



42CT SERIES [300 to 1400 CFM]

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







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, airconditioning 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 guality 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 Eurovent 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.



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42CT-/CTL 4 Row Ducted Unit are Eurovent Certified

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 (42CT-/CTL), 3 row coils (Non-Eurovent)
- 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



- Higher efficiency & reliability:Electronic Commutated Motor (42CT-/CTL) option
- · 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



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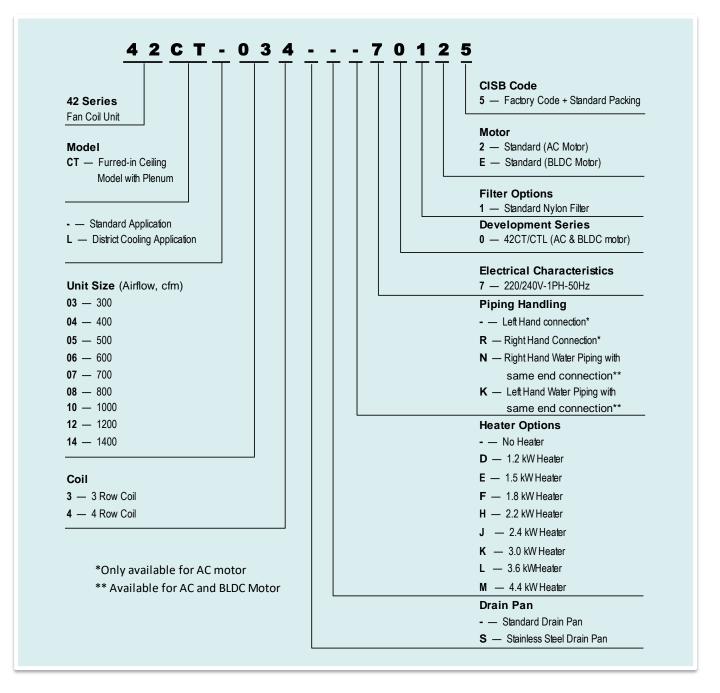
Eurovent Certificate

IQ Net Certificate

MODEL NUMBER NOMENCLATURE

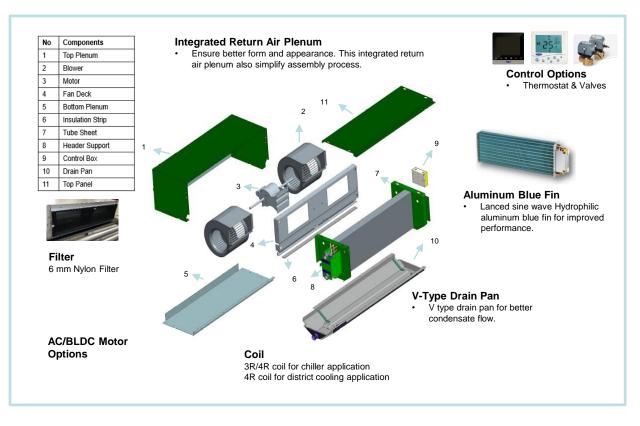


MODEL 42CT-/CTL



Carrier Turn to the Experts.

42CT EXPLODED VIEW & MAIN FEATURES



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. Furthermore, 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 strengthtened with reinforcing ribs that provides additional structure strength.
- It adopts NSK bearings which ensuring small vibration and low noise in 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.







				M	ODEL: 4	2CT						
PERFORMANCE			034	044	054	064	074	084	104	124	144	
Air Volume	Llink	CFM	300	400	500	600	700	800	1000	1200	1400	
Air volume	High	{/s	142	189	236	283	330	378	472	566	661	
Cooling Conc	oity (Eluid)*	kW	3.30	3.80	4.7	5.8	6.6	7.7	9.6	10.4	12.1	
Cooling Capa	icity (Fiuld)	Btu/hr	11,270	12,978	16,051	19,808	22,540	26,297	32,786	35,518	41,324	
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	High		36.7	38.9	39.6	40.5	41.3	42.1	42.3	42.5	44.0	
Power at	Med	dB(A)	35.1	37.7	37.5	38.4	39.3	40.1	40.3	40.8	42.0	
outlet**	Low		33.3	36.1	35.6	36.5	37.5	38.4	38.4	39.4	39.9	
Water Flow		{/s	0.16	0.18	0.22	0.28	0.31	0.37	0.46	0.50	0.58	
Water Pressu	ire Drop	kPa	17.00	14.00	14.50	18.40	23.50	21.70	28.1	23.90	33.60	
Fan Type			Centrifugal Forward-curved blades									
Motor Type			Permanent Split Capacitor									
	No. of Row		4									
Coil	Working Pressure		1.72 MPa									
Coil	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	
	Water In-Out/ Mate	erial	3/4" FPT (BSP)/ Brass (Threaded Connections)									
Connections	Condensate Drain/ Material	1	3/4" MPT (BSP)/ GI Steel (Threaded Connections)									
	Height	mm	242									
Cabinet Size	Width	mm					560					
Length		mm	781	861	941	1,001	1,181	1,421	1,471	1671	1,831	
Casing Mater	Casing Material / Thickness				Galvanized Steel/ 0.8 & 1.0mm							
Casing Treat	ment / External Finis	sh			G60 (Galvanize	d Steel (Z	180 Zinc C	Coating)			
Net Weight		kg	17.2	18.1	20.3	22.9	24.3	31.3	33.4	36.9	39.4	

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

NOTE:

Based on motor at high speed, standard air and dry coil operation; 5.0°C water temperature rise; entering air temperature 27.0°C DB; 19.0°C WB; Entering water temperature 7.0°C (EUROVENT CONDITION)

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





PERFORMANCE			MODEL: 42CTL (District Cooling Application)								
			034	044	054	064	074	084	104	124	144
Air Volume	Llink	CFM	300	400	500	600	700	800	1000	1200	1400
Air volume	High	{/s	142	189	236	283	330	378	472	566	661
Cooling Cond	ooity (Eluid)*	kW	2.40	2.80	3.80	4.80	5.30	6.70	7.90	10.60	11.50
Cooling Capa		Btu/hr	8,196	9,563	12,978	16,393	18,100	22,882	26,980	36,201	39,275
Motor nomina	al power output	W	24	30	51	55	72	34 x 2	48 x 2	62 x 2	83 x 2
Motor current	t	Amp	0.29	0.35	0.43	0.49	0.59	0.70	0.84	1.02	1.55
	High		36.7	38.9	39.6	40.5	41.3	42.1	42.3	42.5	44.0
Sound Pressure **	Med	dB(A)	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	0.06	0.07	0.10	0.13	0.14	0.18	0.21	0.28	0.30
Water Pressu	ire Drop	kPa	40.60	19.00	37.80	29.20	33.70	37.50	42.10	46.50	58.40
Fan Type		-	Centrifugal Forward-curved blades								
Motor Type			Permanent Split Capacitor								
	No. of Row		4								
Coil	Working Pressure	1.72 Mpa									
Coll	Face Area (m²)		0.12	0.14	0.16	0.19	0.21	0.26	0.27	0.32	0.35
	Water Volume (ł)		0.84	0.95	1.06	1.29	1.40	1.73	1.80	2.08	2.30
	Water In-Out/ Mater	ial	3/4" FPT (BSP)/ Brass (Threaded Connections)								
Connections	Condensate Drain/ Material		3/4" MPT (BSP)/ GI Steel (Threaded Connections)								
	Height	mm	242								
Cabinet Size	Width	mm					560)			
	Length	mm	781	861	941	1,001	1,181	1,421	1,471	1671	1,831
Casing Mater	Galvanized Steel/ 0.8 & 1.0mm										
Casing Treat	ment / External Finisl	า	G60 Galvanized Steel (Z180 Zinc Coating)								
Net Weight		kg	17.2	18.1	20.3	22.9	24.3	31.3	33.4	36.9	39.4

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

NOTE:

* Based on motor at high speed, standard air and dry coil operation, 9°C water temperature rise; entering-air temperature 24.0°C dB;

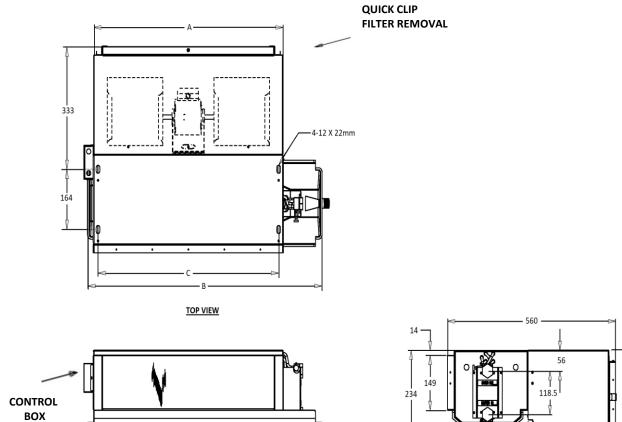
18.0°C wB; entering water temperature 5.5°C (EUROVENT CONDITION).

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





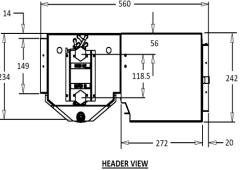




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42CT-/CTL Furred-in Ceiling FCU with Plenum

FRONT VIEW



MODEL		NET WEIGHT (kg)		
42CT-/CTL	Α	В	С	4 Rows
03	632	781	602	18.2
04	712	861	682	19.1
05	792	941	762	21.3
06	952	1001	922	23.9
07	1032	1181	1002	25.3
08	1272	1421	1242	32.3
10	1322	1471	1292	34.4
12	1522	1671	1492	37.9
14	1682	1831	1652	40.4



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

Model		ESP	Air Flow	Capaci	ty (kW)	Air off	FCU (°C)	Water	Water
42CT	Speed	(Pa)	(CFM)	Total	Sensible	DB	WB	Flow (ℓ/s)	Pressure (kPa)
	High		255	3.8	2.4	10.8	10.4	0.18	22.2
03	Medium	50	187	2.9	1.8	10.1	9.5	0.14	13.3
	Low		104	1.7	1.1	9.1	8.5	0.08	4.7
	High		328	4.2	2.8	12.2	11.7	0.20	16.9
04	Medium	50	269	3.6	2.4	11.5	11.0	0.17	12.5
	Low		166	2.4	1.6	10.5	9.7	0.12	5.7
	High		430	5.1	3.5	12.9	12.3	0.24	17.1
05	Medium	50	333	4.3	2.8	12.1	11.4	0.20	12.0
	Low		249	3.4	2.2	11.2	10.5	0.16	7.7
	High		529	6.2	4.2	13.1	12.4	0.29	20.4
06	Medium	50	426	5.3	3.6	12.3	11.7	0.25	15.5
	Low		263	3.6	2.4	11.1	10.4	0.17	7.4
	High	50	590	7.0	4.7	12.9	12.3	0.33	25.9
07	Medium		451	5.8	3.8	12.0	11.4	0.28	18.4
	Low		306	4.3	2.8	11.0	10.3	0.20	10.3
	High		675	8.3	5.5	12.6	12.0	0.40	24.1
08	Medium	50	506	6.8	4.4	11.6	11.0	0.32	16.6
	Low		323	4.7	3.0	10.5	9.8	0.22	8.2
	High		832	10.2	6.8	12.6	12.0	0.49	31.5
10	Medium	50	653	8.6	5.7	11.7	11.1	0.41	23.5
	Low		469	6.7	4.3	10.8	10.1	0.32	15.0
	High		933	10.9	7.4	13.1	12.4	0.52	25.5
12	Medium	50	757	9.4	6.3	12.3	11.7	0.45	19.7
	Low		569	7.6	5	11.4	10.7	0.36	13.4
	High		1084	12.6	8.6	13.1	12.4	0.60	36.4
14	Medium	50	912	11.2	7.6	12.4	11.7	0.54	29.7
	Low	1	713	9.4	6.3	11.6	10.9	0.45	21.8

NOTE: Air Conditions: EDB/EWB 27.0/19.0°C

Water Conditions: EWT/LWT 7.0/12.0°C Δ T: 5.0°C



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

Model		ESP	Air Flow	Capaci	ty (kW)	Air off	FCU (°C)	Water	Water
42CTL	Speed	(Pa)	(CFM)	Total	Sensible	DB	WB	Flow (ℓ/s)	Pressure (kPa)
	High		258	2.6	1.7	12.5	12	0.07	50.7
03	Medium	50	189	2.1	1.3	11.6	11.1	0.06	32.9
	Low		105	1.3	0.8	10.2	9.7	0.04	13.3
	High		332	3.1	2.1	13.1	12.6	0.08	23.1
04	Medium	50	272	2.7	1.8	12.5	12	0.07	17.7
	Low		168	1.9	1.2	11.3	10.8	0.05	8.8
	High		435	4.1	2.7	13	12.5	0.11	44.1
05	Medium	50	337	3.5	2.3	12.2	11.7	0.09	32.4
	Low	1	252	2.8	1.8	11.4	10.8	0.08	21.5
	High		534	5.2	3.4	12.8	12.3	0.14	34.1
06	Medium	50	431	4.5	2.9	12.1	11.7	0.12	25.5
	Low		266	3.2	2	10.9	10.4	0.08	12.6
	High		596	5.8	3.8	12.9	12.4	0.15	37.8
07	Medium	50	455	4.8	3.1	12.1	11.6	0.13	27.6
	Low]	309	3.6	2.3	11	10.5	0.1	15.7
	High		682	7.3	4.6	12	11.7	0.19	42.5
08	Medium	50	511	6	3.7	11.1	10.7	0.16	29.9
	Low		326	4.3	2.6	10	9.5	0.11	15.1
	High		840	8.6	5.5	12.5	12	0.23	48.6
10	Medium	50	660	7.3	4.6	11.6	11.2	0.19	37
	Low		474	5.8	3.6	10.7	10.1	0.15	24.2
	High		942	11.2	6.9	11.2	10.9	0.3	50.9
12	Medium	50	764	9.6	5.9	10.5	10.2	0.25	39
	Low		575	7.7	4.7	9.7	9.2	0.2	27
	High		1095	12	7.5	11.9	11.6	0.32	62.8
14	Medium	50	921	10.6	6.7	11.3	10.9	0.28	51.2
	Low]	721	8.9	5.5	10.6	10.1	0.23	37.5

NOTE: Air Conditions: EDB/EWB 24.0/18.0°C

Water Conditions: EWT/LWT 5.5/14.5°C

∆T: 9.0°C

ELECTRICAL DATA



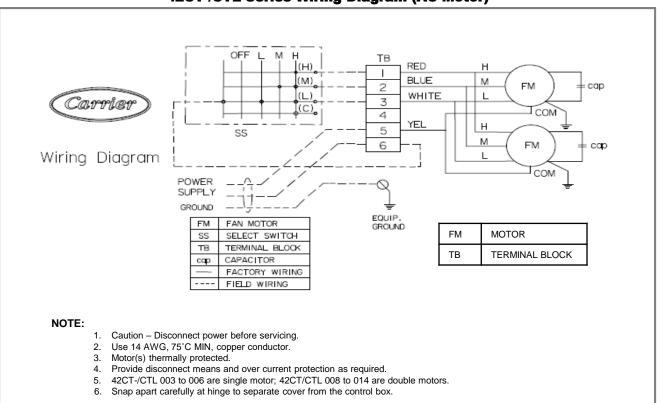
42CT-/CTL MOTOR DATA

Model	Unit Size	Power Supply (V- Ph-Hz)	Fan Speed	Fan Speed (rpm)	Nominal Power Output (W)	Power Input (W)	Running Amps 42CT-/CTL 4 rows	Remarks
			Hi	1140		69	0.300	
	03		Med	1065	24	59	0.270	
			Low	974		48	0.230	
			Hi	1185		74	0.324	
	04		Med	1080	30	68	0.303	
			Low	988		56	0.256	
			Hi	1256		99	0.431	
	05		Med	1134	51	84	0.385	* Total motor amps and watts shown for units with 2 motors (size 08 to 14).
			Low	1037		76	0.353	
	06		Hi	1241	55	116	0.506	
			Med	1106		107	0.468	
			Low	1000		85	0.379	
	07		Hi	1291		141	0.620	
42CT-/42CTL		230-1-50	Med	1129	72	115	0.520	
			Low	1016		96	0.440	
	08*		Hi	1152	34 (x2)	164	0.720	
			Med	1032		142	0.640	
			Low	957		119	0.550	
			Hi	1310		196	0.860	
	10*		Med	1151	48 (x2)	169	0.740	
			Low	1040		148	0.650	
			Hi	1323		245	1.080	
	12*		Med	1205	62 (x2)	218	0.950	
			Low	1071		191	0.850	
			Hi	1358		325	1.600	
	14*		Med	1220	83 (x2)	266	1.160	
			Low	1104		226	0.990	

Based on 50PA 42CT/CTL 4R – Dry Coil CFM

WIRING DIAGRAM





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



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 Eurovent standard. 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.



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 Eurovent 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 $\frac{1}{4}$ " closed cell PE insulation on the outside. The drain pan is with $\frac{3}{4}$ " male pipe thread connection

2.6 **Operating Characteristics**

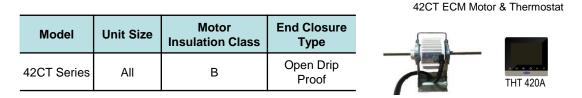
A one coil unit installed in a 2-pipe system shall be capable of providing cooling as determined by the operating mode of the central water supply system.

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.



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).





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42CT-&CTL/EUROVENT	NIL
NOV	2020