



# HFCA

## *Chilled Water Fan Coil Units*

HFCA 400-1,200 CFM  
Concealed Type  
HFCA Series 50 Hz





# Model Nomenclature

H   F   C   A   0   4   C   0   0   1   0   A  
 1   2   3   4   5   6   7   8   9   10   11   12

### Digit 1 - Position

H = Horizontal

### Digit 2 - Unit Type

F = Fan Coil

### Digit 3 - Casing

C = Concealed

### Digit 4 - Development Sequence

A = Development Sequence

### Digit 5, 6 - Size / Nominal Airflow

04 = 400 CFM  
 06 = 600 CFM  
 08 = 800 CFM  
 10 = 1,000 CFM  
 12 = 1,200 CFM

### Digit 7 - Coil Row, Connection Side

C = 3 Row Cooling, Right Hand  
 D = 3 Row Cooling, Left Hand  
 E = 4 Row Cooling, Right Hand  
 F = 4 Row Cooling, Left Hand

### Digit 8 - Electric Heater

0 = No Electric Heater

### Digit 9 - Motor Size

0 = Standard Motor  
 1 = Oversized Motor

### Digit 10 - Voltage / Phase / Hertz

1 = 220 / 1 / 50  
 2 = 220 / 1 / 60

### Digit 11 - Plenum / Filter

0 = Without Return Plenum  
 A = With Return Plenum

### Digit 12 - Design Sequence

A = Design Sequence

# General Data

## Product Specification

MODEL		HFCA04	HFCA06	HFCA08	HFCA10	HFCA12
RATED - Volts/Ph/Hz		220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50	220-240/1/50
<b>SYSTEM DATA</b>						
Nominal Airflow	cfm	400	600	800	1,000	1,200
Cooling Capacity	Btu/h	12,000	18,000	24,000	30,000	36,000
Water Inlet Connection Size	in	5/8	5/8	5/8	5/8	5/8
Water Outlet Connection Size	in	5/8	5/8	5/8	5/8	5/8
Water Connection Size		Brazed	Brazed	Brazed	Brazed	Brazed
<b>INDOOR COIL</b>						
Fin Type		Slit	Slit	Slit	Louver	Louver
Fins per inch*						
3-Row coil		12	12	15	18	18
4-Row coil		14	15	16	15	15
Drain Connection Size	in	1/2	1/2	1/2	1/2	1/2
<b>FAN</b>						
Fan Type		Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
No. used		2	2	2	2	2
Drive Type		Direct	Direct	Direct	Direct	Direct
<b>STANDARD FAN MOTOR</b>						
Qty of Motor		1	1	1	1	1
Motor Power	W	13	47	59	162	186
No. of Speed		3	3	3	4	4
V/ph/Hz		220/1/50	220/1/50	220/1/50	220/1/50	220/1/50
RLA/LRA		0.20/0.35	0.49/0.71	0.56/0.69	1.36/2.31	1.35/2.41
<b>DIMENSION (H x W x D)</b>						
Packing (Shipping)	mm	295 x 1,000 x 498	324 x 1,000 x 498	324 x 1,160 x 498	335 x 1,158 x 565	335 x 1,311 x 565
Packing - with plenum (Shipping)	mm	335 x 1,010 x 565	335 x 1,010 x 565	335 x 1,311 x 565	311 x 1,111 x 641	311 x 1,264 x 641
Unit (Net)	mm	230 x 946 x 445	260 x 946 x 445	260 x 1,098 x 445	258 x 1,098 x 531	258 x 1,251 x 531
Unit - with plenum (Net)	mm	230 x 946 x 510	260 x 946 x 510	260 x 1,251 x 510	300 x 1,098 x 625	300 x 1,251 x 625
<b>WEIGHT</b>						
Unit : 3-row coil (Net)	kg	17	20	23	26	28
Unit : 4-row coil (Net)	kg	18	22	25	28	30
Unit : 3-row coil with plenum (Net)	kg	23	27	32	38	42
Unit : 4-row coil with plenum (Net)	kg	24	29	34	40	44

\* Note : 1. 3-Row coil is standard coil  
 2. 4-Row coil is optional coil  
 3. Return air plenum is optional  
 4. Product design and specification are subject to change without notice.



# Performance Data

## Cooling Capacities

### Models HFCA04-12

TC = Total Capacity, MBH  
 SC = Sensible Capacity, MBH  
 GPM = Water Flow Rate, gpm  
 PD = Water Pressure Drop, Ft of Water  
 EWT = Entering Water Temperature  
 WTR = Water Temperature Rise

#### Cooling Capacity for 3-Row Coil

EWT (F)	Unit Size	Rated Airflow (CFM)	WTR (F)	Entering Air Temp - EDB/EWB (F)															
				72/61				74/63				80/67				84/71			
				TC	SC	GPM	PD	TC	SC	GPM	PD	TC	SC	GPM	PD	TC	SC	GPM	PD
40	04	400	8	11.71	8.69	2.92	9.29	13.56	9.29	3.38	11.99	17.49	11.19	4.35	18.67	21.77	12.33	5.42	27.38
			10	10.61	8.20	2.11	5.28	12.38	8.77	2.47	6.91	16.35	10.70	3.26	11.20	20.64	11.84	4.11	16.80
			12	9.44	7.70	1.57	3.13	11.15	8.24	1.85	4.18	15.11	10.18	2.51	7.07	19.44	11.35	3.23	10.97
			15	7.52	6.90	1.00	1.43	9.13	7.41	1.21	2.00	13.13	9.37	1.74	3.74	17.45	10.55	2.32	6.12
	06	600	8	16.72	12.59	4.16	7.39	19.41	13.45	4.83	9.57	25.11	16.23	6.25	14.99	31.34	17.86	7.80	22.08
			10	15.01	11.84	2.99	4.14	17.58	12.86	3.50	5.44	23.36	15.48	4.65	8.91	29.58	17.13	5.89	13.45
			12	13.16	11.05	2.19	2.39	15.64	11.84	2.60	3.22	21.42	14.67	3.56	5.56	27.75	16.37	4.61	8.71
			15	9.95	9.73	1.32	0.99	12.36	10.50	1.64	1.45	18.34	13.44	2.44	2.86	24.61	15.14	3.27	4.76
	08	800	8	22.75	18.97	5.66	15.49	26.23	20.26	6.53	19.85	33.67	24.36	8.38	30.69	41.77	26.84	10.40	44.80
			10	20.92	18.03	4.17	9.03	24.23	19.23	4.83	11.66	31.67	23.37	6.31	18.58	39.79	25.86	7.93	27.69
			12	18.98	17.06	3.15	5.53	22.20	18.23	3.69	7.26	29.53	22.32	4.90	11.91	37.69	24.84	6.26	18.22
			15	15.77	15.50	2.10	2.71	18.85	16.61	2.50	3.69	26.30	20.78	3.49	6.56	34.27	23.25	4.55	10.39
10	1000	8	29.42	24.40	7.32	10.45	33.80	25.92	8.41	13.31	43.53	31.20	10.84	20.69	54.30	34.35	13.52	30.47	
		10	26.73	23.08	5.33	5.97	30.95	24.54	6.17	7.70	40.55	29.78	8.08	12.31	51.12	32.86	10.18	18.44	
		12	23.80	21.68	3.95	3.54	27.93	23.11	4.64	4.67	37.56	28.39	6.24	7.80	47.78	31.35	7.93	11.86	
		15	18.67	18.34	2.48	1.57	22.73	20.75	3.02	2.20	32.77	26.25	4.35	4.14	42.77	29.15	5.68	6.58	
12	1200	8	35.88	29.56	8.93	17.25	41.01	31.43	10.21	21.78	52.15	37.89	12.98	33.16	64.38	41.79	16.03	47.99	
		10	32.92	28.10	6.56	10.01	37.83	29.87	7.53	12.75	48.55	36.26	9.73	19.91	60.95	40.11	12.14	29.31	
		12	29.90	26.64	4.96	6.14	34.64	28.34	5.75	7.92	45.83	34.69	7.56	12.75	57.32	38.40	9.52	19.05	
		15	24.86	24.28	3.30	3.00	29.63	25.92	3.91	4.02	40.52	32.35	5.38	7.00	51.81	35.88	6.88	10.74	
43	04	400	8	9.72	7.82	2.42	6.64	11.43	8.36	2.85	8.80	15.32	10.27	3.82	14.66	19.59	11.41	4.88	22.51
			10	8.69	7.38	1.73	3.70	10.30	7.89	2.05	4.96	14.12	9.77	2.81	8.58	18.40	10.93	3.67	13.60
			12	7.61	6.94	1.26	2.14	9.11	7.40	1.51	2.91	12.91	9.28	2.14	5.33	17.14	10.43	2.85	8.71
			15	5.71	5.64	0.76	0.88	7.20	6.64	0.96	1.31	11.01	8.55	1.46	2.72	15.01	9.62	1.99	4.66
	06	600	8	13.85	11.34	3.45	5.26	16.30	12.11	4.06	6.99	21.95	14.89	5.47	11.72	28.14	16.54	7.01	18.08
			10	12.25	10.67	2.44	2.88	14.56	11.39	2.90	3.88	20.12	14.14	4.01	6.79	26.31	15.80	5.24	10.84
			12	10.54	9.97	1.75	1.61	12.69	10.64	2.11	2.22	18.25	13.40	3.03	4.16	24.36	15.04	4.05	6.87
			15	7.32	7.22	0.97	0.58	9.50	9.07	1.26	0.91	15.25	12.25	2.03	2.06	21.05	13.80	2.80	3.59
	08	800	8	19.01	17.07	4.73	11.20	22.23	18.25	5.54	14.71	29.60	22.35	7.37	24.22	37.68	24.84	9.38	36.97
			10	17.28	16.22	3.44	6.40	20.34	17.33	4.05	8.50	27.50	21.34	5.48	14.36	35.59	23.85	7.09	22.53
			12	15.45	15.35	2.57	3.63	18.35	16.38	3.05	5.16	25.47	20.40	4.23	9.10	33.35	22.83	5.54	14.56
			15	12.41	12.28	1.65	1.77	15.12	14.89	2.01	2.49	22.27	18.96	2.96	4.86	29.77	21.24	3.96	8.05
10	1000	8	24.58	22.05	6.12	7.55	28.66	23.45	7.14	9.86	38.17	28.67	9.50	16.26	48.69	31.76	12.13	24.90	
		10	22.03	20.84	4.39	4.22	25.91	22.18	5.16	5.59	35.23	27.33	7.02	9.53	45.39	30.29	9.04	14.82	
		12	19.25	18.38	3.20	2.42	22.95	20.84	3.81	3.28	32.31	26.04	5.37	5.94	42.09	28.86	6.99	9.41	
		15	14.16	13.93	1.88	0.96	17.85	17.41	2.37	1.43	27.58	24.01	3.66	3.04	37.06	26.76	4.92	5.07	
12	1200	8	30.05	26.70	7.48	12.51	34.86	28.45	8.68	16.21	45.81	34.82	11.41	26.13	57.85	38.66	14.41	39.35	
		10	27.33	25.43	5.45	7.16	31.82	27.02	6.34	9.33	42.55	33.29	9.39	18.48	54.26	36.99	10.81	23.66	
		12	24.48	24.10	4.07	4.29	28.76	25.61	4.78	5.67	39.32	31.62	6.53	9.76	50.62	35.35	8.41	15.17	
		15	19.68	19.56	2.62	1.99	23.71	23.36	3.15	2.74	34.43	29.65	4.58	5.22	45.15	32.97	6.00	8.36	
45	04	400	8	8.46	7.29	2.11	5.18	10.04	7.78	2.50	6.97	13.82	9.65	3.44	12.15	18.08	10.80	4.50	19.42
			10	7.51	6.90	1.50	2.85	8.96	7.34	1.79	3.87	12.66	9.18	2.52	7.04	16.85	10.32	3.56	11.58
			12	6.52	6.24	1.08	1.62	7.85	6.90	1.30	2.23	11.48	8.73	1.91	4.31	15.53	9.81	2.58	7.28
			15	4.75	4.68	0.63	0.63	6.01	5.73	0.80	0.95	9.66	8.04	1.28	2.16	13.41	9.03	1.78	3.81
	06	600	8	12.04	10.59	3.00	4.10	14.30	11.28	3.56	5.52	19.75	14.00	4.92	9.68	25.93	15.85	6.46	15.56
			10	10.57	9.98	2.11	2.21	12.63	10.61	2.52	3.01	18.00	13.30	3.59	5.56	24.04	14.92	4.79	9.20
			12	8.97	8.56	1.49	1.21	10.88	9.92	1.81	1.69	16.19	12.60	2.69	3.35	21.99	14.15	3.65	5.71
			15	6.17	6.09	0.82	0.43	7.67	7.55	1.02	0.82	13.31	11.54	1.77	1.61	18.73	12.97	2.49	2.91
	08	800	8	16.61	15.90	4.14	8.79	19.62	16.98	4.89	11.74	26.76	21.69	6.67	20.17	34.83	23.51	8.68	31.98
			10	14.99	14.26	2.99	4.97	17.80	16.13	3.55	6.69	24.76	20.08	4.94	11.87	32.66	22.52	6.51	19.25
			12	13.29	13.21	2.21	2.93	15.90	15.25	2.64	3.99	22.78	19.18	3.78	7.45	30.32	21.48	5.04	12.25
			15	10.36	10.26	1.38	1.29	12.80	12.66	1.70	1.85	19.68	17.82	2.62	3.90	26.81	19.97	3.56	6.66
10	1000	8	21.50	20.60	5.36	5.94	25.29	22.26	6.30	7.87	34.55	27.03	8.61	13.56	44.81	30.03	11.16	21.37	
		10	19.12	18.53	3.81	3.27	22.65	21.08	4.51	4.39	31.70	25.77	6.32	7.87	41.53	28.62	8.28	12.60	
		12	16.15	15.75	2.68	1.77	19.81	19.45	3.29	2.53	28.86	24.55	4.79	4.84	38.25	27.26	6.35	7.91	
		15	11.12	11.00	1.48	0.63	14.80	14.64	1.97	1.03	24.26	22.63	3.23	2.42	33.24	25.23	4.42	4.17	
12	1200	8	26.33	24.96	6.56	9.87	30.81	26.55	7.67	12.98	41.53	32.82	10.34	21.85	53.33	36.56	13.29	33.88	
		10	23.83	23.80	4.75	5.60	27.95	25.25	5.57	7.39	38.35	31.38	7.64	12.81	49.72	34.95	9.91	20.17	
		12	21.18	21.15	3.52	3.31	25.03	23.94	4.16	4.42	35.25	30.01	5.86	8.01	46.11	33.37	7.66	12.80	
		15	16.50	16.46	2.19	1.45	20.18	19.95	2.68	2.06	30.52	27.98	4.06	4.20	40.71	31.09	5.41	6.93	
50	04	400	8	5.85	5.58	1.46	2.69	6.91	6.54	1.72	3.58	10.19	8.24	2.54	7.02	14.07	9.27	3.51	12.32
			10	5.16	5.09	1.03	1.48	6.09	5.81	1.22	1.95	9.21	7.68	1.84	3.98	12.79	8.81	2.55	7.04
			12	4.23	4.17	0.70	0.49												

# Mechanical Specification



## General

### HFCA : Ceiling Concealed Models

Designed specifically to meet many various requirements demanded for concealed type installation. Commonly used for low static (free blow or short duct) application within the closets of hotels, motels and apartments. Available in 400-1,200 cfm sizes.

### Return Air Plenum (Option)

The unit shall be factory installed return air plenum that encloses the fan section of the unit. No field fabrication is required. Filter should be accessible from return air grille. The return air arrangement is adaptable between bottom or rear return of the plenum.

### Casing

Casings are constructed of heavy gauge steel. Interior surface of unit panels are acoustically and thermally insulated with Polyethylene foam. Units are furnished as standard with a 1 inch duct collar to facilitate connection of the supply air duct.

### Water Coil

Coils are 3-row as standard design together with 4-row design as option. High efficient aluminium fins are mechanically bonded to 3/8 inch O.D. seamless copper tubes. All coils are specifically designed and circuit for water use. All coils are tested at 380 psi.

### Motorized Valve (Option)

The valve is driven by synchronous motor with spring to keep the room temperature within the setting range.

## Fan

Fans are double width, double inlet multiblade centrifugal type. All fans are statically and dynamically balanced.

### Drain Pan

3- layer drain pan is integrally attached to coil casings and ended with drain hose. All pans are galvanized for corrosion resistance and cover the entire coil.

### Motor

Single-phase motors are suitable for 220/1/50. All motors have 10 percent voltage utilization range and wired to unit terminal box. Motors are designed for long life.

### Room Thermostat (Option)

Room thermostat has the following features:

- Power - On/Off.
- Fan Speeds - Low, Medium, High.
- Temperature adjustment between 16-30 °C.

### Aeris Guard (Option)

Extend life of cooling coil working in corrosion condition. The coating chemical must be qualified Natural Salt Spray Test for 3,000 hours according to ASTM B117 standard.

### Digital Air Grille (Option)

Distribute cool air smoothly throughout the room

- Available for unit up to 800 CFM
- Auto sweep horizontal supply blades
- Intelligent control with no additional thermostat required



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ทราน (ประเทศไทย)

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