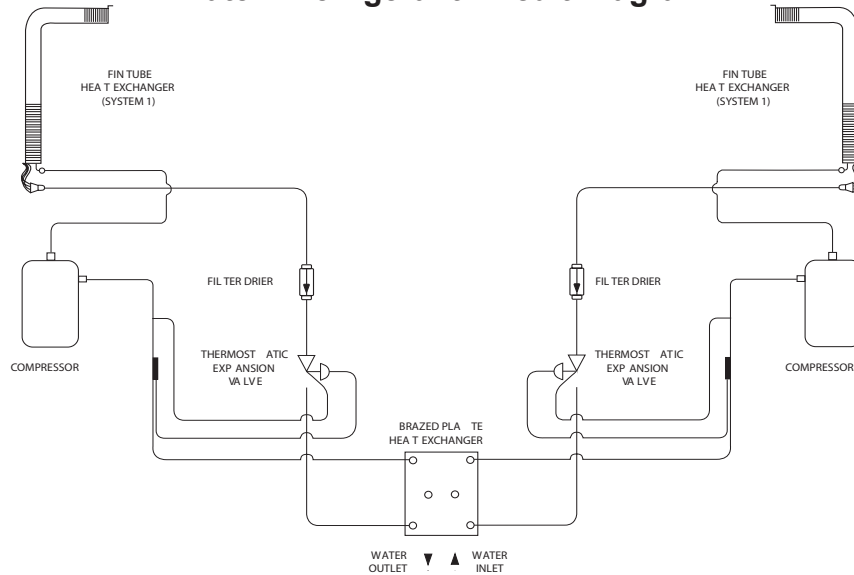
PART NO : 70-03-4-067458

AMAC 40CR / 50CR, A4AC/ AMAC 60CR Water / Refrigerant Circuit Diagram

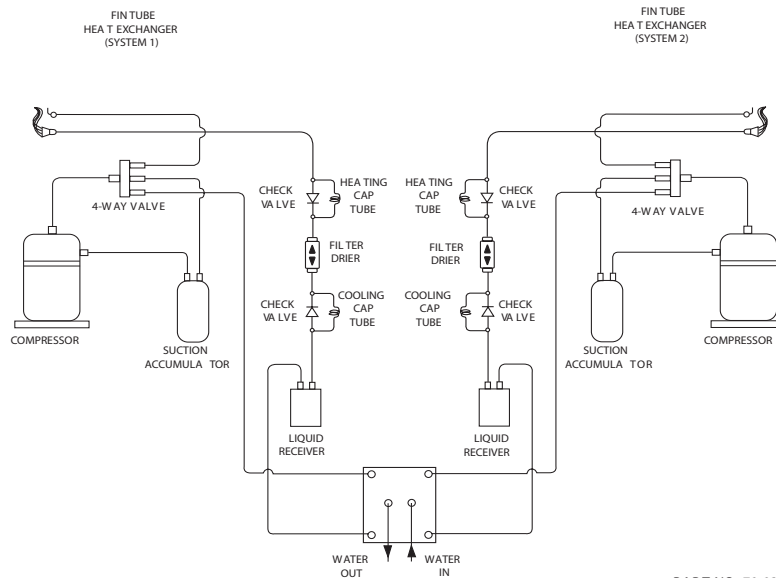


PART NO : 70-03-4-067459

A4AC / AMAC 80C / 100C / 120C / 150C Water / Refrigerant Circuit Diagram

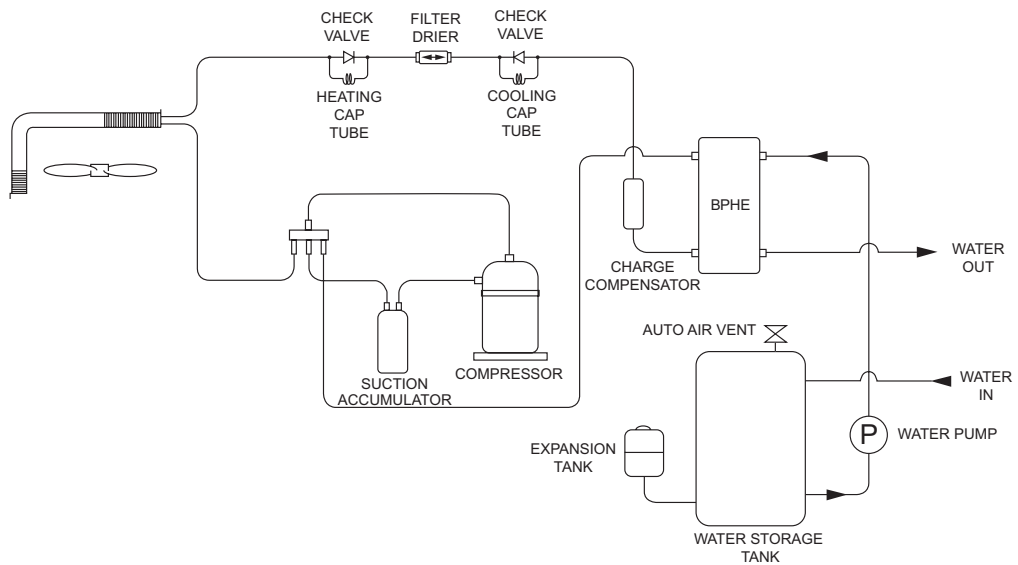


A4AC / AMAC 80CR / 100CR / 120CR / 150CR Water / Refrigerant Circuit Diagram

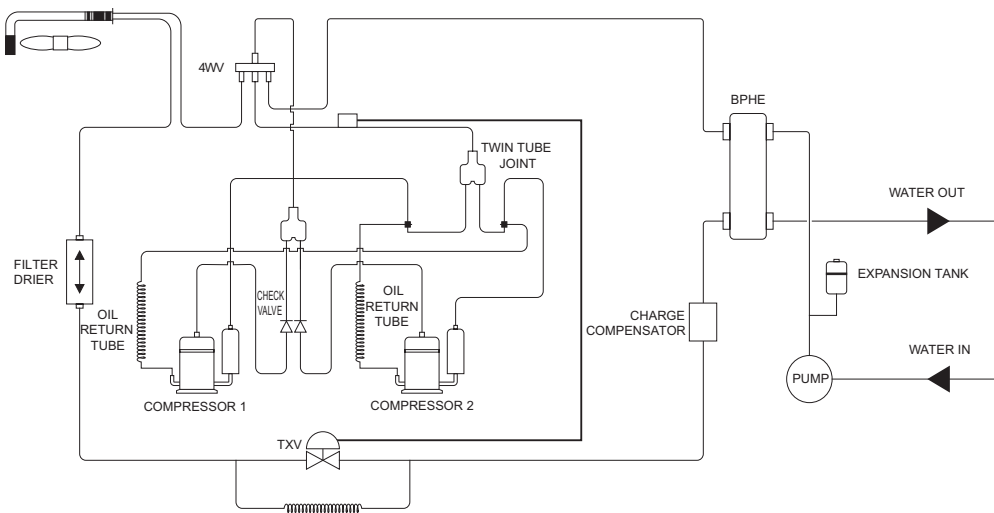


PART NO : 70-03-4-056764

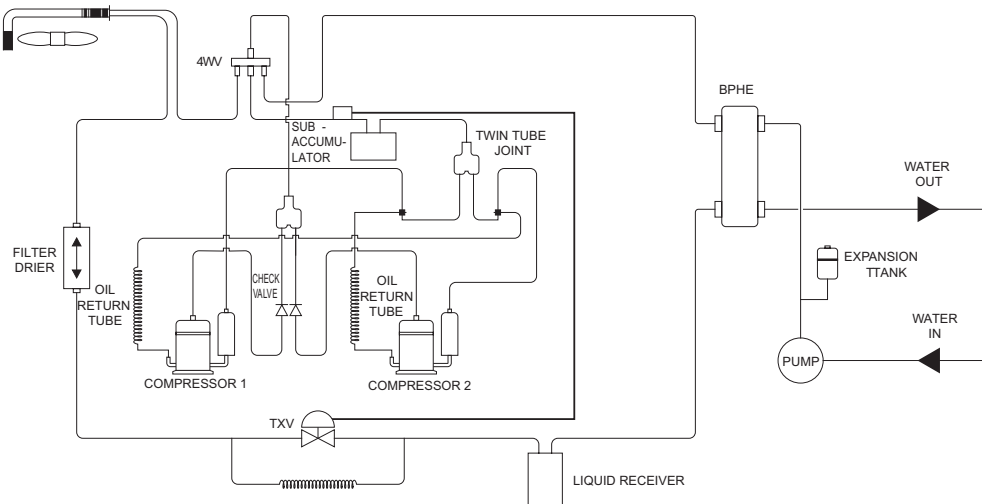
A5AC 20CR / 25CR Water / Refrigerant Circuit Diagram



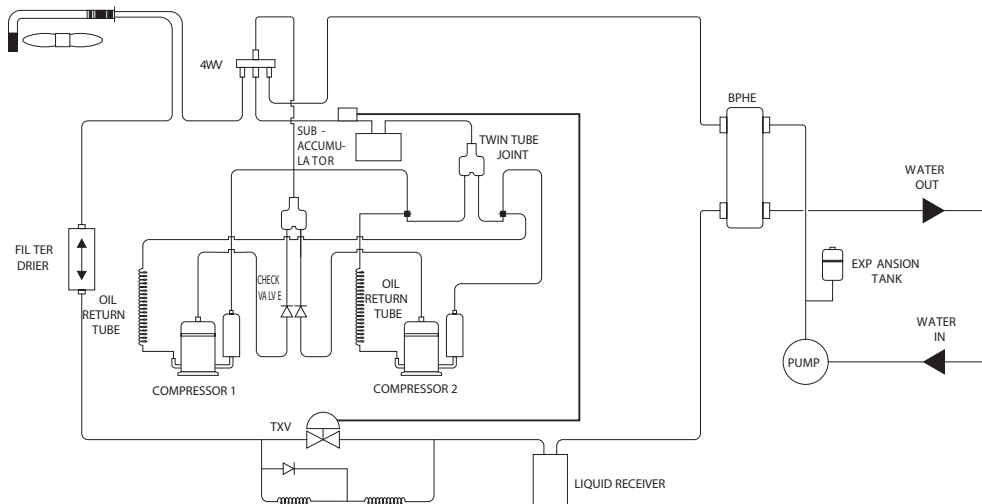
A5AC 30CR Water / Refrigerant Circuit Diagram



A5AC 40 / 50CR Water / Refrigerant Circuit Diagram



A5AC 55CR Water / Refrigerant Circuit Diagram



CHILLER PANEL CONTROLLER

1. SAFETY CONSIDERATION

Only specially trained technicians and installers are authorized to install and service this equipment..

1.1 General Installation Recommendations

- Only supply DC voltage (9-17V, typically 12V, maximum current 200mA) as a power source to the device.
- Input contact voltage supply should limit to 12VDC or 24VAC.
- Isolated all the low voltage wiring (communication bus, etc) from high voltage power supply wiring.

2. GENERAL DESCRIPTION

2.1 General

The chiller panel controller is designed to control the chiller operation. This device allows the user to have customized control for each connected unit.

2.2 Features

The requirements of user friendly and easy to use have been taken into account in designing this chiller panel controller. It can do the task as follow:

- Whole system configuration
- Unique parameter settings
- Operation status display
- Tracing fault record (easy in hardware troubleshooting)

The display is shown in an 8-lines graphical LCD display. There are 8 dedicated keys available in the panel,

- Menu selection
- Navigation on the screen
- Modification of the selected value

During first start-up, the panel will have a default configuration (timer schedule, set point, miscellaneous settings, etc) User can do the changes on that particular configuration later.

2.3 Panel Position

The chiller panel controller can be installed anywhere, as long as it is easy to accessed by authorized personnel.

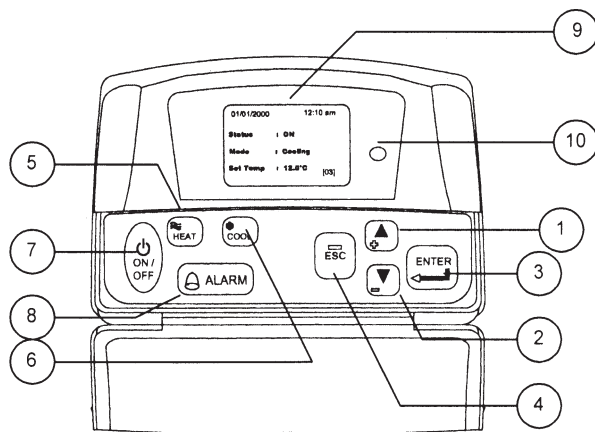
The requirements of installation are:

- Avoid exposure to shocks
- Avoid any source of electromagnetic pollution
- Avoid installation on uneven vertical surface

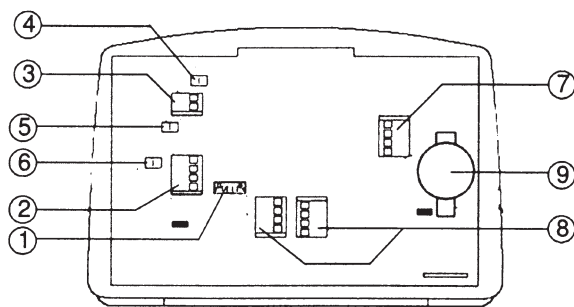
2.4 Operation Environmental Condition

- Temperature:
 - 10°C to 65°C operating temperature
 - 20°C to 85°C storage temperature
- Relative Humidity:
 - 0 to 95% non-condensing

3. HARDWARE DESCRIPTION



Front View



Back View

Legend

1 & 2	Navigation key
3	Execute instruction key
4	Cancel instruction key
5	Switching to heat mode shortcut key
6	Switching to cool mode shortcut key
7	Toggle ON/OFF shortcut key
8	Show alarm key
9	Graphical LCD display
10	ON/OFF indicator

Legend

1 & 2	Chiller terminal unit connection
3	Not available
4	CMOS rset jumper (JH2)
5	Chiller bus resist or configuration (JH3)
6	Not available
7	Not available
8	Not available
9	Not available
10	Backup battery

3.1 Key Explanation



The 2 navigation keys permit item selection and modifying the selected value.



ENTER key is used to execute the navigation instruction



ESC key is used to cancel the navigation instruction



Shortcut key to switch the operation mode in the summary pages



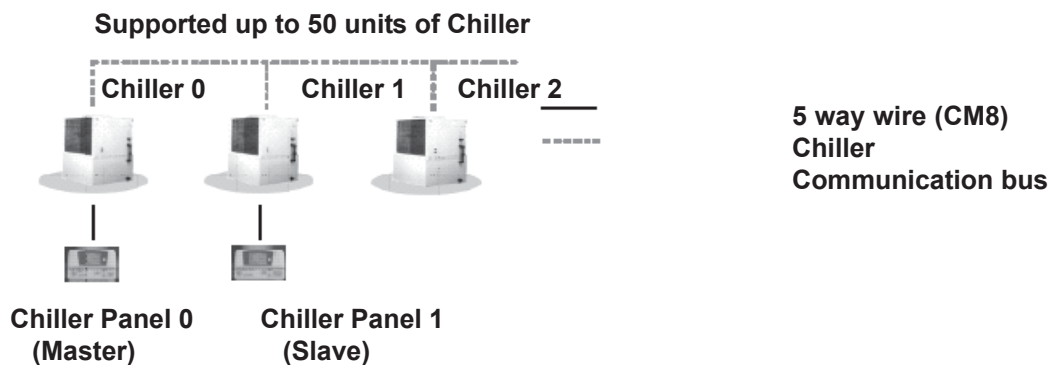
Shortcut key to trigger ON/OFF in the summary pages



Shortcut key to show fault / alarm in the summary pages

4. INSTALLATION

4.1 Chiller Bus

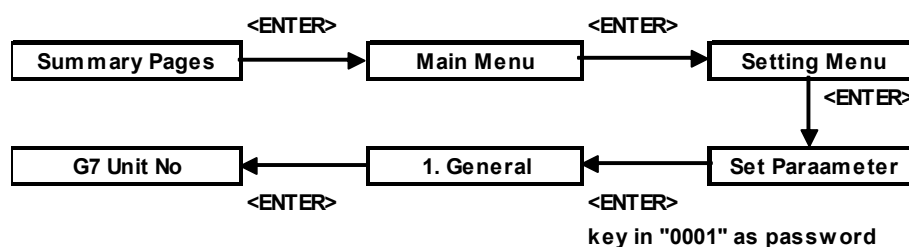


Chiller Network

Chiller panel needs to be energized with +12Vdc. The 5 way wires that provided is once on the easiest solution to establish a communication between the panel and chiller main board (CN8-CN8). If the 5-way wires socket has been occupied in main board, just using 2 insulation wired are needed to establish a communication between panel and chiller main board.

Chiller panel can support maximum up to 50 units of chiller. In the chiller network, duplication of main board unit address is not allowed. Each chiller main board should have their unique unit address (0-50). For first time running, user need to assign a unique unit address to each main board in the chiller network. User should follow the procedure below:

- Only power ON one main board at once time. Make sure not others main boards are energize.
- By using the panel connected to the main board.



- Key in unique unit address and press ENTER to execute.
- De-energized the main board and repeat the procedures again all the main boards have been assigned a unique unit address.

IMPORTANT : Do not assign a same unit address to more than one chiller main board.

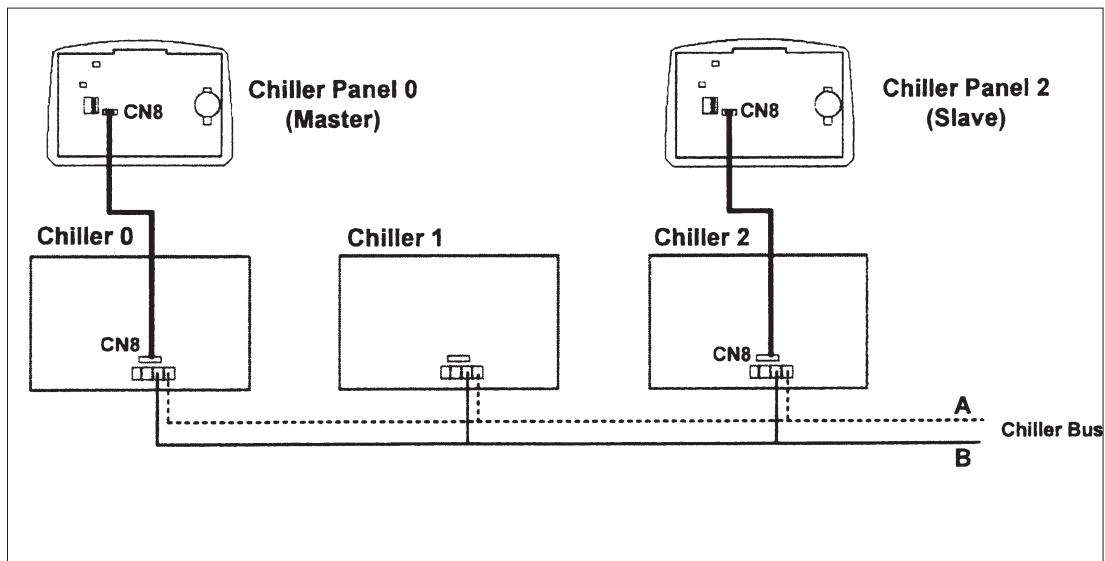
RECOMMENDATION : Please select a coherant model (G1 Model) to all the chiller main boards in the same network.

4.2 Others Configuration

- JH2 in chiller panel should let it open (put the jumper header on one pin only) all the time unless user need to do CMOS reset to that particular panel.
- JH3 should let it open (put the jumper header on one pin only) all the time as well.
- Remember to put in the coin cell battery on the panel. Without the backup battery, the panel will always reset the time to 12:00am, 1st Jan 2000.

4.3 Installation of the Chiller Panel Controller

- Disconnect the unit and ensure no others unit energy source that supplies the panel.
- Open the rear panel of the Chiller Panel (insert a 'flat-head' screwdriver in the top joint of main casing with rear panel to open the rear panel).
- Pass the necessary wires of the panel across the large opening in the rear panel. Place the rear panel flat support against the wall and make marks on the wall through the four installation holes (inner and outer).
- Drill four appropriate holes in the marked places.
- Attach the rear panel to the wall and put on the screws on it. Ensure that all cables are passed through the hole of the rear panel.
- Connect the wires to the corresponding terminal according to the wiring bus network. The power supply and communication wires must be correctly connected to ensure that the panel works.
- Close the chiller panel (ensure the bottom joint is aligned for the casing, then complete others joint part. Ensure that the contacts at the back of the panel are aligned with each others).



Bus Wiring Diagram

5. SOFTWARE DESCRIPTION

5.1 Introduction

The Chiller Panel Controller can be used to control / display the status of Chiller.

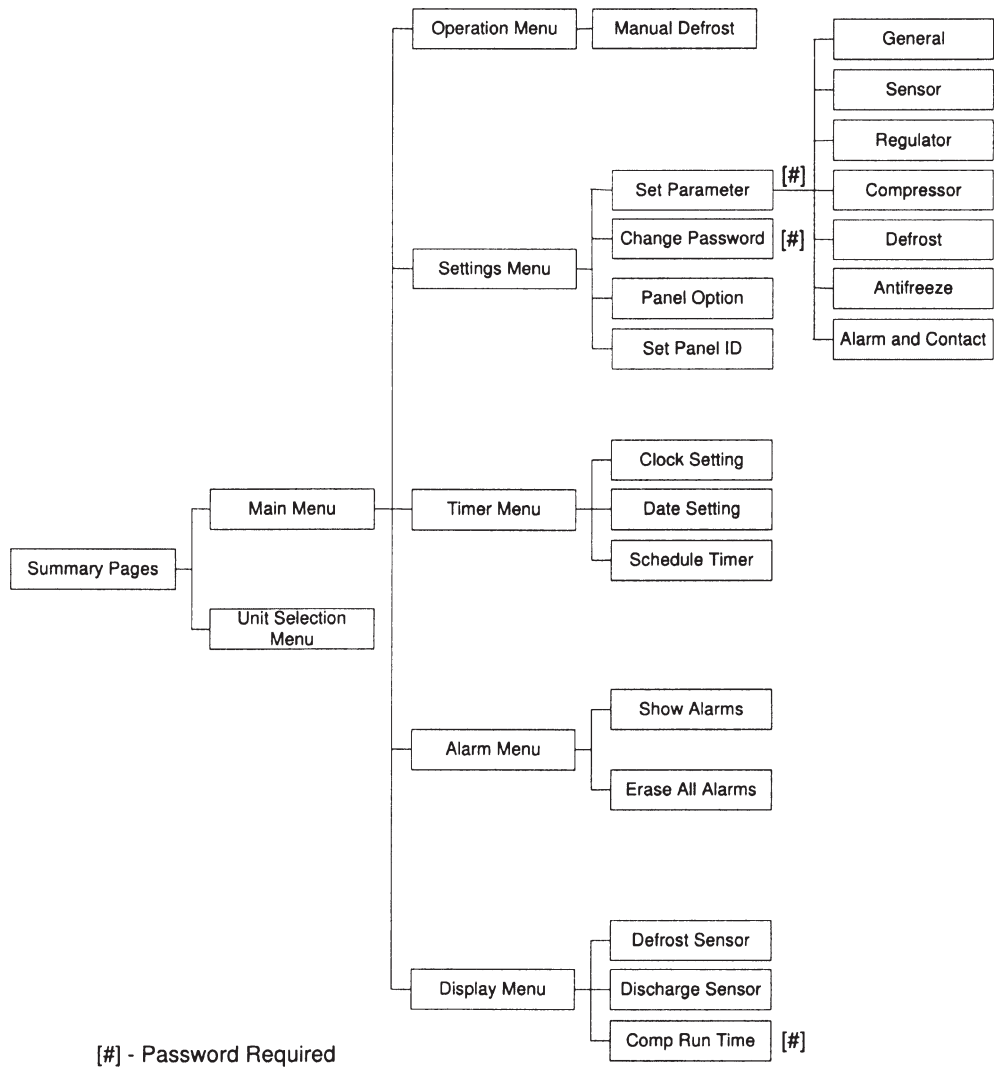
Status viewing:

- ON/OFF status
- Mode (Cooling / Heating/ Boiling)
- Mode set temperature
- Compressor status (ON/OFF/ DEFROST)
- Water in, Water Out, Outdoor air and Panel temperature
- Chiller model (Chiller, Heat Pump, Chiller/ Boiler, Chiller+Boiler, Heat Pump/Boiler, Heat Pump+Boiler)
- Advance parameter settings
- Defrost sensor temperatures
- Compressor discharge sensor temperatures
- Compressor run times
- Incoming alarm/ fault/ error

Status settings:

- ON/OFF switching
- Mode setting (Cooling / Heating/ Boiling)
- Mode set temperature
- Manual entering defrost
- Advance parameter settings
- Password changing
- Panel option setting (Backlight, Alarm Buzzer, Screen saver, Contrast, Brightness, temperature unit)
- Time and date settings
- Clearing compressor run time

5.2 Menu Structures



Menu Structure Diagram for Chiller

5.3 Chiller Menu Structure

5.3.1 Summary Pages

There are 4 pages in **[Summary Pages]**. Press **UP** or **DOWN** for page scrolling. Press **ENTER** to go to **[Main Menu]**. Time and date are shown on top of each page. Beside that, the bottom of each page shows current control unit of the Chiller.

For example: [00] - Chiller Panel controls Chiller ID 0 currently
[03] - Chiller Panel controls Chiller ID 3 currently
[All] - Chiller Panel controls all Chiller currently

1st page: Display ON/OFF status, Mode settings and Temperature settings.

01/01/2000	12:00am
Status	: ON
Mode	: Cooling
Cool Temp	: 12.0°C
[00]	

2nd page: Display Compressor status.

01/01/2000	12:00am
Compressor	: ON
[00]	

3rd page: Display Water In, Water Out, Outdoor air and Panel temperature

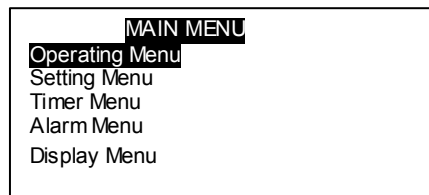
01/01/2000	12:00am
Water In	: 19.8°C
Water Out	: 25.6°C
Outdoor Air	: 32.2°C
Panel	: 20.5°C
[00]	

4th page: Display Chiller model, Compressor No. and Chiller ID.

01/01/2000	12:00am
Model	: Chiller
No. Comp	: 1 Comp
Unit No	: 0

5.3.2 Main Menu

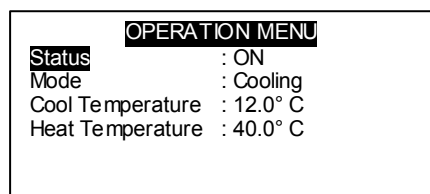
Press **ENTER** in [**Summary Pages**] to go into this menu



There are 5 sub menus in [**Main Menu**]. Press **UP** or **DOWN** to select sub menus, **ENTER** to enter into the sub menu or press **ESC** to exit to [**Summary Pages**]

5.3.2.1 Operation Menu

Select [**Operation Menu**] in [**Main Menu**] and press **ENTER** to go into this menu.



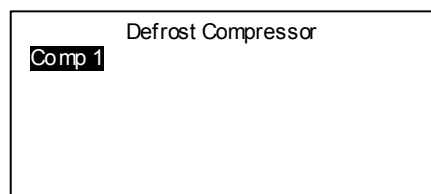
Some normal settings can be found here. Press **UP** or **DOWN** to select each settings, **ENTER** to start the setting or press **ESC** here to exit to [**Main Menu**]

Settings : -ON/OFF unit

- Mode changing (Cooling/ Heating/ Boiling)
- Cooling temperature setting
- Manual Defrost Selection

5.3.2.1.1 Manual Defrost

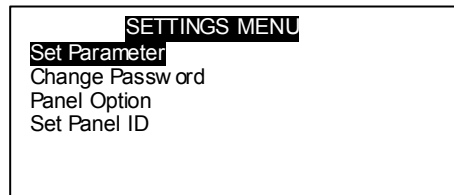
Select [**Manual Defrost**] in [**Operation Menu**] and press **ENTER** to go into this menu.



This menu lets user select one compressor to enter into defrost cycle manually, as long as the environment fulfill the defrost requirement.

5.3.2.2 Settings Menu

Select **[Settings Menu]** in **[Main Menu]** and press **ENTER** to go into this menu.



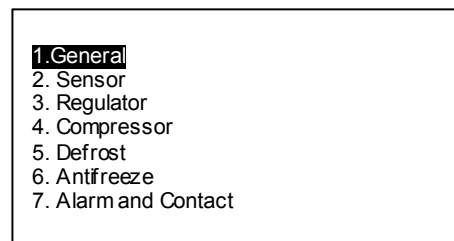
Some advance settings can be found here. Press **UP** or **DOWN** to select settings, **ENTER** to start the setting or press **ESC** here to exit to **[Main Menu]**.

Settings

- Set Parameter
- Password Changing
- Panel Option
- Set Panel ID

5.3.2.2.1 Set Parameter

Select **[Set Parameter]** in **[Settings Menu]** and press **ENTER** to go into this menu.



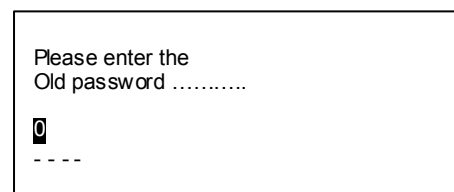
There are 7 groups of advance parameters for user to set in this menu, Press **UP** or **DOWN** to select the group, **ENTER** to go into the group or **ESC** to exit to **[Setting Menu]**.

Settings:- General

- Sensor
- Regulator
- Compressor
- Defrost
- Antifreeze
- Alarm and Contact

5.3.2.2.2 Password Changing

Select **[Password Changing]** in **[Setting Menu]** and Press **ENTER** to go into this menu.



User can change the old password in this menu.
Press **ESC** to exit to **[Settings Menu]**.

5.3.2.2.3 Panel Option

Select **[Panel Option]** in **[Setting Menu]** and Press **ENTER** to go into this menu.

Backlight	: Normal
Buzzer	: On
Screen Saver	: Disable
Timeout	: 5m
Contrast	: 50%
Brightness	: Medium
Temp Unit	: ° C

User can do some miscellaneous for the panel. These settings would not affect whole system performance.

Settings - Toggle Backlight

- Alarm Buzzer
- Enable / Disable Screen Saver
- Screen Saver timeout
- Contrast display
- Backlight brightness
- Temperature unit

Press **ESC** to exit to **[Settings Menu]**

5.3.2.2.4 Set Panel ID

Select **[Set Panel ID]** in **[Settings Menu]** and press **ENTER** to go into this menu.

Please enter the Panel ID.....
=> Unit 0

User can assign the ID no, to the panel.

Example: If ID no. 0 has been assigned, the panel acts like Master Panel Unit. It can choose to control each Chiller in the network.

If other ID no. (1-50) has been assigned, the panel acts like Slave Panel Unit. It is dedicated to one particular Chiller. It can only control the Chiller with same ID in the network.

Press **[ESC]** to exit to **[Settings Menu]**

5.3.2.3 Time Menu

Select **[Time Menu]** in **[Main Menu]** and press **ENTER** to go into this menu.

TIMER MENU
Clock Setting
Date Setting
Time Schedule
Timer : Disable

All the timer/ schedule settings are included in this menu. Press **UP** or **DOWN** to select each settings. **ENTER** to start the setting or press **ESC** here to exit to **[Main Menu]**.

Settings:

- Set Clock
- Set Date
- Set Schedule (7 days Programmable Timer)
- Enable/ Disable Timer Schedule

5.3.2.3.1 Set Clock

Select **[Clock Setting]** in **[Timer Menu]** and press **ENTER** to go into this menu.

Set Time :
hh:mm
00: 00

User can set the time in this menu. The time setting is in 24-hour format.

Pres **[ESC]** to exit to **[Timer Menu]**.

5.3.2.3.2 Set Date

Select [Date Setting] in [Timer Menu] and press ENTER to go into this menu.

Set Time :

yyyy hh mm

2000 / 01 / 01

User can set the date in this menu. The date is set according to sequence below:

(year) / (month) / (day)

Press [ESC] to exit to [Timer Menu].

5.3.2.3.3 Set Schedule

Select [Schedule Timer] in [Timer Menu] and press ENTER to go into this menu.

	Timer 1		Timer2	
	ON	OFF	ON	OFF
Sun	0800	1600	-----	----
Mon	0800	1600	-----	----
Tue	0800	1600	-----	----
Wed	0800	1600	-----	----

This is the 7 days programmable timer schedule menu. There are 2 ON/OFF events in one day. User can choose to set each day of week (Sunday - Saturday) ON/OFF timer. Before this schedule carry their effect to the Chiller, user need to set the [Timer] in [Timer Menu] to enable.

Press [ESC] to exit to [Timer Menu].

5.3.2.4 Alarm Menu

Select [Alarm Menu] in [Main Menu] and press ENTER to go into this menu.

ALARAM MENU

Show Alarms

Erase All Alarm

This place keeps records for all previous occurred fault/ alarms. User can view the alarm history and clear that record (alarm history) as well. The panel can keep up to 20 fault/ alarm records.

Press ESC to exit to [Main Menu]

5.3.2.4.1 Show Alarms

Select **[Show Alarms]** in **[Alarm Menu]** and press **ENTER** to go into this menu.

Alarm 1	[Ch 0]
Comp 1 overload	
01/ 01/ 00	12:00am

User can view all the fault/ alarm records in this menu.

The record shows

- Alarm type
- Alarm occurred date
- Alarm occurred time
- Alarm occurred unit (Chiller ID)

Beside that, user can erase the alarm record in this menu.

Press **[ESC]** to exit to **[Alarm Menu]**.

5.3.2.4.2 Erase All Alarms

Select **[Erase All Alarms]** in **[Alarm Menu]** and press **ENTER** to go into this menu.

Are you sure ?
Press Enter to erase,
or ESC to exit.

User can rase all the alarm / fault records at once in this menu.

Press **[ESC]** to exit to **[Alarm Menu]**.

5.3.2.5 Dispaly Menu

Select **[Display Menu]** in **[Main Menu]** and press **ENTER** to go into this menu.

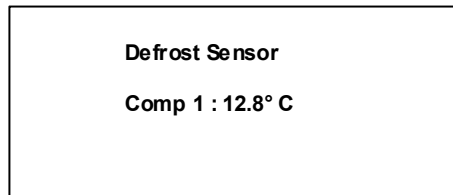
DISPLAY MENU
Defrost Sensor
Discharge Sensor
Comp Run Time

This menu display Defrost Sensor temperature, Compressor Discharge sensor temperature and Compressor Run Time. Beside that, user can clear each Compressor Run Time for Chiller.

Press **[ESC]** to exit to **[Main Menu]**

5.3.2.5.1 Defrost Sensor

Select [**Defrost Sensor**] in [**Display Menu**] and press **ENTER** to go into this menu.

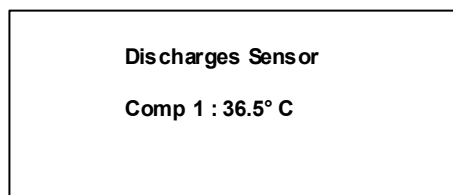


User can view the defrost sensor temperature for each compressor in the Chiller.

Press [**ESC**] to exit to [**Display Menu**]

5.3.2.5.2 Discharge Sensor

Select [**Discharge Sensor**] in [**Display Menu**] and press **ENTER** to go into this menu.



User can view the discharge sensor temperature for each compressor in the Chiller.

Press [**ESC**] to exit to [**Display Menu**].

5.3.2.5.3 Comp Run Time

Select [**Comp Run Time**] in [**Display Menu**] and press **ENTER** to go into this menu.



User can view the compressor run time for each compressor in the Chiller. Beside that, user can clear each compressor run time in this menu. User needs to key in the correct password before clearing the compressor run time.

Press [**ESC**] to exit to [**Display Menu**].

6. OPERATION USER MANUAL

6.1 Starting

Chiller panel can be set as Master or Slave panel unit. When the Panel ID is set to '0', it acts like a Master panel, whereas it is Slave panel if Panel ID is set to others number (1-50).

Chiller panel can control the Chiller if both ID no. (Panel ID and Chiller ID) are same.

For example: Panel ID 1 can only control Chiller ID 1

Master Panel can choose to control each Chiller or control all Chiller at once in the network.

For example : Panel ID 0 (master) can control Chiller ID 0 / ID 1/ ID 32 or all Chillers at once.

Panel ID can be set in **Set Panel ID** in **Settings Menu**.

Please enter the
Panel ID

=> Unit 0

6.2 Chiller Operation Control

6.2.1 Starting

During power on for the Chiller Panel, it needs to take several times to collect information from the Chiller. At this time, all the status will show "--". Please ensure the particular Chiller exists in the network. When the process is completed, user can start to control the Chiller using the panel.

01/ 01/ 2000	12:00am
Status	: --
Mode	: --
Cool Temp	: --
[00]	

In gathering information process

01/ 01/ 2000	12:00am
Status	: ON
Mode	: Cooling
Cool Temp	: 12° C
[00]	

Gathering information completed

6.2.2 Changing Display Unit

Chiller Panel (Master) can choose to choose to control / display each Chiller status. This can be done in **[Summary Pages]** only.

01/ 01/ 2000	12:00am
Status	: ON
Mode	: Cooling
Cool Temp	: 12° C
[00]	

*In **[Summary Pages]**, press and hold **ENTER** button (1 second) to go into **[Unit Selection]** menu.*

Unit Selection	:
Select All	
Select One	: 0

*Select "**Select All**" and press **ENTER** if user want to control all Chiller in the network, or select "**Select One**" to control a particular Chiller. Press **ESC** to exit to **[Summary Pages]**.*

Unit Selection	:
Select All	
Select One	: 0

*Select a Chiller ID via **UP** or **DOWN** and press **ENTER** to confirm or **ESC** to cancel.*

6.2.3 Switching ON/OFF

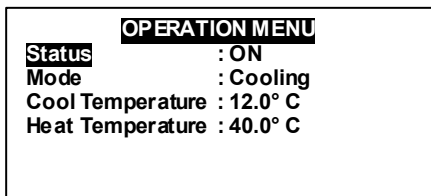
There are several ways to switch ON/OFF for the Chiller.

i) [Summary Pages]

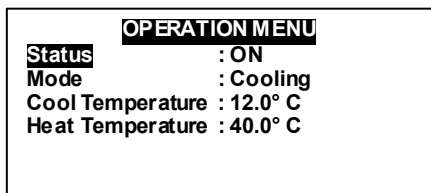
Press and hold **ON/OFF** button (hold 1 second). Please note that the **ON/OFF** button will only function in

[Summary Pages].

ii) [Operation Menu]



In [Operation Menu], select “Status” and press ENTER.



Toggle ON/OFF via UP or DOWN button, and then press ENTER to confirm the change or ESC to cancel.

iii) [Timer Menu]



7 days programmable time can turn chiller ON/OFF. User can set the schedule in this [Timer Menu]. Please refer 6.2.11 (page 27) for schedule settings.

6.2.4 Switching Mode

There are several ways to switch the mode for the Chiller. Please take note that some mode cannot be set due to current Chiller model settings.

Chiller Model	Mode		
	Cooling	Heating	Boiling
Chiller	√	x	x
Heat Pump	√	√	x
Chiller / Boiler	√	x	√
Heat Pump /Boiler	√	√	√
Chiller + Boiler	√	x	Auto
Heat Pump + Boiler	√	√	Auto

√ - Allow to set
 x - Not Allow to set
 Auto - Turn ON automatically

i) [Summary Pages]

Cooling - Press and hold **COOL** button.

Heating - Press and hold **HEAT** button (if it allows to set).

Boiling - Press and hold **HEAT** button again (if it allows to set).

ii) [Operation Menu]



OPERATION MENU	
Status	: ON
Mode	: Cooling
Cool Temperature	: 12.0° C
Heat Temperature	: 40.0° C

*In [Operation Menu], select "Mode" and press **ENTER** to start setting or **ESC** to exit to [Main Menu]*

OPERATION MENU	
Status	: ON
Mode	: Cooling
Cool Temperature	: 12.0° C
Heat Temperature	: 40.0° C

*Toggle **ON/OFF** via **UP** or **DOWN** button, and then press **ENTER** to confirm the change or **ESC** to cancel.*

6.2.5 Changing Mode Set Temperature

There are 2 ways to change the mode set temperature for the Chiller.

i) [Operation Menu]



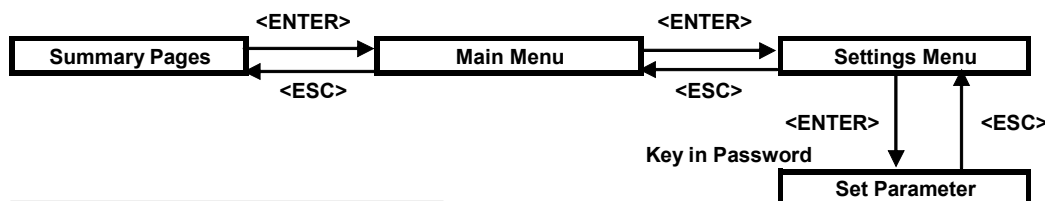
OPERATION MENU	
Status	: ON
Mode	: Cooling
Cool Temperature	: 12.0°C
Heat Temperature	: 40.0°C

In [Operation Menu], select “Cool Temp” / “Heat Temp” and press **ENTER** start setting or **ESC** to exit to [Main Menu].

OPERATION MENU	
Status	: ON
Mode	: Cooling
Cool Temperature	: 12.0°C
Heat Temperature	: 40.0°C

Change value via **UP** or **DOWN** button, and then press **ENTER** to confirm the change or **ESC** to cancel.

ii) [Set Parameter]



1.	General
2.	Sensor
3.	Regulator
4.	Compressor
5.	Defrost
6.	Antifreeze
7.	Alarm and Contact

In [Set Parameter], select “Regulator” and press **ENTER**. Press **ESC** to exit to [Main Menu].

R1 Cool SP	: 12.0° C
R2 Cool Diff	: 3.0° C
R3 Heat SP	: 40.0° C
R4 Heat Diff	: 3.0° C
R5 Min Cool SP	: -20° C
R6 Max Cool SP	: 40° C
R7 Min Heat SP	: -20° C

Select “R3”/ “R5” and press **ENTER** to start setting or **ESC** to exit to [Set Parameter] menu.

R1 Cool SP	: 12.0° C
R2 Cool Diff	: 3.0° C
R3 Heat SP	: 40.0° C
R4 Heat Diff	: 3.0° C
R5 Min Cool SP	: -20° C
R6 Max Cool SP	: 40° C
R7 Min Heat SP	: -20° C

Change value via **UP** or **DOWN** button. The boarderline is limited by **R5&R6** (cool), **R7&R8**(heat). Press **ENTER** to confirm or **ESC** to cancel.

6.2.6 Manual Defrost

User can choose which compressor will go into manual defrost cycle by using the Chiller Panel, as long as the condition is fulfilled with defrost condition. This can be done in **[Operation Menu]**.



Please take note that “**Manual Defrost**” option will only available in HEATING mode. It will disappear in COOLING/ BOILING mode.

OPERATION MENU

Status : ON

Mode : Cooling

Cool Temperature : 12.0° C

Heat Temperature : 40.0° C

OPERATION MENU

Status : ON

Mode : Heating

Cool Temperature : 12.0° C

Heat Temperature : 40.0° C

“**Manual Defrost**” disappear when Chiller not in HEATING mode

OPERATION MENU

Status : ON

Mode : Heating

Cool Temperature : 12.0° C

Heat Temperature : 40.0° C

Manual Defrost

In **[Operation Menu]**, select **[Manual Defrost]**, press **ENTER** to go into it, or **ESC** to exit to **[Main Menu]**.

Defrost Compressor

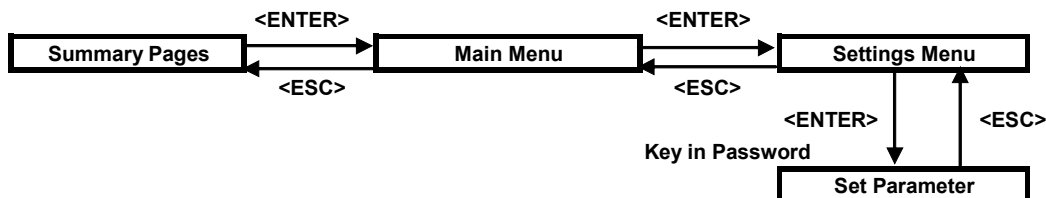
Comp 1

Select which compressor to go into defrost cycle via **UP** or **DOWN** button. Press **ENTER** to confirm or **ESC** to exit to **[Operation Menu]**.

6.2.7 Advance Parameter Settings

The Chiller Panel provide user a lot of advance parameter settings for the Chiller. The parameters are divided into 7 groups. There all are stored in **[Set Parameter]** menu and it is password-procteted layer in the panel.

*** CAUTION : INPROPER SETTINGS WILL CAUSE PERMANENT DAMAGE TO THE CHILLER !!!**



7 groups of Advance Parameter:

1) General

G1 Model	: Chiller
G2 No. Comp	: 1 Comp
G3 On/Off in	: Disable
G4 Col/ Heat In	: Disable
G5 Ext Alarm in	: Disable
G6 Water Sys	: Isolated
G7 Unit No	: 0

2) Sensor

S1 Water Enter	: 0.0° C
S2 Water Leave	: 0.0° C
S3 Air Sensor	: 0.0° C
S4 Defrost 1	: 0.0° C
S5 Defrost 2	: 0.0° C
S6 Defrost 3	: 0.0° C
S7 Defrost 4	: 0.0° C

S8 Cp Dish 1	: 0.0° C
S9 Cp Dish 2	: 0.0° C
S10 Cp Dish 3	: 0.0° C
S11 Cp Dish 4	: 0.0° C

3) Regulator

R1 Cool SP	: 12.0° C
R2 Cool Diff	: 3.0° C
R3 Heat SP	: 40.0° C
R4 Heat Diff	: 3.0° C
R5 Mix Cool SP	: -20° C
R6 Max Cool SP	: 40° C
R7 Min Heat SP	: -20° C

R8 Max Heat SP	: 90° C
R9 Ax Heat SP	: 5.0° C
R10 Ax Heat Diff	: 2.0° C
R11 Au Bo SP	: 5.0° C
R12 Au Bo Diff	: 2.0° C
R13 Au Bo Start	: 30m

4) Compressor

C1 Min Run	: 12s
C2 Min Stop	: 240s
C3 2On Interval	: 360s
C4 2Cp ON Dly	: 15s
C5 P-Cp ON Dly	: 60s
C6 Cp-P OFF Dly	: 60s
C7 Cp Cut Off	: 120° C

5) Condenser Defrost

D1 Start Temp	: -3° C
D2 End Temp	: 14° C
D3 Max Dura	: 10m
D4 Interval	: 45m
D5 Dly Bfr Def	: 0s
D6 Dly Aft Def	: 0s

6) Cool Mode Antifreeze

A1 Heater SP	: 5° C
A2 Heater Diff	: 2.0° C
A3 Sensor	: Leave
A4 Alarm SP	: 3° C
A5 Alarm Diff	: 2.0° C

7) Alarm and Contact

P1 FS Confirm	: 5s
P2 FS Delay	: 180s
P3 LP Delay	: 30s
P4 CO Reset	: Manual
P5 HP Rest	: Auto
P6 LP Reset	: Auto
P7 FO Reset	: Manual

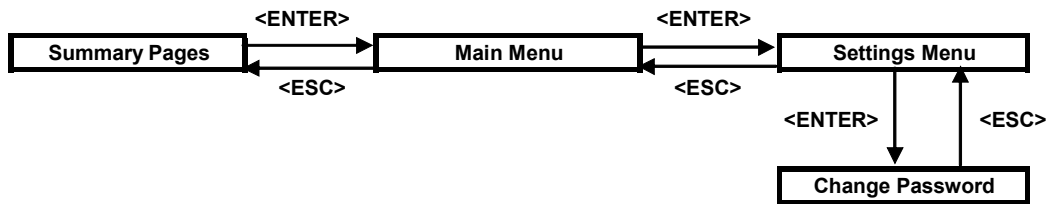
P8 RO Reset	: Manual
P9 FS Reset	: Manual
P10 Aux Reset	: Manual
P11 A/F Reset	: Manual
P12 CO Contact	: Normal
P13 HP Contact	: Normal
P14 LP Contact	: Normal

P15 FO Contact	: Normal
P16 PO Contact	: Normal
P17 FS Contact	: Normal
P18 EA Contact	: Normal
P19 DE Contact	: Normal

Please refer to **8. APPENDIX** for detail description.

6.2.8 Changing Password

For security purpose, some places in the panel are password-protected. User can change the password at anytime.



Please enter the
Old password -----

0

User needs to enter the old password in order to change the password.
Change the 1st digit value via **UP** or **DOWN**. Press **ENTER** to start enter 2nd digit and the rest, or **ESC** to exit at anytime.

Password accepted . . .
Access granted !

If password correct, this message will be shown and proceed to new password settings.

Password error . . .
Access denied !

If password not correct, this message will be shown and exit to **[settings Menu]**

Please enter the
New password -----

0

Same as previous, **UP DOWN** to change value, **ENTER** to go to next digit, **ESC** to exit.
User is not allowed to set the password to 0000.

New password
Has been set

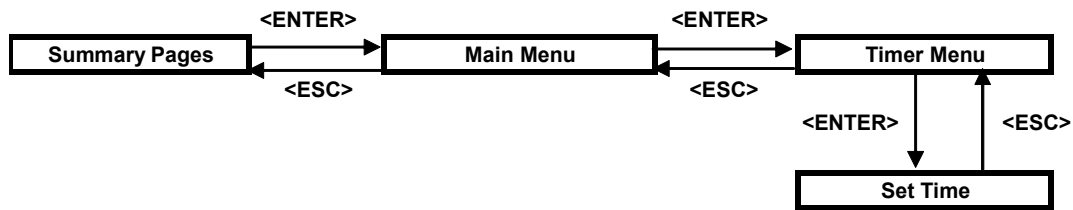
If new password is accepted, this message will be shown and then exit to **[Settings Menu]**.

New password
'0 0 0 0'
Is not accepted

If new password is '0000', this message will be shown and then exit to **[Settings Menu]**.
The password remains as previous.

6.2.9 Clock Setting

User can set the clock for the panel.



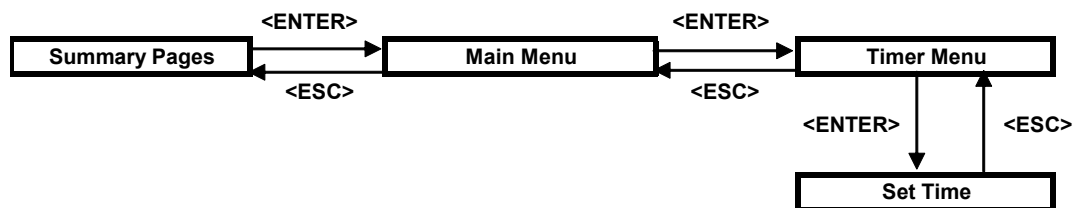
Set Time :
hh mm
00 : 00

UP or **DOWN** to change 'hour'. **ENTER** to set 'minute' or **ESC** to exit to [Timer Menu].

UP or **DOWN** to change 'minute'. **ENTER** to confirm or **ESC** to set 'hour' again.

6.4.10 Date Setting

User can set the date for the panel.



Set Time :
yyyy hh mm
2000 / 01 / 01

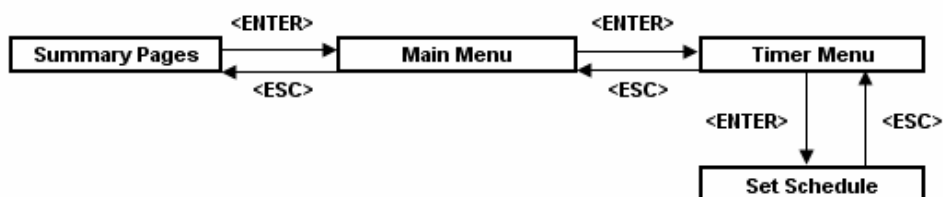
UP or **DOWN** to change 'year'. **ENTER** to set 'month' or **ESC** to exit to [Timer Menu].

UP or **DOWN** to change 'month'. **ENTER** to set 'day' or **ESC** to set 'year' again.

UP or **DOWN** to change 'day'. **ENTER** to confirm or **ESC** to set 'month' again.

6.2.11 7 days Programmable Setting

There are 2 ON/OFF events in one day for the schedule. This schedule is applicable to all the chillers in the network.



	Timer 1		Timer 2	
	ON	OFF	ON	OFF
Sun	0800	1600	----	----
Mon	0800	1600	----	----
Tue	0800	1600	----	----
Wed	0800	1600	----	----

UP or **DOWN** select day of week, **ENTER** to select event or **ESC** to exit to [Timer Menu].

	Timer 1		Timer 2	
	ON	OFF	ON	OFF
Sun	0800	1600	----	----
Mon	0800	1600	----	----
Tue	0800	1600	----	----
Wed	0800	1600	----	----

UP or **DOWN** select event. **ENTER** to start setting or **ESC** to back to select day of week.

Event setting is same like time setting. User can disable the event by set it to '----'

Before the schedule will carry the effect, user need to set **ENABLE** for "TIMER" in [Timer Menu].

TIMER MENU	
Set Time	
Set Date	
Set Schedule	
Timer : Disable	

Select "Timer" and press **ENTER** to start the settings. **UP** or **DOWN** to toggle Enable/ Disable, **ENTER** to confirm or **ESC** to cancel.

6.2.12 Viewing Alarm / Erase Alarm Record

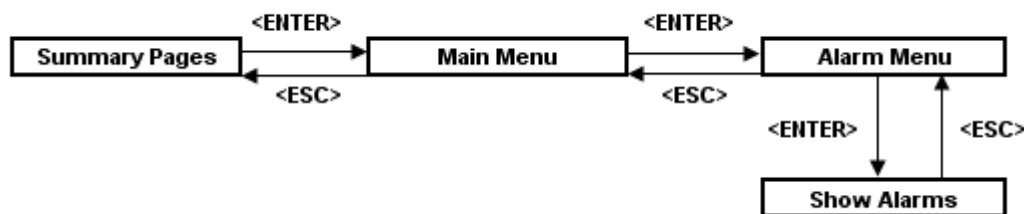
Whenever a new fault/ alarm is occurred, there will be a message pop up to show the fault/ alarm. Backlight will be blinking with beeping sound (if “**Alarm Buzzer**” is set ON). If the fault/ alarm has not been dissolved from the Chiller, a sign **[A]** will be shown in the **[Summary Pages]**. (from pop up menu) automatically if the fault/ alarms have been dissolved.

While the fault/ alarms have not been dissolved (sign **[A]**), user can check that fault/ alarm by to into **[Alarm Menu]**. If all the fault/ alarm have been dissolved, user can view the fault/alarm history records in **[Alarm Menu]** as well. Screen saver will be deactivated while all the alarms have not been dissolved.

If panel ID is set 0 (Master panel), it can receive and view all the fault / alarms from all chillers in the network.

New Alarm 1	[Ch 0]
Comp 1 overload	
12:00am	01/ 01/ 2000

*[Ch 0] show alarm occurred unit.
Press any button to stop backlight blinking and beeping.
Press **ESC** again to exit to normal page.*



New Alarm 1	[Ch 0]
Comp 1 overload	
01 / 01/ 00	12:00am

*Press **UP** or **DOWN** to scroll the record.
Press **ENTER** if user want to erase the record, or **ESC** to exit to **[Alarm Menu]**.*

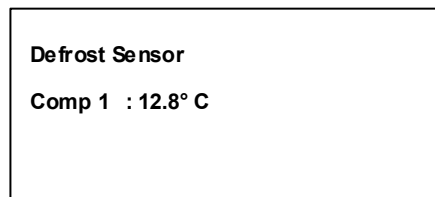
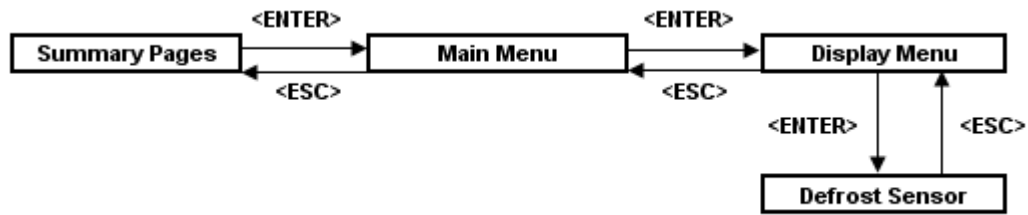
Erase Alarm ?
Please Enter to Erase, Or ESC to exit

*Press **ENTER** to erase the alarm, or **ESC** to cancel.*

User can erase all the fault/ alarm record at once time through **[Erase All Alarm]** in **[Alarm Menu]**.

6.2.13 Viewing Defrost Sensor Temperature

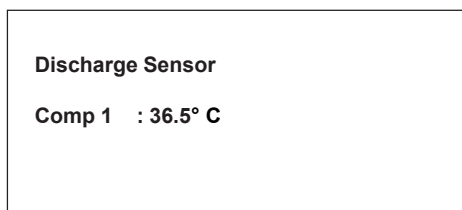
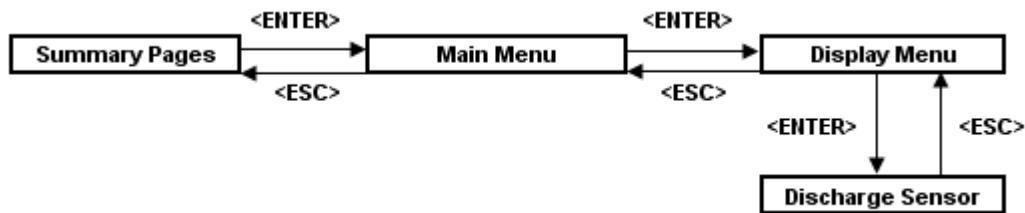
The Chiller Panel displays defrost sensor temperature for each compressor in **[Defrost Sensor]** in **[Display Menu]**.



Press **ESC** to exit to **[Display Menu]**

6.2.14 Viewing Compressor Discharge Temperature

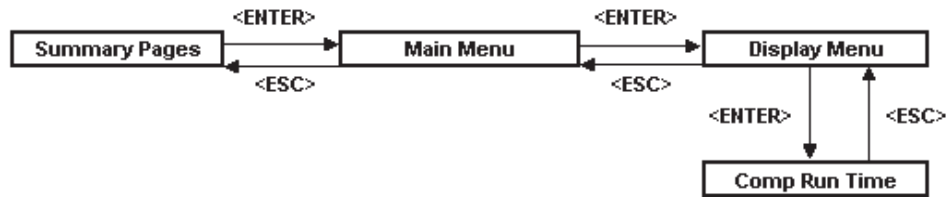
The Chiller Panel displays compressor discharge temperature for each compressor in **[Discharge Sensor]** in **[Display Menu]**.



Press **ESC** to exit to **[Display Menu]**

6.2.15 Viewing/ Clear Compressor Run Time

User can view/ clear the compressor run time for the Chiller in **[Comp Run Time]** in **[Display Menu]**.



Comp Run Time
Comp 1 : 13579h

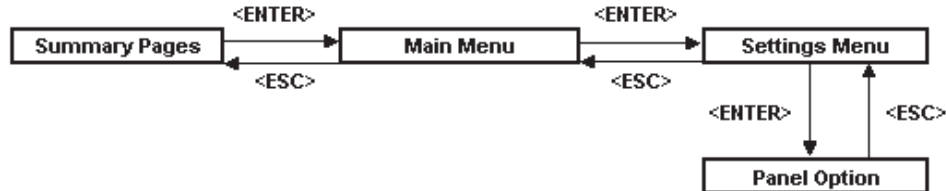
Press **UP** or **DOWN** to select the compressor. **ENTER** to start clear the run time, or **ESC** to exit to **[Display Menu]**.

Clear Run Time ?
Press Enter to Clear
Or ESC to exit.

Press **ENTER** and key in the password to confirm or **ESC** to cancel

6.2.16 Miscellaneous Settings

User can do some miscellaneous settings to the panel.



Backlight	: Normal
Buzzer	: On
Screen Saver	: Disable
Timeout	: 5m
Contrast	: 50%
Brightness	: Medium
Temp Unit	: ° C

Press **UP** or **DOWN** to select the item. **ENTER** to set, or **ESC** to exit to **[Settings Menu]**.

Press **UP** or **DOWN** to toggle the value. **ENTER** to confirm, or **ESC** to cancel.

Parameter	Value	Description
Backlight	Normal	Turn ON backlight for 30s via key press
	Always	Always ON backlight
Buzzer	ON	Enable beeping sound when fault/ alarm occurred
	OFF	Disable beeping sound when fault/ alarm occurred
*Screen Saver	Enable	Show screen saver when timeout
	Disable	No screen save
*Timeout	1-30m	Timeout for showing screen saver
Contrast	0-100%	Adjust the contrast setting for the LCD panel
Brightness	OFF	No backlight
	Low, Medium, High	Adjust the backlight intensity
Temp Unit	°C	Display temperature in degree Celsius
	°F	Display temperature in degree Fahrenheit

* This product must be branded. Screen saver will be deactivated for brand less panel

6.3 CMOS Reset

- CMOS reset allows user to reset some settings to default value such as:

Password -> 0001
 Backlight -> Normal
 Buzzer -> ON
 Screen Saver -> Disable
 Timeout -> 5m
 Contrast -> 50%
 Brightness -> Medium
 Temp Unit -> C

- Procedures

1. Power OFF the panel
2. Close the jumper JH2 with the provided jumper header
3. Power ON the panel and the LCD panel should display as follow:

CMOS is resetting

CMOS reset completed !
Please remove JUMPER
and restart the panel

4. Remove the jumper header (put the jumper header on 1 pin only), power OFF and then power ON the panel.

7. PROBLEM AND TROUBLESHOOTING

	Symptoms	Possible Cause	Troubleshooting
1	Panel gets hot abnormally	- Wiring fault in 12VDC supply	- Change a new panel module and turn ON the unit again after the verification
2	The LCD no display (blank screen)	- Wiring fault in 12VDC supply - No power supply - Voltage supply too low - Module defective	- Correct the wiring problem - Check the wiring and supply 12VDC to panel - Check the power source - Change a new panel module
3	- '-' for all status (quite a long time)	- Panel cannot/ not yet received the information from chiller or FCU completely - That particular unit address is not recognized by the panel - Module defective	- Ensure the selected unit exists in the network - Ensure the wiring is correct - Ensure the wiring is not defective - Ensure the wiring has been isolated from high power cable - Select a coherent unit address on the panel (refer to 6.2.2) - Change a new module
4	ON/ OFF, COOL or HEAT button not function	- Software limitation - Module defective	- Ensure it is pressed (hold 1s) in [Summary Pages] not in other menu. - Change a new module
5	Cannot switch to HEATING mode	- Software limitation	- Ensure this mode is available in current "Model" of Chiller, please refer to 6.2.4
6	Cannot switch to BOILING mode	- Software limitation	- Ensure this mode is available in current "Model" of Chiller, please refer to 6.2.4
7	No "Manual Defrost" item	- Software limitation	- Ensure current running mode is HEATING
8	Cannot step inside [Set Parameter]	- Software limitation. Panel has not received all the information from chiller completely	- Refer to symptoms 3
9	7 Days Programmable Timer not function	- Software limitation. User did not activate the schedule	Control of Chiller: - Ensure the "Timer" in [Timer Menu] is set ENABLE Control of Chiller: - Ensure the "Timer" in [Operation Menu] is set ENABLE
10	No beeping sound when new alarm occurred	- Software limitation. User did not set ON to the alarm buzzer	- Ensure "Buzzer" in [Panel Option] is set ON
11	No screen saver after timeout	- Software limitation. User did not set ENABLE to the screen saver	- Ensure "Screen Saver" in [Panel Option] is set ENABLE
12	Time always reset to 12:00am, 1st Jan 2000	- No backup battery - Energy of the backup battery is low	- Replace coin cell battery
13	Panel stop operation. Whole operation freezing (hang)	- Unstable power supply - Energy of the backup battery is low	- Power off the panel. Take out the backup battery as well. Replace with a new 3V coin cell battery if necessary. Put back the backup battery into the panel and power on again

8. APPENDIX

	General	Type	Unit	Default	Min	Max	Resolution
G1	Model 0=Chiller 1=Heat pump, 2=Chiller/ Boiler, 3=Heat pump/ Boiler, 4=Chiller+Boiler 5=Heat pump+Boiler	F	Flag	4 (Chiller+Boiler)	0	2	1
G2	Number of compressor 1=1 compressor, 2=2 compressor, 3=3 compressor, 4=4 compressor	F	Flag	1	1	4	1
G3	On/Off input 0=disable, 1=enable	F	Flag	0 (disable)	0	1	1
G4	Cool/ Heat input 0=disable, 1=enable	F	Flag	0 (disable)	0	1	1
G5	External alarm input 0=disable, 1=enable	F	Flag	0 (disable)	0	1	1
G6	Water system for chiller network 0=independent, 1=modular	F	Flag	0 (disable)	0	1	1
G7	Unit number	F	Flag	0	0	50	1

	SENSOR	Type	Unit	Default	Min	Max	Resolution
S1	Entering water sensor calibration	U	°C (F)	0 (0)	-12 (21.6)	-12 (21.6)	0.1
S2	Leaving water sensor calibration	U	°C (F)	0 (0)	-12 (21.6)	-12 (21.6)	0.1
S3	Air sensor calibration	U	°C (F)	0 (0)	-12 (21.6)	-12 (21.6)	0.1
S4	Defrost(condenser) sensor 1 calibration	U	°C (F)	0 (0)	-12 (21.6)	-12 (21.6)	0.1
S5	Defrost(condenser) sensor 2 calibration	U	°C (F)	0 (0)	-12 (21.6)	-12 (21.6)	0.1
S6	Defrost(condenser) sensor 3 calibration	U	°C (F)	0 (0)	-12 (21.6)	-12 (21.6)	0.1
S7	Defrost(condenser) sensor 4 calibration	U	°C (F)	0 (0)	-12 (21.6)	-12 (21.6)	0.1
S8	Compressor discharge sensor 1 calibration	U	°C (F)	0 (0)	-12 (21.6)	-12 (21.6)	0.1
S9	Compressor discharge sensor 2 calibration	U	°C (F)	0 (0)	-12 (21.6)	-12 (21.6)	0.1
S10	Compressor discharge sensor 3 calibration	U	°C (F)	0 (0)	-12 (21.6)	-12 (21.6)	0.1
S11	Compressor discharge sensor 4 calibration	U	°C (F)	0 (0)	-12 (21.6)	-12 (21.6)	0.1

	REGULATOR	Type	Unit	Default	Min	Max	Resolution
R1	Cooling set-point	D	°C (F)	12 (53.6)	R5	R6	0.1
R2	Cooling differential	U	°C (F)	1.5* (2.7)	0.4 (0.7)	10 (18)	0.1
R3	Heating set-point	D	°C (F)	40 (104)	R7	R8	0.1
R4	Heating differential	U	°C (F)	1.5* (2.7)	0.4 (0.7)	10 (18)	0.1
R5	Minimum Cooling set-point	U	°C (F)	7 (44.6)	-20 (-4)	R6	1
R6	Maximum Cooling set-point	U	°C (F)	20 (68)	R5	40 (104)	1
R7	Minimum Heating set-point	U	°C (F)	30 (68)	-20 (-4)	R8	1
R8	Maximum Heating set-point	U	°C (F)	50 (122)	R7	90 (194)	1
R9	Auxiliary heater set-point(threshold below heating set-point)	U	°C (F)	5 (9)	0 (0)	40 (72)	0.1
R10	Auxiliary heater differential	U	°C (F)	2 (3.6)	0.4 (0.7)	10 (18)	0.1
R11	Auto boiler set-point(threshold below Heating set-point)	U	°C (F)	5 (9)	0 (0)	40 (72)	0.1
R12	Auto boiler differential	U	°C (F)	2 (3.6)	0.4 (0.7)	10 (18)	0.1
R13	Auto boiler start time threshold	U	min	30	0	199	1

	COMPRESSOR	Type	Unit	Default	Max	Min	Resolution
C1	Compressor minimum run time	U	sec	120	0	1990	10
C2	Compressor minimum stop time	U	sec	180	0	1990	10
C3	Time interval between two starts	U	sec	450	0	1990	10
C4	Start delay between two compressors	U	sec	15	0	199	1
C5	Pump on ? compressor on delay	U	sec	180	0	1990	10
C6	Comp off ? pump off delay	U	sec	60	0	199	10
C7	Discharge cut-off-set-point	U	°C (F)	120(248)	0 (32)	150 (302)	1

	CONDENSOR	Type	Unit	Default	Max	Min	Resolution
D1	Start defrost temperature	U	°C (F)	0 (32)	-20 (-4)	D2	1
D2	End defrost temperature	U	°C (F)	14 (57)	D1	40 (104)	1
D3	Maximum duration of defrost cycle	U	min	10	1	40	1
D4	Defrost interval time	U	min	45	0	199	1
D5	Delay before defrosting	U	sec	0	0	1990	10
D6	Delay after defrosting	U	sec	120	0	1990	10

	COOL MODE ANTIFREEZE	Unit	Default	Min	Max	Resolution
A1	Antifreeze heater set-point	°C (F)	5 (41)	-40 (-40)	40 (104)	1
A2	Antifreeze heater differential	°C (F)	2 (3.6)	0.4 (0.7)	10 (18)	0.1
A3	Antifreeze sensor select 0=Leaving water, 1=Entering water	Flag	0 (leaving)	0	1	1
A4	Antifreeze alarm set-point	°C (F)	3 (37)	-40 (-40)	40(104)	1
A5	Antifreeze alarm differential	°C (F)	2 (3.6)	0.4 (0.7)	10 (18)	0.1

	ALARM AND CONTACT	Unit	Default	Min	Max	Resolution
P1	Flow switch confirmation time	sec	5	0	199	1
P2	Flow switch alarm delay at pump start	sec	120	0	199	1
P3	Low pressure alarm delay at compressor start up	sec	30	0	199	1
P4	Comp overload alarm reset type 0=Manual reset, 1=Auto reset	Flag	0 (manual)	0	1	1
P5	High pressure alarm reset type 0=Manual reset, 1=Auto reset	Flag	1 (auto)	0	1	1
P6	Low pressure alarm reset 0=Manual reset, 1=Auto reset	Flag	1 (auto)	0	1	1
P7	Fan overload alarm reset type 0=Manual reset, 1=Auto reset	Flag	1 (auto)	0	1	1
P8	Pump overload alarm reset type 0=Manual reset, 1=Auto reset	Flag	0 (manual)	0	1	1
P9	Flow switch alarm reset type 0=Manual reset, 1=Auto reset	Flag	0 (manual)	0	1	1
P10	Auxiliary alarm reset type 0=Manual reset, 1=Auto reset	Flag	1 (auto)	0	1	1
P11	Antifreeze alarm reset type 0=Manual reset, 1=Auto reset	Flag	0 (manual)	0	1	1
P12	Comp overload contact type 0=Normally close(NC) 1=Normally open(NO)	Flag	0 (NC)	0	1	1
P13	High pressure contact type 0=Normally close(NC) 1=Normally open(NO)	Flag	0 (NC)	0	1	1
P14	Low pressure contact type 0=Normally close(NC) 1=Normally open(NO)	Flag	0 (NC)	0	1	1
P15	Fan overload contact type 0=Normally close(NC) 1=Normally open(NO)	Flag	0 (NC)	0	1	1
P16	Pump overload contact type 0=Normally close(NC) 1=Normally open(NO)	Flag	0 (NC)	0	1	1
P17	Flow switch contact type 0=Normally close(NC) 1=Normally open(NO)	Flag	0 (NC)	0	1	1
P18	External alarm contact type 0=Normally close(NC) 1=Normally open(NO)	Flag	0 (NC)	0	1	1
P19	Defrost end contact type 0=Normally close(NC) 1=Normally open(NO)	Flag	0 (NC)	0	1	1

	INVERTER	Unit	Default	Min	Max	Resolution
V1	Compressor frequency	Hz	Auto	0	120	1
V2	EXV Opening	Flag	Auto	0	480	1
V3	Compressor manual setting 0= disable 1= enable	Flag	0(disable)	0	1	1
V4	EXV Manual setting 0=disable 1= enable	Flag	0(disable)	0	1	1
V5	Defrost Mode 0= disable 1= enable	Flag	0(disable)	0	1	1

PRECAUTIONS AND INSTALLATION

SPECIAL PRECAUTIONS WHEN DEALING WITH REFRIGERANT R407C UNIT

1) WHAT IS NEW REFRIGERANT R407C?

R407C is a zeotropic refrigerant mixture which has Zero Ozone Depletion Potential (ODP = 0) and thus conformed to the Montreal Protocol regulation. It requires Polyol-ester oil (POE) oil for its compressor's lubricant. Its refrigerant capacity and performance are about the same as the refrigerant R22.

2) COMPONENTS

Mixture weight composition R32(23%), R125(25%), R134a(52%)

3) CHARACTERISTIC

- R407C liquid and vapor components have different compositions when the fluid evaporates or condenses. Hence, when leak occurs and only vapor leaks out, the composition of the refrigerant mixture left in the system will change and subsequently affect the system performance. **DO NOT** add new refrigerant to leaked system. It is recommended that the system should be evacuated thoroughly before recharging with R407C.
- When refrigerant R407C is used, the composition will differ depending on whether it is in gaseous or liquid phase. Hence when charging R407C, ensure that only liquid is being withdrawn from the cylinder or can. This is to make certain that only original composition of R407C is being charged into the system.
- POE oil is used as lubricant for R407C compressor, which is different from the mineral oil used for R22 compressor. Extra precaution must be taken not to expose the R407C system too long to moist air.

4) CHECK LIST BEFORE INSTALLATION/SERVICING

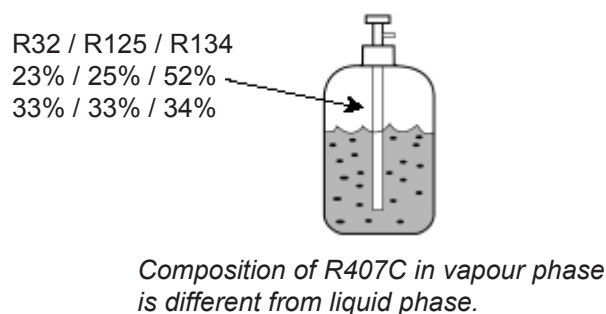
- Tubing
Refrigerant R407C is more easily affected by dust or moisture compared with R22, make sure to temporarily cover the ends of the tubing prior to installation
- Compressor oil
No additional charge of compressor oil is permitted.
- Refrigerant
No other refrigerant other than R407C
- Tools
Tools specifically for R407C only (must not be used for R22 or other refrigerant)
 - i) Manifold gauge and charging hose
 - ii) Gas leak detector
 - iii) Refrigerant cylinder/charging cylinder
 - iv) Vacuum pump c/w adapter
 - v) Flare tools
 - vi) Refrigerant recovery machine

5) HANDLING AND INSTALLATION GUIDELINES

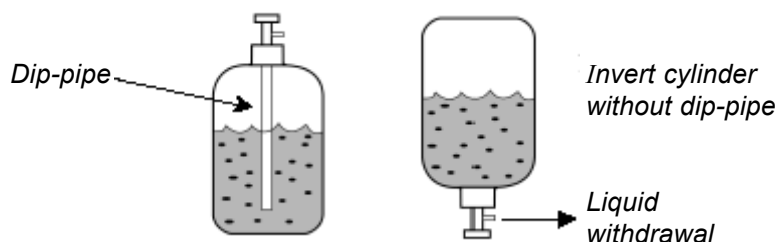
Like R22 system, the handling and installation of R407C system are closely similar. All precautionary measures; such as ensuring no moisture, no dirt or chips in the system, clean brazing using nitrogen, and thorough leak check and vacuuming are equally important requirements. However, due to zeotropic nature of R407C and its hygroscopic POE oil, additional precautions must be taken to ensure optimum and trouble free system operation.

- a) Filter dryer must be installed along the liquid line for all R407C air conditioners. This is to minimise the contamination of moisture and dirt in the refrigerant system. Filter dryer must be of molecular sieve type. For a heat pump system, install a two-way flow filter dryer along the liquid line.
- b) During installation or servicing, avoid prolonged exposure of the internal part of the refrigerant system to moist air. Residual POE oil in the piping and components can absorb moisture from the air.

- c) Ensure that the compressor is not exposed to open air for more than the recommended time specified by its manufacturer (typically less than 10 minutes). Remove the seal plugs only when the compressor is about to be brazed.
- d) The system should be thoroughly vacuumed to 1.0 Pa (700mmHg) or lower. This vacuuming level is more stringent than R22 system so as to ensure no incompressible gas and moisture in the system.
- e) When charging R407C, ensure that only liquid is being withdrawn from the cylinder or can. This is to ensure that only the original composition of R407C is being delivered into the system. The liquid composition can be different from the vapor composition.



- f) Normally, the R407C cylinder or can is being equipped with a dip pipe for liquid withdrawal. However, if the dip pipe is not available, invert the cylinder or can so as to withdraw liquid from the valve at the bottom.



- g) When servicing leak, the top up method, commonly practiced for R22 system, is not recommended for R407C system. Unlike R22 where the refrigerant is of a single component, the composition of R407C, which made up of three different components, may have changed during the leak. Consequently, a top up may not ensure that the R407C in the system is of original composition. This composition shift may adversely affect the system performance. It is recommended that the system should be evacuated thoroughly before recharging with R407C.

SPECIAL PRECAUTIONS WHEN DEALING WITH REFRIGERANT R410A UNIT

1) WHAT IS NEW REFRIGERANT R410A?

R410A is a new HFC refrigerant which does not damage the ozone layer. The working pressure of this new refrigerant is 1.6 times higher than conventional refrigerant (R22), thus proper installation / servicing is essential.

2) COMPONENTS

Mixture of composition by weight : R32(50%) and R125(50%)

3) CHARACTERISTIC

- R410A liquid and vapor components have different compositions when the fluid evaporates or condenses. Hence, when leak occurs and only vapor leaks out, the composition of the refrigerant mixture left in the system will change and subsequently affect the system performance. **DO NOT** add new refrigerant to leaked system. It is recommended that the system be evacuated thoroughly before recharging with R410A.
- When refrigerant R410A is used, the composition will differ depending on whether it is in gaseous or liquid phase.
Hence when charging R410A, ensure that only liquid is being withdrawn from the cylinder or can. This is to make certain that only original composition of R410A is being charged into the system.
- POE oil is used as lubricant for R410A compressor, which is different from the mineral oil used for R22 compressor.
Extra precaution must be taken to avoid exposing the R410A system to moist air.

4) CHECK LIST BEFORE INSTALLATION / SERVICING

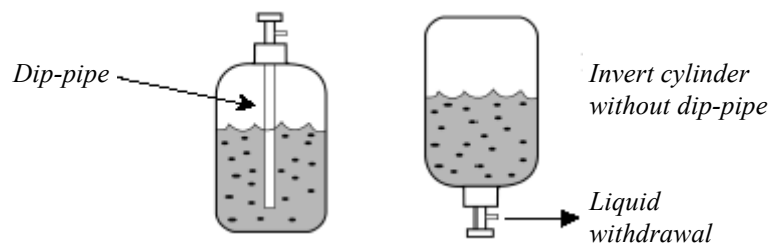
- Tubing
Refrigerant R410A is more easily affected by dust or moisture compared with R22, make sure to temporarily cover the ends of the tubing prior to installation
- Compressor oil
No additional charge of compressor oil is permitted.
- Refrigerant
No other refrigerant other than R410A
- Tools (size of service port is different from R22 system)
Tools specifically for R410A only (must not be used for R22 or other refrigerant)
 - i) Gauge manifold and charging hose
 - ii) Gas leak detector
 - iii) Refrigerant cylinder/charging cylinder
 - iv) Vacuum pump c/w adapter
 - v) Flare tools
 - vi) Refrigerant recovery machine

5) HANDLING AND INSTALLATION GUIDELINES

Like R22 systems, the handling and installation of R410A system are closely similar. All precautionary measures; such as ensuring no moisture, no dirt or chips in the system, clean brazing using nitrogen, and thorough leak check and vacuuming are equally important requirements. However, due to its hydroscopic POE oil, additional precautions must be taken to ensure optimum and trouble-free system operation.

- a) During installation or servicing, avoid prolong exposure of the internal part of the refrigerant system to moist air. Residual POE oil in the piping and components can absorb moisture from the air.
- b) Ensure that the compressor is not exposed to open air for more than the recommended time specified by its manufacturer (typically less than 10 minutes). Remove the seal-plugs only when the compressor is about to be brazed.
- c) The system should be thoroughly vacuumed to 1.0 Pa (700mmHg) or lower. This vacuuming level is more stringent than R22 system so as to ensure no incompressible gas and moisture in the system.

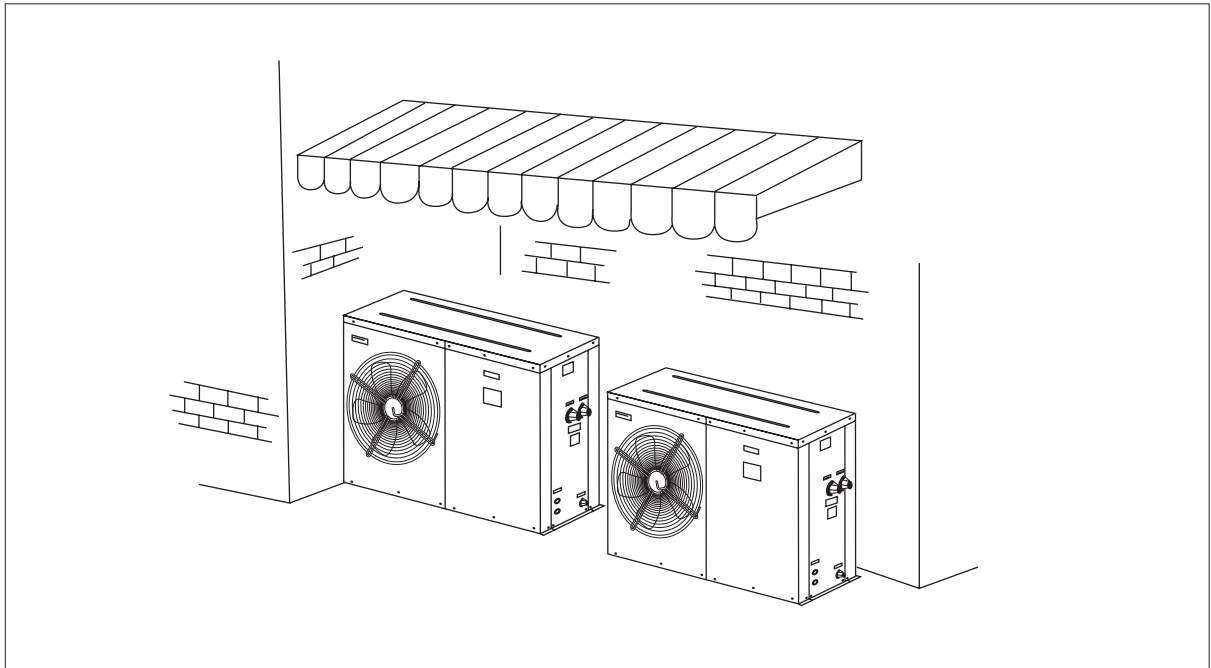
- d) When charging R410A, ensure that only liquid is being withdrawn from the cylinder or can. This is to ensure that only the original composition of R410A is being delivered into the system. The liquid composition can be different from the vapor composition.



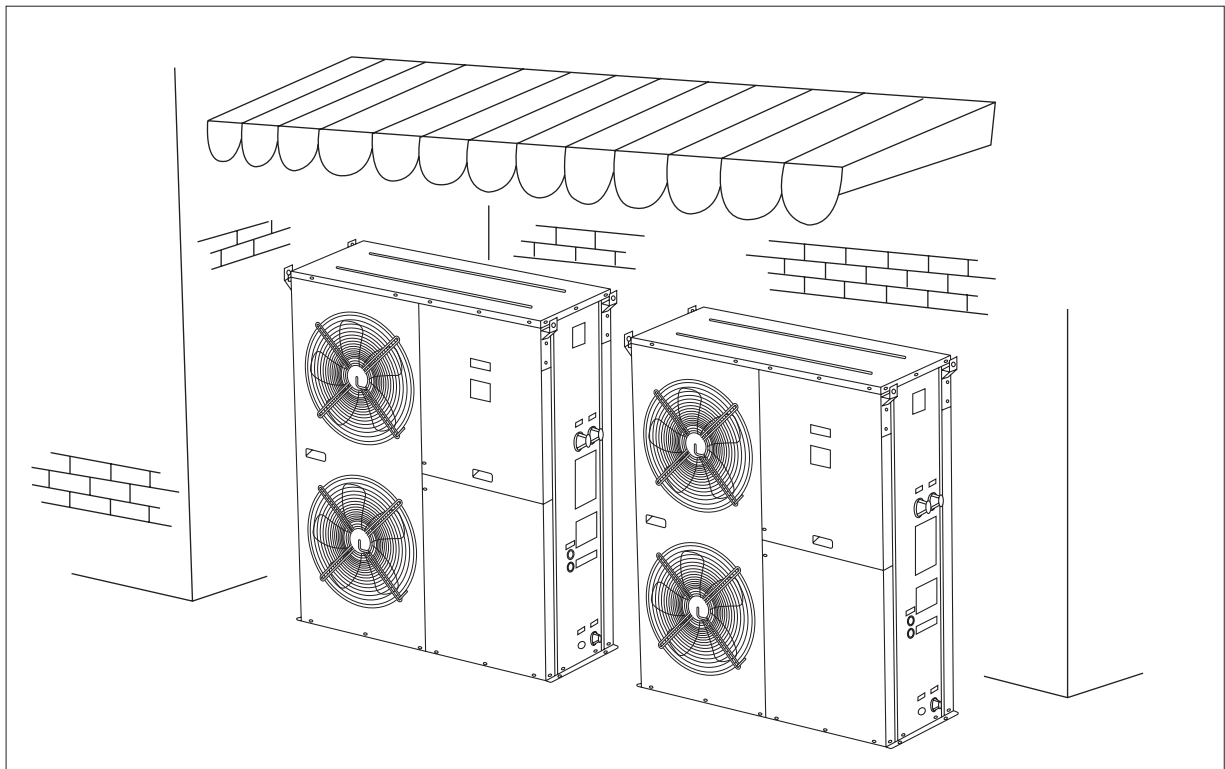
- e) Normally, the R410A cylinder or can is being equipped with a dip-pipe for liquid withdrawal. However, if the dip-pipe is not available, invert the cylinder or can so as to withdraw liquid from the valve at the bottom.

INSTALLATIONS

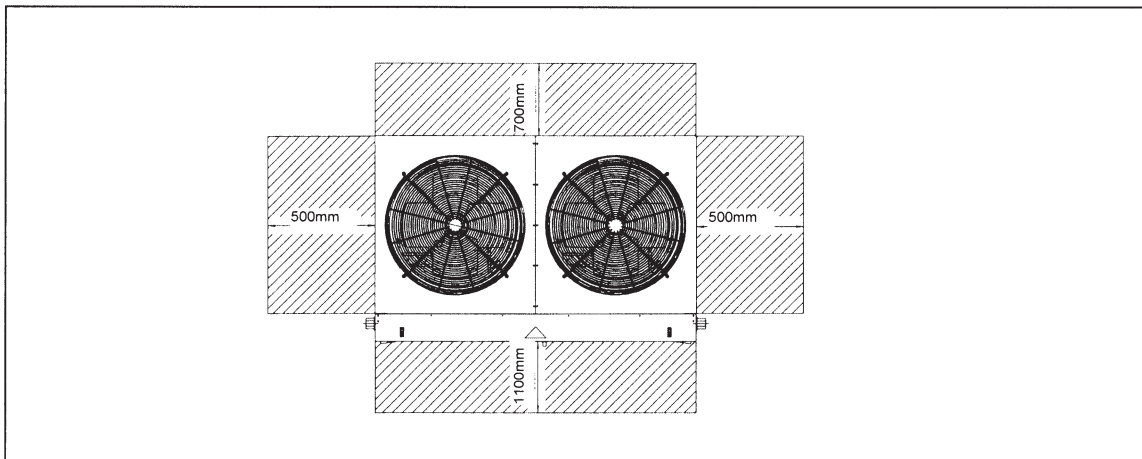
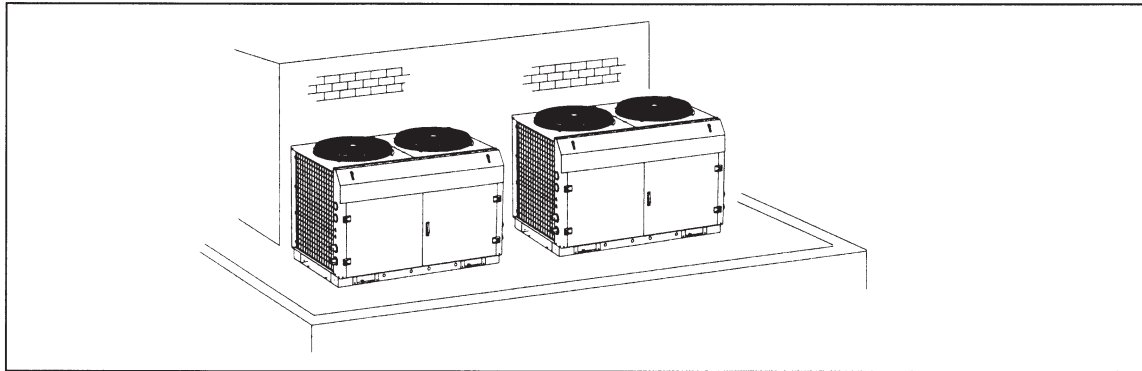
AMAC 20/ 25/ 30 C/CR, A4AC 20/25/30 C, A5AC 20 / 25 / 30CR



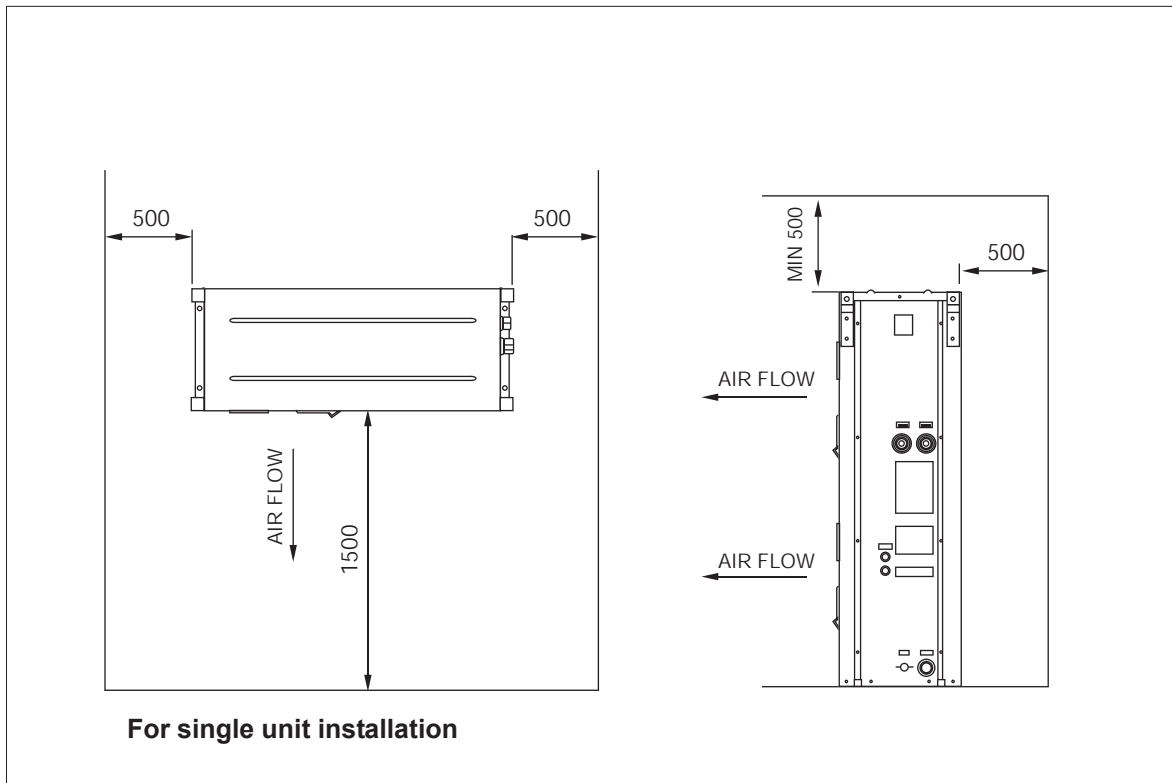
AMAC 40/ 50/60 C/CR, A4AC 40/50 C, A4AC 60 C/CR, A5AC 40 / 50 / 55 CR



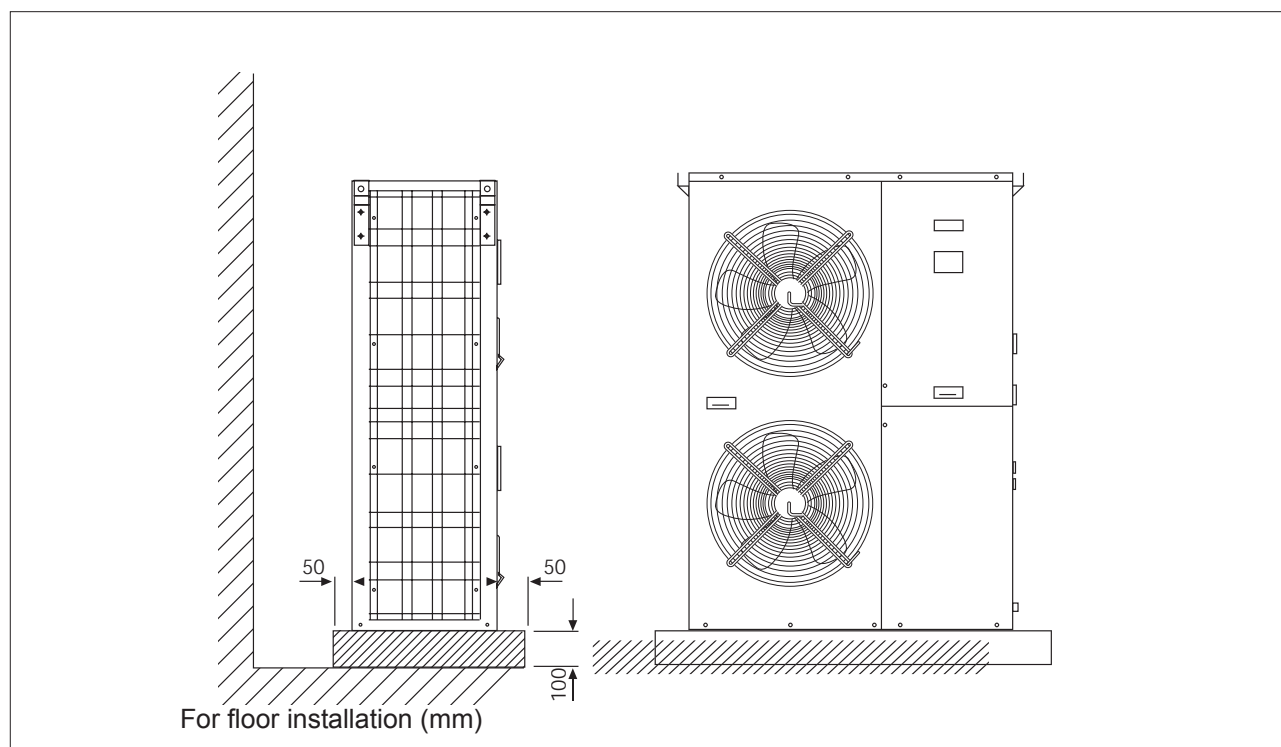
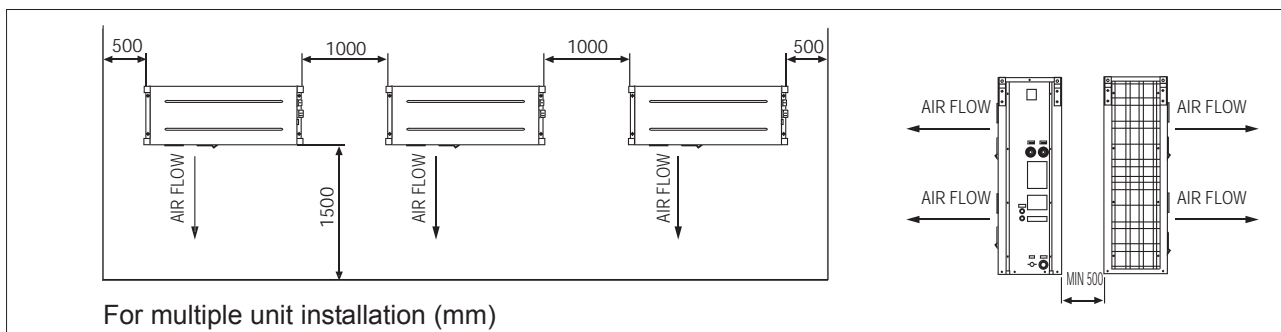
A4AC/ AMAC 80/ 100/ 120/ 150 C/CR



AMAC 20 / 25 / 30 / 40 / 50 / 60 C/CR, A4AC 20 / 25 / 30 / 40 / 50 C, A4AC60 C/CR, A5AC 20 / 25 / 30 / 40 / 50 / 55CR



**AMAC 20 / 25 / 30 / 40 / 50 / 60 C/CR, A4AC 20 / 25 / 30 C, A4AC 60 C/CR,
A5AC 20 / 25 / 30 / 40 / 50 / 55 CR**



SAFETY PRECAUTIONS

Before installing the air conditioner unit, please read the following safety precautions carefully

Warning

- Installation and maintenance should be performed by qualified persons who are familiar with local code and regulation, and experienced with this type of appliance.
- All field wiring must be installed in accordance with the national wiring regulation.
- Ensure that the rated voltage of the unit corresponds to that of the name plate before commencing wiring work according to the wiring diagram.
- The unit must be GROUNDED to prevent possible hazards due to installation failure.
- All electrical wiring must not touch the refrigerant piping, compressor or any moving parts of the fan motors.
- Confirm that the unit has been switched OFF before installing or servicing the unit.
- Do not touch the compressor or refrigerant piping without wearing gloves.

IMPORTANT

DO NOT INSTALL OR USE THE AIR CONDITIONER UNIT IN A LAUNDRY ROOM



Caution

Please take note of the following important points when installing.

- **Do not install the unit where leakage of flammable gas may occur.**



If gas leaks and accumulates around the unit, it may cause fire ignition.

- **Ensure that the drainage piping is connected properly.**



If the drainage piping is not connected properly, it may cause water leakage which will dampen the furniture.

- **Do not overcharge the unit.**



This unit is factory pre-charged. Overcharge will cause over-current or damage to the compressor.

- **Ensure that the units panel is closed after service or installation.**



Unsecured panels will cause unit to operate noisily.

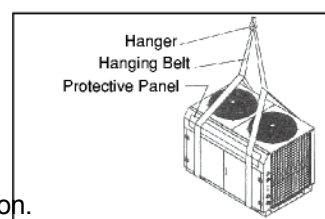
INSTALLATION LOCATION

- Installation work should be done by the authorized dealer or qualified contractor. Never install the unit yourself.
- Make sure there is sufficient airflow around the unit.
- Vibration isolator should be provided to reduce the vibration and noise of the unit.
- There should be sufficient space allocated for servicing and maintenance when installing the unit.

TRANSPORTATION

- The unit should be lifted using a crane. Ensure that the hanger belts are not touching the coil, top panel and front panel (use protective panel) as shown in Figure 1.
- The bolt of the base and channel support can be removed after putting the unit on the fixed location.

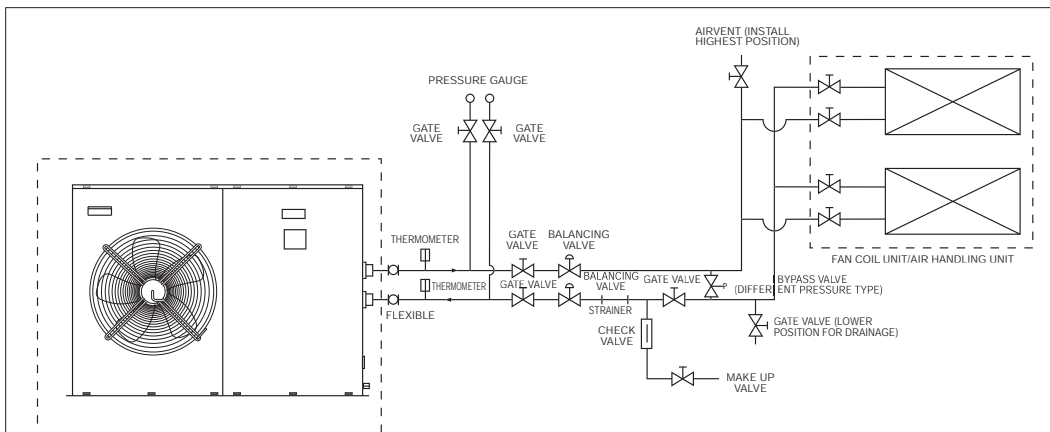
Figure 1



WATER PIPING AND FITTING

- All water pipe must be insulated to prevent capacity losses and condensation.
- Install a 40-60 mesh strainer to ensure water quality is good.
- Water pipe recommended are black steel pipe and copper pipe.
- During installation, the piping of the unit should be clamp before rotating the installation pipe to reduce the moment induce on the unit piping.
- Users are recommended to install the pipe and accessories as shown in Figure 2 & 3.
- An air vent must be installed at the highest position, while a drainage plug at the lowest position of the water circuit. Open the air vent to release any air trap in the water circuit.
- Run the clean water through the water inlet and operate the pump to drain out the dirty water. Clean the strainer after running the pump for 30 minutes.
- Fill up the water circuit after connecting the pipes and equipment. Check water leakage at all connections and joints. Do not start the unit when the system is leaking.
- To optimize the capacity of the system, ensure that the system is free of air bubbles. The air trapped in the system would make the system unbalanced.

AMAC 20 / 25 / 30 C/CR, A4AC 20 / 25 / 30 C, A5AC 20 / 25 / 30 CR



AMAC 40 / 50 / 60 C/CR, A4AC 40 / 50 C, A4AC 60 CR, A5AC 40 / 50 / 55 CR

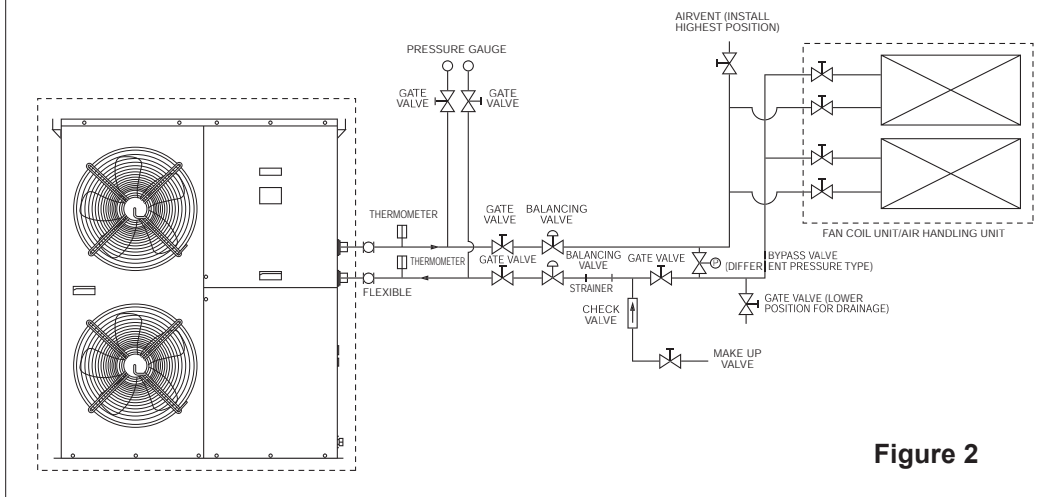


Figure 2

A4AC / AMAC 80 / 100 / 120 / 150 C/CR

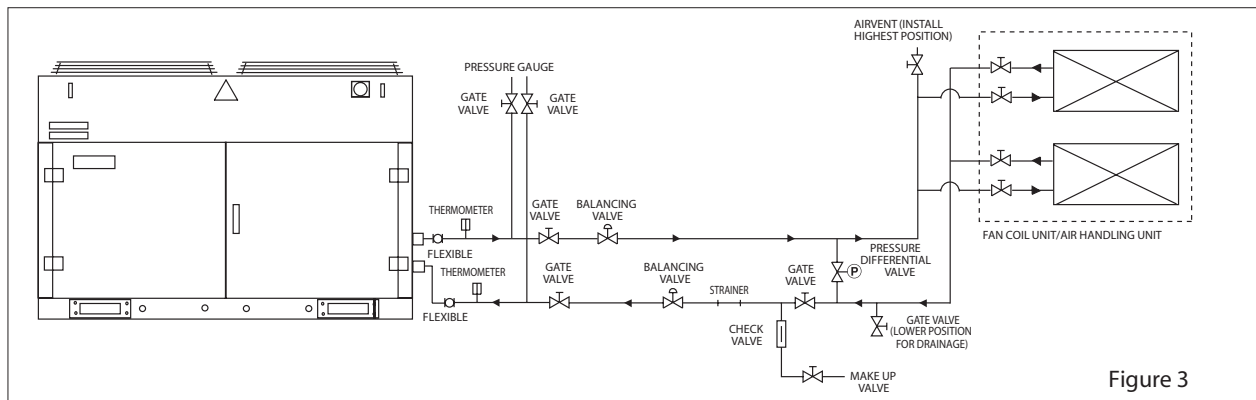


Figure 3



CAUTION

- Do not allow water to remain in the water pipes if the unit is not operating for a long period. Water must be drained out if the unit is not running during winter. Failing to do so would cause the pipe to crack.
- Do not drink the chilled water in the unit.

ELECTRICAL AND WIRING

- Refer to the wiring diagram provided on the unit when making electrical wiring.
- Install an isolator (optional) to prevent electrical shock.
- Do not ground any electrical equipment to the water piping.
- Operation of the mini chiller without any fan speed controller (Field supply) is limited to an ambient temperature of 20C. With the fan speed controller (Field supply), the unit is able to operate down to -5C.

All mini chillers will have a 1/4" access valve provided for along the liquid line of the refrigerant circuit. This valve is for direct pressure connection to the fan speed controller. To install the fan speed controller, screw in the female adaptor to the 1/4" access valve. Use a pair of spanners to tighten properly(max. torque 15Nm). See Fig. 8. Ensure there is no leakage at the joint. Wire the fan speed controller to the terminal blocks.

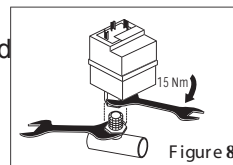
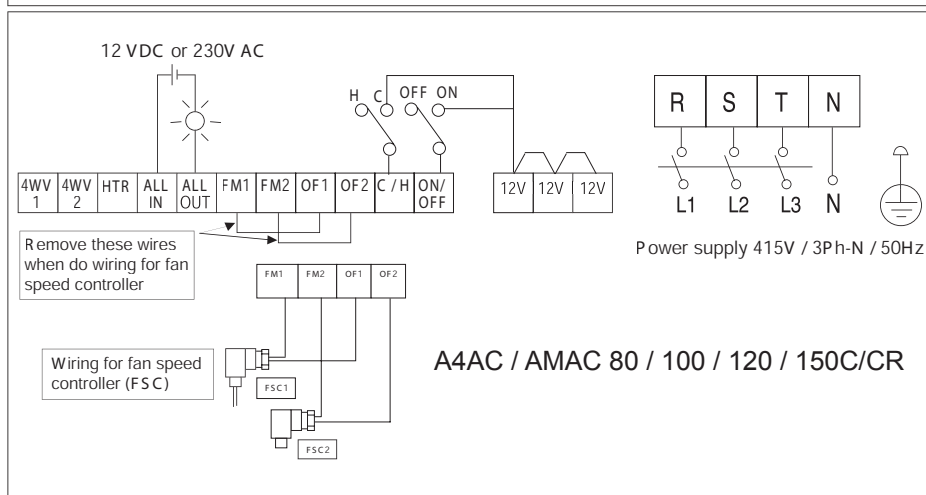
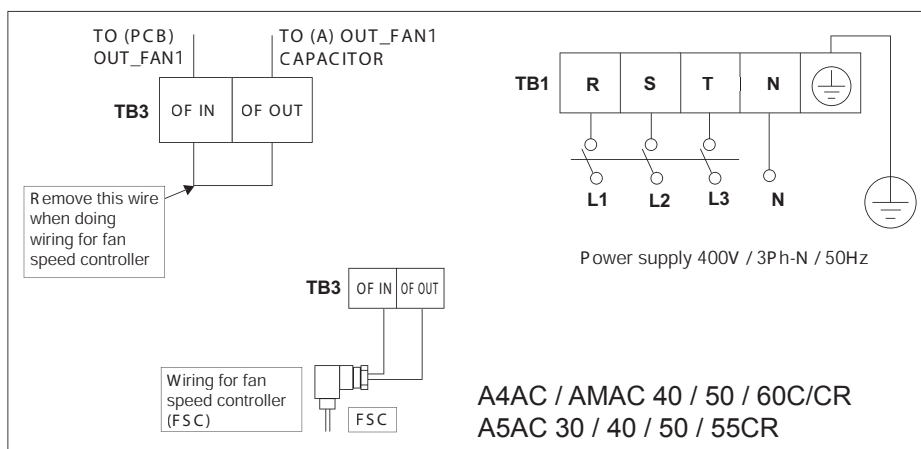
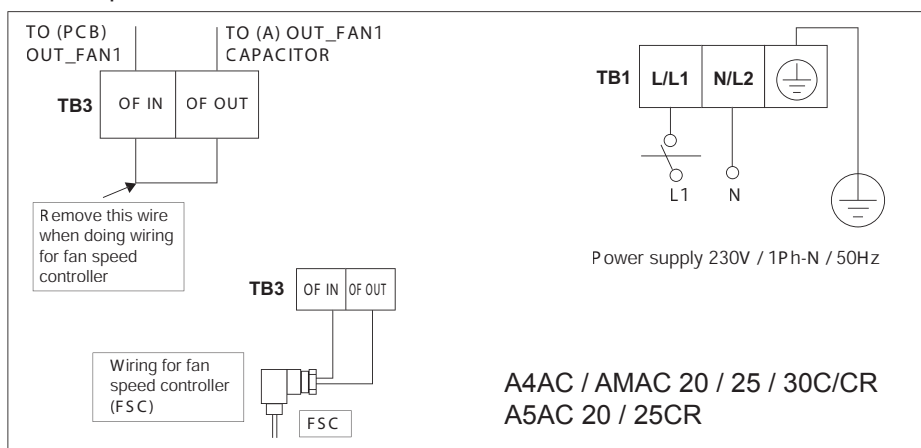


Figure 8



RECOMMENDED FUSE ADN CABLE SIZES

Model	A4AC20C AMAC20C/CR	A4AC25C AMAC25C/CR	A4AC30C AMAC30C/CR	A4AC40C AMAC40C/CR
Voltage range **	220-240V/1Ph/50Hz + N + ⊕			380-415V/3Ph/50Hz + N + ⊕
Recommended fuse * A	27	38	45	22
Power supply cable size * mm ²	10	10	10	5
Numbers of conductor	3	3	3	5
Interconnection cable size * mm ²	1.5	1.5	1.5	1.5

Model	A4AC50C AMAC50C/CR	A4AC60C/CR AMAC60C/CR
Voltage range **	380-415V/3Ph/50Hz + N + ⊕	
Recommended fuse * A	24	29
Power supply cable size * mm ²	5	5
Numbers of conductor	5	5
Interconnection cable size * mm ²	1.5	1.5

Model	A4AC80C/CR AMAC80C/CR	A4AC100C/CR AMAC100C/CR	A4AC120C/CR AMAC120C/CR	A4AC150C/CR AMAC150C/CR
Voltage range **	380-415V/3Ph/50Hz + N + ⊕			
Recommended fuse * A	35	40	50	60
Power supply cable size * mm ²	10	10	10	10
Numbers of conductor	5	5	5	5
Interconnection cable size * mm ²	1.5	1.5	1.5	1.5

Model	A5AC20CR	A5AC25CR	A5AC30CR	A5AC40CR
Voltage range **	220-240V/1Ph/50Hz + N + ⊕			
Recommended fuse * A	27	38	25	29
Power supply cable size * mm ²	10	10	10	10
Numbers of conductor	3	3	3	3
Interconnection cable size * mm ²	1.5	1.5	1.5	1.5

Model	A5AC50CR	A5AC55CR
Voltage range **	220-240V/1Ph/50Hz + N + ⊕	
Recommended fuse * A	33	36
Power supply cable size * mm ²	10	10
Numbers of conductor	3	3
Interconnection cable size * mm ²	1.5	1.5

IMPORTANT :

- * The figures shown in the table are for information purpose only. They should be checked and selected to comply with the local/national codes of regulations. This is also subjected to the type of installation and conductors used.
- ** The appropriate voltage range should be checked with label data on the unit.

CAUTION

- All field wiring must be installed in accordance with the national wiring regulation.
- All the terminals and connections must be tightened. Improper connection and fastenings could cause electric shock, short circuit and fire.
- Ensure that the rated voltage of the unit corresponds to that of the name plate before commencing wiring work according to the wiring diagram.
- The unit must be GROUNDED to prevent possible hazards due to insulation failure.
- All electrical wiring must not touch the refrigerant piping, compressor, pump, fan motor or any moving parts of the fan motors.
- Do not operate the chiller with wet hands. It would result in electric shock.
- Do not use fuse of different amperage than stated. Using wire etc. to replace a fuse could cause equipment damage or fire.



WARNING

- All terminals and connection must be tightened.
- Avoid any wires from touching the refrigerant pipe. Apply insulation if necessary.
- Avoid any wires from touching the moving components such as, fan motor, pump & compressor.

WATER PIPING SYSTEM SETUP

- Fill up the water circuit after connecting all the pipes and equipment. Perform leak checks for all connections and joints. Do not start the unit when the system is leaking.
- To optimize the capacity of the system, ensure that the system is free of air bubbles. The air trapped in the system would make the system unbalanced.
- Ensure that the water tank (optional) is not full. This is to ensure optimal performance of the mini chiller. If the pressure is too high, release the air trapped from the auto air vent (on the tank) and manual air vent (installed on the water system).

REFRIGERANT CIRCUIT

- All mini chillers units are pre-charged with R22, R407C or R410A refrigerant. The only piping that needs to be done is the water piping from mini chiller (outdoor) to the fan coil unit (indoor).

SAFETY AND CAUTION

It is advisable to read through all the safety precautions before installing and commissioning of the unit.

- Contact your dealer for installation, reinstallation or dismantling of unit. Improper handling of unit could result in leaks, electrical shock or unit malfunction.
- Use the controller handset to switch on/off the unit. Do not plug off the main power supply directly, it would cause the unit to breakdown.
- Improper connections and fastening could cause electric shock, short circuit and fire.
- Do not introduce foreign objects such as fingers, sticks etc. into the air inlet and outlet.
- Do not spray any chemical agents or flammable agents to the unit. It would cause fire or explosion.
- Do not climb or place objects on top of the mini chiller.
- Do not operate the chiller with wet hands. It would result in electric shock.
- Do not use fuse of different amperage than stated. Using wire, etc. to replace a fuse could cause equipment damage or fire.
- Provide proper grounding for the mini chiller. Do not connect the ground wire to gas piping, water piping, lighting rods or telephone ground wire. Improper grounding could cause electrical shock.
- Do not attempt to do any service or maintenance when unit is operating.
- Do not change the settings of the safety devices.
- Do not consume the chilled water in the unit.
- Do not allow water to remain in the water pipes if the unit is not operating for a long period. Water must be drained out if the unit is not running during winter. Failing to do so would cause the pipe to crack.
- Do not touch the aluminum fin coil. It would damage the coil or cause injury.

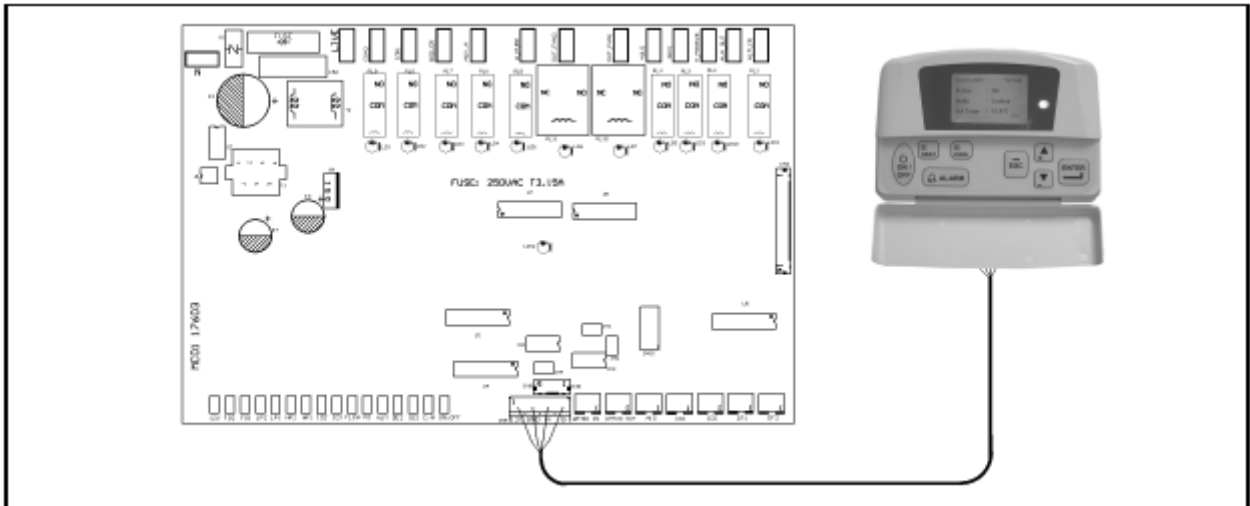


Caution

- R407C / R410A must be charged as liquid. Usually R407C / R410A cylinder is equipped with a dip-pipe for liquid withdrawal. If there is no dip-pipe, the cylinder should be inverted so as to withdraw liquid R407C / R410A from the valve.
- Do not top-up when servicing leak, as this will reduce the unit performance. Vacuum the unit thoroughly and then charge the unit with fresh R407C / R410A according to the amount recommended in the specification.

CONTROL OPERATION GUIDE

The unit is equipped with a microprocessor controller board. The microprocessor controller is provided to give temperature control for the system by accurately measuring the ambient temperature, and controlling the water entering and water leaving temperature. The temperature setting in the unit is preset in the factory. It is not recommended to change the setting unless necessary. A wired controller handset is connected to the microprocessor board. Every parameter setting and reading can be observed from the LCD of the handset.



1. Handset location

The handset is located on a metal bracket behind the right door panel.

2. LED Display (microprocessor board)

The keypad LED will light up when the unit is turned on.

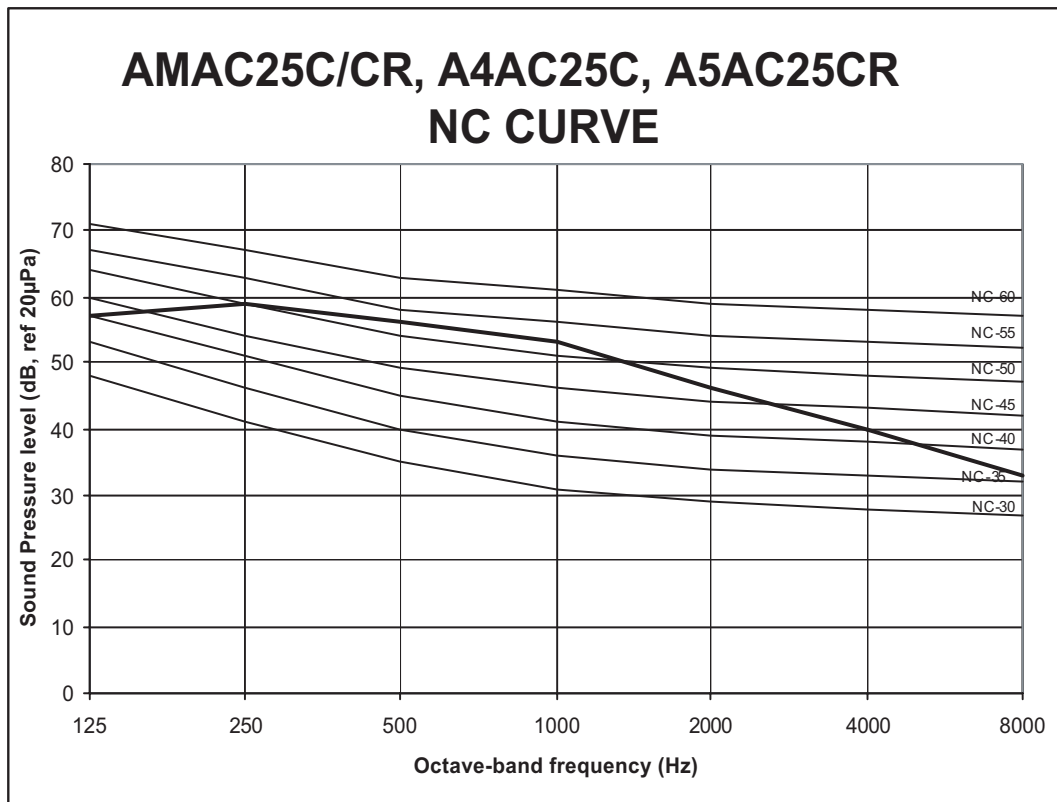
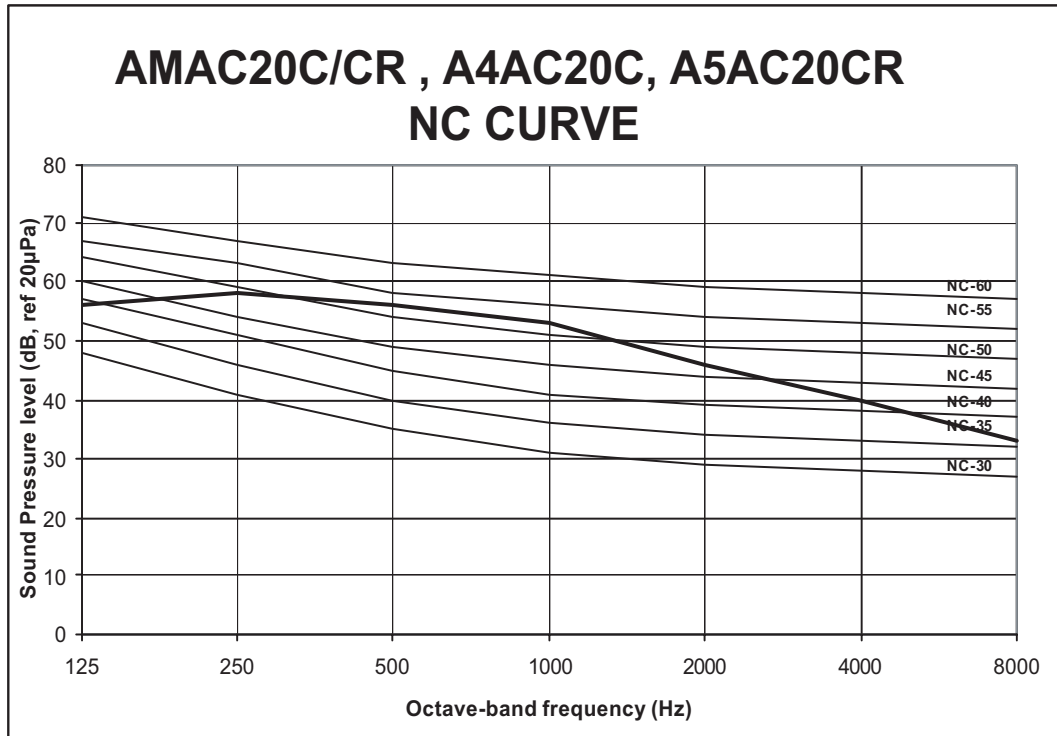
3. LCD display (controller handset)

During normal operations, the LCD can display the entering water temperature, the leaving water temperature, the entering water setpoint temperature, compressor on or off status and outdoor air temperature. When malfunctioning occurred, the LCD would blink. The display would show the faulty parameter and the date and time of the occurrence.

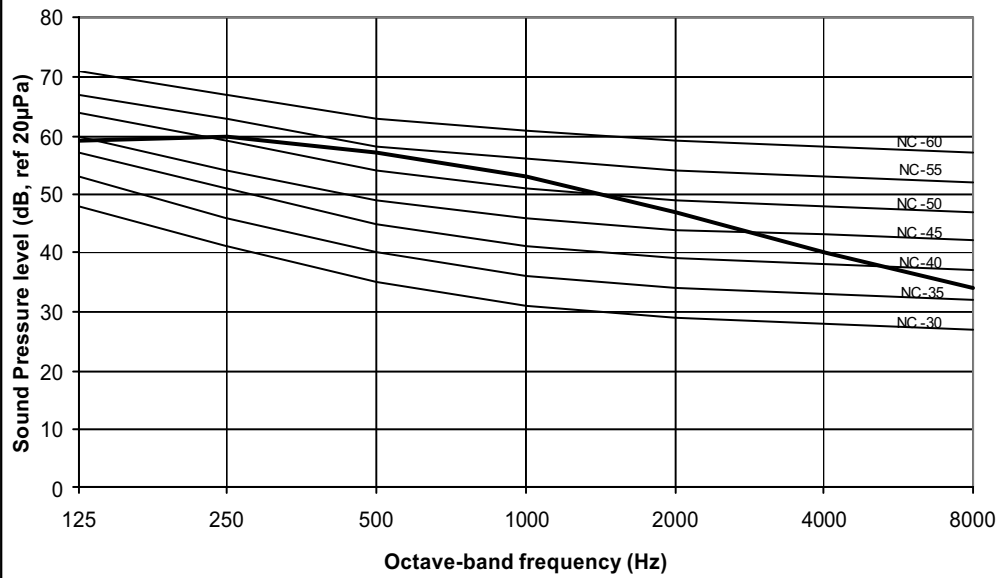
4. Controller functioning specification

There is a 3 minute delay for the compressor and fan motor to restart (default setting). During defrosting, fan motor is not running.

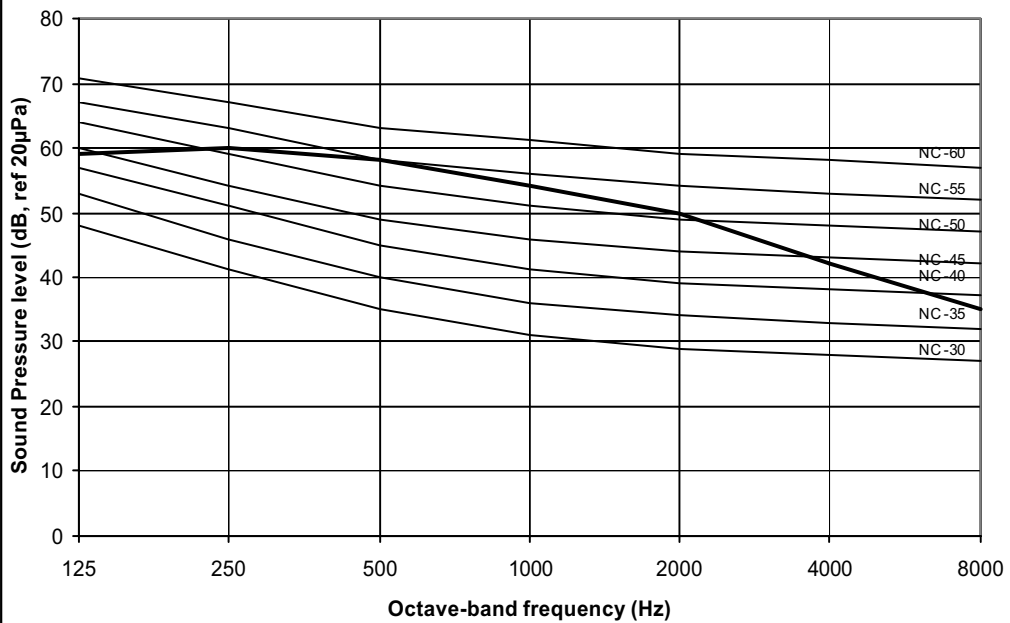
4. SOUND DATA



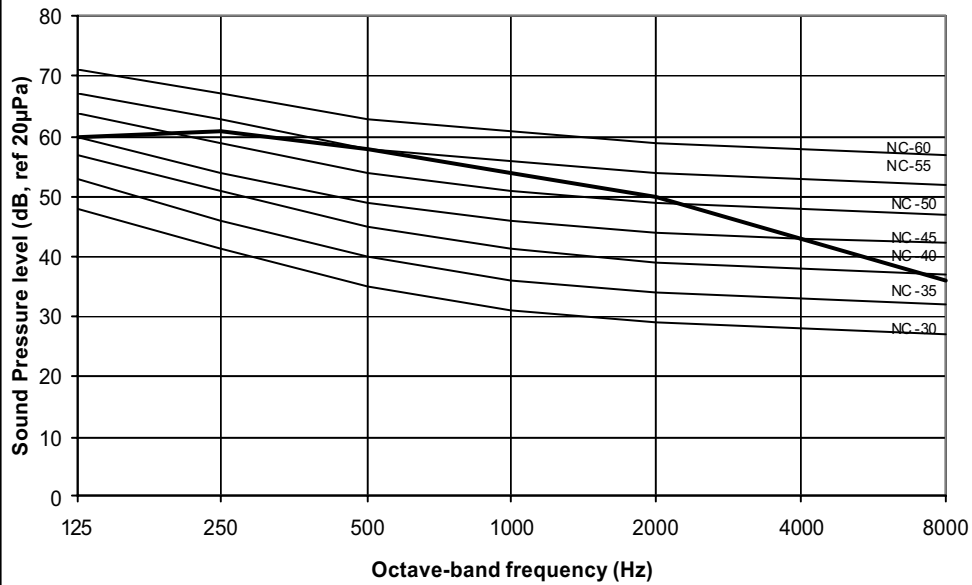
AMAC30C/CR,A4AC30C NC CURVE



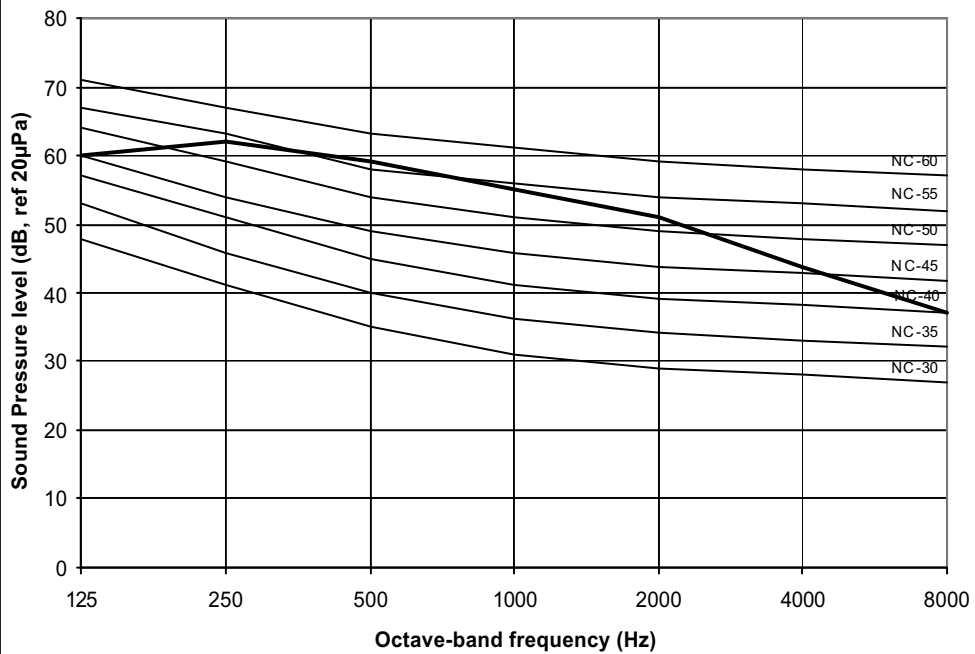
AMAC30C/CR,A4AC40C NC CURVE



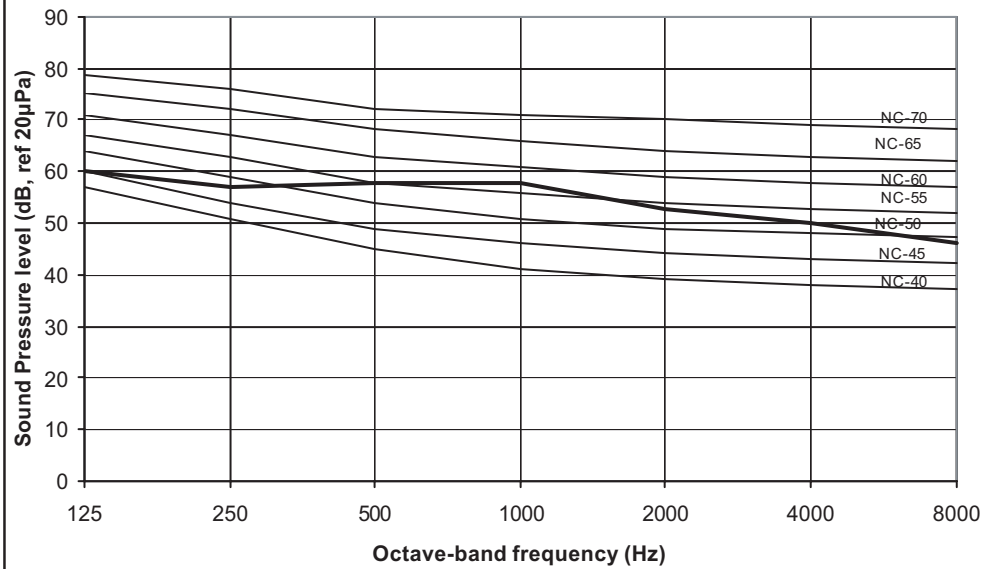
AMAC50C/CR,A4AC50C NC CURVE



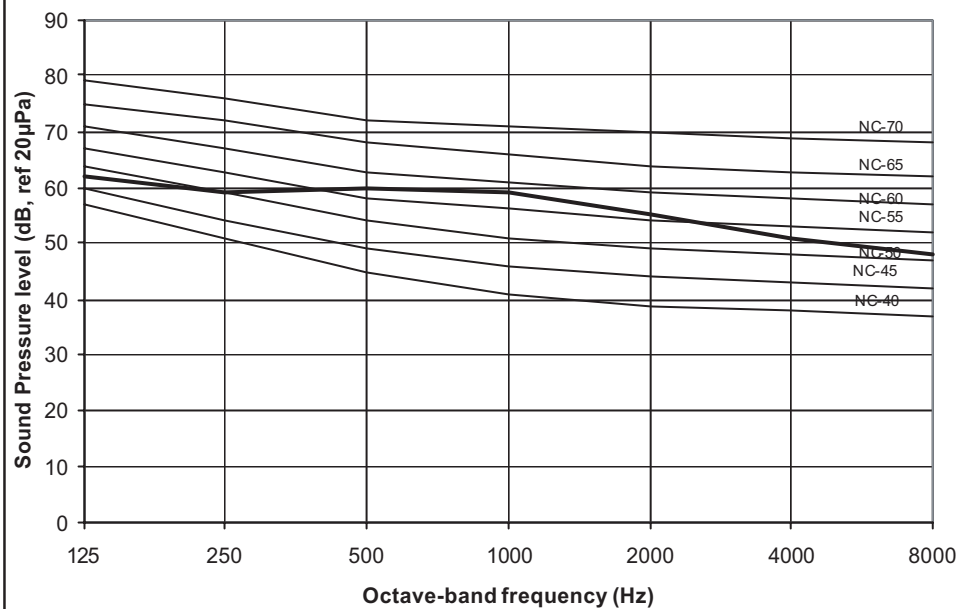
AMAC/A4AC60C/CR NC CURVE



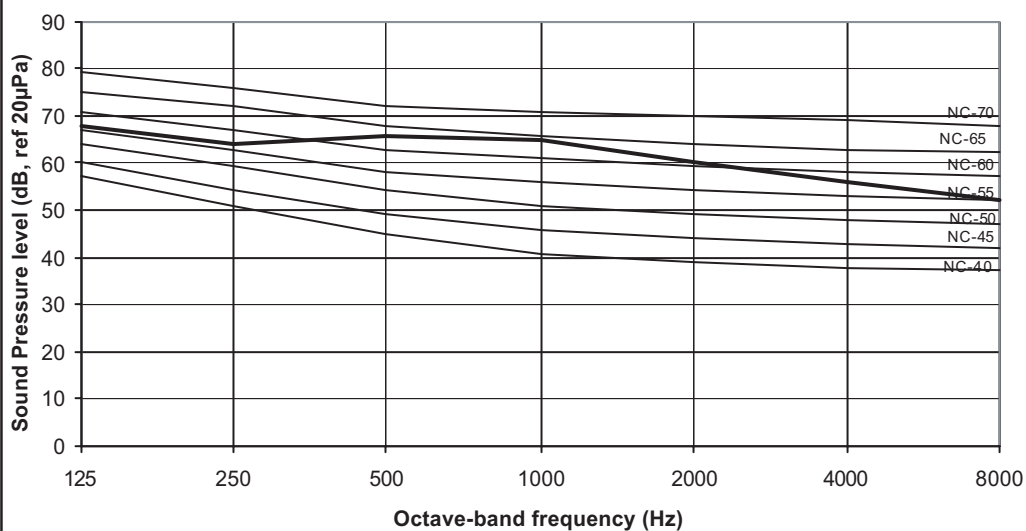
AMAC/A4AC80C/CR NC CURVE



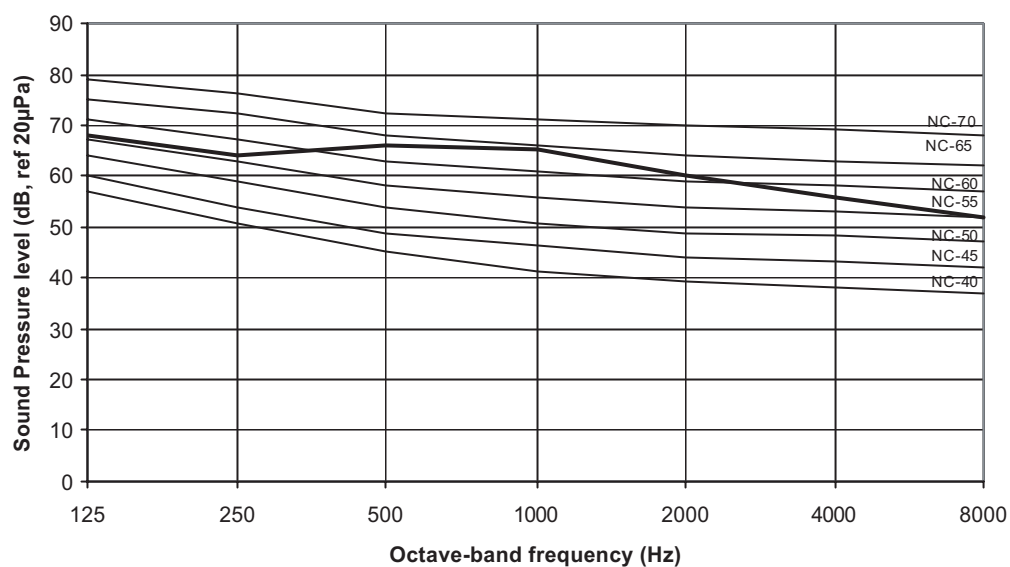
AMAC/A4AC 100C/CR NC CURVE



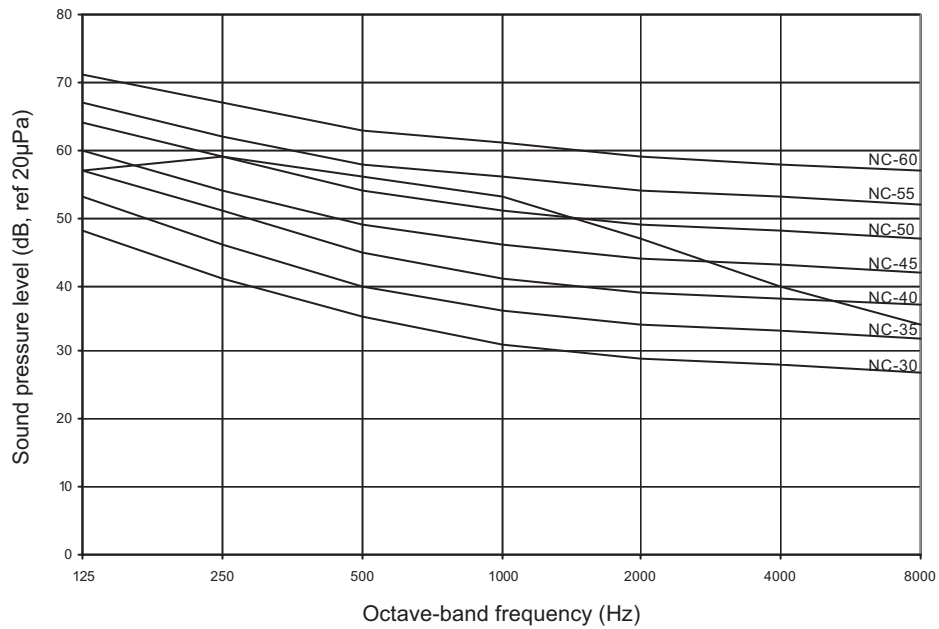
AMAC/A4AC 120C/CR NC CURVE



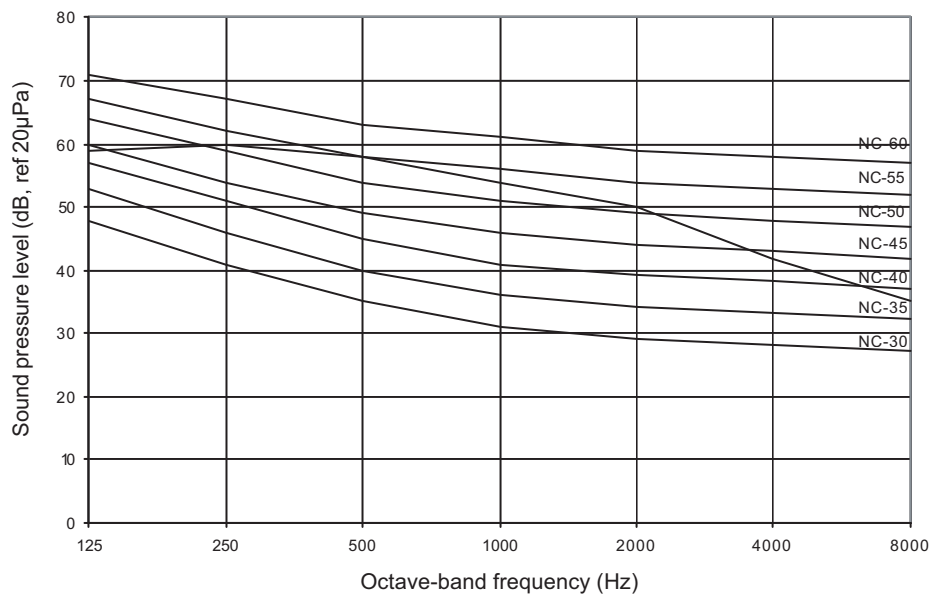
AMAC/A4AC 150C/CR NC CURVE



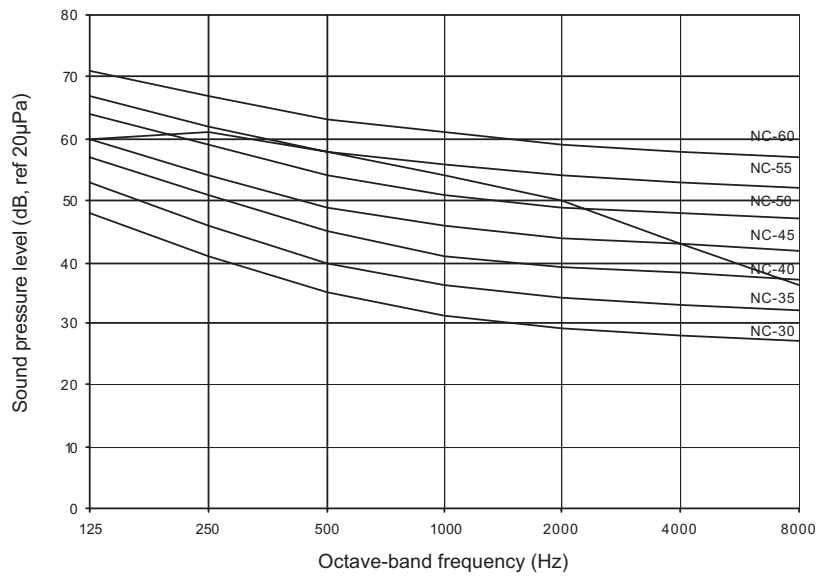
A5AC30CR NC CURVE



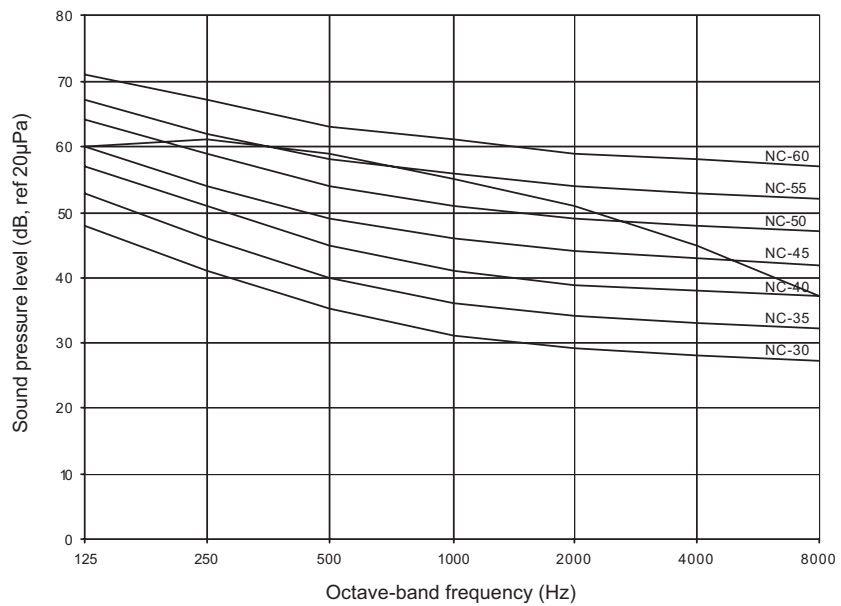
A5AC40CR NC CURVE



A5AC50CR NC CURVE



A5AC55CR NC CURVE



5. SELECTION PROCESS

WATER PRESSURE DROP VS FLOW RATE

MODEL : AMAC20C/CR, A4AC20C

Water Flow m ³ /hr	Pump Head kPa	System Head kPa	Available Head Pressure kPa
0.6	117.0	12.0	105.0
0.8	115.0	25.0	90.0
1.0	114.0	34.0	80.0
1.2	112.0	50.0	62.0
1.4	108.0	59.9	48.1

MODEL : AMAC25C/CR, A4AC25C

Water Flow m ³ /hr	Pump Head kPa	System Head kPa	Available Head Pressure kPa
0.7	116.0	10.4	105.6
0.8	116.0	10.8	105.2
1.0	114.0	15.2	98.8
1.3	110.0	20.9	89.1
1.5	105.0	27.9	77.1
1.8	100.0	35.2	64.8

MODEL : AMAC30C/CR, A4AC30C, A5AC30CR

Water Flow m ³ /hr	Pump Head kPa	System Head kPa	Available Head Pressure kPa
0.9	115.0	7.4	107.6
1.2	112.0	12.3	99.7
1.5	105.0	19.6	85.4
1.8	98.0	29.4	68.6
2.1	90.0	36.8	53.2

MODEL : AMAC40C/CR, A4AC40C, A5AC40CR

Water Flow m ³ /hr	Pump Head kPa	System Head kPa	Available Head Pressure kPa
1.2	168.0	26.3	141.7
1.6	162.0	26.5	135.5
2.0	144.0	34.3	109.7
2.4	137.0	49.5	87.5
2.8	113.0	62.5	50.5

MODEL : AMAC50C/CR, A4AC50C, A5AC50CR

Water Flow m ³ /hr	Pump Head kPa	System Head kPa	Available Head Pressure kPa
1.5	163.0	15.0	148.0
2.0	144.0	25.7	118.3
2.5	126.0	39.4	86.6
3.0	107.0	52.6	54.4

MODEL : AMAC/A4AC60C/CR, A5AC55CR

Water Flow m ³ /hr	Pump Head kPa	System Head kPa	Available Head Pressure kPa
1.8	150.0	10.5	139.5
2.4	137.0	22.8	114.2
3.0	107.0	39.0	68.0
3.2	69.0	41.8	27.2

MODEL : AMAC/A4AC80C/CR

Water Flow m ³ /hr	Pump Head kPa	System Head kPa	Available Head Pressure kPa
2.4	300.0	18.7	281.3
3.2	270.0	32.6	237.4
4.0	260.0	49.3	210.7
4.8	230.0	69.6	160.4
5.6	200.0	93.5	106.5
6.4	175.0	121.0	54.0

MODEL : AMAC/A4AC100C/CR

Water Flow m ³ /hr	Pump Head kPa	System Head kPa	Available Head Pressure kPa
3.0	280.0	22.9	257.1
4.0	260.0	39.3	220.7
5.0	220.0	59.8	160.2
6.0	180.0	84.2	95.8
7.0	150.0	112.6	37.4

MODEL : AMAC/A4AC120C/CR

Water Flow m ³ /hr	Pump Head kPa	System Head kPa	Available Head Pressure kPa
3.0	280.0	16.6	263.4
4.0	270.0	28.6	241.4
5.0	260.0	43.6	216.4
6.0	250.0	61.5	188.5
7.0	230.0	82.4	147.6

MODEL : AMAC/A4AC150C/CR

Water Flow m ³ /hr	Pump Head kPa	System Head kPa	Available Head Pressure kPa
3.0	280.0	13.8	266.2
4.0	270.0	23.7	246.3
5.0	260.0	36.0	224.0
6.0	250.0	50.7	199.3
7.0	230.0	67.8	162.2
8.0	210.0	87.1	122.9

CORRECTION FACTORS WITH GLYCOL USE

LWT/ deg C	CAPACITY FACTOR			
	GLYCOL			
	10	20	30	40
-5		0.89	0.87	0.77
-3.9		0.9	0.876	0.781
-1.1	0.925	0.925	0.892	0.796
1.7	0.945	0.938	0.906	0.809
4.4	0.956	0.949	0.918	0.82
7.2	0.965	0.959	0.927	0.829
10	0.962	0.957	0.926	0.828

GYLCOL %	WATER FLOW	PRESSURE DROP
10	1.015	1.06
20	1.04	1.12
30	1.08	1.18
40	1.135	1.24

6. ENGINEERING AND PHYSICAL DATA

GENERAL DATA - R22 COOLING ONLY

MODEL			AMAC20C		AMAC25C	
NOMINAL COOLING CAPACITY			Btu/h	18000	23500	
			W	5275	6887	
NOMINAL TOTAL INPUT POWER			W	2669	2730	
NOMINAL RUNNING CURRENT			A	12.6	12.6	
POWER SOURCE			V/Ph/Hz	220-240 / 1 / 50		
REFRIGERANT TYPE			R22			
CONTROL			CAPILLARY TUBE			
UNIT DIMENSION	HEIGHT	mm/in	800 / 31.5			
	WIDTH	mm/in	1160 / 45.7			
	DEPTH	mm/in	460 / 18.1			
PACKING DIMENSION	HEIGHT	mm/in	958 / 37.7			
	WIDTH	mm/in	1309 / 51.5			
	DEPTH	mm/in	574 / 22.6			
UNIT WEIGHT		kg/lb	116 / 256	123 / 271		
SOUND PRESSURE LEVEL		dBA	57	57		
EVAPORATOR						
NOMINAL WATER FLOW		l/s / m³/hr	0.25 / 0.9	0.33 / 1.2		
CONDENSER FAN						
TYPE/DRIVE			PROPELLER / DIRECT			
QUANTITY			1	1		
HYDRAULIC KIT						
PUMP	TYPE		HIGH HEAD CIRCULATOR			
	MAX. WATER OPER. PRESSURE	kPa / psi	1000 / 145			
	WATER FLOW RATE	l/s / m³/hr	0.25 / 0.9	0.33 / 1.2		
PIPING	INSTALLATION PIPE CONNECITON	mm/in	25.4 / 1			
	HEAD	m	9.2	9.5		
TANK	MATERIAL		MILD STEEL COATED WITH ZING			
	CAPACITY/VOLUME	L / ft³	22 / 0.78			
COMPRESSOR						
TYPE			ROTARY	SCROLL		
STAGE OF CAPACITY CONTROL (Btu/h)			0 - 100%	0 - 100%		
REFRIGERANT						
CHARGING MASS		kg/lb	1.1 / 2.4	1.8 / 4.0		

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151 & ISO13253.

3) NOMINAL COOLING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 35°C AIR AMBIENT TEMPERATURE.

4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

GENERAL DATA - R22 COOLING ONLY

MODEL			AMAC30C	AMAC40C
NOMINAL COOLING CAPACITY	Btu/h		27500	40000
	W		8059	11723
NOMINAL TOTAL INPUT POWER	W		3491	4470
NOMINAL RUNNING CURRENT	A		16.6	8.8
POWER SOURCE	V/Ph/Hz		220-240 / 1 / 50	380-415 / 3 / 50
REFRIGERANT TYPE			R22	
CONTROL			CAPILLARY TUBE	
UNIT DIMENSION	HEIGHT	mm/in	800 / 31.5	1410 / 55.5
	WIDTH	mm/in	1160 / 45.7	1160 / 45.7
	DEPTH	mm/in	460 / 18.1	460 / 18.1
PACKING DIMENSION	HEIGHT	mm/in	958 / 37.7	1578 / 62.1
	WIDTH	mm/in	1309 / 51.5	1309 / 51.5
	DEPTH	mm/in	574 / 22.6	574 / 22.6
UNIT WEIGHT	kg/lb		128 / 282	195 / 430
SOUND PRESSURE LEVEL	dBA		58	60
EVAPORATOR				
NOMINAL WATER FLOW	l/s / m ³ /hr		0.39 / 1.4	0.56 / 2.0
CONDENSER FAN				
TYPE/DRIVE			PROPELLER / DIRECT	
QUANTITY			1	2
HYDRAULIC KIT				
PUMP	TYPE		HIGH HEAD CIRCULATOR	HORIZONTAL MULTISTAGE END-SUCTION
	MAX. WATER OPER. PRESSURE	kPa / psi	1000 / 145	
	WATER FLOW RATE	l/s / m ³ /hr	0.39 / 1.4	0.56 / 2.0
PIPING	INSTALLATION PIPE CONNECITON	mm/in	25.4 / 1	
	HEAD	m	9.6	9.7
TANK	MATERIAL		MILD STEEL COATED WITH ZING	
	CAPACITY/VOLUME	L / ft ³	22 / 0.78	40 / 1.41
COMPRESSOR				
TYPE			SCROLL	SCROLL
STAGE OF CAPACITY CONTROL (Btu/h)			0 - 100%	0 - 100%
REFRIGERANT				
CHARGING MASS	kg/lb		1.6 / 3.5	2.7 / 6.0

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151 & ISO13253.

3) NOMINAL COOLING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 35°C AIR AMBIENT TEMPERATURE.

4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

GENERAL DATA - R22 COOLING ONLY

MODEL			AMAC50C		AMAC60C	
NOMINAL COOLING CAPACITY		Btu/h	50000		53000	
		W	14654		15533	
NOMINAL TOTAL INPUT POWER		W	5245		6361	
NOMINAL RUNNING CURRENT		A	9.3		12.3	
POWER SOURCE		V/Ph/Hz	380-415 / 3 / 50			
REFRIGERANT TYPE			R22			
CONTROL			CAPILLARY TUBE			
UNIT DIMENSION	HEIGHT	mm/in	1410 / 55.5			
	WIDTH	mm/in	1160 / 45.7			
	DEPTH	mm/in	460 / 18.1			
PACKING DIMENSION	HEIGHT	mm/in	1578 / 62.1			
	WIDTH	mm/in	1309 / 51.5			
	DEPTH	mm/in	574 / 22.6			
UNIT WEIGHT		kg/lb	196 / 432		203 / 448	
SOUND PRESSURE LEVEL		dBA	60		61	
EVAPORATOR						
NOMINAL WATER FLOW		l/s / m³/hr	0.70 / 2.5		0.74 / 2.7	
CONDENSER FAN						
TYPE/DRIVE			PROPELLER / DIRECT			
QUANTITY			2		2	
HYDRAULIC KIT						
PUMP	TYPE		HORIZONTAL MULTISTAGE END-SUCTION			
	MAX. WATER OPER. PRESSURE	kPa / psi	1000 / 145			
	WATER FLOW RATE	l/s / m³/hr	0.70 / 2.5		0.74 / 2.7	
PIPING	INSTALLATION PIPE CONNECITON	mm/in	25.4 / 1			
	HEAD	m	7.5		8.3	
TANK	MATERIAL		MILD STEEL COATED WITH ZINC			
	CAPACITY/VOLUME	L / ft³	40 / 1.41			
COMPRESSOR						
TYPE			SCROLL		SCROLL	
STAGE OF CAPACITY CONTROL (Btu/h)			0 - 100%		0 - 100%	
REFRIGERANT						
CHARGING MASS		kg/lb	3.1 / 6.8		3.1 / 6.8	

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151 & ISO13253.

3) NOMINAL COOLING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 35°C AIR AMBIENT TEMPERATURE.

4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

GENERAL DATA - R22 COOLING ONLY

MODEL			AMAC80C	AMAC100C
NOMINAL COOLING CAPACITY		Btu/h	78000	93000
		W	22860	27257
NOMINAL TOTAL INPUT POWER		W	8667	10175
NOMINAL RUNNING CURRENT		A	16.3	17.0
POWER SOURCE		V/Ph/Hz	380-415 / 3 / 50	
REFRIGERANT TYPE			R22	
CONTROL			TXV	
UNIT DIMENSION	HEIGHT	mm/in	1245 / 49.0	
	WIDTH	mm/in	1500 / 59.1	
	DEPTH	mm/in	900 / 35.4	
PACKING DIMENSION	HEIGHT	mm/in	1452 / 57.2	
	WIDTH	mm/in	1732 / 68.2	
	DEPTH	mm/in	1032 / 40.6	
UNIT WEIGHT		kg/lb	340 / 750	350 / 772
SOUND PRESSURE LEVEL		dBA	65	66
EVAPORATOR				
NOMINAL WATER FLOW		l/s / m³/hr	1.08 / 3.9	1.31 / 4.7
CONDENSER FAN				
TYPE/DRIVE			PROPELLER / DIRECT	
QUANTITY			2	2
HYDRAULIC KIT				
PUMP	TYPE		HORIZONTAL MULTISTAGE END-SUCTION	
	MAX. WATER OPER. PRESSURE	kPa / psi	1000 / 145	
	WATER FLOW RATE	l/s / m³/hr	1.08 / 3.9	1.31 / 4.7
PIPING	INSTALLATION PIPE CONNECITON	mm/in	42 / 1 1/4"	
	HEAD	m	21.6	18.7
TANK	MATERIAL		NA	
	CAPACITY/VOLUME	L / ft³	NA	
COMPRESSOR				
TYPE			SCROLL	SCROLL
STAGE OF CAPACITY CONTROL (Btu/h)			0 - 50 - 100%	0 - 50 - 100%
REFRIGERANT				
CHARGING MASS		kg/lb	4.5 x2 / 9.9 x2	3.9 x2 / 8.6 x2

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3) NOMINAL COOLING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 35°C AIR AMBIENT TEMPERATURE.

4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

GENERAL DATA - R22 COOLING ONLY

MODEL			AMAC120C		AMAC150C	
NOMINAL COOLING CAPACITY			Btu/h	116000	138000	
			W	33998	40445	
NOMINAL TOTAL INPUT POWER			W	11005	13779	
NOMINAL RUNNING CURRENT			A	22.9	26.7	
POWER SOURCE			V/Ph/Hz	380-415 / 3 / 50		
REFRIGERANT TYPE			R22			
CONTROL			TXV			
UNIT DIMENSION	HEIGHT	mm/in	1245 / 49.0			
	WIDTH	mm/in	1800 / 70.9			
	DEPTH	mm/in	1150 / 45.3			
PACKING DIMENSION	HEIGHT	mm/in	1452 / 57.2			
	WIDTH	mm/in	2032 / 80.0			
	DEPTH	mm/in	1282 / 50.5			
UNIT WEIGHT		kg/lb	460 / 1014		540 / 1190	
SOUND PRESSURE LEVEL		dBA	67		69	
EVAPORATOR						
NOMINAL WATER FLOW		l/s / m³/hr	1.67 / 6.0		2.00 / 7.2	
CONDENSER FAN						
TYPE/DRIVE			PROPELLER / DIRECT			
QUANTITY			2		2	
HYDRAULIC KIT						
PUMP	TYPE		HORIZONTAL MULTISTAGE END-SUCTION			
	MAX. WATER OPER. PRESSURE	kPa / psi	1000 / 145			
	WATER FLOW RATE	l/s / m³/hr	1.67 / 6.0		2.00 / 7.2	
PIPING	INSTALLATION PIPE CONNECITON	mm/in	42 / 1 1/4"			
	HEAD	m	19.2		16.5	
TANK	MATERIAL		NA			
	CAPACITY/VOLUME	L / ft³	NA			
COMPRESSOR						
TYPE			SCROLL		SCROLL	
STAGE OF CAPACITY CONTROL (Btu/h)			0 - 50 - 100%		0 - 50 - 100%	
REFRIGERANT						
CHARGING MASS		kg/lb	6.0 x2 / 13.2 x2		7.1 x2 / 15.7 x2	

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3) NOMINAL COOLING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 35°C AIR AMBIENT TEMPERATURE.

4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

GENERAL DATA - R22 HEAT PUMP

MODEL			AMAC20CR		AMAC25CR	
NOMINAL COOLING CAPACITY			Btu/h	18000	23000	
			W	5275	6740	
NOMINAL HEATING CAPACITY			Btu/h	22000	25000	
			W	6448	7327	
NOMINAL TOTAL INPUT POWER	COOLING	W	2599	2779		
	HEATING	W	2770	2614		
NOMINAL RUNNING CURRENT	COOLING	A	12.3	12.7		
	HEATING	A	12.7	12.0		
POWER SOURCE			V/Ph/Hz	220-240 / 1 / 50		
REFRIGERANT TYPE			R22			
CONTROL			CAPILLARY TUBE			
UNIT DIMENSION	HEIGHT	mm/in	800 / 31.5			
	WIDTH	mm/in	1160 / 45.7			
	DEPTH	mm/in	460 / 18.1			
PACKING DIMENSION	HEIGHT	mm/in	958 / 37.7			
	WIDTH	mm/in	1309 / 51.5			
	DEPTH	mm/in	574 / 22.6			
UNIT WEIGHT		kg/lb	116 / 256	123 / 271		
SOUND PRESSURE LEVEL		dBA	57	57		
EVAPORATOR						
NOMINAL WATER FLOW	COOLING	l/s / m³/hr	0.25 / 0.9	0.32 / 1.2		
	HEATING	l/s / m³/hr	0.31 / 1.1	0.35 / 1.3		
CONDENSER FAN						
TYPE/DRIVE			PROPELLER / DIRECT			
QUANTITY			1	1		
HYDRAULIC KIT						
PUMP	TYPE		HIGH HEAD CIRCULATOR			
	MAX. WATER OPER. PRESSURE		kPa / psi	1000 / 145		
	WATER FLOW RATE	COOLING	l/s / m³/hr	0.25 / 0.9	0.32 / 1.2	
		HEATING	l/s / m³/hr	0.31 / 1.1	0.35 / 1.3	
PIPING	INSTALLATION PIPE CONNECITON		mm/in	25.4 / 1		
	HEAD	COOLING	m	9.2	9.6	
		HEATING	m	7.2	9.1	
TANK	MATERIAL		MILD STEEL COATED WITH ZINC			
	CAPACITY/VOLUME		L / ft³	22 / 0.78		
COMPRESSOR						
TYPE			ROTARY	SCROLL		
STAGE OF CAPACITY CONTROL (Btu/h)			0 - 100%	0 - 100%		
REFRIGERANT						
CHARGING MASS		kg/lb	1.6 / 3.5	1.9 / 4.2		

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3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 35°C AIR AMBIENT TEMPERATURE.

b) HEATING - 40°C / 45°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 7°C AIR AMBIENT TEMPERATURE.

4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

GENERAL DATA - R22 HEAT PUMP

MODEL			AMAC30CR		AMAC40CR	
NOMINAL COOLING CAPACITY			Btu/h	27500	40000	
			W	8060	11723	
NOMINAL HEATING CAPACITY			Btu/h	31500	43000	
			W	9232	12602	
NOMINAL TOTAL INPUT POWER	COOLING	W	3541	4560		
	HEATING	W	3561	4629		
NOMINAL RUNNING CURRENT	COOLING	A	18.3	8.6		
	HEATING	A	18.4	8.8		
POWER SOURCE		V/Ph/Hz	220-240 / 1 / 50		380-415 / 3 / 50	
REFRIGERANT TYPE			R22			
CONTROL			CAPILLARY TUBE			
UNIT DIMENSION	HEIGHT	mm/in	800 / 31.5		1410 / 55.5	
	WIDTH	mm/in	1160 / 45.7		1160 / 45.7	
	DEPTH	mm/in	460 / 18.1		460 / 18.1	
PACKING DIMENSION	HEIGHT	mm/in	958 / 37.7		1578 / 62.1	
	WIDTH	mm/in	1309 / 51.5		1309 / 51.5	
	DEPTH	mm/in	574 / 22.6		574 / 22.6	
UNIT WEIGHT		kg/lb	128 / 282		195 / 430	
SOUND PRESSURE LEVEL		dBA	58		60	
EVAPORATOR						
NOMINAL WATER FLOW	COOLING	l/s / m³/hr	0.39 / 1.4		0.56 / 2.0	
	HEATING	l/s / m³/hr	0.44 / 1.6		0.60 / 2.2	
CONDENSER FAN						
TYPE/DRIVE			PROPELLER / DIRECT			
QUANTITY			2		2	
HYDRAULIC KIT						
PUMP	TYPE		HIGH HEAD CIRCULATOR		HORIZONTAL MULTISTAGE END-SUCTION	
	MAX. WATER OPER. PRESSURE		kPa / psi		1000 / 145	
	WATER FLOW RATE	COOLING	l/s / m³/hr		0.39 / 1.4	
		HEATING	l/s / m³/hr		0.44 / 1.6	
PIPING	INSTALLATION PIPE CONNECITON		mm/in		25.4 / 1	
	HEAD	COOLING	m		9.5	
		HEATING	m		8.2	
TANK	MATERIAL		MILD STEEL COATED WITH ZINC			
	CAPACITY/VOLUME		L / ft³		22 / 0.78	
22 / 0.78						
40 / 1.41						
COMPRESSOR						
TYPE			ROTARY		SCROLL	
STAGE OF CAPACITY CONTROL (Btu/h)			0 - 100%		0 - 100%	
REFRIGERANT						
CHARGING MASS		kg/lb	1.8 / 4.0		3.0 / 6.6	

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3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 35°C AIR AMBIENT TEMPERATURE.

b) HEATING - 40°C / 45°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 7°C AIR AMBIENT TEMPERATURE.

4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

GENERAL DATA - R22 HEAT PUMP

MODEL			AMAC50CR		AMAC60CR		
NOMINAL COOLING CAPACITY			Btu/h	46000	53000		
			W	13481	15533		
NOMINAL HEATING CAPACITY			Btu/h	52000	59000		
			W	15240	17292		
NOMINAL TOTAL INPUT POWER	COOLING	W	5046	6551			
	HEATING	W	4999	6247			
NOMINAL RUNNING CURRENT	COOLING	A	8.9	13.4			
	HEATING	A	8.9	13.0			
POWER SOURCE			V/Ph/Hz	380-415 / 3 / 50			
REFRIGERANT TYPE			R22				
CONTROL			CAPILLARY TUBE				
UNIT DIMENSION	HEIGHT	mm/in	1410 / 55.5				
	WIDTH	mm/in	1160 / 45.7				
	DEPTH	mm/in	460 / 18.1				
PACKING DIMENSION	HEIGHT	mm/in	1578 / 62.1				
	WIDTH	mm/in	1309 / 51.5				
	DEPTH	mm/in	574 / 22.6				
UNIT WEIGHT		kg/lb	196 / 432		203 / 448		
SOUND PRESSURE LEVEL		dBA	60		61		
EVAPORATOR							
NOMINAL WATER FLOW	COOLING	l/s / m³/hr	0.64 / 2.3		0.74 / 2.7		
	HEATING	l/s / m³/hr	0.73 / 2.6		0.83 / 3.0		
CONDENSER FAN							
TYPE/DRIVE			PROPELLER / DIRECT				
QUANTITY			2		2		
HYDRAULIC KIT							
PUMP	TYPE		HORIZONTAL MULTISTAGE END-SUCTION				
	MAX. WATER OPER. PRESSURE		kPa / psi	1000 / 145			
	WATER FLOW RATE	COOLING	l/s / m³/hr	0.64 / 2.3		0.74 / 2.7	
		HEATING	l/s / m³/hr	0.73 / 2.6		0.83 / 3.0	
PIPING	INSTALLATION PIPE CONNECITON		mm/in	25.4 / 1			
	HEAD	COOLING	m	9.0		8.4	
		HEATING	m	6.3		5.1	
TANK	MATERIAL		MILD STEEL COATED WITH ZINC				
	CAPACITY/VOLUME		L / ft³	40 / 1.41			
COMPRESSOR							
TYPE			SCROLL		SCROLL		
STAGE OF CAPACITY CONTROL (Btu/h)			0 - 100%		0 - 100%		
REFRIGERANT							
CHARGING MASS		kg/lb	3.7 / 8.2		4.0 / 8.8		

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151 & ISO13253.

3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 35°C AIR AMBIENT TEMPERATURE.

b) HEATING - 40°C / 45°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 7°C AIR AMBIENT TEMPERATURE.

4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

GENERAL DATA - R22 HEAT PUMP

MODEL			AMAC80CR		AMAC100CR	
NOMINAL COOLING CAPACITY			Btu/h	77000	94000	
			W	22567	27549	
NOMINAL HEATING CAPACITY			Btu/h	90000	110000	
			W	26376	32239	
NOMINAL TOTAL INPUT POWER	COOLING	W	9577	11255		
	HEATING	W	9329	10759		
NOMINAL RUNNING CURRENT	COOLING	A	16.3	18.3		
	HEATING	A	15.7	17.4		
POWER SOURCE			V/Ph/Hz	380-415 / 3 / 50		
REFRIGERANT TYPE			R22			
CONTROL			CAPILLARY TUBE			
UNIT DIMENSION	HEIGHT	mm/in	1245 / 49.0			
	WIDTH	mm/in	1500 / 59.1			
	DEPTH	mm/in	900 / 35.4			
PACKING DIMENSION	HEIGHT	mm/in	1452 / 57.2			
	WIDTH	mm/in	1732 / 68.2			
	DEPTH	mm/in	1032 / 40.6			
UNIT WEIGHT		kg/lb	350 / 772	360 / 794		
SOUND PRESSURE LEVEL		dBA	65	66		
EVAPORATOR						
NOMINAL WATER FLOW	COOLING	l/s / m³/hr	1.08 / 3.9	1.31 / 4.7		
	HEATING	l/s / m³/hr	1.14 / 4.1	1.37 / 4.9		
CONDENSER FAN						
TYPE/DRIVE			PROPELLER / DIRECT			
QUANTITY			2	2		
HYDRAULIC KIT						
PUMP	TYPE		HORIZONTAL MULTISTAGE END-SUCTION			
	MAX. WATER OPER. PRESSURE		kPa / psi	1000 / 145		
	WATER FLOW RATE	COOLING	l/s / m³/hr	1.08 / 3.9	1.31 / 4.7	
		HEATING	l/s / m³/hr	1.14 / 4.1	1.37 / 4.9	
PIPING	INSTALLATION PIPE CONNECITON		mm/in	42 / 1 1/4"		
	HEAD	COOLING	m	21.8	18.3	
		HEATING	m	18.0	13.4	
TANK	MATERIAL		NA			
	CAPACITY/VOLUME		L / ft³	NA		
COMPRESSOR						
TYPE			SCROLL	SCROLL		
STAGE OF CAPACITY CONTROL (Btu/h)			0 - 50 - 100%	0 - 50 - 100%		
REFRIGERANT						
CHARGING MASS		kg/lb	4.3 x2 / 9.5 x2	4.5 x2 / 9.9 x2		

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151 & ISO13253.

3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 35°C AIR AMBIENT TEMPERATURE.

b) HEATING - 40°C / 45°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 7°C AIR AMBIENT TEMPERATURE.

4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

GENERAL DATA - R22 HEAT PUMP

MODEL			AMAC120CR	AMAC150CR
NOMINAL COOLING CAPACITY		Btu/h	113000	138000
		W	33118	40445
NOMINAL HEATING CAPACITY		Btu/h	120000	132000
		W	35169	38686
NOMINAL TOTAL INPUT POWER	COOLING	W	11714	13881
	HEATING	W	11948	14572
NOMINAL RUNNING CURRENT	COOLING	A	23.7	26.3
	HEATING	A	23.8	27.3
POWER SOURCE		V/Ph/Hz	380-415 / 3 / 50	
REFRIGERANT TYPE			R22	
CONTROL			CAPILLARY TUBE	
UNIT DIMENSION	HEIGHT	mm/in	1245 / 49.0	
	WIDTH	mm/in	1800 / 70.9	
	DEPTH	mm/in	1150 / 45.3	
PACKING DIMENSION	HEIGHT	mm/in	1452 / 57.2	
	WIDTH	mm/in	2032 / 80.0	
	DEPTH	mm/in	1282 / 50.5	
UNIT WEIGHT		kg/lb	480 / 1058	560 / 1235
SOUND PRESSURE LEVEL		dBA	67	69
EVAPORATOR				
NOMINAL WATER FLOW	COOLING	l/s / m³/hr	1.67 / 6.0	2.00 / 7.2
	HEATING	l/s / m³/hr	1.79 / 6.4	2.10 / 7.6
CONDENSER FAN				
TYPE/DRIVE			PROPELLER / DIRECT	
QUANTITY			2	2
HYDRAULIC KIT				
PUMP	TYPE		HORIZONTAL MULTISTAGE END-SUCTION	
	MAX. WATER OPER. PRESSURE		kPa / psi	
			1000 / 145	
	WATER FLOW RATE	COOLING	l/s / m³/hr	1.67 / 6.0
HEATING		l/s / m³/hr	1.79 / 6.4	2.10 / 7.6
PIPING	INSTALLATION PIPE CONNECITON		mm/in	
			42 / 1 1/4"	
	HEAD	COOLING	m	19.7
HEATING		m	18.4	17.4
TANK	MATERIAL		NA	
	CAPACITY/VOLUME		L / ft³	
			NA	
COMPRESSOR				
TYPE			SCROLL	SCROLL
STAGE OF CAPACITY CONTROL (Btu/h)			0 - 50 - 100%	0 - 50 - 100%
REFRIGERANT				
CHARGING MASS		kg/lb	7.6 x2 / 16.8 x2	6.5 x2 / 14.3 x2

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151 & ISO13253.

3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 35°C AIR AMBIENT TEMPERATURE.

b) HEATING - 40°C / 45°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 7°C AIR AMBIENT TEMPERATURE.

4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

GENERAL DATA - R407C COOLING ONLY

MODEL			A4AC20C		A4AC25C	
NOMINAL COOLING CAPACITY			Btu/h	21000	23000	
			W	6154	6740	
NOMINAL TOTAL INPUT POWER			W	2617	2949	
NOMINAL RUNNING CURRENT			A	12.5	13.6	
POWER SOURCE			V/Ph/Hz	220-240 / 1 / 50		
REFRIGERANT TYPE				R407C		
CONTROL				CAPILLARY TUBE		
UNIT DIMENSION	HEIGHT	mm/in	800 / 31.5			
	WIDTH	mm/in	1160 / 45.7			
	DEPTH	mm/in	460 / 18.1			
PACKING DIMENSION	HEIGHT	mm/in	958 / 37.7			
	WIDTH	mm/in	1309 / 51.5			
	DEPTH	mm/in	574 / 22.6			
UNIT WEIGHT		kg/lb	116 / 256	123 / 271		
SOUND PRESSURE LEVEL		dBA	57	57		
EVAPORATOR						
NOMINAL WATER FLOW		l/s / m³/hr	0.29 / 1.0	0.32 / 1.2		
CONDENSER FAN						
TYPE/DRIVE			PROPELLER / DIRECT			
QUANTITY			1	1		
HYDRAULIC KIT						
PUMP	TYPE		HIGH HEAD CIRCULATOR			
	MAX. WATER OPER. PRESSURE	kPa / psi	1000 / 145			
	WATER FLOW RATE	l/s / m³/hr	0.29 / 1.0	0.32 / 1.2		
PIPING	INSTALLATION PIPE CONNECITON	mm/in	25.4 / 1			
	HEAD	m	7.8	9.6		
TANK	MATERIAL		MILD STEEL COATED WITH ZINC			
	CAPACITY/VOLUME	L / ft³	22 / 0.78			
COMPRESSOR						
TYPE			ROTARY	SCROLL		
STAGE OF CAPACITY CONTROL (Btu/h)			0 - 100%	0 - 100%		
REFRIGERANT						
CHARGING MASS		kg/lb	1.1 / 2.4	1.9 / 4.2		

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151 & ISO13253.

3) NOMINAL COOLING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 35°C AIR AMBIENT TEMPERATURE.

4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

GENERAL DATA - R407C COOLING ONLY

MODEL			A4AC30C	A4AC40C
NOMINAL COOLING CAPACITY	Btu/h		27000	40000
	W		7912	11723
NOMINAL TOTAL INPUT POWER	W		3679	4910
NOMINAL RUNNING CURRENT	A		17.4	9.3
POWER SOURCE	V/Ph/Hz		220-240 / 1 / 50	380-415 / 3 / 50
REFRIGERANT TYPE			R407C	
CONTROL			CAPILLARY TUBE	
UNIT DIMENSION	HEIGHT	mm/in	800 / 31.5	1410 / 55.5
	WIDTH	mm/in	1160 / 45.7	1160 / 45.7
	DEPTH	mm/in	460 / 18.1	460 / 18.1
PACKING DIMENSION	HEIGHT	mm/in	958 / 37.7	1578 / 62.1
	WIDTH	mm/in	1309 / 51.5	1309 / 51.5
	DEPTH	mm/in	574 / 22.6	574 / 22.6
UNIT WEIGHT	kg/lb		128 / 282	195 / 430
SOUND PRESSURE LEVEL	dBA		58	60
EVAPORATOR				
NOMINAL WATER FLOW	l/s / m ³ /hr		0.38 / 1.4	0.56 / 2.0
CONDENSER FAN				
TYPE/DRIVE			PROPELLER / DIRECT	
QUANTITY			1	2
HYDRAULIC KIT				
PUMP	TYPE		HIGH HEAD CIRCULATOR	HORIZONTAL MULTISTAGE END-SUCTION
	MAX. WATER OPER. PRESSURE	kPa / psi	1000 / 145	
	WATER FLOW RATE	l/s / m ³ /hr	0.38 / 1.4	0.56 / 2.0
PIPING	INSTALLATION PIPE CONNECITON	mm/in	25.4 / 1	
	HEAD	m	9.8	9.7
TANK	MATERIAL		MILD STEEL COATED WITH ZINC	
	CAPACITY/VOLUME	L / ft ³	22 / 0.78	40 / 1.41
COMPRESSOR				
TYPE			SCROLL	SCROLL
STAGE OF CAPACITY CONTROL (Btu/h)			0 - 100%	0 - 100%
REFRIGERANT				
CHARGING MASS	kg/lb		1.7 / 3.7	3.4 / 7.5

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151 & ISO13253.

3) NOMINAL COOLING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 35°C AIR AMBIENT TEMPERATURE.

4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

GENERAL DATA - R407C COOLING ONLY

MODEL			A4AC50C	A4AC60C
NOMINAL COOLING CAPACITY		Btu/h	50000	52000
		W	14654	15240
NOMINAL TOTAL INPUT POWER		W	5955	6859
NOMINAL RUNNING CURRENT		A	10.2	12.9
POWER SOURCE		V/Ph/Hz	380-415 / 3 / 50	
REFRIGERANT TYPE			R407C	
CONTROL			CAPILLARY TUBE	
UNIT DIMENSION	HEIGHT	mm/in	1410 / 55.5	
	WIDTH	mm/in	1160 / 45.7	
	DEPTH	mm/in	460 / 18.1	
PACKING DIMENSION	HEIGHT	mm/in	1578 / 62.1	
	WIDTH	mm/in	1309 / 51.5	
	DEPTH	mm/in	574 / 22.6	
UNIT WEIGHT		kg/lb	196 / 432	203 / 448
SOUND PRESSURE LEVEL		dBA	60	61
EVAPORATOR				
NOMINAL WATER FLOW		l/s / m³/hr	0.70 / 2.5	0.73 / 2.6
CONDENSER FAN				
TYPE/DRIVE			PROPELLER / DIRECT	
QUANTITY			2	2
HYDRAULIC KIT				
PUMP	TYPE		HORIZONTAL MULTISTAGE END-SUCTION	
	MAX. WATER OPER. PRESSURE	kPa / psi	1000 / 145	
	WATER FLOW RATE	l/s / m³/hr	0.70 / 2.5	0.73 / 2.6
PIPING	INSTALLATION PIPE CONNECITON	mm/in	25.4 / 1	
	HEAD	m	7.5	8.7
TANK	MATERIAL		MILD STEEL COATED WITH ZINC	
	CAPACITY/VOLUME	L / ft³	40 / 1.41	
COMPRESSOR				
TYPE			SCROLL	SCROLL
STAGE OF CAPACITY CONTROL (Btu/h)			0 - 100%	0 - 100%
REFRIGERANT				
CHARGING MASS		kg/lb	3.4 / 7.5	3.5 / 7.6

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3) NOMINAL COOLING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 35°C AIR AMBIENT TEMPERATURE.

4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

GENERAL DATA - R407C COOLING ONLY

MODEL			A4AC80C	A4AC100C
NOMINAL COOLING CAPACITY		Btu/h	74000	88000
		W	21688	25791
NOMINAL TOTAL INPUT POWER		W	9463	10771
NOMINAL RUNNING CURRENT		A	17.3	18.0
POWER SOURCE		V/Ph/Hz	380-415 / 3 / 50	
REFRIGERANT TYPE			R407C	
CONTROL			TXV	
UNIT DIMENSION	HEIGHT	mm/in	1245 / 49.0	
	WIDTH	mm/in	1500 / 59.1	
	DEPTH	mm/in	900 / 35.4	
PACKING DIMENSION	HEIGHT	mm/in	1452 / 57.2	
	WIDTH	mm/in	1732 / 68.2	
	DEPTH	mm/in	1032 / 40.6	
UNIT WEIGHT		kg/lb	340 / 750	350 / 772
SOUND PRESSURE LEVEL		dBA	65	66
EVAPORATOR				
NOMINAL WATER FLOW		l/s / m³/hr	1.08 / 3.9	1.31 / 4.7
CONDENSER FAN				
TYPE/DRIVE			PROPELLER / DIRECT	
QUANTITY			2	2
HYDRAULIC KIT				
PUMP	TYPE		HORIZONTAL MULTISTAGE END-SUCTION	
	MAX. WATER OPER. PRESSURE	kPa / psi	1000 / 145	
	WATER FLOW RATE	l/s / m³/hr	1.08 / 3.9	1.31 / 4.7
PIPING	INSTALLATION PIPE CONNECITON	mm/in	42 / 1 1/4"	
	HEAD	m	22.6	20.0
TANK	MATERIAL		NA	
	CAPACITY/VOLUME	L / ft³	NA	
COMPRESSOR				
TYPE			SCROLL	SCROLL
STAGE OF CAPACITY CONTROL (Btu/h)			0 - 50 - 100%	0 - 50 - 100%
REFRIGERANT				
CHARGING MASS		kg/lb	4.0 x2 / 8.8 x2	3.9 x2 / 8.6 x2

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151 & ISO13253.

3) NOMINAL COOLING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 35°C AIR AMBIENT TEMPERATURE.

4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

GENERAL DATA - R407C COOLING ONLY

MODEL			A4AC120C	A4AC150C
NOMINAL COOLING CAPACITY		Btu/h	115000	13700
		W	33705	40152
NOMINAL TOTAL INPUT POWER		W	11805	14531
NOMINAL RUNNING CURRENT		A	23.6	27.9
POWER SOURCE		V/Ph/Hz	380-415 / 3 / 50	
REFRIGERANT TYPE			R407C	
CONTROL			TXV	
UNIT DIMENSION	HEIGHT	mm/in	1245 / 49.0	
	WIDTH	mm/in	1800 / 70.9	
	DEPTH	mm/in	1150 / 45.3	
PACKING DIMENSION	HEIGHT	mm/in	1452 / 57.2	
	WIDTH	mm/in	2032 / 80.0	
	DEPTH	mm/in	1282 / 50.5	
UNIT WEIGHT		kg/lb	460 / 1014	540 / 1190
SOUND PRESSURE LEVEL		dBA	67	69
EVAPORATOR				
NOMINAL WATER FLOW		l/s / m³/hr	1.67 / 6.0	2.00 / 7.2
CONDENSER FAN				
TYPE/DRIVE			PROPELLER / DIRECT	
QUANTITY			2	2
HYDRAULIC KIT				
PUMP	TYPE		HORIZONTAL MULTISTAGE END-SUCTION	
	MAX. WATER OPER. PRESSURE	kPa / psi	1000 / 145	
	WATER FLOW RATE	l/s / m³/hr	1.67 / 6.0	2.00 / 7.2
PIPING	INSTALLATION PIPE CONNECITON	mm/in	42 / 1 1/4"	
	HEAD	m	19.4	16.7
TANK	MATERIAL		NA	
	CAPACITY/VOLUME	L / ft³	NA	
COMPRESSOR				
TYPE			SCROLL	SCROLL
STAGE OF CAPACITY CONTROL (Btu/h)			0 - 50 - 100%	0 - 50 - 100%
REFRIGERANT				
CHARGING MASS		kg/lb	5.6 x2 / 12.3 x2	6.0 x2 / 13.2 x2

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151 & ISO13253.

3) NOMINAL COOLING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 35°C AIR AMBIENT TEMPERATURE.

4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

GENERAL DATA - R407C HEAT PUMP

MODEL				A4AC60CR	
NOMINAL COOLING CAPACITY			Btu/h	51000	
			W	14947	
NOMINAL HEATING CAPACITY			Btu/h	60000	
			W	17584	
NOMINAL TOTAL INPUT POWER	COOLING	W	6507		
	HEATING	W	6268		
NOMINAL RUNNING CURRENT	COOLING	A	12.7		
	HEATING	A	12.6		
POWER SOURCE			V/Ph/Hz	380-415 / 3 / 50	
REFRIGERANT TYPE				R407C	
CONTROL				CAPILLARY TUBE	
UNIT DIMENSION	HEIGHT	mm/in	1410 / 55.5		
	WIDTH	mm/in	1160 / 45.7		
	DEPTH	mm/in	460 / 18.1		
PACKING DIMENSION	HEIGHT	mm/in	1578 / 62.1		
	WIDTH	mm/in	1309 / 51.5		
	DEPTH	mm/in	574 / 22.6		
UNIT WEIGHT			kg/lb	203 / 448	
SOUND PRESSURE LEVEL			dBA	61	
EVAPORATOR					
NOMINAL WATER FLOW	COOLING	l/s / m³/hr	0.71 / 2.6		
	HEATING	l/s / m³/hr	0.84 / 3.0		
CONDENSER FAN					
TYPE/DRIVE				PROPELLER / DIRECT	
QUANTITY				2	
HYDRAULIC KIT					
PUMP	TYPE			HORIZONTAL MULTISTAGE END-SUCTION	
	MAX. WATER OPER. PRESSURE		kPa / psi	1000 / 145	
	WATER FLOW RATE	COOLING	l/s / m³/hr	0.71 / 2.6	
		HEATING	l/s / m³/hr	0.84 / 3.0	
PIPING	INSTALLATION PIPE CONNECIT ON		mm/in	25.4 / 1	
	HEAD	COOLING	m	9.1	
		HEATING	m	4.7	
TANK	MATERIAL			MILD STEEL COATED WITH ZINC	
	CAPACITY/VOLUME		L / ft³	40 / 1.41	
COMPRESSOR					
TYPE				SCROLL	
STAGE OF CAPACITY CONTROL (Btu/h)				0 - 100%	
REFRIGERANT					
CHARGING MASS			kg/lb	4.0 / 8.8	

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151 & ISO13253.

3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 35°C AIR AMBIENT TEMPERATURE.

b) HEATING - 40°C / 45°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 7°C AIR AMBIENT TEMPERATURE.

4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

GENERAL DATA - R407C HEAT PUMP

MODEL			A4AC80CR	A4AC100CR	
NOMINAL COOLING CAPACITY		Btu/h	74000	88000	
		W	21688	25791	
NOMINAL HEATING CAPACITY		Btu/h	90000	98000	
		W	26377	28722	
NOMINAL TOTAL INPUT POWER	COOLING	W	9946	11028	
	HEATING	W	9975	11134	
NOMINAL RUNNING CURRENT	COOLING	A	16.4	18.5	
	HEATING	A	16.8	18.5	
POWER SOURCE		V/Ph/Hz	380-415 / 3 / 50		
REFRIGERANT TYPE			R407C		
CONTROL			CAPILLARY TUBE		
UNIT DIMENSION	HEIGHT	mm/in	1245 / 49.0		
	WIDTH	mm/in	1500 / 59.1		
	DEPTH	mm/in	900 / 35.4		
PACKING DIMENSION	HEIGHT	mm/in	1452 / 57.2		
	WIDTH	mm/in	1732 / 68.2		
	DEPTH	mm/in	1032 / 40.6		
UNIT WEIGHT		kg/lb	350 / 772	360 / 794	
SOUND PRESSURE LEVEL		dBA	65	66	
EVAPORATOR					
NOMINAL WATER FLOW	COOLING	l/s / m³/hr	1.08 / 3.9	1.31 / 4.7	
	HEATING	l/s / m³/hr	1.14 / 4.1	1.37 / 4.9	
CONDENSER FAN					
TYPE/DRIVE			PROPELLER / DIRECT		
QUANTITY			2	2	
HYDRAULIC KIT					
PUMP	TYPE		HORIZONTAL MULTISTAGE END-SUCTION		
	MAX. WATER OPER. PRESSURE		kPa / psi		
			1000 / 145		
	WATER FLOW RATE	COOLING	l/s / m³/hr	1.08 / 3.9	1.31 / 4.7
HEATING		l/s / m³/hr	1.14 / 4.1	1.37 / 4.9	
PIPING	INSTALLATION PIPE CONNECITON		mm/in	42 / 1 1/4"	
	HEAD	COOLING	m	22.5	20.0
		HEATING	m	18.0	17.1
TANK	MATERIAL		NA		
	CAPACITY/VOLUME		L / ft³	NA	
COMPRESSOR					
TYPE			SCROLL	SCROLL	
STAGE OF CAPACITY CONTROL (Btu/h)			0 - 50 - 100%	0 - 50 - 100%	
REFRIGERANT					
CHARGING MASS		kg/lb	4.0 x2 / 8.8 x2	3.3 x2 / 7.3 x2	

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151 & ISO13253.

3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 35°C AIR AMBIENT TEMPERATURE.

b) HEATING - 40°C / 45°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 7°C AIR AMBIENT TEMPERATURE.

4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

GENERAL DATA - R407C HEAT PUMP

MODEL			A4AC120CR	A4AC150CR	
NOMINAL COOLING CAPACITY		Btu/h	110000	130000	
		W	32239	38101	
NOMINAL HEATING CAPACITY		Btu/h	118000	144000	
		W	34583	42204	
NOMINAL TOTAL INPUT POWER	COOLING	W	12273	15151	
	HEATING	W	12386	15824	
NOMINAL RUNNING CURRENT	COOLING	A	24.2	27.8	
	HEATING	A	23.8	29.0	
POWER SOURCE		V/Ph/Hz	380-415 / 3 / 50		
REFRIGERANT TYPE			R407C		
CONTROL			CAPILLARY TUBE		
UNIT DIMENSION	HEIGHT	mm/in	1245 / 49.0		
	WIDTH	mm/in	1800 / 70.9		
	DEPTH	mm/in	1150 / 45.3		
PACKING DIMENSION	HEIGHT	mm/in	1452 / 57.2		
	WIDTH	mm/in	2032 / 80.0		
	DEPTH	mm/in	1282 / 50.5		
UNIT WEIGHT		kg/lb	480 / 1058	560 / 1235	
SOUND PRESSURE LEVEL		dBA	67	69	
EVAPORATOR					
NOMINAL WATER FLOW	COOLING	l/s / m³/hr	1.67 / 6.0	2.00 / 7.2	
	HEATING	l/s / m³/hr	1.79 / 6.4	2.10 / 7.6	
CONDENSER FAN					
TYPE/DRIVE			PROPELLER / DIRECT		
QUANTITY			2	2	
HYDRAULIC KIT					
PUMP	TYPE		HORIZONTAL MULTISTAGE END-SUCTION		
	MAX. WATER OPER. PRESSURE		kPa / psi	1000 / 145	
	WATER FLOW RATE	COOLING	l/s / m³/hr	1.67 / 6.0	2.00 / 7.2
		HEATING	l/s / m³/hr	1.79 / 6.4	2.10 / 7.6
PIPING	INSTALLATION PIPE CONNECITON		mm/in	42 / 1 1/4"	
	HEAD	COOLING	m	20.2	17.9
		HEATING	m	18.8	15.2
TANK	MATERIAL		NA		
	CAPACITY/VOLUME		L / ft³	NA	
COMPRESSOR					
TYPE			SCROLL	SCROLL	
STAGE OF CAPACITY CONTROL (Btu/h)			0 - 50 - 100%	0 - 50 - 100%	
REFRIGERANT					
CHARGING MASS		kg/lb	5.8 x2 / 12.8 x2	6.1 x2 / 13.4 x2	

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151 & ISO13253.

3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 35°C AIR AMBIENT TEMPERATURE.

b) HEATING - 40°C / 45°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 7°C AIR AMBIENT TEMPERATURE.

4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

GENERAL DATA - R410A HEAT PUMP

MODEL			A5AC20CR	A5AC25CR
NOMINAL COOLING CAPACITY		Btu/h	15,700	19,400
		W	4610	5690
NOMINAL HEATING CAPACITY		Btu/h	21500	25000
		W	6300	7330
NOMINAL TOTAL INPUT POWER	COOLING	W	2620	2830
	HEATING	W	2590	2790
NOMINAL RUNNING CURRENT	COOLING	A	11.9	12.7
	HEATING	A	12.1	12.9
POWER SOURCE		V/Ph/Hz	220-240 / 1 / 50	
REFRIGERANT TYPE			R410A	
CONTROL			CAPILLARY TUBE	
UNIT DIMENSION	HEIGHT	mm/in	791 / 31.1	
	WIDTH	mm/in	1160 / 45.7	
	DEPTH	mm/in	460 / 18.1	
PACKING DIMENSION	HEIGHT	mm/in	920 / 36.2	
	WIDTH	mm/in	1270 / 50	
	DEPTH	mm/in	570 / 22.4	
UNIT WEIGHT		kg/lb	128 / 282	128 / 282
SOUND PRESSURE LEVEL		dBA	58	59
EVAPORATOR				
NOMINAL WATER FLOW	COOLING	l/s / m³/hr	0.24 / 0.86	0.28 / 1.00
	HEATING	l/s / m³/hr	0.32 / 1.16	0.35 / 1.25
CONDENSER FAN				
TYPE/DRIVE			PROPELLER / DIRECT	
QUANTITY			1	1
HYDRAULIC KIT				
PUMP	TYPE		HIGH HEAD CIRCULATOR	
	MAX. WATER OPER. PRESSURE		kPa / psi	
			1000 / 145	
	WATER FLOW RATE	COOLING	l/s / m³/hr	0.24 / 0.86
HEATING		l/s / m³/hr	0.32 / 1.16	0.35 / 1.25
PIPING	INSTALLATION PIPE CONNECITON		mm/in	
			25.4 / 1	
	HEAD	COOLING	m	9.0
HEATING		m	7.3	9.0
TANK	MATERIAL		MILD STEEL COATED WITH ZINC	
	CAPACITY/VOLUME		L / ft³	22 / 0.78
COMPRESSOR				
TYPE			ROTARY	ROTARY
STAGE OF CAPACITY CONTROL (Btu/h)			0 - 100%	0 - 100%
REFRIGERANT				
CHARGING MASS		kg/lb	1.2 / 2.7	1.7 / 3.8

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151 & ISO13253.

3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 35°C AIR AMBIENT TEMPERATURE.

b) HEATING - 40°C / 45°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 7°C AIR AMBIENT TEMPERATURE.

4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

GENERAL DATA - R410A HEAT PUMP

MODEL			A5AC30CR		A5AC40CR	
NOMINAL COOLING CAPACITY			Btu/h	24,800	34,100	
			W	7270	10,000	
NOMINAL HEATING CAPACITY			Btu/h	32500	43,000	
			W	9530	12,600	
NOMINAL TOTAL INPUT POWER	COOLING	W	3830	5000		
	HEATING	W	3630	4650		
NOMINAL RUNNING CURRENT	COOLING	A	16.7	7.44		
	HEATING	A	16.3	7.20		
POWER SOURCE			V/Ph/Hz	220-240 / 3 / 50	380-415 / 3 / 50	
REFRIGERANT TYPE			R410A			
CONTROL			CAPILLARY TUBE & TXV			
UNIT DIMENSION	HEIGHT	mm/in	791 / 31.1		1409 / 55.5	
	WIDTH	mm/in	1059 / 41.7		1059 / 41.7	
	DEPTH	mm/in	460 / 18.1		460 / 18.1	
PACKING DIMENSION	HEIGHT	mm/in	920 / 36.2		1551 / 61.1	
	WIDTH	mm/in	1120 / 44.1		1120 / 44.1	
	DEPTH	mm/in	570 / 22.4		570 / 22.4	
UNIT WEIGHT			kg/lb	128 / 282	195 / 430	
SOUND PRESSURE LEVEL			dBA	57	59	
EVAPORATOR						
NOMINAL WATER FLOW	COOLING	l/s / m³/hr	0.42 / 1.5		0.5 / 1.8	
	HEATING	l/s / m³/hr	0.42 / 1.5		0.5 / 1.8	
CONDENSER FAN						
TYPE/DRIVE			PROPELLER / DIRECT			
QUANTITY			1		2	
HYDRAULIC KIT						
PUMP	TYPE		HIGH HEAD CIRCULATOR			HORIZONTAL MULTISTAGE END-SUCTION
	MAX. WATER OPER. PRESSURE		kPa / psi	1000 / 145		
	WATER FLOW RATE	COOLING	l/s / m³/hr	0.42 / 1.5		0.5 / 1.8
		HEATING	l/s / m³/hr	0.42 / 1.5		0.5 / 1.8
PIPING	INSTALLATION PIPE CONNECIT ON		mm/in	25.4 / 1		
	HEAD	COOLING	m	9.3		9.0
		HEATING	m	8.0		7.1
TANK	MATERIAL		NA			
	CAPACITY/VOLUME		L / ft³	NA		
COMPRESSOR						
TYPE			TANDEM ROTARY		TANDEM ROTARY	
STAGE OF CAPACITY CONTROL (Btu/h)			0 - 50 - 100%		0 - 40 - 60 - 100%	
REFRIGERANT						
CHARGING MASS		kg/lb	2.2 / 4.9		4.3 / 9.48	

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151 & ISO13253.

3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 35°C AIR AMBIENT TEMPERATURE.

b) HEATING - 40°C / 45°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 7°C AIR AMBIENT TEMPERATURE.

4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

GENERAL DATA - R410A HEAT PUMP

MODEL			A5AC50CR		A5AC55CR	
NOMINAL COOLING CAPACITY			Btu/h	41,600	45,000	
			W	12,200	13,200	
NOMINAL HEATING CAPACITY			Btu/h	48,000	55000	
			W	14,070	16,120	
NOMINAL TOTAL INPUT POWER	COOLING	W	5,310	5,490		
	HEATING	W	5,150	5,440		
NOMINAL RUNNING CURRENT	COOLING	A	7.90	24.80		
	HEATING	A	7.83	25.40		
POWER SOURCE			V/Ph/Hz	380-415 / 3 / 50		
REFRIGERANT TYPE			R410A			
CONTROL			CAPILLARY TUBE & TXV			
UNIT DIMENSION	HEIGHT	mm/in	1409 / 55.5			
	WIDTH	mm/in	1059 / 41.7			
	DEPTH	mm/in	460 / 18.1			
PACKING DIMENSION	HEIGHT	mm/in	1551 / 61.1			
	WIDTH	mm/in	1120 / 44.1			
	DEPTH	mm/in	570 / 22.4			
UNIT WEIGHT		kg/lb	195 / 430	195 / 430		
SOUND PRESSURE LEVEL		dBA	59	61		
EVAPORATOR						
NOMINAL WATER FLOW	COOLING	l/s / m³/hr	0.6 / 2.15	0.75 / 2.7		
	HEATING	l/s / m³/hr	0.6 / 2.15	0.75 / 2.7		
CONDENSER FAN						
TYPE/DRIVE			PROPELLER / DIRECT			
QUANTITY			2	2		
HYDRAULIC KIT						
PUMP	TYPE		HORIZONTAL MULTISTAGE END-SUCTION			
	MAX. WATER OPER. PRESSURE		kPa / psi	1000 / 145		
	WATER FLOW RATE	COOLING	l/s / m³/hr	0.6 / 2.15	0.75 / 2.7	
		HEATING	l/s / m³/hr	0.6 / 2.15	0.75 / 2.7	
PIPING	INSTALLATION PIPE CONNECIT ON		mm/in	25.4 / 1		
	HEAD	COOLING	m	7.4	7.0	
		HEATING	m	6.4	5.3	
TANK	MATERIAL		NA			
	CAPACITY/VOLUME		L / ft³	NA		
COMPRESSOR						
TYPE			TANDEM ROTARY	TANDEM ROTARY		
STAGE OF CAPACITY CONTROL (Btu/h)			0 - 40 - 60 - 100%	0 - 50 - 100%		
REFRIGERANT						
CHARGING MASS		kg/lb	4.2 / 9.3	4.3 / 9.5		

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2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151 & ISO13253.

3) NOMINAL COOLING AND HEATING CAPACITY ARE BASED ON THE CONDITIONS BELOW :

a) COOLING - 12°C / 7°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 35°C AIR AMBIENT TEMPERATURE.

b) HEATING - 40°C / 45°C ENTERING / LEAVING EVAPORATOR WATER TEMPERATURE, 7°C AIR AMBIENT TEMPERATURE.

4) SOUND PRESSURE LEVEL ARE ACCORDING TO JIS B 8615 STANDARD. POSITION OF THE MEASUREMENT POINT IS 1m IN FRONT AND 1m BELOW THE UNIT.

COMPONENTS DATA - R22 COOLING ONLY

MODEL			AMAC20C	AMAC25C
CONDENSER FAN	TYPE		PROPELLER	
	Q'TY		1	1
	MATERIAL		STEEL PLATE	
	DRIVE		DIRECT	
	DIAMETER	mm/in	457.2 / 18	
CONDENSER FAN MOTOR	TYPE		INDUCTION	
	Q'TY		1	1
	INDEX OF PROTECTION (IP)		NA	NA
COMPRESSOR	TYPE		ROTARY	SCROLL
	OIL TYPE		MINERAL OIL	MINERAL OIL
	OIL AMOUNT	cm ³ / fl.oz.	1130 / 38	1240 / 42
CONDENSER COIL	TYPE		CROSS FINNED TUBES	
	TUBE	MATERIAL	SEAMLESS COPPER	
		DIAMETER	9.52 / 3/8	
		THICKNESS	0.33 / 0.013	0.35 / 0.014
	FIN	MATERIAL	ALUMINIUM	
		THICKNESS	0.11 / 0.0043	
		FACE AREA	0.66 / 7.1	0.65 / 7.0
		ROW	1	2
		FIN PER INCH	20	16
BPHE	TYPE		BRAZED PLATE HEAT EXCHANGER	
	MATERIAL		STAINLESS STEEL	
PUMP	TYPE		HIGH HEAD CIRCULATOR	
	MATERIAL		CAST IRON & STAINLESS STEEL	
CASING	MATERIAL		ELECTRO-GALVANIZED MILD STEEL	
	FINISH		POLYESTER POWDER	
	COLOUR		LIGHT GREY	

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

COMPONENTS DATA - R22 COOLING ONLY

MODEL			AMAC30C	AMAC40C
CONDENSER FAN	TYPE		PROPELLER	
	Q'TY		1	2
	MATERIAL		STEEL PLATE	
	DRIVE		DIRECT	
	DIAMETER	mm/in	457.2 / 18	
CONDENSER FAN MOTOR	TYPE		INDUCTION	
	Q'TY		1	2
	INDEX OF PROTECTION (IP)		NA	NA
COMPRESSOR	TYPE		SCROLL	SCROLL
	OIL TYPE		MINERAL OIL	MINERAL OIL
	OIL AMOUNT	cm ³ / fl.oz.	1240 / 42	1950 / 66
CONDENSER COIL	TYPE		CROSS FINNED TUBES	
	TUBE	MATERIAL	SEAMLESS COPPER	
		DIAMETER	9.52 / 3/8	
		THICKNESS	0.35 / 0.014	
	FIN	MATERIAL	ALUMINIUM	
		THICKNESS	0.11 / 0.0043	
		FACE AREA	0.65 / 7.0	1.17 / 12.6
		ROW	2	2
		FIN PER INCH	16	16
BPHE	TYPE		BRAZED PLATE HEAT EXCHANGER	
	MATERIAL		STAINLESS STEEL	
PUMP	TYPE		HIGH HEAD CIRCULATOR	HORIZONTAL MULTISTAGE END-SUCTION
	MATERIAL		CAST IRON & STAINLESS STEEL	
CASING	MATERIAL		ELECTRO-GALVANIZED MILD STEEL	
	FINISH		POLYESTER POWDER	
	COLOUR		LIGHT GREY	

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COMPONENTS DATA - R22 COOLING ONLY

MODEL			AMAC50C	AMAC60C
CONDENSER FAN	TYPE		PROPELLER	
	Q'TY		2	2
	MATERIAL		STEEL PLATE	
	DRIVE		DIRECT	
	DIAMETER	mm/in	457.2 / 18	
CONDENSER FAN MOTOR	TYPE		INDUCTION	
	Q'TY		2	2
	INDEX OF PROTECTION (IP)		NA	NA
COMPRESSOR	TYPE		SCROLL	SCROLL
	OIL TYPE		MINERAL OIL	MINERAL OIL
	OIL AMOUNT	cm ³ / fl.oz.	1770 / 60	1770 / 60
CONDENSER COIL	TYPE		CROSS FINNED TUBES	
	TUBE	MATERIAL	SEAMLESS COPPER	
		DIAMETER	9.52 / 3/8	
		THICKNESS	0.35 / 0.014	0.33 / 0.013
	FIN	MATERIAL	ALUMINIUM	
		THICKNESS	0.11 / 0.0043	
		FACE AREA	1.17 / 12.6	1.17 / 12.6
		ROW	2	2
		FIN PER INCH	16	16
BPHE	TYPE		BRAZED PLATE HEAT EXCHANGER	
	MATERIAL		STAINLESS STEEL	
PUMP	TYPE		HORIZONTAL MULTISTAGE END-SUCTION	
	MATERIAL		CAST IRON & STAINLESS STEEL	
CASING	MATERIAL		ELECTRO-GALVANIZED MILD STEEL	
	FINISH		POLYESTER POWDER	
	COLOUR		LIGHT GREY	

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COMPONENTS DATA - R22 COOLING ONLY

MODEL				AMAC80C		AMAC100C	
CONDENSER FAN	TYPE			PROPELLER			
	Q'TY			2		2	
	MATERIAL			ALUMINIUM			
	DRIVE			DIRECT			
	DIAMETER		mm/in	609.6 / 24			
CONDENSER FAN MOTOR	TYPE			INDUCTION			
	Q'TY			2		2	
	INDEX OF PROTECTION (IP)			NA		NA	
COMPRESSOR	TYPE			SCROLL		SCROLL	
	OIL TYPE			MINERAL OIL		MINERAL OIL	
	OIL AMOUNT	COMP1	cm ³ / fl.oz.	1950 / 66		1770 / 60	
		COMP2	cm ³ / fl.oz.	1950 / 66		1770 / 60	
CONDENSER COIL	TYPE			CROSS FINNED TUBES			
	TUBE	MATERIAL		SEAMLESS COPPER			
		DIAMETER	mm/in	9.52 / 3/8			
		THICKNESS	mm/in	0.33 / 0.013			
	FIN	MATERIAL		ALUMINIUM (HYDROPHILIC)			
		THICKNESS	mm/in	0.11 / 0.0043			
		FACE AREA	m ² / ft ²	1.37 / 14.7		1.37 / 14.7	
		ROW		2		2	
		FIN PER INCH		14		14	
BPHE	TYPE			BRAZED PLATE HEAT EXCHANGER			
	MATERIAL			STAINLESS STEEL			
PUMP	TYPE			HORIZONTAL MULTISTAGE END-SUCTION			
	MATERIAL			CAST IRON & STAINLESS STEEL			
CASING	MATERIAL			ELECTRO-GALVANIZED MILD STEEL			
	FINISH			POLYESTER POWDER			
	COLOUR			LIGHT GREY			

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COMPONENTS DATA - R22 COOLING ONLY

MODEL				AMAC120C		AMAC150C	
CONDENSER FAN	TYPE			PROPELLER			
	Q'TY			2		2	
	MATERIAL			ALUMINIUM			
	DRIVE			DIRECT			
	DIAMETER		mm/in	609.6 / 24			
CONDENSER FAN MOTOR	TYPE			INDUCTION			
	Q'TY			2		2	
	INDEX OF PROTECTION (IP)			NA		NA	
COMPRESSOR	TYPE			SCROLL		SCROLL	
	OIL TYPE			MINERAL OIL		MINERAL OIL	
	OIL AMOUNT	COMP1	cm ³ / fl.oz.	1770 / 60		2510 / 85	
		COMP2	cm ³ / fl.oz.	1770 / 60		2510 / 85	
CONDENSER COIL	TYPE			CROSS FINNED TUBES			
	TUBE	MATERIAL		SEAMLESS COPPER			
		DIAMETER	mm/in	9.52 / 3/8			
		THICKNESS	mm/in	0.33 / 0.013			
	FIN	MATERIAL		ALUMINIUM (HYDROPHILIC)			
		THICKNESS	mm/in	0.11 / 0.0043			
		FACE AREA	m ² / ft ²	1.79 / 19.3		1.79 / 19.3	
		ROW		2		2	
		FIN PER INCH		14		14	
	BPHE	TYPE			BRAZED PLATE HEAT EXCHANGER		
MATERIAL			STAINLESS STEEL				
PUMP	TYPE			HORIZONTAL MULTISTAGE END-SUCTION			
	MATERIAL			CAST IRON & STAINLESS STEEL			
CASING	MATERIAL			ELECTRO-GALVANIZED MILD STEEL			
	FINISH			POLYESTER POWDER			
	COLOUR			LIGHT GREY			

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COMPONENTS DATA - R22 HEAT PUMP

MODEL			AMAC20CR	AMAC25CR
CONDENSER FAN	TYPE		PROPELLER	
	Q'TY		1	1
	MATERIAL		STEEL PLATE	
	DRIVE		DIRECT	
	DIAMETER	mm/in	457.2 / 18	
CONDENSER FAN MOTOR	TYPE		INDUCTION	
	Q'TY		1	1
	INDEX OF PROTECTION (IP)		NA	NA
COMPRESSOR	TYPE		ROTARY	SCROLL
	OIL TYPE		MINERAL OIL	MINERAL OIL
	OIL AMOUNT	cm ³ / fl.oz.	1130 / 38	1240 / 42
CONDENSER COIL	TYPE		CROSS FINNED TUBES	
	TUBE	MATERIAL	SEAMLESS COPPER	
		DIAMETER	9.52 / 3/8	
		THICKNESS	0.33 / 0.013	0.35 / 0.014
	FIN	MATERIAL	ALUMINIUM (HYDROPHILIC GOLD)	
		THICKNESS	0.11 / 0.0043	
		FACE AREA	0.66 / 7.1	0.65 / 7.0
		ROW	1	2
		FIN PER INCH	20	16
BPHE	TYPE		BRAZED PLATE HEAT EXCHANGER	
	MATERIAL		STAINLESS STEEL	
PUMP	TYPE		HIGH HEAD CIRCULATOR	
	MATERIAL		CAST IRON & STAINLESS STEEL	
CASING	MATERIAL		ELECTRO-GALVANIZED MILD STEEL	
	FINISH		POLYESTER POWDER	
	COLOUR		LIGHT GREY	

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COMPONENTS DATA - R22 HEAT PUMP

MODEL			AMAC30CR	AMAC40CR
CONDENSER FAN	TYPE		PROPELLER	
	Q'TY		1	2
	MATERIAL		STEEL PLATE	
	DRIVE		DIRECT	
	DIAMETER	mm/in	457.2 / 18	
CONDENSER FAN MOTOR	TYPE		INDUCTION	
	Q'TY		1	2
	INDEX OF PROTECTION (IP)		NA	NA
COMPRESSOR	TYPE		SCROLL	SCROLL
	OIL TYPE		MINERAL OIL	MINERAL OIL
	OIL AMOUNT	cm ³ / fl.oz.	1240 / 42	1950 / 66
CONDENSER COIL	TYPE		CROSS FINNED TUBES	
	TUBE	MATERIAL	SEAMLESS COPPER	
		DIAMETER	9.52 / 3/8	
		THICKNESS	0.35 / 0.014	
	FIN	MATERIAL	ALUMINIUM	
		THICKNESS	0.11 / 0.0043	
		FACE AREA	0.65 / 7.0	1.17 / 12.6
		ROW	2	2
		FIN PER INCH	16	16
BPHE	TYPE		BRAZED PLATE HEAT EXCHANGER	
	MATERIAL		STAINLESS STEEL	
PUMP	TYPE		HIGH HEAD CIRCULATOR	HORIZONTAL MULTISTAGE END-SUCTION
	MATERIAL		CAST IRON & STAINLESS STEEL	
CASING	MATERIAL		ELECTRO-GALVANIZED MILD STEEL	
	FINISH		POLYESTER POWDER	
	COLOUR		LIGHT GREY	

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COMPONENTS DATA - R22 HEAT PUMP

MODEL				AMAC50CR		AMAC60CR	
CONDENSER FAN	TYPE			PROPELLER			
	Q'TY			2		2	
	MATERIAL			STEEL PLATE			
	DRIVE			DIRECT			
	DIAMETER		mm/in	457.2 / 18			
CONDENSER FAN MOTOR	TYPE			INDUCTION			
	Q'TY			2		2	
	INDEX OF PROTECTION (IP)			NA		NA	
COMPRESSOR	TYPE			SCROLL		SCROLL	
	OIL TYPE			MINERAL OIL		MINERAL OIL	
	OIL AMOUNT		cm ³ / fl.oz.	1770 / 60		1770 / 60	
CONDENSER COIL	TYPE			CROSS FINNED TUBES			
	TUBE	MATERIAL		SEAMLESS COPPER			
		DIAMETER	mm/in	9.52 / 3/8			
		THICKNESS	mm/in	0.35 / 0.014		0.33 / 0.013	
	FIN	MATERIAL		ALUMINIUM (HYDROPHILIC GOLD)			
		THICKNESS	mm/in	0.11 / 0.0043			
		FACE AREA	m ² / ft ²	1.17 / 12.6		1.17 / 12.6	
		ROW		2		2	
		FIN PER INCH		16		16	
BPHE	TYPE			BRAZED PLATE HEAT EXCHANGER			
	MATERIAL			STAINLESS STEEL			
PUMP	TYPE			HORIZONTAL MULTISTAGE END-SUCTION			
	MATERIAL			CAST IRON & STAINLESS STEEL			
CASING	MATERIAL			ELECTRO-GALVANIZED MILD STEEL			
	FINISH			POLYESTER POWDER			
	COLOUR			LIGHT GREY			

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COMPONENTS DATA - R22 HEAT PUMP

MODEL				AMAC80CR		AMAC100CR	
CONDENSER FAN	TYPE			PROPELLER			
	Q'TY			2		2	
	MATERIAL			ALUMINIUM			
	DRIVE			DIRECT			
	DIAMETER		mm/in	609.6 / 24			
CONDENSER FAN MOTOR	TYPE			INDUCTION			
	Q'TY			2		2	
	INDEX OF PROTECTION (IP)			NA		NA	
COMPRESSOR	TYPE			SCROLL		SCROLL	
	OIL TYPE			MINERAL OIL		MINERAL OIL	
	OIL AMOUNT	COMP1	cm ³ / fl.oz.	1950 / 66		1770 / 60	
		COMP2	cm ³ / fl.oz.	1950 / 66		1770 / 60	
CONDENSER COIL	TYPE			CROSS FINNED TUBES			
	TUBE	MATERIAL		SEAMLESS COPPER			
		DIAMETER	mm/in	9.52 / 3/8			
		THICKNESS	mm/in	0.33 / 0.013			
	FIN	MATERIAL		ALUMINIUM (HYDROPHILIC)			
		THICKNESS	mm/in	0.11 / 0.0043			
		FACE AREA	m ² / ft ²	1.37 / 14.7		1.37 / 14.7	
		ROW		2		2	
		FIN PER INCH		14		14	
BPHE	TYPE			BRAZED PLATE HEAT EXCHANGER			
	MATERIAL			STAINLESS STEEL			
PUMP	TYPE			HORIZONTAL MULTISTAGE END-SUCTION			
	MATERIAL			CAST IRON & STAINLESS STEEL			
CASING	MATERIAL			ELECTRO-GALVANIZED MILD STEEL			
	FINISH			POLYESTER POWDER			
	COLOUR			LIGHT GREY			

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COMPONENTS DATA - R22 HEAT PUMP

MODEL				AMAC120CR		AMAC150CR	
CONDENSER FAN	TYPE			PROPELLER			
	Q'TY			2		2	
	MATERIAL			ALUMINIUM			
	DRIVE			DIRECT			
	DIAMETER		mm/in	609.6 / 24			
CONDENSER FAN MOTOR	TYPE			INDUCTION			
	Q'TY			2		2	
	INDEX OF PROTECTION (IP)			NA		NA	
COMPRESSOR	TYPE			SCROLL		SCROLL	
	OIL TYPE			MINERAL OIL		MINERAL OIL	
	OIL AMOUNT	COMP1	cm ³ / fl.oz.	1770 / 60		2510 / 85	
		COMP2	cm ³ / fl.oz.	1770 / 60		2510 / 85	
CONDENSER COIL	TYPE			CROSS FINNED TUBES			
	TUBE	MATERIAL		SEAMLESS COPPER			
		DIAMETER	mm/in	9.52 / 3/8			
		THICKNESS	mm/in	0.33 / 0.013			
	FIN	MATERIAL		ALUMINIUM (HYDROPHILIC)			
		THICKNESS	mm/in	0.11 / 0.0043			
		FACE AREA	m ² / ft ²	1.79 / 19.3		1.79 / 19.3	
		ROW		2		2	
		FIN PER INCH		14		14	
BPHE	TYPE			BRAZED PLATE HEAT EXCHANGER			
	MATERIAL			STAINLESS STEEL			
PUMP	TYPE			HORIZONTAL MULTISTAGE END-SUCTION			
	MATERIAL			CAST IRON & STAINLESS STEEL			
CASING	MATERIAL			ELECTRO-GALVANIZED MILD STEEL			
	FINISH			POLYESTER POWDER			
	COLOUR			LIGHT GREY			

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COMPONENTS DATA - R407C COOLING ONLY

MODEL				A4AC20C		A4AC25C	
CONDENSER FAN	TYPE			PROPELLER			
	Q'TY			1		1	
	MATERIAL			STEEL PLATE			
	DRIVE			DIRECT			
	DIAMETER		mm/in	457.2 / 18			
CONDENSER FAN MOTOR	TYPE			INDUCTION			
	Q'TY			1		1	
	INDEX OF PROTECTION (IP)			NA		NA	
COMPRESSOR	TYPE			ROTARY		SCROLL	
	OIL TYPE			POE OIL		POE OIL	
	OIL AMOUNT		cm ³ / fl.oz.	700 / 24		1240 / 42	
CONDENSER COIL	TYPE			CROSS FINNED TUBES			
	TUBE	MATERIAL		SEAMLESS COPPER			
		DIAMETER	mm/in	9.52 / 3/8			
		THICKNESS	mm/in	0.33 / 0.013		0.35 / 0.014	
	FIN	MATERIAL		ALUMINIUM			
		THICKNESS	mm/in	0.11 / 0.0043			
		FACE AREA	m ² / ft ²	0.66 / 7.1		0.65 / 7.0	
		ROW		1		2	
		FIN PER INCH		20		16	
BPHE	TYPE			BRAZED PLATE HEAT EXCHANGER			
	MATERIAL			STAINLESS STEEL			
PUMP	TYPE			HIGH HEAD CIRCULATOR			
	MATERIAL			CAST IRON & STAINLESS STEEL			
CASING	MATERIAL			ELECTRO-GALVANIZED MILD STEEL			
	FINISH			POLYESTER POWDER			
	COLOUR			LIGHT GREY			

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COMPONENTS DATA - R407C COOLING ONLY

MODEL				A4AC30C		A4AC40C	
CONDENSER FAN	TYPE			PROPELLER			
	Q'TY			1		2	
	MATERIAL			STEEL PLATE			
	DRIVE			DIRECT			
	DIAMETER		mm/in	457.2 / 18			
CONDENSER FAN MOTOR	TYPE			INDUCTION			
	Q'TY			1		2	
	INDEX OF PROTECTION (IP)			NA		NA	
COMPRESSOR	TYPE			SCROLL		SCROLL	
	OIL TYPE			POE OIL		POE OIL	
	OIL AMOUNT		cm ³ / fl.oz.	1240 / 42		1950 / 66	
CONDENSER COIL	TYPE			CROSS FINNED TUBES			
	TUBE	MATERIAL		SEAMLESS COPPER			
		DIAMETER	mm/in	9.52 / 3/8			
		THICKNESS	mm/in	0.35 / 0.014			
	FIN	MATERIAL		ALUMINIUM			
		THICKNESS	mm/in	0.11 / 0.0043			
		FACE AREA	m ² / ft ²	0.65 / 7.0		1.17 / 12.6	
		ROW		2		2	
		FIN PER INCH		16		16	
BPHE	TYPE			BRAZED PLATE HEAT EXCHANGER			
	MATERIAL			STAINLESS STEEL			
PUMP	TYPE			HIGH HEAD CIRCULATOR		HORIZONTAL MULTISTAGE END-SUCTION	
	MATERIAL			CAST IRON & STAINLESS STEEL			
CASING	MATERIAL			ELECTRO-GALVANIZED MILD STEEL			
	FINISH			POLYESTER POWDER			
	COLOUR			LIGHT GREY			

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COMPONENTS DATA - R407C COOLING ONLY

MODEL			A4AC50C	A4AC60C
CONDENSER FAN	TYPE		PROPELLER	
	Q'TY		2	2
	MATERIAL		STEEL PLATE	
	DRIVE		DIRECT	
	DIAMETER	mm/in	457.2 / 18	
CONDENSER FAN MOTOR	TYPE		INDUCTION	
	Q'TY		2	2
	INDEX OF PROTECTION (IP)		NA	NA
COMPRESSOR	TYPE		SCROLL	SCROLL
	OIL TYPE		POE OIL	POE OIL
	OIL AMOUNT	cm ³ / fl.oz.	1770 / 60	1770 / 60
CONDENSER COIL	TYPE		CROSS FINNED TUBES	
	TUBE	MATERIAL		SEAMLESS COPPER
		DIAMETER	mm/in	9.52 / 3/8
		THICKNESS	mm/in	0.35 / 0.014
	FIN	MATERIAL		ALUMINIUM
		THICKNESS	mm/in	0.11 / 0.0043
		FACE AREA	m ² / ft ²	1.17 / 12.6
		ROW	2	2
		FIN PER INCH	16	16
BPHE	TYPE		BRAZED PLATE HEAT EXCHANGER	
	MATERIAL		STAINLESS STEEL	
PUMP	TYPE		HORIZONTAL MULTISTAGE END-SUCTION	
	MATERIAL		CAST IRON & STAINLESS STEEL	
CASING	MATERIAL		ELECTRO-GALVANIZED MILD STEEL	
	FINISH		POLYESTER POWDER	
	COLOUR		LIGHT GREY	

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COMPONENTS DATA - R407C COOLING ONLY

MODEL				A4AC80C		A4AC100C	
CONDENSER FAN	TYPE			PROPELLER			
	Q'TY			2		2	
	MATERIAL			ALUMINIUM			
	DRIVE			DIRECT			
	DIAMETER		mm/in	609.6 / 24			
CONDENSER FAN MOTOR	TYPE			INDUCTION			
	Q'TY			2		2	
	INDEX OF PROTECTION (IP)			NA		NA	
COMPRESSOR	TYPE			SCROLL		SCROLL	
	OIL TYPE			POE OIL		POE OIL	
	OIL AMOUNT	COMP1	cm ³ / fl.oz.	1950 / 66		1770 / 60	
		COMP2	cm ³ / fl.oz.	1950 / 66		1770 / 60	
CONDENSER COIL	TYPE			CROSS FINNED TUBES			
	TUBE	MATERIAL		SEAMLESS COPPER			
		DIAMETER	mm/in	9.52 / 3/8			
		THICKNESS	mm/in	0.33 / 0.013			
	FIN	MATERIAL		ALUMINIUM (HYDROPHILIC)			
		THICKNESS	mm/in	0.11 / 0.0043			
		FACE AREA	m ² / ft ²	1.37 / 14.7		1.37 / 14.7	
		ROW		2		2	
		FIN PER INCH		14		14	
BPHE	TYPE			BRAZED PLATE HEAT EXCHANGER			
	MATERIAL			STAINLESS STEEL			
PUMP	TYPE			HORIZONTAL MULTISTAGE END-SUCTION			
	MATERIAL			CAST IRON & STAINLESS STEEL			
CASING	MATERIAL			ELECTRO-GALVANIZED MILD STEEL			
	FINISH			POLYESTER POWDER			
	COLOUR			LIGHT GREY			

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COMPONENTS DATA - R407C COOLING ONLY

MODEL				A4AC120C		A4AC150C	
CONDENSER FAN	TYPE			PROPELLER			
	Q'TY			2		2	
	MATERIAL			ALUMINIUM			
	DRIVE			DIRECT			
	DIAMETER		mm/in	609.6 / 24			
CONDENSER FAN MOTOR	TYPE			INDUCTION			
	Q'TY			2		2	
	INDEX OF PROTECTION (IP)			NA		NA	
COMPRESSOR	TYPE			SCROLL		SCROLL	
	OIL TYPE			POE OIL		POE OIL	
	OIL AMOUNT	COMP1	cm ³ / fl.oz.	1770 / 60		2510 / 85	
		COMP2	cm ³ / fl.oz.	1770 / 60		2510 / 85	
	CONDENSER COIL	TYPE			CROSS FINNED TUBES		
TUBE		MATERIAL		SEAMLESS COPPER			
		DIAMETER	mm/in	9.52 / 3/8			
		THICKNESS	mm/in	0.33 / 0.013			
FIN		MATERIAL		ALUMINIUM (HYDROPHILIC)			
		THICKNESS	mm/in	0.11 / 0.0043			
		FACE AREA	m ² / ft ²	1.79 / 19.3		1.79 / 19.3	
		ROW		2		2	
		FIN PER INCH		14		14	
		BPHE	TYPE			BRAZED PLATE HEAT EXCHANGER	
MATERIAL			STAINLESS STEEL				
PUMP	TYPE			HORIZONTAL MULTISTAGE END-SUCTION			
	MATERIAL			CAST IRON & STAINLESS STEEL			
CASING	MATERIAL			ELECTRO-GALVANIZED MILD STEEL			
	FINISH			POLYESTER POWDER			
	COLOUR			LIGHT GREY			

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COMPONENTS DATA - R407C HEAT PUMP

MODEL				A4AC60CR	
CONDENSER FAN	TYPE			PROPELLER	
	QUANTITY			2	
	MATERIAL			STEEL PLATE	
	DRIVE			DIRECT	
	DIAMETER		mm/in	457.2 / 18	
CONDENSER FAN MOTOR	TYPE			INDUCTION	
	QUANTITY			2	
	INDEX OF PROTECTION (IP)			N/A	
COMPRESSOR	TYPE			SCROLL	
	OIL TYPE			POE OIL	
	OIL AMOUNT		cm ³ / fl.oz.	1770 / 60	
CONDENSER COIL	TYPE			CROSS FINNED TUBE	
	TUBE	MATERIAL		SEAMLESS COPPER	
		DIAMETER	mm/in	9.52 / 3/8	
		THICKNESS	mm/in	0.33 / 0.013	
	FIN	MATERIAL		ALUMINIUM (HYDROPHILIC GOLD)	
		THICKNESS	mm/in	0.11 / 0.0043	
		FACE AREA	m ² /ft ²	1.17 / 12.6	
		ROW		2	
		FIN PER INCH		16	
BPHE	TYPE			BRAZED PLATE HEAT EXCHANGER	
	MATERIAL			STAINLESS STEEL	
PUMP	TYPE			HORIZONTAL MULTISTAGE END-SUCTION	
	MATERIAL			CAST IRON & STAINLESS STEEL	
CASING	MATERIAL			ELECTRO-GALVANISED MILD STEEL	
	FINISHING			POLYESTER POWDER	
	COLOUR			LIGHT GREY	

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COMPONENTS DATA - R407C HEAT PUMP

MODEL				A4AC80CR		A4AC100CR	
CONDENSER FAN	TYPE			PROPELLER			
	Q'TY			2		2	
	MATERIAL			ALUMINIUM			
	DRIVE			DIRECT			
	DIAMETER		mm/in	609.6 / 24			
CONDENSER FAN MOTOR	TYPE			INDUCTION			
	Q'TY			2		2	
	INDEX OF PROTECTION (IP)			NA		NA	
COMPRESSOR	TYPE			SCROLL		SCROLL	
	OIL TYPE			POE OIL		POE OIL	
	OIL AMOUNT	COMP1	cm ³ / fl.oz.	1950 / 66		1770 / 60	
		COMP2	cm ³ / fl.oz.	1950 / 66		1770 / 60	
	CONDENSER COIL	TYPE			CROSS FINNED TUBES		
TUBE		MATERIAL		SEAMLESS COPPER			
		DIAMETER	mm/in	9.52 / 3/8			
		THICKNESS	mm/in	0.33 / 0.013			
FIN		MATERIAL		ALUMINIUM (HYDROPHILIC)			
		THICKNESS	mm/in	0.11 / 0.0043			
		FACE AREA	m ² / ft ²	1.37 / 14.7		1.37 / 14.7	
		ROW		2		2	
		FIN PER INCH		14		14	
BPHE		TYPE			BRAZED PLATE HEAT EXCHANGER		
	MATERIAL			STAINLESS STEEL			
PUMP	TYPE			HORIZONTAL MULTISTAGE END-SUCTION			
	MATERIAL			CAST IRON & STAINLESS STEEL			
CASING	MATERIAL			ELECTRO-GALVANIZED MILD STEEL			
	FINISH			POLYESTER POWDER			
	COLOUR			LIGHT GREY			

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COMPONENTS DATA - R407C HEAT PUMP

MODEL				A4AC120CR		A4AC150CR	
CONDENSER FAN	TYPE			PROPELLER			
	Q'TY			2		2	
	MATERIAL			ALUMINIUM			
	DRIVE			DIRECT			
	DIAMETER		mm/in	609.6 / 24			
CONDENSER FAN MOTOR	TYPE			INDUCTION			
	Q'TY			2		2	
	INDEX OF PROTECTION (IP)			NA		NA	
COMPRESSOR	TYPE			SCROLL		SCROLL	
	OIL TYPE			POE OIL		POE OIL	
	OIL AMOUNT	COMP1	cm ³ / fl.oz.	1770 / 60		2510 / 85	
		COMP2	cm ³ / fl.oz.	1770 / 60		2510 / 85	
	CONDENSER COIL	TYPE			CROSS FINNED TUBES		
TUBE		MATERIAL		SEAMLESS COPPER			
		DIAMETER	mm/in	9.52 / 3/8			
		THICKNESS	mm/in	0.33 / 0.013			
FIN		MATERIAL		ALUMINIUM (HYDROPHILIC GOLD)			
		THICKNESS	mm/in	0.11 / 0.0043			
		FACE AREA	m ² / ft ²	1.79 / 19.3		1.79 / 19.3	
		ROW		2		2	
		FIN PER INCH		14		14	
BPHE	TYPE			BRAZED PLATE HEAT EXCHANGER			
	MATERIAL			STAINLESS STEEL			
PUMP	TYPE			HORIZONTAL MULTISTAGE END-SUCTION			
	MATERIAL			CAST IRON & STAINLESS STEEL			
CASING	MATERIAL			ELECTRO-GALVANIZED MILD STEEL			
	FINISH			POLYESTER POWDER			
	COLOUR			LIGHT GREY			

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COMPONENTS DATA - R410A HEAT PUMP

MODEL				A5AC20CR		A5AC25CR	
CONDENSER FAN	TYPE			PROPELLER			
	Q'TY			1		1	
	MATERIAL			STEEL PLATE			
	DRIVE			DIRECT			
	DIAMETER		mm/in	457.2 / 18			
CONDENSER FAN MOTOR	TYPE			EXTERNAL ROTOR			
	Q'TY			1		1	
	INDEX OF PROTECTION (IP)			IP44		IP44	
COMPRESSOR	TYPE			ROTARY		ROTARY	
	OIL TYPE			RB68A OR FREOL ALPHA 68M		RB68A OR FREOL ALPHA 68M	
	OIL AMOUNT		cm ³ / fl.oz.	1130 / 38			
CONDENSER COIL	TYPE			CROSS FINNED TUBES			
	TUBE	MATERIAL		GROOVE			
		DIAMETER	mm/in	9.52 / 3/8			
		THICKNESS	mm/in	0.28 / 0..011			
	FIN	MATERIAL		ALUMINIUM			
		THICKNESS	mm/in	0.11 / 0.0043			
		FACE AREA	m ² / ft ²	0.66 / 7.1		0.66 / 7.1	
		ROW		1		2	
		FIN PER INCH		20		16	
BPHE	TYPE			BRAZED PLATE HEAT EXCHANGER			
	MATERIAL			STAINLESS STEEL			
PUMP	TYPE			HIGH HEAD CIRCULATOR			
	MATERIAL			CAST IRON & STAINLESS STEEL			
CASING	MATERIAL			ELECTRO-GALVANIZED MILD STEEL			
	FINISH			POLYESTER POWDER			
	COLOUR			LIGHT GREY			

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COMPONENTS DATA - R410A HEAT PUMP

MODEL				A5AC30CR		A5AC40CR	
CONDENSER FAN	TYPE			PROPELLER			
	Q'TY			1		2	
	MATERIAL			STEEL PLATE			
	DRIVE			DIRECT			
	DIAMETER		mm/in	457.2 / 18			
CONDENSER FAN MOTOR	TYPE			EXTERNAL ROTOR			
	Q'TY			1		2	
	INDEX OF PROTECTION (IP)			IP44		IP44	
COMPRESSOR	TYPE			ROTARY		ROTARY	
	OIL TYPE			RB68A OR FREOL ALPHA 68M			
	OIL AMOUNT	COMP1	cm ³ / fl.oz.	670 / 23		670 / 23	
		COMP2	cm ³ / fl.oz.	670 / 23		1130 / 38	
CONDENSER COIL	TYPE			CROSS FINNED TUBES			
	TUBE	MATERIAL		GROOVE			
		DIAMETER	mm/in	9.53 / 3/8			
		THICKNESS	mm/in	0.28 / 0.011			
	FIN	MATERIAL		ALUMINIUM			
		THICKNESS	mm/in	0.11 / 0.0043			
		FACE AREA	m ² / ft ²	0.66 / 7.1		1.19 / 12.8	
		ROW		2		2	
		FIN PER INCH		16		16	
BPHE	TYPE			BRAZED PLATE HEAT EXCHANGER			
	MATERIAL			STAINLESS STEEL			
PUMP	TYPE			HORIZONTAL MULTISTAGE END-SUCTION			
	MATERIAL			CAST IRON & STAINLESS STEEL			
CASING	MATERIAL			ELECTRO-GALVANIZED MILD STEEL			
	FINISH			POLYESTER POWDER			
	COLOUR			LIGHT GREY			

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COMPONENTS DATA - R410A HEAT PUMP

MODEL				A5AC50CR		A5AC55CR	
CONDENSER FAN	TYPE			PROPELLER			
	Q'TY			2		2	
	MATERIAL			STEEL PLATE			
	DRIVE			DIRECT			
	DIAMETER		mm/in	457.2 / 18			
CONDENSER FAN MOTOR	TYPE			EXTERNAL ROTOR			
	Q'TY			2		2	
	INDEX OF PROTECTION (IP)			IP44		IP44	
COMPRESSOR	TYPE			ROTARY		ROTARY	
	OIL TYPE			RB68A OR FREOL ALPHA 68M			
	OIL AMOUNT	COMP1	cm ³ / fl.oz.	1130 / 38		1130 / 38	
		COMP2	cm ³ / fl.oz.	1130 / 38		1130 / 38	
CONDENSER COIL	TYPE			CROSS FINNED TUBES			
	TUBE	MATERIAL		NA6 GROOVE			
		DIAMETER	mm/in	9.52 / 3/8			
		THICKNESS	mm/in	0.28 / 0.011			
	FIN	MATERIAL		ALUMINIUM			
		THICKNESS	mm/in	0.11 / 0.0043			
		FACE AREA	m ² / ft ²	1.19 / 12.8		1.19 / 12.8	
		ROW		2		2	
		FIN PER INCH		16		16	
BPHE	TYPE			BRAZED PLATE HEAT EXCHANGER			
	MATERIAL			STAINLESS STEEL			
PUMP	TYPE			HORIZONTAL MULTISTAGE END-SUCTION			
	MATERIAL			CAST IRON & STAINLESS STEEL			
CASING	MATERIAL			ELECTRO-GALVANIZED MILD STEEL			
	FINISH			POLYESTER POWDER			
	COLOUR			LIGHT GREY			

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SAFETY DEVICES - R22 COOLING ONLY & HEAT PUMP

MODEL				AMAC20C/CR	AMAC25C/CR
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	2939 / 426	2939 / 426
		CLOSE	kPa / psi	2415 / 350	2415 / 350
	LOW PRESSURE SWITCH (COOLING ONLY)	TYPE		NC	NC
		OPEN	kPa / psi	124 / 18	125 / 18
		CLOSE	kPa / psi	193 / 28	193 / 28
	LOW PRESSURE SWITCH (HEAT PUMP)	TYPE		NC	NC
		OPEN	kPa / psi	48 / 7	48 / 7
		CLOSE	kPa / psi	152 / 22	152 / 22
	DIFFERENTIAL PRESSURE SWITCH			YES	YES
	ANTI-FREEZE PROTECTION SENSOR			YES	YES
	OVER PRESSURE RELIEF VALVE			YES	YES
	ANTI-FREEZE HEATER ON BPHE			YES	YES
	PUMP OLP			YES	YES
	COMPRESSOR OLP			YES	YES

MODEL				AMAC30C/CR	AMAC40C/CR
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	2939 / 426	2939 / 426
		CLOSE	kPa / psi	2415 / 350	2415 / 350
	LOW PRESSURE SWITCH (COOLING ONLY)	TYPE		NC	NC
		OPEN	kPa / psi	124 / 18	125 / 18
		CLOSE	kPa / psi	193 / 28	193 / 28
	LOW PRESSURE SWITCH (HEAT PUMP)	TYPE		NC	NC
		OPEN	kPa / psi	48 / 7	48 / 7
		CLOSE	kPa / psi	152 / 22	152 / 22
	PHASE PROTECTION			NA	BUILT IN ON BOARD
	DIFFERENTIAL PRESSURE SWITCH			YES	YES
	ANTI-FREEZE PROTECTION SENSOR			YES	YES
	DISCH. THERMOSTAT SETTING		°C / °F	NA	110 / 230
	OVER PRESSURE RELIEF VALVE			YES	YES
	ANTI-FREEZE HEATER ON BPHE			YES	YES
	PUMP OLP			YES	YES
	COMPRESSOR OLP			YES	YES

MODEL				AMAC50C/CR	AMAC60C/CR
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	2939 / 426	2939 / 426
		CLOSE	kPa / psi	2415 / 350	2415 / 350
	LOW PRESSURE SWITCH (COOLING ONLY)	TYPE		NC	NC
		OPEN	kPa / psi	124 / 18	125 / 18
		CLOSE	kPa / psi	193 / 28	193 / 28
	LOW PRESSURE SWITCH (HEAT PUMP)	TYPE		NC	NC
		OPEN	kPa / psi	48 / 7	48 / 7
		CLOSE	kPa / psi	152 / 22	152 / 22
	PHASE PROTECTION			BUILT IN ON BOARD	BUILT IN ON BOARD
	DIFFERENTIAL PRESSURE SWITCH			YES	YES
	ANTI-FREEZE PROTECTION SENSOR			YES	YES
	DISCH. THERMOSTAT SETTING		°C / °F	110 / 230	110 / 230
	OVER PRESSURE RELIEF VALVE			YES	YES
	ANTI-FREEZE HEATER ON BPHE			YES	YES
	PUMP OLP			YES	YES
	COMPRESSOR OLP			YES	YES

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SAFETY DEVICES - R22 COOLING ONLY & HEAT PUMP

MODEL				AMAC80C/CR		AMAC100C/CR	
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		NC		NC	
		OPEN	kPa / psi	2939 / 426		2939 / 426	
		CLOSE	kPa / psi	2415 / 350		2415 / 350	
	LOW PRESSURE SWITCH (COOLING ONLY)	TYPE		NC		NC	
		OPEN	kPa / psi	124 / 18		125 / 18	
		CLOSE	kPa / psi	193 / 28		193 / 28	
	LOW PRESSURE SWITCH (HEAT PUMP)	TYPE		NC		NC	
		OPEN	kPa / psi	48 / 7		48 / 7	
		CLOSE	kPa / psi	152 / 22		152 / 22	
	PHASE PROTECTION			BUILT IN ON BOARD		BUILT IN ON BOARD	
	DIFFERENTIAL PRESSURE SWITCH			YES		YES	
	ANTI-FREEZE PROTECTION SENSOR			YES		YES	
	DISCH. THERMOSTAT SETTING		°C / °F	110 / 230		110 / 230	
	OVER PRESSURE RELIEF VALVE			YES		YES	
	ANTI-FREEZE HEATER ON BPHE			YES		YES	
	PUMP OLP			YES		YES	
	COMPRESSOR OLP			YES		YES	

MODEL				AMAC120C/CR	AMAC150C/CR
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	2939 / 426	2939 / 426
		CLOSE	kPa / psi	2415 / 350	2415 / 350
	LOW PRESSURE SWITCH (COOLING ONLY)	TYPE		NC	NC
		OPEN	kPa / psi	124 / 18	125 / 18
		CLOSE	kPa / psi	193 / 28	193 / 28
	LOW PRESSURE SWITCH (HEAT PUMP)	TYPE		NC	NC
		OPEN	kPa / psi	48 / 7	48 / 7
		CLOSE	kPa / psi	152 / 22	152 / 22
	PHASE PROTECTION			BUILT IN ON BOARD	BUILT IN ON BOARD
	DIFFERENTIAL PRESSURE SWITCH			YES	YES
	ANTI-FREEZE PROTECTION SENSOR			YES	YES
	DISCH. THERMOSTAT SETTING		°C / °F	110 / 230	110 / 230
	OVER PRESSURE RELIEF VALVE			YES	YES
	ANTI-FREEZE HEATER ON BPHE			YES	YES
	PUMP OLP			YES	YES
COMPRESSOR OLP			YES	YES	

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SAFETY DEVICES - R407C COOLING ONLY & HEAT PUMP

MODEL				A4AC20C	A4AC25C
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	3243 / 470	3243 / 470
		CLOSE	kPa / psi	2650 / 384	2650 / 384
	LOW PRESSURE SWITCH (COOLING ONLY)	TYPE		NC	NC
		OPEN	kPa / psi	124 / 18	124 / 18
		CLOSE	kPa / psi	193 / 28	193 / 28
	LOW PRESSURE SWITCH (HEAT PUMP)	TYPE		NC	NC
		OPEN	kPa / psi	48 / 7	48 / 7
		CLOSE	kPa / psi	152 / 22	152 / 22
	DIFFERENTIAL PRESSURE SWITCH			YES	YES
	ANTI-FREEZE PROTECTION SENSOR			YES	YES
	OVER PRESSURE RELIEF VALVE			YES	YES
	ANTI-FREEZE HEATER ON BPHE			YES	YES
	PUMP OLP			YES	YES
	COMPRESSOR OLP			YES	YES

MODEL				A4AC030C	A4AC040C
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	3243 / 470	3243 / 470
		CLOSE	kPa / psi	2650 / 384	2650 / 384
	LOW PRESSURE SWITCH (COOLING ONLY)	TYPE		NC	NC
		OPEN	kPa / psi	124 / 18	124 / 18
		CLOSE	kPa / psi	193 / 28	193 / 28
	LOW PRESSURE SWITCH (HEAT PUMP)	TYPE		NC	NC
		OPEN	kPa / psi	48 / 7	48 / 7
		CLOSE	kPa / psi	152 / 22	152 / 22
	PHASE PROTECTION			BUILT IN ON BOARD	BUILT IN ON BOARD
	DIFFERENTIAL PRESSURE SWITCH			YES	YES
	ANTI-FREEZE PROTECTION SENSOR			YES	YES
	DISCH. THERMOSTAT SETTING °C / °F			110 / 230	110 / 230
	OVER PRESSURE RELIEF VALVE			YES	YES
	ANTI-FREEZE HEATER ON BPHE			YES	YES
	PUMP OLP			YES	YES
	COMPRESSOR OLP			YES	YES

MODEL				A4AC60C/CR	
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		NC	
		OPEN	kPa / psi	3243 / 470	
		CLOSE	kPa / psi	2650 / 384	
	LOW PRESSURE SWITCH (COOLING ONLY)	TYPE		NC	
		OPEN	kPa / psi	124 / 18	
		CLOSE	kPa / psi	193 / 28	
	LOW PRESSURE SWITCH (HEAT PUMP)	TYPE		NC	
		OPEN	kPa / psi	48 / 7	
		CLOSE	kPa / psi	152 / 22	
	PHASE PROTECTION			BUILT IN ON BOARD	
	DIFFERENTIAL PRESSURE SWITCH			YES	
	ANTI-FREEZE PROTECTION SENSOR			YES	
	DISCH. THERMOSTAT SETTING °C / °F			110 / 230	
	OVER PRESSURE RELIEF VALVE			YES	
	ANTI-FREEZE HEATER ON BPHE			YES	
	PUMP OLP			YES	
	COMPRESSOR OLP			YES	

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SAFETY DEVICES - R407C COOLING ONLY & HEAT PUMP

MODEL				A4AC80C/CR	A4AC100C/CR
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	3243 / 470	3243 / 470
		CLOSE	kPa / psi	2650 / 384	2650 / 384
	LOW PRESSURE SWITCH (COOLING ONLY)	TYPE		NC	NC
		OPEN	kPa / psi	124 / 18	124 / 18
		CLOSE	kPa / psi	193 / 28	193 / 28
	LOW PRESSURE SWITCH (HEAT PUMP)	TYPE		NC	NC
		OPEN	kPa / psi	48 / 7	48 / 7
		CLOSE	kPa / psi	152 / 22	152 / 22
	PHASE PROTECTION			BUILT IN ON BOARD	BUILT IN ON BOARD
	DIFFERENTIAL PRESSURE SWITCH			YES	YES
	ANTI-FREEZE PROTECTION SENSOR			YES	YES
	DISCH. THERMOSTAT SETTING		°C / °F	110 / 230	110 / 230
	OVER PRESSURE RELIEF VALVE			YES	YES
	ANTI-FREEZE HEATER ON BPHE			YES	YES
	PUMP OLP			YES	YES
	COMPRESSOR OLP			YES	YES

MODEL				A4AC120C/CR	A4AC150C/CR
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	3243 / 470	3243 / 470
		CLOSE	kPa / psi	2650 / 384	2650 / 384
	LOW PRESSURE SWITCH (COOLING ONLY)	TYPE		NC	NC
		OPEN	kPa / psi	124 / 18	124 / 18
		CLOSE	kPa / psi	193 / 28	193 / 28
	LOW PRESSURE SWITCH (HEAT PUMP)	TYPE		NC	NC
		OPEN	kPa / psi	48 / 7	48 / 7
		CLOSE	kPa / psi	152 / 22	152 / 22
	PHASE PROTECTION			BUILT IN ON BOARD	BUILT IN ON BOARD
	DIFFERENTIAL PRESSURE SWITCH			YES	YES
	ANTI-FREEZE PROTECTION SENSOR			YES	YES
	DISCH. THERMOSTAT SETTING		°C / °F	110 / 230	110 / 230
	OVER PRESSURE RELIEF VALVE			YES	YES
	ANTI-FREEZE HEATER ON BPHE			YES	YES
	PUMP OLP			YES	YES
	COMPRESSOR OLP			YES	YES

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SAFETY DEVICES - R410A HEAT PUMP

MODEL				A5AC20CR	A5AC25CR
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	4140 / 600	4137 / 600
		CLOSE	kPa / psi	3312 / 480	3312 / 480
	LOW PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	124 / 18	124 / 18
		CLOSE	kPa / psi	193 / 28	193 / 28
	DIFFERENTIAL PRESSURE SWITCH			YES	YES
	ANTI-FREEZE PROTECTION SENSOR			YES	YES
	OVER-PRESSURE RELIEF VALVE			YES	YES
	ANTI-FREEZE HEATER ON BPHE			YES	YES
	PUMP OLP			YES	YES
	COMPRESSOR OLP			YES	YES

MODEL				A5AC30CR	A5AC40CR
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	4137 / 600	4137 / 600
		CLOSE	kPa / psi	3309 / 480	3309 / 480
	LOW PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	124 / 18	124 / 18
		CLOSE	kPa / psi	193 / 28	193 / 28
	DIFFERENTIAL PRESSURE SWITCH			YES	YES
	ANTI-FREEZE PROTECTION SENSOR			YES	YES
	OVER-PRESSURE RELIEF VALVE			YES	YES
	ANTI-FREEZE HEATER ON BPHE			YES	YES
	PUMP OLP			YES	YES
	COMPRESSOR OLP			YES	YES

MODEL				A5AC50CR	A5AC55CR
SAFETY DEVICE	HIGH PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	4137 / 600	4137 / 600
		CLOSE	kPa / psi	3309 / 480	3309 / 480
	LOW PRESSURE SWITCH	TYPE		NC	NC
		OPEN	kPa / psi	124 / 18	124 / 18
		CLOSE	kPa / psi	193 / 28	193 / 28
	DIFFERENTIAL PRESSURE SWITCH			YES	YES
	ANTI-FREEZE PROTECTION SENSOR			YES	YES
	OVER-PRESSURE RELIEF VALVE			YES	YES
	ANTI-FREEZE HEATER ON BPHE			YES	YES
	PUMP OLP			YES	YES
	COMPRESSOR OLP			YES	YES

1) ALL SPECIFICATIONS ARE SUBJECTED TO CHANGE BY THE MANUFACTURER WITHOUT PRIOR NOTICE.

7. PERFORMANCE DATA

COOLING ONLY REFRIGERANT : R22

MODEL	AMBIENT TEMPERATURE ON CONDENSOR (°C)											
	20		25		30		35		40		42	
	COOL CAP. kW	POWER INPUT kW	COOL CAP. kW	POWER INPUT kW	COOL CAP. kW	POWER INPUT kW	COOL CAP. kW	POWER INPUT kW	COOL CAP. kW	POWER INPUT kW	COOL CAP. kW	POWER INPUT kW
AMAC20C	4	4.62	2.18	2.32	4.30	2.49	4.25	2.60	3.92	2.84	3.84	2.91
	5	5.00	2.19	2.34	4.62	2.51	4.59	2.62	4.19	2.86	4.10	2.93
	6	5.38	2.21	2.35	4.94	2.53	4.88	2.64	4.46	2.88	4.36	2.95
	7	5.76	2.22	2.37	5.26	2.55	5.28	2.68	4.73	2.90	4.63	2.97
	8	6.13	2.24	2.39	5.59	2.56	5.44	2.68	5.00	2.92	4.89	2.99
	9	6.51	2.25	2.40	5.91	2.58	5.72	2.70	5.28	2.94	5.15	3.01
	10	6.89	2.27	2.42	6.23	2.60	5.94	2.72	5.55	2.96	5.41	3.03
	4	8.52	1.90	2.13	7.65	2.37	5.94	2.60	4.85	2.84	3.92	3.08
	5	8.67	1.90	2.16	7.85	2.41	6.26	2.65	5.13	2.93	4.23	3.18
	6	8.83	1.91	2.19	8.04	2.46	6.55	2.69	5.41	3.01	4.54	3.28
AMAC25C	7	8.98	1.92	2.22	7.39	2.51	6.89	2.74	5.70	3.09	4.85	3.39
	8	9.14	1.93	2.24	7.62	2.56	7.12	2.78	5.98	3.18	5.16	3.49
	9	9.29	1.94	2.27	7.85	2.60	7.41	2.82	6.26	3.26	5.47	3.59
	10	9.45	1.95	2.30	8.07	2.65	7.67	2.86	6.55	3.35	5.78	3.70
	4	8.85	2.43	2.80	7.25	3.16	6.59	3.40	5.65	3.90	5.33	4.05
	5	9.02	2.48	2.84	7.59	3.21	7.08	3.43	6.16	3.94	5.87	4.09
	6	9.18	2.53	2.89	7.92	3.26	7.45	3.46	6.67	3.98	6.41	4.13
	7	9.35	2.58	2.94	8.26	3.30	8.06	3.50	7.17	4.03	6.96	4.17
	8	9.52	2.62	2.99	8.60	3.35	8.18	3.53	7.68	4.07	7.50	4.21
	9	9.68	2.67	3.03	8.94	3.39	8.55	3.56	8.19	4.11	8.04	4.26
AMAC30C	10	9.85	2.72	3.08	9.27	3.44	8.79	3.59	8.70	4.16	8.58	4.30
	4	11.73	3.14	3.34	10.62	3.79	10.25	4.03	9.41	4.68	9.17	4.86
	5	12.19	3.16	3.40	11.15	3.86	10.81	4.16	10.03	4.77	9.80	4.95
	6	12.65	3.17	3.46	11.68	3.93	11.36	4.29	10.64	4.85	10.43	5.04
	7	13.10	3.19	3.52	12.20	4.00	11.72	4.50	11.25	4.94	11.06	5.13
	8	13.56	3.21	3.58	12.73	4.06	12.47	4.25	11.87	5.03	11.70	5.22
	9	14.02	3.23	3.64	13.26	4.13	13.02	4.68	12.48	5.12	12.33	5.31
	10	14.48	3.24	3.70	13.79	4.20	13.58	4.81	13.10	5.20	12.96	5.40
	4	15.57	3.68	4.20	13.35	4.73	12.56	5.21	11.13	5.80	10.68	6.02
	5	15.86	3.70	4.22	13.93	4.76	13.20	5.23	12.00	5.85	11.61	6.07
AMAC40C	6	16.16	3.73	4.24	14.51	4.79	13.84	5.24	12.87	5.91	12.54	6.13
	7	16.45	3.75	4.26	15.09	4.83	14.65	5.26	13.73	5.96	13.46	6.19
	8	16.74	3.77	4.28	15.67	4.86	15.12	5.28	14.60	6.01	14.39	6.24
	9	17.04	3.79	4.30	16.25	4.89	15.76	5.29	15.47	6.07	15.32	6.30
	10	17.33	3.81	4.32	16.83	4.92	16.40	5.31	16.34	6.12	16.24	6.36
	4	16.18	4.47	5.12	14.32	5.77	13.42	6.32	12.46	7.07	11.53	7.72
	5	16.48	4.49	5.16	14.82	5.82	14.01	6.34	13.16	7.15	12.33	7.82
	6	16.77	4.52	5.20	15.32	5.88	14.59	6.36	13.87	7.24	13.14	7.91
	7	17.07	4.54	5.24	15.82	5.93	15.53	6.38	14.57	7.32	13.94	8.01
	8	17.37	4.57	5.28	16.32	5.98	15.77	6.40	15.27	7.40	14.75	8.10
AMAC60C	9	17.66	4.60	5.32	16.82	6.04	16.35	6.42	15.98	7.48	15.56	8.20
	10	17.96	4.62	5.36	17.32	6.09	16.94	6.44	16.68	7.56	16.36	8.29

COOLING ONLY
REFRIGERANT : R22

MODEL	LEAVING WATER TEMP (°C)	AMBIENT TEMPERATURE (°C)											
		20			25			30			35		
		COOL CAP. kW	COMP. INPUT kW	COOL CAP. kW	COMP. INPUT kW	COOL CAP. kW	COMP. INPUT kW	COOL CAP. kW	COMP. INPUT kW	COOL CAP. kW	COMP. INPUT kW	COOL CAP. kW	COMP. INPUT kW
AMAC80C	5	25.18	4.31	24.03	4.95	22.87	5.59	21.71	6.23	19.66	6.94	18.83	7.23
	6	25.92	4.64	24.75	5.31	23.57	5.98	22.40	6.65	20.29	7.39	19.45	7.69
	7	26.15	4.83	25.05	5.55	23.96	6.28	22.86	7.00	20.86	7.77	20.05	8.08
	8	26.47	5.16	25.38	5.89	24.29	6.62	23.20	7.35	21.09	8.13	20.25	8.44
	9	27.30	5.58	26.15	6.35	24.99	7.11	23.84	7.88	21.60	8.66	20.70	8.98
AMAC100C	10	27.92	6.03	26.69	6.94	25.46	7.84	24.23	8.75	22.18	9.43	21.35	9.70
	5	28.75	5.20	27.80	6.01	26.85	6.81	25.90	7.62	23.37	8.52	22.36	8.89
	6	29.62	5.56	28.65	6.42	27.68	7.28	26.71	8.13	24.11	9.06	23.07	9.43
	7	30.27	5.74	29.26	6.68	28.26	7.62	27.26	8.56	24.80	9.53	23.81	9.92
	8	30.50	6.20	29.56	7.13	28.61	8.06	27.67	8.99	25.07	9.97	24.03	10.37
AMAC120C	9	31.06	6.69	30.18	7.67	29.31	8.65	28.43	9.63	25.73	10.65	24.65	11.06
	10	31.90	7.23	30.90	8.39	29.90	9.54	28.90	10.70	26.28	11.58	25.23	11.93
	5	35.67	6.29	34.55	6.99	33.43	7.69	32.30	8.39	30.05	9.38	29.15	9.78
	6	36.82	6.70	35.65	7.45	34.49	8.20	33.32	8.96	31.05	9.98	30.15	10.39
	7	37.12	7.11	36.08	7.88	35.04	8.66	34.00	9.43	31.79	10.57	30.91	11.03
AMAC150C	8	37.88	7.52	36.76	8.31	35.64	9.11	34.51	9.90	32.23	10.98	31.31	11.41
	9	38.53	8.01	37.51	8.88	36.49	9.75	35.46	10.61	33.02	11.72	32.04	12.17
	10	39.54	8.70	38.38	9.73	37.21	10.76	36.04	11.79	33.26	13.25	32.14	13.83
	5	42.88	7.23	41.39	8.22	39.91	9.20	38.42	10.19	35.68	11.34	34.58	11.80
	6	44.19	7.81	42.58	8.83	40.97	9.85	39.36	10.88	36.72	12.04	35.67	12.51
	7	45.10	8.17	43.55	9.27	42.00	10.36	40.44	11.45	37.81	12.69	36.76	13.18
	8	45.54	8.67	44.04	9.79	42.54	10.90	41.05	12.02	38.24	13.22	37.12	13.70
	9	46.38	9.35	44.98	10.53	43.58	11.71	42.18	12.89	39.38	14.21	38.25	14.74
	10	47.57	10.12	45.90	11.52	44.24	12.92	42.57	14.31	39.99	15.32	38.96	15.73
	5	25.18	4.31	24.03	4.95	22.87	5.59	21.71	6.23	19.66	6.94	18.83	7.23
	6	25.92	4.64	24.75	5.31	23.57	5.98	22.40	6.65	20.29	7.39	19.45	7.69
	7	26.15	4.83	25.05	5.55	23.96	6.28	22.86	7.00	20.86	7.77	20.05	8.08
	8	26.47	5.16	25.38	5.89	24.29	6.62	23.20	7.35	21.09	8.13	20.25	8.44
	9	27.30	5.58	26.15	6.35	24.99	7.11	23.84	7.88	21.60	8.66	20.70	8.98
	10	27.92	6.03	26.69	6.94	25.46	7.84	24.23	8.75	22.18	9.43	21.35	9.70
	5	28.75	5.20	27.80	6.01	26.85	6.81	25.90	7.62	23.37	8.52	22.36	8.89
	6	29.62	5.56	28.65	6.42	27.68	7.28	26.71	8.13	24.11	9.06	23.07	9.43
	7	30.27	5.74	29.26	6.68	28.26	7.62	27.26	8.56	24.80	9.53	23.81	9.92
	8	30.50	6.20	29.56	7.13	28.61	8.06	27.67	8.99	25.07	9.97	24.03	10.37
	9	31.06	6.69	30.18	7.67	29.31	8.65	28.43	9.63	25.73	10.65	24.65	11.06
	10	31.90	7.23	30.90	8.39	29.90	9.54	28.90	10.70	26.28	11.58	25.23	11.93
	5	35.67	6.29	34.55	6.99	33.43	7.69	32.30	8.39	30.05	9.38	29.15	9.78
	6	36.82	6.70	35.65	7.45	34.49	8.20	33.32	8.96	31.05	9.98	30.15	10.39
	7	37.12	7.11	36.08	7.88	35.04	8.66	34.00	9.43	31.79	10.57	30.91	11.03
	8	37.88	7.52	36.76	8.31	35.64	9.11	34.51	9.90	32.23	10.98	31.31	11.41
	9	38.53	8.01	37.51	8.88	36.49	9.75	35.46	10.61	33.02	11.72	32.04	12.17
	10	39.54	8.70	38.38	9.73	37.21	10.76	36.04	11.79	33.26	13.25	32.14	13.83
	5	42.88	7.23	41.39	8.22	39.91	9.20	38.42	10.19	35.68	11.34	34.58	11.80
	6	44.19	7.81	42.58	8.83	40.97	9.85	39.36	10.88	36.72	12.04	35.67	12.51
	7	45.10	8.17	43.55	9.27	42.00	10.36	40.44	11.45	37.81	12.69	36.76	13.18
	8	45.54	8.67	44.04	9.79	42.54	10.90	41.05	12.02	38.24	13.22	37.12	13.70
	9	46.38	9.35	44.98	10.53	43.58	11.71	42.18	12.89	39.38	14.21	38.25	14.74
	10	47.57	10.12	45.90	11.52	44.24	12.92	42.57	14.31	39.99	15.32	38.96	15.73

HEATPUMP - COOLING MODE REFRIGERANT : R22

MODEL	LEAVING WATER TEMP (°C)	AMBIENT TEMPERATURE ON CONDENSOR (°C)													
		20		25		30		35		40		42		46	
		COOL CAP. kW	POWER INPUT kW	COOL CAP. kW	POWER INPUT kW	COOL CAP. kW	POWER INPUT kW	COOL CAP. kW	POWER INPUT kW	COOL CAP. kW	POWER INPUT kW	COOL CAP. kW	POWER INPUT kW	COOL CAP. kW	POWER INPUT kW
AMAC20CR	4	4.62	2.12	4.49	2.26	4.30	2.43	4.25	2.53	3.92	2.77	3.84	2.83	3.60	3.01
	5	5.00	2.13	4.84	2.28	4.62	2.45	4.59	2.56	4.19	2.79	4.10	2.85	3.85	3.03
	6	5.38	2.15	5.18	2.29	4.94	2.46	4.88	2.58	4.46	2.80	4.36	2.87	4.10	3.05
	7	5.76	2.16	5.53	2.31	5.26	2.48	5.28	2.61	4.73	2.82	4.63	2.89	4.36	3.07
	8	6.13	2.18	5.88	2.32	5.59	2.50	5.44	2.61	5.00	2.84	4.89	2.91	4.61	3.08
	9	6.51	2.19	6.22	2.34	5.91	2.51	5.72	2.63	5.28	2.86	5.15	2.93	4.86	3.10
	10	6.89	2.21	6.57	2.36	6.23	2.53	5.94	2.65	5.55	2.88	5.41	2.95	5.11	3.12
	4	8.33	1.94	7.48	2.18	6.57	2.42	5.81	2.66	4.74	2.90	3.83	3.14	3.56	3.19
	5	8.48	1.95	7.68	2.21	6.79	2.47	6.12	2.71	5.02	2.99	4.13	3.25	3.85	3.30
	6	8.63	1.96	7.87	2.24	7.01	2.52	6.40	2.75	5.30	3.08	4.44	3.36	4.14	3.41
AMAC25CR	7	8.78	1.97	8.06	2.26	7.23	2.56	6.74	2.80	5.57	3.16	4.74	3.46	4.43	3.52
	8	8.94	1.98	8.26	2.29	7.45	2.61	6.97	2.84	5.85	3.25	5.05	3.57	4.72	3.63
	9	9.09	1.99	8.45	2.32	7.68	2.66	7.25	2.88	6.13	3.33	5.35	3.67	5.01	3.74
	10	9.24	1.99	8.64	2.35	7.90	2.71	7.50	2.93	6.40	3.42	5.66	3.78	5.30	3.85
	4	9.66	2.46	8.75	2.84	7.84	3.21	6.91	3.45	6.01	3.95	5.65	4.10	4.91	4.40
	5	9.84	2.51	8.95	2.88	8.07	3.26	7.29	3.48	6.29	4.00	5.94	4.15	5.23	4.44
	6	10.01	2.56	9.15	2.93	8.30	3.30	7.61	3.51	6.58	4.04	6.24	4.19	5.55	4.48
	7	10.19	2.61	9.36	2.98	8.52	3.35	8.06	3.55	6.86	4.08	6.53	4.23	5.87	4.53
	8	10.36	2.66	9.56	3.03	8.75	3.40	8.25	3.58	7.15	4.13	6.83	4.28	6.18	4.57
	9	10.53	2.71	9.76	3.08	8.98	3.44	8.57	3.61	7.43	4.17	7.12	4.32	6.50	4.61
AMAC30CR	10	10.71	2.76	9.96	3.13	9.21	3.49	8.83	3.64	7.72	4.22	7.42	4.36	6.82	4.65
	4	11.73	3.20	11.22	3.41	10.62	3.86	10.25	4.11	9.41	4.77	9.17	4.96	8.55	5.66
	5	12.19	3.22	11.71	3.47	11.15	3.93	10.81	4.24	10.03	4.86	9.80	5.05	9.24	5.71
	6	12.65	3.24	12.19	3.53	11.68	4.01	11.36	4.38	10.64	4.95	10.43	5.14	9.93	5.76
	7	13.10	3.26	12.68	3.59	12.20	4.08	11.72	4.59	11.25	5.04	11.06	5.23	10.62	5.82
	8	13.56	3.27	13.16	3.65	12.73	4.15	12.47	4.33	11.87	5.13	11.70	5.33	11.30	5.87
	9	14.02	3.29	13.65	3.72	13.26	4.22	13.02	4.78	12.48	5.22	12.33	5.42	11.99	5.92
	10	14.48	3.31	14.14	3.78	13.79	4.29	13.58	4.91	13.10	5.31	12.96	5.51	12.68	5.98
	4	14.33	3.55	13.31	4.04	12.28	4.56	11.55	5.03	10.24	5.59	9.83	5.80	9.01	6.24
	5	14.60	3.57	13.71	4.06	12.82	4.59	12.14	5.04	11.04	5.64	10.68	5.85	9.97	6.32
AMAC50CR	6	14.87	3.59	14.11	4.08	13.35	4.62	12.73	5.06	11.84	5.69	11.54	5.91	10.93	6.40
	7	15.14	3.61	14.51	4.10	13.89	4.65	13.48	5.07	12.64	5.74	12.39	5.96	11.89	6.47
	8	15.41	3.63	14.91	4.12	14.42	4.68	13.91	5.08	13.44	5.80	13.24	6.02	12.85	6.55
	9	15.68	3.65	15.32	4.14	14.96	4.71	14.50	5.10	14.24	5.85	14.09	6.07	13.81	6.63
	10	15.94	3.67	15.72	4.17	15.49	4.74	15.09	5.11	15.04	5.90	14.95	6.13	14.76	6.71
	4	16.18	4.82	15.25	5.39	14.32	5.96	13.42	6.55	12.46	7.11	11.53	7.68	11.34	7.79
	5	16.48	4.83	15.65	5.40	14.82	5.97	14.01	6.56	13.16	7.11	12.33	7.68	12.17	7.80
	6	16.77	4.84	16.05	5.41	15.32	5.97	14.59	6.56	13.87	7.11	13.14	7.68	12.99	7.80
	7	17.07	4.85	16.44	5.41	15.82	5.98	15.53	6.57	14.57	7.12	13.94	7.69	13.82	7.80
	8	17.37	4.86	16.84	5.42	16.32	5.99	15.77	6.58	15.27	7.12	14.75	7.69	14.65	7.80
AMAC60CR	9	17.66	4.87	17.24	5.43	16.82	6.00	16.35	6.58	15.98	7.12	15.56	7.69	15.47	7.80
	10	17.96	4.88	17.64	5.44	17.32	6.00	16.94	6.59	16.68	7.13	16.36	7.69	16.30	7.80

HEATPUMP - COOLING MODE

REFRIGERANT : R22

MODEL	AMBIENT TEMPERATURE (°C)													
	20		25		30		35		40		42		46	
	COOL CAP. kW	COMP. INPUT kW	COOL CAP. kW	COMP. INPUT kW	COOL CAP. kW	COMP. INPUT kW	COOL CAP. kW	COMP. INPUT kW	COOL CAP. kW	COMP. INPUT kW	COOL CAP. kW	COMP. INPUT kW	COOL CAP. kW	COMP. INPUT kW
AMAC80CR	5	22.02	4.66	21.79	5.47	21.55	6.28	21.32	7.09	19.71	7.69	19.06	17.77	8.41
	6	22.75	5.02	22.52	5.87	22.29	6.72	22.06	7.57	20.38	8.14	19.71	18.37	8.83
	7	23.17	5.27	22.97	6.17	22.76	7.06	22.56	7.96	20.96	8.63	20.32	19.04	9.42
	8	23.59	5.58	23.39	6.51	23.19	7.44	22.98	8.37	21.34	8.96	20.68	19.36	9.68
	9	24.11	6.10	23.91	7.05	23.71	8.01	23.50	8.96	21.72	9.61	21.00	19.57	10.38
AMAC100CR	10	24.75	6.53	24.60	7.67	24.46	8.81	24.32	9.96	22.45	10.41	21.70	20.21	10.95
	5	27.44	5.47	26.97	6.39	26.50	7.30	26.03	8.21	23.77	9.07	22.86	21.05	10.10
	6	27.69	5.87	27.44	6.84	27.19	7.80	26.93	8.77	24.67	9.65	23.77	21.96	10.71
	7	28.93	6.11	28.47	7.15	28.01	8.19	27.54	9.23	25.19	10.16	24.25	22.37	11.29
	8	29.46	6.54	28.99	7.59	28.53	8.64	28.07	9.69	25.64	10.59	24.67	22.74	11.68
AMAC120CR	9	30.10	7.05	29.63	8.16	29.16	9.27	28.70	10.38	26.30	11.34	25.34	23.42	12.50
	10	30.96	7.63	30.53	8.93	30.11	10.23	29.69	11.53	27.20	12.32	26.20	24.21	13.27
	5	33.52	6.33	32.79	7.24	32.07	8.15	31.34	9.06	28.62	9.80	27.53	25.36	10.68
	6	34.25	6.82	33.64	7.77	33.04	8.72	32.43	9.67	29.69	10.39	28.60	26.41	11.26
	7	35.06	7.22	34.43	8.21	33.79	9.19	33.16	10.18	30.29	10.95	29.14	26.85	11.88
AMAC150CR	8	35.48	7.61	34.91	8.64	34.35	9.66	33.79	10.69	30.72	11.41	29.49	27.03	12.28
	9	36.29	8.19	35.71	9.28	35.13	10.37	34.55	11.45	31.51	12.23	30.30	27.87	13.17
	10	37.60	8.87	36.98	10.15	36.36	11.44	35.74	12.72	32.60	13.29	31.34	28.82	13.97
	5	39.50	7.13	39.07	8.17	38.64	9.22	38.21	10.27	35.49	11.12	34.40	32.23	12.15
	6	40.91	7.66	40.45	8.76	39.99	9.86	39.53	10.96	36.69	11.84	35.55	33.27	12.91
AMAC150CR	7	41.54	8.10	41.17	9.24	40.80	10.39	40.43	11.53	37.62	12.48	36.50	34.25	13.62
	8	42.64	8.55	42.15	9.73	41.67	10.92	41.19	12.10	38.12	13.01	36.89	34.43	14.11
	9	43.55	9.22	43.07	10.47	42.60	11.72	42.12	12.97	39.11	13.88	37.90	35.49	14.96
10	45.07	9.97	44.57	11.45	44.07	12.93	12.93	43.58	14.41	40.46	15.10	39.21	36.71	15.93

HEATPUMP - HEATING MODE REFRIGERANT : R22

MODEL	LEAVING WATER TEMP (°C)	AMBIENT TEMPERATURE ON CONDENSOR (°C)															
		-7		-5		0		4		7		10		15		21	
HEAT CAP. kW	POWER INPUT kW	HEAT CAP. kW	POWER INPUT kW	HEAT CAP. kW	POWER INPUT kW	HEAT CAP. kW	POWER INPUT kW	HEAT CAP. kW	POWER INPUT kW	HEAT CAP. kW	POWER INPUT kW	HEAT CAP. kW	POWER INPUT kW	HEAT CAP. kW	POWER INPUT kW	HEAT CAP. kW	POWER INPUT kW
AMAC20CR	35	4.61	2.13	4.90	2.15	5.70	2.21	6.40	2.26	7.13	2.32	7.86	2.37	8.19	2.40	9.12	2.47
	40	4.18	2.27	4.47	2.30	5.29	2.37	6.00	2.44	6.88	2.50	7.49	2.57	7.83	2.60	8.87	2.70
	45	3.74	2.42	4.04	2.45	4.88	2.54	5.60	2.62	6.45	2.70	7.12	2.77	7.46	2.81	8.49	2.92
	50	3.31	2.57	3.62	2.60	4.46	2.71	5.20	2.79	6.08	2.87	6.75	2.98	7.10	3.02	8.11	3.14
	55	2.87	2.72	3.19	2.76	4.05	2.87	4.80	2.97	5.53	3.05	6.38	3.18	6.73	3.22	7.72	3.37
AMAC25CR	35	5.31	2.05	5.46	2.04	6.26	2.04	7.02	2.05	7.75	2.05	8.48	2.05	8.81	2.05	9.69	2.06
	40	5.23	2.29	5.39	2.29	6.13	2.30	6.81	2.32	7.48	2.34	8.15	2.35	8.45	2.36	9.27	2.37
	45	5.15	2.54	5.32	2.54	5.99	2.57	6.61	2.60	7.33	2.63	7.82	2.65	8.10	2.66	8.85	2.69
	50	5.07	2.78	5.26	2.79	5.86	2.83	6.40	2.87	6.95	2.92	7.49	2.95	7.74	2.96	8.43	3.01
	55	5.00	3.03	5.19	3.04	5.73	3.10	6.19	3.15	6.68	3.21	7.17	3.25	7.39	3.27	8.01	3.33
AMAC30CR	35	5.60	2.61	6.03	2.62	7.24	2.66	8.29	2.70	9.41	2.74	10.50	2.77	11.00	2.79	12.40	2.84
	40	5.44	3.00	5.89	3.02	7.11	3.07	8.17	3.11	9.27	3.15	10.39	3.19	10.89	3.21	12.31	3.26
	45	5.28	3.40	5.75	3.42	6.97	3.47	8.04	3.51	9.23	3.56	10.28	3.61	10.79	3.63	12.23	3.69
	50	5.12	3.79	5.60	3.81	6.84	3.87	7.91	3.92	8.97	3.97	10.17	4.02	10.69	4.05	12.14	4.11
	55	4.96	4.19	5.46	4.21	6.71	4.27	7.78	4.33	8.83	4.38	10.07	4.44	10.59	4.47	12.06	4.54
AMAC40CR	35	8.49	3.32	9.05	3.35	10.55	3.46	11.87	3.55	13.59	3.67	14.62	3.75	15.25	3.79	17.00	3.91
	40	7.82	3.82	8.41	2.31	10.03	3.97	11.44	4.05	13.29	4.17	14.40	4.24	15.07	2.70	16.93	4.39
	45	7.15	4.33	7.78	4.39	9.51	4.48	11.02	4.55	12.60	4.65	14.17	4.73	14.89	4.76	16.85	4.87
	50	6.48	4.83	7.15	4.90	8.99	4.99	10.59	5.05	12.27	5.13	13.95	5.22	14.71	5.25	16.78	5.35
	55	5.81	5.35	6.52	5.42	8.47	5.50	10.17	5.55	11.95	5.63	13.73	5.71	14.54	5.74	16.70	5.84
AMAC50CR	35	9.62	3.69	10.29	3.71	12.13	3.76	13.73	3.81	15.68	3.85	17.08	3.91	17.84	3.93	19.98	3.99
	40	9.50	4.32	10.17	4.33	12.00	4.37	13.60	4.40	15.48	4.44	16.95	4.47	17.72	4.48	19.85	4.52
	45	9.37	4.95	10.04	4.95	11.88	4.97	13.48	4.99	15.24	5.01	16.83	5.02	17.59	5.03	19.72	5.05
	50	9.25	5.59	9.92	5.57	11.75	5.57	13.35	5.58	15.09	5.62	16.70	5.58	17.46	5.58	19.59	5.57
	55	9.13	6.22	9.79	6.19	11.63	6.18	13.22	6.17	14.90	6.21	16.57	6.14	17.33	6.13	19.46	6.10
AMAC60CR	35	12.42	5.20	13.06	5.21	14.79	5.23	16.31	5.25	18.07	5.27	19.48	5.28	20.20	5.29	22.22	5.32
	40	11.98	5.81	12.63	5.82	14.40	5.84	15.95	5.86	17.75	5.88	19.19	5.90	19.93	5.91	21.99	5.94
	45	11.54	6.42	12.20	6.43	14.01	6.45	15.59	6.47	17.29	6.26	18.90	6.52	19.66	6.53	21.77	6.56
	50	11.09	7.02	11.77	7.03	13.62	7.06	15.24	7.09	17.11	7.11	18.62	7.14	19.39	7.15	21.54	7.18
	55	10.65	7.63	11.34	7.64	13.23	7.67	14.88	7.70	16.79	7.73	18.33	7.75	19.12	7.77	21.32	7.80

HEATPUMP - HEATING MODE
REFRIGERANT : R22

MODEL	LEAVING WATER TEMP (°C)		AMBIENT TEMPERATURE (°C)														
			-7		-5		0		4		7		10		15		21
	HEATING CAP. kW	COMP. INPUT kW	HEATING CAP. kW	COMP. INPUT kW	HEATING CAP. kW	COMP. INPUT kW	HEATING CAP. kW	COMP. INPUT kW	HEATING CAP. kW	COMP. INPUT kW	HEATING CAP. kW	COMP. INPUT kW	HEATING CAP. kW	COMP. INPUT kW	HEATING CAP. kW	COMP. INPUT kW	
AMAC80CR	35	17.69	4.22	18.14	4.56	22.17	5.42	25.39	6.11	27.80	6.62	28.93	6.82	30.81	7.15	33.06	7.55
	40	17.28	4.78	17.70	5.13	21.57	6.02	24.67	6.73	27.00	7.27	28.14	7.37	30.04	7.55	32.32	7.77
	45	16.88	5.09	17.29	5.46	21.08	6.40	24.11	7.15	26.38	7.71	27.60	7.81	29.64	7.98	32.08	8.19
	50			16.72	5.50	20.50	6.54	23.53	7.38	25.80	8.01	27.00	8.13	28.99	8.34	31.39	8.58
	55			15.96	5.57	19.69	6.73	22.67	7.66	24.90	8.36	26.10	8.47	28.10	8.64		
AMAC100CR	35	22.17	6.47	22.60	6.62	27.28	6.97	31.03	7.25	33.84	7.46	35.66	7.88	38.70	8.59	42.35	9.44
	40	21.68	7.31	22.07	7.43	26.57	7.74	30.17	7.99	32.87	8.18	34.76	8.51	37.90	9.07	41.66	9.73
	45	20.92	8.11	21.36	8.19	25.89	8.40	29.51	8.56	32.22	8.68	34.11	8.92	37.24	9.32	41.01	9.79
	50			20.83	8.29	25.31	8.59	28.89	8.84	31.58	9.02	33.38	9.36	36.37	9.94	39.96	10.63
	55			19.87	8.47	24.27	8.87	27.78	9.18	30.42	9.42	32.25	9.77	35.30	10.34		
AMAC120CR	35	22.58	7.28	23.03	7.52	28.82	8.10	33.45	8.56	36.93	8.91	39.06	9.13	42.60	9.49	46.86	9.92
	40	21.27	8.24	22.17	8.46	27.88	9.00	32.44	9.44	35.87	9.76	38.02	9.86	41.62	10.02	45.93	10.21
	45	21.08	8.84	21.98	9.06	27.48	9.60	31.87	10.04	35.17	10.37	37.30	10.40	40.84	10.45	45.10	10.51
	50			21.19	9.33	26.72	9.93	31.15	10.41	34.47	10.77	36.60	10.88	40.17	11.06	44.44	11.28
	55			20.25	9.57	25.65	10.27	29.97	10.83	33.21	11.25	35.34	11.34	38.90	11.48		
AMAC150CR	35	23.01	8.77	23.77	9.03	30.79	9.67	36.40	10.17	40.61	10.56	42.15	10.75	44.71	11.07	47.79	11.45
	40	21.92	9.93	23.19	10.16	29.97	10.75	35.39	11.22	39.45	11.58	41.08	11.61	43.78	11.68	47.02	11.76
	45	21.55	10.43	22.79	10.69	29.41	11.36	34.71	11.89	38.68	12.29	40.28	12.24	42.96	12.18	46.16	12.10
	50			22.19	10.87	28.74	11.66	33.98	12.29	37.91	12.77	39.41	12.82	41.90	12.91	44.89	13.02
	55			20.91	11.09	27.41	12.02	32.61	12.77	36.51	13.33	38.03	13.35	40.55	13.39		

**COOLING ONLY
REFRIGERANT : R407C**

MODEL	LEAVING WATER TEMP (°C)	AMBIENT TEMPERATURE ON CONDENSOR (°C)													
		20		25		30		35		40		42		46	
		COOL CAP. kW	POWER INPUT kW	COOL CAP. kW	POWER INPUT kW	COOL CAP. kW	POWER INPUT kW	COOL CAP. kW	POWER INPUT kW	COOL CAP. kW	POWER INPUT kW	COOL CAP. kW	POWER INPUT kW	COOL CAP. kW	POWER INPUT kW
A4AC20C	4	5.38	2.13	5.23	2.27	5.01	2.44	4.95	2.54	4.56	2.78	4.47	2.84	4.20	3.02
	5	5.82	2.14	5.63	2.28	5.38	2.45	5.35	2.57	4.88	2.80	4.78	2.86	4.49	3.04
	6	6.26	2.16	6.04	2.30	5.76	2.47	5.68	2.59	5.19	2.81	5.08	2.88	4.78	3.06
	7	6.70	2.17	6.44	2.32	6.13	2.49	6.15	2.62	5.51	2.83	5.39	2.90	5.07	3.08
	8	7.14	2.19	6.85	2.33	6.51	2.51	6.33	2.62	5.83	2.85	5.69	2.92	5.37	3.10
	9	7.59	2.20	7.25	2.35	6.88	2.52	6.66	2.64	6.14	2.87	6.00	2.94	5.66	3.12
	10	8.03	2.22	7.65	2.37	7.26	2.54	6.92	2.66	6.46	2.89	6.30	2.96	5.95	3.13
	4	8.33	2.05	7.48	2.30	6.57	2.56	5.81	2.81	4.74	3.07	3.83	3.32	3.56	3.38
	5	8.48	2.06	7.68	2.33	6.79	2.61	6.12	2.86	5.02	3.16	4.13	3.44	3.85	3.49
	6	8.63	2.07	7.87	2.36	7.01	2.66	6.40	2.91	5.30	3.25	4.44	3.55	4.14	3.61
A4AC025C	7	8.78	2.08	8.06	2.39	7.23	2.71	6.74	2.96	5.57	3.34	4.74	3.66	4.43	3.72
	8	8.94	2.09	8.26	2.42	7.45	2.76	6.97	3.00	5.85	3.43	5.05	3.77	4.72	3.84
	9	9.09	2.10	8.45	2.46	7.68	2.81	7.25	3.05	6.13	3.52	5.35	3.88	5.01	3.95
	10	9.24	2.11	8.64	2.49	7.90	2.86	7.50	3.09	6.40	3.62	5.66	3.99	5.30	4.07
	4	8.69	2.56	7.90	2.95	7.12	3.33	6.47	3.58	5.54	4.11	5.23	4.27	4.60	4.58
	5	8.85	2.61	8.15	3.00	7.45	3.38	6.95	3.62	6.04	4.16	5.76	4.31	5.20	4.62
	6	9.01	2.66	8.39	3.05	7.78	3.43	7.31	3.65	6.54	4.20	6.29	4.35	5.80	4.66
	7	9.18	2.72	8.64	3.10	8.11	3.48	7.91	3.69	7.04	4.25	6.83	4.40	6.40	4.71
	8	9.34	2.77	8.89	3.15	8.44	3.53	8.03	3.72	7.54	4.29	7.36	4.44	7.00	4.75
	9	9.50	2.82	9.14	3.20	8.77	3.58	8.39	3.75	8.04	4.34	7.89	4.49	7.60	4.79
A4AC030C	10	9.66	2.87	9.38	3.25	9.10	3.63	8.63	3.79	8.54	4.38	8.42	4.53	8.20	4.84
	4	11.73	3.45	11.22	3.67	10.62	4.16	10.25	4.42	9.41	5.14	9.17	5.33	8.55	6.09
	5	12.19	3.47	11.71	3.74	11.15	4.23	10.81	4.57	10.03	5.23	9.80	5.43	9.24	6.15
	6	12.65	3.48	12.19	3.80	11.68	4.31	11.36	4.71	10.64	5.33	10.43	5.53	9.93	6.20
	7	13.10	3.50	12.68	3.87	12.20	4.39	11.72	4.94	11.25	5.42	11.06	5.63	10.62	6.26
	8	13.56	3.52	13.16	3.93	12.73	4.46	12.47	4.66	11.87	5.52	11.70	5.73	11.30	6.32
	9	14.02	3.54	13.65	4.00	13.26	4.54	13.02	5.14	12.48	5.62	12.33	5.83	11.99	6.38
	10	14.48	3.56	14.14	4.06	13.79	4.61	13.58	5.28	13.10	5.71	12.96	5.93	12.68	6.43
	4	15.57	4.18	14.46	4.76	13.35	5.37	12.56	5.92	11.13	6.59	10.68	6.83	9.79	7.35
	5	15.86	4.20	14.90	4.79	13.93	5.41	13.20	5.94	12.00	6.65	11.61	6.89	10.84	7.44
A4AC50C	6	16.16	4.23	15.33	4.81	14.51	5.44	13.84	5.95	12.87	6.70	12.54	6.96	11.88	7.53
	7	16.45	4.25	15.77	4.83	15.09	5.48	14.65	5.97	13.73	6.76	13.46	7.02	12.92	7.62
	8	16.74	4.28	16.21	4.86	15.67	5.51	15.12	5.99	14.60	6.82	14.39	7.09	13.96	7.72
	9	17.04	4.30	16.65	4.88	16.25	5.55	15.76	6.00	15.47	6.88	15.32	7.15	15.00	7.81
	10	17.33	4.33	17.08	4.90	16.83	5.58	16.40	6.02	16.34	6.94	16.24	7.22	16.05	7.90
	4	15.88	4.82	14.97	5.52	14.05	6.22	13.17	6.82	12.23	7.63	11.31	8.33	11.13	8.47
	5	16.17	4.84	15.36	5.56	14.54	6.28	13.75	6.84	12.92	7.71	12.10	8.43	11.94	8.58
	6	16.46	4.87	15.75	5.60	15.03	6.34	14.32	6.86	13.61	7.80	12.89	8.53	12.75	8.68
	7	16.75	4.90	16.14	5.65	15.52	6.40	15.24	6.88	14.30	7.89	13.68	8.64	13.56	8.79
	8	17.04	4.93	16.53	5.69	16.01	6.45	15.67	6.90	14.99	7.98	14.47	8.74	14.37	8.89
A4AC60C	9	17.33	4.96	16.92	5.74	16.50	6.51	16.05	6.92	15.68	8.07	15.27	8.84	15.18	9.00
	10	17.62	4.99	17.31	5.78	17.00	6.57	16.62	6.94	16.37	8.15	16.06	8.94	15.99	9.10

COOLING ONLY
REFRIGERANT : R407C

MODEL	AMBIENT TEMPERATURE (°C)														
	20		25		30		35		40		42		46		
	COOL CAP. kW	COMP. INPUT kW	COOL CAP. kW	COMP. INPUT kW	COOL CAP. kW	COMP. INPUT kW	COOL CAP. kW	COMP. INPUT kW	COOL CAP. kW	COMP. INPUT kW	COOL CAP. kW	COMP. INPUT kW	COOL CAP. kW	COMP. INPUT kW	
A4AC080C	5	23.77	4.73	22.60	5.57	21.51	6.36	20.60	6.94	19.32	7.33	17.38	7.83	15.00	8.53
	6	24.46	5.09	23.29	6.00	22.37	6.83	21.25	7.41	19.97	7.80	18.00	8.30	15.50	9.05
	7	24.68	5.30	23.61	6.30	22.61	7.20	21.69	7.80	20.39	8.19	18.58	8.73	16.10	9.50
	8	24.98	5.66	23.89	6.68	22.91	7.59	22.01	8.19	20.79	8.58	18.70	9.09	16.20	9.91
	9	25.74	6.13	24.43	7.22	23.37	8.19	22.62	8.78	21.42	9.17	19.12	9.69	16.50	10.50
	10	26.34	6.61	25.05	7.79	23.86	8.82	22.99	9.75	22.05	9.79	19.80	10.30	17.20	11.20
A4AC100C	5	26.39	5.42	25.83	6.51	25.18	7.50	24.50	8.19	23.18	8.65	21.55	9.24	18.90	9.97
	6	27.19	5.80	26.63	7.01	26.19	8.05	25.27	8.74	23.97	9.20	22.32	9.79	19.50	10.55
	7	27.77	5.99	27.12	7.33	26.47	8.49	25.79	9.20	24.47	9.66	23.04	10.29	20.30	11.10
	8	27.98	6.47	27.41	7.80	26.83	8.95	26.18	9.66	24.95	10.12	23.19	10.72	20.40	11.57
	9	28.48	6.98	27.89	8.42	27.36	9.66	26.90	10.35	25.70	10.81	23.71	11.43	20.90	12.32
	10	29.27	7.53	28.65	9.09	27.93	10.40	27.34	11.50	26.46	11.55	24.55	12.15	21.50	13.11
A4AC120C	5	34.02	6.47	33.64	7.39	32.99	8.31	32.02	9.08	30.36	9.59	28.24	10.24	26.26	11.45
	6	35.12	6.89	34.70	7.94	34.31	8.93	33.03	9.69	31.38	10.20	29.25	10.85	27.20	12.15
	7	35.41	7.31	35.18	8.39	34.68	9.41	33.70	10.20	32.04	10.71	30.19	11.41	27.98	12.94
	8	36.12	7.74	35.71	8.86	35.14	9.92	34.21	10.71	32.67	11.22	30.39	11.88	28.31	13.30
	9	36.72	8.26	36.32	9.53	35.85	10.71	35.15	11.48	33.66	11.99	31.07	12.67	28.89	14.15
	10	37.71	8.94	37.30	10.30	36.60	11.53	35.72	12.75	34.65	12.80	32.18	13.47	29.92	15.00
A4AC150C	5	42.36	7.81	41.69	8.87	40.46	9.94	38.15	10.86	36.95	11.47	34.90	12.25	31.75	14.00
	6	43.67	8.45	42.98	9.57	42.04	10.68	39.36	11.59	38.19	12.20	36.14	12.98	32.90	14.80
	7	44.54	8.84	43.76	10.07	42.65	11.26	40.16	12.20	39.00	12.81	37.31	13.65	33.98	15.61
	8	44.97	9.38	44.25	10.65	43.09	11.87	40.76	12.81	39.76	13.42	37.55	14.21	34.20	16.15
	9	45.77	10.12	45.03	11.50	43.84	12.81	41.89	13.73	40.96	14.34	38.39	15.15	35.30	17.40
	10	47.00	10.94	46.24	12.41	44.88	13.79	42.57	15.25	42.17	15.31	39.76	16.12	36.18	18.21

HEATPUMP - COOLING MODE
REFRIGERANT : R407C

MODEL	AMBIENT TEMPERATURE (°C)									
	20		25		30		35		40	
	COOL CAP. kW	COMP. INPUT kW	COOL CAP. kW	COMP. INPUT kW	COOL CAP. kW	COMP. INPUT kW	COOL CAP. kW	COMP. INPUT kW	COOL CAP. kW	COMP. INPUT kW
A4AC60CR	4	15.58	4.79	5.36	13.78	5.92	12.92	6.51	11.99	7.06
	5	15.86	4.80	5.36	14.27	5.93	13.48	6.52	12.67	7.07
	6	16.15	4.81	5.37	14.75	5.94	14.05	6.52	13.35	7.07
	7	16.43	4.82	5.38	15.23	5.95	14.95	6.53	14.02	7.07
	8	16.72	4.83	5.39	15.71	5.95	15.18	6.54	14.70	7.08
	9	17.00	4.84	5.40	16.19	5.96	15.74	6.54	15.38	7.08
	10	17.29	4.85	5.41	16.67	5.97	16.31	6.55	16.06	7.09
	5	21.16	4.91	5.89	20.72	6.77	20.50	7.39	19.41	7.80
	6	21.86	5.30	6.34	21.43	7.26	21.21	7.89	20.13	8.30
	7	22.26	5.56	6.68	21.88	7.66	21.69	8.30	20.58	8.72
A4AC80CR	8	22.66	5.89	7.06	22.29	8.07	22.10	8.72	20.93	9.13
	9	23.16	6.44	7.65	22.79	8.72	22.60	9.34	21.47	9.75
	10	23.77	6.88	8.24	23.51	9.38	23.38	10.38	22.12	10.42
	5	25.80	5.63	6.91	24.85	8.02	24.37	8.76	23.08	9.25
	6	26.05	6.06	7.44	25.50	8.61	25.22	9.35	23.93	9.84
	7	27.21	6.30	7.81	26.26	9.08	25.79	9.84	24.48	10.33
	8	27.71	6.75	8.28	26.76	9.57	26.28	10.33	24.89	10.82
	9	28.30	7.28	8.94	27.35	10.34	26.87	11.07	25.53	11.56
	10	29.11	7.86	9.65	28.24	11.12	27.80	12.30	26.31	12.35
	5	33.03	6.53	7.82	31.32	8.99	30.47	9.83	28.85	10.38
A4AC100CR	6	33.75	7.04	8.43	32.27	9.66	31.53	10.49	29.92	11.04
	7	34.55	7.45	8.90	33.01	10.19	32.24	11.04	30.59	11.59
	8	34.96	7.86	9.40	33.55	10.74	32.85	11.59	31.11	12.14
	9	35.76	8.47	10.14	34.31	11.59	33.59	12.42	31.92	12.97
	10	37.05	9.14	10.95	35.52	12.48	34.75	13.80	32.88	13.86
	5	38.26	8.27	9.53	36.75	10.75	36.00	11.75	34.09	12.41
	6	39.63	8.89	10.26	38.04	11.55	37.25	12.54	35.35	13.20
	7	40.23	9.40	10.82	38.81	12.17	38.10	13.20	36.15	13.86
	8	41.29	9.93	11.44	39.64	12.84	38.82	13.86	36.76	14.52
	9	42.18	10.71	12.35	41.35	13.86	39.70	14.85	37.72	15.51
A4AC120CR	10	43.65	11.56	13.33	41.93	14.91	41.06	16.50	38.86	16.56
	5	44.94	10.14	10.14	43.31	11.59	42.42	12.42	40.14	13.86
	6	46.23	10.75	11.04	44.60	12.48	43.71	13.37	41.43	14.80
	7	47.52	11.36	11.95	45.89	13.44	44.99	14.32	42.72	15.74
	8	48.81	11.97	12.86	47.18	14.40	46.28	15.27	44.01	16.68
	9	50.10	12.58	13.77	48.47	15.36	47.57	16.22	45.30	17.62
	10	51.39	13.19	14.68	49.76	16.32	48.86	17.17	46.59	18.56
	5	52.68	11.71	11.71	51.14	13.44	50.14	14.32	47.88	15.74
	6	53.97	12.32	12.62	52.43	14.40	51.43	15.27	49.17	16.68
	7	55.26	12.93	13.53	53.72	15.36	52.72	16.22	50.46	17.62
A4AC150CR	8	56.55	13.54	14.44	55.01	16.32	54.01	17.17	51.75	18.56
	9	57.84	14.15	15.35	56.30	17.28	55.30	18.12	53.04	19.50
	10	59.13	14.76	16.26	57.59	18.24	56.59	19.07	54.33	20.44
	5	60.42	13.28	13.28	58.97	15.36	57.97	16.22	55.71	17.62
	6	61.71	13.89	14.19	60.26	16.32	59.26	17.17	57.00	18.56
	7	63.00	14.50	15.10	61.55	17.28	60.55	18.12	58.29	19.50
	8	64.29	15.11	16.01	62.84	18.24	61.84	19.07	59.58	20.44
	9	65.58	15.72	16.92	64.13	19.20	63.13	20.02	60.87	21.38
	10	66.87	16.33	17.83	65.42	20.16	64.42	20.97	62.16	22.32
	5	68.16	14.85	14.85	66.80	17.28	65.80	18.12	63.54	19.50

HEATPUMP - HEATING MODE REFRIGERANT : R407C

MODEL	AMBIENT TEMPERATURE (°C)													
	-7		-5		0		4		7		10		15	
	HEATING CAP. kW	COMP. INPUT kW	HEATING CAP. kW	COMP. INPUT kW	HEATING CAP. kW	COMP. INPUT kW	HEATING CAP. kW	COMP. INPUT kW	HEATING CAP. kW	COMP. INPUT kW	HEATING CAP. kW	COMP. INPUT kW	HEATING CAP. kW	COMP. INPUT kW
A4AC60CR	35	12.63	5.22	13.28	5.23	15.04	16.58	5.27	18.37	5.28	18.77	5.29	20.53	5.31
	40	12.18	5.83	12.84	5.84	14.65	16.22	5.88	18.05	5.90	18.45	5.91	20.26	5.93
	45	11.73	6.44	12.40	6.45	14.25	15.85	6.49	17.58	6.28	18.14	6.53	19.99	6.55
	50	11.28	7.04	11.97	7.05	13.85	15.49	7.11	17.40	7.13	17.82	7.14	19.71	7.17
	55	10.83	7.65	11.53	7.66	13.45	15.13	7.72	17.07	7.75	17.51	7.76	19.44	7.79
A4AC80CR	35	17.10	6.40	18.61	6.52	25.11	26.90	6.86	27.70	7.18	28.28	7.69	29.54	8.19
	40	16.70	7.20	18.15	7.33	24.53	26.11	7.77	26.90	7.88	27.93	8.13	29.07	8.44
	45	16.30	7.70	17.73	7.80	24.00	25.56	8.15	26.38	8.36	27.38	8.53	28.54	8.90
	50			17.15	7.85	23.48	25.06	8.53	25.85	8.69	26.85	9.03	28.01	9.30
	55			16.37	7.95	22.42	24.40	8.78	24.90	9.07	26.11	9.22	27.22	9.61
A4AC100CR	35	18.10	7.30	19.15	7.35	27.34	29.30	7.79	30.16	8.16	30.79	8.74	32.17	9.31
	40	17.70	8.10	18.70	8.26	26.71	28.43	8.84	29.30	8.95	30.42	9.23	31.65	9.60
	45	17.00	9.00	18.10	9.10	26.14	27.83	9.30	28.72	9.50	29.81	9.69	31.08	9.75
	50			17.65	9.21	25.56	27.29	9.69	28.15	9.87	29.24	10.26	30.50	10.56
	55			16.84	9.41	24.41	26.57	9.98	27.11	10.31	28.43	10.48	29.64	10.93
A4AC120CR	35	19.90	8.30	22.71	8.38	32.92	35.27	8.86	36.31	9.28	37.07	9.94	38.73	10.58
	40	19.20	9.30	21.86	9.43	32.16	34.24	10.04	35.27	10.17	36.62	10.50	38.11	10.91
	45	18.80	10.00	21.68	10.10	31.47	33.51	10.53	34.58	10.80	35.90	11.02	37.42	11.20
	50			20.90	10.40	30.78	32.85	11.02	33.89	11.22	35.21	11.66	36.73	12.01
	55			19.97	10.67	29.40	31.99	11.34	32.65	11.72	34.24	11.91	35.69	12.42
A4AC150CR	35	24.26	9.93	27.72	10.18	40.18	43.05	10.99	44.31	11.51	45.24	12.33	47.26	13.13
	40	23.73	11.22	27.04	11.46	39.25	41.78	12.47	43.05	12.63	44.70	13.02	46.51	13.54
	45	23.20	11.81	26.58	12.06	38.40	40.89	13.06	42.20	13.40	43.81	13.67	45.67	13.94
	50			25.87	12.26	37.56	40.10	13.67	41.36	13.93	42.96	14.47	44.81	14.90
	55			24.39	12.51	35.87	39.04	14.07	39.84	14.54	41.78	14.78	43.55	15.41

HEATPUMP-COOLING MODE
REFRIGERANT : R410A

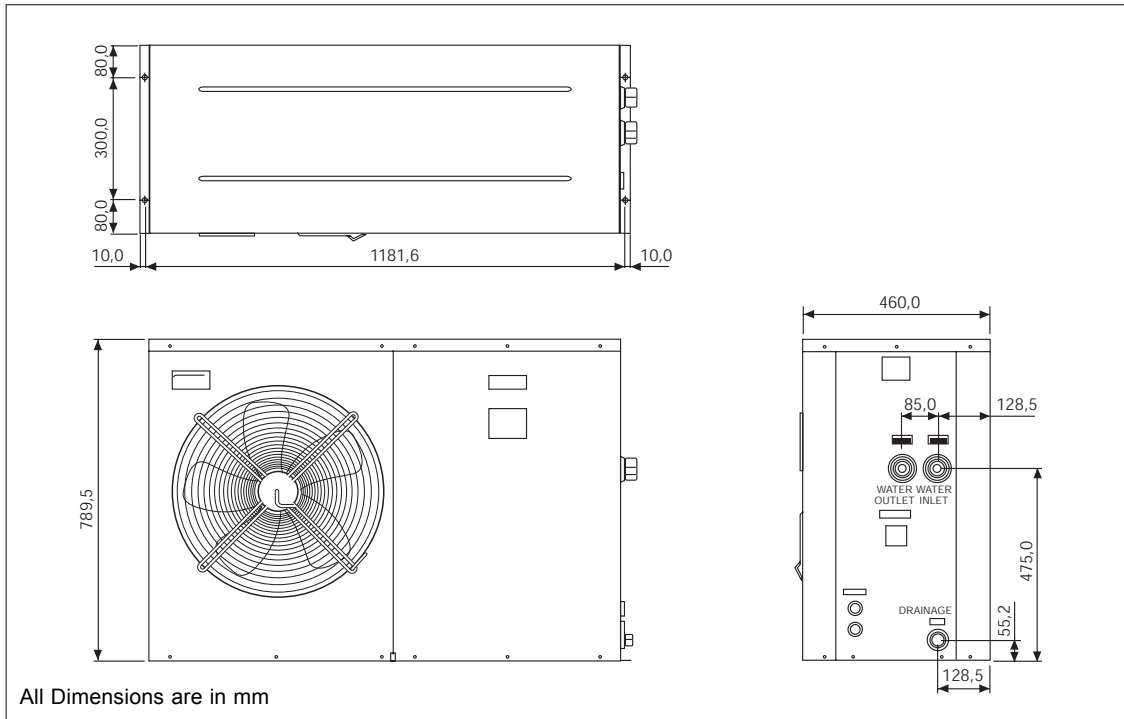
MODEL	AMBIENT TEMPERATURE (DB) ON CONDENSER (°C)													
	20		25		30		35		40		42		46	
	COOL CAP.	POWER INPUT	COOL CAP.	POWER INPUT	COOL CAP.	POWER INPUT	COOL CAP.	POWER INPUT	COOL CAP.	POWER INPUT	COOL CAP.	POWER INPUT	COOL CAP.	POWER INPUT
A5AC20CR	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	4	5.61	2.02	5.04	2.18	4.48	2.35	4.01	2.47	3.34	3.11	2.74	2.60	2.90
	5	6.13	2.04	5.49	2.20	4.86	2.37	4.35	2.50	3.59	3.33	2.76	2.78	2.92
	6	6.58	2.05	5.90	2.22	5.22	2.38	4.62	2.52	3.86	3.59	2.78	2.96	2.93
	7	7.03	2.07	6.30	2.24	5.58	2.40	4.98	2.55	4.12	3.83	2.81	3.14	2.95
	8	7.34	2.08	6.58	2.25	5.83	2.42	5.15	2.55	4.31	4.01	2.82	3.33	2.97
	9	7.85	2.10	7.04	2.27	6.22	2.43	5.42	2.57	4.60	4.27	2.84	3.51	2.99
	10	8.22	2.11	7.35	2.28	6.47	2.45	5.58	2.59	4.72	4.38	2.85	3.69	3.01
	4	6.57	2.09	6.12	2.24	5.68	2.40	5.17	2.54	4.78	4.33	2.86	4.28	2.90
	5	6.95	2.12	6.50	2.28	6.04	2.43	5.49	2.56	5.12	4.66	2.90	4.62	2.95
A5AC25CR	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	6	7.31	2.16	6.84	2.31	6.36	2.47	5.80	2.60	5.41	2.78	2.94	4.90	2.99
	7	7.72	2.19	7.24	2.35	6.76	2.51	6.15	2.59	5.79	5.31	2.98	5.29	3.05
	8	8.02	2.23	7.52	2.38	7.02	2.54	6.42	2.68	6.01	5.50	3.02	5.46	3.06
	9	8.38	2.26	7.86	2.42	7.34	2.58	6.72	2.72	6.30	5.78	3.05	5.74	3.10
	10	8.71	2.30	8.17	2.46	7.63	2.61	7.01	2.78	6.56	6.02	3.09	5.96	3.12
	4	9.37	2.04	8.49	2.45	7.61	2.87	6.73	3.28	5.84	5.49	3.86	4.79	4.19
	5	9.83	2.06	8.92	2.48	8.01	2.90	7.10	3.31	6.19	5.82	3.90	5.10	4.23
	6	10.15	2.08	9.24	2.51	8.32	2.93	7.41	3.35	6.50	6.13	3.93	5.40	4.27
	7	10.76	2.11	9.79	2.53	8.82	2.96	7.85	3.38	6.88	6.49	3.97	5.71	4.31
A5AC30CR	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	8	10.78	2.13	9.87	2.55	8.95	2.98	8.04	3.41	7.12	6.76	4.01	6.02	4.35
	9	11.10	2.15	10.18	2.58	9.27	3.01	8.35	3.44	7.43	7.07	4.04	6.33	4.39
	10	11.27	2.17	10.38	2.60	9.49	3.04	8.60	3.47	7.71	7.35	4.08	6.64	4.43
	4	11.74	1.63	11.02	2.20	10.30	2.77	9.58	3.35	8.86	8.57	4.15	7.99	4.61
	5	11.95	2.07	11.31	2.54	10.67	3.01	10.04	3.48	9.40	9.14	4.14	8.63	4.52
	6	12.30	2.45	11.72	2.83	11.13	3.21	10.55	3.59	9.97	9.74	4.12	9.28	4.42
	7	12.36	2.94	11.89	3.21	11.42	3.47	10.95	3.74	10.48	10.29	4.11	9.92	4.33
	8	12.99	3.22	12.52	3.42	12.06	3.61	11.59	3.81	11.12	10.94	4.08	10.56	4.23
	9	13.34	3.61	12.93	3.71	12.52	3.81	12.11	3.91	11.70	11.53	4.06	11.20	4.14
A5AC40CR	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	10	13.83	3.94	13.45	3.96	13.07	3.98	12.69	4.00	12.31	12.15	4.03	11.85	4.05
	4	15.33	3.15	14.15	3.59	12.97	4.02	11.79	4.46	10.61	10.14	5.07	9.20	5.42
	5	15.55	3.17	14.51	3.60	13.48	4.04	12.45	4.47	11.42	11.00	5.08	10.18	5.43
	6	15.63	3.19	14.77	3.62	13.91	4.05	13.05	4.49	12.19	11.84	5.09	11.16	5.44
	7	15.98	3.21	15.24	3.64	14.50	4.07	13.76	4.50	13.02	12.73	5.10	12.13	5.45
	8	15.81	3.22	15.29	3.65	14.77	4.08	14.25	4.51	13.73	13.53	5.11	13.11	5.46
	9	15.89	3.24	15.55	3.67	15.20	4.10	14.85	4.53	14.51	14.37	5.12	14.09	5.47
	10	15.85	3.26	15.70	3.69	15.55	4.11	15.40	4.54	15.25	15.19	5.13	15.07	5.48
	4	15.32	3.92	14.43	4.37	13.54	4.83	12.65	5.29	11.76	10.87	6.20	10.69	6.29
A5AC55CR	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	5	15.83	3.93	14.99	4.38	14.15	4.84	13.31	5.29	12.48	11.64	6.20	11.47	6.29
	6	16.07	3.94	15.34	4.39	14.60	4.84	13.87	5.30	13.13	12.40	6.20	12.25	6.29
	7	16.84	3.95	16.11	4.40	15.37	4.85	14.64	5.30	13.91	13.17	6.20	13.03	6.29
	8	16.56	3.96	16.03	4.41	15.50	4.86	14.97	5.31	14.44	13.91	6.20	13.81	6.29
	9	16.81	3.97	16.38	4.42	15.95	4.86	15.53	5.31	15.10	14.67	6.21	14.58	6.29
	10	16.79	3.98	16.52	4.42	16.24	4.87	15.97	5.32	15.69	15.42	6.21	15.36	6.30
	4	16.79	3.98	16.52	4.42	16.24	4.87	15.97	5.32	15.69	15.42	6.21	15.36	6.30
	5	16.83	3.93	14.99	4.38	14.15	4.84	13.31	5.29	12.48	11.64	6.20	11.47	6.29
	6	16.07	3.94	15.34	4.39	14.60	4.84	13.87	5.30	13.13	12.40	6.20	12.25	6.29

MODEL	LEAVING WATER TEMP (°C)	AMBIENT TEMPERATURE (DB) ON CONDENSOR (°C)																	
		-7		-5		0		4		6		7		10		15		21	
		HEAT CAP. kW	COMP. INPUT kW	HEAT CAP. kW	COMP. INPUT kW	HEAT CAP. kW	COMP. INPUT kW	HEAT CAP. kW	COMP. INPUT kW	HEAT CAP. kW	COMP. INPUT kW	HEAT CAP. kW	COMP. INPUT kW	HEAT CAP. kW	COMP. INPUT kW	HEAT CAP. kW	COMP. INPUT kW	HEAT CAP. kW	COMP. INPUT kW
A5AC030CR	35	5.88	2.41	6.43	2.42	7.81	2.47	8.92	2.50	9.48	2.52	9.75	2.53	10.58	2.56	11.97	2.60	13.35	2.64
	40	5.71	2.77	6.27	2.79	7.67	2.84	8.79	2.88	9.36	2.90	9.64	2.91	10.48	2.94	11.88	2.99	13.28	3.04
	45	5.54	3.14	6.11	3.16	7.53	3.21	8.67	3.26	9.24	3.28	9.52	3.29	10.37	3.32	11.79	3.38	13.21	3.43
	50	5.38	3.50	5.95	3.53	7.39	3.59	8.54	3.63	9.12	3.66	9.40	3.67	10.27	3.71	11.71	3.77	13.14	3.82
	55	5.21	3.87	5.79	3.89	7.25	3.96	8.41	4.01	9.00	4.04	9.29	4.05	10.16	4.09	11.62	4.15	13.07	4.22
A5AC040CR	35	8.07	2.79	8.70	2.83	10.28	2.93	11.55	3.01	12.50	3.08	12.50	3.08	13.45	3.14	15.03	3.24	16.62	3.34
	40	7.54	3.22	8.21	3.26	9.88	3.35	11.22	3.43	12.23	3.49	12.23	3.49	13.23	3.54	14.90	3.64	16.58	3.74
	45	7.00	3.64	7.71	3.68	9.48	3.77	10.89	3.85	11.95	3.90	11.95	3.90	13.01	3.95	14.78	4.05	16.54	4.14
	50	6.47	4.08	7.22	4.11	9.07	4.20	10.56	4.26	11.30	4.30	11.67	4.31	12.79	4.37	14.65	4.45	16.50	4.53
	55	5.94	4.51	6.72	4.54	8.67	4.62	10.23	4.68	11.01	4.71	11.40	4.73	12.57	4.78	14.52	4.86	16.47	4.94
A5AC050CR	35	9.55	3.35	10.35	3.37	12.36	3.43	13.97	3.47	14.77	3.50	15.17	3.51	16.38	3.54	18.39	3.60	20.40	3.65
	40	9.43	3.92	10.23	3.93	12.24	3.97	13.85	4.00	14.65	4.02	15.05	4.02	16.26	4.05	18.27	4.08	20.27	4.12
	45	9.31	4.49	10.11	4.49	12.12	4.51	13.73	4.53	14.53	4.54	14.93	4.54	16.13	4.55	18.14	4.57	20.15	4.59
	50	9.19	5.05	9.99	5.05	12.00	5.06	13.60	5.06	14.41	5.06	14.81	5.06	16.01	5.06	18.02	5.06	20.02	5.06
	55	9.07	5.62	9.87	5.62	11.88	5.60	13.48	5.58	14.29	5.58	14.69	5.57	15.89	5.56	17.89	5.54	19.90	5.53
A5AC055CR	35	11.62	4.32	12.34	4.33	14.15	4.35	15.60	4.37	16.32	4.37	16.68	4.38	17.76	4.39	19.57	4.41	21.38	4.43
	40	11.22	4.83	11.96	4.84	13.81	4.86	15.29	4.88	16.03	4.88	16.40	4.89	17.50	4.90	19.35	4.92	21.20	4.94
	45	10.82	5.33	11.58	5.34	13.47	5.37	14.98	5.39	15.73	5.40	16.11	5.40	17.24	5.41	19.13	5.44	21.02	5.46
	50	10.43	5.84	11.20	5.85	13.13	5.87	14.67	5.89	15.44	5.91	15.82	5.91	16.98	5.93	18.91	5.95	20.84	5.98
	55	10.03	6.34	10.82	6.35	12.78	6.38	14.36	6.40	15.15	6.42	15.54	6.42	16.72	6.44	18.69	6.47	20.17	6.50

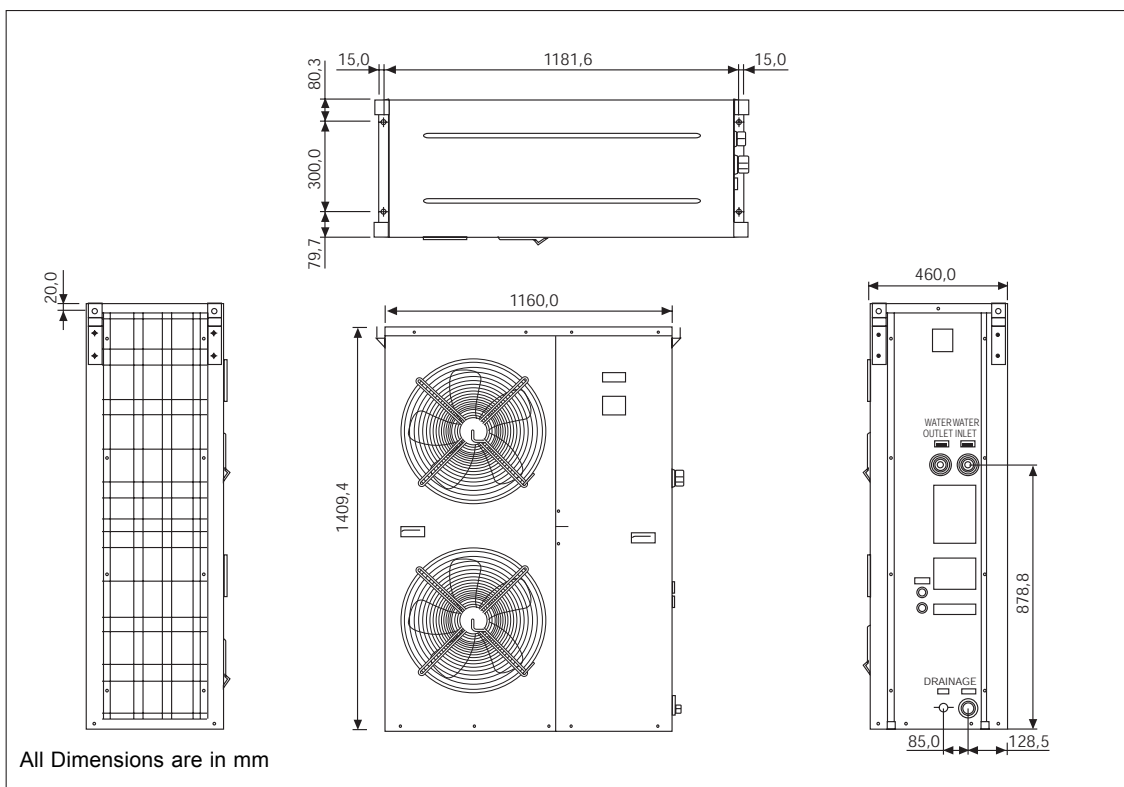
7. OUTLINE AND DIMENSIONAL

OUTLINE AND DIMENSION

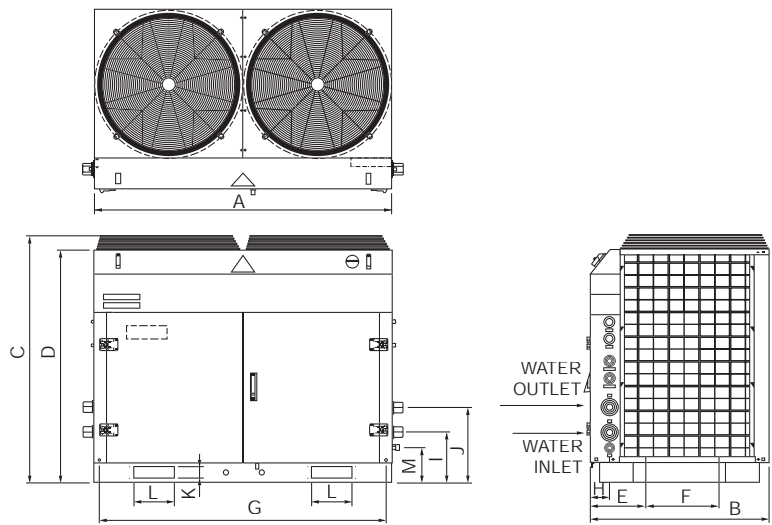
MODEL : AMAC20 / 25 / 30C/CR, A4AC20 / 25 / 30C, A5AC20 / 25CR



MODEL : AMAC40 / 50 / 60C/CR, A4AC40 / 50C, A4AC 60C/CR



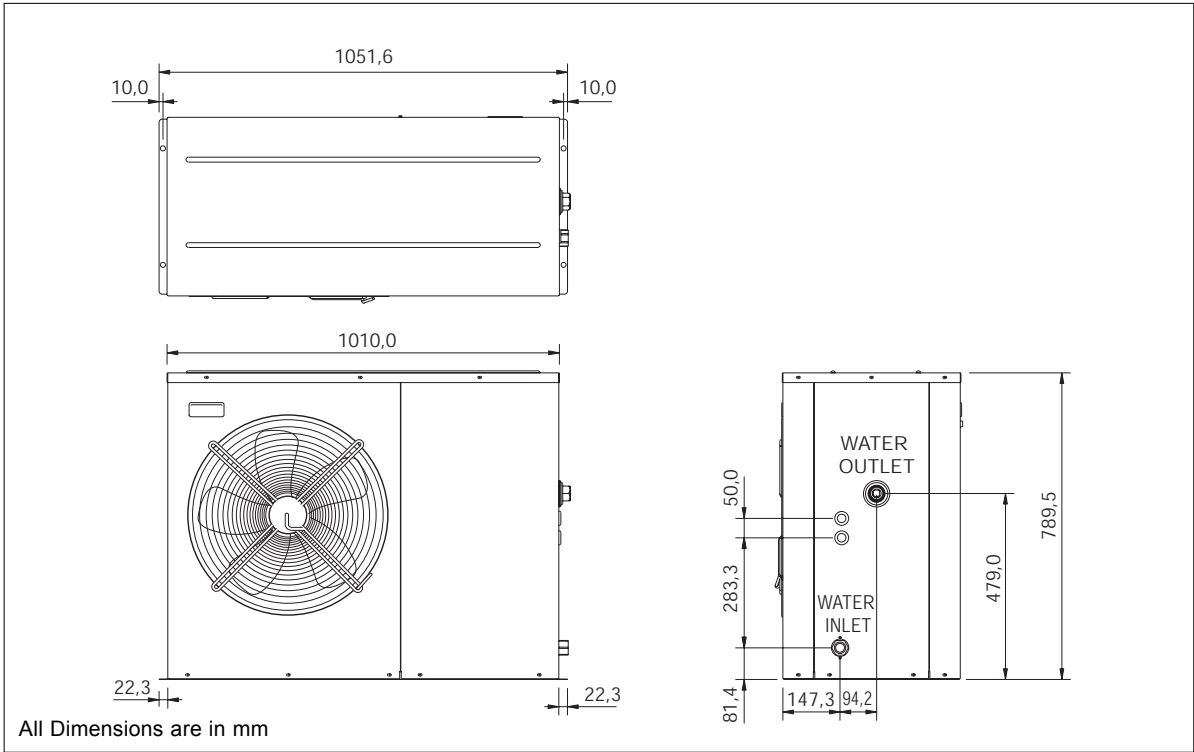
MODEL : A4AC/ AMAC80 / 100 / 120 / 150C/CR



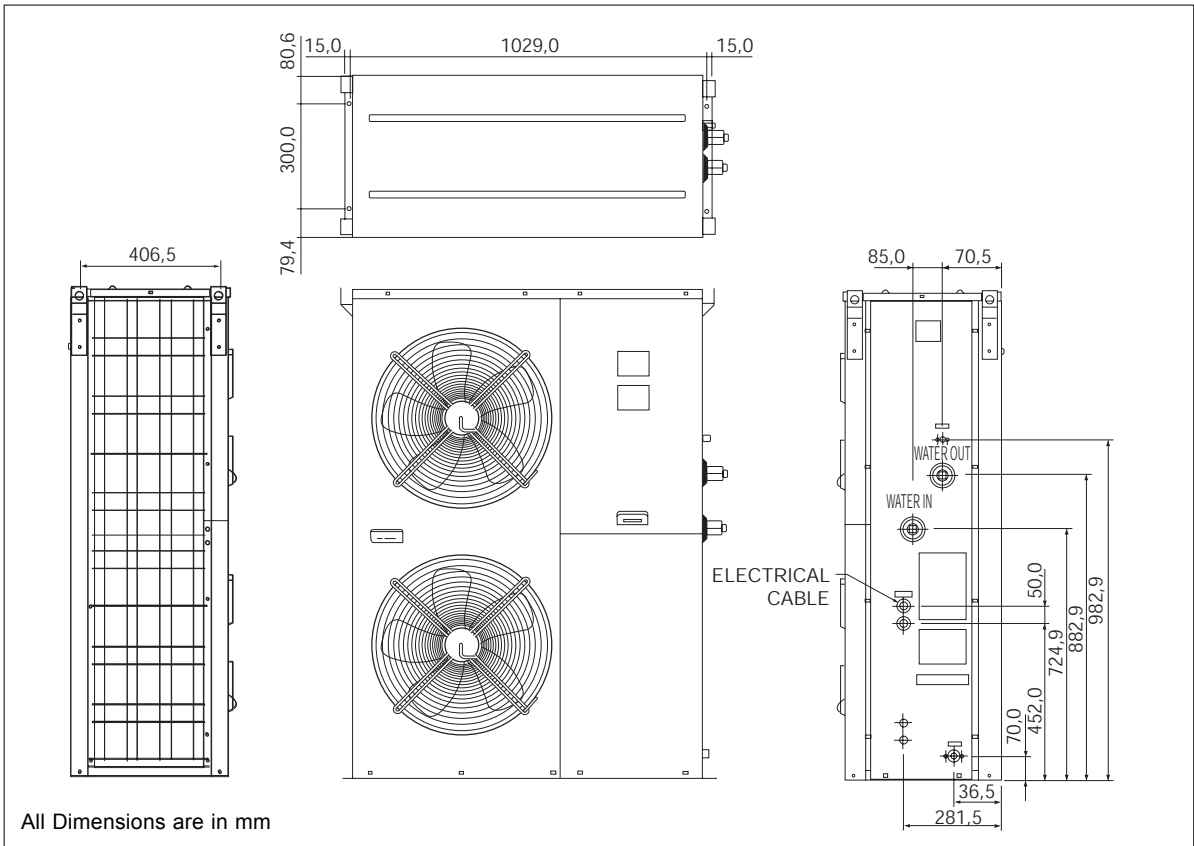
All Dimensions are in mm

Model	A	B	C	D	E	F	G
						Base Leg Hole	
A4AC/AMAC80 C/CR	1500	900	1245	1190	297.5	307.5	1446
A4AC/AMAC100 C/CR	1500	900	1245	1190	297.5	307.5	1446
A4AC/AMAC120 C/CR	1800	1150	1245	1190	347.5	416	1776
A4AC/AMAC150 C/CR	1800	1150	1245	1190	347.5	416	1776
	H	I	J	K	L	M	
	100	265	385	60	200	170	
	100	265	385	60	200	170	
	100	265	385	60	200	170	
	100	265	385	60	200	170	

MODEL : A5AC30CR



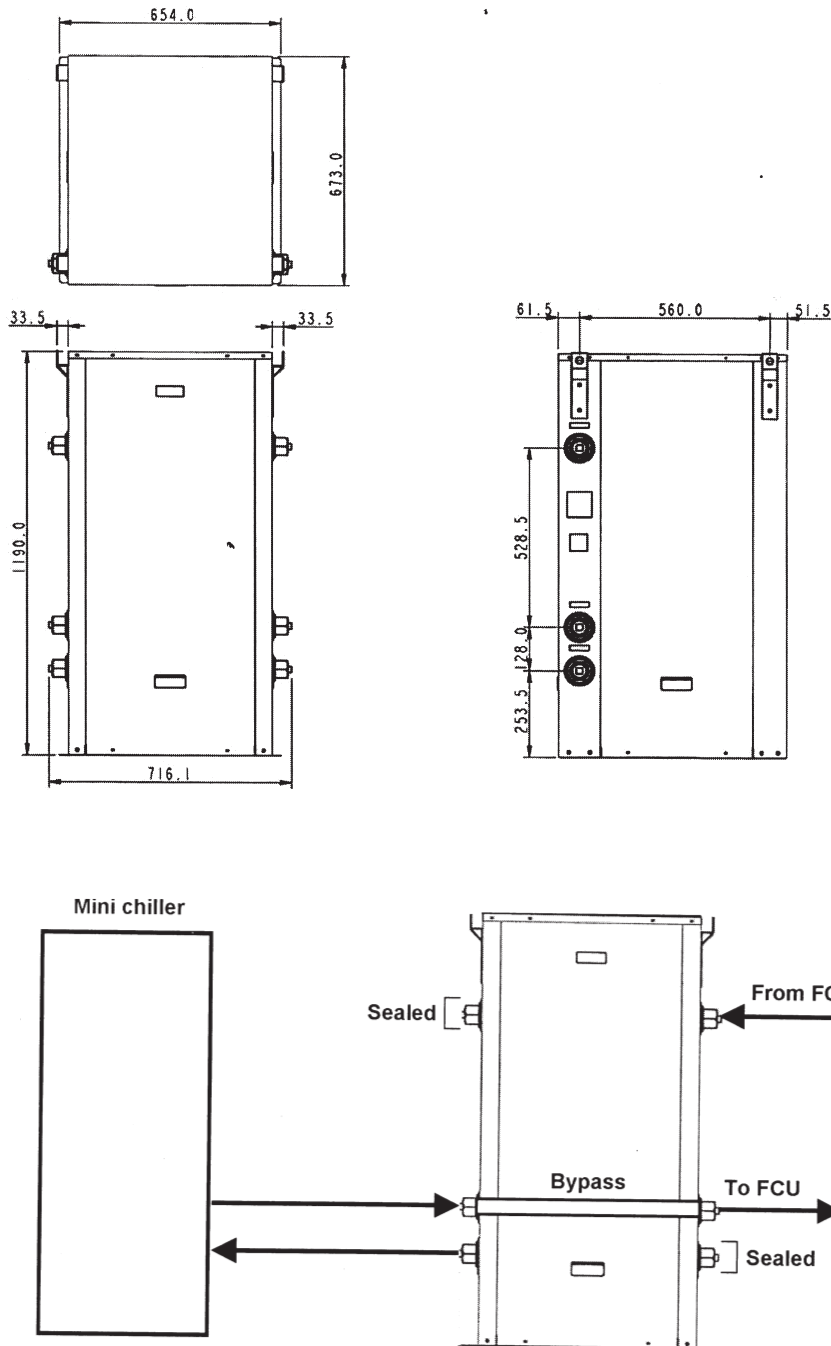
MODEL : A5AC40 / 50 / 55CR



ACCESSORY HYDRAULIC KIT (OPTIONAL)

Hydraulic kit consists of 135L capacity water storage butffer tank, over pressure release value and drainage point.

Weight	= 92kg
Material of water tank	= Mild steel with 3mm thickness
Pipe Connection	= 1 - 1/4"
Type of pipes connection	= BSPF Female
Packing Dimension	= 838 (W) x 788 (D) x 1378 (H)



The buffer tank is installed at the water return path back to chiller. In order to let the connection look tidy, the tank has a bypass pipe (the center connection) to allow the pipe to be connected to FCU. The additional outlets are sealed (they are meant for installation at different side). Please refer to the exploded view.

8. ELECTRICAL DATA

ELECTRICAL DATA - R22 COOLING ONLY

MODEL			AMAC20C	AMAC25C
CONDENSER FAN MOTOR	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	135	135
	RATED RUNNING CURRENT	A	0.67	0.67
	MOTOR OUTPUT	W	145	145
	POLES		6	6
COMPRESSOR	INSULATION GRADE		E	NA
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	CAPACITOR	μF	45	50
	RATED INPUT POWER	W	2359	2405
	RATED RUNNING CURRENT	A	11.20	11.10
	LOCKED ROTOR AMP.	A	67	82
WATER PUMP	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	175	190
	RATED RUNNING CURRENT	A	0.77	0.83

MODEL			AMAC30C	AMAC40C
CONDENSER FAN MOTOR	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	135	270
	RATED RUNNING CURRENT	A	0.67	1.34
	MOTOR OUTPUT	W	145	145 x2
	POLES		6	6
COMPRESSOR	INSULATION GRADE		NA	NA
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	380 - 415 / 3 / 50
	CAPACITOR	μF	60	NA
	RATED INPUT POWER	W	3155	3880
	RATED RUNNING CURRENT	A	15.00	7.60
	LOCKED ROTOR AMP.	A	114	66
WATER PUMP	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	380 - 415 / 3 / 50
	RATED INPUT POWER	W	201	320
	RATED RUNNING CURRENT	A	0.88	0.71

MODEL			AMAC50C	AMAC60C
CONDENSER FAN MOTOR	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	270	270
	RATED RUNNING CURRENT	A	1.34	1.34
	MOTOR OUTPUT	W	145 x2	145 x2
	POLES		6	6
COMPRESSOR	INSULATION GRADE		NA	NA
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	CAPACITOR	μF	NA	NA
	RATED INPUT POWER	W	4630	5740
	RATED RUNNING CURRENT	A	8.10	11.10
	LOCKED ROTOR AMP.	A	74	101
WATER PUMP	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	RATED INPUT POWER	W	345	351
	RATED RUNNING CURRENT	A	0.77	0.78

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ELECTRICAL DATA - R22 COOLING ONLY

MODEL			AMAC80C	AMAC100C
CONDENSER FAN MOTOR	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	565	565
	RATED RUNNING CURRENT	A	2.40	2.40
	MOTOR OUTPUT	W	120 x2	120 x2
	POLES		8	8
COMPRESSOR	INSULATION GRADE		NA	NA
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	CAPACITOR	μF	NA	NA
	RATED INPUT POWER	W	7052	8560
	RATED RUNNING CURRENT	A	14.00	14.70
	LOCKED ROTOR AMP. (COMP1/COMP2)	A	66 / 66	74 / 74
WATER PUMP	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	RATED INPUT POWER	W	1050	1050
	RATED RUNNING CURRENT	A	1.50	1.50

MODEL			AMAC120C	AMAC150C
CONDENSER FAN MOTOR	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	772	1532
	RATED RUNNING CURRENT	A	3.60	6.80
	MOTOR OUTPUT	W	200 x2	450 x2
	POLES		8	6
COMPRESSOR	INSULATION GRADE		NA	NA
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	CAPACITOR	μF	NA	NA
	RATED INPUT POWER	W	9433	11447
	RATED RUNNING CURRENT	A	19.70	22.40
	LOCKED ROTOR AMP. (COMP1/COMP2)	A	101 / 101	95 / 95
WATER PUMP	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	RATED INPUT POWER	W	800	800
	RATED RUNNING CURRENT	A	2.00	2.00

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ELECTRICAL DATA - R22 HEAT PUMP

MODEL			AMAC20CR	AMAC25CR
CONDENSER FAN MOTOR	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	135	135
	RATED RUNNING CURRENT	A	0.67	0.67
	MOTOR OUTPUT	W	145	145
	POLES		6	6
COMPRESSOR	INSULATION GRADE		E	NA
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	CAPACITOR	µF	45	50
	RATED INPUT POWER (COOLING)	W	2289	2455
	RATED INPUT POWER (HEATING)	W	2379	2285
	RATED RUNNING CURRENT (COOLING)	A	10.90	11.20
	RATED RUNNING CURRENT (HEATING)	A	11.20	10.50
	LOCKED ROTOR AMP.	A	67	82
WATER PUMP	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER (COOLING)	W	175	189
	RATED INPUT POWER (HEATING)	W	186	194
	RATED RUNNING CURRENT (COOLING)	A	0.77	0.83
	RATED RUNNING CURRENT (HEATING)	A	0.82	0.85

MODEL			AMAC30CR	AMAC40CR
CONDENSER FAN MOTOR	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	135	270
	RATED RUNNING CURRENT	A	0.67	1.34
	MOTOR OUTPUT	W	145	145 x2
	POLES		6	6
COMPRESSOR	INSULATION GRADE		NA	NA
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	380 - 415 / 3 / 50
	CAPACITOR	µF	60	NA
	RATED INPUT POWER (COOLING)	W	3205	3970
	RATED INPUT POWER (HEATING)	W	3215	4030
	RATED RUNNING CURRENT (COOLING)	A	16.7	7.4
	RATED RUNNING CURRENT (HEATING)	A	16.8	7.6
	LOCKED ROTOR AMP.	A	114	66
WATER PUMP	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	380 - 415 / 3 / 50
	RATED INPUT POWER (COOLING)	W	201	320
	RATED INPUT POWER (HEATING)	W	211	329
	RATED RUNNING CURRENT (COOLING)	A	0.88	0.71
	RATED RUNNING CURRENT (HEATING)	A	0.93	0.73

MODEL			AMAC50CR	AMAC60CR
CONDENSER FAN MOTOR	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	270	270
	RATED RUNNING CURRENT	A	1.34	1.34
	MOTOR OUTPUT	W	145 x2	145 x2
	POLES		6	6
COMPRESSOR	INSULATION GRADE		NA	NA
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	CAPACITOR	µF	NA	NA
	RATED INPUT POWER (COOLING)	W	4440	5930
	RATED INPUT POWER (HEATING)	W	4380	5620
	RATED RUNNING CURRENT (COOLING)	A	7.7	12.2
	RATED RUNNING CURRENT (HEATING)	A	7.7	11.8
	LOCKED ROTOR AMP.	A	74	101
WATER PUMP	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	RATED INPUT POWER (COOLING)	W	336	351
	RATED INPUT POWER (HEATING)	W	349	357
	RATED RUNNING CURRENT (COOLING)	A	0.75	0.78
	RATED RUNNING CURRENT (HEATING)	A	0.77	0.79

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ELECTRICAL DATA - R22 HEAT PUMP

MODEL			AMAC80CR	AMAC100CR
CONDENSER FAN MOTOR	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	565	565
	RATED RUNNING CURRENT	A	2.40	2.40
	MOTOR OUTPUT	W	120 x2	120 x2
	POLES		8	8
COMPRESSOR	INSULATION GRADE		NA	NA
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	CAPACITOR	μF	NA	NA
	RATED INPUT POWER (COOLING)	W	7962	9190
	RATED INPUT POWER (HEATING)	W	7714	8694
	RATED RUNNING CURRENT (COOLING)	A	14.00	16.00
	RATED RUNNING CURRENT (HEATING)	A	13.40	15.10
	LOCKED ROTOR AMP. (COMP1/COMP2)	A	66 / 66	74 / 74
WATER PUMP	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	RATED INPUT POWER (COOLING)	W	1050	1050
	RATED INPUT POWER (HEATING)	W	1050	1050
	RATED RUNNING CURRENT (COOLING)	A	1.50	1.50
	RATED RUNNING CURRENT (HEATING)	A	1.50	1.50

MODEL			AMAC120CR	AMAC150CR
CONDENSER FAN MOTOR	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	772	1532
	RATED RUNNING CURRENT	A	3.60	6.80
	MOTOR OUTPUT	W	200 x2	450 x2
	POLES		8	6
COMPRESSOR	INSULATION GRADE		NA	NA
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	CAPACITOR	μF	NA	NA
	RATED INPUT POWER (COOLING)	W	10142	11549
	RATED INPUT POWER (HEATING)	W	10376	12240
	RATED RUNNING CURRENT (COOLING)	A	20.5	22.0
	RATED RUNNING CURRENT (HEATING)	A	20.6	23.0
	LOCKED ROTOR AMP. (COMP1/COMP2)	A	101 / 101	95 / 95
WATER PUMP	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	RATED INPUT POWER (COOLING)	W	800	800
	RATED INPUT POWER (HEATING)	W	800	800
	RATED RUNNING CURRENT (COOLING)	A	2.00	2.00
	RATED RUNNING CURRENT (HEATING)	A	2.00	2.00

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ELECTRICAL DATA - R407C COOLING ONLY

MODEL			A4AC20C	A4AC25C
CONDENSER FAN MOTOR	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	135	135
	RATED RUNNING CURRENT	A	0.67	0.67
	MOTOR OUTPUT	W	145	145
	POLES		6	6
COMPRESSOR	INSULATION GRADE		E	NA
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	CAPACITOR	μF	50	50
	RATED INPUT POWER	W	2299	2625
	RATED RUNNING CURRENT	A	11.00	12.10
	LOCKED ROTOR AMP.	A	58	82
WATER PUMP	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	183	189
	RATED RUNNING CURRENT	A	0.80	0.83

MODEL			A4AC30C	A4AC40C
CONDENSER FAN MOTOR	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	135	270
	RATED RUNNING CURRENT	A	0.67	1.34
	MOTOR OUTPUT	W	145	145 x2
	POLES		6	6
COMPRESSOR	INSULATION GRADE		NA	NA
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	380 - 415 / 3 / 50
	CAPACITOR	μF	60	NA
	RATED INPUT POWER	W	3345	4320
	RATED RUNNING CURRENT	A	15.90	8.10
	LOCKED ROTOR AMP.	A	114	66
WATER PUMP	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	380 - 415 / 3 / 50
	RATED INPUT POWER	W	199	320
	RATED RUNNING CURRENT	A	0.87	0.71

MODEL			A4AC50C	A4AC60C
CONDENSER FAN MOTOR	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	270	270
	RATED RUNNING CURRENT	A	1.34	1.34
	MOTOR OUTPUT	W	145 x2	145 x2
	POLES		6	6
COMPRESSOR	INSULATION GRADE		NA	NA
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	CAPACITOR	μF	NA	NA
	RATED INPUT POWER	W	5340	6240
	RATED RUNNING CURRENT	A	9.00	11.70
	LOCKED ROTOR AMP.	A	74	101
WATER PUMP	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	RATED INPUT POWER	W	345	349
	RATED RUNNING CURRENT	A	0.77	0.77

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ELECTRICAL DATA - R407C COOLING ONLY

MODEL			A4AC80C	A4AC100C
CONDENSER FAN MOTOR	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	565	565
	RATED RUNNING CURRENT	A	2.40	2.40
	MOTOR OUTPUT	W	120 x2	120 x2
	POLES		8	8
COMPRESSOR	INSULATION GRADE		NA	NA
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	CAPACITOR	μF	NA	NA
	RATED INPUT POWER	W	7848	9156
	RATED RUNNING CURRENT	A	15.00	15.70
	LOCKED ROTOR AMP. (COMP1/COMP2)	A	66 / 66	74 / 74
WATER PUMP	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	RATED INPUT POWER	W	1050	1050
	RATED RUNNING CURRENT	A	1.50	1.50

MODEL			A4AC120C	A4AC150C
CONDENSER FAN MOTOR	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	772	1532
	RATED RUNNING CURRENT	A	3.60	6.80
	MOTOR OUTPUT	W	200 x2	450 x2
	POLES		8	6
COMPRESSOR	INSULATION GRADE		NA	NA
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	CAPACITOR	μF	NA	NA
	RATED INPUT POWER	W	10233	12199
	RATED RUNNING CURRENT	A	20.40	23.60
	LOCKED ROTOR AMP. (COMP1/COMP2)	A	101 / 101	95 / 95
WATER PUMP	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	RATED INPUT POWER	W	800	800
	RATED RUNNING CURRENT	A	2.00	2.00

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ELECTRICAL DATA - R407C HEAT PUMP

MODEL			A4AC060CR
CONDENSER FAN MOTOR	INSULATION GRADE		F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50
	RATED INPUT POWER	W	270
	RATED RUNNING CURRENT	A	1.34
	MOTOR OUTPUT	W	145 x2
	POLES		6
COMPRESSOR	INSULATION GRADE		NA
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50
	CAPACITOR	μF	NA
	RATED INPUT POWER (COOLING)	W	5890
	RATED INPUT POWER (HEATING)	W	5640
	RATED RUNNING CURRENT (COOLING)	A	11.5
	RATED RUNNING CURRENT (HEATING)	A	11.4
	LOCKED ROTOR AMP.	A	101
WATER PUMP	INSULATION GRADE		F
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50
	RATED INPUT POWER (COOLING)	W	347
	RATED INPUT POWER (HEATING)	W	358
	RATED RUNNING CURRENT (COOLING)	A	0.77
	RATED RUNNING CURRENT (HEATING)	A	0.79

MODEL			A4AC80CR	A4AC100CR
CONDENSER FAN MOTOR	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	565	565
	RATED RUNNING CURRENT	A	2.40	2.40
	MOTOR OUTPUT	W	120 x2	120 x2
	POLES		8	8
COMPRESSOR	INSULATION GRADE		E	F
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	CAPACITOR	μF	NA	NA
	RATED INPUT POWER (COOLING)	W	8331	9413
	RATED INPUT POWER (HEATING)	W	8360	9519
	RATED RUNNING CURRENT (COOLING)	A	14.10	16.20
	RATED RUNNING CURRENT (HEATING)	A	14.50	16.20
	LOCKED ROTOR AMP. (COMP1/COMP2)	A	66 / 66	74 / 74
WATER PUMP	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	RATED INPUT POWER (COOLING)	W	1050	1050
	RATED INPUT POWER (HEATING)	W	1050	1050
	RATED RUNNING CURRENT (COOLING)	A	1.50	1.50
	RATED RUNNING CURRENT (HEATING)	A	1.50	1.50

MODEL			A4AC120CR	A4AC150CR
CONDENSER FAN MOTOR	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	772	1532
	RATED RUNNING CURRENT	A	3.60	6.80
	MOTOR OUTPUT	W	200 x2	450 x2
	POLES		8	6
COMPRESSOR	INSULATION GRADE		NA	NA
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	CAPACITOR	μF	NA	NA
	RATED INPUT POWER (COOLING)	W	10701	12819
	RATED INPUT POWER (HEATING)	W	10814	13492
	RATED RUNNING CURRENT (COOLING)	A	21.0	23.5
	RATED RUNNING CURRENT (HEATING)	A	20.6	24.7
	LOCKED ROTOR AMP. (COMP1/COMP2)	A	101 / 101	95 / 95
WATER PUMP	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	380 - 415 / 3 / 50	380 - 415 / 3 / 50
	RATED INPUT POWER (COOLING)	W	800	800
	RATED INPUT POWER (HEATING)	W	800	800
	RATED RUNNING CURRENT (COOLING)	A	2.00	2.00
	RATED RUNNING CURRENT (HEATING)	A	2.00	2.00

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ELECTRICAL DATA - R410A HEAT PUMP

MODEL			A5AC20CR	A5AC25CR
CONDENSER FAN MOTOR	INSULATION GRADE		H	H
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	135	135
	RATED RUNNING CURRENT	A	0.67	0.67
	MOTOR OUTPUT	W	165	165
	POLES		6	6
COMPRESSOR	INSULATION GRADE		E	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	CAPACITOR	μF	45	50
	RATED INPUT POWER (COOLING)	W	2230	2430
	RATED INPUT POWER (HEATING)	W	2262	2446
	RATED RUNNING CURRENT (COOLING)	A	10.39	11.20
	RATED RUNNING CURRENT (HEATING)	A	10.53	11.30
	LOCKED ROTOR AMP.	A	67	68
WATER PUMP	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER (COOLING)	W	185	195
	RATED INPUT POWER (HEATING)	W	193	209
	RATED RUNNING CURRENT (COOLING)	A	0.82	0.86
	RATED RUNNING CURRENT (HEATING)	A	0.85	0.91

MODEL			A5AC30CR	A5AC40CR
CONDENSER FAN MOTOR	INSULATION GRADE		H	H
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	135	270
	RATED RUNNING CURRENT	A	0.67	1.34
	MOTOR OUTPUT	W	165	165 x2
	POLES		6	6
COMPRESSOR	INSULATION GRADE		F	E
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	CAPACITOR (COMP1/COMP2)	μF	50 / 50	50 / 45
	RATED INPUT POWER (COOLING)	W	3375	4410
	RATED INPUT POWER (HEATING)	W	3285	4060
	RATED RUNNING CURRENT (COOLING)	A	15.1	4.51
	RATED RUNNING CURRENT (HEATING)	A	14.7	4.27
	LOCKED ROTOR AMP. (COMP1/COMP2)	A	35 / 35	35 / 67
WATER PUMP	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER (COOLING)	W	210	320
	RATED INPUT POWER (HEATING)	W	210	320
	RATED RUNNING CURRENT (COOLING)	A	0.92	1.59
	RATED RUNNING CURRENT (HEATING)	A	0.92	1.59

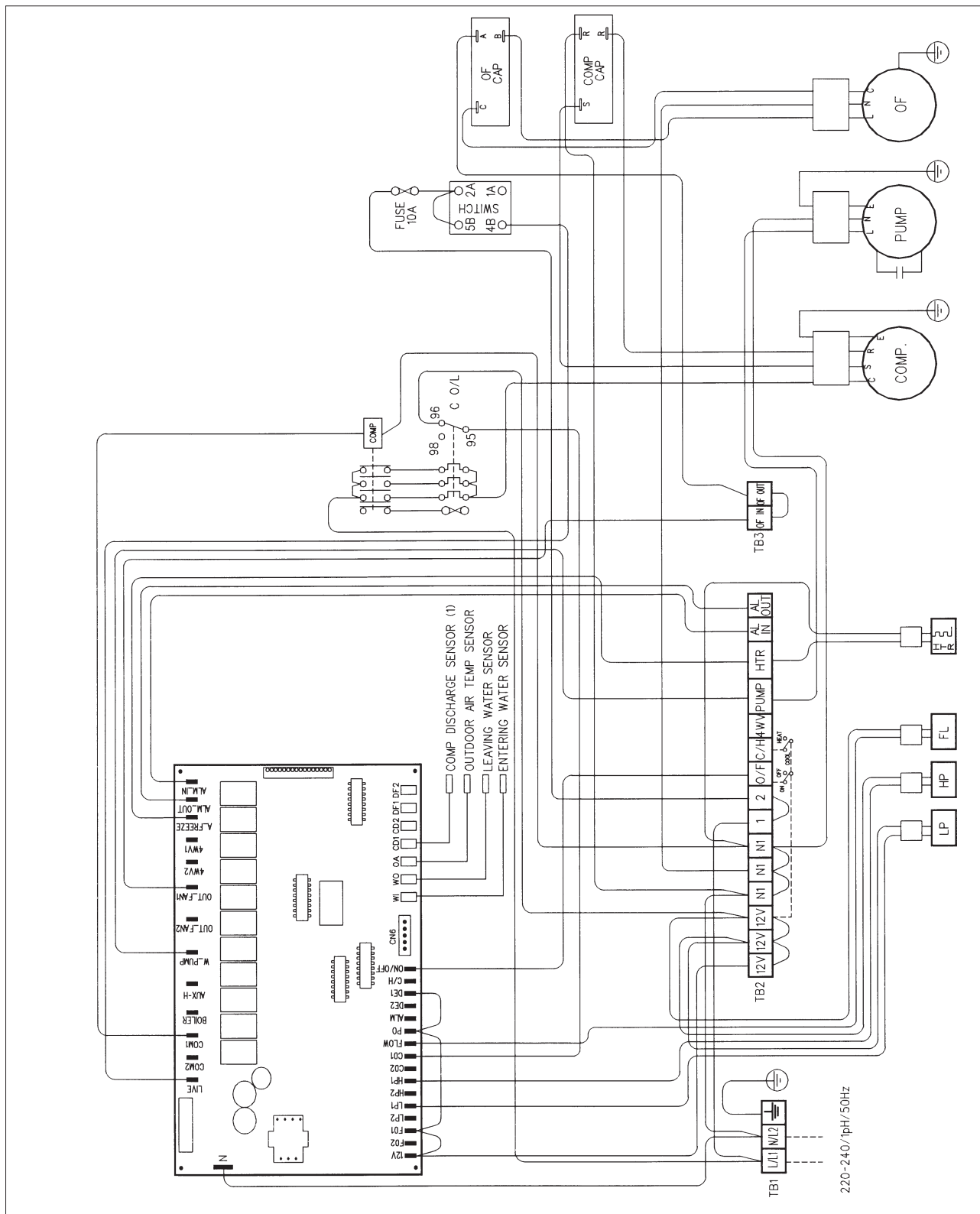
MODEL			A5AC50CR	A5AC55CR
CONDENSER FAN MOTOR	INSULATION GRADE		H	H
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER	W	270	270
	RATED RUNNING CURRENT	A	1.34	1.34
	MOTOR OUTPUT	W	165 x2	165 x2
	POLES		6	6
COMPRESSOR	INSULATION GRADE		E	E
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	CAPACITOR (COMP1/COMP2)	μF	60 / 50	50 / 50
	RATED INPUT POWER (COOLING)	W	4720	4900
	RATED INPUT POWER (HEATING)	W	4560	4850
	RATED RUNNING CURRENT (COOLING)	A	4.97	21.90
	RATED RUNNING CURRENT (HEATING)	A	4.90	22.50
	LOCKED ROTOR AMP. (COMP1/COMP2)	A	58 / 68	68 / 68
WATER PUMP	INSULATION GRADE		F	F
	POWER SOURCE	V/Ph/Hz	220 - 240 / 1 / 50	220 - 240 / 1 / 50
	RATED INPUT POWER (COOLING)	W	320	320
	RATED INPUT POWER (HEATING)	W	320	320
	RATED RUNNING CURRENT (COOLING)	A	1.59	1.59
	RATED RUNNING CURRENT (HEATING)	A	1.59	1.59

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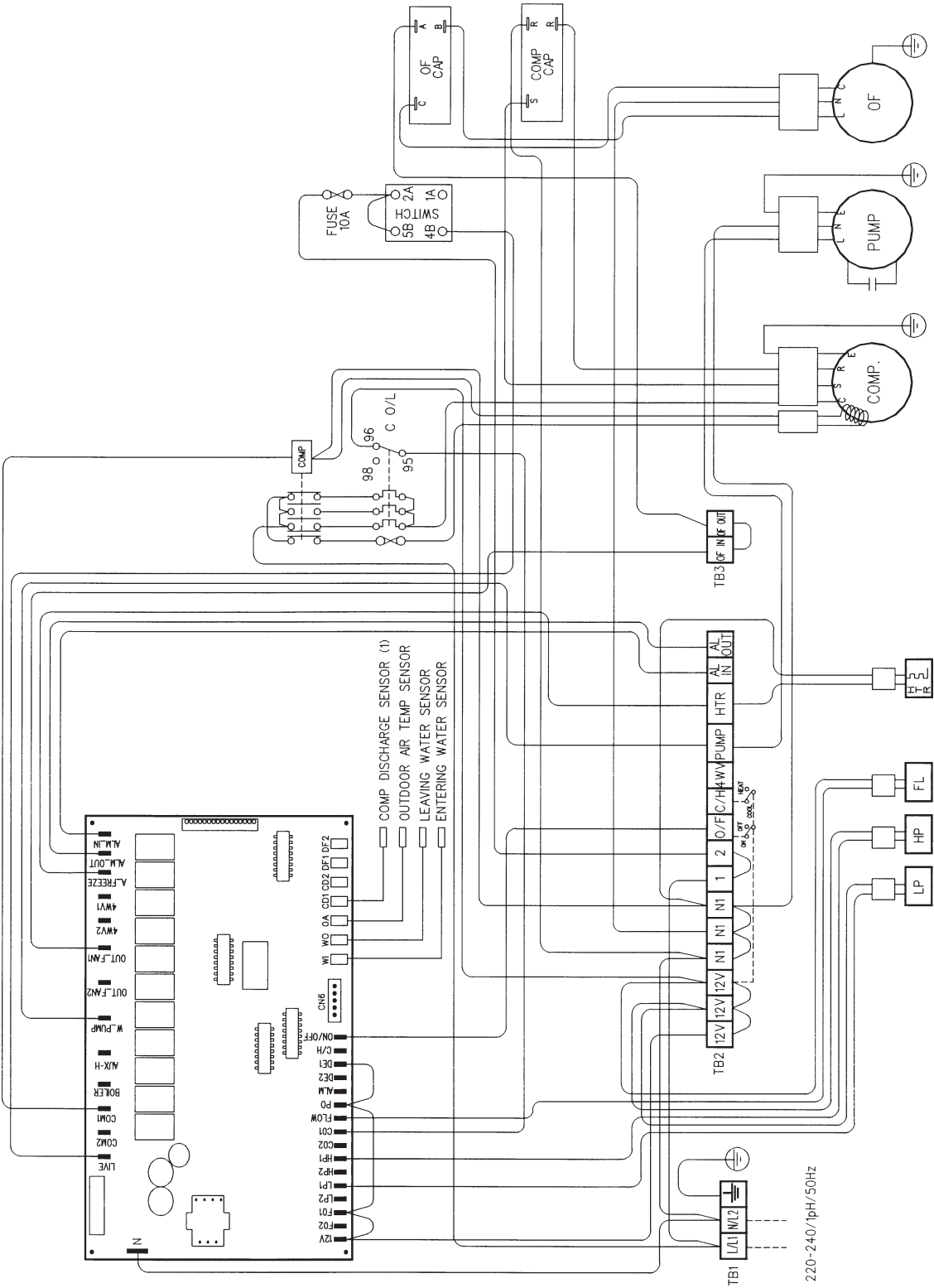
2) ALL UNITS ARE BEING TESTED AND COMPLY TO ISO 5151.

9. WIRING DIAGRAMS

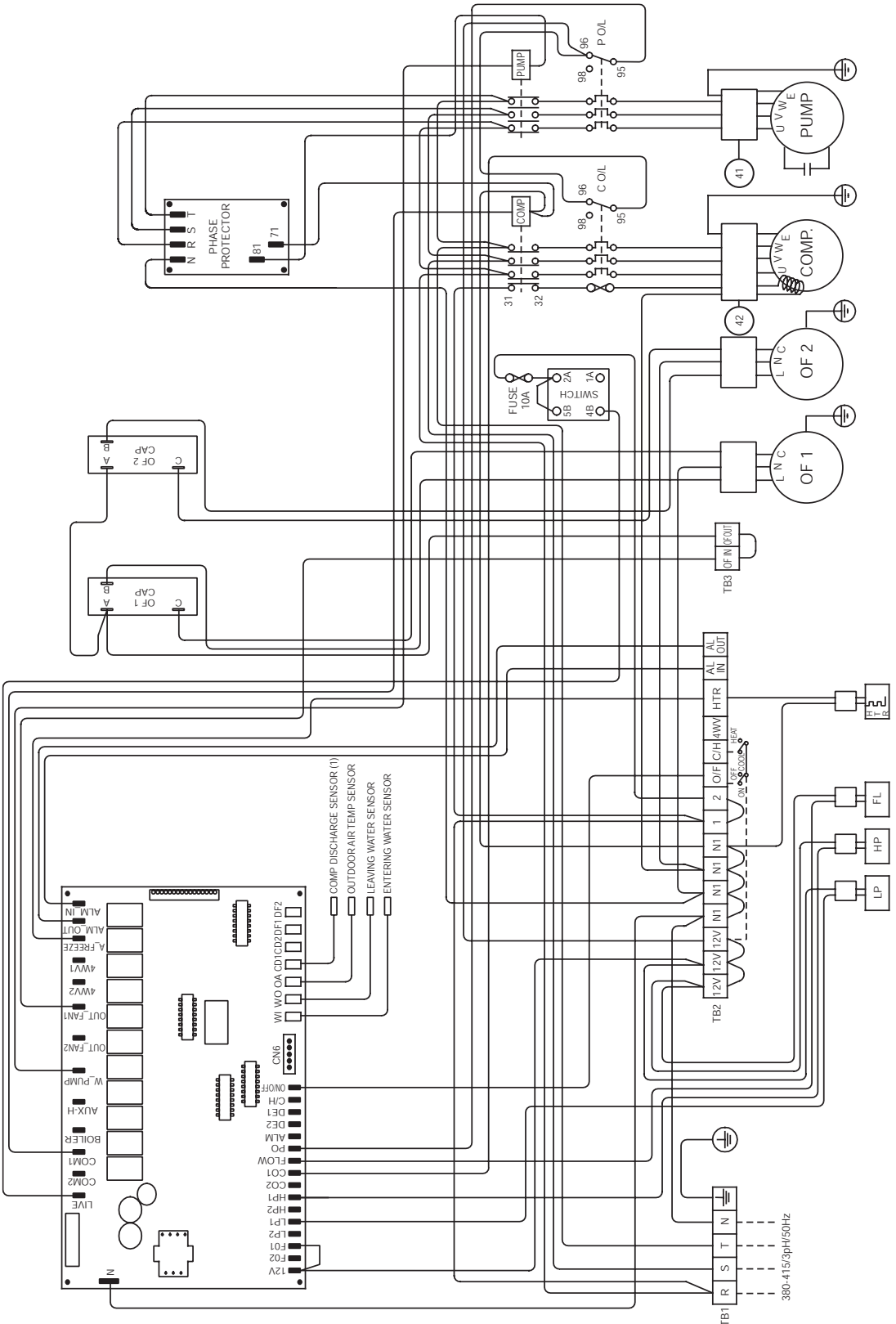
MODEL : A4AC/ AMAC20C



MODEL : A4AC/ AMAC25 / 30C

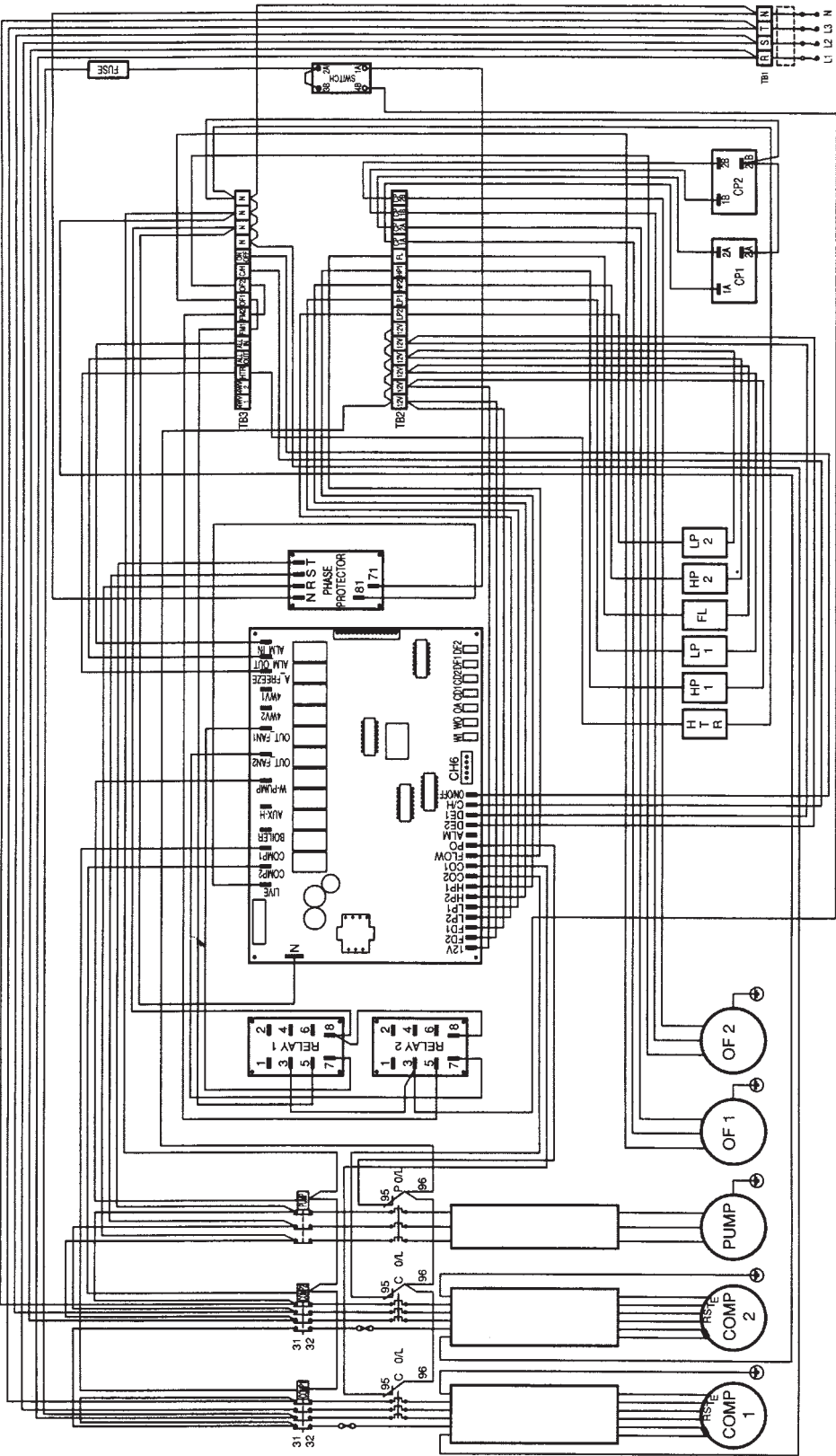


MODEL : A4AC/ AMAC40 / 50 / 60C

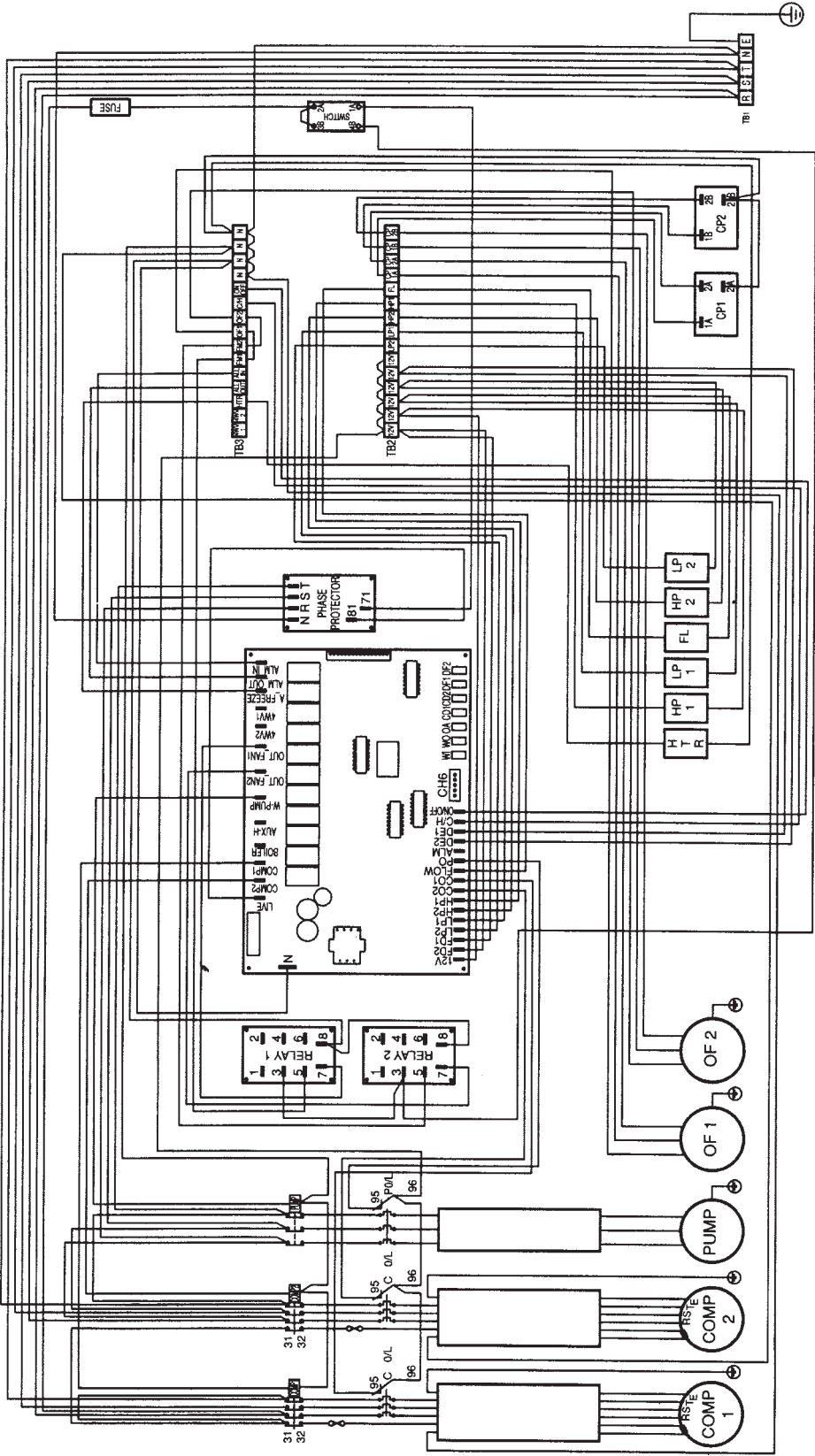


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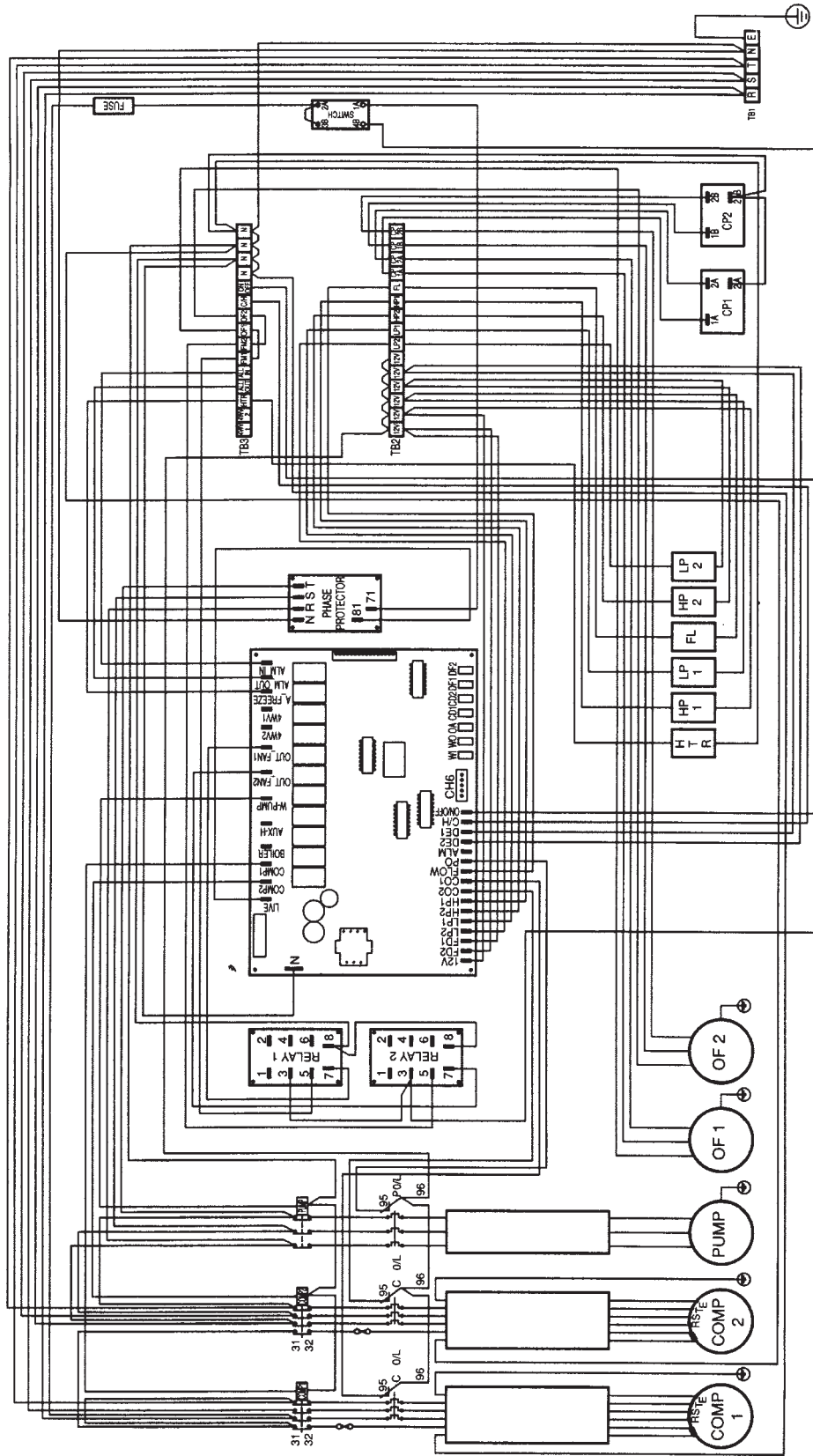
MODEL : A4AC/ AMAC80 / 100C (WITH ISOLATED SWITCH)



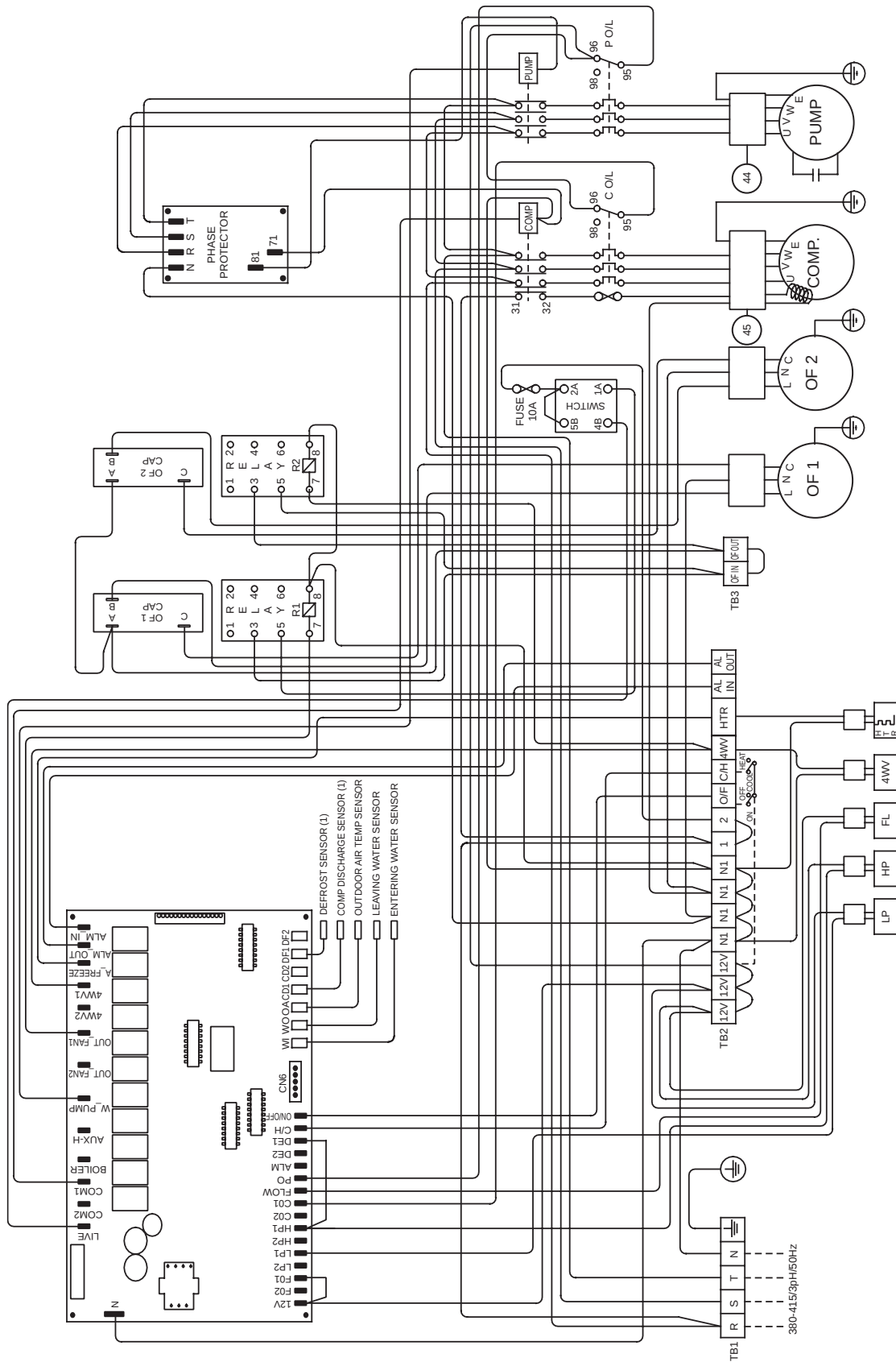
MODEL : A4AC/ AMAC80 / 100C (WITH TERMINAL BLOCK)



MODEL : A4AC / AMAC 120 / 150C (WITH TERMINAL BLOCK)

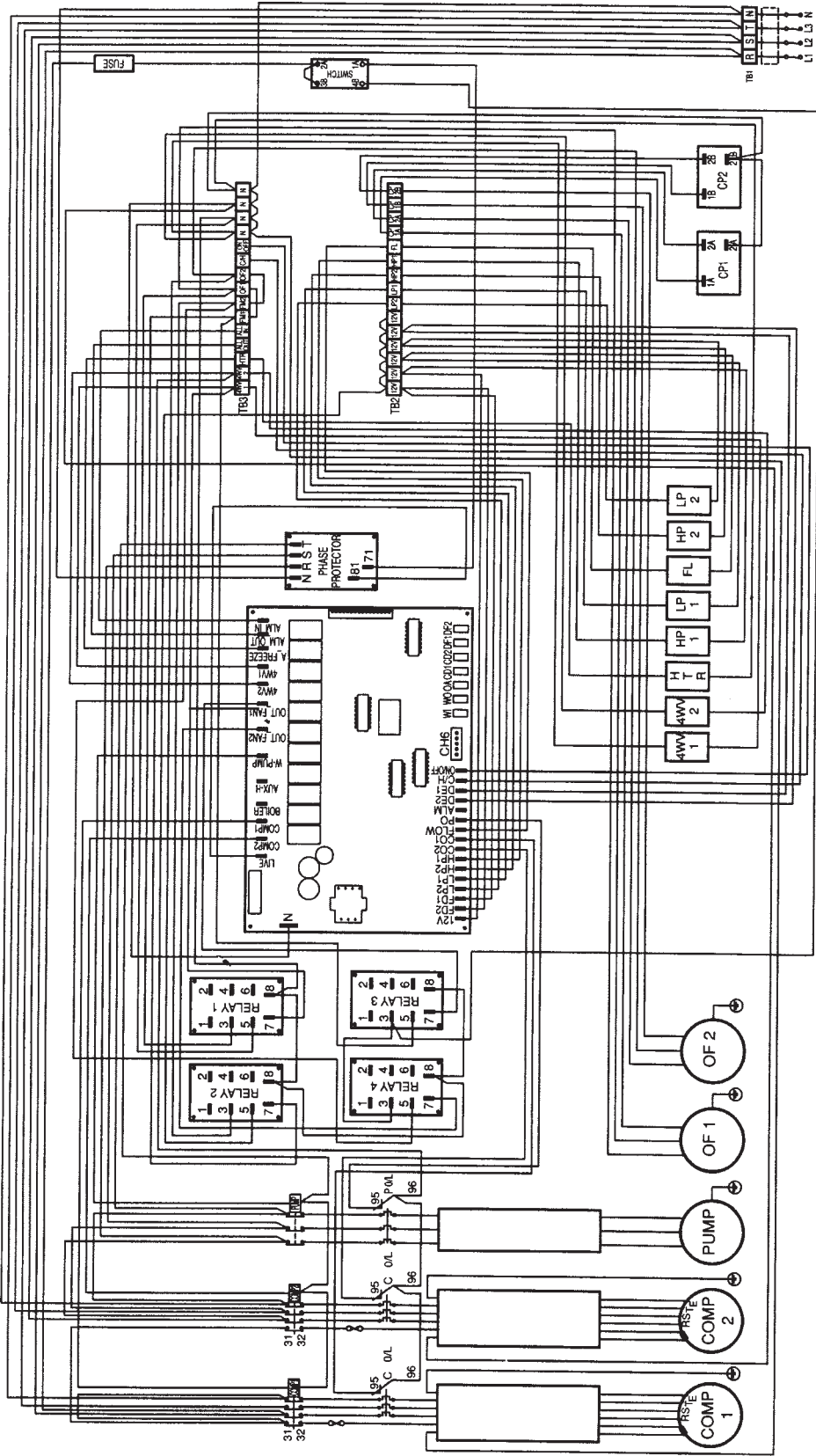


MODEL : AMAC 40 / 50 / 60CR, A4AC 60 CR

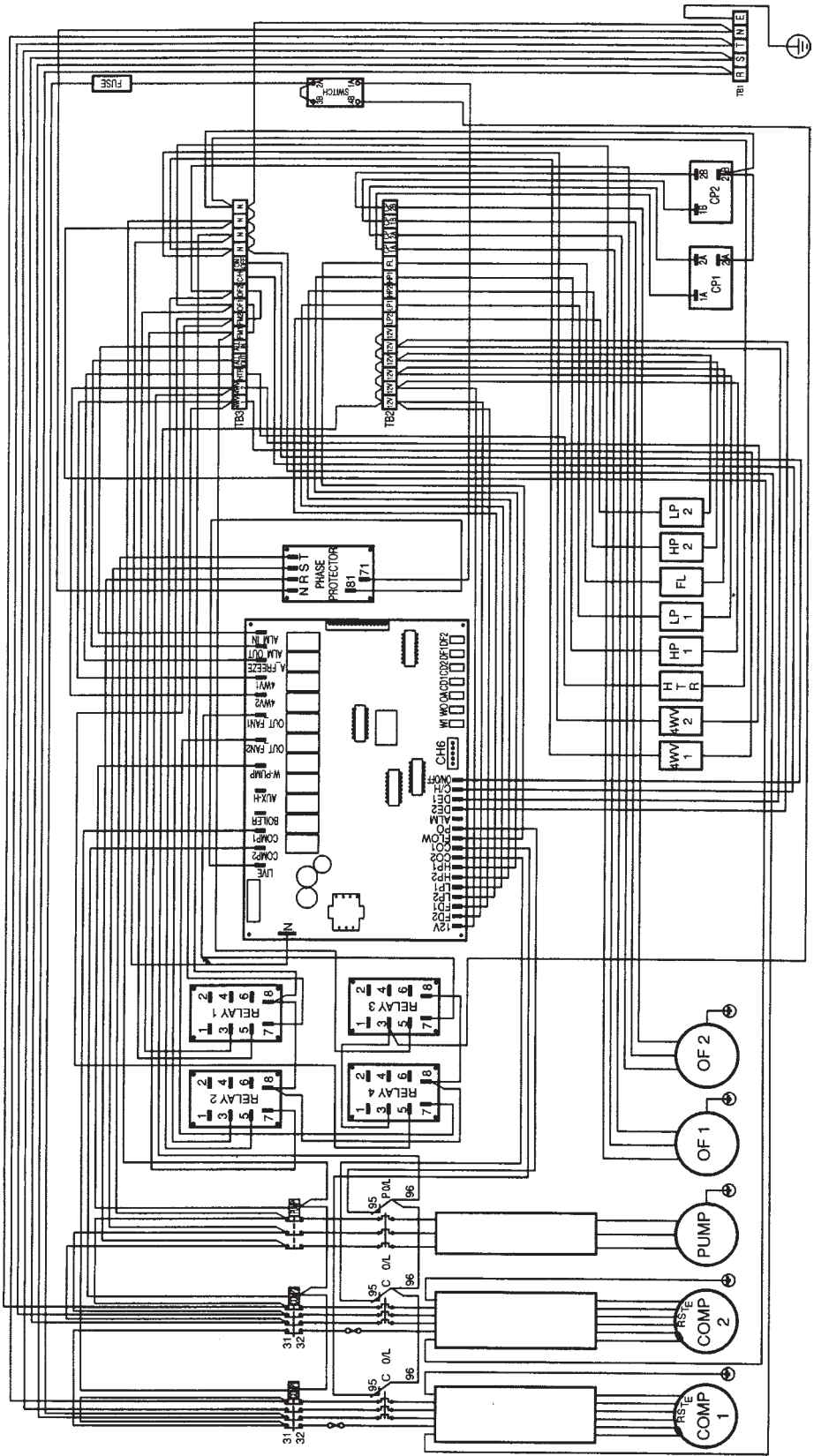


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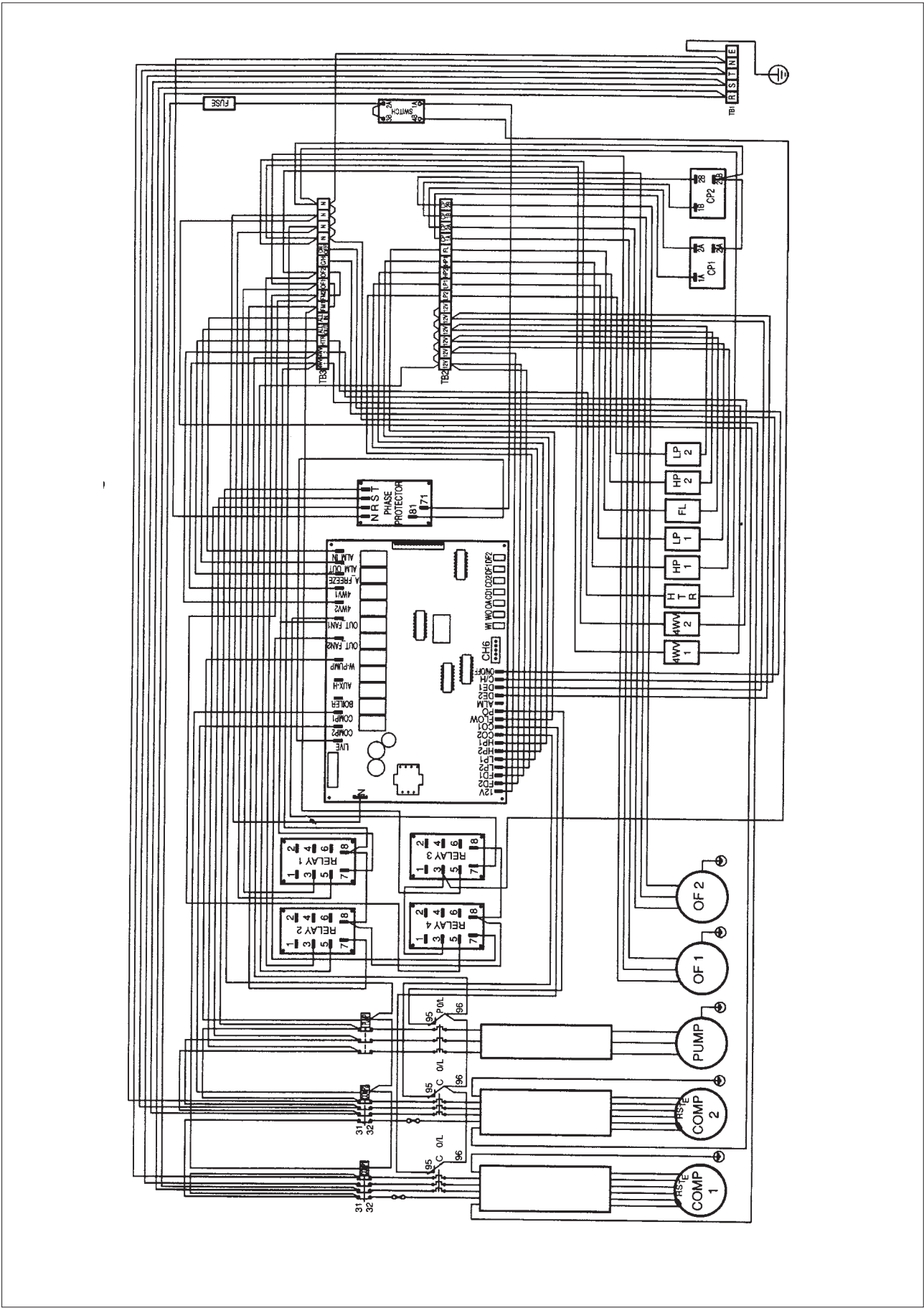
MODEL : A4AC / AMAC 120 / 150CR (WITH ISOLATED SWITCH)



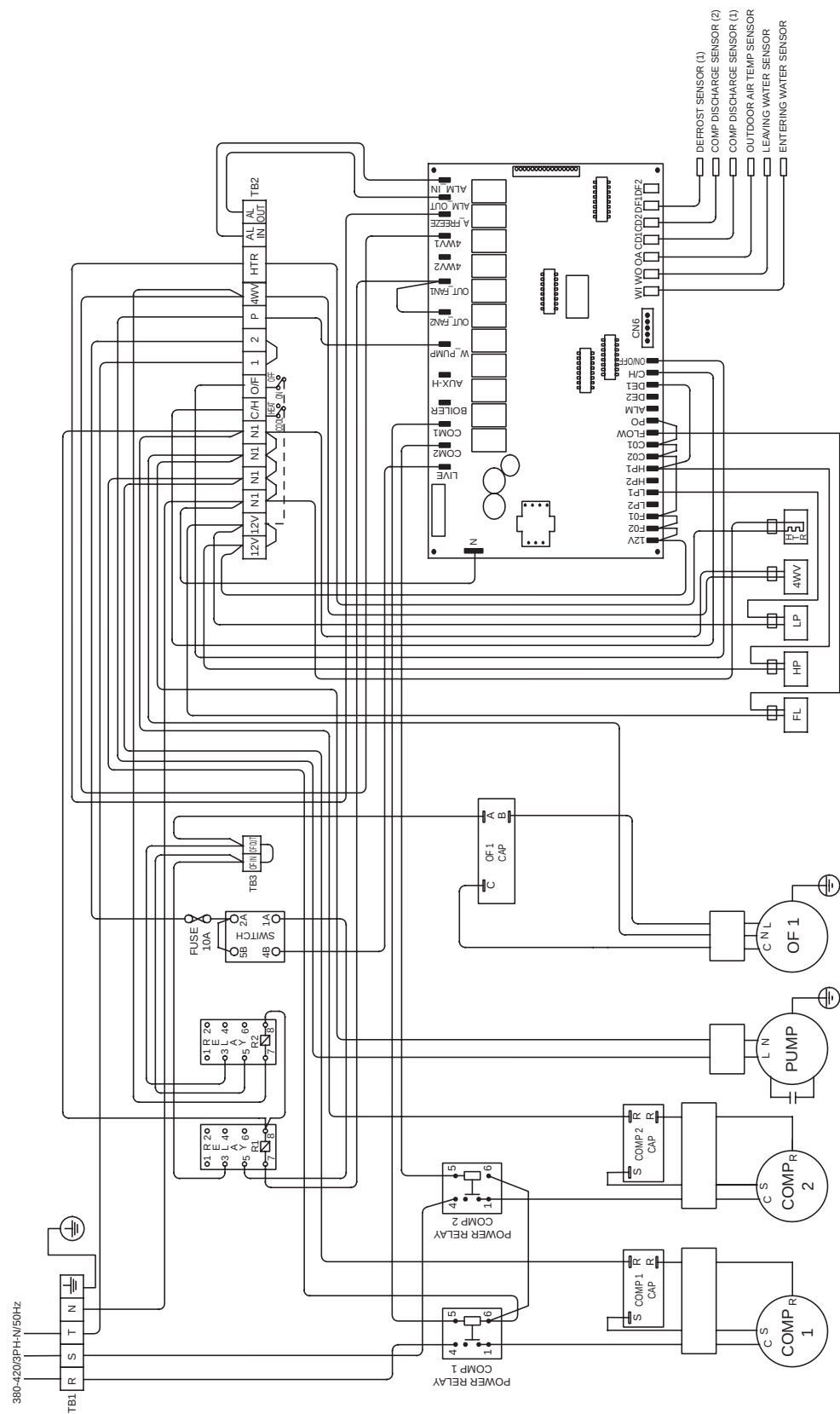
MODEL : A4AC / AMAC 80 / 100CR (WITH TERMINAL BLOCK)



MODEL : A4AC / AMAC 120 / 150CR (WITH TERMINAL BLOCK)

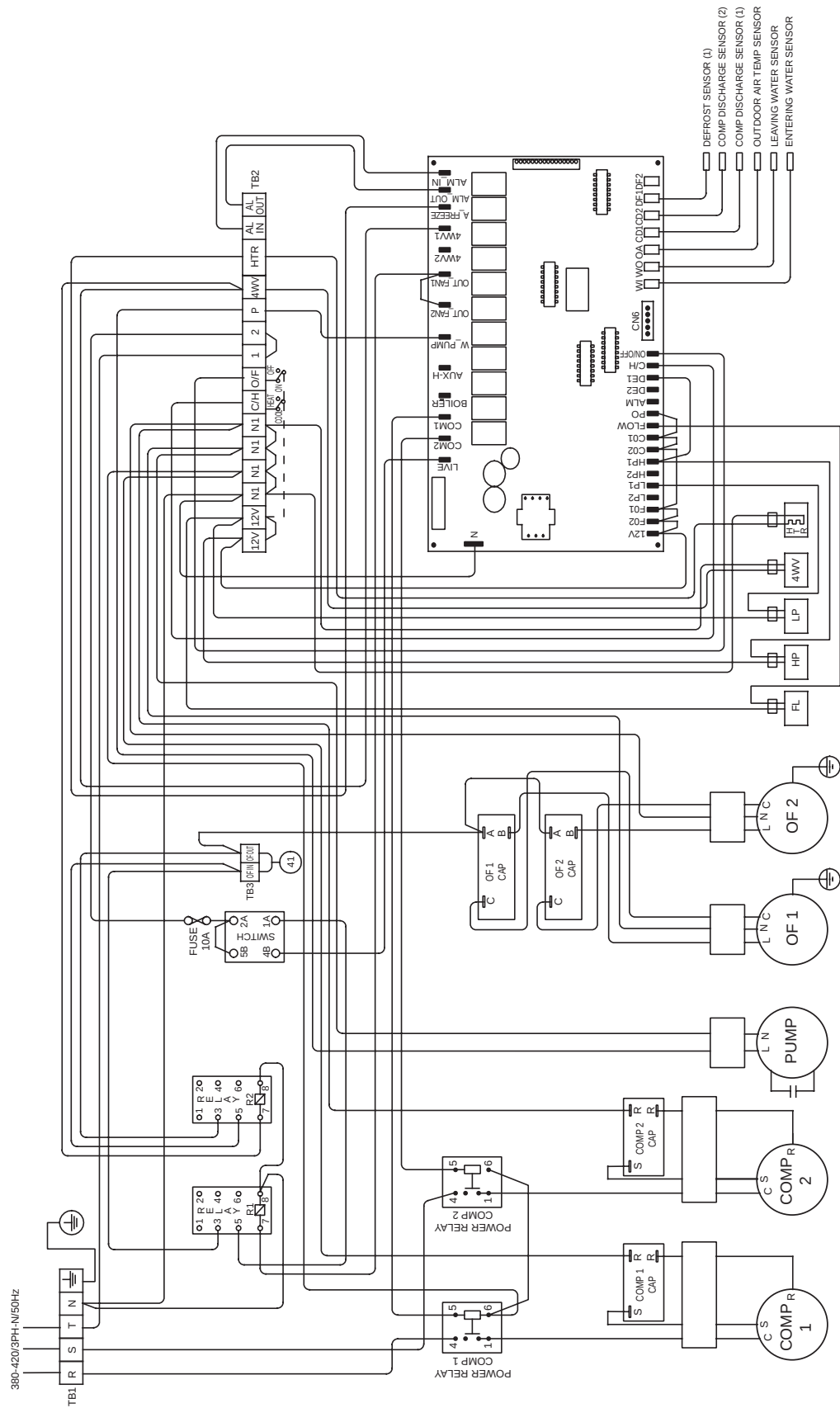


MODEL : A5AC30CR



PART NO : 5013 4 076380

MODEL : A5AC40 / 50 / 55CR



PART NO : 5013 4 076381

10. SERVICING AND MAINTENANCE

SERVICING

Servicing or maintenance of these unit must be carried out by experienced personnel with specific training in refrigeration. Repeated check the safety devices and continuous cycling of control components must be analyzed and corrected before being reset.

The simple design of the refrigeration circuit totally eliminates potential problems during normal unit operation. No maintenance work is needed on the refrigeration circuit as long as the unit is operating normally.

Ease of maintenance has been taken into consideration during the design stage such that the unit is easily accessible for servicing and maintenance. By accessing from the front panel of the unit, servicing and maintenance operation can be done easily. The electrical components are especially easy to access since it is located in the terminal box on top of the front panel.

Under normal circumstances, these chiller require only a check and cleaning of air intake through the coil surface only. These can be done monthly or quarterly depending on the surrounding where the units are installed.

When the surrounding is very oily or dusty, then the coils must be regularly cleaned by a qualified air conditioner service technician to ensure sufficient cooling capacity and efficient unit operation. The normal life span might be shortened if no proper service is provided.

MAINTENANCE

For consistent performance and durability, always conduct proper and regular maintenance to the unit.

For prolong period of operation time, the heat exchanger will become dirty impairing its effectiveness and reducing the performance of the units. Consult your local dealer about the cleaning of the heat exchanger.

No major maintenance or servicing needed for the internal water circuit in the unit except the water pump failure. It is advised that regular check on the filter to be conducted and change the water filter if the filter is dirty or choked.

Always check the water level in the system, in order to protect the moving components in the hydraulic kit from over heating and excessive wear.

11. TROUBLESHOOTING

When any malfunction is occurred, immediately switch off the power supply to the unit, and contact the local dealer, if necessary. Some simple troubleshooting tips are given below:

SYMPTOMS	PROBLEM CAUSES	REMEDIAL ACTION
1. Compressor does not start.	- No power supply. - Fuses blown or automatic circuit break down open. - Defective contactor or coil. - Unit is stopped because safety device has tripped. - Loose wires. - Compressor faulty.	- Check power supply. - Look for short circuit or grounded wires in motor windings. Replace fuses and reset circuit breakers when the fault has been corrected. Check tightness and soundness of all electrical connections. - Repair or replace. - Determine the type of safety shut down and correct the default before the unit is restarted. - Check wire connections and tighten terminal screws. - Contact local dealer.
2. Fan does not work.	- No power supply. - Fan motor faulty.	- Check power supply. - Contact local dealer
3. Unit does work, but insufficient cooling.	- Thermostats setting too high. - Condenser coil dirty. - Obstacle blocking air inlet or outlet of the unit. - Insufficient refrigerant in the system. - Improper water flow rate, - Water in the system is contaminated.	- Reset thermostat. - Contact local dealer. - Remove obstacles. - Contact local dealer. - Contact local dealer. - Contact local dealer.
4. Flow switch error.	- No water in the system. - Low water level in the system. - Phase missing or phase reversed	- Check water supply. - Check water supply. - Check phase protector

Phase Protector (Optional)

The unit with Scroll Compressor can only rotate in one direction. For this reason, a protective device (phase protector) is fitted to prevent incorrect wiring of the electrical phases. When the three phases are not connected correctly, the phase protector operates, and the unit will not start. This device is located in the control box of model AMAC/ A4AC80~150C/CR.

The following tables shows the LED indicator light for phase protector under normal operation and fault conditions.

LED Description	PW (Red)	P_R (Yellow)	P_S (Yellow)	P_T (Yellow)	Actions
Normal operation	○	●	●	●	-
Reverse phase	●	●	●	●	Swith off the unit. Check the 3 phase wiring.
T phase missing	●	●	●	●	Swith off the unit. Check the 3 phase wiring.
S phase missing	●	●	●	●	Swith off the unit. Check the 3 phase wiring.
R phase missing	●	●	●	●	Swith off the unit. Check the 3 phase wiring.
S & T phase missing ⁺	●	●	●	●	Swith off the unit. Check the 3 phase wiring.
Overload ⁺	●	●	●	●	High discharge temperature. Check the refrigerant system.
Sensor missing ⁺	●	○	○	○	Swith off the unit. Plug in sensor.

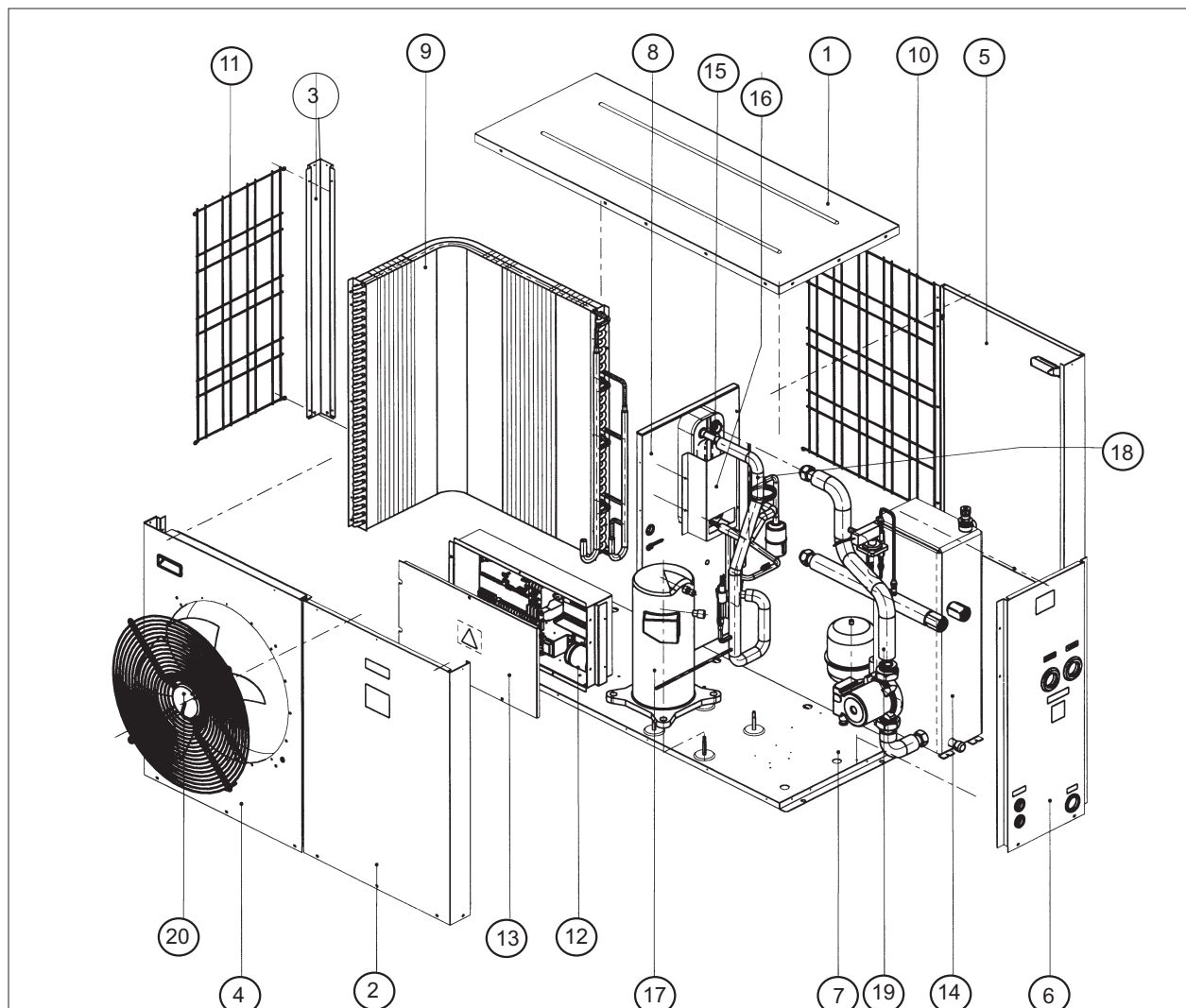
○ On ● Off ● Fast Blink

Notes: 1. “+” indicates additional for PP01 phase protector.

2. When R phase missing. no LED or buzzer will indicate the error, but relay 71 and 81 will cut off.

12. EXPLODED VIEW AND PART LIST

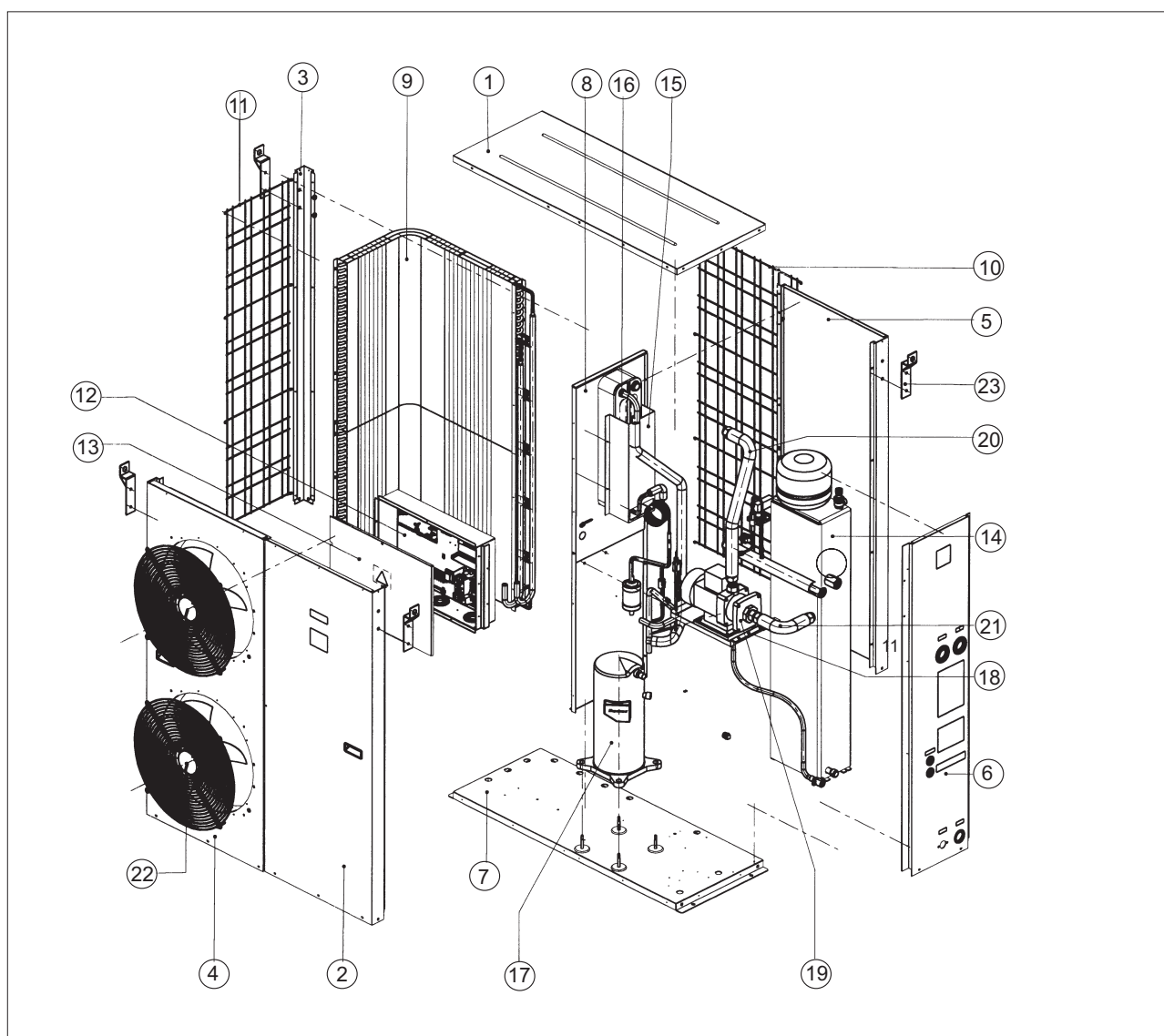
Model : AMAC 20/ 25/ 30C/CR, A4AC 20/ 25 / 30C



ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	TOP PANEL	14	WATER STORAGE TANK 22L
2	STRUCTURE FRONT RIGHT	15	HEAT EXCHANGER, BPHE
3	PANEL SUPPORT PILLAR	16	CLAMP, BPHE
4	ASSY, PANEL ORIFICE	17	COMPRESSOR
5	STRUCTURE REAL RIGHT	18	ASSY, UNIT TUBING
6	PANEL RIGHT	19	ASSY, WATER PIPING
7	ASSY BASE PAN	20	ASSY. FAN MOTOR
	ASSY BASE PAN	PARTS NOT SHOWN IN DIAGRAM	
8	PANEL PARTITION		FILTER DRIER
9	ASSY, COIL		CONTROL MODULE, MC01 EC
10	COIL GUIDE BACK		CONTROL MODULE, MC01 HP
11	COIL GUIDE LEFT		TANK, EXPANSION 2 LITER
12	ASSY. CONTROL BOX		VAVLE, PRSS RELIFT
13	COVER, TERMINAL BOX		PUMP, WATER

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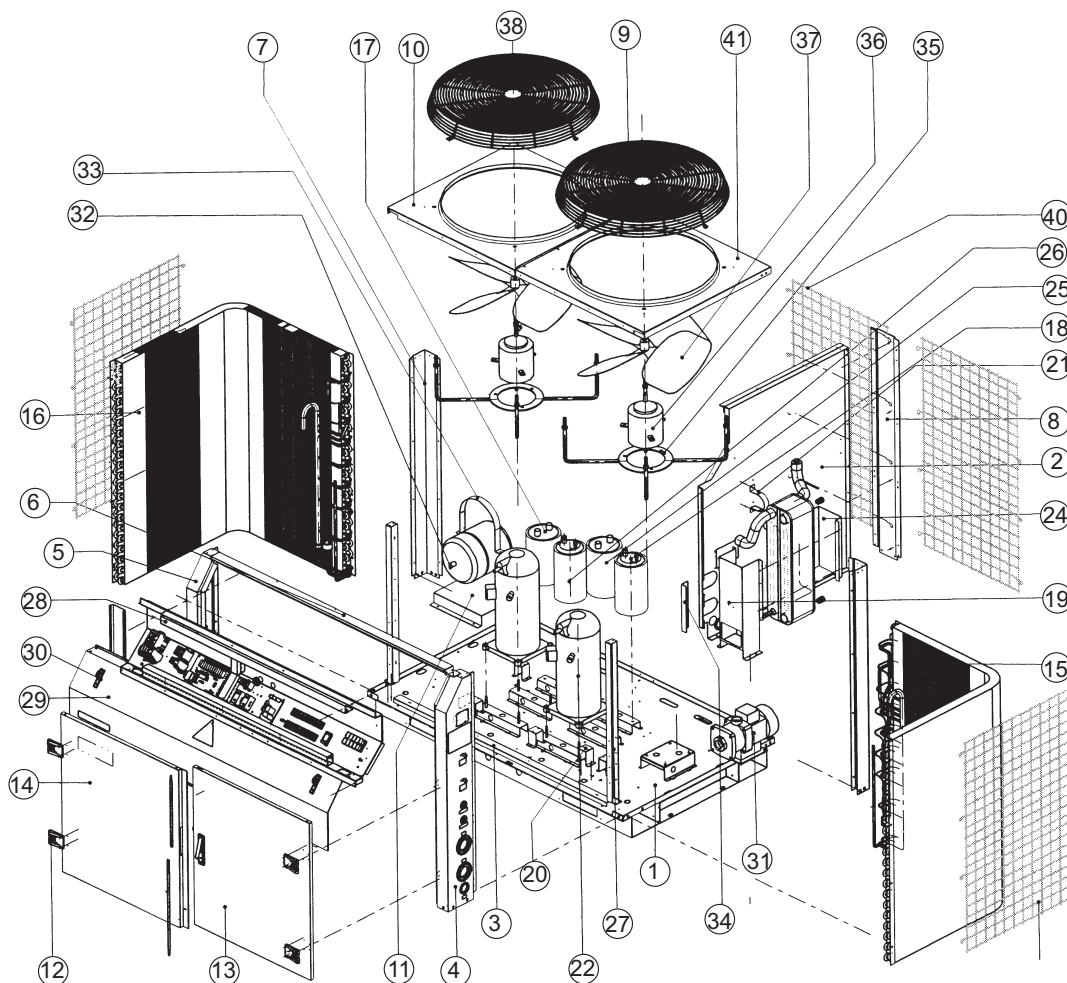
Model : AMAC40 / 50 / 60C/CR, A4AC40 / 50C, A4AC 60C/CR



ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	PANEL TOP	15	CLAMP, BPHE
2	ASSY STRUTURE FRONT RIGHT TOP	16	HEAT EXCHANGER, BPHE
3	PANEL, SUPPORT PILLAR	17	COMPRESSOR
4	PANEL ORIFICE	18	ASSY, PUMP BASE
5	ASSY STRUTURE REAR RIGHT	19	PUMP, WATER
6	PANEL, RIGHT	20	ASSY, UNIT TUBING
7	ASSY, BASE PAN	21	ASSY, WATER PIPING
8	PANEL PARTITION	22	ASSY, FAN MOTOR
9	ASSY COIL	23	ASSY, S. HOISTING BRACKET
10	COIL GUARD	PARTS NOT SHOWED IN DIAGRAM	
11	COIL GUARD		CONTROL MODULE MC01 EC
12	ASSY. CONTROL BOX		CONTROL MODULE MC01 HP
13	COVER, TERMINAL BOX		VALVE, PRESS RELIFT
14	ASSY, INS WATER STORAGE TANK 40L		TANK, EXPANSION 5 LITER

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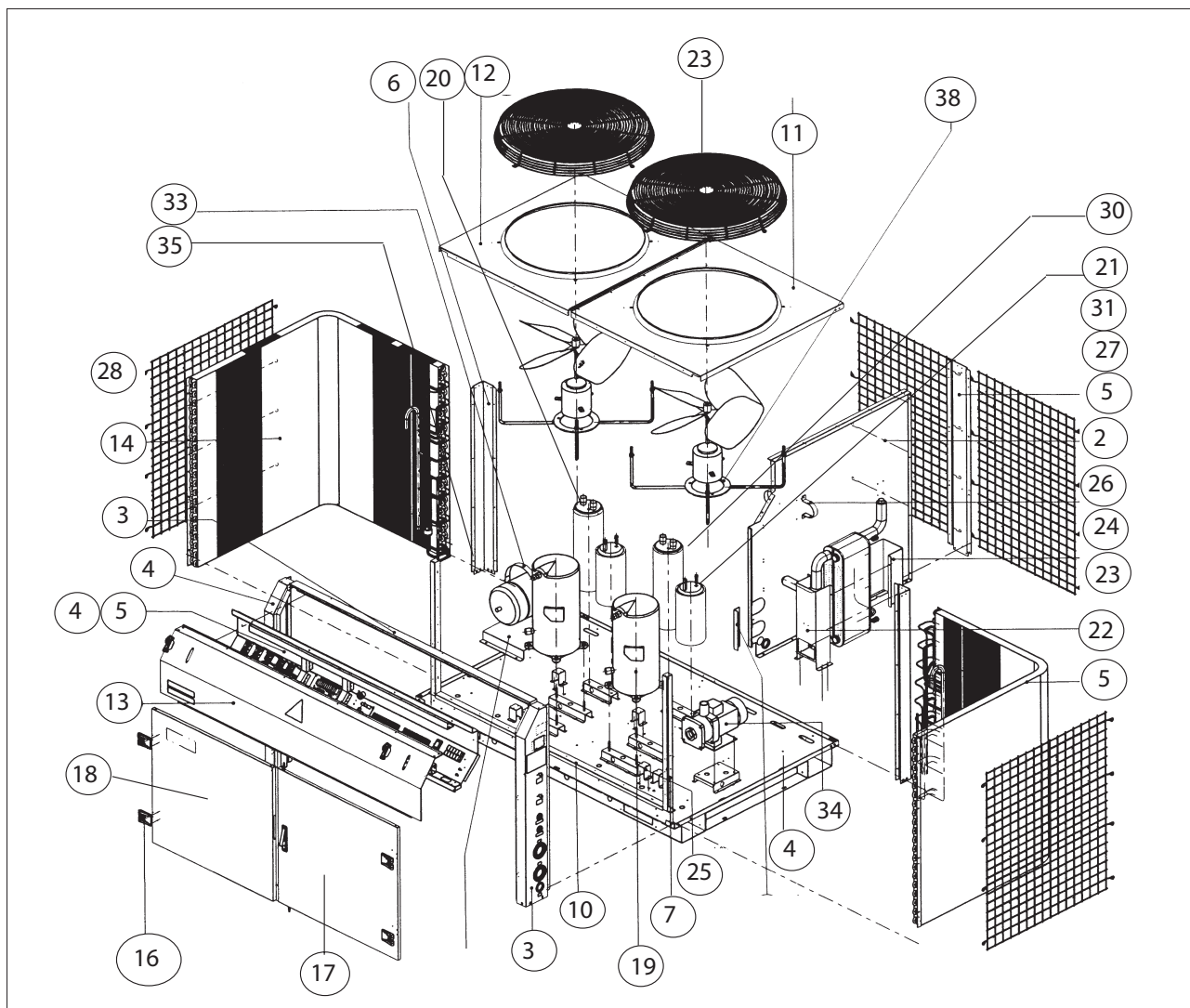
MODEL : A4AC/ AMAC80 / 100C/CR



ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	ASSY, BASE PAN	24	CLAMP, BPHE
2	ASSY, INS PARTITION PANEL	25	INS.ACCUMULATOR BODY
3	SUPPORT, FLUTTED WIRE	26	INS, LIQUID RECEIVER
4	ASSY, RIGHT PANEL	27	PANEL, TERMINAL BOX SUPPORT
5	ASSY, LEFT PANEL	28	ASSY. CONTROL BOX
6	PANEL, SUPPORT FRONT	29	PANEL, FRONT MAC080/100C/CR
7	STRUCTURE BACK L/R	30	ASSY, PANEL HOOK
8	PANEL, COIL SUPPORT	31	PUMP, WATER
9	PANEL, RIGHT ORIFICE	32	EXPANSION TANK 8L
10	PANEL, LEFT ORIFICE	33	CLAMP, EXPANSION TANK
11	SUPPORT, EXPANSION TANK	34	ASSY, PANEL PARTITION
12	DOOR HINGE	35	BRACKET, FAN MOTOR
13	ASSY, DOOR PANEL RIGHT	36	FAN MOTOR
14	ASSY, PANEL DOOR LEFT	37	FAN BLADE
15	ASSY, COIL RIGHT	38	FAN GUARD 24"
16	ASSY, COIL LEFT	PARTS NOT SHOWN IN DIAGRAM	
17	ACCUMULATOR		HANDSET, SM01XX (MCQUAY)
18	LIQUID RECEIVER		CONTROL MODULE MC01 EC
19	BRACKET BPHE		PHASE PROTECTOR
20	SUPPORT, TUBE		LOW PRESSURE SWITCH
21	CLIP, FILTER		FILTER DRIER
22	COMPRESSOR		VALVE, TXV
23	HEAT EXCHANGER		4 WAYS VALVE

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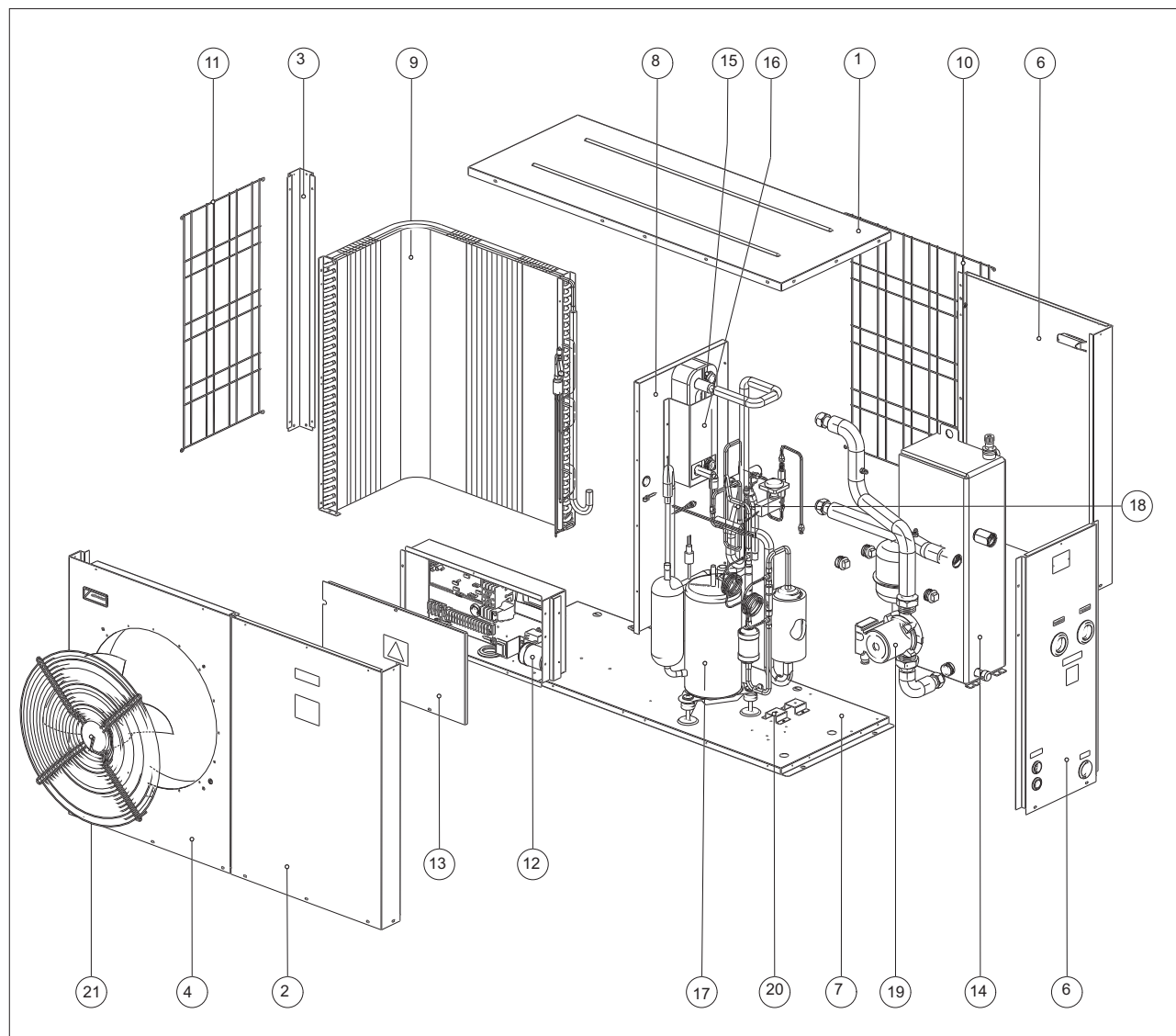
MODEL : A4AC/ AMAC120 / 150C/CR



ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	ASSY, BASE PAN	25	SUPPORT, TUBE
2	ASSY, PANEL PARTITION	26	CLIP, FILTER
3	PANEL, SIDE RIGHT	27	COIL GUARD, BACK
4	PANEL, SIDE LEFT	28	COIL GUARD, L/R
5	PANEL, COIL SUPPORT	29	FAN GUARD 26"
6	STRUCTURE BACK L/R	30	INS, ACCUMULATOR BODY
7	PANEL, CONTROL BOX SUPPORT	31	INS, LIQUID RECEIVER BODY
8	ASSY, CONTROL BOX MAIN	32	SUPPORT, EXPANSION TANK
9	PANEL, SUPPORT FRONT	33	CLAMP EXPANSION TANK
10	SUPPORT, WIRE FLUTTED	34	PUMP, WATER
11	PANEL, RIGHT ORIFICE	35	EXPANSION TANK 8L
12	PANEL, LEFT ORIFICE	36	BRACKET, FAN MOTOR
13	PANEL, FRONT	37	FAN MOTOR
14	ASSY, COIL LEFT	38	FAN BLADE
15	ASSY, COIL RIGHT	PARTS NOT SHOWN IN DIAGRAM	
16	DOOR HINGE		CONTROL MODULE MC01 EC
17	ASSY, DOOR PANEL RIGHT		HANDSET, SM01XX
18	ASSY, PANEL DOOR LEFT		PHASE PROTECTOR
19	COMPRESSOR		LOW PRESSURE SWITCH
20	ACCUMULATOR		HIGH PRESSURE SWITCH
21	LIQUID RECEIVER		FILTER DRIER
22	BRACKET BPHE		4 WAY VALVE
23	HEAT EXCHANGER		VALVE, TXV
24	CLAMP, BPHE		

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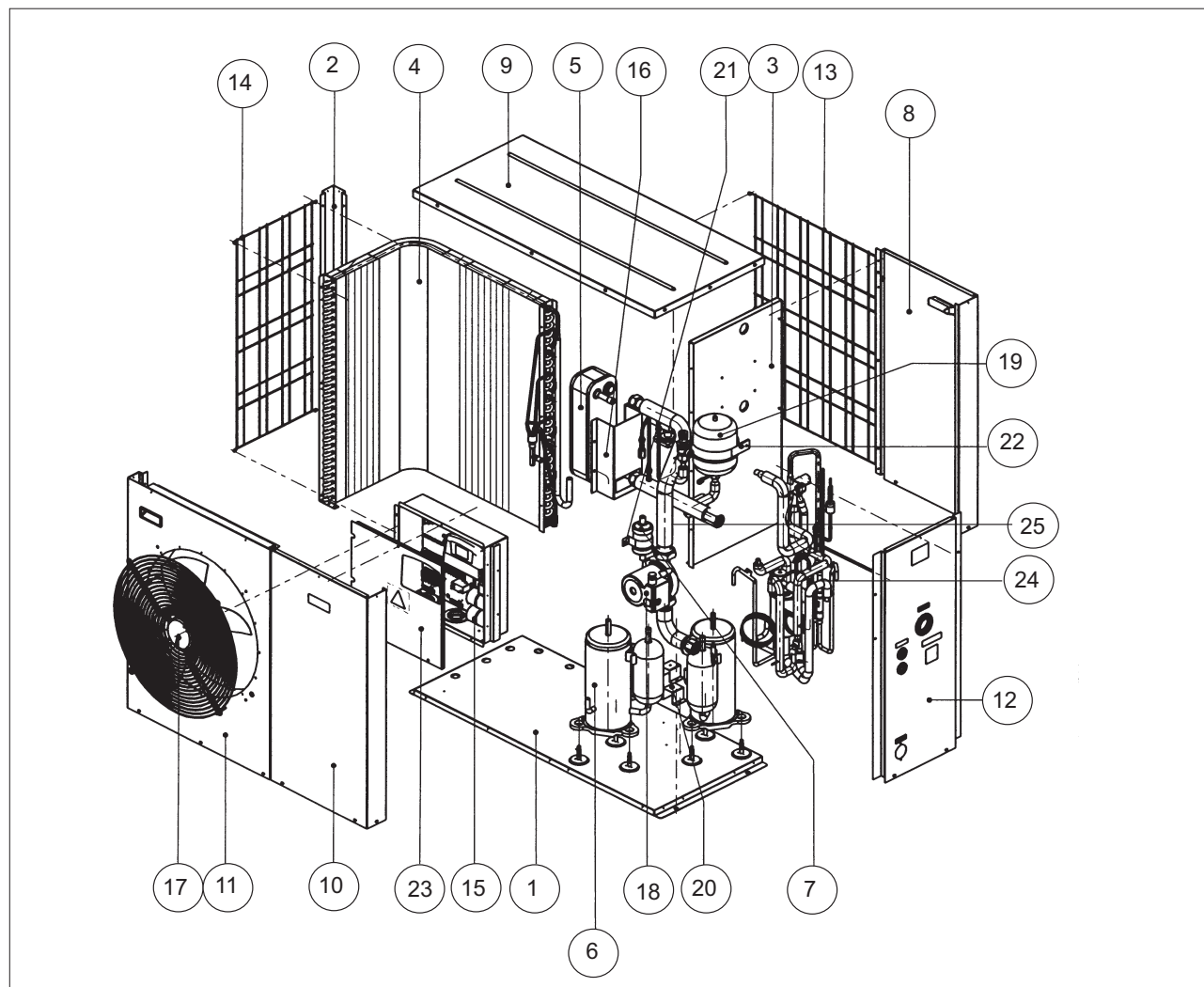
MODEL : A5AC 20 / 25CR



ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	PANEL, TOP	19	ASSY, WATER PIPING
2	STRUCTURE, FRONT RIGHT	20	SUPPORT, TUBE
3	PANEL, SUPPORT PILLAR	21	ASSY,FAN MOTOR
4	ASSY, PANEL ORIFICE	PARTS NOT SHOWN IN DIAGRAM	
5	STRUCTURE, REAR RIGHT		TANK, EXPANSION 2 LITER
6	PANEL, RIGHT		FILTER DRIER
7	ASSY, BASE PAN		PUMP,WATER
8	PANEL, PARTITION		VALVE, PRESS.RELIEF
9	ASSY, COIL		HANDLING HANDLE
10	COIL GUARD, BACK		HANDSET, SM01XX (MCQUAY)
11	COIL, GUARD LEFT		DIFF.PRESSURE SWITCH
12	ASSY, CONTROL BOX		ASSY, CAP TUBE HEATING
13	COVER, TERMINAL BOX		ASSY, CAP TUBE COOLING
14	ASSY, INS WATER STORAGE TANK 22L		CONTROL MODULE, MC01 HP
15	HEAT EXCHANGER, BPHE		CAPACITOR, CMPSR
16	CLAMP, BPHE		VALVE, ACCESS ½"
17	COMPRESSOR		VALVE, ACCESS ¼"
18	ASSY. UNIT TUBING		STICKER,LOGO ACSON

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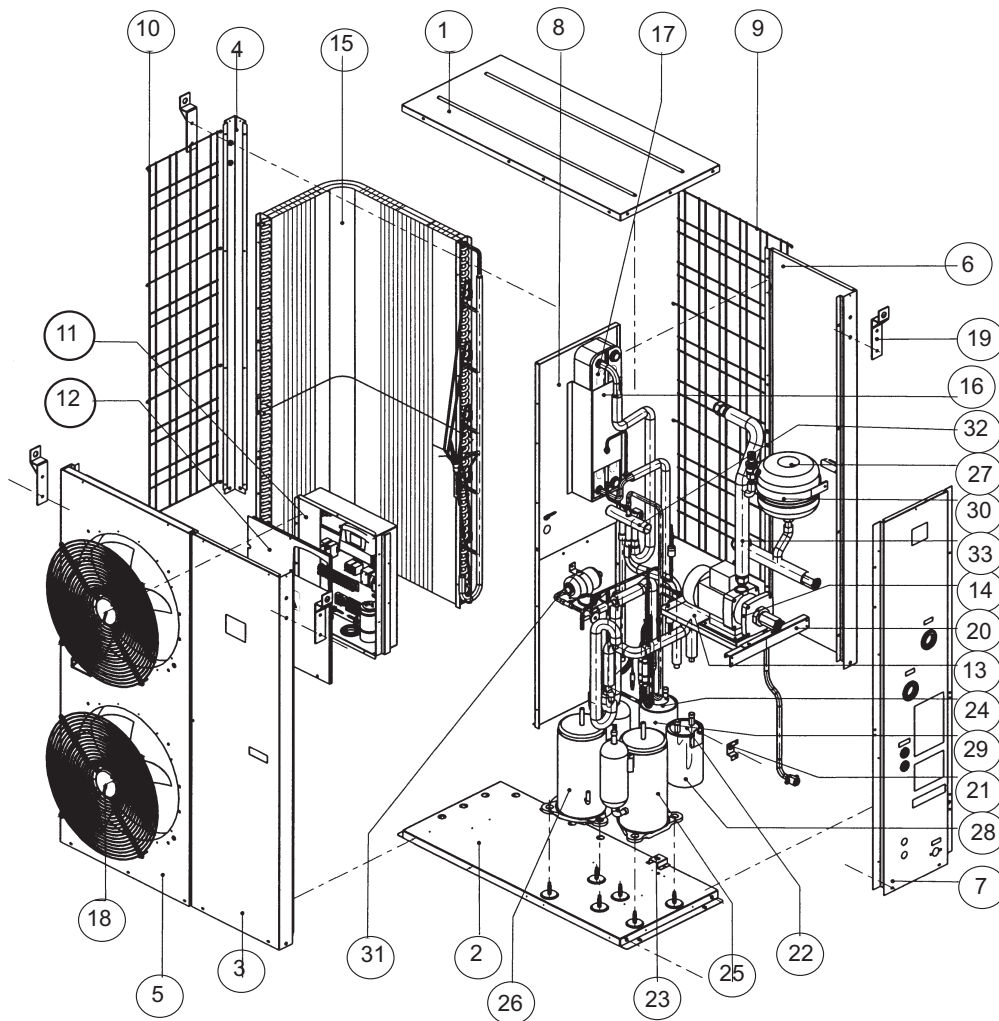
MODEL: A5AC30CR



ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	ASSY, BASE PAN	16	CLAMP, BPHE
2	PANEL, SUPPORT PILLAR	17	ASSY, FAN MOTOR
3	PANEL, PARTITION	18	PUMP, WATER
4	ASSY, COIL	19	TANK, EXPANSION 2 LITER
5	HEAT EXCHANGER, BPHE	20	SUPPORT, TUBE
6	COMPRESSOR	21	CLIP, FILTER 5AC30CR
7	FILTER DRIER	22	CLAMP, EXPANSION TANK
8	STRUCTURE, REAR RIGHT	23	COVER, TERMINAL BOX
9	PANEL, TOP	24	ASSY, UNIT TUBING
10	STRUCTURE, FRONT RIGHT 5AC030CR	25	ASSY, WATER PIPING
11	ASSY, PANEL ORIFICE	Parts Not in Diagram	
12	PANEL, RIGHT		CONTROL MODULE MC01 HP
13	COIL GUARD, BACK		HANDSET, WIRED SM01XX MCQUAY
14	COIL, GUARD LEFT		STICKER, LOGO ACSON
15	ASSY, CONTROL BOX		

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Model : A5AC40 / 50/ 55CR



ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	PANEL, TOP	20	PLATE, PUMP SUPPORT
2	ASSY, BASE PAN	21	SUPPORT, ACCUMULATOR
3	ASSY, STRUCTURE FRONT RIGHT TOP	22	ACCUMULATOR
4	ASSY, SUPPORT PILLAR	23	SUPPORT, ACCU & LIQUID RECEIVER
5	ASSY, PANEL ORIFICE	24	LIQUID RECEIVER
6	ASSY, STRUCT. REAR RIGHT	25	COMPRESSOR
7	PANEL, RIGHT	26	COMPRESSOR
8	PANEL, PARTITION	27	TANK, EXPANSION 5 LITER
9	COIL GUARD, BACK	28	INS, ACCUMULATOR BODY
10	COIL GUARD, LEFT	29	INS, LIQUID RECEIVER BODY
11	ASSY, CONTROL BOX	30	CLIP, EXPANSION TANK
12	COVER, TERMINAL BOX	31	CLIP, FILTER
13	ASSY, PUMP BASE	32	ASSY, UNIT TUBING
14	PUMP, WATER	33	ASSY, WATER PIPING
15	ASSY, SOLENOID COIL	Parts Not in Diagram	
16	CLAMP, BPHE		CONTROL MODULE MC01 HP
17	HEAT EXCHANGER, BPHE		HANDSET, WIRED SM01XX MCQUAY
18	ASSY, FAN MOTOR		FILTER DRIER
19	ASSY, S. HOISTING BRACKET		STICKER, LOGO ACSON

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