



AIR CONDITIONER

Installation Manual

Chilled Water Fan Coil Unit

Model Name :

Ceiling Concealed - Duct Type

42CLS004W

42CLS006W

42CLS008W

42CLS010W

42CLS012W

42CLS014W

42CLS016W

42CLS020W



Without Return Plenum



With Return Plenum



With Cabinet

Installation Manual **English**

VI_ENG_IM_42CLS_REV.0121

Safety Precautions

For safety and proper installation, please read this manual carefully. After installation is complete, the installer should run a test to check for errors and explain to the customer how to operate the air conditioner including maintenance methods specified in the manual and advise the customer to keep the manual for reference in future. The general person cannot accessed the air conditioner.

Symbols meaning :

- ⓘ **WARNING** : Failure to follow this warning could result in personal injury or death.
- ⓘ **CAUTION** : Failure to follow this warning could result in personal injury or equipment damage that could lead to serious consequences.

ⓘ **WARNING**

- Only trained and certified technicians should install, repair and service this air conditioning unit. Improper installation may result in electrical shock, short circuit, water leak, a fire or other damage to the unit and personal property.
- Only use accessories and installation parts must be as described. Otherwise it may result in water leak, electrical shock or a fire.
- The unit should be installed on a base that is strong enough in order to be able to support its weight, if the base is not strong enough that may cause the unit fall down and cause the unit and property damage, personal injury or death.
- Before installing the unit, consider strong winds, typhoons and earthquakes that might affect the unit accordingly. Improper installation may result in the unit falling down or other accidents.

ⓘ **WARNING**

- The power supply must be isolated from the unit and electrical work should be performed by certified technicians and in accordance with the law and installation manual. Electric current not enough or improper installation may result in electrical shock or a fire.
- Wiring must be stored in a tidy and safe manner. Use wiring that meets the specifications in the installation manual and the stipulations in the local regulations and laws. Use of wiring which does not meet the specifications may result in electrical shock, electrical leakage, smoking and/or a fire.
- Ensure that wiring, remote control wires and transceiver wires must be installed in the cabinet. Improper positioning of the cabinet may cause electrical shock, a fire or overheating at the power connector.
- Disconnect the power supply before working on the unit.
- Ensure that the unit is installed with a ground wire. The ground wire should be located away from gas pipes, water pipes, lightning rods, telephone wires or other ground wires. Improper installation of ground wire may cause electrical shock and/or a fire.
- Ensure that the unit is installed with a circuit breaker to prevent electrical leak. Improper installation of circuit breaker may cause electrical shock and/or a fire.

ⓘ CAUTION

- The unit should be installed in a balanced manner to prevent vibration or water leak.
- Install water pipes and insulate cold water pipes to prevent condensation and water leak. Improper installation of water pipes may cause a water leak and property damage.
- Ensure that there is no water leak after installation or repair.
- **DO NOT** install the air conditioning unit in the location by follows :
 - 1.Areas there are oil mist, oil steam or steam because this may damage parts of the unit.
 - 2.Areas with caustic gases because this will cause copper pipes or the connection points have been damaged that causing a gas leak.
 - 3.Close to machines that can send out electromagnetic waves because the electromagnetic waves will disturb operation of the control system. It may cause an error.
 - 4.In an area where flammable gases may leak or where there is dust inflammable air or areas with evaporation flammable substances in the air. For example in areas with thinner, gasoline if turn on the air conditioner in such conditions could cause a fire.
- The unit should not be operated for a long time in high humidity conditions such as near a door or window is opened because it will cause a lot of condensed water. This may damage the ceiling and furnitures.
- The manufacturer does not guarantee any damage that cause by neglecting the instructions in this manual.

A chilled water fan coil unit with ceiling concealed - duct type is air conditioner that needs to be designed with supply cool air to suit its use therefore the unit will work efficiently. In choosing to use and design of cool air ducts user should consult an air conditioner engineer or an installer who has experience in the air conditioning systems.

Delivery of products

- 1.Please verify that the air conditioner you have been delivered is the model that meets your needs and meets the product delivery receipt or not. You can check and compare information between the name plate and the delivery receipt.
- 2.The air conditioner that you have been delivered must have the same quality warranty card and model name as the product that you have ordered.
- 3.Check the product
When the product delivered to the consignee whose must check and ensure that the unit is inside the package. If the product does not meet such requirements, the consignee should not accept the product or make a notification with the dealer that you ordered immediately to request the replacement of new products.

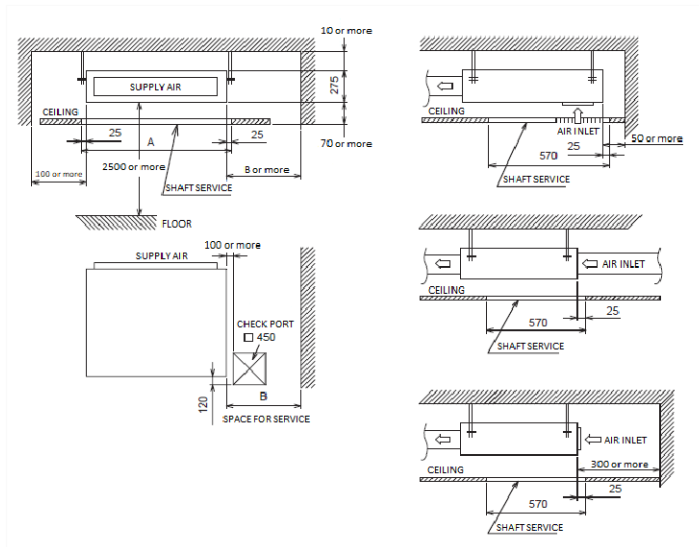
Installation recommendations

The unit is suitable for hanging, ceiling mounted or hidden within the ceiling and connect the air pipe to send cool air to the point where you want to use it therefore user should choose the installation location before installing according to recommendations are as follows :

1. Area where the unit is installed must have a space around for useful of checking and maintenance the unit in the future.
2. The point to be fixed on the ceiling or structure must be strong enough to support the weight and vibration machine.
3. Cold air pipe connection should refer to the specification of the unit.
4. Cold water pipe connection both inlet and outlet should refer to the specification of the unit.
5. Water pipes connection should refer to the specification of the unit.
6. Electrical wiring connection should refer to the specification of the unit.
7. Blower is designed for horizontal installation only.
8. The unit should be installed in the same level as possible to keep the unit working normally and reduce the vibration.
9. Type and thickness of the insulation must be in accordance with the installation standards. Cold water pipe both inlet and outlet must be insulated to prevent condensation.
10. Fan speed selection should use only one speed as appropriate for the area of using.
11. Water pipe should be bent so that water can flow out easily including having to do a drain trap to trap odors as well.

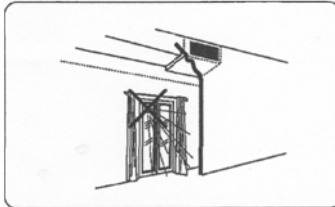
Installation space

Reserve space required for maintenance the indoor unit and service work

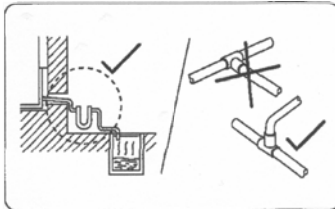


Model	Dimensions	
	A	B
42CLS004W	950	700
42CLS006W	950	700
42CLS008W	950	700
42CLS010W	1050	700
42CLS012W	1200	700
42CLS014W	1050	700
42CLS016W	1050	700
42CLS020W	1350	700

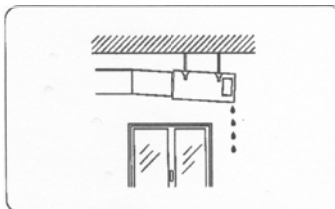
Caution



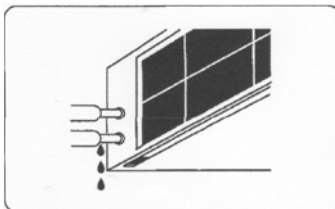
The air conditioner installation area must not be exposed sunlight directly. In unavoidable situation should use curtains to block sunlight into the room.



Installation of condensation drains must be a slope tilt down at least 2 degrees and a drain trap must be installed which must calculate the appropriate height with the unit to prevent suction the water back and absorb odors into the unit.



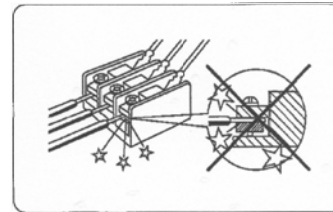
The unit should be installed in a balanced manner as possible to keep the unit working normally. This picture shows another reason why water leaks out of the unit.



The pipe should be insulated completely with the unit to prevent condensation.

Electrical wiring

The air conditioner can operate at 4 speeds. When the electrical wire is connected to the circuit already the motor operation should be tested to see whether it can operate at various speeds. Numbers and colors of wires are specified in the circuit so that the wires can be connected correctly. All connectors should be tightened by screw or wire nut.



The wiring fixing screw should be tightened on the connector in order to the contact surfaces do not create sparks.

Maintenance and service

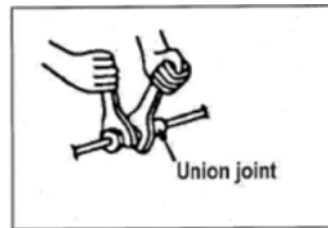
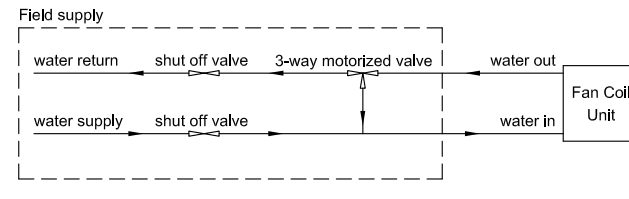
1. Motor lubrication and motor bearings lubrication are permanently lubricated type so that no need to lubricate and maintenance regularly.
2. Fan assembly cleaning can be done by removing the fan assembly from the unit and using a blower or vacuum to remove any trapped dust. Do not disassemble the fan assembly for washing or spraying by water that may cause damage.
3. Checking air filter for models equipped with air filters should check, remove and wash for a specified period and bring it back to use again. If it is torn or unable to use as usual it must be replaced.
4. Before cleaning the coil, all electrical systems must be cut off. After that remove the fan assembly, air duct both inlet and outlet of the unit. Clean the coil by using a blower or in case of extremely dirty must be washed with a high pressure water gun. There should be a water tray to prevent dripping water onto the ceiling.

ⓘ WARNING

- Before working any repairs or services ensure that the power supply has been cut off.
- During working on repair, a sign "REPAIRING" should be hung on the switch to prevent others turn the switch on.
- In refrigerant pipes connection ensure that the system is free of refrigerant to prevent oil and refrigerant ignition. This can be prevent by storing the refrigerant in hot air blower or refrigerant tank.

Pipe connection

Typical water piping diagram



- Connecting the pipe into or out of the air conditioner should use 2 wrenches (as in the picture).

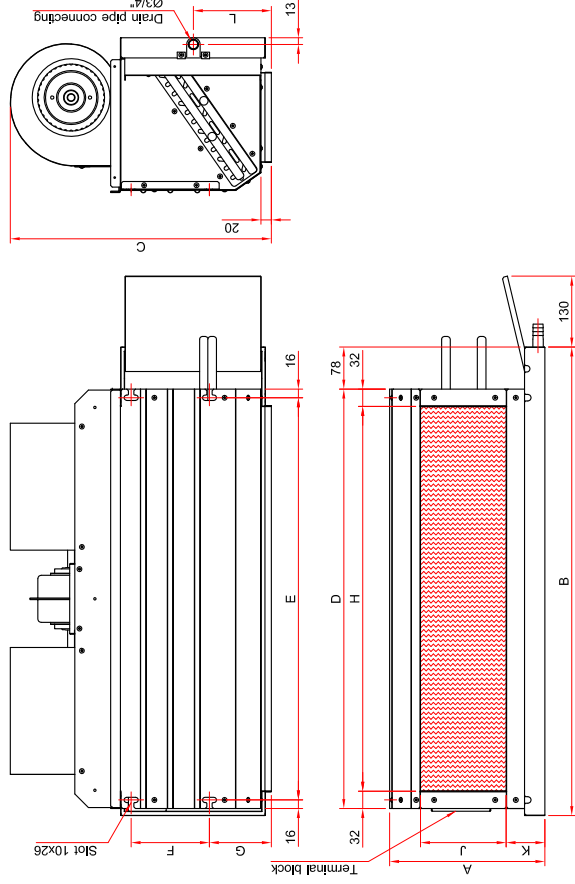
- Assembling the valve to the coil. The pipe should be insulated to prevent condensation.

Insulation material / pipes

Pipes and insulation must be made of the following materials :

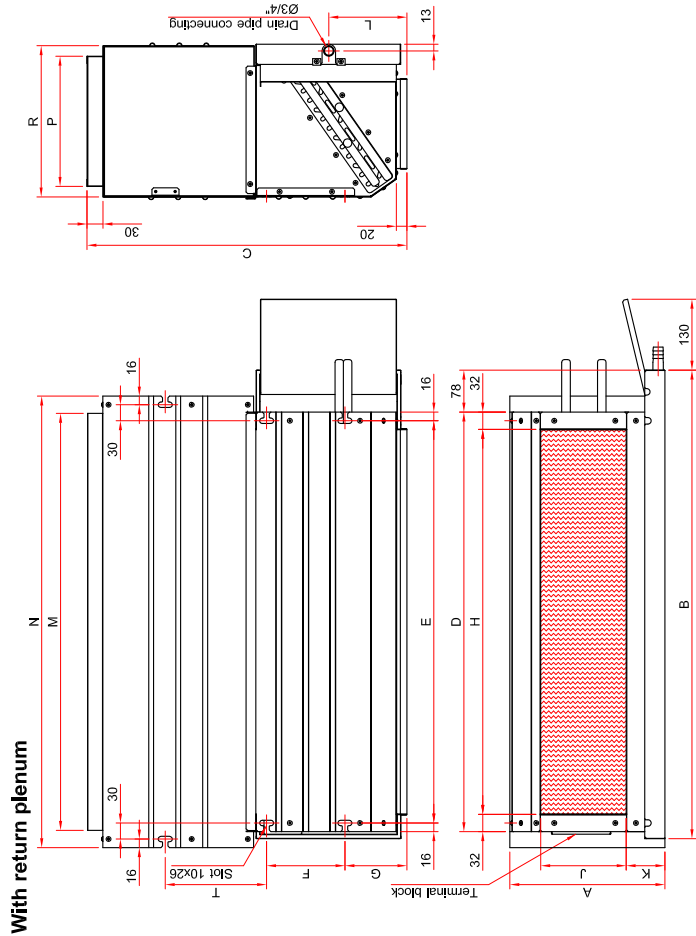
- Pipe: Rigid vinyl chloride pipe VP25 (Outer diameter = Ø32 mm)
- Insulation: Polyethylene foam, thickness 10 mm or more.

Dimension
Without return plenum



Model	Dimensions (mm)												
	A	B	C	D	E	F	G	H	J	K	L		
42CLS004W21__O	237	898	503	776	745	225	51	712	135	76	108		
42CLS00W431__O													
42CLS006W21__O	287	867	483	776	745	145	115	712	158	72	143		
42CLS006W31__O													
42CLS008W31__O	287	867	483	776	745	145	115	712	158	72	143		
42CLS008W41__O													
42CLS010W31__O	287	918	500	827	795	145	115	762	158	72	143		
42CLS010W41__O	287	995	500	904	872	145	115	839	158	72	143		
42CLS012W31__O	287	1070	500	980	948	145	115	915	158	72	143		
42CLS012W41__O	287	1147	500	1056	1024	145	115	991	158	72	143		
42CLS014W31__O	333	1070	546	980	948	145	115	915	206	72	143		
42CLS014W41__O	333	1147	546	1056	1024	145	115	991	206	72	143		
42CLS016W31__O	333	1147	546	1056	1024	145	115	991	206	72	143		
42CLS016W41__O	333	1274	546	1183	1151	145	115	1118	206	72	143		
42CLS020W31__O													
42CLS020W41__O													

Unit in mm

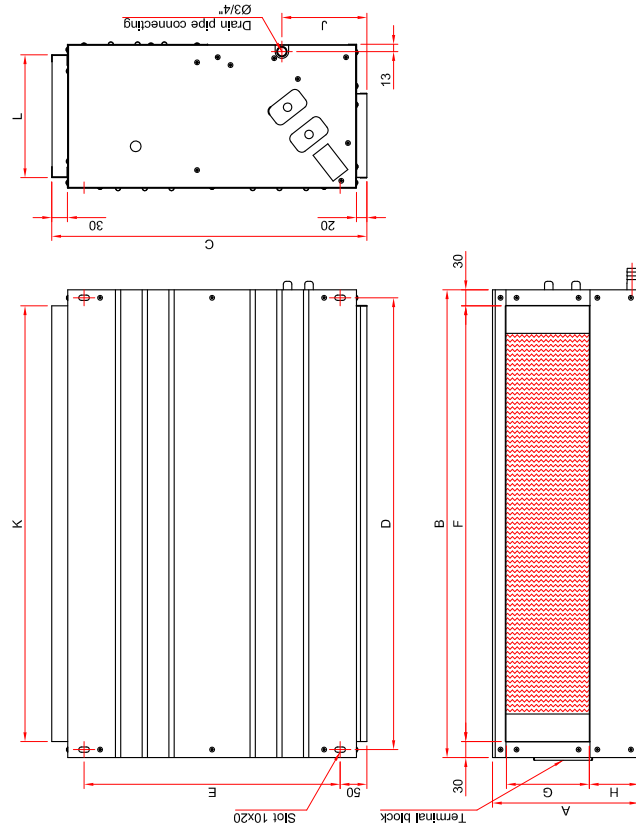


With return plenum

Model	Dimensions (mm)															
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	T
42CLS004W21__P	237	898	573	776	745	225	51	712	135	76	108	772	836	192	242	177
42CLS00W431__P																
42CLS006W21__P	287	867	591	776	745	145	115	712	158	72	143	772	836	240	290	188
42CLS006W31__P																
42CLS008W31__P	287	867	483	776	745	145	115	712	158	72	143	772	836	240	290	188
42CLS008W41__P																
42CLS010W31__P	287	918	591	827	795	145	115	762	158	72	143	823	887	240	290	188
42CLS010W41__P	287	995	591	904	872	145	115	839	158	72	143	899	963	240	290	188
42CLS012W31__P	287	1070	591	980	948	145	115	915	158	72	143	975	1039	240	290	188
42CLS012W41__P	287	1147	591	1056	1024	145	115	991	158	72	143	1051	1115	240	290	188
42CLS014W31__P	333	1070	640	980	948	145	115	915	206	72	143	975	1039	287	338	212
42CLS014W41__P	333	1147	640	1056	1024	145	115	991	206	72	143	1051	1115	287	338	212
42CLS016W31__P	333	1147	640	1056	1024	145	115	991	206	72	143	1051	1115	287	338	212
42CLS016W41__P																
42CLS020W31__P	333	1274	640	1183	1151	145	115	1118	206	72	143	1178	1242	287	338	212
42CLS020W41__P																

Unit in mm

With cabinet



Model	Dimensions (mm)												
	A	B	C	D	E	F	G	H	J	K	L		
42CLS004W21__E	232	875	555	845	460	815	140	68	115	815	185		
42CLS00W431__E													
42CLS006W21__E	280	875	589	845	479	815	160	93	159	815	230		
42CLS006W31__E													
42CLS008W31__E	280	875	589	845	479	815	160	93	159	815	230		
42CLS008W41__E													
42CLS010W31__E	280	926	589	896	479	866	160	93	159	866	230		
42CLS010W41__E	280	1002	589	972	479	942	160	93	159	942	230		
42CLS012W31__E	280	1078	589	1048	479	1018	160	93	159	1018	230		
42CLS012W41__E	280	1154	589	1124	479	1094	160	93	159	1094	230		
42CLS014W31__E	323	1078	639	1048	529	1018	205	88	159	1018	275		
42CLS014W41__E	323	1154	639	1124	529	1094	205	88	159	1094	275		
42CLS016W31__E	323	1154	639	1124	529	1094	205	88	159	1094	275		
42CLS016W41__E													
42CLS020W31__E	323	1281	639	1251	529	1221	205	88	159	1221	275		
42CLS020W41__E													

Unit in mm



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