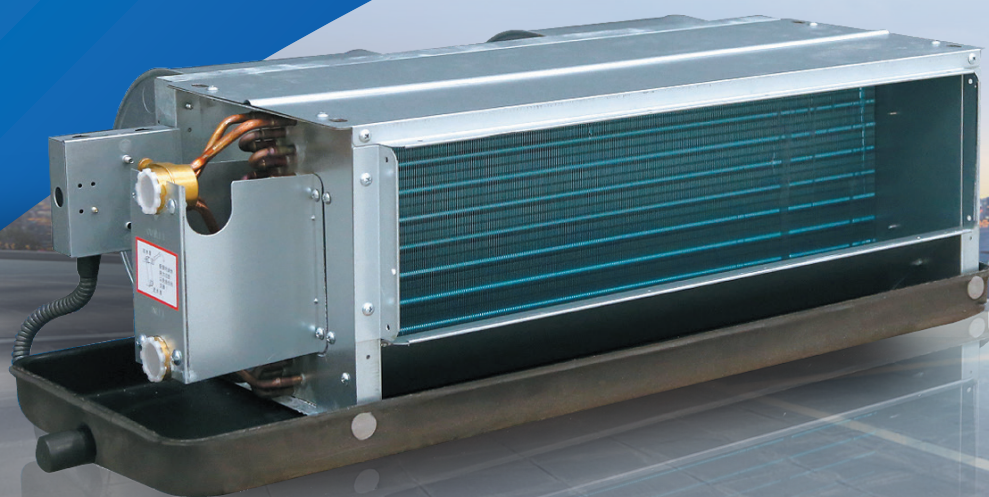




# 42CD Ceiling Concealed EC motor Fan Coil Unit

Air Volume: 340~2380 m<sup>3</sup>/hr





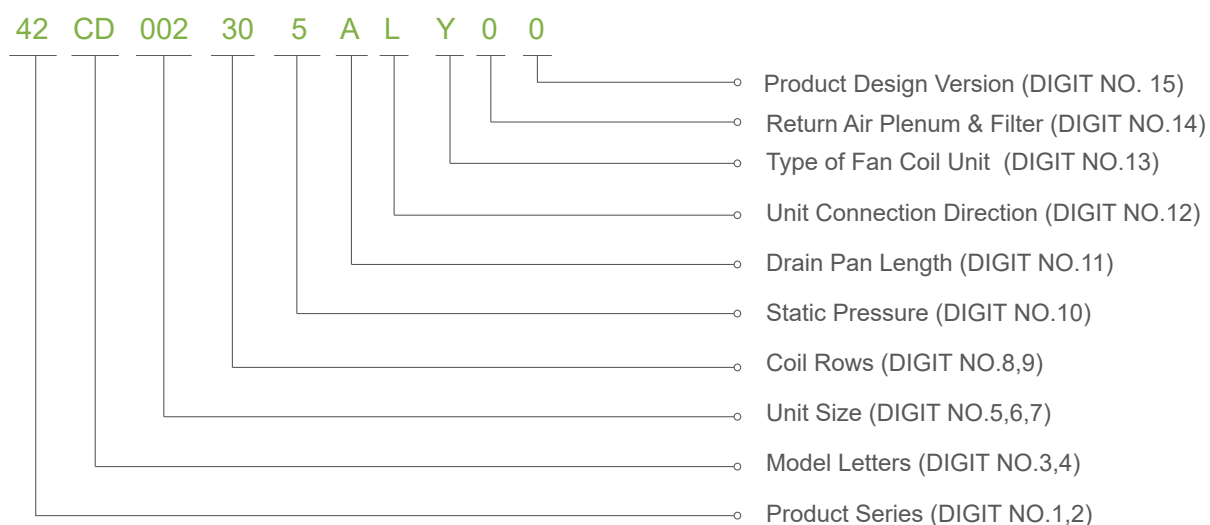
Carrier is a leading global provider of innovative HVAC, refrigeration, fire, security and building automation technologies. Supported by the iconic Carrier name, the company's portfolio includes industry-leading brands such as Carrier, Bryant and Automated Logic. Carrier's businesses enable modern life, delivering efficiency, safety, security, comfort, productivity and sustainability across a wide

range of residential, commercial and industrial applications.

In 1998, Time magazine named Dr. Carrier one of its 20 most influential builders and titans of the 20th century.



## Model Number Nomenclature



🌿 DIGIT NO. 1, 2  
product series  
42: fan coil unit

🌿 DIGIT NO. 3, 4  
model letters  
CD: Horizontal ceiling FCU

🌿 DIGIT NO. 5, 6, 7  
unit size  
002: 340m<sup>3</sup>/h  
003: 510m<sup>3</sup>/h  
.....

🌿 DIGIT NO. 8, 9  
coil rows  
30: 3 row cooling

🌿 DIGIT NO. 10  
external static pressure  
0 : EC motor @12Pa  
3: EC motor @30Pa  
5: EC motor @50Pa

🌿 DIGIT NO. 11  
drain pan  
A: Standard drain pan  
B: Lengthen Drain Pan (extended by 150mm)

🌿 DIGIT NO. 12  
unit connection direction (face to discharge air)  
L: Left  
R: Right

🌿 DIGIT NO. 13  
Type of Fan Coil Unit  
Y - EC 3-speed Motor

🌿 DIGIT NO. 14  
return air plenum & filter  
0: Without both (omissible)  
A: Unit with rear return air plenum  
B: Unit with bottom return air plenum

🌿 DIGIT NO. 15  
0:Design Version No.1

Note: EC motor unit doesn't include room controller. Please select room controller separately according to control requirements.



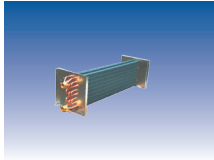
## Features

### Superior Product Quality



All fan coil units are manufactured in a ISO9001 and ISO14000 certified manufacturing facility whereby highest products quality is always top priority.

### High Efficiency Heat Exchanger



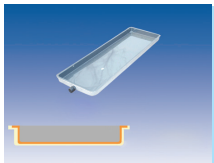
High quality copper pipes with slit profile aluminum fins are being transformed into high efficiency heat exchanger through advance design,manufacturing equipment and processes.

### Low Noise



Through straight static and dynamic balancing tests of motors , coupled with high quality thermal and acoustic insulation in the unit. Super low noise performance is achieved.

### No leakages



One piece molded drain with integral thermal insulation and professional welding skill enable all condensate water to be collected and prevent condensation at the outside of the drain pan.

### Use High Efficiency EC Motor



High efficiency, average consumed power is 50% of common motor, leading low operation cost of air conditioner. Avoiding noise from carbon brushes.

### Multiple ESP Options



Standard fan coil units come with low ESP(12Pa) and high ESP(30Pa, 50Pa),options to suit different applications.

### Slim And Compact Design



Light and rigid construction due to the compact and strong structural design of the unit .Slim unit design also fulfills the stringent space requirement of today's building design.

### Easy Maintenance



The fan coil unit are equipped with high quality electric motor with low noise bearing that do not require lubrication and thus minimum maintenance effort required. Blowers and also motors can be dismantled individually if cleaning of heat exchanger is needed.

## Technical Parameter

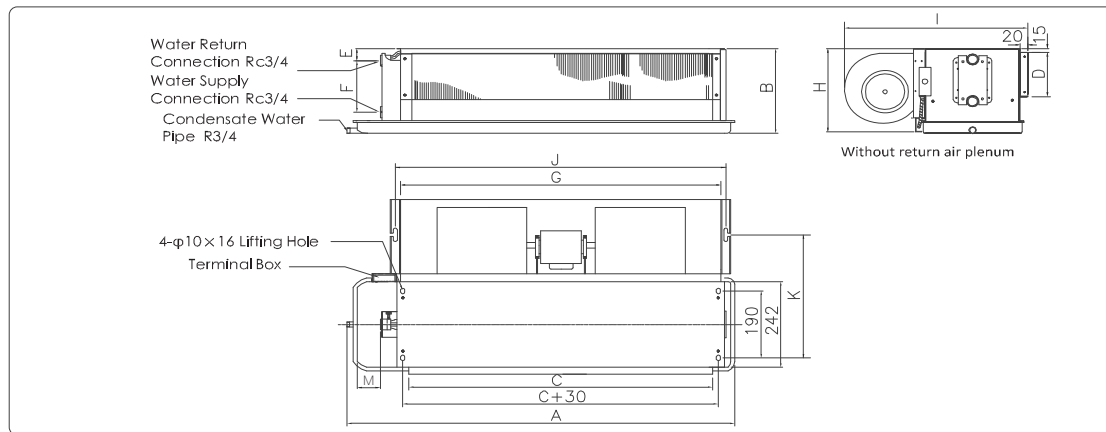
Model42CD			002	004	004	005	006	007	008	010	012	014
Air Flow m³/h		HIGH	340	510	680	850	1020	1190	1360	1700	2040	2380
		MED	270	380	510	640	765	890	1020	1275	1530	1850
		LOW	190	255	340	425	510	595	680	850	1020	1255
Cooling capacity W			2210	3200	4150	5000	5950	6600	8100	9100	11250	13000
Heating capacity W			3500	5200	6500	7870	9800	10900	13570	14900	18800	22100
Power Input W	12Pa	HIGH	14	19	25	38	50	65	74	88	100	162
		MED	9	11	14	20	26	30	34	46	53	86
		LOW	6	7	8	11	13	14	19	24	25	37
	30Pa	HIGH	19	27	34	50	62	71	81	106	122	189
		MED	12	14	18	25	32	36	40	56	62	99
		LOW	7	8	9	12	15	16	22	25	29	42
	50Pa	HIGH	25	35	45	63	77	89	100	126	148	221
		MED	15	18	23	31	39	44	52	64	73	112
		LOW	8	10	11	14	18	19	25	28	32	47
Nosie dB(A)	12Pa	HIGH	35	38	39	41	45	46	46	47	49	51
		MED	28.5	30	31	32	39	41	40	41	44	47
		LOW	20.5	21	22	24	33	33	31	32	34	36
	30Pa	HIGH	38	41	42.5	45	46.5	48	47	49	51	52
		MED	30.5	32	34	38.5	38.5	41	41	43	46	48
		LOW	23	22	22	29.5	31	32	32	34	35	36
	50Pa	HIGH	42	43	45	47	49	50	50	52	53	53
		MED	35.5	36	38	38.5	45	44	44	46	47.5	49
		LOW	29	28	28	29	37	36	36	38	42	42
Fan	Type		Centrifugal(Blade:Forward–Curved)									
Motor	Type		EC motor									
Coil	Type		Seamless copper tube mechanically bonded to aluminum hydrophilic fin									
	Working Pressure		1.6MPa									
	In–Out		Rc3/4(Taper pipe Female Threaded)									
	Water Flow m³/h		0.42	0.6	0.71	0.83	1.02	1.1	1.36	1.55	1.91	2.23
	Water Pressure kPa		30	30	30	30	40	40	40	40	40	50
Condensate Drain Size			R 3/4(Taper pipe Male Threaded)									
Weight (without return air plenum) kg			11	13	15	16	17	18.5	24.5	26	31	31.5
Weight (with return air plenum) kg			13	16	18	19	20	22.5	28.5	30	37	37.5

### Note:

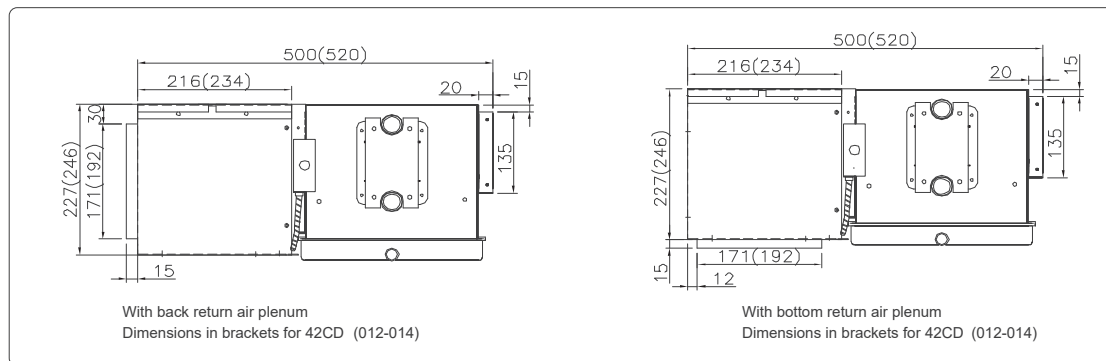
- Cooling capacity is based on the following:a)Water temperature:7℃ (inlet) /12℃ (outlet) b)Air entering condition:27℃ DB/19.5℃ WB.
- Heating capacity is based on the following(with same water flow rate as cooling cycle):a)Water temperature:60℃ (inlet) b)Air entering condition:21℃ DB.
- The manufacturer reserves the rights to make changes to the above specifications without prior notice.

## Dimension

### 42CD Ceiling Concealed FCU

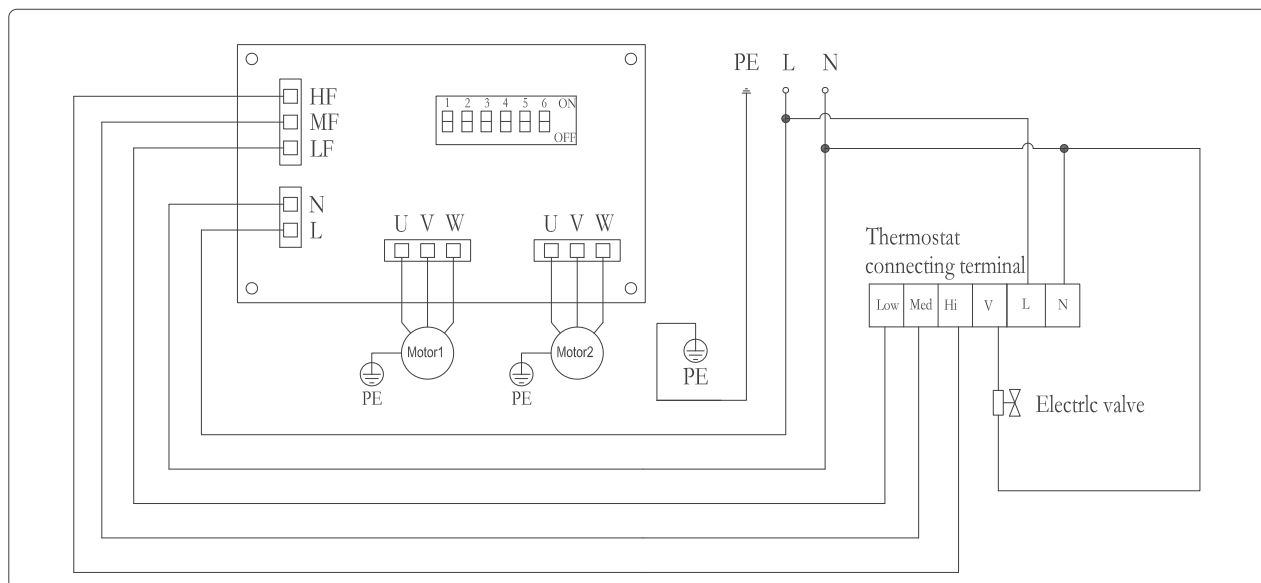


42CD	A	B	C	D	E	F	G	H	I	J	K	M
002	695	230	435	135	54	118	477	225	470	504	346	50
003	845	230	570	135	54	118	610	225	470	637	346	65
004	930	230	670	135	54	118	712	225	470	739	346	50
005	995	230	730	135	54	118	772	225	470	799	346	55
006	1085	230	825	135	54	118	867	225	470	894	346	50
007	1235	230	970	135	54	118	1012	225	470	1039	346	55
008	1530	230	1215	135	54	118	1257	225	470	1284	346	105
010	1530	230	1255	135	54	118	1297	225	470	1324	346	65
012	1795	250	1510	135	54	118	1552	240	490	1579	357	45
014	1795	250	1510	135	54	118	1552	240	490	1579	357	45



42CD	Length of return air plenum	Length of plenum wind-gap
002	483.6	422
003	615.6	557
004	725.6	657
005	775.6	717
006	870.6	812
007	1015.6	957
008	1260.6	1202
010	1300.6	1242
012	1555.6	1497
014	1555.6	1497

## Wiring Diagrams



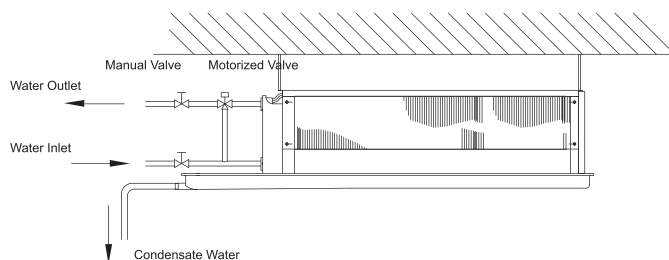
0=OFF,1=ON

Model	ESP	DIP1	DIP2	DIP3	DIP4	DIP5	DIP6
42CD002	12Pa	0	0	0	0	1	0
42CD002	30Pa	0	0	0	1	0	0
42CD002	50Pa	0	0	0	1	1	0
42CD003	12Pa	0	0	1	0	0	0
42CD003	30Pa	0	0	1	0	1	0
42CD003	50Pa	0	0	1	1	0	0
42CD004	12Pa	0	0	1	1	1	0
42CD004	30Pa	0	1	0	0	0	0
42CD004	50Pa	0	1	0	0	1	0
42CD005	12Pa	0	1	0	1	0	0
42CD005	30Pa	0	1	0	1	1	0
42CD005	50Pa	0	1	1	0	0	0
42CD006	12Pa	0	1	1	0	1	0
42CD006	30Pa	0	1	1	1	0	0
42CD006	50Pa	0	1	1	1	1	0
42CD007	12Pa	1	0	0	0	0	1
42CD007	30Pa	1	0	0	0	1	1
42CD007	50Pa	1	0	0	1	0	1
42CD008	12Pa	1	0	0	1	1	0
42CD008	30Pa	1	0	1	0	0	0
42CD008	50Pa	1	0	1	0	1	0
42CD010	12Pa	1	0	1	1	0	0
42CD010	30Pa	1	0	1	1	1	0
42CD010	50Pa	1	1	0	0	0	0
42CD012	12Pa	1	1	0	0	1	1
42CD012	30Pa	1	1	0	1	0	1
42CD012	50Pa	1	1	0	1	1	1
42CD014	12Pa	1	1	1	0	0	1
42CD014	30Pa	1	1	1	0	1	1
42CD014	50Pa	1	1	1	1	0	1

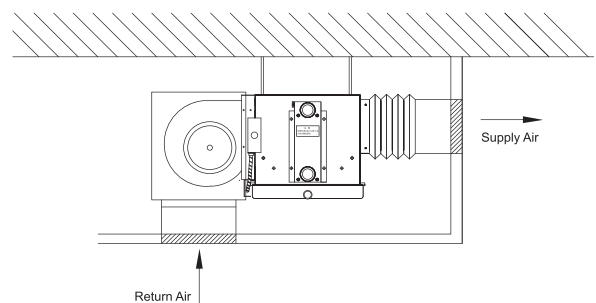
## Installation

- Handle the unit with care and never handle it by holding its impeller or the volute. Contact the distributor for repair or replacement if it is found, before installation, that the unit is damaged seriously, the volute or the condensate drain pan is deformed or that the motor or the fan loosens.
- When installing the unit, ensure that it is level or the drain side is lower than the other side by 3 ~ 5mm to make the condensate drain pan function smoothly; make sure that the unit only bears its dead load (free from any external load like air ducts and water pipes); reserve sufficient low-maintenance space at the installation position.
- Install a filter screen at the return air inlet to prevent dust blocking the fins of the heat exchanger and ensure its heat-transfer capacity.
- Adopt the top-in and bottom-out pipe connecting system in which the inlet and outlet pipes are recommended to be flexible joints. Do not use excessive torque when connecting pipes, or the heat exchanger may be damaged. Provide thermal insulation measures for the inlet and outlet pipes. Seal the threaded connections with tetrafluoroethylene tapes. Keep the drain pipe at a sufficiently low gradient.
- Before initial operation and cold-heat switchover, open the manual air vent valve installed on the outlet pipe of the unit and close it after all air in the coil pipe and the pipeline is vented, or the heat-transfer effect may be not satisfactory. Note that the water temperature for cooling in summer and heating in winter shall not be lower than 6°C and greater than 65°C respectively and that clean and softened water is required.
- Provide a single-phase 220V power supply for the unit, with its fluctuation within  $\pm 10\%$ . Carry out wiring against the circuit diagram and do not make any two gears (high, medium and low gears in total) served by the same wire to prevent the motor being burned out. When installing the unit, connect the grounding nut on the housing of the unit with the protective ground system. Never make different models of units share the same three-gear switch, or the motor may also be burned out.
- Clean the heat exchanger period carefully to ensure its satisfactory heat-transfer performance. Clean the filter screen regularly to ensure smooth air return. Never operate the unit for long time unless the filter screen is provided. Fill the coil pipe with water when the unit is shut down for long time, to reduce corrosion of pipes. Take antifreezing measures during installation commissioning and long-time shutdown of the unit in winter, to prevent the coil pipe and water pipe bursting.
- For condensation which may occur on the surface of the unit when chilled water enter the unit but the fan fails to operate, realize interlocking between the electrically operated valve and the temperature detect switch or provide the chilled water bypass; otherwise, manually closing the water inlet valve is the sole solution.
- Make sure that the maintenance of the unit shall be carried out by professional staff who are familiar with the product.

Installation Diagram of Water Pipe



Installation Diagram of Air Duct





## Maintenance And Service

The air conditioning unit is an equipment and users are suggested to record the daily operation data of the equipment and to conduct regular maintenance and service.

### Regular Maintenance

Unit maintenance contents	Standard service cycle			Remarks
	Monthly	Quarterly	Half a year	
1. The inspection shall be inspected to confirm whether the power line (from the distribution cabinet to the unit) is loose or damaged.			★	
2. The inspection shall be conducted to confirm whether the condensate discharge is normal		★		Is the installation conducted according to the pipe connection diagram? Is it dirty or blocked? Is the drainage smooth? Is there any overflow, etc. due to this?
3. The inspection shall be conducted to confirm whether there is abnormal noise during the operation of the unit.	★			For instance, sharp metal friction sound, whistlers, obvious clash and resonance, significant electromagnetic noise (disgusting) and other abnormal noise.
4. The inspection shall be conducted to confirm whether it is necessary to clean the air side of heat exchanger (surface dust, sundries, etc.)	★			Space among fins are full of dust and there are sundries attached on the inlet side of the coil, etc.

2. We recommend the following maintenance and service methods for the equipment which is not used for a long time
- ◆ In case that the unit does not operate for a long time or does not operate in winter, the power must be turned off and the water shall be discharged from the water system and the steam coil of the unit.
  - ◆ If necessary, the maintenance and service may be conducted according to the pre-use maintenance and service methods of the equipment.

Note:

1. User service: mandatory inspection -- recommended inspection -- ★
2. The service methods apply to the cycle during normal use and the arrangement shall be made based on actual conditions in case of use in bad conditions.



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