



User Manual

Ducted Type Indoor Unit

MODEL NUMBERS

SU-COSMO36D/I

Thank you for choosing our product.

Please read this user manual carefully before operation and retain it for future reference.

Before installing and using your TOSOT Air Conditioner, please read this user manual in its entirety.

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General Information

Explanation of Symbols

 DANGER	Indicates a hazardous situation that, if not avoided, will result in death or serious injury.
 WARNING	Indicates a hazardous situation that, if not avoided, could result in death or serious injury.
 CAUTION	Indicates a hazardous situation that, if not avoided, may result in minor or moderate injury.
NOTICE	Indicates important but not hazard-related information, used to indicate risk of property damage.
	Indicates a hazard that would be assigned a signal word WARNING or CAUTION.

Exception Clauses

Manufacturer will bear no responsibilities when personal injury or property loss is caused by the following reasons.

1. Damage the product due to improper use or misuse of the product;
2. Alter, change, maintain, or use the product with other equipment without abiding by the instruction manual of the manufacturer;
3. After verification, the defect of the product is directly caused by corrosive gas;
4. After verification, the defects are due to improper operation during the transportation of the product;
5. Operate, repair, and maintain the unit without abiding by the instruction manual or related regulations;
6. After verification, the problem or dispute is caused by the quality specification or performance of parts and components that are produced by other manufacturers;
7. The damage is caused by natural calamities, bad using environment, or force majeure.

Conformity and Range



Please read this user manual carefully before operating the unit and keep it carefully for consultation.



Only use the air conditioner as instructed in this booklet. These instructions are not intended to cover every possible condition and situation. As with any electrical household appliance, common sense and caution are therefore always recommended for installation, operation, and maintenance.

The Refrigerant



Refrigerant
Safety Group
A2L

This appliance is filled with flammable R-32 gas.



Before installing the appliance, read this manual first.



Before using the appliance, read this manual first.



Before repairing the appliance, read this manual first.

- To realize the function of the air conditioner unit, a special refrigerant circulates in the system. The used refrigerant is the fluoride R32, which is specially cleaned. The refrigerant is flammable and odorless. Furthermore, it can lead to explosions under certain conditions. But the flammability of the refrigerant is very low. It can be ignited only by fire.
- Compared to other common refrigerants, R-32 is an environmentally friendly refrigerant that does not harm the ozone layer and has a lower greenhouse effect. Its excellent thermodynamic properties contribute to high energy efficiency, requiring less refrigerant and reduced maintenance.

WARNING

- The appliance filled with flammable gas R32.
- The appliance shall be installed, operated and stored in a room with a floor area not less than 7.1m (76.5ft).
- The appliance shall be stored in a room without continuously operating ignition sources. (for example open flames, an operating gas appliance, or an operating electric heater.)
- The appliance shall be stored in a well-ventilated area where the room size corresponds to the room area as specified for operation.
- The appliance shall be stored so as to prevent mechanical damage from occurring.
- Ducts connected to an appliance shall not contain an ignition source.
- Keep any required ventilation openings clear of obstruction.
- Do not pierce or burn.
- Be aware that refrigerants may not contain an odor.

- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- Servicing shall be performed only as recommended by the manufacturer.
- Any repairs carried out by unqualified personnel may be dangerous.
- Compliance with national gas regulations shall be observed.

Safety Operation of Flammable Refrigerants

Qualification of Workers

Qualification of the working personnel for maintenance, service, and repair operations should according to UL 60335-2 -40, CAN/CSA-C22.2 No. 60335-2-40: 22 Annex HH.

Every working procedure that affects safety means shall only be carried out by competent persons according to Annex HH. Special training addition to usual refrigerating equipment repair procedures is required when equipment with FLAMMABLE REFRIGERANTS is affected.

Installation Notes

- The air conditioner must be installed in a room that is larger than the minimum room area. The minimum room area is shown on the nameplate or following table A.
- It is not allowed to drill holes or burn the connection pipe.
- Leak test is a must after installation.

Table A – Minimum Room Area (ft²)

Based on UL 60335-2-40 requirements. The following installation height and area are for customer reference.

Charge Amount (oz)	Installation Height(ft)			
	5.90	7.54	8.20	9.84
	Minimum Room Area (ft²)			
<64.76	/	/	/	/
95.23	105	87	76	63
98.76	110	90	80	67
102.28	114	94	82	69

Maintenance Notes

- Check whether the maintenance area or the room area meets the requirement of the nameplate.
 - It's only allowed to be operated in the rooms that meet the requirement of the nameplate.
- Check whether the maintenance area is well-ventilated.
 - The continuous ventilation status should be kept during the operation process.
- Check whether there is a fire source or potential fire source in the maintenance area.
 - The naked flame is prohibited in the maintenance area; and the “no smoking” warning board should be hung.
- Check whether the appliance mark is in good condition.
 - Replace the vague or damaged warning mark.

Welding

- If you should cut or weld the refrigerant system pipes in the process of maintaining, please follow the steps below:
 - a. Shut down the unit and cut the power supply
 - b. Eliminate the refrigerant
 - c. Vacuuming
 - d. Clean it with N₂ gas
 - e. Cutting or welding
 - f. Carry back to the service spot for welding
- The refrigerant should be recycled into the specialized storage tank.
- Make sure that there isn't any naked flame near the outlet of the vacuum pump and it's well-ventilated.

Filling the Refrigerant

- Use the refrigerant filling appliances specialized for R32. Make sure that different kinds of refrigerant won't contaminate with each other.
- The refrigerant tank should be kept upright at the time of filling the refrigerant.
- Stick the label on the system after the filling is finished (or hasn't finished).
- Don't overfill.
- After the filling is finished, please do the leakage detection before the test runs; another time of leak detection should be done when it's removed.

Safety Instructions for Transportation and Storage

- Please use the flammable gas detector to check before uploading and opening the container.
- No fire source and smoking.
- According to the local rules and laws.

Safety of Construction

- For appliances using FLAMMABLE REFRIGERANTS, all joints made in the installation between parts of the REFRIGERATING SYSTEM, with at least one part charged, shall be made in accordance with the following:
 - A brazed, welded, or mechanical connection shall be made before opening the valves to permit refrigerant to flow between the REFRIGERATING SYSTEM parts. A vacuum valve shall be provided to evacuate the interconnecting pipe or any uncharged REFRIGERATING SYSTEM part.
 - Mechanical connectors used indoors shall comply with ISO 14903. When mechanical connectors are reused indoors, sealing parts shall be renewed. When flared joints are reused indoors, the flare part shall be refabricated.
 - Refrigerant tubing shall be protected or enclosed to avoid damage.
 - Flexible refrigerant connectors (such as connecting lines between the indoor and outdoor unit) that may be displaced during NORMAL OPERATION shall be protected against mechanical damage.

Pressure Test and Leak Detect

- After completion of field piping for split systems, the field pipework shall be pressure tested with inert gas and then vacuum tested prior to refrigerant charging, according to the following requirements.

The minimum test pressure for the low side of the system shall be the low side design pressure and the minimum test pressure for the high side of the system shall be the high side design pressure, unless the high side of the system, cannot be isolated from the low side of the system in which case the entire system shall be pressure tested to the low side design pressure.

- Field-made refrigerant joints indoors shall be tightness tested. The test method shall have a sensitivity of 5 grams per year of refrigerant or better under a pressure of at least 0,25 times the maximum allowable pressure. No leak shall be detected.

Notices for using refrigerant sensor

- The refrigerant sensor can monitor whether R32 refrigerant leaks in real time. When the leakage of R32 refrigerant is detected, the sensor will trigger the alarm and emit a buzzer, and the indoor unit will display the "EA" code. Meanwhile, the outdoor unit will stop running.
- In case of refrigerant leakage, please open the window immediately for ventilation to reduce the concentration of refrigerant in the room. Meanwhile, check the room to ensure that there is no fire source. After completing the above operations, please leave the room and go to a safe place, and then contact the after-sales service team for maintenance.
- When the refrigerant sensor reaches its service life or is damaged, the indoor unit will display the "FE" code. Please contact the after-sales service team to replace the refrigerant sensor.
- Avoid oil and water splashing into the refrigerant sensor, otherwise it may cause damage to the refrigerant sensor.
- Avoid using it in an environment with electromagnetic interference, chemical substances (such as chemical plants, etc.), flammable gas, combustible and explosive gas and smog, etc.
- Avoid using items containing ethanol (such as perfume, etc.) and smog-producing items (such as cigarettes, etc.) near the refrigerant sensor, otherwise, it will lead to abnormal conditions such as false alarms of the refrigerant sensor. If such a phenomenon occurs, please contact the after-sales service team for maintenance.
- Only applicable to refrigerant sensor models.

Operation and Maintenance

- This appliance is not to be used or have maintenance performed by persons with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge unless they have been given strict supervision or instruction concerning the use of the appliance by a person responsible for their safety.
- Children shall not play with the appliance.
- Cleaning and user maintenance shall not be done by children without supervision.
- Do not connect the air conditioner to the multi-purpose socket. Otherwise, it may cause a fire hazard.
- Do disconnect the power supply when cleaning the air conditioner. Otherwise, it may cause electric shock.
- If the supply cord is damaged, it must be replaced by the manufacturer, or similarly qualified persons to avoid a hazard.
- Do not wash the air conditioner with water to avoid electric shock.
- Do not spray water on the indoor unit. It may cause electric shock or malfunction. After removing the filter, do not touch the fins to avoid injury.
- Do not use a fire or hair dryer to dry the filter to avoid deformation or fire hazards.
- Maintenance must be performed by qualified professionals. Otherwise, it may cause personal injury or damage.
- Do not repair the air conditioner by yourself. It may cause electric shock or damage. Please contact the dealer when you need to repair the air conditioner.
- Do not extend fingers or objects into the air inlet or air outlet. It may cause personal injury or damage.
- Do not block the air outlet or air inlet. It may cause malfunction.
- Do not spill water on the remote controller, otherwise the remote controller may be broken.
- When the below phenomenon occurs, please turn off the air conditioner and disconnect power immediately and then contact us or qualified professionals for service.
 - The power cord is overheating or damaged.
 - There's an abnormal sound during the operation. Circuit break trips off frequently.
 - The air conditioner gives off a burning smell.
 - The indoor unit is leaking.

- If the air conditioner operates under abnormal conditions, it may cause malfunction, electric shock or fire hazard.
- When turning on or turning off the unit by emergency operation switch, please press this switch with an insulating object other than metal.
- Do not step on the top panel of the outdoor unit, or put heavy objects. It may cause damage or personal injury.
- For appliances made up of more than one factory-made assembly specified by the manufacturer to be used together, instructions shall be provided for completing the assembly to ensure compliance with the requirements.

Attachment

- Installation must be performed by qualified professionals. Otherwise, it may cause personal injury or damage.
- Must follow the electric safety regulations when installing the unit.
- According to the local safety regulations, use a qualified power supply circuit and circuit break.
- Install a circuit breaker to prevent potential malfunctions.
- A disconnection means must be included in the fixed wiring, following the applicable wiring regulations.
- Including a circuit break with suitable capacity, please note the following table. The air switch should include a magnet buckle and heating buckle function, it can protect the circuit short and overload.
- The air conditioner should be properly grounded. Incorrect grounding may cause electric shock.
- Don't use an unqualified power cord.
- Make sure the power supply matches the requirements of the air conditioner. An unstable power supply or incorrect wiring may result in electric shock, fire hazard, or malfunction. Please install proper power supply cables before using the air conditioner.
- Properly connect the live wire, neutral wire, and grounding wire of the power socket. Be sure to cut the power supply before proceeding with any work related to electricity and safety.
- Do not put through the power before finishing the installation.
- The temperature of the refrigerant circuit will be high, please keep the interconnection cable away from the copper tube.

- The appliance shall be installed following national wiring regulations. Installation must be performed according to the requirements of NEC and CEC and must be done by authorized personnel only.
- The air conditioner is the first class electric appliance. It must be properly grounded with a specialized grounding device by a professional. Please ensure it is always grounded effectively, otherwise it may cause electric shock. The yellow-green wire in the air conditioner is grounding wire, which can't be used for other purposes.
- The grounding resistance should comply with national electric safety regulations.
- The appliance must be positioned so that the plug is accessible.
- All wires of the indoor unit and outdoor unit should be connected by a professional. If the length of the power connection wire is insufficient, please contact the supplier for a new one. Avoid extending the wire by yourself.
- For the air conditioner with plug, the plug should be reachable after finishing installation.
- For the air conditioner without a plug, a circuit break must be installed in the line.
- If you need to relocate the air conditioner to another place, only a qualified person can perform the work. Otherwise, it may cause personal injury or damage.
- Select a location that is out of reach for children and far away from animals or plants. If it is unavoidable, please add the fence for safety purposes.
- The indoor unit should be installed close to the wall.
- Before the operation, please confirm whether the power specification complies with that on the nameplate.
- Before cleaning or maintaining the air conditioner, please turn off the air conditioner and pull out the power plug.
- Make sure the power cord hasn't been pressed by hard objects.
- Do not pull or drag the power cord to pull out the power plug or move the air conditioner.
- Do not insert or pull out the power plug with wet hands. Please use the grounded power. Make sure the grounding is reliable.
- When nobody is taking care of the unit, please turn it off and remove the power plug or disconnect the power.
- Do not splash or pour water on air conditioner. Otherwise, it may cause short circuits or damage to air conditioner.
- Prohibit operating heating equipment around the air conditioner.

- Prohibit operating the unit in the bathroom or laundry room.
- Far away from fire source, inflammable and explosive objects.
- Keep children from playing or climbing on the air conditioner.
- Do not put or hang dripping objects above the air conditioner.
- Do not repair or disassemble the air conditioner by yourself.
- Do not block air outlet or air inlet.
- Prohibit inserting any objects into the air conditioner.
- Do not through sundries into the air duct. If there are sundries that get into the air duct, please contact the professionals to deal with it.
- Do not use an extension cord.
- A fuse or circuit breaker should be added to the product circuit. Please refer to the MOP value on the nameplate for the detailed specification.
- The appliance shall be installed in accordance with national wiring regulations.
- If a STATIONARY APPLIANCE is not fitted with a SUPPLY CORD and a plug, an all-pole disconnection switch having a contact separation of at least 3mm in all poles should be connected in fixed wiring.
- There should be no similar ignition source in the air duct.
- Electric heating can't be allowed to be added by yourself.

Product Introduction

Names of Key Components

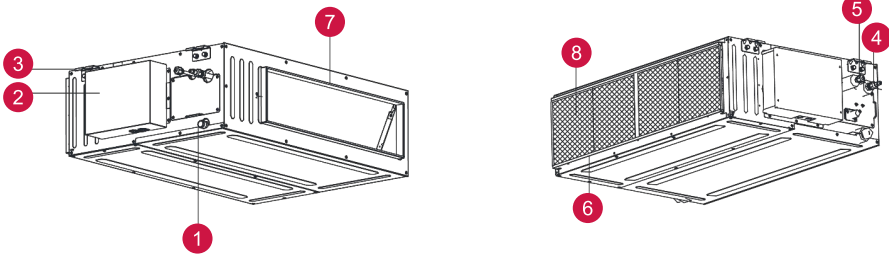


Fig 2.1.1

NO.	1	2	3	4	5	6	7	8
Name	Drain Pipe	Control box	Pothook	Gas Pipe	Liquid Pipe	Air-Return Opening	Air Outlet	Filter

Rated Working Condition

	Indoor Side Condition		Outdoor Side Condition	
	Dry Bulb Temp °C(°F)	Wet Bulb Temp °C(°F)	Dry Bulb Temp °C(°F)	Wet Bulb Temp °C(°F)
Rated Cooling	26.7 (80.0)	19.4 (67.0)	35 (95.0)	23.9 (75.0)
Rated Heating	21.1 (70.0)	15.6 (60.0)	8.3 (47.0)	6.1 (43.0)

Preparations for Installation

NOTICE!

Product graphics are only for reference. Please refer to the actual products. The unspecified measure unit is mm(in.).

Location for Installation

1. The appliance shall not be installed in the laundry.
2. The top holder must be strong enough to support unit's weight.
3. A drain pipe can drain water out easily.
4. There is no obstacle at the inlet or outlet. Please ensure good air circulation.
5. In order to make sure the space for maintenance, please install the indoor unit according to the dimensions described below.
6. Keep the unit away from the heating source, inflammable gas, or smoke.
7. This is a concealed ceiling-type unit.
8. The indoor unit, outdoor unit, power cord, and electric wire should stay at least 1m(39-3/8 in.) from the TV set and radio. Otherwise, these electrical appliances may have image interference and noise. (Even if the distance is 1m(39-3/8 in.), when there is a strong electric wave, noise may still occur.)

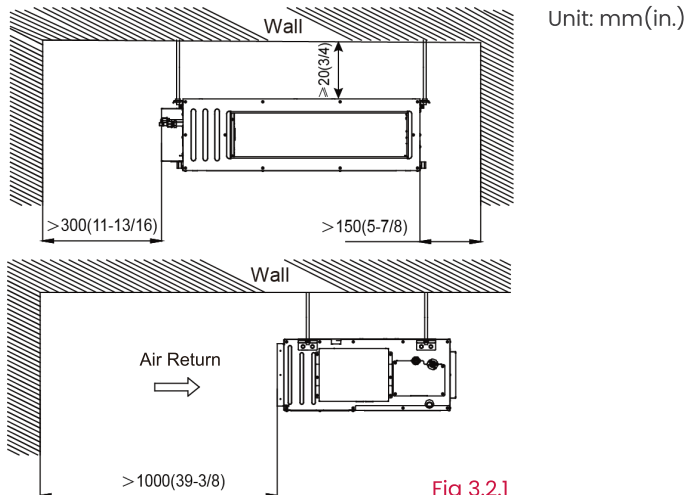


Fig 3.2.1

NOTICE!

- Installation of the unit must be in accordance with National Electric Codes and local regulations.
- Improper installation will affect the unit's performance, so do not install the unit by yourself. Please arrange professional technicians for the installation.
- Do not connect power until all installation work is finished.

Wiring Requirements

1. Power Cord Size and Fuse Capacity

Model	Power Supply	Fuse Capacity	Min. Power Supply Cord
36K	V/Ph/Hz	A	
	208/230V-1ph-60Hz	5	4xAWG18

NOTICE!

- Use copper wire only as the unit's power cord. The operating temperature should be within its value.
- If the power cord is more than 15m (49-1/4 ft.) long, please increase properly the sectional area of the power cord to avoid overload, which may cause an accident.
- Above selection requirements: Power cord size is based on BV single-core wire (2~4pc) at 40°C(104°F) Ambient temperature when laying across plastic pipe. The air switch is D type and used at 40°C(104°F). If the actual installation condition varies, please lower the capacity appropriately according to the specifications of the power cord and air switch provided by the manufacturer.
- Install a cut-off device near the unit. The minimum distance between each stage of cut-off device should be 3mm(1/8 in.) (The same for both indoor unit and outdoor unit).

Installation Instructions

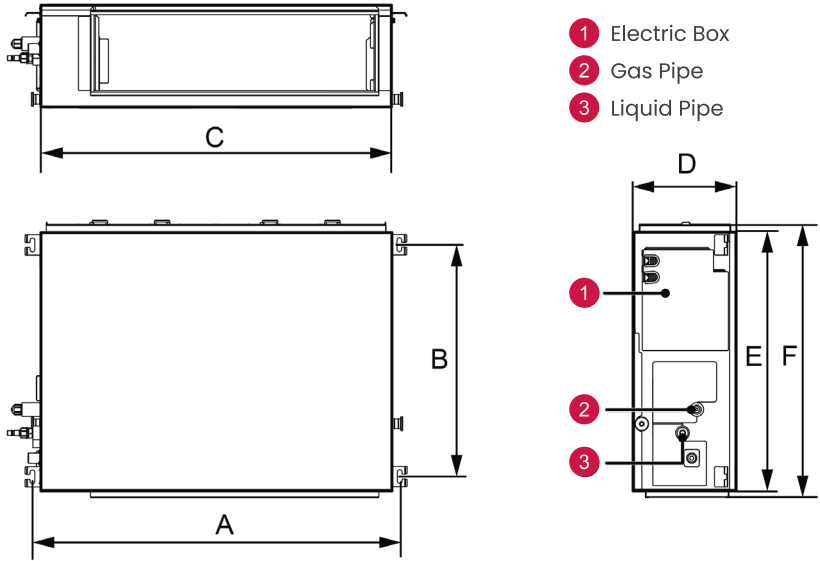
NOTICE!

These duct-type indoor units are limited to be installed for one room.

Installation of Indoor Unit

Outline Dimension and Installation Spots

Equip with an inspection hatch after lifting the unit. For the convenience of maintenance, the service port should be on one side of the electric box and below the unit's lower level.



Below are the dimensions of A, B, C, etc. for different models:

Unit: inch

Model	A	B	C	D	E	F
36K	54.41	23.05	52.80	10.24	25.81	27.46

Suspend the Indoor Unit

1. Drill bolt holes and install bolts

- a. Stick the reference cardboard on the installation position; drill 4 holes according to the hole size on the cardboard as shown in Fig 4.1.3; the diameter of the drilling hole is according to the diameter of the expansion bolt and the depth is 60~70mm($2\frac{3}{8}$ ~ $2\frac{3}{4}$ in.), as shown in Fig 4.1.4.

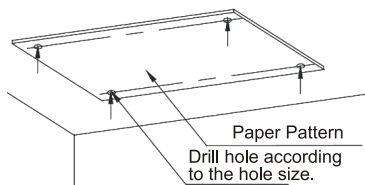


Fig 4.1.3

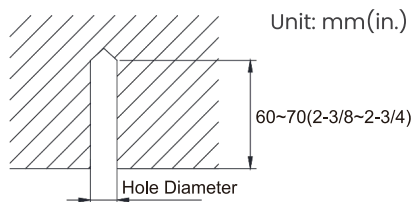


Fig 4.1.4

- b. Insert the M10 expansion bolt into the hole and then knock the nail into the bolt, as shown in Fig 4.1.5, and then remove the paper pattern.

NOTICE!

The length of bolt depends on the installation height of the unit, bolts are field-supplied.

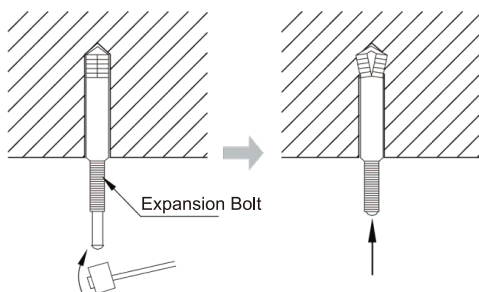


Fig 4.1.5

2. Install the indoor unit temporarily

Assemble the suspension bolt on the expansion bolt, and attach the hanger bracket to the suspension bolt. Be sure to fix it securely by using a nut and washer from the upper and lower sides of the hanger bracket. The washer fixing plate will prevent the washer from falling.

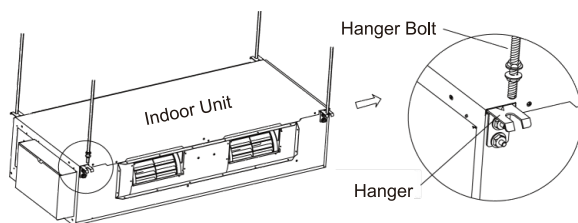


Fig 4.1.6

NOTICE!

- Before the operation, please prepare all pipelines (connection pipe, drainage hose) and wires (connection wire for the wired controller, connection wire for indoor unit).
- When drilling holes in the ceiling (air return outlet or air outlet), you may need to reinforce the ceiling to prevent vibration. For details, please consult the user or builder.
- If the strength of the ceiling is not good, please install a beam bracket, and then put the unit on the beam bracket.

3. Adjust the unit to the right position.

4. Check the level of the unit

After the indoor unit is installed, remember to check the horizontal status of the whole unit. It should be horizontal from front to back and slant 1% from left to right, following the drainage direction.

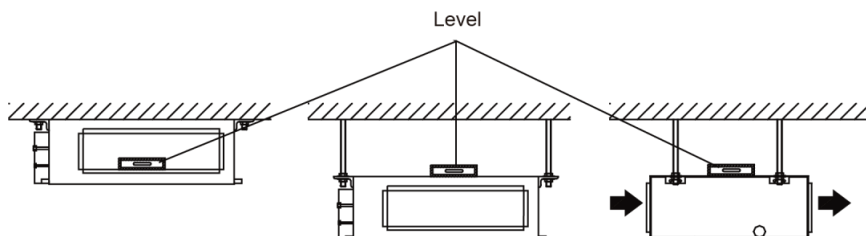


Fig 4.1.8

5. Remove the washer locating plate and then tighten the nut on it.

Refrigerant Pipe Connection

1. Aim the flaring port of copper pipe at the center of the screwed joint and then tighten the flaring nut with a hand as shown in Fig 4.2.1.
2. Tighten the flaring nut with torque wrench.

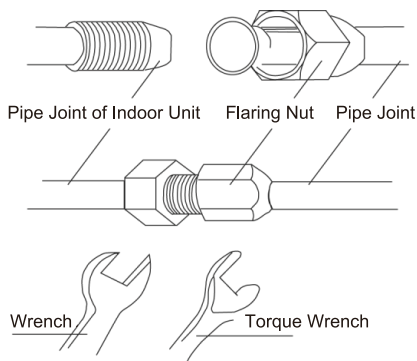


Fig 4.2.1

Torque for Tightening Nut

Pipe Diameter mm(in.)	Torque(N·m)
Φ6.35(1/4)	15-30
Φ9-9.52(3/8)	35-40
Φ12.7(1/2)	45-50
Φ15.9(5/8)	60-65
Φ19.05(3/4)	70-75

3. Use pipe bend when bending the pipe and the bending angle should not be too small.
4. Wrap the connection pipe and joint with a sponge and then tie them firmly with tape.

Drainage Pipe Installation and Drainage System Testing

Notice for Installation of Drain Pipe

1. The drainage pipe should be short and the gradient downwards should be at least 1%~2% in order to drain condensation water smoothly.
2. The diameter of drainage hose should be bigger or equal to the diameter of drainage pipe joint.
3. install drainage pipe according to the following fig and arrange insulation to the drainage pipe (Fig 4.3.1). Improper installation may lead to water leakage and damp the furniture and other things in the room.
4. You can buy normal hard PVC pipe used as the drainage pipe. During connection, insert the end of PVC pipe into the drainage hole and then tighten it with drainage hole and wire binder. Can't connect the drainage hole and drainage hole with glue.

5. When the drainage pipelines are used for several units, the position of the pipeline should be about 100mm(4in.) lower than the drainage port of each unit. In this case, thicker pipes should be applied.

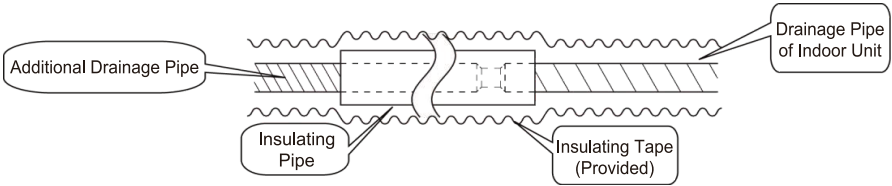


Fig 4.3.1

Drainage Pipe Installation

1. Insert the drain hose into the drain hole and tighten it with tapes, as shown in Fig 4.3.2
2. Tighten the pipe clamp, with the distance between the screw nut and hose smaller than 4mm(1/8in.).
 - ① metal clamp (accessory)
 - ② drain hose (accessory)
3. Use a sealing plate to make the pipe clamp and hose insulated, as shown in Fig 4.3.3.
 - ① metal clamp (accessory)
 - ② thermal sponge (accessory)

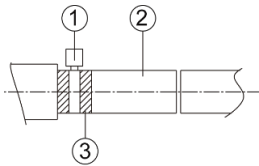
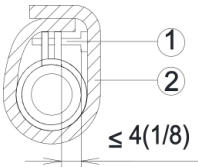


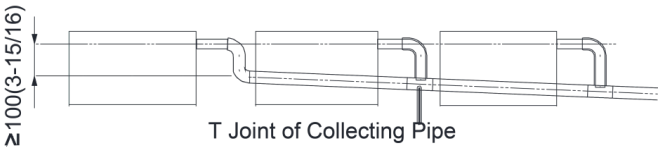
Fig 4.3.2



Unit: mm(in.)

Fig 4.3.3

4. When connecting several drain pipes, follow the instruction as indicated in Fig 4.3.4. Choose the drain collecting pipe that matches with unit capacity.



Unit: mm(in.)

Fig 4.3.4

5. Install the trap as shown in following Fig 4.3.5.

6. Install one trap for each unit.

7. Convenience for cleaning traps in the future should be considered when installing them.

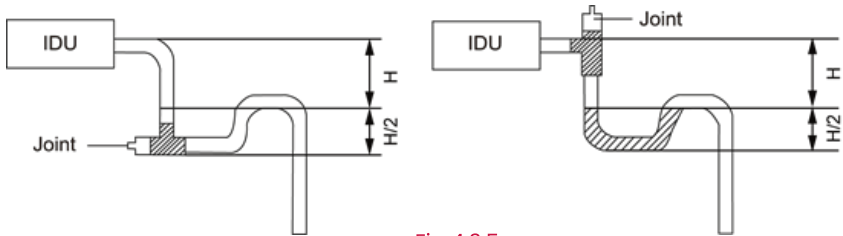


Fig 4.3.5

8. The horizontal pipe can be connected to vertical pipe on the same level; please select the connection way as shown in the following figures.

a. drainage pipe joint connection (Fig 4.3.6)

b. downspout elbow connection (Fig 4.3.7)

c. pipe insertion connection (Fig 4.3.8)

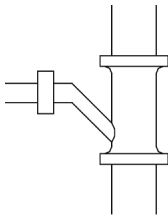


Fig 4.3.6

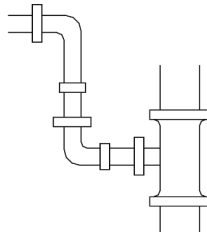


Fig 4.3.7

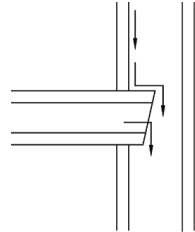
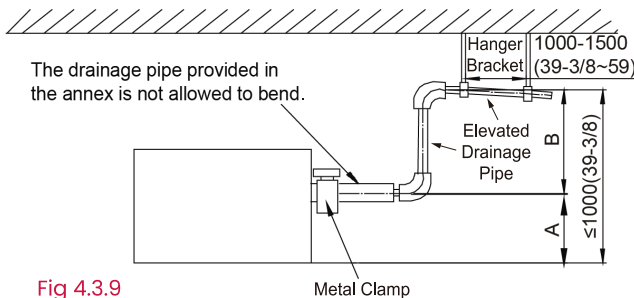


Fig 4.3.8

9. During installation, ensure that the height of the elevated drainage pipe remains within the specified range B. The elevated drain pipe should have a downward slope of at least 1%–2% toward the drainage outlet to ensure proper water flow. If the raising pipe is vertical with the unit, the raising height should be less than C.



Unit: mm(in.)

Fig 4.3.9

Model	A	B	C
36K	150 (5-7/8)	850 (33-1/2)	800 (31-1/2)

10. Drain pipes should have a downward slope of at least 1%~2%, in order to prevent pipes from sagging, install hanger bracket at intervals of 1000~1500mm(39-3/8~59 in.).

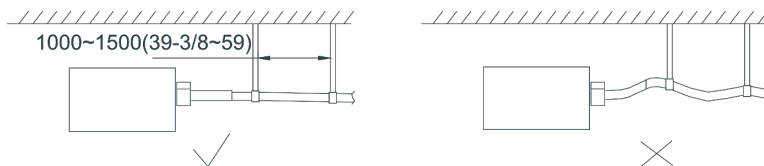


Fig 4.3.10

Test of Drainage System

• Models with Water Pump

1. Please test the drainage system after the electric work is finished.

Inject approximately 1L purified water into the drain pan from the air vent, ensuring that not to splash the water over the electrical components (e.g. water pump. etc.).

- Spray 1L water on the evaporator with a sprayer.
- In case of commissioning is finished, please energize the IDUs and switch to cooling or dry mode, meanwhile, the water pump operates, you can check the draining through the transparent part of the drain socket.
- If the communication wire is not connected, communication malfunction "E6" will occur after 3min of energizing. In this case, the water pump operates automatically. Check if the water pump drains normally through the drainage port. The water pump will stop automatically after running for 1 minute.

2. During the test, please carefully check the drainage joint, and make sure no leakage occurs.

3. It is strongly recommended to do the drain test before ceiling decoration.

• Models without Water Pump

1. Inject some water into the water tray of indoor unit as following:

- Connect the drain hose to the other drain connection pipe of the water tray and inject approximately 1L water. (Remove the drain hose after finishing testing and then put on the plug of water tray.)
- Spray 1L water on the evaporator with sprayer.

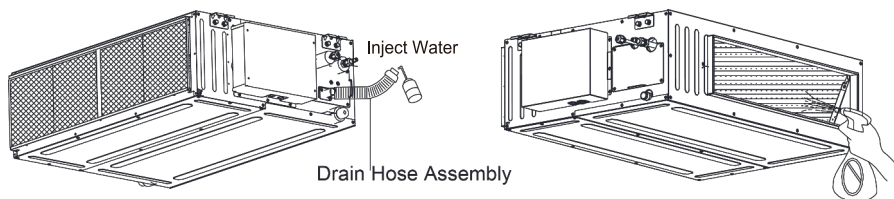


Fig 4.3.11

2. Check if the water drains smoothly from the drain pipe and check if there is water leakage on the connection pipe.
3. Arrange insulation of drain hose and pipe clamp after checking the drain system.

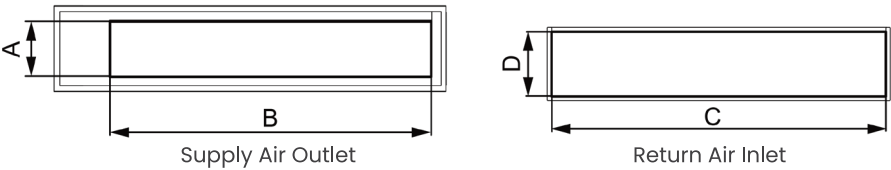
Installation of Air Duct

NOTICE!

- There should be insulating layer on air-out duct, air-return duct, and fresh air duct to avoid heat loss and moisture. Adhere a nail on the air duct and then add a thermal sponge with a layer of tin. Fasten it with a nail cover and then seal the junction with tin tape. You can also use other materials that have good insulation quality.
- Each air-out duct and air-return duct should be fixed on a pre-made board with an iron frame. The junction of the air duct should be well-sealed in order to prevent air leakage.
- The design and construction of air ducts should comply with national requirements.
- The edge of the air-return duct is suggested to be more than 150mm(5-7/8 in.) away from the wall. Add a filter to the air-return opening.
- Please consider noise-damping and vibration-damping for the design and construction of the air duct. Besides, the noise source must be away from people. For instance, do not have the air-return opening installed on top of the user (Offices, rest area, etc.).

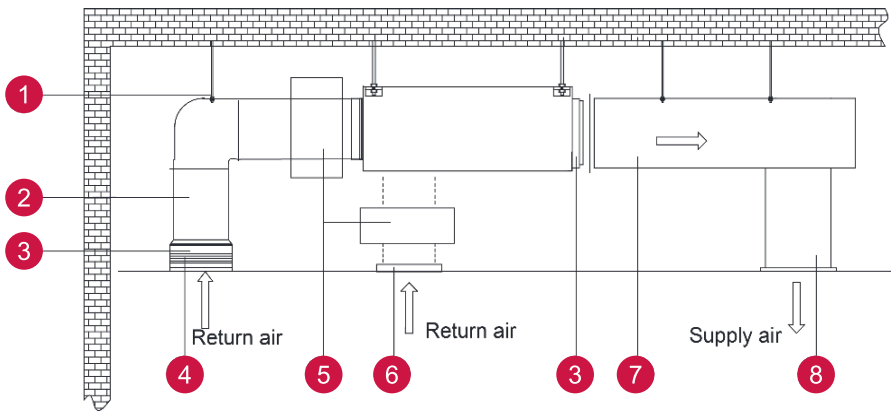
Shape and Size of Air Outlet and Air-return Opening

Unit: inch



Model	Supply Air Outlet		Return Air Inlet	
	A	B	C	D
36K	8.47	45.43	46.81	8.67

Installation of Air-out Duct



NO.	Name	NO.	Name
1	Hanger Rod	5	Static Pressure Box
2	Return Air Duct	6	Filter
3	Canvas Duct	7	Main Supply Air Duct
4	Return Air Inlet	8	Supply Air Outlet

Installation of the Return Air Duct

1. The default installation location of the rectangular flange is at the back and the return air cover plate is at the bottom, as shown in Fig 4.4.6.

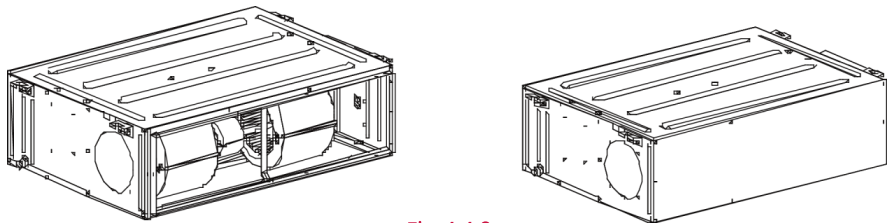


Fig 4.4.6

2. If the bottom return air is desired, just change the place of the rectangular flange and the return air cover plate.

3. Connect one end of the return air duct to the return air outlet of the unit by rivets and the other to the return air louver. For the sake of the convenience of freely adjust the height, a cutting of canvas duct will be helpful, which can be reinforced and folded by 8# iron wire.

4. More noise is likely to be produced in the bottom return air mode than the rear return air mode, so it is suggestive to install a silencer and a static pressure box to minimize the noise.

5. The installation method can be chosen with considering the conditions of the building and maintenance etc., as shown in Fig 4.4.7.

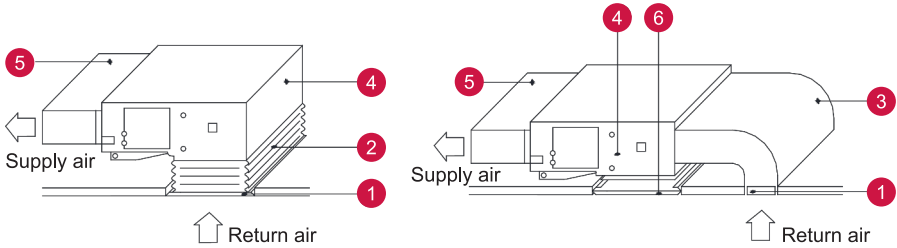


Fig 4.4.7

NO.	Name	NO.	Name
1	Return Air Inlet (with filter)	4	Indoor unit
2	Canvas Duct	5	Supply Air Duct
3	Return Air Duct	6	Grille

Installation of the Fresh Air Pipe

1. When the fresh air pipe is needed to be connected, cut the fresh air baffle as Fig 4.4.8. Plug up the gap of the fresh air baffle by a sponge if the fresh air duct is not be used.
2. Install the round flange so that the fresh air duct can be connected as Fig 4.4.9.
3. Sealing and heat preservation should be done for both the air pipe and round flange pipe.
4. Fresh air should be treated via the air filter.

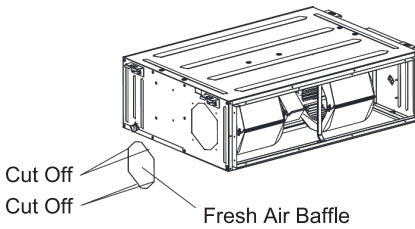


Fig 4.4.8

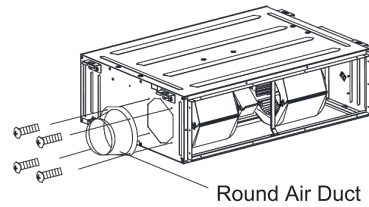


Fig 4.4.9

Installation of Wired Controller

Please refer to the User Manual of the Wired Controller for the installation details.

NOTICE! When installation is finished, the unit must be tested and debugged before operation. Please refer to Instruction Manual of ODU for auto-addressing and debugging details.

Wiring Work

WARNING

Before obtaining access to terminals, all supply circuits must be disconnected.

NOTICE!

- Units must be earthed securely, or it may cause electric shock.
- Please carefully read the wiring diagram before carry out the wiring work, incorrect wiring could cause malfunction or even damage the unit.
- The unit should be powered by an independent circuit and specific socket.
- The wiring should be in accordance with related regulations in order to ensure the unit's reliable running.
- Install circuit breaker for branch circuit according to related regulations and electrical standards.
- Keep cable away from refrigerant pipings, compressor and fan motor.
- The communication wires should be separated from the power cord and connection wire between the indoor unit.
- Adjust the static pressure via wired controller according to site circumstance.

Connection of Wire and Patch Board Terminal

1. The connection of the wire (as shown in Fig 5.1.1)
 - a. Strip about 25mm(1 in.) insulation of the wire end by stripping and cutting tool.
 - b. Remove the wiring screws on the terminal board.
 - c. Shape the tail of the wire into a ring by needle nose plier, and keep the gauge of the ring in accordance with the screw.
 - d. Use the screwdriver to tighten the terminal.
2. The connection of stranded wire (as shown in fig 5.1.2)
 - a. Strip about 10mm (3/8 in.) insulation of the end of stranded wire by stripping and cutting tool.
 - b. Loosen the wiring screws on the terminal board.
 - c. Insert the wire into the ring tongue terminal and tighten with a crimping tool.
 - d. Use the screwdriver to tighten the terminal.

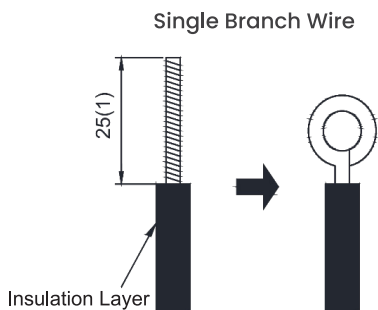


Fig 5.1.1

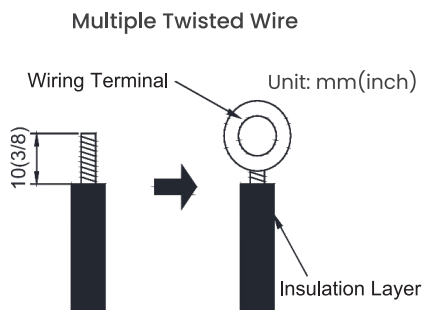


Fig 5.1.2

Power Cord Connection

NOTICE!

- Every unit should be equipped with a circuit breaker for short-circuit and overload protection.
- During operation, all indoor units connected to the same outdoor unit system must be kept energized status. Otherwise, the unit can't operate normally.

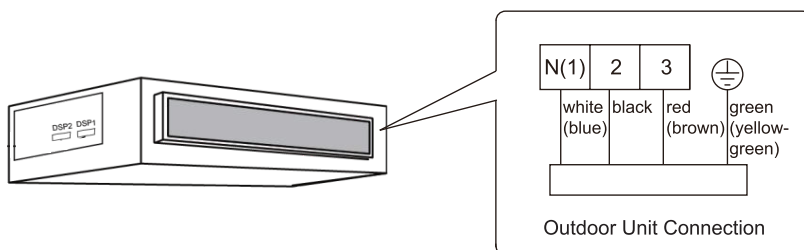


Fig 5.2.1

NOTICE!

Indoor unit quantity n is according to the outdoor unit capacity.

- For units with single-phase power supply.
 1. Detach the electric box lid.
 2. Let the power cord pass through the wiring through holes.
 3. Fix the power cord with the wiring clamp.
 4. The wire diameter of the power cord can't be less than 18AWG.

Wiring of the Signal Line of the Wired Controller

1. Open the cover of the electric box of the indoor unit.
2. Let the signal line go through the rubber ring.
3. Insert the signal line into the four-pin socket on the printed circuit board of the indoor unit.
4. Fix the signal line with the binding wire.

Setting of External Static Pressure

The working range for external static pressure of this series of duct-type units is 0 Pa~275 Pa. For corresponding external static pressure to the respective static pressure notch please see below. The setting of static pressure for the indoor fans can be done via a wired controller and our debugging software. For specific setting methods please see the Wired Controller Instruction Manual.

Applicable to: 36K								
Static Pressure Notch for Indoor Fan	2	3	4	5	6	7	8	9
External Static Pressure (Pa)	10	15	25	37	50	75	100	160

Routine Maintenance

Maintenance Before the Seasonal Use

1. Check if the air inlet and air outlet of the indoor and outdoor units are blocked.
2. Check if securely grounded.
3. Check if all the power cords and communication cables are securely connected.
4. Check if any error code is displayed after energized.

Maintenance After the Seasonal Use

1. Set the unit in fan mode for half a day on sunny day to dry the inner part of the unit;
2. When the unit won't be used for a long time, please cut off the power supply for energy saving; the characters on the wired controller screen will disappear after cutting off the power supply.

Table of Error Codes for Indoor Unit

Number	Error code	Error
1	E1	Compressor high pressure protection
2	E2	Indoor anti-freeze protection
3	E3	Compressor low-pressure protection, refrigerant lack protection, and refrigerant collecting mode
4	E4	Compressor high discharge temperature protection
5	E5	AC over-current protection
6	E6	Communication error
7	E7	Mode conflict
8	E8	Anti-high temperature protection
9	E9	Full water protection
10	F1	Indoor ambient temperature sensor is open/short-circuited
11	F2	Indoor evaporator temperature sensor is open/short-circuited
12	F3	Outdoor ambient temperature sensor is open/short-circuited
13	F4	Outdoor condenser temperature sensor is open/short-circuited
14	F5	Outdoor discharge temperature sensor is open/short-circuited
15	H6	No feedback on the indoor fan motor
16	U8	Zero-crossing protection
17	C5	Jumper cap malfunction protection
18	EE	Loading EEPROM malfunction
19	EA	Refrigerant leakage alarm

Note: If there are other error codes, please contact qualified professionals for service.

Troubleshooting

The air conditioner is not expected to be serviced by users. Incorrect repair may cause electric shock or fire, so please contact an authorized service center for professional service. The following checks prior to contact may save your time and money.

Phenomenon	Troubleshooting
The unit can't start.	<ol style="list-style-type: none">1. The power supply is not connected.2. Circuit breaker tripping caused by leakage of electricity.3. Input voltage is too low.4. Defect of main PC board.
The unit stops after running for a while.	<ol style="list-style-type: none">1. The inlet or outlet of ODU or IDU is blocked by an obstacle.
Poor cooling effect.	<ol style="list-style-type: none">1. The filter is dirty.2. Too heavy heat load of room (e.g. too many people)3. The door or windows is open.4. The inlet and outlet of IDU are blocked.5. The setting temperature is too high.6. Refrigerant is insufficient (e.g. refrigerant leakage)
Poor heating effect.	<ol style="list-style-type: none">1. The filter is dirty.2. The door or window is open.3. The setting temperature is too low.4. Refrigerant is insufficient (e.g. refrigerant leakage)
Indoor fan doesn't start up during heating.	<ol style="list-style-type: none">1. At starting, the IDU fan could not operate till the heat exchange became hot, preventing delivering the cool air.2. At defrosting, the IDU fan stopped due to the system switch to cooling mode. for preventing delivering the cool air, and resume operating after defrosting.

NOTICE!

If the air conditioner still fails to work normally after checking and handling as described above, please stop using it immediately and contact us for assistance.



Customer Support

Questions? We are here to help

✉ support@tosotdirect.com

🌐 www.tosotdirect.com

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