Please read this manual carefully before installation and keep it for future reference.

Installation Manual

For General Installation. Model-specific manuals will be included with multi-zone condensers or as applicable.





Olympus Series

Single (Hyper Heat & Energy Star) & Multi-Zone Models

Please keep this manual where the operator can easily find it. Inside you will find helpful hints on how to use and maintain your unit properly.

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9K & 12K INSTALLATION

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18K & 24K INSTALLATION

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PRECAUTIONS

Installation Precautions

Please read this installation manual carefully before operating the unit, to ensure correct installation.
If the power cord is damaged, replacement work must be performed by authorised personnel only.
Installation must be performed in accordance with the requirement of NEC and CEC by authorized personnel only.

•Contact an authorized service technician for repair, maintenance and installation of this unit.

•This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by persons responsible for their safety.

•Children should be supervised to ensure that they do not play with the appliance.

•All the pictures in the instructions are for explanation purposes only. Actual shape may vary.

•The design and specifications are subject to change without prior notice for product improvement. Consult with the sales agency or manufacturer for more details.

Safety Precautions

•Please read these safety precautions carefully before installation.

•Be sure to follow all the precautions below, they are all important for ensuring safety.

This symbol indicates the possibility of death or serious injury.
This symbol indicates the possibility of injury or damage to property.

1) Install according to these installation instructions. If installation is defective, it will cause water leakage, electrical
shock, or fire.
2) Use the included accessories parts specified parts for installation. If you do not this will cause the set to fall, water
leakage, electrical shock, or fire.
3) Install at a strong and stable location which is able to withstand the sets weight. If not or installation is not properly
done, the set will drop and cause injury.
4) For electrical work, follow the local national wiring standard, regulation and this installation instructions. An
independent circuit and single outlet must be used. If electrical circuit capacity is not enough or defect found in electrical
work, it will cause electrical shock,or fire.
5) Use the specified cable and connect tightly and clamp the cable so that no external force will be acted on the terminal.
If connection or fixing is not correct, it will cause heat-up or fire at the connection.
6) Wiring routing must be properly arranged so that control board cover is fixed properly. If control board cover is not
fixed correctly, it will overheat at the connection point of terminal, fire or electrical shock.
7) When carrying out piping connection, take care not to let gaseous substances other than the specified refrigerant go
into refrigeration cycle. Failing to do this will cause lower capacity, abnormal high pressure in the refrigeration cycle,
explosion and injury.
8) Do not modify the length of the power supply cord or use an extension cord, and do not share the single outlet with
other electrical appliances or, it will cause fire or electrical shock.
1) This equipment must be grounded and installed with a ground leakage current breaker. Electrical shock may occur if
grounding is not performed correctly.
2) Do not install the unit near flammable gas.
3) Carry out drainage piping as mentioned in these installation instructions. If drainage is not performed correctly, water
may enter the room and damage the furniture.



Indoor Unit

•Choosen location must be able to bear the weight of the unit.

•Choosen location must NOT be near a direct source of heat, such as direct sunlight or any heating appliance.

•Choosen location must provide appropriate clearances as shown in the figure below.

Outdoor Unit

•Choosen location should not be exposed to strong winds. If the unit is exposed to strong winds it is recommended that a wind baffle be used.

•Choosen location must be able to bear the weight of the unit and hold the unit level.

•Choosen location must provide appropriate clearances as shown in the figure below.

Do not install the indoor or outdoor units in a location with special environmental conditions.



9K & 12K Installation - ACCESSORIES



9K & 12K Installation - OUTDOOR MOUNTING DIMENSIONS



NOTE:

•The mounting dimensions may vary, depending on model. •The fixing bolt head diameter should be more than 10mm.

Outdoor unit dimension	Mounting dimensions	
in/mm (WxHxD)	A(in/mm)	B(in/mm)
29.5x21.3x9.4 (700x540x240)	18 (458)	9.8 (250)
30.7x21.3x9.8 (780x540x250)	21.6 (549)	10.9 (276)
29.9x23.2x11.2 (760x590x285)	20.9 (530)	11.4 (290)
31.8x21.9x12.2 (810x558x310)	21.6 (549)	12.8 (325)
33.3x27.6x12.6 (845x700x320)	22.1 (560)	13.2 (335)
35.4x33.9x12.4 (900x860x315)	23.2 (590)	13.1 (333)
37.2x31.9x15.6 (945x810x395)	25.2 (640)	15.9 (405)



NOTE:

•The mounting plate will look like one of the diagrams below dependinf on unit size. •The holes for fixing anchors should be 0.2in/5mm.



9K & 12K Installation - PIPING

Connective pipe length will affect the capacity and energy efficciency of the unit. The nominal efficiency is tested with a pipe length of 16.4 feet (5 meters).

	Minimum length Additional charge per meter		arge per meter	
	to reduce abnormal vibration & noise	Charge less length	Liquid side: Φ 1/4in/6.35mm	Liquid side: Φ 3/8in/9.52mm
R22			1.06oz (30g)	2.12oz (60g)
R410A*	9.8ft(3m)	16.4ft(5m)	0.53oz (15g) (For Inverters)	1.06oz (30g) (For Inverters)
			0.71oz (20g)	1.41oz (40g)

*Please use tools for R410A system.

Align the center to tighten the flare nut and finish connection using two wrenches. Tightening torque for flaring connection is as below.

Flare nut	Outer diam.	Tightening torque (Ibf.in/N.cm)	Additional tightening torque(lbf.in/N.cm)
	Φ 1/4in (6.35mm)	132.8 (1500)	141.59 (1600)
Wrench Torque	Φ 3/8in (9.52mm)	221.34 (2500)	230.02 (2600)
Wrench	Φ 1/2in (12.7mm)	309.73 (3500)	318.56 (3600)
	Φ 5/8in (15.88mm)	398.23 (4500)	415.93 (4700)

9K & 12K Installation - WIRING

•A main switch and circuit breaker or fuse must be installed, the capacity should be above 1.5 times of the maximum current in the circuit.

•An individual branch circuit and single socket must be available for use solely for this appliance.

•The indoor power cord should be type H05VV-F or H05V2V2-F.

•The outdoor power cord and interconnecting cable should be type H07RN-F.

•Wire size depends on the rated current which is indicated on the nameplate.

USE THE RIGHT CABLE

- Outdoor power cable is not provided
- Indoor power / signal cable from outdoor unit is provided
- See table below for gauge requirements

Model Series	Appliance Amps (A)	AWG
9K & 12K	15	14
18K	20	12
24K	25	10

Suggested Minimum Wire Size (AWG: American Wire Gage):

Appliance Amps	AWG Wire Size
10	18
13	16
18	14
25	12
30	10



Indoor Wire Connection

- 1) Lift the front panel of the indoor unit.
- 2) Remove the electrical cover and cord clamp, from the indoor unit, by loosening the screws.
- 3) Take the wires from the back of the indoor unit and connect them to the indoor terminal block.

Outdoor Wire Connection

- 1) Remove the electrical cover and cord clamp, from the outdoor unit, by loosening the screws.
- 2) Connect the wires to the outdoor terminal block in the same sequence as in the indoor unit.





Connection Diagrams





9K & 12K Installation - INSTALLATION PROCESS





Manual Button

Indoor Unit

- •Choosen location must be able to bear the weight of the unit.
- •Choosen location must NOT be near a direct source of heat, such as direct sunlight or any heating appliance.
- •Choosen location must provide appropriate clearances as shown in the figure below.

Outdoor Unit

- •Choosen location should not be exposed to strong winds. If the unit is exposed to strong winds it is recommended that a wind baffle be used.
- •Choosen location must be able to bear the weight of the unit and hold the unit level.
- •Choosen location must provide appropriate clearances as shown in the figure below.

Do not install the indoor or outdoor units in a location with special environmental conditions.



18K & 24K Installation - INSTALLATION LOCATION







Step 3: Anchor outdoor unit

The outdoor unit can be anchored to the ground or to a wall-mounted bracket witha bolt and nut 10 or 8.z.

UNIT MOUNTING DIMENSIONS

The following is a list of different outdoor unit sizes and the distance between their mounting feet. Prepare the installation base of the unit according to the dimensions below.



Outdoor Unit Dimensions (inches)	Mounting Dim	nensions (inches)
Width (W) x Height (H) x Depth (D)	Width (A)	Depth (B)
O-HH-09-HP-C-230 31.50 x 21.81 x 13.11 (inches)	20.24" (514)	13.39" (340)
O-HH-12-HP-C-230 31.50 x 21.81 x 13.11 (inches)	20.24" (514)	13.39" (340)
O-HH-18-HP-C-230 33.27 x 27.64 x 14.29 (inches)	21.26" (540)	13.8" (350)
O-HH-24-HP-C-230 37.24 x 16.54 x 31.89 (inches)	26.5" (673)	15.87" (403)
O-ES-09-HP-C-230 30.31 x 21.85 x 11.81 (inches)	19.2" (487)	11.73" (298).
O-ES-12-HP-C-230 31.50 x 21.81 x 13.11 (inches)	20.24" (514)	13.39" (340)
O-ES-18-HP-C-230 33.27 x 27.64 x 14.29 (inches)	21.26" (540)	13.8" (350)
O-ES-24-HP-C-230 40.55 x 31.89 x 16.54 (inches)	26.63" (676)	16" (404)

If you will install the unit on the ground or on a concrete mounting platform, do the following:

- 1. Mark the positions for four expansion bolts based on dimensions in the Unit Mounting Dimensions chart.
- 2. Pre-drill holes for expansion bolts.
- 3. Clean concrete dust away from holes.
- 4. Place a nut on the end of each expansion bolt.
- 5. Hammer expansion bolts into the pre-drilled holes.

- 6. Remove the nuts from expansion bolts, and place outdoor unit on bolts.
- 7. Put washer on each expansion bolt, then replace the nuts.
- 8. Using a wrench, tighten each nut until snug.

WHEN DRILLING INTO CONCRETE, EYE PROTECTION IS RECOMMENDED AT ALL TIMES.



18K & 24K Installation - INDOOR INSTALLATION

NOTE:

Ensure you mount the indoor unit on a wall that is sturdy enough to hold the weight and minimize vibration.

Mounting Indoor Unit

1) Fit the installation plate horizontally on structural parts of the wall withspaces around the installation plate.

2) If the wall is made of brick, concrete, etc., drill five or eight 0.2in (5mm) diameter holes in the wall. Insert clip anchor for appropriate mounting screws.

3) Fit the installation plate on the wall with five or eight type A screws.

NOTE:

Mount the Installation Plate and drill holes in the wall according to the wall structure and corresponding mounting points on the installation plate. The installation plate provided will differ from appliance to appliance. (Dimensions are in inches unless otherwise stated.)



Series 24K Models

Dill a Hole in the Wall

Correct orientation of Installation Plate

1) Determine hole positions according to left and right side of the installation plate. The hole center is obtained by measuring the distance as shown in the diagram above.

2) Drill the piping plate hole with 2.6in (65mm) hole-core drill.

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3) Drill the piping hole at either the right or the left and the hole should be slightly slanted to the outdoor side.

4) Always take steps to protect the pipe when drilling metal grid, metal plate, etc.



hole 42.6in



•A main switch and circuit breaker or fuse must be installed, the capacity should be above 1.5 times of the maximum current in the circuit.

•An individual branch circuit and single socket must be available for use solely for this appliance. •The indoor power cord should be type H05VV-F or H05V2V2-F.

•The outdoor power cord and interconnecting cable should be type H07RN-F.

•Wire size depends on the rated current which is indicated on the nameplate.

USE THE RIGHT CABLE

- Outdoor power cable is not provided
- Indoor power / signal cable from outdoor unit is provided
- See table below for gauge requirements

Model Series	Appliance Amps (A)	AWG
9K & 12K	15	14
18K	20	12
24K	25	10

Suggested Minimum Wire Size (AWG: American Wire Gage):

Appliance Amps	AWG Wire Size	
10	18	
13	16	
18	14	
25	12	
30	10	

Indoor Wire Connection

1) Lift the front panel of the indoor unit.

2) Remove the electrical cover and cord clamp, from the indoor unit, by loosening the screws.

3) Take the wires from the back of the indoor unit and connect them to the indoor terminal block.

Outdoor Wire Connection

- 1) Remove the electrical cover and cord clamp, from the outdoor unit, by loosening the screws.
- 2) Connect the wires to the outdoor terminal block in the same sequence as in the indoor unit.





Step 4: Prepare refrigerant piping

The refrigerant piping is inside an insulating sleeve attached to the back of the unit. You must prepare the piping before passing it through the hole in the wall. Connect the indoor unit first, then the outdoor.

- Based on the position of the wall hole relative to the mounting plate, choose the side from which the piping will exit the unit.
- If the wall hole is behind the unit, keep the knock-out panel in place. If the wall hole is to the side of the indoor unit, remove the plastic knock-out panel from that side of the unit. (See Fig. 3.3). This will create a slot through which your piping can exit the unit. Use needle nose pliers if the plastic panel is too difficult remove by hand.
- Use scissors to cut down the length of the insulating sleeve to reveal about 6in (15cm) of the refrigerant piping. This facilitates the **Refrigerant Piping Connection** process, the Gas Leak Check and enables you to check for dents



- 4. If existing connective piping is already embedded in the wall, proceed directly to the **Connect Drain Hose** step. If there is no embedded piping, connect the indoor unit's refrigerant piping to the connective piping that will join the indoor and outdoor units.
- 5. Based on the position of the wall hole relative to the mounting plate, determine the necessary angle of your piping.
- 6. Grip the refrigerant piping at the base of the bend.
- Slowly, with even pressure, bend the piping towards the hole. <u>Do not</u> dent or damage the piping during the process.

NOTE ON PIPING ANGLE

Refrigerant piping can exit the indoor unit from four different angles:

- Left-hand side
- Left rear
- Right-hand side
- Right rear

Refer to Fig. 3.4 for details.



Be extremely careful not to dent or damage the piping while bending them away from the unit. Any dents in the piping will affect the unit's performance.



18K & 24K Installation - INDOOR INSTALLATION

Step 5: Connect drain hose

By default, the drain hose is attached to the left-hand side of unit (when you're facing the back of the unit). However, it can also be attached to the right-hand side.

- 1. To ensure proper drainage, attach the drain hose on the same side that your refrigerant piping exits the unit.
- 2. Attach drain hose extension (purchased separately) to the end of drain hose.
- 3. Wrap the connection point firmly with Teflon tape to ensure a good seal and to prevent leaks.
- 4. For the portion of the drain hose that will remain indoors, wrap it with foam pipe insulation to prevent condensation.
- 5. Remove the air filter and pour a small amount of water into the drain pan to make sure that water flows from the unit hsmoothly.

PLACEMENT

Make sure to arrange the drain hose according to **Fig. 3.5**.

- **DO NOT** kink the drain hose.
- **DO NOT** create a water trap.
- DO NOT put the end of drain hose in water or a container that will collect water.

PLUG THE UNUSED DRAIN HOLE

To prevent unwanted leaks you must plug the unused drain hole with the rubber plug provided.





Indoor Unit Installation

 Pass the piping through the hole in the wall.
 Hook the indoor unit onto the upper portion of installation plate(Engage the indoor unit with the upper edge of the installation plate). Ensure the hooks are properly seated on the installation plate by moving it in left and right.

3) Piping can easily be made by lifting the indoor unit with a cushioning material between the indoor unit and the wall. Get it out after finish piping.
4) Press the lower left and right side of the unit against the installation plate until hooks engages with the their slots.



18K & 24K Installation - OUTDOOR INSTALLATION

- •Install the outdoor unit on a rigid base to prevent increasing noise levels and vibration.
- •Determine the air outlet direction where the discharged air is not blocked.
- In the case that the installation place is exposed to strong wind such as a seaside, make sure the fan is operating properly by putting the unit lengthwise along the wall or using a dust or shield plates.
 Specially in windy areas, install the unit to prevent the admission of wind. If suspended installation is needed, the installation bracket should coincide with technique requirement in the installation bracket diagram. The installation wall should be solid brick, concrete or of similar construction, or actions to reinforce should be taken.
- •The connection between bracket and wall, bracket and the unit should be firm, stable and reliable.
- •Be sure there is no obstacle which block radiating air.





Drain Joint Installation

NOTE: The drain joint is slightly different according to the different outdoor unit.

For the drain joint with the seal(Fig.A), first fit the seal onto the drain joint, then insert the drain joint into the base pan hole of outdoor unit, rotate 90° to securely assemble them.

To install drain joint as shown in Fig.B, insert the drain joint into the base pan hole of outdoor unit until it remains fixed with a clicking sound. Connecting the drain joint with an extension drain hose (Locally purchased), in case of the water draining off the outdoor unit during the heating mode.





Connecting Refrigerant Piping Flaring

1) Cut a pipe with a pipe cutter.

2) Put flare nuts on pipe/tube having completed

burr removal and flare the pipe.

3) Firmly hold copper pipe in a die in the dimension shown in the table below.

Outer diam.	A(m	ım)
(mm)	Max.	Min.
Φ 6.35	1.3	0.7
φ 9.52	1.6	1.0
ф 12.7	1.8	1.0
φ 16	2.2	2.0

Tightening Connections

•Align pipes to be connected.

•Sufficiently tighten the flare nut with fingers, and then tighten it with a spanner and torque wrench as shown.

•Excessive torque can break nut depending on installation conditions.

Outdoor Electrical Connections

1) Remove the electrical control board cover from the outdoor unit by loosening the screw.

2) Connect the connective cables to the terminals as identified with their respective matched numbers on the terminal block of indoor and outdoor units.

3) Secure the cable onto the control board with the cord clamp.

4) To prevent the ingress of water, form a loop of the connective cable as illustrated in the installation diagram of indoor and outdoor units.

5) Insulate unused cords (conductors) with PVC-tape. Process them so they do not touch any electrical or metal parts.







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Outer diam.	Tightening torque(N.cm)	Additional tightening torque(N.cm)
ф 6.35mm	35mm (153kgf.cm) 1600 (163kgf.cm)	
ф9.52mm	2500 (255kgf.cm)	2600 (265kgf.cm)
Φ 12.7mm 3500 (357kgf.cm)		3600 (367kgf.cm)
Φ 16mm	4500 (459kgf.cm)	4700 (479kgf.cm)

NOTE: Connective pipe length will affect the capacity and energy efficiency of the unit. The nominal efficiency is tested basing on the pipe length of 24.6 feet.

Air Purging

•The indoor unit and tubing between the indoor and outdoor unit must be leak tested and evacuated to remove any noncondensables and moisture from the system.

•Check that each tube (both liquid and gas side tubes) between the indoor and outdoor units have been properly connected and all wiring for the test run has been completed.

•Pipe length and refrigerant amount:

Connective pipe length	Air purging method	Additional amount of refrigerant to be charged	
Less than 7.5m	Use vacuum pump		
More than 7.5m	Use vacuum pump	Liquid side:	Liquid side: Φ 9.52mm: R22: (Pipe length-7.5)x60g/m R410A: (Pipe length-7.5)x30g/m

•For the R410A refrigerant model, make sure the refrigerant added into the unit is in liquid form. •When relocating the unit, use a vacuum pump to perform evacuation.

CAUTION

- •Open the valve stem until it hits against the stopper. Do not try to open it further. •Securely tighten the valve stem cap with a spanner wrench.
- •Valve stem cap tightening torque. See Tightening torque table.



Using the Vacuum Pump

1) Completely tighten the flare nuts, A, B, C, D, connect the manifold valve charge hose to a charge port of the packed valve on the gas pipe side.

- 2) Connect the charge hose connection to the vacuum pump.
- 3) Fully open the handle Lo of the manifold valve.
- 4) Operate the vacuum pump to evacuate. After starting evacuation, slightly loose the flare nut of the packed valve on the gas pipe side and check that the air is entering. (Operation noise of the vacuum pump changes and a compound meter indicates 0 instead of minus)
 5) After the evacuation is complete, fully close the handle Lo

•Make evacuation for 15 minutes or more and check that the compound meter indicates -76cmHg(-1.0x105Pa).



6) Turn the stem of the packed valve B about 45° counterclockwise for 6~7 seconds after the gas leaves, then tighten the flare nut again. Make sure the pressure display in the pressure indicator is a little higher than the atmosphere pressure.

- 7) Remove the charge hose from the Low pressure charge hose.
- 8) Fully open the packed valve stems B and A.
- 9) Securely tighten the cap of the packed valve.



Leak Check

1) Soapy water method:

Apply a soap water or a liquid neutral detergent on the indoor unit connections and outdoor unit connections by a soft brush to check for leakage of the connecting points of the piping. If bubbles come out, it indicates that the pipes have leakage. 2) Leak detector method:

Úse the leak detector to check for leakage.

CAUTION

A: Lo packed valve B: Hi packed valve C and D are ends of indoor unit connection.

Test Run

Perform test operation after completing gas leak check at the flare nut connections and electrical safety check.

•Check that all tubing and wiring have been properly connected.

•Check that the gas and liquid side service valves are fully open.

1) Connect the power, press the ON/OFF button on the remote controller to turn the unit on.

2) Use the MODE button to select COOL, HEAT, AUTO and FAN to check if all the functions works well.

3) When the ambient temperature is too low(lower than 62°F/17°C), the unit cannot be controlled by the remote control to run at cooling mode, manual operation can be taken. Manual operation is used only when the remote control is disable or maintenance necessary.

•Hold the panel sides and lift the panel up to an angle until it remains fixed with a clicking sound.

•Press the Manual control button to select the AUTO or COOL, the unit will operate under Forced AUTO or COOL mode (see User Manual for details).

4) The test operation should last about 30 minutes.









Olympus Series

Single (Hyper Heat & Energy Star) & Multi-Zone Models

The design and specifications are subject to change without prior notice. Consult with the sales agency or manufacturer for details.