



**42CT
3 Row**

**42CT/CTL
ECM Option**



42CT SERIES [300 to 1400 CFM]

Ducted Chilled Water Fan Coil Unit for
Standard Chiller and
District Cooling Application



MS ISO 9001 REG. NO. AR 0239

ABOUT CARRIER

CARRIER: A WORLD LEADER IN HEATING, AIR-CONDITIONING AND REFRIGERATION SOLUTIONS.

MAKING THE WORLD A BETTER PLACE TO LIVE, WORK AND PLAY

Built on Willis Carrier’s invention of modern air conditioning in 1902, Carrier is the world leader in heating, air-conditioning and refrigeration solutions. We constantly build upon our history of proven innovation with new products and services that improve global comfort and efficiency.

ABOUT CARRIER INTERNATIONAL SDN BHD (CISB)

Carrier established its first foothold in Malaysia in 1959 when Carrier International (Malaysia) Ltd was formed as a distributor for Carrier air-conditioning equipment and components. The company was subsequently renamed as Carrier International Sdn Bhd (CISB). Today, CISB is one of the largest manufacturers of HVAC products in South-East Asia with products ranges setting the standard for performance, energy efficiency and sustainability.

With state of the art manufacturing technologies, the CISB invests heavily in product design/ development with dedicated engineering team and in house testing laboratories to carry out continuous development in thermal performance and air flow. The factory is ISO 9001:2015 certified which is a guarantee for the quality of our product offering and services provided. The factory also complies with EH&S regulations and takes a responsible approach to environment, health and safety.

As one of the market leader in HVAC industries, our products are manufactured with stringent sourcing, manufacturing and quality process that meets Carrier global QA/QC standard and control.

ABOUT 42CT FAN COIL UNITS

42CT series fan coil units are manufactured in Carrier Malaysia facility under Carrier Corporation USA. These units are produced and designed with latest technology. All units performance is rated in accordance to AHRI standards.

COMPUTER SELECTION

We have made available a computer program to finalize your selections. Please contact your Carrier representative for a computer selection based on your “Quick Selection” plus the design parameters of your application.



TABLE OF CONTENTS

PAGE

About Carrier.....	2
Product Features.....	3
Model Number Nomenclature.....	4
42CT Exploded View & Main Features.....	5
Features of Brushless DC Motor FCU.....	6
Technical Data.....	7
Unit Dimension and Weight.....	11
Performance Rating.....	12
Electrical Data.....	14
Wiring Diagram.....	16
Guide Specifications.....	18

PRODUCT FEATURES

If fan coil terminals are the answer to your job requirements, you can't afford to pass over Carrier's versatile and extensive range of fan coil units. With Carrier's 42CT series fan coil units, you can select furred-in style, in capacities from 300 to 1,400 cfm. Units are ideal for installations in residential, hotels, motels, apartments, offices, hospitals, schools and other multi-room buildings.

Carrier room fan coil terminals provide unsurpassed year round comfort, with high cooling performance. Carrier 42 series terminal requires very little space and is easy to install. Piping, drain and wiring connections are readily accessible to save installation time and field labor expense.

Forget about expensive ductwork, forget about complex system controls, forget the aggravation and choose Carrier's easy to install room fan coil units – in pipe systems. Opt for quiet. Carrier room fan coil units operate at exceptionally low sound levels. Generous amount of insulation absorbs operating sound and rugged, rigid construction ensures vibration free operation at all fan speeds.

Carrier room fan coil units are economical. Three speed fans deliver just the right amount of conditioned air for your comfort needs at any load. And each individual unit can be shut off when not in use. Permanent Split Capacitor motors deliver peak operating efficiency. In choosing Carrier units, you can match your application with a wide range of custom-designed options and accessories. When you go for Carrier 42 series, the advantages to owner, installer and the room occupants are too great to ignore.

Carrier 42CT series fan coils give you design and equipment location flexibility

- Wide range of popular capacities, 300 – 1400 cfm
- Available up to 9 sizes.
- Furred-in units
- Select 4 row coils (Eurovent Certified) 3 row coils (Non-Eurovent Certified) 42CT-/CTL
- Accommodates 2 pipe systems
- Top panel insulated and low fan speed means quiet operation
- Draw outside air for odor dilution
- Uses only minimal space

Select Carrier fan coils for easy, low cost installation

- Easy wiring, piping connections
- Mounting holes, slots speed hanging
- Requires no expensive ductwork
- Ideal for new construction or renovation

Save operating costs with Carrier fan coils

- Higher efficiency & reliability: Electronic Commutated Motor (42CT-/CTL) options
- Individual unit shut-off when not in use
- Efficient, 3 speed centrifugal fans
- Permanent Split Capacitor motors
- High efficiency heat transfer surface

Carrier fan coils save your service and maintenance expense

- Nationwide Carrier service
- Insulated drain pan
- Easy access to components
- Rugged construction
- Factory leak test for coil
- Cleanable Nylon filters
- Long life, heavy duty bearings
- Quick clip filter removal for rear side access
- Threaded in/ out – water connection



ISO 9001 Certificate



IQ Net Certificate

MODEL NUMBER NOMENCLATURE

MODEL 42CT/CTL

4 2 C T - 0 3 4 - - - 7 0 1 2 5

42 Series
Fan Coil Unit

Model
CT — Furred-in Ceiling
Model with Plenum

- — Standard Application
L — District Cooling Application

Unit Size (Airflow, cfm)
03 — 300
04 — 400
05 — 500
06 — 600
07 — 700
08 — 800
10 — 1000
12 — 1200
14 — 1400

Coil
3 — 3 Row Coil
4 — 4 Row Coil

*Only available for AC motor
** Available for AC and BLDC Motor

CISB Code
5 — Factory Code + Standard Packing

Motor
2 — Standard (AC Motor)
E — Standard (BLDC Motor)

Filter Options
1 — Standard Nylon Filter

Development Series
0 — 42CT/CTL (AC & BLDC motor)

Electrical Characteristics
7 — 220/240V-1PH-50Hz

Piping Handling
- — Left Hand connection*
R — Right Hand Connection*
N — Right Hand Water Piping with
same end connection**
K — Left Hand Water Piping with
same end connection**

Heater Options
- — No Heater
D — 1.2 kW Heater
E — 1.5 kW Heater
F — 1.8 kW Heater
H — 2.2 kW Heater
J — 2.4 kW Heater
K — 3.0 kW Heater
L — 3.6 kW Heater
M — 4.4 kW Heater

Drain Pan
- — Standard Drain Pan
S — Stainless Steel Drain Pan

42CT EXPLODED VIEW & MAIN FEATURES

No	Components
1	Top Plenum
2	Blower
3	Motor
4	Fan Deck
5	Bottom Plenum
6	Insulation Strip
7	Tube Sheet
8	Header Support
9	Control Box
10	Drain Pan
11	Top Panel

Integrated Return Air Plenum

- Ensure better form and appearance. This integrated return air plenum also simplify assembly process.

Control Options

- Thermostat & Valves

Aluminum Blue Fin

- Lanced sine wave Hydrophilic aluminum blue fin for improved performance.

V-Type Drain Pan

- V type drain pan for better condensate flow.

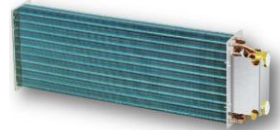
Filter
6 mm Nylon Filter

AC/BLDC Motor Options

Coil
3R/4R coil for chiller application
4R coil for district cooling application

High Efficiency

- Unit coil were manufactured using the latest developed double-flanging structure of wide seam blue hydrophilic aluminum fin with an advance mechanical tube-expanding process. This hydrophilic aluminum fin will provide sufficient heat transfer channel for an efficient heat exchange. In addition, the wide impeller fan will provide a uniform air distribution that makes the heat transfer more effective and ensure a better cooling capacity.



Low Noise

- 42CT unit series are equipped with a wide diameter impeller and a low speed forward multi-blade. The fan casing is strengthened with reinforcing ribs that provides additional structure strength.
- It adopts NSK bearings which ensuring small vibration and low noise during operation.



High Strength V Type Drain Pan

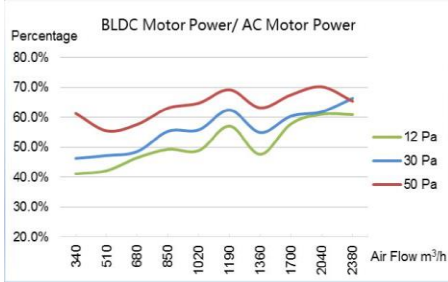
- 42CT unit series will come with a newly designed V-type drain pan that are produced using an integral molding process. The design of the drain outlet that are located at the lowest position of the unit will ensure condensate able to drain out smoothly. With this V-type design, it will also enhance the strength of the drain pan to avoid any deformation during transportation process.



FEATURES OF 42CT BRUSHLESS DC MOTOR FCU

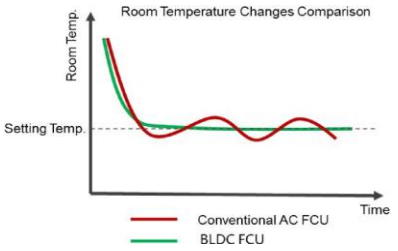
Significant Energy Saving

The energy consumption of 42CT BLDC FCU is only around 40%~70% in compare to the conventional AC FCU. 42CT BLDC motor are capable of regulating up to 300rpm on a high efficiency which are not possible in a conventional AC motor. This give advantage on 42CT BLDC to have the speed flexibility in meeting customer comfort. In addition, BLDC motor will also give a higher energy saving advantage when operating at a low speed as compared to AC motor.



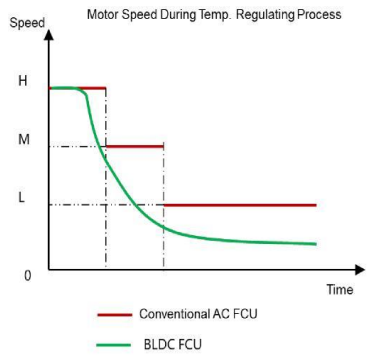
Excellent Comfort

BLDC motor FCU have a stepless speed function that can regulate the air flow smoothly. This BLDC system can be design to regulate the set point temperature by constantly interconnect with the electrical water valve. Set precision of Carrier THT420 series LCD thermostat for 42CT BLDC, is up to 0.5°C. This great temperature control features in 42CT BLDC FCU will certainly meets customer satisfaction for a comfort application.



Low Noise

BLDC FCU has a wide regulating range that reduce the motor speed smoothly as the room temperature reach the set point. By using a BLDC motor FCU, the unit will be mostly operating at a medium or low speed which give a lower noise level. Furthermore, the carbon brush noise, which are unavoidable in a conventional AC FCU, can also be eliminated by using this BLDC motor.



Convenient Application

Modifying the external static pressure requirement can be easily done on the field by changing the dip switch settings between 12Pa,30Pa and 50 Pa as required. THT420 Series thermostat have a timing function which can conveniently set start and switch off time. By using IPM drive module, it has over current protection, overvoltage protection, undervoltage protection, plugging protection ,overspeed protection and other functions that will ensure a reliable performance..



Flexible Control

Carrier 42CT BLDC FCU can not only match Carrier THT420 series thermostat, but also is compatible with any normal 0~10V thermostat on the market. This give the flexibility for users to choose their own thermostat in order to meet diverse applications.



PN	Part Name
THT420A	Thermostat (2 pipe)
THT420B	Thermostat (2 pipe + MODBUS)

TECHNICAL DATA

42CT Furred-in Ceiling FCU with Plenum 3 Rows (AC)

PERFORMANCE			MODEL: 42CT								
			033	043	053	063	073	083	103	123	143
			--70125 & -R70125								
Air Volume	High	CFM	300	400	500	600	700	800	1000	1200	1400
		ℓ/s	142	189	236	283	330	378	472	566	661
Cooling Capacity (Fluid)*		kW	3.30	4.10	5.00	5.60	6.60	8.10	9.30	10.40	11.50
		Btu/hr	11,270	14,002	17,076	19,125	22,540	27,663	31,761	35,518	39,275
Motor power output		W	24	30	51	55	72	34 x 2	48 x 2	62 x 2	83 x 2
Motor current		Amp	0.29	0.35	0.43	0.49	0.59	0.70	0.84	1.02	1.55
Sound Power at outlet**	High	dB(A)	37.6	39.3	40.5	41.5	42.2	42.8	43.1	43.5	44.5
	Med		35.9	37.8	38.3	39.6	40.2	40.8	40.9	41.5	42.7
	Low		34.4	36.6	36.6	37.8	38.2	38.6	38.7	39.6	40.7
Water Flow		ℓ/s	0.14	0.17	0.21	0.24	0.28	0.35	0.39	0.44	0.49
Water Pressure Drop		kPa	20.1	16.5	26.1	20.6	19.9	26.5	28.7	30.0	28.7
Fan Type		Centrifugal Forward-curved blades									
Motor Type		Permanent Split Capacitor									
Coil	No. of Row		3								
	Working Pressure		1.72 MPa								
	Face Area (m ²)		0.12	0.14	0.16	0.19	0.21	0.26	0.27	0.32	0.35
	Water Volume (ℓ)		0.63	0.71	0.80	0.97	1.05	1.30	1.35	1.56	1.73
Connections	Water In-Out/ Material		3/4" FPT (BSP)/ Brass (Threaded Connections)								
	Condensate Drain/ Material		3/4" MPT (BSP)/ GI Steel (Threaded Connections)								
Cabinet Size	Height	mm	242								
	Width	mm	560								
	Length	mm	781	861	941	1,001	1,181	1,421	1,471	1671	1,831
Casing Material / Thickness		Galvanized Steel/ 0.8 & 1.0mm									
Casing Treatment / External Finish		G60 Galvanized Steel (Z180 Zinc Coating)									
Net Weight		kg	16.7	17.6	19.6	22.2	23.6	30.5	32.6	35.9	38.6

NOTE:

* Based on motor at high speed, standard air and dry coil operation, 5.6°C water temperature rise; entering-air temperature 26.7°C dB; 19.4°C WB; entering water temperature 7.2°C.

** Sound measurement in accordance with JIS8616-2006 Standard (1.5M below the unit bottom)

-- For other design conditions, please apply the selection program to finalize your applications --

Performance Assurance
Rated in accordance with
AHRI Standard Condition

TECHNICAL DATA (cont')

42CT Furred-in Ceiling FCU with Plenum 3 Rows (BLDC)

PERFORMANCE			MODEL: 42CT (BLDC)								
			033	043	053	063	073	083	103	123	143
			-K701E5 & -N701E5								
Air Volume	High	CFM	300	400	500	600	700	800	1000	1200	1400
		l/s	142	189	236	283	330	378	472	566	661
Cooling Capacity (Fluid)*		kW	3.30	4.10	5.00	5.60	6.60	8.10	9.30	10.40	11.50
		Btu/hr	11,270	14,002	17,076	19,125	22,540	27,663	31,761	35,518	39,275
Motor power output		W	50	50	105	105	105	50x2	105x2	105x2	105x2
Motor current		Amp	0.16	0.20	0.27	0.32	0.41	0.45	0.57	0.72	0.89
Sound Power at outlet**	High	dB(A)	37.6	39.3	40.5	41.5	42.2	42.8	43.1	43.5	44.5
	Med		35.9	37.8	38.3	39.6	40.2	40.8	40.9	41.5	42.7
	Low		34.4	36.6	36.6	37.8	38.2	38.6	38.7	39.6	40.7
Water Flow		l/s	0.14	0.17	0.21	0.24	0.28	0.35	0.39	0.44	0.49
Water Pressure Drop		kPa	20.10	16.50	26.10	20.60	19.90	26.50	28.70	30.00	28.70
Fan Type			Centrifugal Forward-curved blades								
Coil	No. of Row		3								
	Working Pressure		1.72 MPa								
	Face Area (m ²)		0.12	0.14	0.16	0.19	0.21	0.26	0.27	0.32	0.35
	Water Volume (l)		0.63	0.71	0.80	0.97	1.05	1.30	1.35	1.56	1.73
Connections	Water In-Out/ Material		3/4" FPT (BSP)/ Brass (Threaded Connections)								
	Condensate Drain/ Material		3/4" MPT (BSP)/ GI Steel (Threaded Connections)								
Cabinet Size	Height	mm	242								
	Width	mm	560								
	Length	mm	781	861	941	1,001	1,181	1,421	1,471	1671	1,831
Casing Material / Thickness			Galvanized Steel/ 0.8 & 1.0mm								
Casing Treatment / External Finish			G60 Galvanized Steel (Z180 Zinc Coating)								
Net Weight		kg	17.7	18.6	20.6	23.2	24.6	31.5	33.6	36.9	39.6



BLDC Motor



THT420 Thermostat

NOTE:

* Based on motor at high speed, standard air and dry coil operation, 5.6°C water temperature rise; entering-air temperature 26.7°C dB; 19.4°C wB; entering water temperature 7.2°C.

** Sound measurement in accordance with JIS8616-2006 Standard (1.5M below the unit bottom)

-- For other design conditions, please apply the selection program to finalize your applications --

Performance Assurance

Rated in accordance with
AHRI Standard Condition

TECHNICAL DATA (cont')

42CT Furred-in Ceiling FCU with Plenum 4 Rows (BLDC)

PERFORMANCE			MODEL: 42CT (BLDC)								
			034	044	054	064	074	084	104	124	144
			-K701E5 & -N701E5								
Air Volume	High	CFM	300	400	500	600	700	800	1000	1200	1400
		ℓ/s	142	189	236	283	330	378	472	566	661
Cooling Capacity (Fluid)*		kW	3.70	4.10	5.00	6.00	6.80	8.20	10.10	10.60	12.40
		Btu/hr	12,636	14,002	17,076	20,491	23,223	28,004	34,493	36,201	42,348
Motor power output		W	50	50	105	105	105	50x2	105x2	105x2	105x2
Motor current		Amp	0.16	0.20	0.27	0.32	0.41	0.45	0.57	0.72	0.89
Sound Power at outlet**	High	dB(A)	36.7	38.9	39.6	40.5	41.3	42.1	42.3	42.5	44.0
	Med		35.1	37.7	37.5	38.4	39.3	40.1	40.3	40.8	42.0
	Low		33.3	36.1	35.6	36.5	37.5	38.4	38.4	39.4	39.9
Water Flow		ℓ/s	0.16	0.18	0.21	0.26	0.29	0.35	0.43	0.45	0.53
Water Pressure Drop		kPa	17.50	12.90	13.20	15.90	20.30	19.50	25.10	20.00	28.70
Fan Type		Centrifugal Forward-curved blades									
Coil	No. of Row		4								
	Working Pressure		1.72 MPa								
	Face Area (m ²)		0.12	0.14	0.16	0.19	0.21	0.26	0.27	0.32	0.35
	Water Volume (ℓ)		0.84	0.95	1.06	1.29	1.40	1.73	1.80	2.08	2.30
Connections	Water In-Out/ Material		3/4" FPT (BSP)/ Brass (Threaded Connections)								
	Condensate Drain/ Material		3/4" MPT (BSP)/ GI Steel (Threaded Connections)								
Cabinet Size	Height	mm	242								
	Width	mm	560								
	Length	mm	781	861	941	1,001	1,181	1,421	1,471	1671	1,831
Casing Material / Thickness		Galvanized Steel/ 0.8 & 1.0mm									
Casing Treatment / External Finish		G60 Galvanized Steel (Z180 Zinc Coating)									
Net Weight		kg	18.2	19.1	21.3	23.9	25.3	32.3	34.4	37.9	40.4



BLDC Motor



THT420 Thermostat

NOTE:

* Based on motor at high speed, standard air and dry coil operation, 5.6°C water temperature rise; entering-air temperature 26.7°C dB; 19.4°C wB; entering water temperature 7.2°C.

** Sound measurement in accordance with JIS8616-2006 Standard (1.5M below the unit bottom)

-- For other design conditions, please apply the selection program to finalize your applications --

Performance Assurance

Rated in accordance with
AHRI Standard Condition

TECHNICAL DATA (cont')

42CTL Furred-in Ceiling FCU with Plenum 4 Rows (BLDC)

PERFORMANCE			MODEL: 42CTL (BLDC)								
			034	044	054	064	074	084	104	124	144
			-K701E5 & -N701E5								
Air Volume	High	CFM	300	400	500	600	700	800	1000	1200	1400
		ℓ/s	142	189	236	283	330	378	472	566	661
Cooling Capacity (Fluid)*		kW	2.40	2.90	3.90	4.90	5.40	6.80	8.10	10.40	11.60
		Btu/hr	8,196	9,904	13,319	16,734	18,442	23,223	27,663	35,518	39,616
Motor power output		W	50	50	105	105	105	50x2	105x2	105x2	105x2
Motor current		Amp	0.16	0.20	0.27	0.32	0.41	0.45	0.57	0.72	0.89
Sound Power at outlet**	High	dB(A)	36.7	38.9	39.6	40.5	41.3	42.1	42.3	42.5	44.0
	Med		35.1	37.7	37.5	38.4	39.3	40.1	40.3	40.8	42.0
	Low		33.3	36.1	35.6	36.5	37.5	38.4	38.4	39.4	39.9
Water Flow		ℓ/s	0.07	0.08	0.10	0.13	0.14	0.18	0.22	0.28	0.30
Water Pressure Drop		kPa	44.60	20.70	40.40	30.50	34.80	38.30	44.40	46.00	57.00
Fan Type			Centrifugal Forward-curved blades								
Coil	No. of Row		4								
	Working Pressure		1.72 MPa								
	Face Area (m ²)		0.12	0.14	0.16	0.19	0.21	0.26	0.27	0.32	0.35
	Water Volume (ℓ)		0.84	0.95	1.06	1.29	1.40	1.73	1.80	2.08	2.30
Connections		Water In-Out/ Material		3/4" FPT (BSP)/ Brass (Threaded Connections)							
		Condensate Drain/ Material		3/4" MPT (BSP)/ GI Steel (Threaded Connections)							
Cabinet Size	Height	mm	242								
	Width	mm	560								
	Length	mm	781	861	941	1,001	1,181	1,421	1,471	1671	1,831
Casing Material / Thickness			Galvanized Steel/ 0.8 & 1.0mm								
Casing Treatment / External Finish			G60 Galvanized Steel (Z180 Zinc Coating)								
Net Weight		kg	18.2	19.1	21.3	23.9	25.3	32.3	34.4	37.9	40.4



BLDC Motor



THT420 Thermostat

NOTE:

* Based on motor at high speed, standard air and wet coil operation; 8.9°C water temperature rise; entering air temperature 24.4°C DB; 17.2°C WB; Entering water temperature 5.5°C.

** Sound measurement in accordance with Standard JIS8616-2006 (1.5m below the unit bottom).

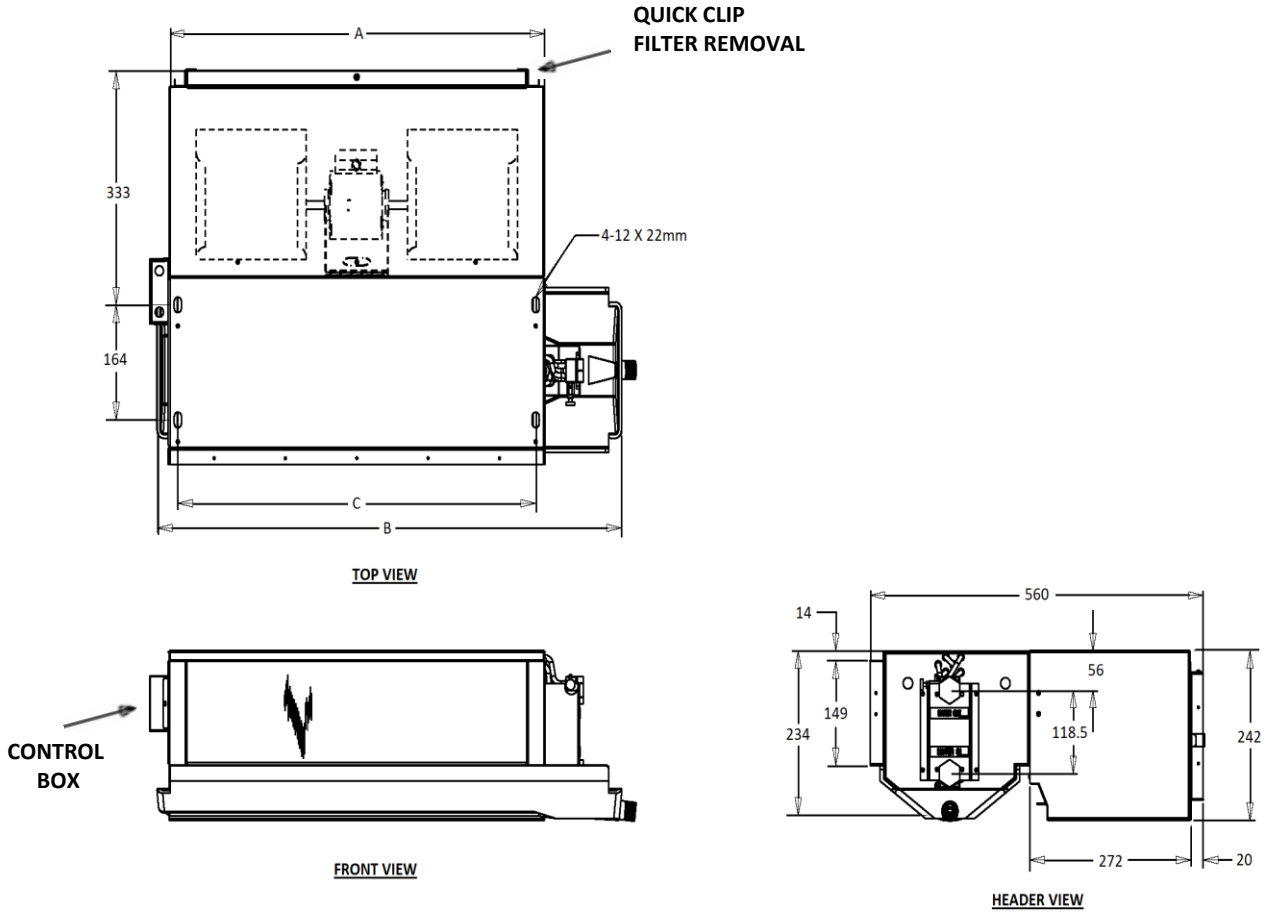
-- For other design conditions, please apply the selection program to finalize your applications --

Performance Assurance

Rated in accordance with
AHRI Standard Condition

UNIT DIMENSIONS AND WEIGHT

42CT-/CTL Furred-in Ceiling FCU with Plenum



MODEL 42CT-/CTL	DIMENSIONS (mm)			NET WEIGHT (kg)	
	A	B	C	3 Rows	4 Rows
03	632	781	602	17.7	18.2
04	712	861	682	18.6	19.1
05	792	941	762	20.6	21.3
06	952	1001	922	23.2	23.9
07	1032	1181	1002	24.6	25.3
08	1272	1421	1242	31.5	32.3
10	1322	1471	1292	33.6	34.4
12	1522	1671	1492	36.9	37.9
14	1682	1831	1652	39.6	40.4

PERFORMANCE RATING

42CT- Furred-in Ceiling Model (3-Rows)

Model 42CT	Speed	ESP Pa	Air Flow (CFM)	Capacity (kW)		Air off FCU (°C)		Water Flow (ℓ/s)	Water Pressure (kPa)
				Total	Sensible	DB	WB		
033	High	50	267	3.3	2.1	13.1	12.6	0.14	20.1
	Medium		206	2.7	1.7	12.3	11.8	0.11	13.8
	Low		114	1.6	1.0	11.0	10.5	0.07	5.3
043	High	50	352	4.1	2.6	13.5	13.0	0.17	16.5
	Medium		276	3.4	2.2	12.8	12.3	0.14	11.5
	Low		178	2.4	1.5	11.7	11.1	0.10	5.9
053	High	50	453	5.0	3.3	13.8	13.3	0.21	26.0
	Medium		346	4.2	2.7	13.0	12.4	0.18	19.3
	Low		256	3.3	2.1	12.1	11.5	0.14	12.4
063	High	50	536	5.6	3.7	14.4	13.7	0.24	20.5
	Medium		432	4.8	3.2	13.6	13.0	0.21	15.9
	Low		273	3.5	2.2	12.4	11.8	0.15	8.4
073	High	50	601	6.6	4.4	13.9	13.3	0.28	19.9
	Medium		475	5.6	3.7	13.1	12.6	0.24	15.3
	Low		341	4.4	2.8	12.2	11.6	0.19	9.3
083	High	50	719	8.1	5.3	13.7	13.2	0.35	26.5
	Medium		552	6.8	4.3	12.8	12.3	0.29	19.4
	Low		355	4.8	3.0	11.7	11.1	0.20	10.0
103	High	50	862	9.3	6.1	14.1	13.5	0.39	28.7
	Medium		667	7.8	5.1	13.2	12.6	0.33	21.5
	Low		472	6.1	3.9	12.2	11.6	0.26	13.7
123	High	50	994	10.4	7.0	14.3	13.7	0.44	29.9
	Medium		815	9.2	6.1	13.6	13.0	0.39	24.0
	Low		606	7.5	4.8	12.6	12.0	0.32	16.7
143	High	50	1139	11.5	7.8	14.7	13.9	0.49	28.7
	Medium		946	10.2	6.8	14.0	13.3	0.43	23.6
	Low		719	8.5	5.6	13.1	12.4	0.36	16.9

NOTE: Air Conditions: EDB/EWB 26.7/19.4°C

Water Conditions: EWT/LWT 7.2/12.8°C

ΔT: 5.6°C

42CT Furred-in Ceiling Model (4-Rows) BLDC Motor

Model 42CT	Speed	ESP Pa	Air Flow (CFM)	Capacity (kW)		Air off FCU (°C)		Water Flow (ℓ/s)	Water Pressure (kPa)
				Total	Sensible	DB	WB		
034	High	50	256	3.7	2.2	11.4	11.0	0.16	17.5
	Medium		188	2.9	1.7	10.6	10.2	0.12	10.5
	Low		104	1.7	1.0	9.6	9.0	0.07	3.7
044	High	50	329	4.1	2.6	12.8	12.4	0.18	12.9
	Medium		269	3.6	2.2	12.2	11.7	0.15	9.6
	Low		166	2.4	1.5	11.0	10.4	0.10	4.5
054	High	50	431	5.0	3.2	13.6	13.0	0.21	13.2
	Medium		334	4.2	2.6	12.7	12.2	0.18	9.1
	Low		250	3.3	2.1	11.9	11.3	0.14	5.9
064	High	50	529	6.0	3.9	13.7	13.1	0.26	15.9
	Medium		427	5.2	3.3	13.0	12.4	0.22	11.8
	Low		263	3.6	2.2	11.8	11.1	0.15	5.7
074	High	50	591	6.8	4.4	13.6	13.0	0.29	20.3
	Medium		451	5.7	3.6	12.7	12.1	0.24	14.4
	Low		306	4.2	2.6	11.7	11.0	0.18	8.0
084	High	50	675	8.2	5.2	13.2	12.6	0.35	19.5
	Medium		507	6.6	4.2	12.3	11.7	0.28	12.8
	Low		324	4.6	2.8	11.2	10.6	0.20	6.3
104	High	50	832	10.1	6.4	13.2	12.7	0.43	25.1
	Medium		654	8.5	5.3	12.3	11.8	0.36	18.8
	Low		469	6.6	4.1	11.5	10.8	0.28	11.5
124	High	50	934	10.6	6.9	13.7	13.1	0.45	20.0
	Medium		758	9.2	5.9	13.0	12.4	0.39	15.3
	Low		569	7.5	4.7	12.1	11.5	0.32	10.3
144	High	50	1085	12.4	8.0	13.7	13.1	0.53	28.7
	Medium		913	11.0	7.1	13.1	12.4	0.47	23.6
	Low		714	9.2	5.9	12.3	11.6	0.39	17.0

NOTE: Air Conditions: EDB/EWB 26.7/19.4°C

Water Conditions: EWT/LWT 7.2/12.8°C

ΔT: 5.6°C

-- For other design conditions, please apply the selection program to finalize your applications --

PERFORMANCE RATING (cont')

42CTL Furred-in Ceiling Model (4-Rows) District Cooling Application BLDC Motor

Model 42CTL	Speed	ESP Pa	Air Flow (CFM)	Capacity (kW)		Air off FCU (°C)		Water Flow (ℓ/s)	Water Pressure (kPa)
				Total	Sensible	DB	WB		
034	High	50	258	2.4	1.8	12.2	11.5	0.07	44.6
	Medium		189	2.0	1.4	11.3	10.7	0.05	28.5
	Low		105	1.2	0.9	10.0	9.4	0.03	11.5
044	High	50	331	2.9	2.2	12.7	12.0	0.08	20.7
	Medium		272	2.5	1.9	12.1	11.4	0.07	15.7
	Low		167	1.8	1.3	11.1	10.4	0.05	7.6
054	High	50	434	3.9	2.9	12.6	11.9	0.10	40.4
	Medium		336	3.2	2.4	11.9	11.2	0.09	28.5
	Low		252	2.6	1.9	11.1	10.5	0.07	18.7
064	High	50	533	4.9	3.6	12.5	11.8	0.13	30.5
	Medium		430	4.2	3.1	11.8	11.2	0.11	22.6
	Low		265	2.9	2.1	10.7	10.1	0.08	10.9
074	High	50	595	5.4	4.0	12.5	11.8	0.14	34.8
	Medium		455	4.5	3.3	11.7	11.1	0.12	24.4
	Low		308	3.3	2.4	10.7	10.1	0.09	13.6
084	High	50	681	6.8	4.9	11.7	11.2	0.18	38.3
	Medium		511	5.5	3.9	10.9	10.4	0.15	26.0
	Low		326	3.9	2.7	9.9	9.3	0.10	12.9
104	High	50	839	8.1	5.9	12.1	11.4	0.22	44.4
	Medium		659	6.8	4.9	11.3	10.7	0.18	33.2
	Low		473	5.3	3.8	10.4	9.8	0.14	20.8
124	High	50	941	10.4	7.3	10.8	10.4	0.28	46.0
	Medium		763	8.9	6.2	10.2	9.7	0.24	35.2
	Low		574	7.1	4.9	9.5	8.9	0.19	23.6
144	High	50	1094	11.2	8.0	11.6	11.0	0.30	57.0
	Medium		920	9.9	7.0	11.0	10.4	0.27	46.3
	Low		720	8.3	5.8	10.2	9.6	0.22	34.0

NOTE: Air Conditions: EDB/EWB 24.4/17.2°C

Water Conditions: EWT/LWT 5.5/14.4°C

ΔT: 8.9°C

-- For other design conditions, please apply the selection program to finalize your applications --

ELECTRICAL DATA

42CT-/CTL MOTOR DATA (AC)

Model	Unit Size	Power Supply (V-Ph-Hz)	Fan Speed	Fan Speed (rpm) 3 Row	Fan Speed (rpm) 4 Row	Nominal Power Output (W)	Power Input (W) 3 Rows	Power Input (W) 4 Rows	Running Amps		Remarks
									3 rows	4 rows	
42CT- /42CTL	03	230-1-50	Hi	1126	1140	24	70	69	0.30	0.30	* Total motor amps and watts shown for units with 2 motors (size 08 to 14).
			Med	1048	1065		60	59	0.27	0.27	
			Low	959	974		49	48	0.23	0.23	
	04		Hi	1167	1185	30	79	74	0.34	0.32	
			Med	1078	1080		67	68	0.30	0.30	
			Low	981	988		55	56	0.25	0.26	
	05		Hi	1250	1256	51	101	99	0.44	0.43	
			Med	1118	1134		87	84	0.40	0.39	
			Low	1035	1037		77	76	0.36	0.35	
	06		Hi	1279	1241	55	109	116	0.48	0.51	
			Med	1166	1106		98	107	0.43	0.47	
			Low	1075	1000		81	85	0.36	0.38	
	07		Hi	1309	1291	72	139	141	0.61	0.62	
			Med	1156	1129		116	115	0.52	0.52	
			Low	1049	1016		97	96	0.44	0.44	
	08 *		Hi	1183	1152	34(x2)	164	164	0.72	0.72	
			Med	1067	1032		142	142	0.64	0.64	
			Low	960	957		119	119	0.55	0.55	
	10 *		Hi	1304	1310	48 (x2)	198	196	0.87	0.86	
			Med	1151	1151		175	169	0.77	0.74	
			Low	1060	1040		147	148	0.65	0.65	
12 *	Hi	1324	1323	62 (x2)	241	245	1.06	1.08			
	Med	1212	1205		215	218	0.94	0.95			
	Low	1098	1071		189	191	0.84	0.85			
14 *	Hi	1363	1358	83 (x2)	325	325	1.60	1.60			
	Med	1232	1220		263	266	1.15	1.16			
	Low	1106	1104		224	226	0.98	0.99			

Based on 50PA

42CT-/CTL 3R & 4R- Dry Coil CFM

ELECTRICAL DATA (cont²)

42CT-/CTL MOTOR DATA (BLDC)

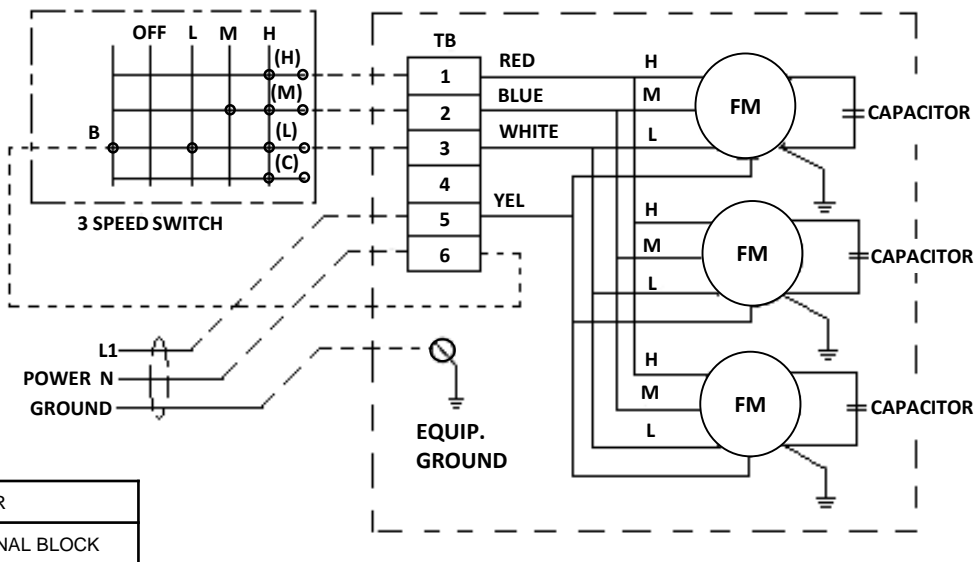
Model	Unit Size	Power Supply (V-Ph-Hz)	Fan Speed	Fan Speed (rpm)	Fan Speed (rpm)	Nominal Power Output (W)	Power Input (W)	Power Input (W)	Running Amps		Remarks
				3 Row	4 Row		3 Rows	4 Rows	3 rows	4 rows	
42CT- /42CTL	03	230-1-50	Hi	1119	1131	50	36	36	0.35	0.37	* Total motor amps and watts shown for units with 2 motors (size 08 to 14).
			Med	1055	1079		28	28	0.29	0.29	
			Low	998	1020		20	21	0.22	0.22	
	04		Hi	1154	1159	50	47	49	0.45	0.49	
			Med	1088	1102		37	38	0.38	0.39	
			Low	1030	1049		26	28	0.27	0.28	
	05		Hi	1243	1254	105	63	63	0.59	0.62	
			Med	1165	1167		48	48	0.45	0.49	
			Low	1093	1083		35	35	0.33	0.35	
	06		Hi	1237	1201	105	71	69	0.67	0.66	
			Med	1149	1110		54	53	0.52	0.55	
			Low	1067	1043		38	37	0.39	0.38	
	07		Hi	1267	1303	105	92	94	0.86	0.90	
			Med	1204	1205		69	70	0.64	0.70	
			Low	1093	1146		47	51	0.49	0.51	
	08 *		Hi	1167	1159	50 (X2)	96	97	0.80	0.79	
			Med	1099	1120		78	79	0.64	0.66	
			Low	1034	1032		55	55	0.47	0.47	
	10 *		Hi	1292	1248	105 (X2)	128	124	1.07	1.01	
			Med	1235	1159		110	98	0.90	0.79	
			Low	1138	1051		78	68	0.64	0.57	
	12 *		Hi	1299	1286	105 (X2)	159	154	1.33	1.26	
			Med	1238	1190		132	121	1.11	1.00	
			Low	1143	1098		93	84	0.78	0.69	
14 *	Hi	1378	1342	105 (X2)	194	189	1.58	1.54			
	Med	1301	1252		157	149	1.27	1.22			
	Low	1179	1129		111	99	0.91	0.84			

Based on 50PA

42CT-/CTL 3R & 4R- Dry Coil CFM

WIRING DIAGRAM

42CT-/CTL Series Wiring Diagram (AC Motor)

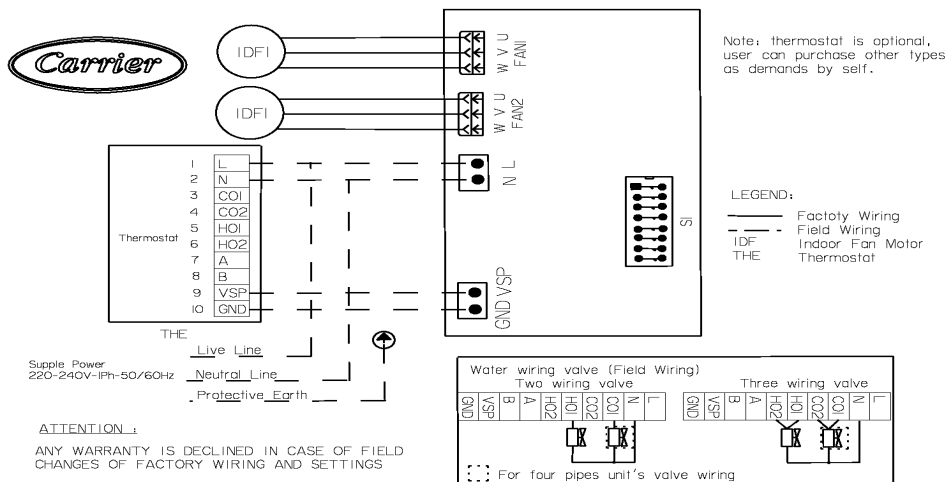


FM	MOTOR
TB	TERMINAL BLOCK

NOTE:

1. Caution – Disconnect power before servicing.
2. Use 14 AWG, 75°C MIN, copper conductor.
3. Motor(s) thermally protected.
4. Provide disconnect means and over current protection as required.
5. 42CT-/CTL/CGT 003 to 006 are single motor; 42CET008 to 014 are double motors. Whereas 42CGT008 to 010 are double motor & 012 is three fan motors.
6. Snap apart carefully at hinge to separate cover from the control box.

42CT-/CTL Series Wiring Diagram (BLDC Motor)



ATTENTION:
ANY WARRANTY IS DECLINED IN CASE OF FIELD CHANGES OF FACTORY WIRING AND SETTINGS

NOTE:

1. Caution – Disconnect power before servicing.
2. Use 14 AWG, 75°C MIN, copper conductor.
3. Motor(s) thermally protected.
4. Provide disconnect means and over current protection as required.
5. 42CT-/CTL 003 to 006 are single motor; 42CT-/CTL 008 to 014 are double motors.
6. Snap apart carefully at hinge to separate cover from the control box.

WIRING DIAGRAM

Electrical Data (BLDC Motor DIP Switch Setting)

DIP6	ON	105W	OFF	50W	DIP SWITCH		
UNIT	ESP	RPM	DIP 1	DIP 2	DIP 3	DIP 4	DIP 5
Factory Setting		300	OFF	OFF	OFF	OFF	OFF
42CT003	12Pa	760	OFF	OFF	ON	OFF	OFF
	30Pa	920	ON	OFF	ON	OFF	OFF
	50Pa	1080	OFF	ON	ON	OFF	OFF
42CT004	12Pa	860	ON	ON	ON	OFF	OFF
	30Pa	970	OFF	OFF	OFF	ON	OFF
	50Pa	1120	ON	OFF	OFF	ON	OFF
42CT005	12Pa	910	OFF	ON	OFF	ON	OFF
	30Pa	1010	ON	ON	OFF	ON	OFF
	50Pa	1160	OFF	OFF	ON	ON	OFF
42CT006	12Pa	940	ON	OFF	ON	ON	OFF
	30Pa	1050	OFF	ON	ON	ON	OFF
	50Pa	1180	ON	ON	ON	ON	OFF
42CT007	12Pa	1030	OFF	OFF	OFF	OFF	ON
	30Pa	1130	ON	OFF	OFF	OFF	ON
	50Pa	1230	OFF	ON	OFF	OFF	ON
42CT008	12Pa	910	ON	ON	OFF	OFF	ON
	30Pa	1020	OFF	OFF	ON	OFF	ON
	50Pa	1160	ON	OFF	ON	OFF	ON
42CT010	12Pa	1020	OFF	ON	ON	OFF	ON
	30Pa	1130	ON	ON	ON	OFF	ON
	50Pa	1250	OFF	OFF	OFF	ON	ON
42CT012	12Pa	1030	ON	OFF	OFF	ON	ON
	30Pa	1150	OFF	ON	OFF	ON	ON
	50Pa	1250	ON	ON	OFF	ON	ON
42CT014	12Pa	1120	OFF	OFF	ON	ON	ON
	30Pa	1230	ON	OFF	ON	ON	ON
	50Pa	1310	OFF	ON	ON	ON	ON

GUIDE SPECIFICATIONS

HVAC GUIDE SPECIFICATIONS

Size Range: 300 to 1400 Nominal Cfm

42CT-/CTL Models

Standard base unit shall be equipped with a 3-row or 4-row coil for installation in a 2-pipe system. Coils shall have 7mm copper tubes, aluminium blue fins bonded to the tubes by mechanical expansion. Each coil shall have a manual air vent and threaded connections field piping (refer to Technical Data). Working pressure 1.72 MPa, 0.105mm fin thickness and 0.24mm tube wall thickness.

PART 1 – GENERAL

1.1 System Description

Horizontal, room fan coil unit with furred-in, above ceiling for ducting, or with cabinet for exposed ceiling installations.

1.2 Quality Assurance

Unit shall be tested in accordance with AHRI Standard 440. Each coil shall be factory tested for leakage at 400 psig air pressure with coil submerged in water. Factory is ISO-9001 certified.

1.3 Delivery Storage and Handling

Each unit shall be individually packaged from point of manufacture. Unit shall be handled and stored in accordance with the manufacturer's instructions.

PART 2 - PRODUCTS

EQUIPMENT

2.1 General

Factory assembled, horizontal, blow-thru type fan coil for furred-in, exposed ceiling or ducted installations. Unit shall be complete with water coil(s), fan(s), motor(s), drain pan, filters and all required wiring, collars for ducted units. Unit insulation are UL94 compliance.

2.2 42CT-, CTL Furred-in Units

Base 42CT-, CTL unit with factory installed plenum section and cleanable filter as shown on equipment drawings. The plenum shall be rear air return. Shall enclose the fan/motor assemblies. Units have 12mm PU insulation on coil top panel and ¼" PE insulation 28.6kg/m³ density on the drain pan. Unit shall have a removable panel to provide access to fan/motor assemblies and unit identification label.

2.3 Fan

Direct driven, double width fan wheels with forward curved blades shall be statically and dynamically balanced. Fan scrolls and wheels shall be constructed of galvanized steel.

GUIDE SPECIFICATIONS

2.4 Coils

Standard base unit shall be equipped with a 3-row or 4-row coil for installation in a 2 pipe system. All coils shall have 7mm seamless copper tubes and “dual sine wave” corrugated aluminum blue fin plates. Coil fins are mechanically bonded to tube joints. All coils are tested with Nitrogen (N2) underwater at 400psi while submerged in water. Coils performance shall be rated in accordance to AHRI410 Standard.

2.5 Drain Pan

Galvanized drain pan covers entire length & width of coil till the headers. Drain pan is powder coated and is insulated with ¼” closed cell PE insulation on the outside. The drain pan is with ¾” male pipe thread connection

2.6 Operating Characteristics

A one coil unit installed in a 2-pipe system shall be capable of providing cooling as determined by the operating mode of the central water supply system.

2.7 Electrical Requirements

Standard unit shall operate on 230V (42CT Series), single phase, 50Hz electric power. All internal wiring shall be in flexible conduit.

2.8 Motor(s)

Fan motors shall be 3-speed, 230V (42CT Series), single phase, 50Hz, permanent split capacitor type, with ball type bearings and oversized oil reservoirs to ensure lubrication. The fan motor(s) shall be equipped with integral automatic temperature reset for motor protection.

Model	Unit Size	Motor Insulation Class	End Closure Type
42CT Series	All	B	Open Drip Proof

42CT ECM Motor & Thermostat



2.9 Filter

Permanent washable Nylon filters (Honeycomb Polyolefin Network) with 6mm thickness and Ø4 frame material hard steel wire (BS EN10244 Class D or JIS G3532 class 2).





Carrier International Sdn. Bhd. (3385-T)
Lot 4, Jalan P/6, 43650 Bandar Baru Bangi,
Selangor Darul Ehsan, Malaysia.
Tel: 03-8913 7600

42CT-&CTL/NON- EUROVENT	NIL
NOV	2020