DAIKIN

INSTALLATION MANUAL

Model:
UATYQ250MBY1
UATYQ350MBY1
UATYQ450MBY1
UATYQ550MBY1

Installation Manual
Rooftop Package Units — **English**

Installationshandbuch
Kompaktanlage Für Dachmontage — **Deutsch**

Manuel D'installation
Conditionneurs D'air En Toiture — **Français**

Installatiehandboek
Compactsysteem Voor Dakmontage — **Nederlands**

Manual De Instalación
Unidades Del Conjunto Del Tejado — **Español**

Manuale Di Installazione
Unità A Pacchetto Per Installazione Sul Tetto — **Italiano**

Εγχειρίδιο εγκατάστασης
Αυτόνομες μονάδες στέγης — **Ελληνικά**

Manual De Instalação
Unidades De Conjuntos De Telhado — **Português**

Руководство По Установке
Компактные Установки Для Кондиционирования
Воздуха, Монтируемые На Крыше Здания — **Русский**

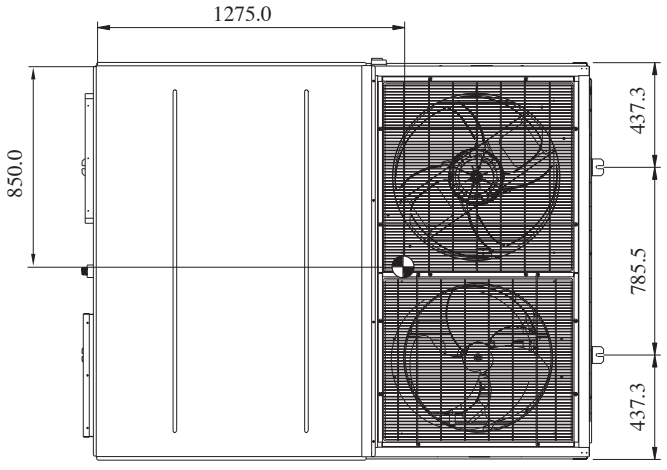
Instrukcja instalacji
Urządzenia dachowe (typu „rooftop") — **Polski**

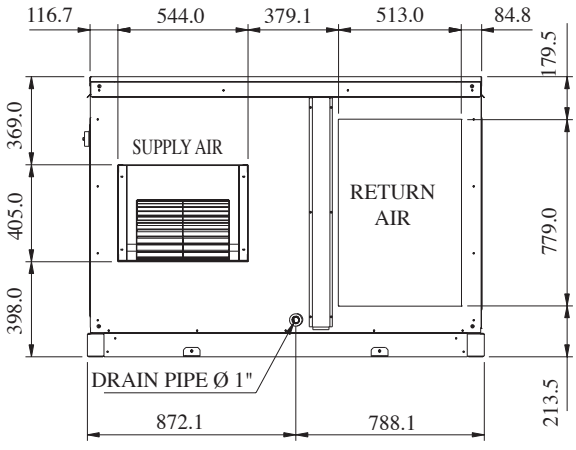
Kurulum kılavuzu
Çatı Tipi Ambalaj Üniteleri — **Türkçe**

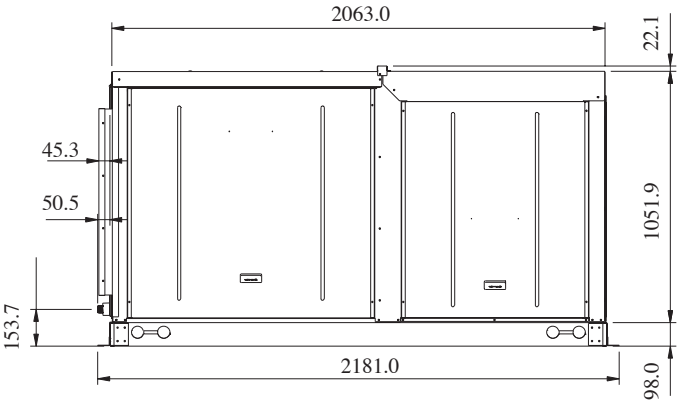
IM-5RTBR-0709(2)-DENV
Part No.:R08019033604B

OUTLINE AND DIMENSIONS

Model: UATYQ250

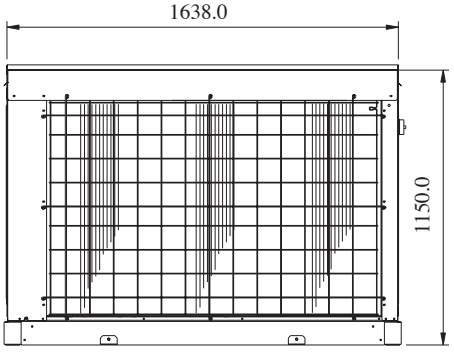


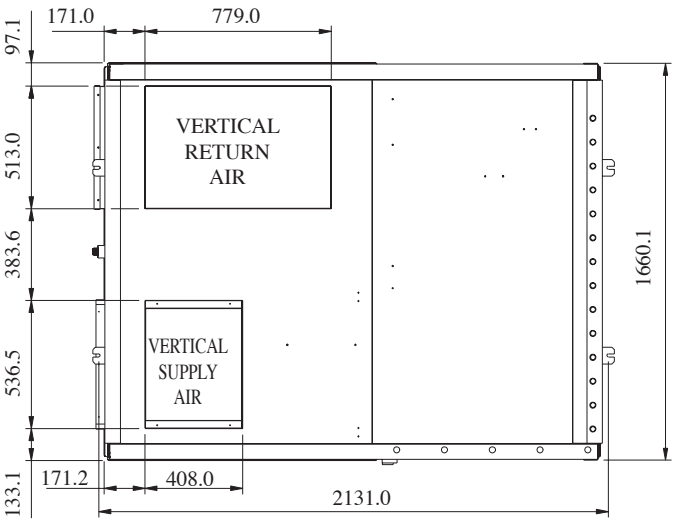




FOR HORIZONTAL DISCHARGE

Back view of the unit:



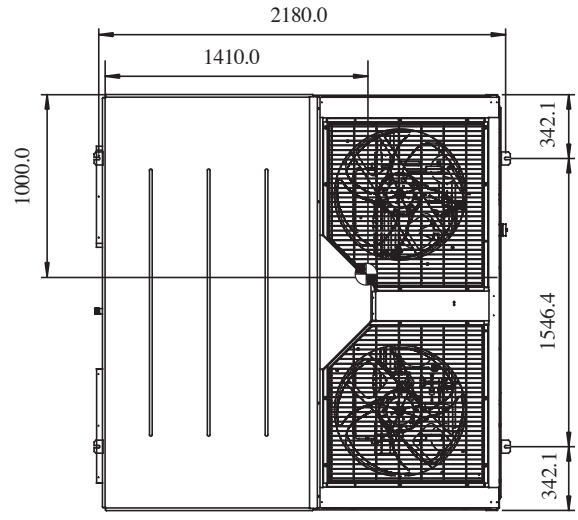


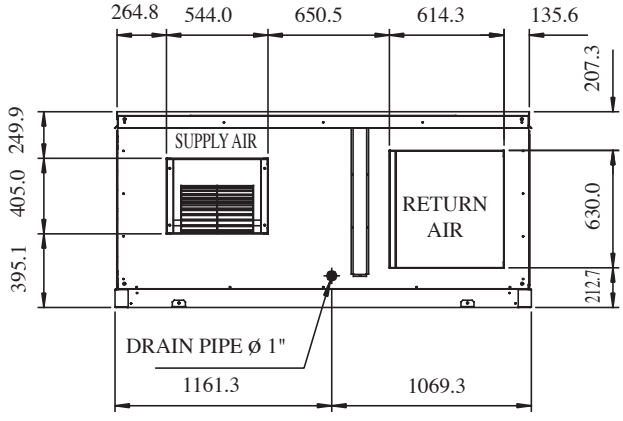
FOR VERTICAL DISCHARGE

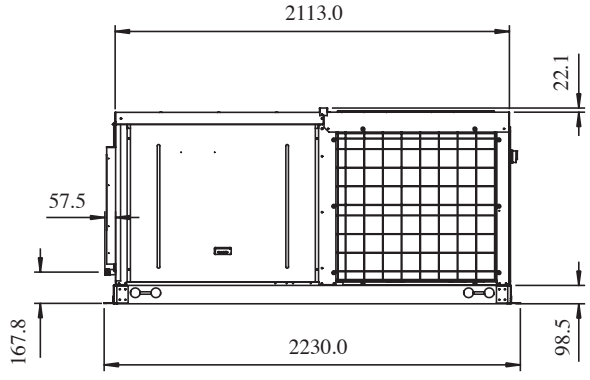
CENTER OF GRAVITY

All dimensions are in mm

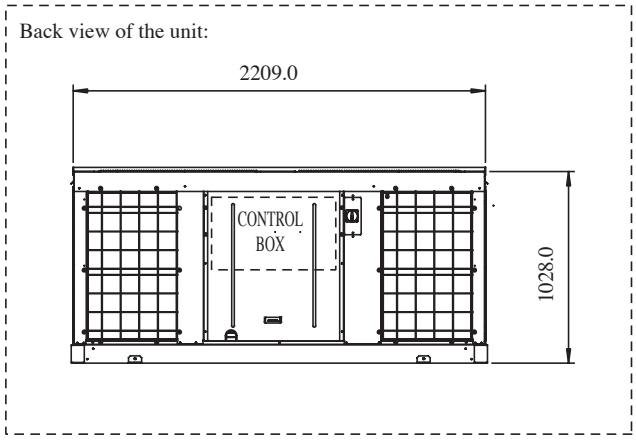
Model: UATYQ350

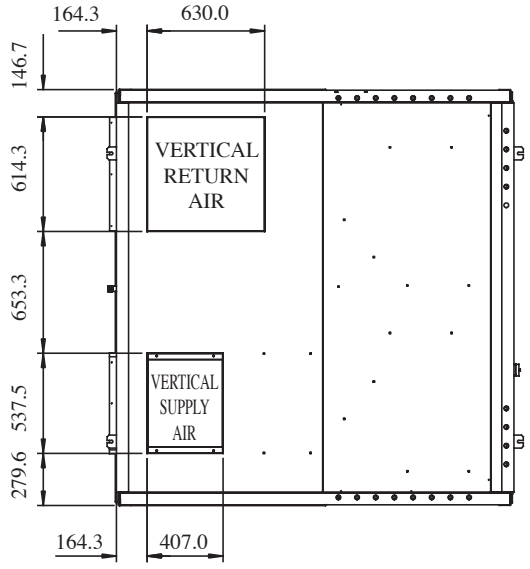






FOR HORIZONTAL DISCHARGE



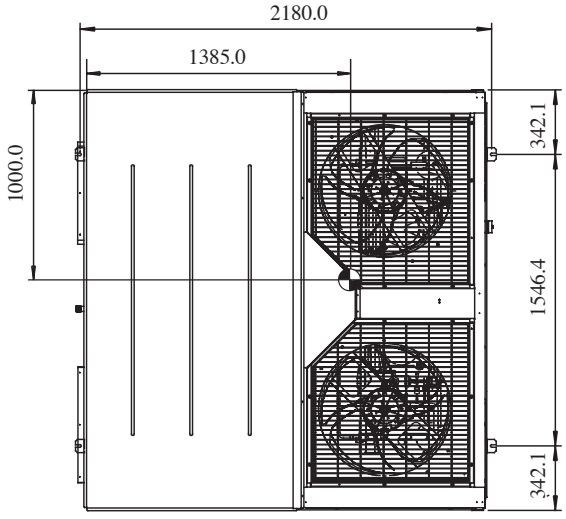


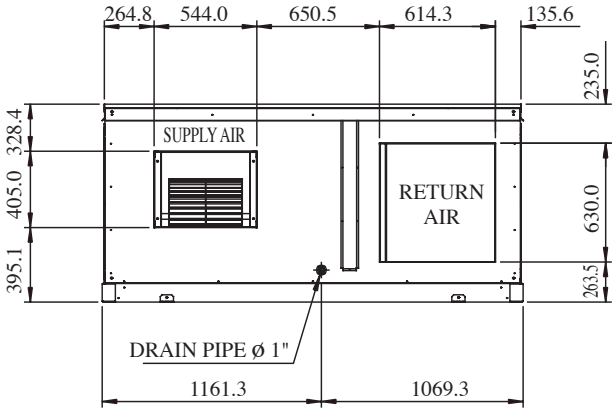
FOR VERTICAL DISCHARGE

CENTER OF GRAVITY

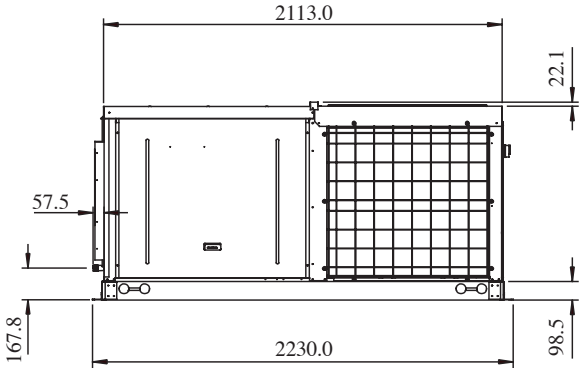
All dimensions are in mm

Model: UATYQ450

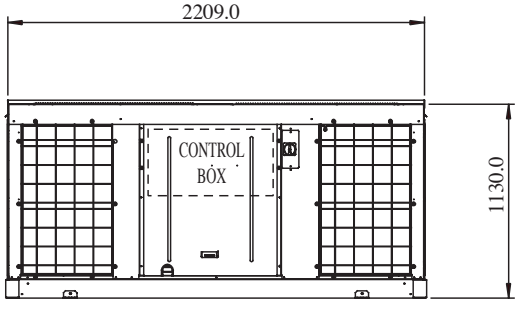


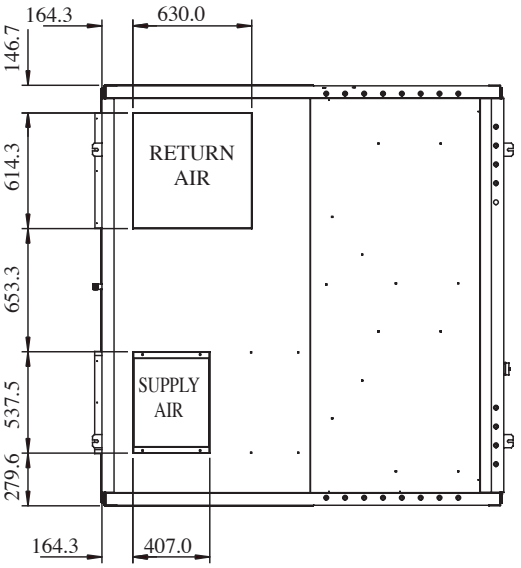


FOR HORIZONTAL DISCHARGE



Back view of the unit:



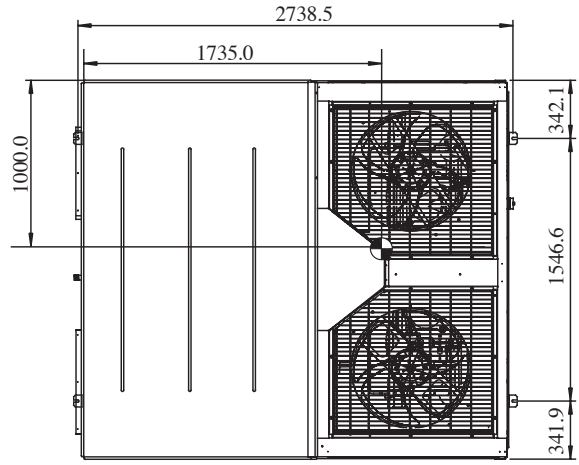


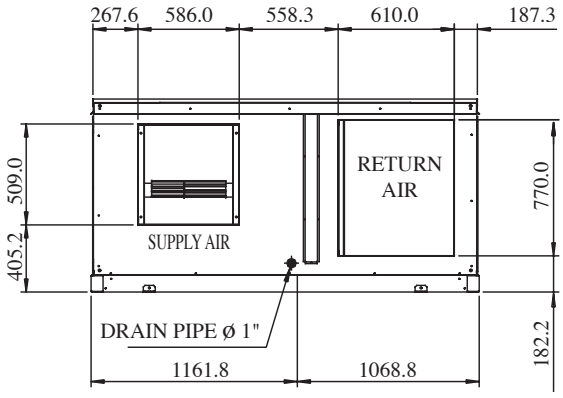
FOR VERTICAL DISCHARGE

CENTER OF GRAVITY

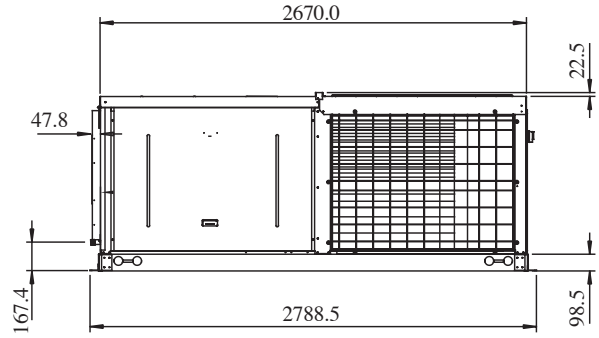
All dimensions are in mm

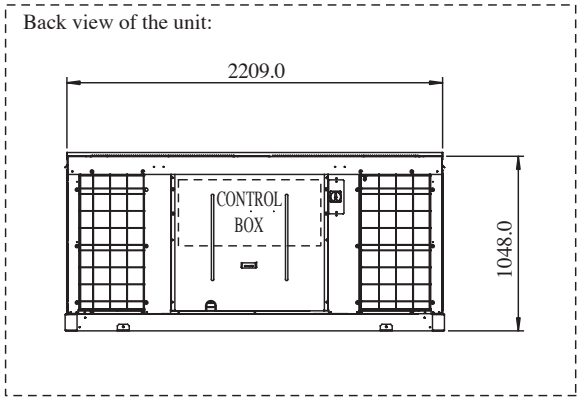
Model: UATYQ550

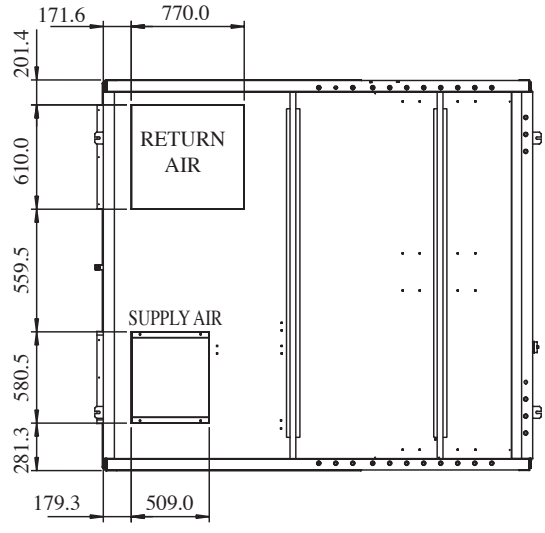




FOR HORIZONTAL DISCHARGE







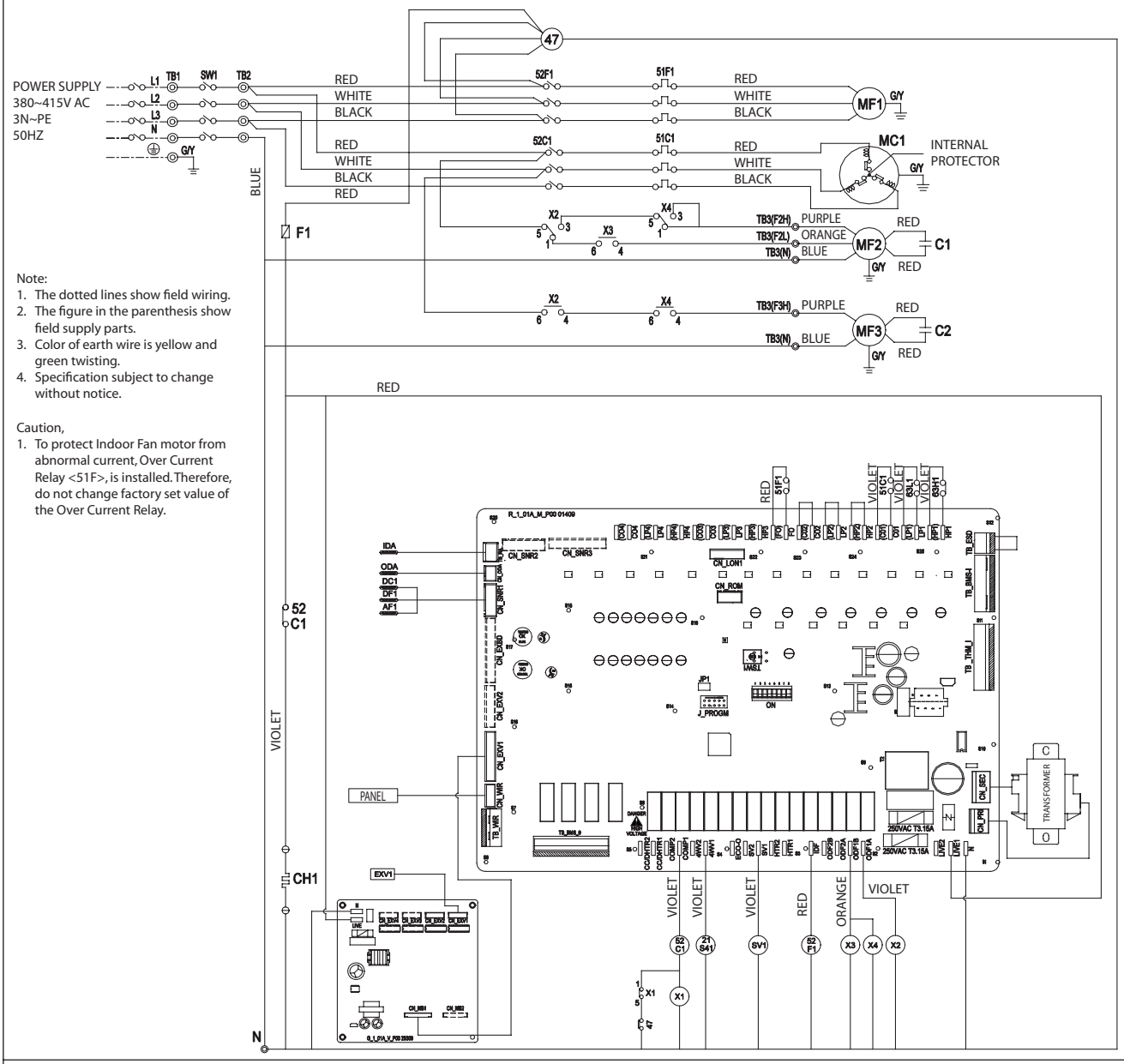
FOR VERTICAL DISCHARGE

CENTER OF GRAVITY

All dimensions are in mm

ELECTRICAL WIRING DIAGRAM

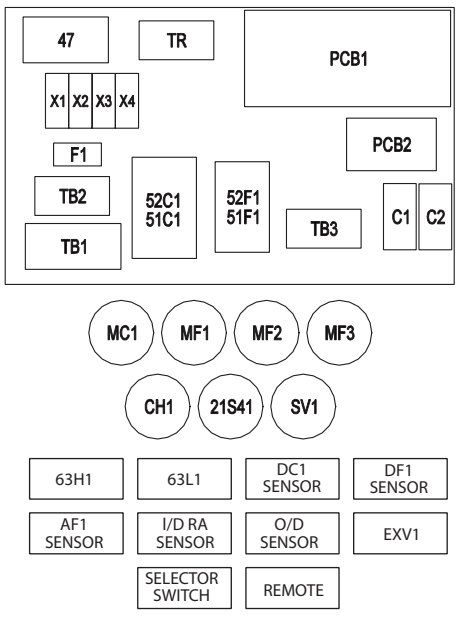
Model: UATYQ250



Note:
1. The dotted lines show field wiring.
2. The figure in the parenthesis show field supply parts.
3. Color of earth wire is yellow and green twisting.
4. Specification subject to change without notice.

Caution,
1. To protect Indoor Fan motor from abnormal current, Over Current Relay <51F>, is installed. Therefore, do not change factory set value of the Over Current Relay.

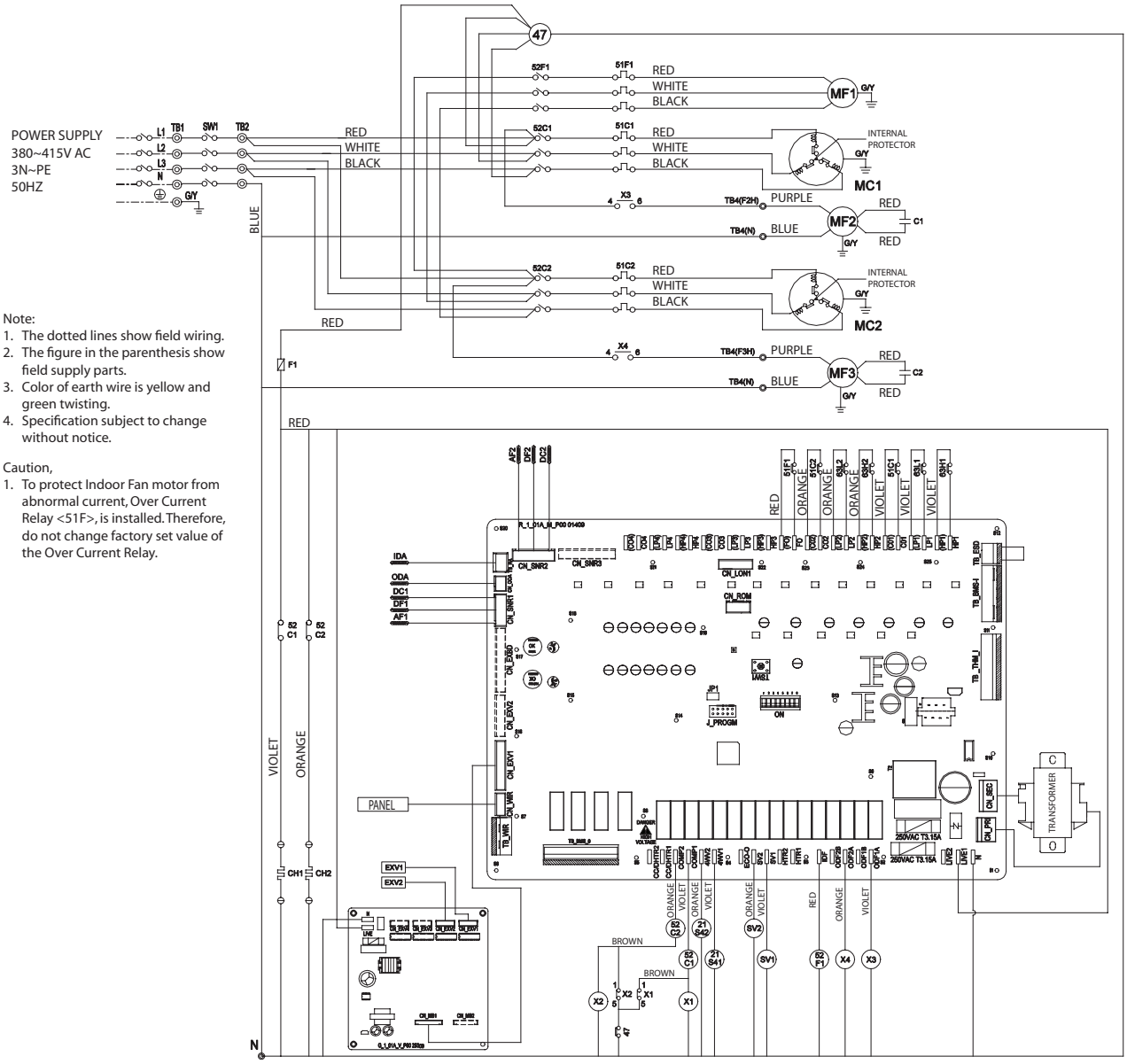
ARRANGEMENT



SYMBOL	NAME
MC1	Compressor Motor
MF1	Fan Motor (Indoor)
MF2, 3	Fan Motor (Outdoor)
52C1	Contactor (Compressor)
52F1	Contactor (Fan I/D)
51C1	Over Current Relay (Compressor)
TB1, 2, 3	Terminal Block
F1	Fuse
51F1	Over Current Relay (Fan I/D)
CH1	Crankcase Heater
47	Phase Protector
63H1	High Pressure Switch
63L1	Low Pressure Switch
C1,C2	Capacitor (O/D Fan Motor)
SV1	Solenoid Coil
21S41	4-Way Valve
X1, X2, X3, X4	Auxilliary Relays
SW1	Selector Switch
TR	Transformer 230V~24V
TB_RA	I/D Return Air Sensor
CN_ODA	O/D Air Sensor
CN_SNR1	Sensor DC1, DF1 & AF1
CN_EXV1	Expansion Valve
CN_WIR	Panel Remote Controller

PART NO.: 0802 4 106498B

Model: UATYQ350/450/550



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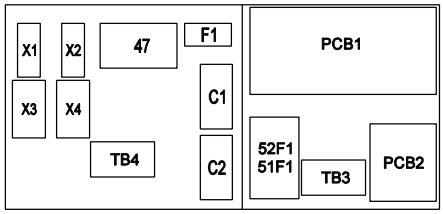
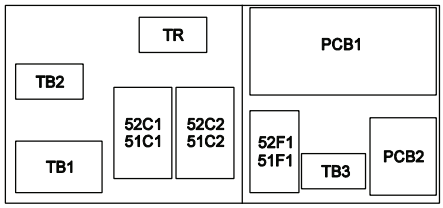
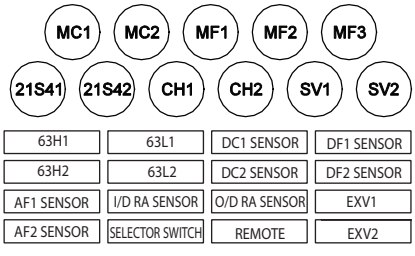
ARRANGEMENT TOP



ARRANGEMENT BOTTOM





SYMBOL	NAME
MC1/MC2	Compressor Motor
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51C1/ 51C2	Over Current Relay (Compressor)
TB1, 2, 3, 4	Terminal Block
F1	Fuse
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CH1/ CH2	Crankcase Heater
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TR	Transformer 230V~24V
TB_RA	I/D Return Air Sensor
CN_ODA	O/D Air Sensor
CN_SNR1	Sensor DC1, DF1 & AF1
CN_SNR2	Sensor DC2, DF2 & AF2
CN_EXV1/CN_EXV2	Expansion Valve
CN_WIR	Panel Remote Controller

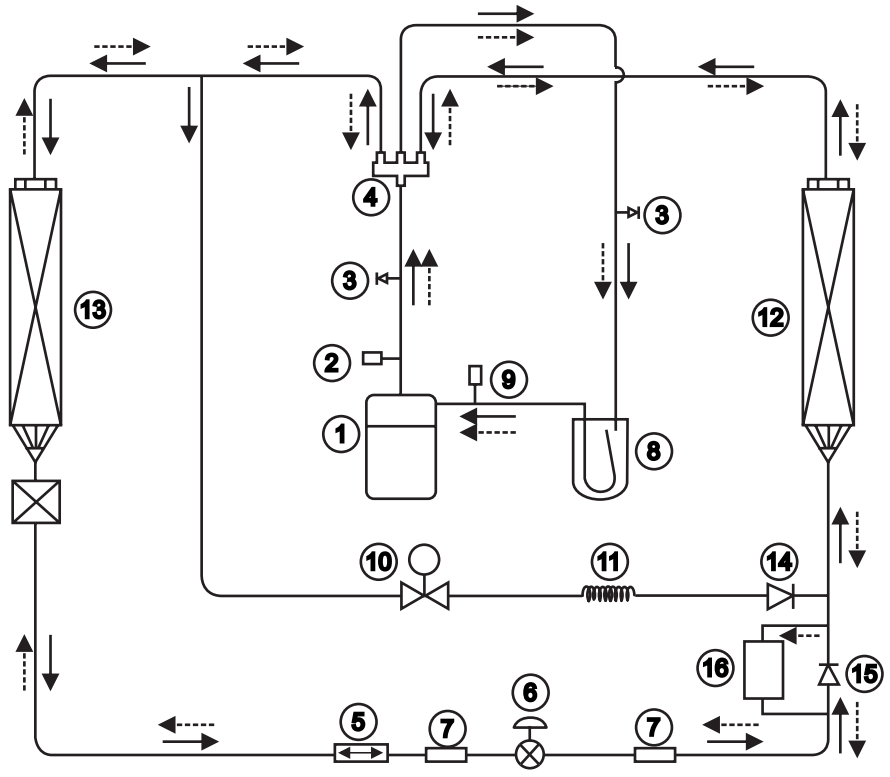
PART NO.: 0802 4 106505B

REFRIGERANT CIRCUIT DIAGRAM

Model: UATYQ 250, 350, 450, 550

——▶	Cooling Operation
◀- - - - - - - -	Heating Operation

No	Item Description
1	Compressor
2	High Pressure Switch
3	Access Valve
4	4 - Ways Valve
5	Filter Drier
6	Electronic Expansion Valve
7	Strainer
8	Accumulator
9	Low Pressure Switch
10	Solenoid Valve
11	Bypass Capillary Tube
12	Indoor Heat Exchanger
13	Outdoor Heat Exchanger
14	Check Valve 1
15	Check Valve 2
16	Compensator



Note: (a) UATYQ350 consists of 2 circuits in the system.
(b) Item no. 15 & 16 are applicable for UATYQ350 only.

INSTALLATION MANUAL

This manual provides the procedures of installation to ensure a safe and good standard of operation for the air conditioner unit.
Special adjustment may be necessary to suit local requirements.
Before using your air conditioner, please read this instruction manual carefully and keep it for future reference.

SAFETY PRECAUTIONS

⚠ 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 hazard due to insulation failure.
- All electrical wiring must not touch the refrigerant piping, or any moving parts of the fan motors.
- Confirm that the unit has been switched OFF before installing or servicing the unit.
- Disconnect from the main power supply before servicing the air conditioner unit.
- DO NOT pull out the power cord when the power is ON. This may cause serious electrical shocks which may result in fire hazards.
- Keep the air-conditioner units, power cable and transmission wiring, at least 1m from TVs and radios, to prevent distorted pictures and static. {Depending on the type and source of the electrical waves, static may be heard even when more than 1m away}.

IMPORTANT

ENGLISH

Important information regarding the refrigerant used

This product contains fluorinated greenhouse gases covered by the Kyoto Protocol. Do not vent gases into the atmosphere.

Refrigerant type: R410A
GWP [1] value: 1975

[1] GWP = global warming potential

The refrigerant quantity is indicated on the unit name plate. Periodical inspections for refrigerant leaks may be required depending on European or local legislation. Please contact your local dealer for more information.

⚠ 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 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 unit's panel is closed after service or installation.**
  Unsecured panels will cause the unit to operate noisily.
- **Sharp edges and coil surfaces are potential locations which may cause injury hazards.**
  Avoid from being in contact with these places.
- **Before turning off the power supply, set the remote controller's ON/OFF switch to the "OFF" position to prevent the nuisance tripping of the unit.** If this is not done, the unit's fans will start turning automatically when power resumes, posing a hazard to service personnel or the user.
- **Do not operate any heating apparatus too close to the air conditioner unit.**
- **Don't use joined and twisted wires for incoming power supply.**

INSTALLATION OF THE UNIT

(a) Location For Installation

Install the unit in such way that air distributed by the unit cannot be drawn in again (as in the case of short circuit of discharge air). Allow sufficient space for maintenance around the unit.

When two or more units are installed in a location, they must be positioned such that one unit will not be taking the discharge air from another unit.

Ensure that there is no obstruction of air flow into or out of the unit. Remove obstacles which block air intake or air discharge.

The location must be well ventilated, so that the unit can draw and distribute plenty of air.

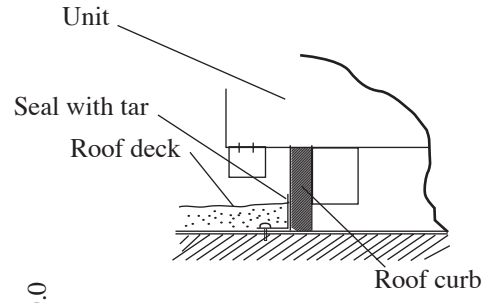
The unit is recommended to install in:-
A place capable of bearing the weight of the unit and isolating noise and vibration.
A place where has adequate drainage.
A place where the unit will not be buried in snow.
A place where air outlet port is not exposed to strong wind.
A place where the air discharge and operating sound level will not annoy the neighbours.
The location where it is not accessible by general public.

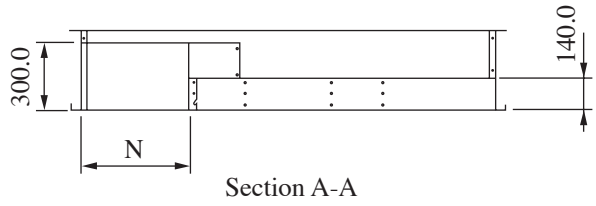
(b) Duct Construction

- This unit are equipped with supply and return air openings. Duct connection to the unit should be made with duct flanges and secured directly to the air openings with flexible duct connectors to avoid normal noise transmission.
- To prevent air leakage, all duct seams should be sealed.
- Ducts in the spaces that not air-conditioned, must be insulated.
- Ducts exposed to the outside must be weather proofed.
- Ducts that entering building through the roof, the entering should be sealed with weather stripping to prevent rain, sand, dust etc, from entering the building.
- Correct size of filter must be installed at the return air duct.

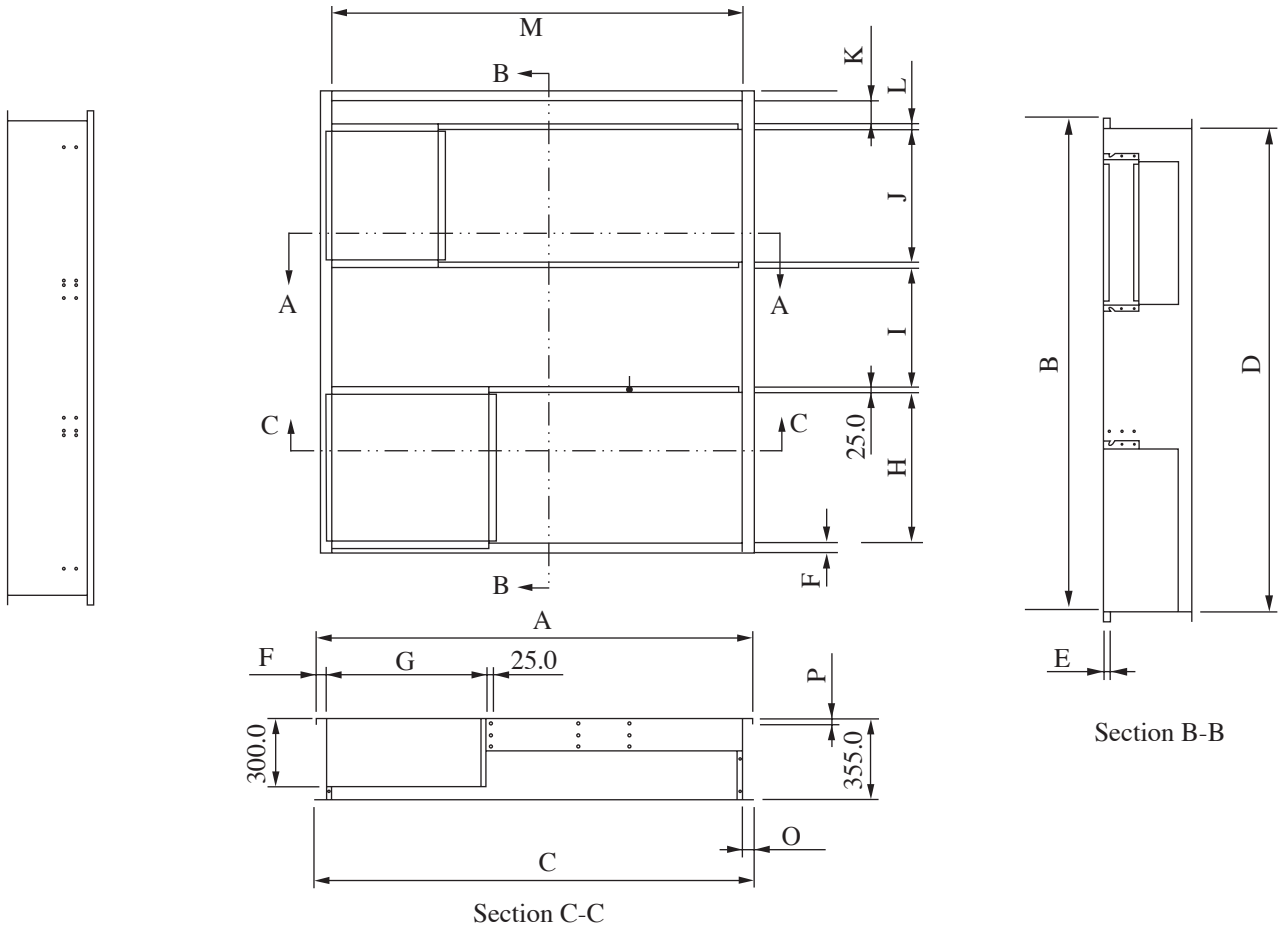
(c) Unit Support (For down throw unit only)

1. The figure shows the use of the roof curb for mounting these units.
2. The curb should be sealed and fixed to the roof by weather stripping. A suggested means of sealing the unit and roof curb as shown in the right.
3. Recommended roof curb dimension is shown below.





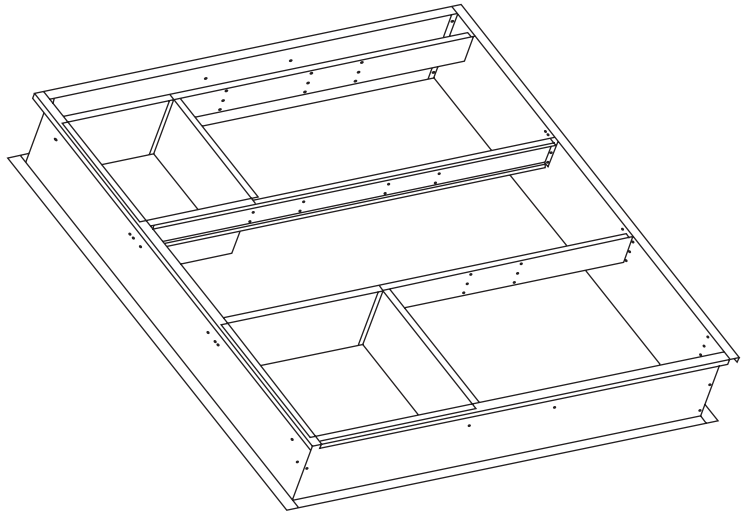
Section A-A



Section B-B

Section C-C

Model (UATYQ)	250	350/450	550
A	1821.0	1890.0	2448.0
B	1505.5	2081.0	2081.0
C	1881.0	1908.0	2466.0
D	1468.5	1998.0	1998.0
E	15.0	25.0	25.0
F	20.0	43.0	46.0
G	838.2	698.7	827.0
H	538.1	676.0	676.0
I	272.4	538.9	444.6
J	605.1	599.8	645.8
K	0.0	104.6	104.6
L	0.0	25.0	25.0
M	1781.0	1804.0	2362.0
N	479.7	475.7	589.0
O	50.0	52.0	52.0
P	15.0	25.0	25.0

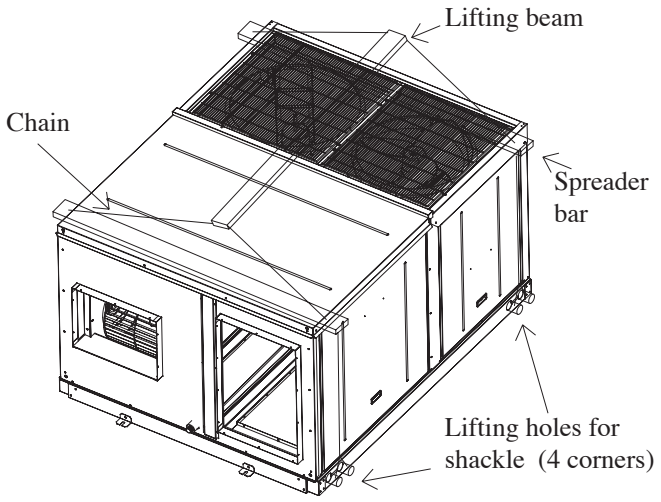


Note: All dimensions are in mm

(d) Unit Lifting

Holes at 4 corners of the unit base are used for unit lifting purpose.
The spreader bar shall be slightly wider than the unit width.
The insulation should be added at 4 corners of the chain to prevent the damage of the panel when lifting.

Note:
Unit shown in diagram is UATYQ250.
Other models will follow the same method in lifting.

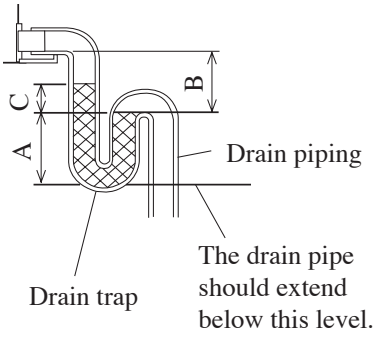


(e) Drain Piping

- A 1" MPT condensate drain fitting is provided. The drain pipe can be led out at the front side.
- The drain pipe must be provided with a trap on the outside of the unit and also installed at an incline for proper drainage, as shown in the right.
- To prevent condensate formation and leakage, provide the drain pipe with insulation to safeguard against sweating.
- Upon completion of piping work, check that there is no leakage and that the water drains off properly.

The drain piping should have a drain trap.

A ≥ 70mm
B ≥ 2C
C ≥ 2 X ESP

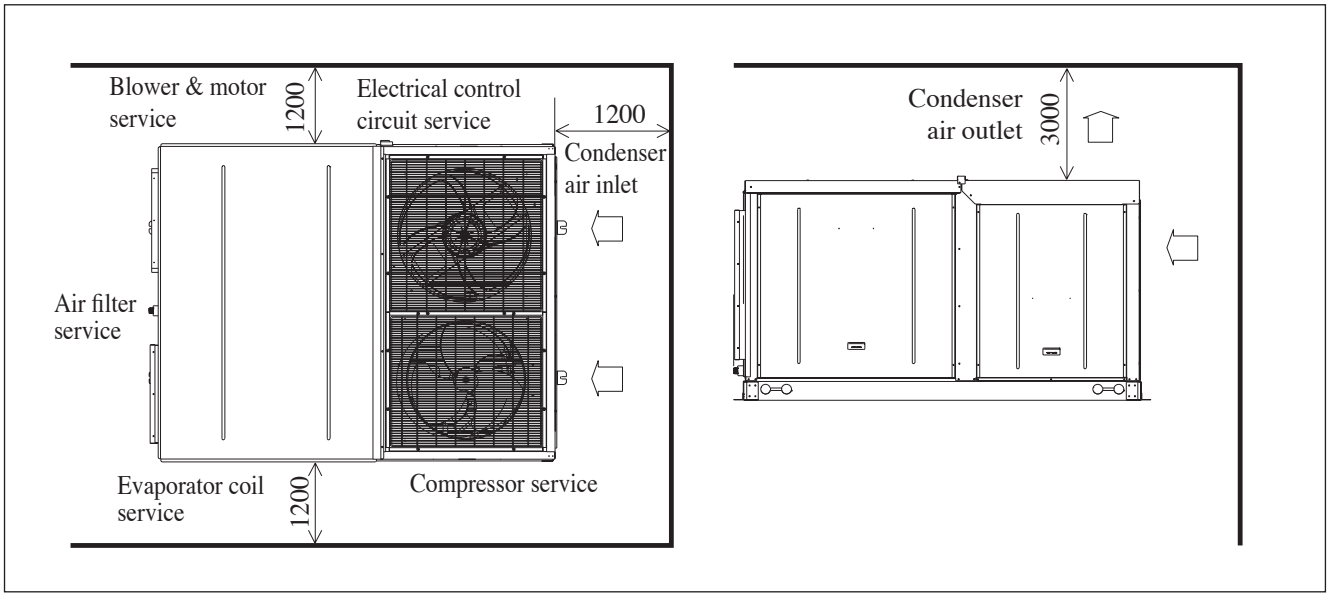


Note: ESP = External Static Pressure

Drain trap for condensate

(f) Space Required Around Unit

Refer diagram below for the space required around the unit. Note that:-
(a) All dimensions shown are in mm.
(b) All space value shown are minimum clearance required for the unit.
(c) Unit shown in the diagram is UATYQ250. Other models shall follow the same clearance.

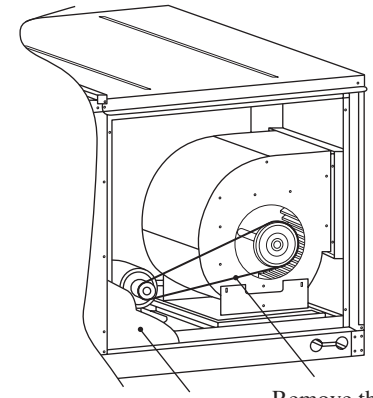


(g) Unit Conversion

In the case of converting standard unit to downflow unit, follow the steps as stated below:

UATYQ 250, 350, 450 & 550

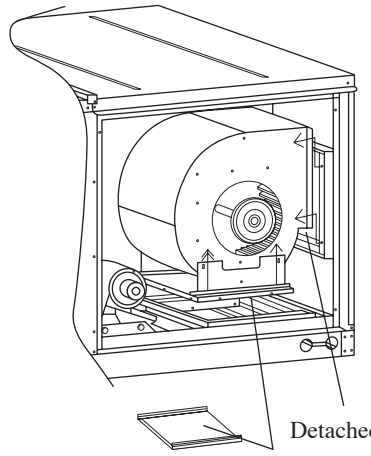
Step 1



Remove the side panel

Remove the Pulley Belt

Step 2



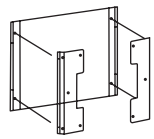
Remove screws at both sides

Detached blower

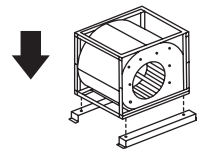
Detached the blower support

For UATYQ250:

The two side plates are screwed on the blower support as shown

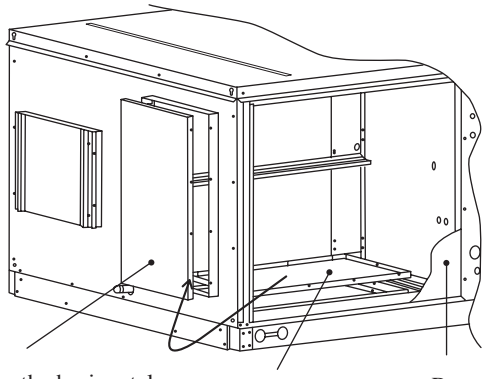


For UATYQ350, 450 & 550:



The two downflow structure are screwed to blower

Step 4



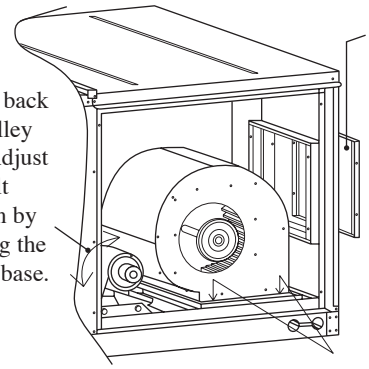
Cover the horizontal return opening with the cover and screw tightly

Unscrew the vertical return cover from the base panel

Remove the side panel at return side

Lastly, install back the side panel.

Step 3



Install back the pulley belt. Adjust the belt tension by moving the motor base.

Cover the horizontal supply opening with the blower support that detached from the blower.

Turn the blower to face bottom. Screw at both sides.

Install back the pulley belt. Adjust the belt tension.
Lastly, install back the side panel.

Note:

For down flow conversion, belt length will need to be changed.

For unit with standard pulley, belt length = a mm

Shaft to shaft Distance for downflow, C-C = b mm

	UATYQ250	UATYQ350	UATYQ450	UATYQ550
a	1120	1180	1150	1362
b	380	410	380	460

PHYSICAL DATA

Heat Pump (R410A)

Model		UATYQ250	UATYQ350	UATYQ450	UATYQ550
Refrigerant		R410A			
Refrigerant charge	kg	6.1	5.8/5.8	7.2/7.2	8.7/8.7
Evaporator air flow	CFM	3300	4300	5650	6600
	L/S	1557	2029	2667	3115
External static pressure	mmAq	15			21
	Pa	147			206
Condenser air flow	CFM	8230	6000/6000	6050/6050	6450/6450
	L/S	3884	2831/2831	2855/2855	3044/3044
Control		Wired Rooftop Controller			
Control wire length (Standard/Max) : Size	m : mm^2	15 / 100 : 3			
Compressor (Type/Quantity)		Scroll/1	Scroll/2	Scroll/2	Scroll/2
Air filter (Type/Quantity)		Washable Saranet/2			
Air filter dimension (Length x Width x Thickness)	mm	880 x 467 x 4	1126 x 385 x 4	1126 x 435 x 4	1497 x 392 x 4

ELECTRICAL DATA

Heat Pump (R410A)

Model		UATYQ250	UATYQ350	UATYQ450	UATYQ550
Power supply	V/Ph/Hz	380-415/3N~/50			
Max continuous current (Comp)	A	26.0	16.5/16.5	19.0/19.0	26.0/26.0
Full load current (FLA, Comp)	A	21.0	12.2/12.2	15.0/15.0	21.0/21.0
Locked rotor current (LRA, Comp)	A	111.0	74.0/74.0	101.0/101.0	111.0/111.0

The equipment fulfils the requirements in EN 61000-3-11 and is subject to conditional connection to the mains. It may be connected in consultation with the supply authority. The equipment may only be connected to a mains supply with a system impedance of less than the value stated in table below. The system impedance in the interface point may be obtained from the supply authority.

Model	Maximum impedance (Z_{max}), ohm
UATYQ250	0.22
UATYQ350	0.23
UATYQ450	0.21
UATYQ550	0.21

If the mains supply has a higher system impedance, short voltage dips may appear when the equipment is started or during operation. This may influence or disturb the operation of other apparatuses, e.g. flickering lamps, especially those connected to the same supply mains.

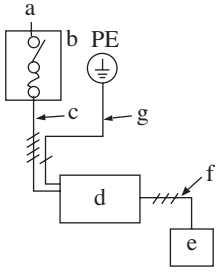
WIRE CONNECTION

- All electrical work must be carried out by qualified electrician and accordance with local supply requirement and associate regulation.

Method for connecting electric wire

Before connecting the wire, consult the electric power company of jurisdiction.

(1) The entire wiring diagram of unit



a.	Power supply	d.	Unit
b.	Main switch/fuse (field supply)	e.	Remote control
c.	Power supply wiring for unit	f.	Connection wiring for unit & remote controller
		g.	Earth

(2) Wiring connection to unit

Route the power supply wires and control wire through the knockout holes in the unit.

Remove the service panels and connect the units power supply wires to terminal block inside the control box, as shown.

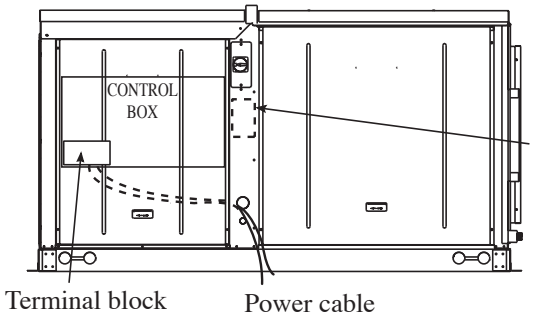
Note:

While installing the circuit breaker onto the unit, make sure that the screws do not damage the components (e.g. coil) inside the unit.

The switch box also can be installed without attaching to the unit.

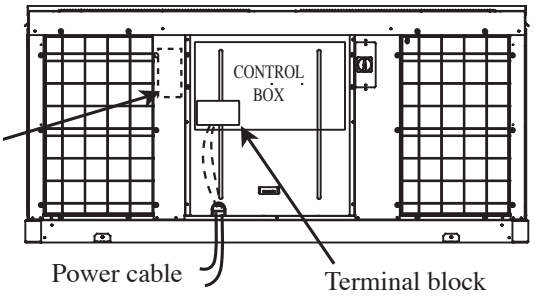
The knockout holes are only in UATYQ250; UATYQ350, UATYQ450 & UATYQ550 comes with a power cable hole.

UATYQ250



Recommended switch box position

UATYQ350, 450 & 550



Wiring Example And Selection Of Circuit Breaker

Model	Power cable (mm^2)	Breaker capacity(A)	Over current protection switch (A)	Earth cable (mm^2)
UATYQ250	4	32	32	4
UATYQ350	6	40	40	6
UATYQ450	10	40	40	10
UATYQ550	10	50	50	10

Note:

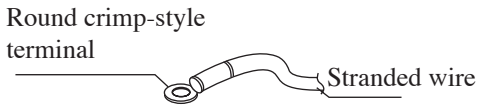
A main switch or other means for disconnection, having a contact separation in all poles, must be incorporated in fixed wiring in accordance with local and national legislation.

- The unit is to be wired directly from an electrical distribution board either by a circuit breaker (preferred) or HRC fuse.
- Fix the power supply wiring to control module. Connect control wiring to control terminal block through the control box's hole.
- Earth wiring must be connected.
- The power supply cord must be equivalent to H05VV-F (60227 IEC 52 or 60227 IEC 53) which is the minimum requirement, and to be used in protective tube.

⚠ WARNING

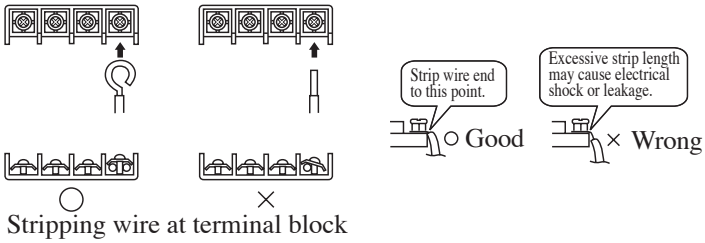
- Before working in this unit, isolate it from the power supply.
- Electrical wiring to this unit and the remote controller shall be installed in accordance with the appropriate requirement of the local wiring code.

Observe the notes mentioned below when wiring to the terminal block. Precautions to be taken for power supply wiring.
(Use a round crimp-style terminal for connection to the terminal block. In case it cannot be used due to unavoidable reasons, be sure to observe the following instruction.)



⚠ CAUTION

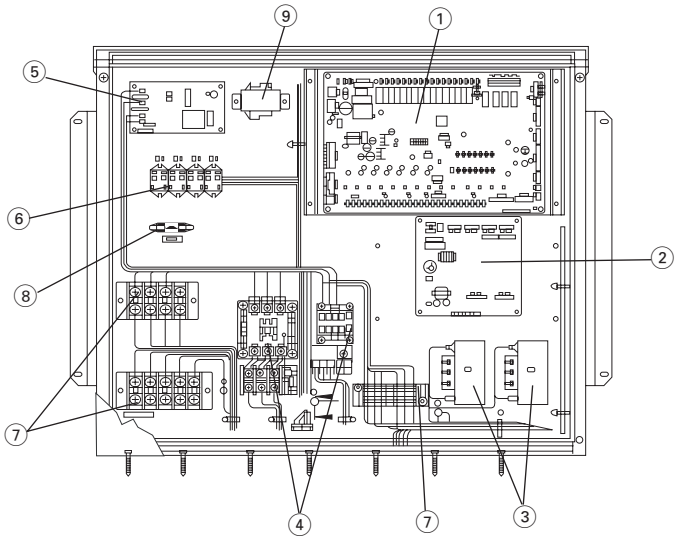
When connecting the connection wires to the terminal block using a single core wire, be sure to perform curling. Problems with the work may cause heat and fires.



- Pull the wire and make sure that it does not disconnect. Then fix the wire in place with a wire stop.

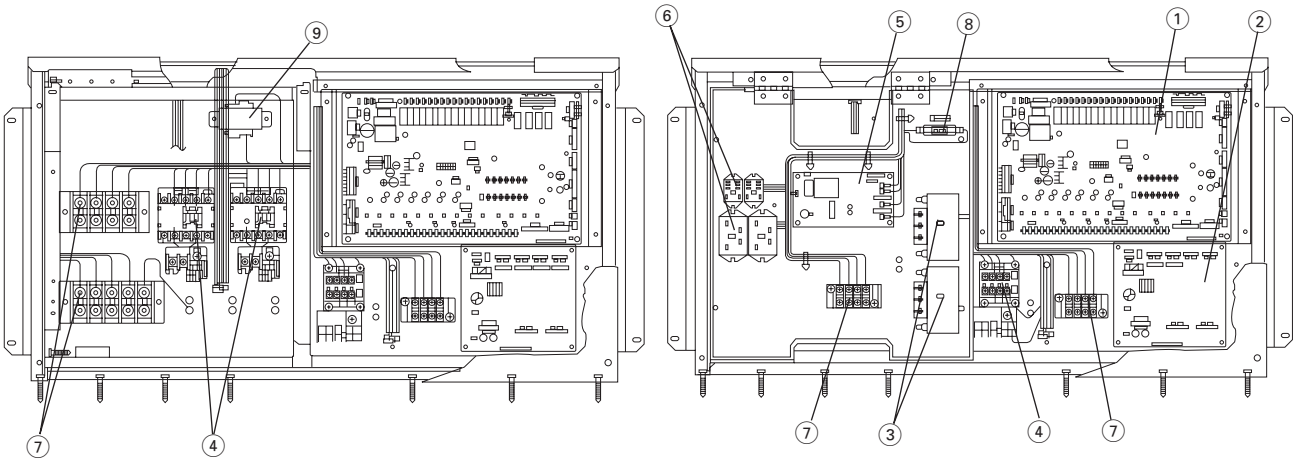
Arrangement of terminal blocks and components for controller are shown as below:

a) Control Module UATYQ250



No.	Item Description
①	Controller Main Board
②	EXV Controller Board
③	Capacitor
④	Contactor
⑤	Phase Protector
⑥	Relay
⑦	Terminal Block
⑧	Fuse
⑨	Transformer

b) Control Module UATYQ350/450/550

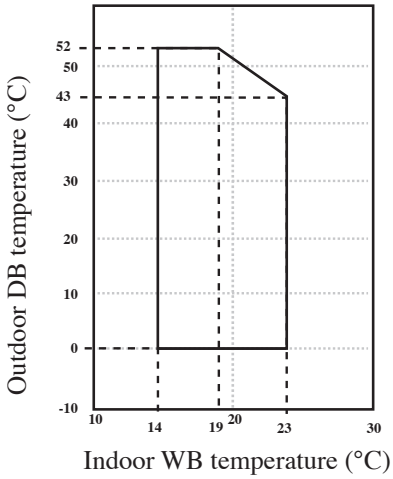


(Bottom Layer) (Top Layer)

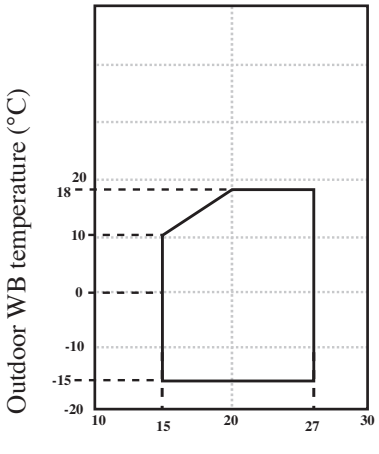
OPERATING RANGE

Ensure the operating temperature is within the allowable range, as stated in diagram below:

Cooling



Heating



⚠ CAUTION

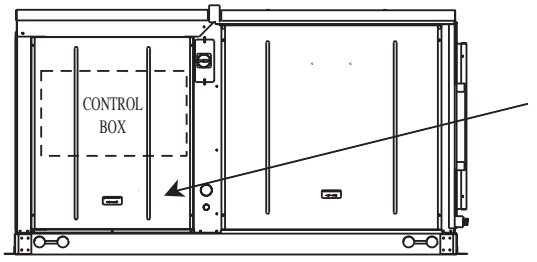
The use of the air conditioner outside the range of working temperature and humidity can result in serious failure.

CONTROL OPERATION GUIDE

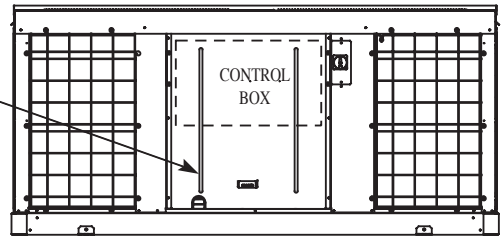
The unit is equipped with a controller main board, and a wired remote controller is connected to the controller main board. All the setting in the unit is preset by the manufacturer. It is not recommended to change the setting unless necessary.

a) Remote Controller Location
The remote controller is located on a metal bracket behind the service panel. It is packed together with installation manual.

UATYQ250



UATYQ350, 450 & 550

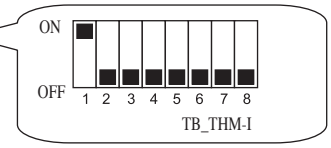


b) LED Display (Controller Main Board)
The LED will blink when power up the unit.

c) LCD Display (Remote Controller)
During normal operations, the LCD displays compressor on/off status, mode, set temperature and so on. Refer to Operating Manual for the details of operation guide. The LCD will display the main screen upon power-up. When malfunctioning occur, a pop-up message will appear on the LCD with backlight blinking and 'beep' sound.

d) Optional Configurations
The controller main board can be used as the interface for thermostat control and BMS system.
(i) Thermostat control (TB_THM-I)

- To use this control, set Dip Switch Setting: SW1-ON (default is OFF).
- Follow the method below for thermostat control inputs:



G	Y1	Y2	W1	W2	Mode	Operation
0	0	0	0	0	-	Unit off
1	0	0	0	0	Cool	Indoor fan on
X	1	0	X	X	Cool	1 stage compressor
X	1	1	X	X	Cool	2 stage compressor
X	0	X	1	0	Heatpump/Heater	1 stage compressor
X	0	X	1	1	Heatpump/Heater	2 stage compressor

Remark: X = Don't care.

- Refer table below for installation recommendations:

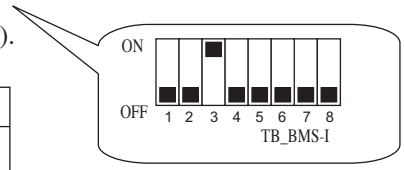
Input	Rated voltage	Rated current	Wire size
G	24V AC	5mA	AWG22~18
Y1			
Y2			
W1			
W2			

Note:

- When the controller main board is configured as thermostat control, the remote controller is used for monitoring purpose only.
- Unit needs to be restarted (power off and on) whenever dip switch setting is changed.

(ii) BMS control (TB_BMS-I)

- To use this control, set Dip Switch Setting: SW3 - ON (default is OFF) and panel parameter G8 to '1'.
- For TB_BMS-I, there are 3 control inputs:
  unit on/off; operating mode (cool-0/heat-1); and set point (4~20mA).
- Refer below table for installation recommendations:



Input TB_BMS-I	Rated voltage	Rated current	Wire size
On/Off	24V AC	5mA	AWG22~18
Operating mode	24V AC	5mA	
Cool/Heat set point	-	4~20mA	

Note:

- When the controller main board is configured as BMS control, the remote controller is used for monitoring purpose only.
- Unit needs to be restarted (power off and on) whenever dip switch setting is changed.

(ii) Dry contact output (TB_BMS-O)

- For TB_BMS-O, there are 4 monitoring outputs: error alarm; output1; output2; and defrost signal.
- Refer table below for installation recommendations:

Input TB_BMS-O	Rated voltage	Rated current (A)	Wire size
Alarm output (AL)	230V AC/125V AC/30V DC	1/3/3	AWG22~18
Output1 (O1)	230V AC/125V AC/30V DC	2/3/3	
Output2 (O2)	230V AC/125V AC/30V DC	3/3/3	
Defrost signal (DFRT)	230V AC/125V AC/30V DC	4/3/3	

- The output signals will vary depending on the configuration of controller main board, whether it is thermostat control or BMS control.

(i) For thermostat control, the outputs are indicated as shown in the table below.

Thermostat input (SW1-ON)					ERROR	DEFROST	Alarm output	Output1	Output2	Defrost signal
G	Y1	Y2	W1	W2			(AL)	(O1)	(O2)	(DFRT)
0	0	0	0	0	X	X	X	0	0	X
1	0	0	0	0	X	X	X	0	1	X
X	1	0	X	X	X	X	X	1	0	X
X	1	1	X	X	X	X	X	1	0	X
X	0	X	1	0	X	X	X	1	1	X
X	0	X	1	1	X	X	X	1	1	X
X	X	X	X	X	1	X	1	X	X	X
X	X	X	X	X	X	1	X	X	X	1

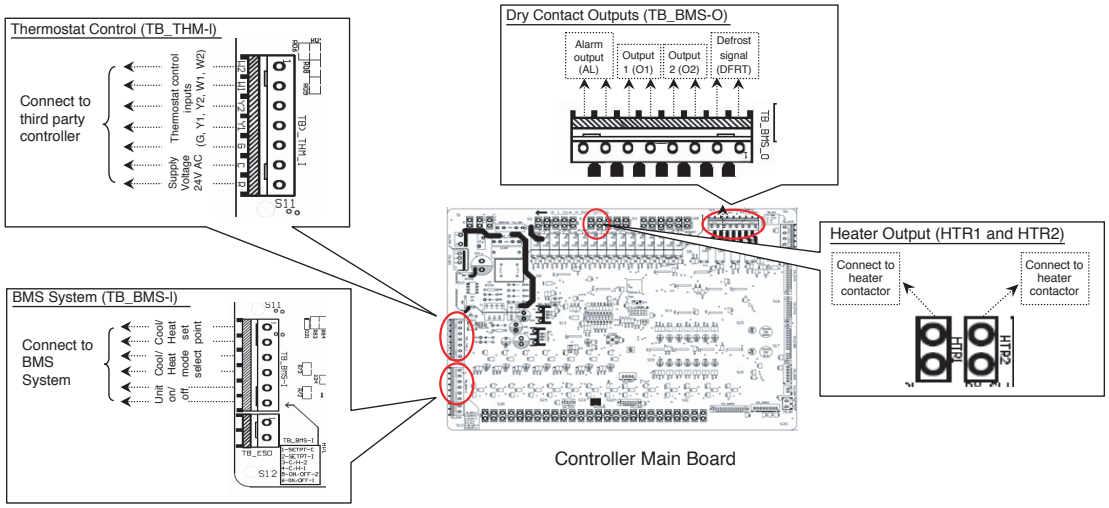
Remark: X = Don't care.

(ii) For BMS control, the outputs are indicated as shown in the table below.

BMS input (SW3-ON)			ERROR	DEFROST	Alarm output	Output1	Output2	Defrost signal
ON/OFF	OPERATING MODE	COOL/HEAT SET POINT			(AL)	(O1)	(O2)	(DFRT)
0	0	X	X	X	X	0	0	X
0	1	X	X	X	X	0	1	X
1	0	X	X	X	X	1	0	X
1	1	X	X	X	X	1	1	X
X	X	X	1	X	1	X	X	X
X	X	X	X	1	X	X	X	1

Remark: X = Don't care.

The diagram below shows the position for terminal blocks in the controller board which are used for thermostat control and BMS system. Beside that, the output pins for auxilliary electrical heater are shown as well.



(iii) Auxilliary Electrical Heater Output (HTR1 and HTR2)

- There are two output pins (HTR1 and HTR2) on controller main board, which are used to energize the heater contactor. The contactor must be selected accordingly to avoid any safety issue(s).
- The heater shall be installed in accordance with local and national legislation. It must comply with EN60335-2-40.
- Thermal fuse(s) shall be installed on the heater to eliminate any danger or damage on the heater/unit. This is especially critical when there is any malfunction happen to controller main board or blower.
- The heater shall be in a safe location, whereby no risk of damage could be happen on the unit.
- Use non-flammable duct for the unit that is installed with heater
- Use different power supply for electrical heater and install a circuit breaker for each of the heater.
- Maximum temperature in the unit must not exceed 60°C. Temperature measurement shall be taken during the installation or commisioning in order to ensure the temperature not exceed this value.
  Select the proper safety device or thermal protector accordingly.
- The heater shall never be installed inside the unit. The recommended location for the heater is inside the supply duct, whereby the distance of the heater is sufficient to ensure the temperature inside the unit does not exceed 60°C.

SERVICE AND MAINTENANCE

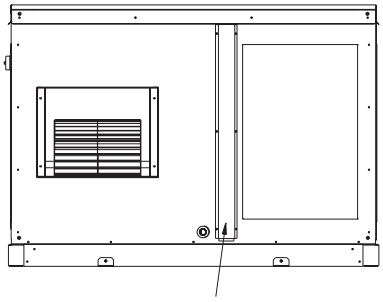
SERVICE OF THE FILTER

- Remove any dust adhering to the filter by using a vaccum cleaner or wash in lukewarm water (below 40°C) with neutral cleaning detergent.
- Rinse the filter well and dry before placing it back onto the unit.
- Do not use gasoline, volatite substances or chemicals to clean the filter.
- Clean the filter at least once every 2 weeks. Or more frequently if necessary.

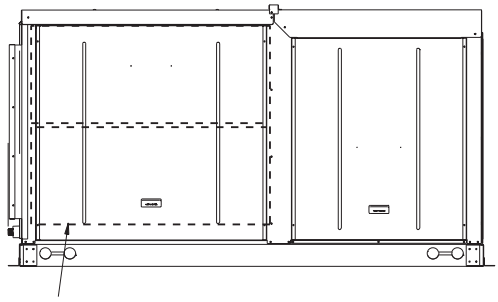
Filter Position

The filters are mounted in front of the indoor heat exchanger.

Unit shown in the diagram is UATYQ250. Other models shall follow the same method.



Remove filter cover for filter service.

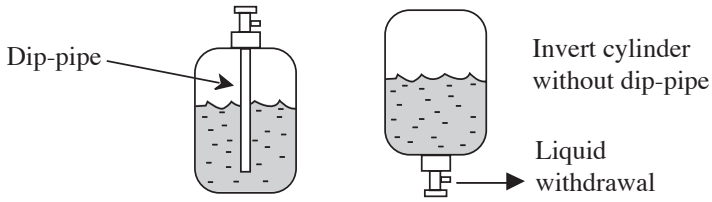


Alternatively, remove service panel for filter service.

VACUUMING AND CHARGING

The rooftop package units are factory pre-charged with sufficient refrigerant. However, there may be a need for charge recovery during service and maintenance works. Therefore, some precautions must be taken to ensure optimum and trouble-free system operation:

(i) The system should be throughly vacuumed to ensure no incompressible gas and moisture in the system.
(ii) Use a vacuum pump for R410A exclusively. Using the same vacuum pump for different refrigerants may damage the vacuum pump or the unit.
(iii) The refrigerant should never be released directly into the environment.
(iv) When charging R410A, ensure that only liquid is being withdrawn from the cylinder or can.



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.

⚠ CAUTION

- R410A must be charged as liquid. Usually 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 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 R410A according to the amount recommended in the specification.

TROUBLESHOOTING

For any enquiries on spare part please contact your authorized dealer. If any malfunction of the air conditioner unit is noted, check the following fault conditions and causes for some simple troubleshooting tips.

Problem	Causes	Action
Unit does not run.	Power failure.	Press the [ON/OFF] after power restore.
	Fuse blown or circuit breaker tripped.	Replace fuse or reset circuit breaker.
	Power supply wiring phase incorrect.	Modify the wiring phase.
Compressor does not operate in 3 min after unit has started.	Protection against frequent starting.	Wait for 3 min for the compressor to start.
Air flow is low.	Filter is filled with dust and dirt.	Clean the filter.
	There are some obstacles at the air inlet or outlet of the units.	Remove obstacles.
Compressor operate continuously.	Dirty air filter.	Clean the air filter.
	Temperature setting is too low (for cooling). Temperature setting is too high (for heating).	Reset the temperature.
No cool air delivered during cooling cycle, or no hot air delivered during heating cycle.	Temperature setting is too high (for cooling). Temperature setting is too low (for heating).	Set the temperature lower. Set the temperature higher.
On heating cycle, no air delivered (UATYQ250). Or, the delivered air is not warm enough (UATYQ350/450/550).	Unit is in defrosting cycle.	Wait for a while. (It will be resumed after defrosting.)

If the fault persists, please call your authorized local dealer/serviceman.

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