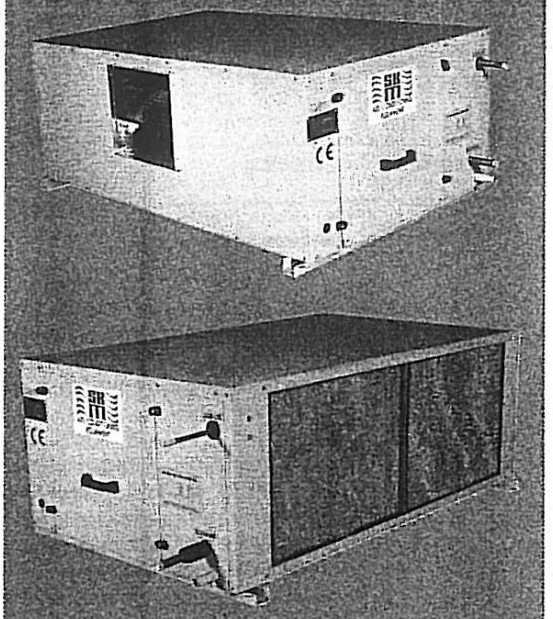
CAH Series

AIR-CONDITIONING
EQUIPMENT



Range: 900 to 8000 CFM
(425 to 3775 l/s)

Bulletin # 019/2007
Supersedes Bulletin #019/2005

CE

ISO 9001
BUREAU VERITAS
Certification

Contents

Legend

The following legends are used through out this manual :

AFR ..... Air Flow Rate
cfm ..... Cubic Feet per minute
EADB ..... Entering Air Dry Bulb
EAWB..... Entering Air Wet Bulb
ET..... Evaporating Temperature
EAT ..... Entering Air Temperature
EWT ..... Entering Water Temperature
fpi ..... Fins per inch (Fin spacing)
fpm ..... Feet per minute
Ft.wg ..... Feet of water gauge
gpm ..... Gallons per minute
hp ..... Horse Power
Hz..... Hertz
inwg..... Inch of water gauge
KW ..... Kilowatts
Kg..... Kilogram
KPa ..... Kilo Pascals
LADB ..... Leaving Air Dry Bulb
LAWB ..... Leaving Air Wet Bulb
LWT..... Leaving Water Temperature
lbs ..... Pounds weight (British Units)
l/s ..... Liters per seconed
MBh..... 1000 Btuh
O.D..... Outside Diameter
Ph..... Phase
Pa..... Pascals
SC ..... Sensible Capacity
SCCF ..... Sensible Capacity Correction Factor
TC ..... Total Capacity
TCCF..... Total Capacity Correction Factor
V..... Volts
WFR..... Water Flow Rate
WTR..... Water Temperature Rise
WPD..... Water Pressure Drop

Nomenclature

H CAH 40 / 4 2 / X G

- Arrangement
  - H = Horizontal
  - V = Vertical
- Comfort Air Handling Unit
- Unit size nom. x 100 cfm
- No. of rows for cooling coil (3,4 or 6 rows)
- No. of rows for hot water coil (2,3 or 4 rows ; 0 for nil)
- Type of cooling coil
  - X = DX Coil
  - W = Chilled Water Coil
- Type of finish
  - G = Galvanised Finish
  - F = Painted Finish

Introduction

SKM CAH comfort air handler series have been designed for indoor installation to satisfy engineering requirements in air conditioning, heating and ventilation

CAH Units find a wide application in multi room buildings, requiring year round cooling, heating and ventilation. This diversity in use and application, makes SKM's CAH series, the ideal solution for air-conditioning requirements in offices and apartments.

CAH series, available in 10 sizes, cover the range of 900 - 8000 cfm (425 - 3800L/s) nominal air flow rate and total static pressure upto 3.0"wg (750 Pa).

CAH series units are available in both horizontal (HCAH), and vertical (VCAH) arrangement.

The SKM CAH units are of compact and rigid construction, completely factory assembled and offer, among others, the following advantages :

- Easy site handling and maintenance
- Slim profile
- Economic solutions for most applications &
- Minimum installation time and labor expense.

SKM CAH units, another premium international quality product from :

AIR-CONDITIONING EQUIPMENT

Built in the Gulf ... for the world

Components & Features

The basic is of rigid construction, fabricated from heavy gauge galvanized steel. Provision for hanging the unit is provided by hanger channels mounted in such arrangement (horizontal, vertical) as to handle the unit weight.

Casing

CAH units casing and panels are constructed from heavy gauge hot dip galvanized steel conforming to ASTMA-525 and JIS G - 3302. Baked enamel powder coated casing can be provided on request.

Panels and casing are insulated with fibre glass (with BGT coating) thermal and acoustic insulation having density of 2 lb/cubic ft. (32.0 Kg/m^3) and thermal conductivity of 0.23BTU in/ft^2° Fh (0.033 W/m°K). Insulation thickness of HCAH units is 1/2" (13.0 mm) and it is 1.0" (25 mm) for VCAH units.

Insulation meets the requirement of NFPA 90A and 90B for fire resistance. Units are provided with two removable side panels with handle and latches for easy access to interior components for easy maintenance and service. Double skin construction is available as an option.

Fan

Fan wheel is forward curved DIDW belt driven, centrifugal type, statically and dynamically balanced, complete with shaft and self aligning, lubricated for life ball bearings, drive pulleys and belt.

Horizontal fan discharge in VCAH is available as an option.

Motor

The fan is driven by TEFC, Class F & ODP motor suitable for continuous operation on single phase or 3 phase 50 & 60 Hz supply. The motor is mounted on base plate and designed for easy belt adjustment. The motor bearings are lubricated for life.

Explosion proof motors are optional.

Motor pulley is provided with adjustable pitch for easy adjustment at site.

Coil

Coils are available in various types, chilled water, direct expansion and hot water, with a wide variation of row depth and different fin spacing in order to meet most design requirements. They are rated in accordance with ARI - 410/91.

All coils are constructed from 3/8" (9.5 mm) O.D. seamless copper tubes staggered in the direction of air flow. Precise fin spacing is achieved by means of special die formed collars on each fin hole.

The height of the collar is variable and determines fin spacing. The mechanical bond between tube and fin is achieved via this collar by means of mechanical expansion.

All water coils, chilled or hot are provided with drain plug and manual air vent. Auto air vent is available as an option. Headers are constructed from seamless copper tubes. CAH units can be supplied with Left Hand or Right Hand side coil connections to meet the job site requirements.

Sweat type connections are standard.

Cooling coils are available in 3,4 & 6 rows. Heating coils are available in 2,3 & 4 rows. Distributors for DX coils are provided as standard with correct sizes and quantity of outlet pipes. Properly sized thermostatic expansion valves are available as an option and can be supplied as built-in or loose on request.

Coils are tested by air pressure while submerged in water to 300 psig (2068 kpa) Requirements for higher coil face velocities and latent loads can be handled by providing PVC moisture eliminator, thus preventing moisture carry over.

CAH units can be supplied in the following combinations of coils, eliminator and electric heater :

- Cooling and heating coil combination upto a total of 8 rows only.
- 6 row cooling coil and electric heater battery. (For sizes upto 25, maximum number of rows is 4).
- 6 row cooling coil with eliminator.
- Maximum of 6 rows cooling coils or combination of cooling & heating coil upto 6 rows and eliminator.

For different application requirements, other coil material and/or treatment are available on request :

- Copper fins
- Electrotinned coils
- Precoated aluminium fins.

Drain

All CAH units are provided with insulated drain pan and MPT drain connection, under the cooling coil for condensate removal. The condensate tray is constructed of galvanized steel sheet, painted and insulated from outside with fiberglass insulation to give maximum protection against corrosion and sweating.

Drain connection is provided on either left or right hand side of the unit to meet the job site requirements. Double skin drain pan and stainless steel drain pans are available as an option.

Filter

All CAH units are supplied as standard with nominal 1.0" (25.0 mm) thick permanent washable expanded aluminium flat filter having average dust arrestance of 75% according to ASHRAE standard 52-76. The impingement principle causes lint, grease and dust to become trapped on hundreds of adhesive coated baffle surfaces without the danger of clogging or pressure losses.

Standard filter removal is from the back for horizontal units and from both sides for vertical units. Synthetic disposable filters, synthetic washable filter and activated carbon filter can be provided on request.

Accessories

The following accessories can be supplied as an integral part of CAH units on request :

Electric Heater Battery - CEH

To meet the heating demand as specified. It consists of finned type electric heating elements constructed from high quality 80/20 Nickel chrome resistance wire, centered in stainless steel tubes by compressed magnesium oxide.

The fins are helical, mild steel galvanized and tightly wound around tubular heating elements. Following components are provided as part of the electric heater battery :

- Primary auto reset safety cutout
- Secondary manual reset safety cutout

Following the recommended optional electrical heating capacities available :

H/V CAH	Heating Capacity (KW)	# of Stages
9	3.0	1
12	3.0	
16	4.5	
20	4.5	
25	7.5	
30	9.0	
40	12.0	
50	15.0	2
65	18.0	
80	24.0	

Table - 1

For heating capacities other than these, please consult SKM.

Heater Control Panel - APHT

Heater control panel is available for remote installation to house contactors, fuses, control switch, power and control terminals and blocks for interlocking with heaters etc.

Supply Air Grill - ASG

Double deflection supply air grill is available for free discharge applications. ASG is available only as part of Discharge Plenum (APDH/V). ASG can be painted to match the colour of the unit.

Return Air Grill - ARG

Single deflection return air grill is available for free return and exposed installation. For horizontal units (HCAH), it is supplied as part of Return Air Plenum (APRH) .For vertical units (VCAH), it is fixed directly on the basic unit. ARG can be painted to match the colour of the unit.

Discharge Plenum - APDH/V

Discharge plenums APDH for horizontal units and APDV for vertical units are available for free discharge applications. They are supplied alongwith Supply Air Grill - ASG

Return Air Plenum - APRH

Return air plenum is available for horizontal units only. They are supplied alongwith Return Air Grill (ARG) and filter media (AFI 1) or (AFI 2).

Duct Connector - ADC

Duct Connector is for ducted return applications. ADC is available only for VCAH units. For horizontal (HCAH) units, specify accessory FIPI/FIPV if ducted return is required.

Flat Filter Section - FIPI

Flat filter section is available with or without media. Specify FIPI when side/bottom filter removal or ducted return connection in HCAH is required.

Vee Filter Section - FIPV

Vee filter section is available with or without media. Filter removal would be from sides of the unit.

Options

- **Double Skin Casing - DSU**
  Available only for basic unit
- **Explosion Proof Motor**
- **Alternative Fin Material or Treatment**

Copper Fins ..... FC
Copper Fins Electrotinned ..... FCT
Pre-Coated Aluminium Fins ..... FAP
Copper Fins ACRA CLAD ..... FCA

- **Filter Media**

1" Filter Media ..... AF / 1
2" Filter Media ..... AF / 2

- **Auto Air Vent - AAV**
- **1" Thick Insulation - ISG (For HCAH models only)**

Note : For option ISG, dimensions of the basic unit will change.

- **Double Skin Drain Pan - PDI**
- **Stainless Steel Drain Pan - PSD**
- **Magnetic Switch Box - CMIS**
- **Three way Packaged Valve (loose supplied) - CCPK**
  For chilled water units
- **Thermostatic Expansion Valve - TX**
  Specify Built - in / loose
- **Aluminium Casing with or without powder coating**
- **Horizontal Fan Discharge for VCAH - HFD.** Dimensions of basic unit will change as shown in table on page 16.

Note : For any other requirements or specifications, please consult SKM

Physical Specifications

H/V CAH		9	12	16	20	25	30	40	50	65	80
NOMINAL AIR FLOW RATE	cfm	900	1200	1600	2000	2500	3000	4000	5000	6500	8000
	l/s	425	566	755	944	1180	1416	1888	2359	3067	3775
COIL SIZE (Height x Length)	inches	12 x 22	16 x 22	16 x 30	16 x 37.5	16 x 45	20 x 45	24 x 48	24 x 60	32 x 60	32 x 72
	mm	305 x 559	406 x 559	406 x 762	406 x 953	406 x 1143	508 x 1143	610 x 1219	610 x 1524	813 x 1524	813 x 1829
COIL FACE AREA	ft^2	1.83	2.44	3.33	4.17	5.00	6.25	8.00	10.00	13.33	16.00
	m^2	0.17	0.23	0.31	0.39	0.46	0.58	0.74	0.93	1.24	1.49
FAN CODE	-	AT - 7	AT - 9	AT - 9	AT - 10	AT - 10	AT - 12	AT - 15	AT - 15	AT - 18	AT - 18
MOTOR SIZE *	hp	0.75	0.75	0.75	1.0	1.5	1.5	2.0	2.0	3.0	3.0
	KW	0.55	0.55	0.55	0.75	1.1	1.1	1.5	1.5	2.2	2.2

** Sizes shown are for the standard motor sizes as covered by area to the left of blue line in table 13*

Table - 2

Matching Condensing Units

H / V CAH			16/4	16/4	20/4	20/4	25/4	25/4	30/3	30/4	40/3	40/3	50/3	50/3	50/3	50/3	65/3	80/3	80/3	80/3
Fin Spacing		fpi	10	10	10	10	10	10	12	10	10	12	10	10	12	12	10	12	12	12
ACUM			050	060	070	080	090	100	105	110	120	125	140	145	155	160	220	240	300	320
50 Hz	Total	MBh	45.87	48.35	56.65	58.90	71.01	80.40	82.04	91.69	101.43	102.06	123.08	124.33	135.66	137.41	162.01	204.11	232.45	243.68
	Capacity	KW	13.44	14.17	16.60	17.26	20.81	23.57	24.05	26.87	29.73	29.91	36.07	36.44	39.76	40.27	47.49	59.82	68.13	71.42
	Sensible	MBh	32.43	33.35	40.28	41.11	50.22	53.74	60.28	62.92	70.14	77.38	86.36	86.80	99.64	100.28	113.33	154.76	165.04	169.26
	Capacity	KW	9.51	9.77	11.81	12.05	14.72	15.75	17.67	18.44	20.56	22.68	25.31	25.44	29.20	29.39	33.22	45.36	48.37	49.61
60 Hz	Total	MBh	50.76	53.64	62.95	65.49	79.00	88.19	90.74	101.35	111.81	113.32	136.64	136.46	150.41	152.46	179.00	226.63	254.61	268.65
	Capacity	KW	14.88	15.72	18.45	19.20	23.15	25.85	26.60	29.71	32.77	33.21	40.05	40.00	44.09	44.69	52.46	66.43	74.63	78.74
	Sensible	MBh	34.26	35.34	42.63	43.59	53.21	56.68	63.49	66.56	73.89	81.46	91.22	91.16	105.07	105.85	119.44	162.92	173.37	178.66
	Capacity	KW	10.04	10.36	12.49	12.78	15.60	16.61	18.61	19.51	21.66	23.88	26.74	26.72	30.80	31.02	35.01	47.75	50.81	52.37

Note : Capacities shown are at 80/67°F (26.7/19.4°C) DB/WB evaporator entering air temp. & 115°F (46°C) condenser entering air temp.

Table - 3

Filter Sizes

H/V CAH		FILTER SIZES			
		Horizontal Arrangement		Vertical Arrangement	
		Flat Filters	Vee Filters	Flat Filters	Vee Filters
		Height x Length / Quantity	Height x Length / Quantity	Height x Length / Quantity	Height x Length / Quantity
9	inch	14.625 x 23.5 / 1	9 x 23.5 / 2	12 x 17 / 2 -	9 x 22 / 2
	mm	371 x 597 / 1	229 x 597 / 2	305 x 432 / 2 -	229 x 559 / 2
12	inch	18.625 x 23.5 / 1	12 x 23.5 / 2	16 x 17 / 2 -	12 x 22 / 2
	mm	473 x 597 / 1	305 x 597 / 2	406 x 432 / 2 -	305 x 559 / 2
16	inch	18.625 x 15.75 / 2	12 x 15.75 / 4	16 x 20 / 2 -	12 x 15 / 4
	mm	473 x 400 / 2	305 x 400 / 4	406 x 508 / 2 -	305 x 381 / 4
20	inch	18.625 x 19.5 / 2	12 x 19.5 / 4	16 x 24 / 2 -	12 x 18.75 / 4
	mm	473 x 495 / 2	305 x 495 / 4	406 x 610 / 2 -	305 x 476 / 4
25	inch	18.625 x 23.25 / 2	12 x 23.25 / 4	16 x 20 / 2	16 x 15 / 1	12 x 22.5 / 4
	mm	473 x 591 / 2	305 x 591 / 4	406 x 508 / 2	406 x 381 / 1	305 x 572 / 4
30	inch	22.625 x 23.25 / 2	15 x 23.25 / 4	20 x 20 / 2	20 x 15 / 1	15 x 22.5 / 4
	mm	610 x 591 / 2	381 x 591 / 4	508 x 508 / 2	508 x 381 / 1	381 x 572 / 4
40	inch	26.625 x 24.75 / 2	18 x 24.75 / 4	24 x 20 / 2	24 x 18 / 1	18 x 24 / 4
	mm	676 x 629 / 2	457 x 629 / 4	610 x 508 / 2	610 x 457 / 1	457 x 610 / 4
50	inch	26.625 x 20.5 / 3	18 x 20.5 / 6	24 x 25 / 2	24 x 20 / 1	18 x 20 / 6
	mm	676 x 521 / 3	457 x 521 / 6	610 x 635 / 2	610 x 508 / 1	457 x 508 / 6
65	inch	34.625 x 20.5 / 3	24 x 20.5 / 6	16 x 25 / 4	16 x 20 / 2	24 x 20 / 6
	mm	879 x 521 / 3	610 x 521 / 6	406 x 635 / 4	406 x 508 / 2	610 x 508 / 6
80	inch	34.625 x 24.5 / 3	24 x 24.5 / 6	16 x 20 / 6	16 x 22 / 2	24 x 24 / 6
	mm	879 x 622 / 3	610 x 622 / 6	406 x 508 / 6	406 x 559 / 2	610 x 610 / 6

Table - 4

Electrical Data

Rated Power Supply	Voltage Tolerance Range (Amperes)		FLA - Full Load Amperes Motor Power Output, KW					
V / Ph / Hz	Minimum	Maximum	0.55	0.75	1.10	1.50	2.20	3.00
220 - 240 / 1 / 50	206	252	5.0	6.5	11.5	14.0	-	-
230 / 1 / 60	207	253	5.5	6.2	9.0	10.2	-	-
380 - 415 / 3 / 50	357	440	1.7	2.0	2.6	3.7	5.2	7.1
440 / 3 / 50	414	462	1.5	1.8	2.3	3.2	4.7	6.5
380 / 3 / 60	342	418	1.6	1.9	2.6	3.4	4.9	6.6
460 / 3 / 60	414	506	1.6	1.7	2.4	3.4	4.5	6.2
220 / 3 / 60	198	242	2.8	3.4	4.5	5.9	8.3	11.4

Table 5

Nominal Capacity Ratings - Chilled Water Coils

H/V CAH	Air Flow Rate		Rows	fpi	@ 80/67 °F (26.7/19.4 °C) EADB/EAWB Temp & 45/55 °F (7.2/12.8°C) EWT/LWT							
					TC		SC		WFR		WPD	
	cfm	l/s			MBh	KW	MBh	KW	gpm	l/s	ft.wg	KPa
9	900	425	3	8	15.8	4.6	11.8	3.5	3.2	0.2	1.4	4.2
				10	18.0	5.3	14.1	4.1	3.6	0.2	1.8	5.4
				12	20.0	5.9	16.4	4.8	4.0	0.3	2.2	6.6
			4	8	21.3	6.3	15.1	4.4	4.3	0.3	2.8	8.5
				10	23.6	6.9	17.4	5.1	4.7	0.3	3.4	10.2
				12	26.0	7.6	19.7	5.8	5.2	0.3	4.1	12.3
			6	8	30.1	8.8	20.1	5.9	6.0	0.4	6.8	20.3
				10	32.5	9.5	22.3	6.5	6.5	0.4	7.8	23.3
				12	35.2	10.3	24.3	7.1	7.0	0.4	9.0	27.0
12	1200	566	3	8	21.0	6.2	15.8	4.6	4.2	0.3	1.4	4.2
				10	24.0	7.0	18.8	5.5	4.8	0.3	1.8	5.4
				12	26.7	7.8	21.9	6.4	5.3	0.3	2.2	6.6
			4	8	28.4	8.3	20.1	5.9	5.7	0.4	2.8	8.5
				10	31.4	9.2	23.2	6.8	6.3	0.4	3.4	10.2
				12	34.7	10.2	26.2	7.7	6.9	0.4	4.1	12.3
			6	8	40.2	11.8	26.9	7.9	8.0	0.5	6.8	20.3
				10	43.4	12.7	29.7	8.7	8.7	0.5	7.8	23.3
				12	46.9	13.8	32.4	9.5	9.4	0.6	9.0	27.0
16	1600	755	3	8	31.5	9.2	22.3	6.5	6.3	0.4	3.3	9.8
				10	35.3	10.4	26.3	7.7	7.1	0.4	4.1	12.1
				12	39.0	11.4	30.4	8.9	7.8	0.5	4.9	14.6
			4	8	41.4	12.1	28.1	8.2	8.3	0.5	6.3	19.0
				10	45.4	13.3	32.2	9.4	9.1	0.6	7.5	22.5
				12	49.5	14.5	36.2	10.6	9.9	0.6	8.8	26.4
			6	8	49.7	14.6	34.4	10.1	9.9	0.6	2.1	6.3
				10	54.0	15.8	38.2	11.2	10.8	0.7	2.5	7.4
				12	58.9	17.3	41.7	12.2	11.8	0.7	2.9	8.7
20	2000	944	3	8	41.7	12.2	28.7	8.4	8.3	0.5	6.0	17.9
				10	46.3	13.6	33.7	9.9	9.3	0.6	7.3	21.7
				12	50.9	14.9	38.8	11.4	10.2	0.6	8.7	26.0
			4	8	45.7	13.4	33.0	9.7	9.1	0.6	1.6	4.8
				10	50.8	14.9	38.1	11.2	10.2	0.6	1.9	5.8
				12	55.9	16.4	43.1	12.6	11.2	0.7	2.3	7.0
			6	8	65.4	19.2	44.3	13.0	13.1	0.8	3.8	11.4
				10	71.1	20.8	49.2	14.4	14.2	0.9	4.4	13.3
				12	76.9	22.5	53.4	15.7	15.4	1.0	5.1	15.4
25	2500	1180	3	8	48.4	14.2	34.3	10.1	9.7	0.6	3.2	9.7
				10	54.1	15.9	40.6	11.9	10.8	0.7	4.0	11.9
				12	59.8	17.5	46.9	13.8	12.0	0.8	4.8	14.4
			4	8	59.2	17.3	41.7	12.2	11.8	0.7	2.8	8.2
				10	65.4	19.2	48.2	14.1	13.1	0.8	3.3	9.9
				12	72.2	21.2	54.5	16.0	14.4	0.9	4.0	11.9
			6	8	83.5	24.5	55.8	16.3	16.7	1.1	6.4	19.3
				10	90.2	26.4	61.8	18.1	18.0	1.1	7.4	22.2
				12	97.5	28.6	67.2	19.7	19.5	1.2	8.6	25.6

H/V CAH	Air Flow Rate		Rows	fpi	@ 80/67 °F (26.7/19.4 °C) EADB/EAWB Temp & 45/55 °F (7.2/12.8°C) EWT/LWT							
					TC		SC		WFR		WPD	
	cfm	l/s			MBh	KW	MBh	KW	gpm	l/s	ft.wg	KPa
30	3000	1416	3	8	59.1	17.3	41.8	12.3	11.8	0.7	3.1	9.3
				10	66.2	19.4	49.4	14.5	13.2	0.8	3.8	11.5
				12	73.1	21.4	57.1	16.7	14.6	0.9	4.6	13.8
			4	8	72.2	21.2	50.8	14.9	14.4	0.9	2.6	7.9
				10	79.8	23.4	58.5	17.2	16.0	1.0	3.2	9.5
				12	88.1	25.8	66.2	19.4	17.6	1.1	3.8	11.4
			6	8	101.8	29.8	67.8	19.9	20.4	1.3	6.1	18.4
				10	109.8	32.2	75.0	22.0	22.0	1.4	7.1	21.1
				12	118.6	34.8	81.5	23.9	23.7	1.5	8.2	24.4
40	4000	1888	3	8	79.1	23.2	55.5	16.3	15.8	1.0	3.9	11.6
				10	87.7	25.7	65.3	19.1	17.5	1.1	4.7	14.1
				12	96.9	28.4	75.6	22.1	19.4	1.2	5.7	17.0
			4	8	96.4	28.3	67.4	19.8	19.3	1.2	3.3	9.8
				10	106.7	31.3	77.8	22.8	21.3	1.3	4.0	11.9
				12	116.8	34.2	87.7	25.7	23.4	1.5	4.7	14.1
			6	8	135.2	39.6	89.8	26.3	27.0	1.7	7.6	22.8
				10	145.8	42.7	99.5	29.2	29.2	1.8	8.8	26.2
				12	157.2	46.1	108.1	31.7	31.4	2.0	10.1	30.2
50	5000	2359	3	8	103.9	30.4	71.1	20.8	20.8	1.3	7.1	21.1
				10	114.9	33.7	83.5	24.5	23.0	1.4	8.5	25.5
				12	126.6	37.1	96.4	28.2	25.3	1.6	10.2	30
			4	8	127.0	37.2	86.6	25.4	25.4	1.6	6.0	17.9
				10	139.3	40.8	99.5	29.2	27.9	1.8	7.1	21.3
				12	152.1	44.6	111.9	32.8	30.4	1.9	8.4	25.1
			6	8	163.7	48.0	110.2	32.3	32.7	2.1	4.5	13.5
				10	176.7	51.8	122.2	35.8	35.3	2.2	5.2	15.6
				12	191.4	56.1	133.1	39.0	38.3	2.4	6.1	18.1
65	6500	3067	3	8	136.7	40.1	93.3	27.4	27.3	1.7	6.9	20.6
				10	151.2	44.3	109.5	32.1	30.2	1.9	8.3	24.8
				12	166.4	48.8	126.3	37.0	33.3	2.1	9.9	29.7
			4	8	167.0	48.9	113.6	33.3	33.4	2.1	5.8	17.5
				10	183.1	53.7	130.3	38.2	36.6	2.3	6.9	20.7
				12	199.8	58.6	146.6	43.0	40.0	2.5	8.2	24.4
			6	8	214.9	63.0	144.5	42.3	43.0	2.7	4.4	13.1
				10	231.9	68.0	160.0	46.9	46.4	2.9	5.1	15.1
				12	251.0	73.6	174.0	51.0	50.2	3.2	5.9	17.5
80	8000	3775	3	8	172.4	50.5	115.9	34.0	34.5	2.2	11.4	34.2
				10	190.9	55.9	136.0	39.9	38.2	2.4	13.8	41.4
				12	210.6	61.7	157.1	46.0	42.1	2.7	16.6	49.7
			4	8	210.7	61.8	141.2	41.4	42.1	2.7	9.7	29.1
				10	230.3	67.5	161.8	47.4	46.1	2.9	11.5	34.3
				12	251.2	73.6	182.1	53.4	50.2	3.2	13.5	40.4
			6	8	270.5	79.3	179.6	52.7	54.1	3.4	7.3	21.8
				10	291.6	85.5	199.0	58.3	58.3	3.7	8.4	25.1
				12	314.5	92.2	216.2	63.4	62.9	4.0	9.6	28.8

Table 6

Chilled Water Capacity Correction Factor

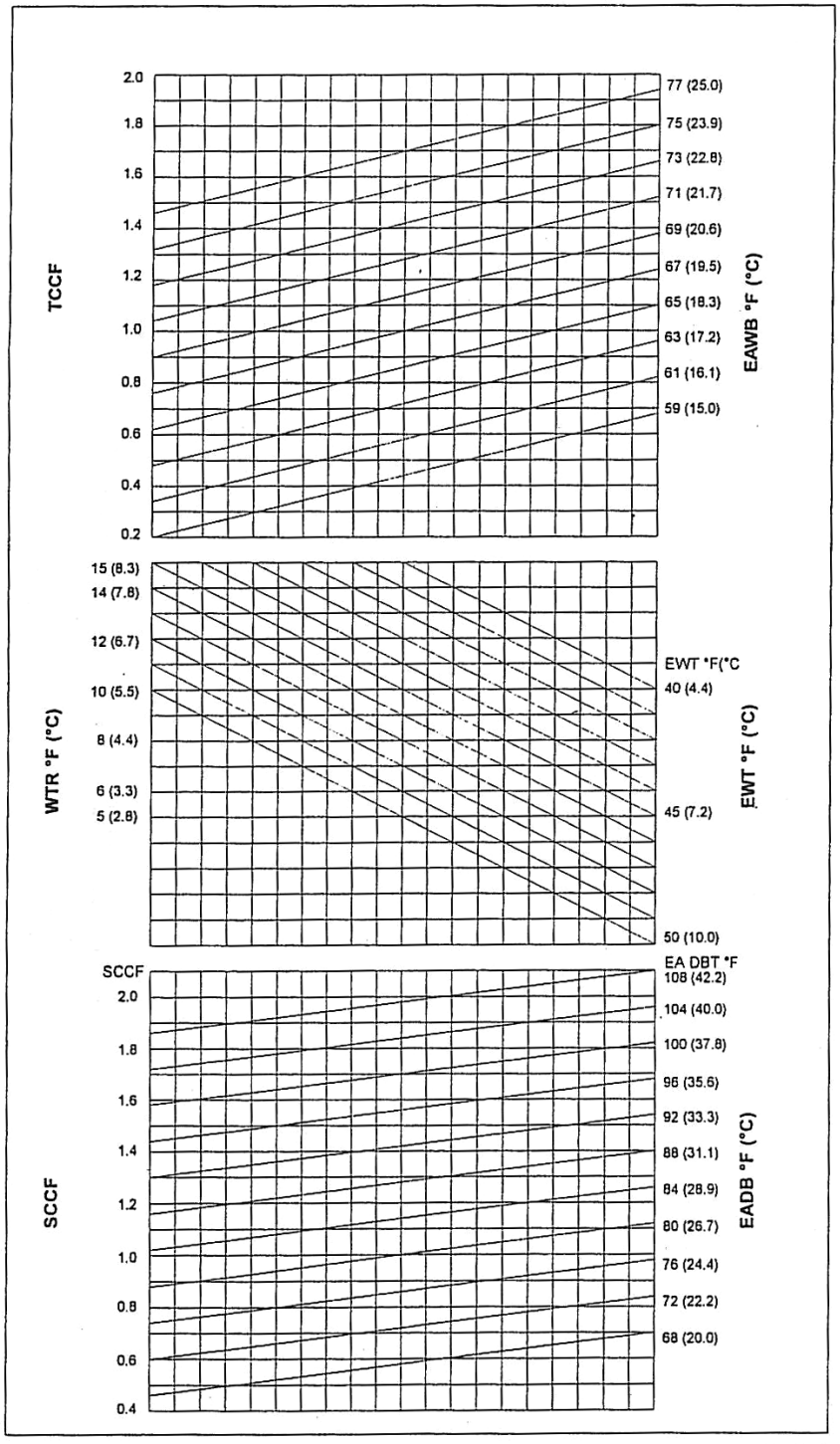
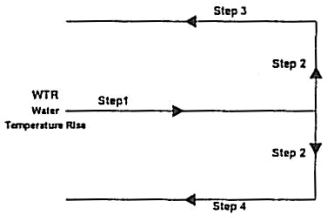


Chart - 1

Chart 1.
Use with Table 6 on Page 6

Notes :

1. ***Applicable for wet coil (SHR < 0.95).***
2. ***When sensible capacity exceeds total, unit operates with dry coil. In this case use only the value of sensible cooling capacity.***



How to use this chart :

Step 1. Enter Chart 1 at specified WTR and draw a horizontal line.

Step 2. From intersection with required entering water temperature, draw a vertical line.

Step 3. From the intersection with entering air wet bulb temperature, read total cooling capacity correction factor (TCCF).

Step 4. From the intersection with entering air dry bulb temperature, read sensible cooling capacity correction factor (SCCF).

Above factors to be multiplied by nominal capacity on page 6 to obtain corrected sensible & total cooling capacity.

Nominal Capacity Ratings - Direct Expansion Coils (R - 22)

H/V CAH	Rows	Air Flow Rate		@ 80/67 °F (26.7/19.4 °C) EADB/EAWB Temperatures & 40 °F (4.4 °C) ET											
				8 fins / inch				10 fins / inch				12 fins / inch			
				TC		SC		TC		SC		TC		SC	
		cfm	l/s	MBh	KW	MBh	KW	MBh	KW	MBh	KW	MBh	KW	MBh	KW
9	3	900	425	25.1	7.3	15.1	4.4	26.9	7.9	17.3	5.1	29.8	8.7	20.0	5.9
	4			30.5	8.9	18.4	5.4	32.7	9.6	20.8	6.1	36.3	10.6	23.6	6.9
	6			37.1	10.9	22.9	6.7	39.8	11.7	25.2	7.4	44.2	13.0	28.0	8.2
12	3	1200	566	33.4	9.8	20.1	5.9	35.8	10.5	23.0	6.8	39.8	11.7	26.7	7.8
	4			40.6	11.9	24.6	7.2	43.6	12.8	27.7	8.1	48.4	14.2	31.5	9.2
	6			49.5	14.5	30.5	8.9	53.0	15.5	33.6	9.8	58.9	17.3	37.3	10.9
16	3	1600	755	45.1	13.2	27.1	7.9	48.4	14.2	31.0	9.1	53.7	15.7	35.9	10.5
	4			54.8	16.1	33.1	9.7	58.7	17.2	37.3	10.9	65.2	19.1	42.3	12.4
	6			66.5	19.5	40.9	12.0	71.3	20.9	45.1	13.2	79.2	23.2	50.0	14.7
20	3	2000	944	56.4	16.5	33.9	9.9	60.5	17.7	38.8	11.4	67.2	19.7	44.8	13.1
	4			68.5	20.1	41.4	12.1	73.4	21.5	46.6	13.7	81.5	23.9	52.9	15.5
	6			83.1	24.4	51.2	15.0	89.1	26.1	56.4	16.5	99.0	29.0	62.5	18.3
25	3	2500	1180	68.9	20.2	41.6	12.2	73.8	21.6	47.6	14.0	82.0	24.0	55.1	16.1
	4			83.9	24.6	50.8	14.9	89.9	26.4	57.4	16.8	99.9	29.3	65.2	19.1
	6			102.4	30.0	63.2	18.5	109.8	32.2	69.6	20.4	122.0	35.7	77.3	
30	3	3000	1416	84.6	24.8	50.8	14.9	90.7	26.6	58.2	17.1	100.8	29.5	67.3	
	4			102.7	30.1	62.0	18.2	110.1	32.3	69.9	20.5	122.3	35.8	79.4	23.3
	6			124.7	36.5	76.8	22.5	133.6	39.2	84.5	24.8	148.5	43.5	93.8	27.5
40	3	4000	1888	110.2	32.3	66.5	19.5	118.1	34.6	76.2	22.3	131.2	38.4	88.1	25.8
	4			134.3	39.4	81.3	23.8	143.9	42.2	91.8	26.9	159.9	46.9	104.3	30.6
	6			163.9	48.0	101.0	29.6	175.6	51.5	111.4	32.7	195.1	57.2	123.7	36.2
50	3	5000	2359	137.7	40.4	83.1	24.4	147.6	43.3	95.2	27.9	164.0	48.1	110.2	32.3
	4			167.9	49.2	101.7	29.8	179.9	52.7	114.7	33.6	199.8	58.6	130.3	38.2
	6			204.9	60.0	126.3	37.0	219.5	64.3	139.3	40.8	243.9	71.5	154.6	45.3
65	3	6500	3067	181.7	53.3	109.4	32.1	194.7	57.1	125.2	36.7	216.3	63.4	144.8	42.4
	4			220.9	64.8	133.6	39.2	236.7	69.4	150.6	44.1	263.0	77.1	171.0	50.1
	6			268.7	78.8	165.5	48.5	287.9	84.4	182.4	53.5	319.9	93.8	202.3	59.3
80	3	8000	3775	220.4	64.6	133.0	39.0	236.1	69.2	152.4	44.7	262.3	76.9	176.3	51.7
	4			268.6	78.7	162.7	47.7	287.8	84.3	183.5	53.8	319.7	93.7	208.5	61.1
	6			327.8	96.1	202.1	59.2	351.2	102.9	222.9	65.3	390.2	114.4	247.3	72.5

Table - 7

Notes :

1. *Direct expansion capacity ratings based on nominal air flow rate, air entering temperature, 80/67°F (26.5/19.4°C) DB/WB, 40°F (4.4°C) evaporating temperature.*
2. *For different entering air conditions and /or evaporatinmg temperature, use correction factors as in Charts 2 & 3.*

DX Total Capacity Correction Factor

How to use Chart 2

Plot a vertical line from design evaporating temperature until entering air WB temperature and read TCCF (total capacity correction factor), horizontally to the left. (This chart is to be used in conjunction with Table 7)

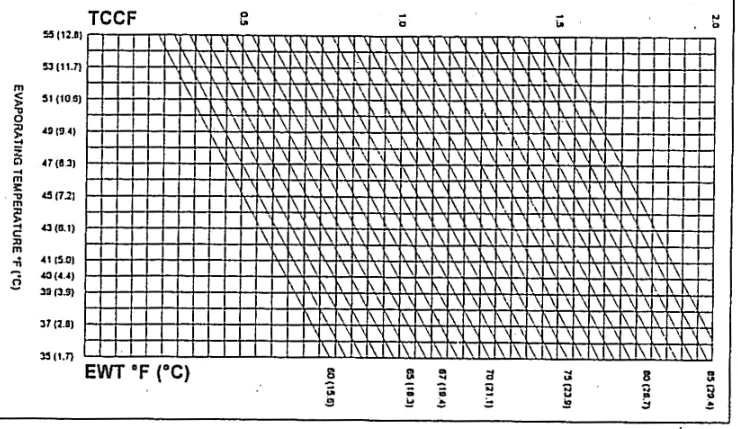


Chart - 2

DX Sensible Cooling Correction Factor

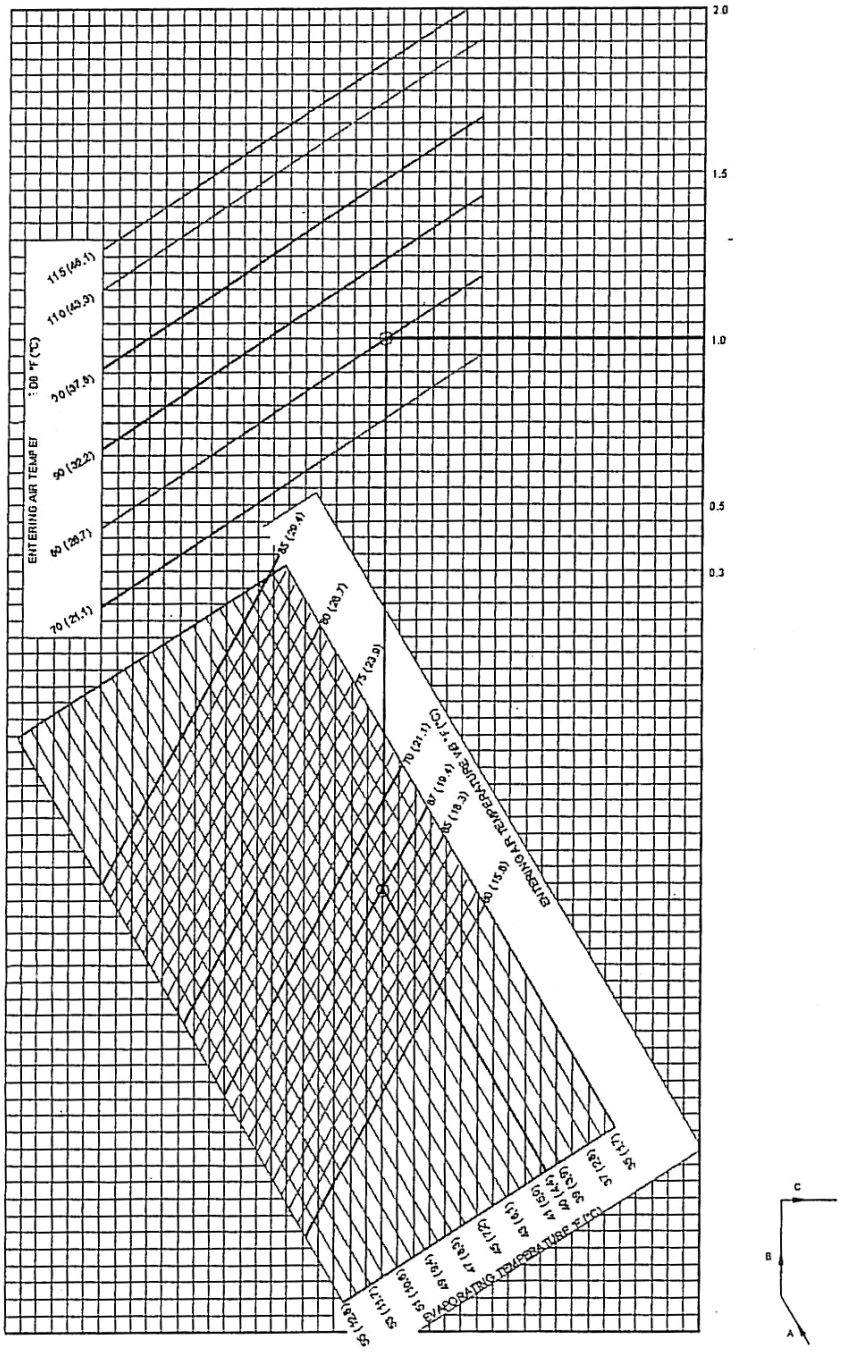


Chart - 3

How to use Chart 3

1. From required evaporating temperature draw a line parallel to line A.
2. From the intersection with required entering air WB draw a line parallel to B
3. From the intersection with required entering air DB project a line parallel to line C and read capacity correction factor, to be multiplied by nominal sensible cooling stated in Table 7.

Air Flow Correction Factors (other than nominal air flow)

Actual Air Flow / Nominal Air Flow (%)	Total Cooling Capacity	Sensible Capacity (Cooling or Heating)
30	0.43	0.38
40	0.53	0.47
50	0.62	0.57
60	0.70	0.67
70	0.78	0.76
80	0.86	0.85
90	0.94	0.93
100	1.00	1.00
110	1.07	1.07
120	1.13	1.14
130	1.19	1.21
140	1.26	1.28
150	1.33	1.35

Table - 8

Correction Factors to be applied to capacity at nominal air flow rates.

Altitude Correction Factors

Elevation		Total Capacity	Sensible Capacity
Ft.	m		
1000	305	0.99	0.96
2000	610	0.98	0.93
4000	1219	0.96	0.86
5000	1525	0.95	0.83
6000	1829	0.94	0.80

Table - 9

Cooling capacities correction factors for elevation :

Multiply cooling capacities by altitude correction factor to obtain actual capacities at elevation.

Nominal Capacity Ratings - Hot Water Coils

HV CAH	Rows	Air Flow Rate		@ 70 °F (21.1 °C) EADB Temperature & 180/160 °F (82.2/71.1 °C) EWT/LWT																	
				8 fins / inch						10 fins / inch						12 fins / inch					
				Capacity		WFR		WPD		Capacity		WFR		WPD		Capacity		WFR		WPD	
		cfm	l/s	MBh	KW	gpm	l/s	ft.wg	KPa	MBh	KW	gpm	l/s	ft.wg	KPa	MBh	KW	gpm	l/s	ft.wg	KPa
9	2	900	425	38.9	11.4	3.9	0.2	7.5	22.4	43.9	12.9	4.4	0.3	9.5	28.3	49.6	14.5	5.0	0.3	11.9	35.7
	3			49.0	14.3	4.9	0.3	2.8	8.4	54.9	16.1	5.5	0.3	3.5	10.4	61.0	17.9	6.1	0.4	4.2	12.7
	4			61.6	18.0	6.2	0.4	4.8	14.4	67.6	19.8	6.8	0.4	5.8	17.2	73.6	21.6	7.4	0.5	6.8	20.3
12	2	1200	566	51.8	15.2	5.2	0.3	7.5	22.4	58.6	17.2	5.9	0.4	9.5	28.3	66.2	19.4	6.6	0.4	11.9	35.7
	3			65.3	19.1	6.5	0.4	2.8	8.4	73.2	21.5	7.3	0.5	3.5	10.4	81.3	23.8	8.1	0.5	4.2	12.7
	4			82.1	24.1	8.2	0.5	4.8	14.4	90.1	26.4	9.0	0.6	5.8	17.2	98.2	28.8	9.8	0.6	6.8	20.3
16	2	1600	755	64.5	18.9	6.4	0.4	2.5	7.6	73.7	21.6	7.4	0.5	3.3	9.8	83.3	24.4	8.3	0.5	4.1	12.4
	3			93.1	27.3	9.3	0.6	5.9	17.7	103.3	30.3	10.3	0.7	7.2	21.5	114.2	33.5	11.4	0.7	8.7	26.0
	4			115.2	33.8	11.5	0.7	10.0	29.8	125.8	36.9	12.6	0.8	11.8	35.2	136.5	40.0	13.7	0.9	13.7	41.0
20	2	2000	944	84.7	24.8	8.5	0.6	4.5	13.5	96.1	28.2	9.6	0.6	5.7	17.1	108.2	31.7	10.8	0.7	7.2	21.5
	3			120.4	35.3	12.0	0.8	10.2	30.6	133.7	39.2	13.4	0.8	12.5	37.3	147.2	43.1	14.7	0.9	15.0	44.7
	4			134.4	39.4	13.4	0.8	2.9	8.7	148.0	43.4	14.8	0.9	3.5	10.4	161.5	47.3	16.2	1.0	4.1	12.3
25	2	2500	1180	107.5	31.5	10.7	0.7	7.4	22.2	121.6	35.6	12.2	0.8	9.4	28.1	137.4	40.3	13.7	0.9	11.9	35.5
	3			143.1	41.9	14.3	0.9	5.9	17.7	158.9	46.6	15.9	1.0	7.2	21.6	175.9	51.5	17.6	1.1	8.8	26.2
	4			170.4	50.0	17.0	1.1	4.8	14.3	187.2	54.9	18.7	1.2	5.7	17.1	203.9	59.8	20.4	1.3	6.7	20
30	2	3000	1416	131.5	38.5	13.1	0.8	7.1	21.3	148.6	43.5	14.9	0.9	9.0	26.9	167.6	49.1	16.8	1.1	11.3	33.5
	3			174.6	51.2	17.5	1.1	5.7	16.9	193.8	56.8	19.4	1.2	6.9	20.6	214.1	62.7	21.4	1.4	8.3	24.9
	4			207.5	60.8	20.8	1.3	4.5	13.6	227.6	66.7	22.8	1.4	5.4	16.2	247.7	72.6	24.8	1.6	6.4	19.0
40	2	4000	1888	174.0	51.0	17.4	1.1	8.7	26.1	197.0	57.8	19.7	1.2	11.1	33.1	221.8	65.0	22.2	1.4	13.9	41.5
	3			231.1	67.7	23.1	1.5	6.9	20.7	256.7	75.2	25.7	1.6	8.5	25.3	284.1	83.3	28.4	1.8	10.3	30.7
	4			275.5	80.8	27.6	1.7	5.6	16.8	301.9	88.5	30.2	1.9	6.7	19.9	328.6	96.3	32.9	2.1	7.8	23.4
50	2	5000	2359	197.9	58.0	19.8	1.2	2.5	7.5	225.8	66.2	22.6	1.4	3.2	9.7	255.8	75.0	25.6	1.6	4.1	12.3
	3			299.8	87.9	30.0	1.9	12.1	36.3	331.9	97.3	33.2	2.1	14.7	44.0	364.2	106.7	36.4	2.3	17.6	52.5
	4			355.0	104.1	35.5	2.2	9.7	29.0	388.4	113.8	38.8	2.5	11.5	34.4	422.2	123.8	42.2	2.7	13.5	40.3
65	2	6500	3067	260.1	76.2	26.0	1.6	2.4	7.3	297.1	87.1	29.7	1.9	3.2	9.4	336.3	98.6	33.6	2.1	4.0	12.0
	3			393.5	115.3	39.3	2.5	11.8	35.2	435.9	127.8	43.6	2.8	14.3	42.8	478.0	140.1	47.8	3.0	17.1	51.0
	4			465.5	136.5	46.6	2.9	9.4	28.1	508.8	149.1	50.9	3.2	11.1	33.2	552.5	161.9	55.3	3.5	13.0	38.9
80	2	8000	3775	329.6	96.6	33.0	2.1	4.0	12.0	374.4	109.7	37.4	2.4	5.1	15.3	422.5	123.8	42.2	2.7	6.5	19.3
	3			489.9	143.6	49.0	3.1	19.0	56.7	539.6	158.2	54.0	3.4	22.8	68.1	591.3	173.3	59.1	3.7	27.1	81.0
	4			582.9	170.9	58.3	3.7	15.3	45.7	633.0	185.5	63.3	4.0	17.9	53.4	683.7	200.4	68.4	4.3	20.7	61.8

Table 10

Notes :

Table 10 data based on nominal air flow, 70°F (21.1°C) entering air temperature, 180/160°F (82.2/71.1°C) entering / leaving hot water temperature. For other conditions refer to correction factor Chart 4.

Air temp. rise [°F] = $\frac{\text{Capacity (Btuh)}}{1.1 \times \text{CFM}}$

or

[°C] = $\frac{\text{Capacity (KW)}}{1.232 \times \text{L/s}}$

Hot Water Capacity Correction Factor

How to use Chart 4

Intersection of EWT and EAT read horizontally on vertical axis correction factors.

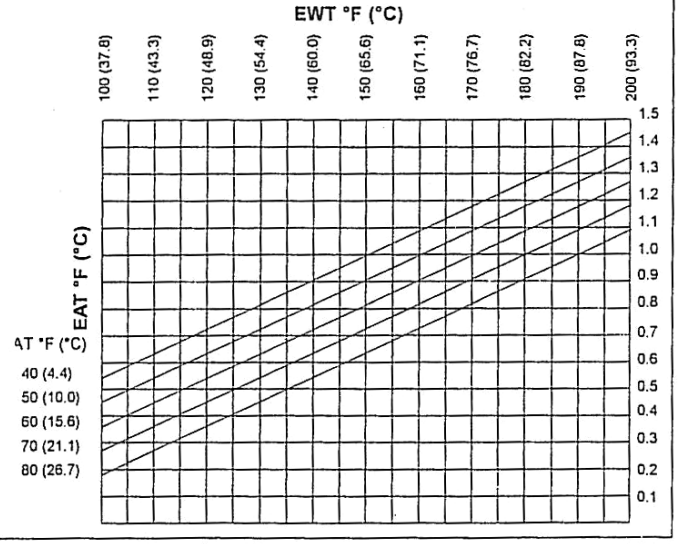
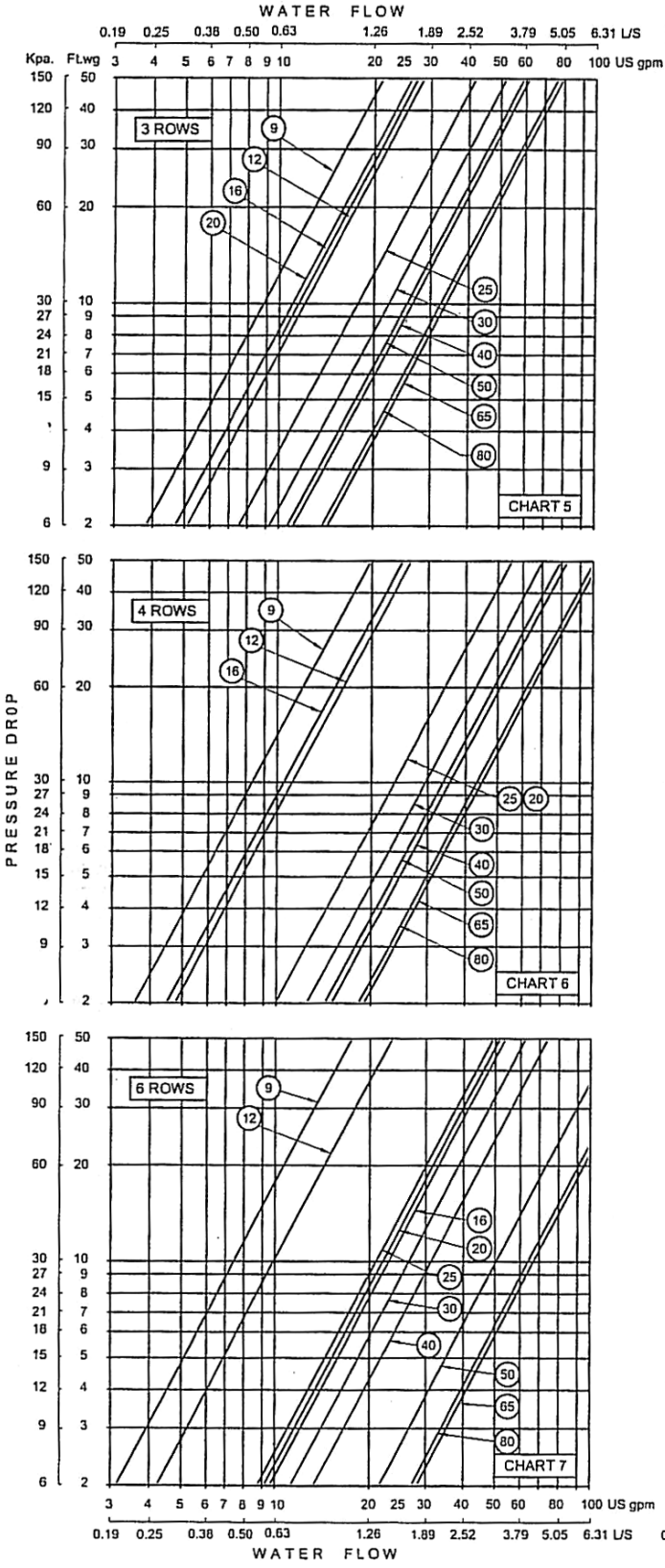
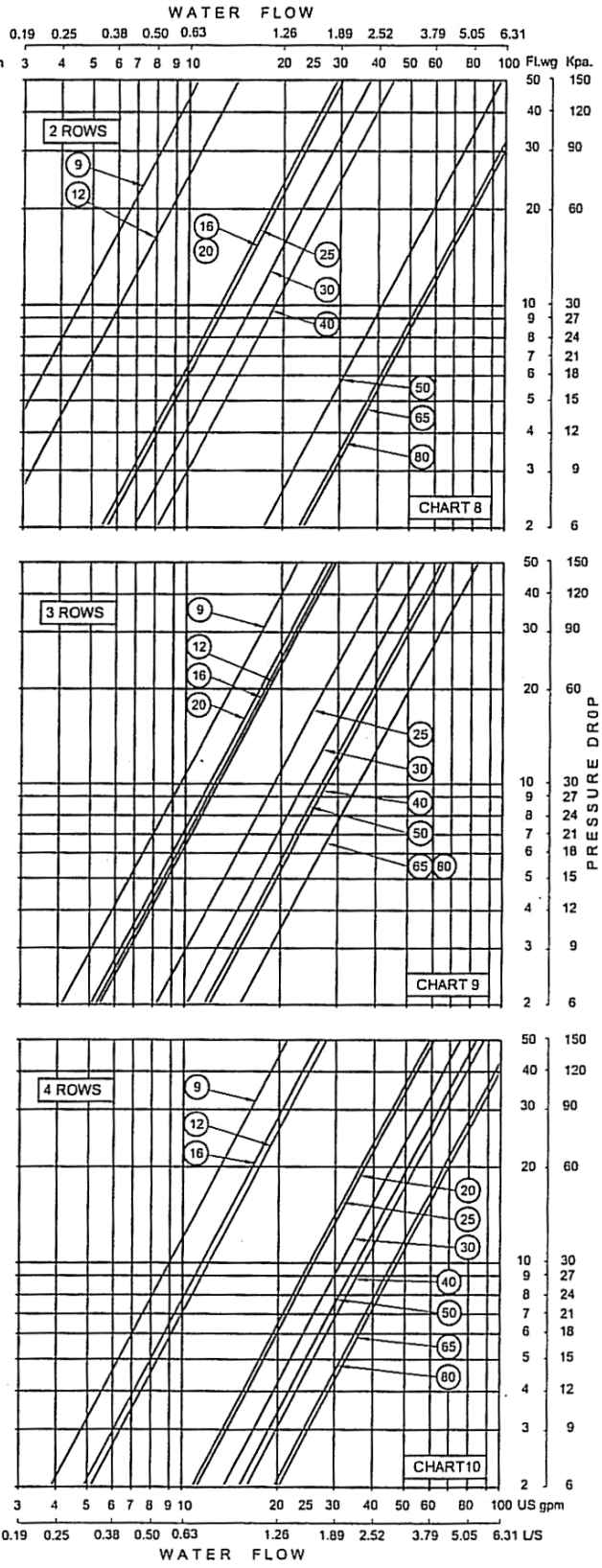


Chart - 4

Water Pressure Drop - Chilled Water Coils



Water Pressure Drop - Hot Water Coils



Connection Sizes

H/V CAH		DRAIN SIZE	DIRECT EXPANSION COILS						CHILLED WATER COILS			HOT WATER COILS		
			3 Rows		4 Rows		6 Rows		3 Rows	4 Rows	6 Rows	2 Rows	3 Rows	4 Rows
			Liquid	Suction	Liquid	Suction	Liquid	Suction	In / Out	In / Out	In / Out	In / Out	In / Out	In / Out
9	inch	3/4	5/8	1 1/8	5/8	1 1/8	5/8	1 1/8	7/8	7/8	1 1/8	7/8	7/8	1 1/8
	mm	19	16	29	16	29	16	29	22	22	29	22	22	29
12	inch	3/4	5/8	1 1/8	5/8	1 1/8	5/8	1 1/8	7/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8
	mm	19	16	29	16	29	16	29	22	29	29	29	29	29
16	inch	3/4	5/8	1 1/8	7/8	1 3/8	7/8	1 3/8	1 1/8	1 1/8	1 1/8	1 1/8	1 1/8	1 3/8
	mm	19	16	29	22	35	22	35	29	29	29	29	29	35
20	inch	3/4	7/8	1 3/8	7/8	1 3/8	7/8	1 3/8	1 1/8	1 3/8	1 3/8	1 1/8	1 3/8	1 3/8
	mm	19	22	35	22	35	22	35	29	35	35	29	35	35
25	inch	3/4	7/8	1 3/8	7/8	1 3/8	7/8	1 5/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8
	mm	19	22	35	22	35	22	41	35	35	35	35	35	35
30	inch	3/4	7/8	1 3/8	7/8	1 5/8	7/8	1 5/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8	1 3/8
	mm	19	22	35	22	41	22	41	35	35	35	35	35	35
40	inch	1	7/8	1 5/8	1 1/8	2 1/8	1 1/8	2 1/8	1 3/8	1 5/8	1 5/8	1 3/8	1 5/8	1 5/8
	mm	25	22	41	29	54	29	54	35	41	41	35	41	41
50	inch	1	1 1/8	2 1/8	1 1/8	2 1/8	1 1/8	2 1/8	1 5/8	1 5/8	2 1/8	1 5/8	2 1/8	2 1/8
	mm	25	29	54	29	54	29	54	41	41	54	41	54	54
65	inch	1	1 1/8	2 1/8	1 1/8	2 1/8	1 1/8	2 1/8	2 1/8	2 1/8	2 1/8	2 1/8	2 1/8	2 1/8
	mm	25	29	54	29	54	29	54	54	54	54	54	54	54
80	inch	1	1 1/8	2 1/8	1 1/8	2 1/8	1 3/8	2 5/8	2 1/8	2 1/8	2 1/8	2 1/8	2 1/8	2 1/8
	mm	25	29	54	29	54	35	67	54	54	54	54	54	54

Table - 11

Air Pressure Drop

COMPONENTS			AIR PRESSURE DROP, inwg							AIR PRESSURE DROP, Pascals						
			Coil Face Velocity, fpm							Coil Face Velocity, m/s						
			300	350	400	450	500	550	600	1.5	1.8	2.0	2.3	2.5	2.8	3.0
FLAT FILTER	1 inch Aluminum	-	0.02	0.03	0.05	0.06	0.07	0.09	0.12	5	8	13	15	18	23	30
	2 inch Aluminum	-	0.05	0.07	0.10	0.12	0.18	0.22	0.26	13	18	25	30	45	55	65
	1 inch Synthetic	-	0.10	0.12	0.15	0.18	0.21	0.24	0.28	25	30	38	45	53	60	70
	2 inch Synthetic	-	0.15	0.17	0.20	0.23	0.27	0.31	0.35	38	43	50	58	68	78	88
VEE FILTER	1 inch Aluminum	-	0.01	0.02	0.04	0.04	0.05	0.06	0.08	4	5	9	11	12	16	21
	2 inch Aluminum	-	0.04	0.05	0.07	0.08	0.13	0.15	0.18	9	12	18	21	32	39	46
	1 inch Synthetic	-	0.07	0.08	0.11	0.13	0.15	0.17	0.20	18	21	26	32	37	42	49
	2 inch Synthetic	-	0.11	0.12	0.14	0.16	0.19	0.22	0.25	26	30	35	40	47	54	61
COOLING COIL (WET)	3 Rows	8 fpi	0.08	0.10	0.13	0.16	0.19	0.23	0.27	20	26	33	40	49	58	67
		10 fpi	0.10	0.12	0.16	0.19	0.23	0.28	0.32	24	31	39	49	58	69	81
		12 fpi	0.11	0.15	0.19	0.23	0.27	0.32	0.38	28	37	46	57	69	81	95
	4 Rows	8 fpi	0.11	0.14	0.18	0.22	0.26	0.31	0.36	27	35	44	54	65	77	90
		10 fpi	0.13	0.17	0.21	0.26	0.31	0.37	0.43	32	42	53	65	78	92	107
		12 fpi	0.15	0.20	0.25	0.30	0.37	0.43	0.50	37	49	62	76	92	108	126
	6 Rows	8 fpi	0.16	0.21	0.26	0.32	0.39	0.46	0.54	40	52	66	81	97	115	134
		10 fpi	0.19	0.25	0.32	0.39	0.47	0.55	0.64	48	62	79	97	117	138	161
		12 fpi	0.22	0.29	0.37	0.46	0.55	0.65	0.76	56	73	93	114	137	162	189
COOLING COIL (DRY)	3 Rows	8 fpi	0.06	0.08	0.10	0.12	0.15	0.18	0.21	15	20	25	31	37	44	52
		10 fpi	0.07	0.10	0.12	0.15	0.18	0.21	0.25	18	24	30	37	45	53	62
		12 fpi	0.09	0.11	0.14	0.18	0.21	0.25	0.29	22	28	36	44	53	62	73
	4 Rows	8 fpi	0.08	0.11	0.13	0.17	0.20	0.24	0.28	20	27	34	41	50	59	69
		10 fpi	0.10	0.13	0.16	0.20	0.24	0.28	0.33	25	32	40	50	60	71	83
		12 fpi	0.12	0.15	0.19	0.23	0.28	0.33	0.39	29	38	48	58	70	83	97
	6 Rows	8 fpi	0.12	0.16	0.20	0.25	0.30	0.35	0.41	31	40	51	62	75	89	103
		10 fpi	0.15	0.19	0.24	0.30	0.36	0.43	0.50	37	48	61	75	90	106	124
		12 fpi	0.17	0.23	0.29	0.35	0.42	0.50	0.58	43	56	71	88	106	125	146
HOT WATER COIL	2 Rows	8 fpi	0.04	0.05	0.07	0.08	0.10	0.12	0.14	10	13	17	21	25	30	34
		10 fpi	0.05	0.06	0.08	0.10	0.12	0.14	0.17	12	16	20	25	30	35	41
		12 fpi	0.06	0.08	0.10	0.12	0.14	0.17	0.19	14	19	24	29	35	42	49
	3 Rows	8 fpi	0.06	0.08	0.10	0.12	0.15	0.18	0.21	15	20	25	31	37	44	52
		10 fpi	0.07	0.10	0.12	0.15	0.18	0.21	0.25	18	24	30	37	45	53	62
		12 fpi	0.09	0.11	0.14	0.18	0.21	0.25	0.29	22	28	36	44	53	62	73
	4 Rows	8 fpi	0.08	0.11	0.13	0.17	0.20	0.24	0.28	20	27	34	41	50	59	69
		10 fpi	0.10	0.13	0.16	0.20	0.24	0.28	0.33	25	32	40	50	60	71	83
		12 fpi	0.12	0.15	0.19	0.23	0.28	0.33	0.39	29	38	48	58	70	83	97
OTHERS	Droplet Eliminator	-	0.03	0.04	0.06	0.08	0.10	0.11	0.12	8	10	15	20	25	28	30
	Electric Heater	-	0.01	0.02	0.02	0.03	0.04	0.04	0.05	3	5	5	8	10	10	13
	Retrun Air Grill	-	0.01	0.01	0.02	0.02	0.03	0.03	0.04	3	3	5	5	8	8	10
	Casing	-	0.08	0.09	0.10	0.12	0.15	0.18	0.21	20	23	25	30	38	45	53
	Discharge Plenum - Horizontal	-	0.03	0.04	0.06	0.08	0.10	0.12	0.14	8	10	15	20	25	30	35
	Discharge Plenum - Vertical	-	0.05	0.06	0.08	0.10	0.12	0.14	0.16	13	15	20	25	30	35	40

Table - 12

Fan Performance & Sound Data

HV/CAH	Air Flow Rate		Coil Face Velocity		Total Static Pressure, inwg (Pa)														Sound Power db(A)	Sound Pressure db(A)
					0.6 (150)		0.8 (200)		1.0 (250)		1.2 (300)		1.4 (350)		1.6 (400)		1.8 (450)		2.0 (500)			
	cfm	l/s	fpm	m/s	rpm	KW	rpm	KW	rpm	KW	rpm	KW	rpm	KW	rpm	KW	rpm	KW	rpm	KW		
9	600	283	327	1.66	1093	0.09	1248	0.13	1392	0.16	1526	0.20	1653	0.24	1773	0.28	1887	0.32			70	54
	700	330	382	1.94	1120	0.11	1264	0.15	1399	0.18	1526	0.22	1647	0.26	1762	0.31	1872	0.35	1978	0.40	72	56
	800	378	436	2.22	1158	0.14	1291	0.17	1417	0.21	1537	0.25	1652	0.29	1762	0.34	1867	0.39	1969	0.43	73	57
	900	425	491	2.49	1204	0.17	1327	0.20	1445	0.24	1558	0.28	1666	0.33	1771	0.38	1872	0.42	1970	0.48	75	59
	1000	472	545	2.77	1257	0.20	1371	0.24	1481	0.28	1588	0.32	1690	0.37	1789	0.42	1886	0.47	1979	0.52	76	60
12	900	425	368	1.87	861	0.10	997	0.14	1119	0.18	1230	0.22	1331	0.26	1426	0.30	1514	0.34	1597	0.38	71	55
	1000	472	409	2.08	863	0.11	995	0.15	1115	0.19	1225	0.23	1327	0.28	1422	0.32	1510	0.37	1594	0.41	71	55
	1100	519	450	2.29	868	0.13	995	0.17	1112	0.21	1221	0.25	1322	0.30	1417	0.35	1506	0.40	1590	0.44	72	56
	1200	566	491	2.49	877	0.14	998	0.18	1112	0.23	1218	0.27	1318	0.32	1413	0.37	1501	0.42	1586	0.48	73	57
	1300	613	532	2.70	889	0.16	1005	0.20	1114	0.24	1218	0.29	1316	0.34	1409	0.40	1497	0.45	1581	0.51	74	58
16	1000	472	300	1.52	863	0.11	995	0.15	1115	0.19	1225	0.23	1327	0.28	1422	0.32	1510	0.37	1594	0.41	71	55
	1200	566	360	1.83	877	0.14	998	0.18	1112	0.23	1218	0.27	1318	0.32	1413	0.37	1501	0.42	1586	0.48	73	57
	1400	661	420	2.13	905	0.18	1014	0.22	1119	0.27	1220	0.32	1315	0.37	1407	0.42	1494	0.48	1577	0.54	75	59
	1600	755	480	2.44	942	0.22	1042	0.27	1138	0.32	1231	0.37	1321	0.42	1408	0.48	1492	0.54	1572	0.60	77	61
	1800	849	540	2.74	987	0.28	1078	0.33	1167	0.38	1253	0.43	1336	0.49	1418	0.55	1497	0.61	1574	0.68	79	63
20	1400	661	336	1.71	734	0.18	841	0.24	943	0.30	1039	0.36	1131	0.42	1217	0.48	1299	0.54	1378	0.60	73	57
	1600	755	384	1.95	748	0.22	847	0.28	941	0.34	1031	0.41	1118	0.47	1201	0.54	1281	0.61	1358	0.68	74	58
	1800	849	432	2.19	770	0.27	860	0.33	947	0.39	1031	0.46	1113	0.53	1192	0.61	1269	0.69	1342	0.76	76	60
	2000	944	480	2.44	797	0.32	880	0.39	960	0.45	1039	0.53	1115	0.60	1190	0.68	1263	0.76	1333	0.85	77	61
	2200	1038	528	2.68	828	0.39	905	0.45	980	0.52	1053	0.60	1124	0.68	1194	0.76	1263	0.85	1330	0.93	79	63
25	1900	897	380	1.93	783	0.29	869	0.36	953	0.42	1034	0.49	1113	0.57	1190	0.64	1265	0.72	1337	0.80	76	60
	2100	991	420	2.13	812	0.35	892	0.42	969	0.49	1045	0.56	1119	0.64	1191	0.72	1262	0.80	1331	0.89	78	62
	2300	1085	460	2.34	845	0.43	919	0.49	991	0.56	1062	0.64	1131	0.72	1199	0.80	1266	0.89	1331	0.98	80	64
	2500	1180	500	2.54	881	0.51	950	0.58	1018	0.65	1084	0.73	1149	0.82	1212	0.90	1275	0.99	1337	1.08	81	65
	2700	1274	540	2.74	918	0.61	984	0.68	1047	0.76	1109	0.84	1170	0.92	1231	1.01	1290	1.10	1348	1.20	83	67
30	2100	991	336	1.71	620	0.27	716	0.34	804	0.41	886	0.49	962	0.57	1032	0.66	1099	0.75	1162	0.84	74	58
	2400	1133	384	1.95	625	0.34	716	0.41	800	0.49	879	0.57	954	0.66	1024	0.75	1090	0.84	1152	0.94	75	59
	2700	1274	432	2.19	637	0.42	720	0.50	800	0.58	876	0.67	948	0.76	1017	0.85	1082	0.95	1144	1.05	76	60
	3000	1416	480	2.44	653	0.51	730	0.60	805	0.69	877	0.78	946	0.88	1013	0.98	1076	1.08	1137	1.19	78	62
	3300	1557	528	2.68	674	0.62	744	0.72	814	0.81	882	0.91	948	1.02	1012	1.12	1073	1.23	1133	1.34	79	63
40	2800	1321	350	1.78	512	0.35	593	0.46	668	0.58	737	0.70	802	0.82	864	0.95	922	1.08	977	1.22	72	56
	3200	1510	400	2.03	515	0.42	592	0.53	663	0.66	730	0.79	793	0.92	852	1.06	909	1.21	964	1.35	73	57
	3600	1699	450	2.29	522	0.50	594	0.62	661	0.75	725	0.89	786	1.03	844	1.18	899	1.34	952	1.49	74	58
	4000	1888	500	2.54	533	0.60	600	0.73	664	0.86	725	1.01	783	1.16	839	1.31	892	1.48	944	1.64	76	60
	4400	2076	550	2.79	547	0.72	609	0.85	669	0.99	727	1.14	783	1.30	837	1.46	888	1.63	938	1.81	77	61
50	3500	1652	350	1.78	520	0.48	593	0.60	661	0.73	726	0.86	787	1.00	846	1.15	902	1.30	955	1.46	74	58
	4000	1888	400	2.03	533	0.60	600	0.73	664	0.86	725	1.01	783	1.16	839	1.31	892	1.48	944	1.64	76	60
	4500	2124	450	2.29	551	0.76	612	0.89	671	1.03	728	1.18	783	1.33	837	1.50	888	1.67	937	1.85	77	61
	5000	2359	500	2.54	572	0.94	628	1.08	683	1.22	737	1.38	789	1.54	839	1.72	888	1.90	935	2.08	79	63
	5500	2595	550	2.79	595	1.17	648	1.31	699	1.46	749	1.62	798	1.79	846	1.97	892	2.15	937	2.35	81	65
80	5000	2359	375	1.90	444	0.63	507	0.79	567	0.96	623	1.13	675	1.32	724	1.50	770	1.70	814	1.90	77	61
	5500	2595	412	2.10	450	0.73	510	0.90	567	1.08	621	1.27	672	1.46	720	1.66	766	1.86	810	2.07	78	62
	6000	2831	450	2.29	459	0.85	515	1.03	569	1.22	621	1.41	671	1.62	718	1.82	763	2.04	806	2.26	79	63
	6500	3067	488	2.48	469	0.98	522	1.17	573	1.37	623	1.58	671	1.79	717	2.01	761	2.23	804	2.46	81	65
	7000	3303	525	2.67	481	1.13	531	1.33	580	1.54	627	1.76	673	1.98	717	2.21	760	2.44	802	2.68	82	66
	5600	2643	350	1.78	452	0.76	511	0.93	567	1.11	621	1.30	672	1.49	720	1.69	765	1.90	809	2.11	79	63
	6400	3020	400	2.03	467	0.96	520	1.14	572	1.34	623	1.54	671	1.75	717	1.97	761	2.19	804	2.42	80	64
	7200	3398	450	2.29	487	1.20	535	1.40	582	1.61	629	1.83	674	2.06	718	2.29	761	2.53	802	2.77	82	66
	8000	3775	500	2.54	510	1.49	554	1.71	597	1.94	640	2.17	682	2.41	723	2.66	763	2.92	803	3.18	85	69
	8800	4153	550	2.79	536	1.84	576	2.07	615	2.32	655	2.57	694	2.82	732	3.09	770	3.36	807	3.63	87	71

Table 13

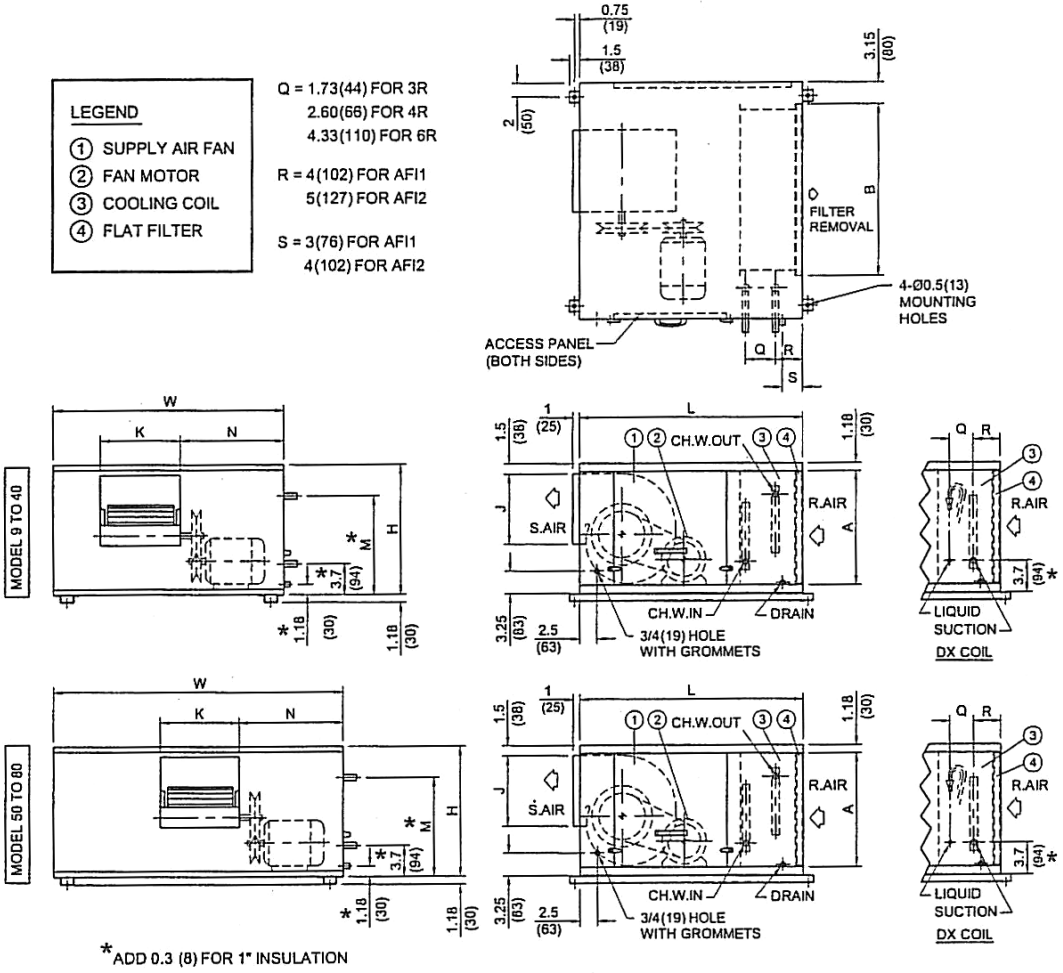
Frequency	Hz	63	125	250	500	1000	2000	4000	8000
Sound Level	db	-30	-18	-10	-5	-5	-7	-11	-18

Table - 14

Notes :

1. *Area to the left of the blue line represents operating range of standard motor. Beyond this line use larger size motor.*
2. *Sound Power Level in db(A) reference 10^{-12} Watts, at 1.0 inwg (250 Pa) total static pressure.*
3. *Sound Pressure Level in db(A) reference $2x10^{-5}$ Pascals, at 1.0 inwg (250 Pa) total static pressure and measured at 10 ft (3.0metre) distance away from the unit in free field.*
4. *To obtain sound data at different octave band mid frequencies, add the db value obtained from table 13 to db(A) values corresponding to the frequencies shown in table 14.*
5. *To arrive at actual sound level of the unit, conditioned space factors like room absorption effect, duct work, insulation and grills etc. should be taken into account.*

Dimensional Data - HCAH (Horizontal Arrangement)

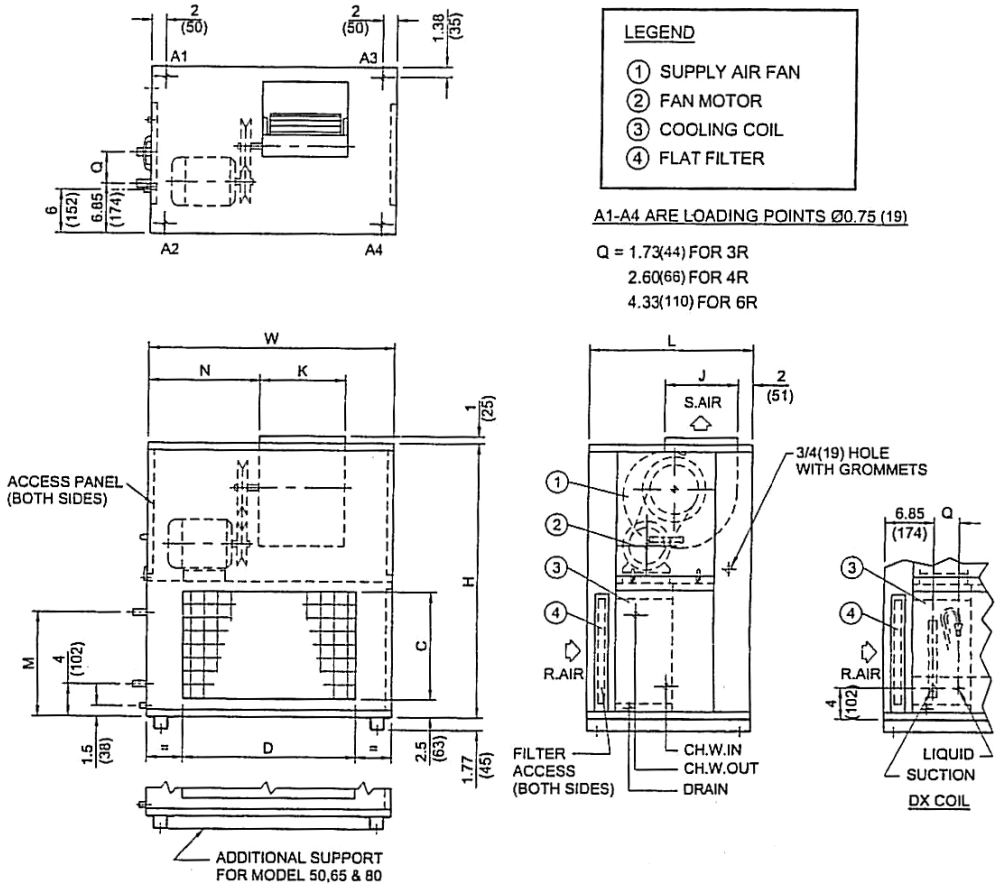


*ADD 0.3 (8) FOR 1" INSULATION

ALL DIMENSIONS ARE IN INCHES (MM)

MODEL HCAH	L	W	H	A	B	J	K	M	N	DRAIN Ø
9	33 (838)	34 (864)	16 (406)	13.64 (346)	23.57 (599)	8.19 (208)	9.13 (232)	11.20 (284)	15.50 (394)	0.75 (19)
12	35 (889)	34 (864)	20 (508)	17.64 (448)	23.57 (599)	10.31 (262)	11.73 (298)	15.20 (386)	15.50 (394)	0.75 (19)
16	35 (889)	40 (1016)	20 (508)	17.64 (448)	31.57 (802)	10.31 (262)	11.73 (298)	15.20 (386)	15.50 (394)	0.75 (19)
20	35 (889)	48 (1219)	20 (508)	17.64 (448)	39.07 (992)	11.38 (289)	13.03 (331)	15.20 (386)	17.49 (444)	0.75 (19)
25	35 (889)	55 (1397)	20 (508)	17.64 (448)	46.57 (1183)	11.38 (289)	13.03 (331)	15.20 (386)	20.99 (533)	0.75 (19)
30	40 (1016)	55 (1397)	24 (610)	21.64 (550)	46.57 (1183)	13.43 (341)	15.55 (395)	19.20 (488)	19.72 (501)	0.75 (19)
40	46 (1168)	58 (1473)	28 (711)	25.64 (651)	49.57 (1259)	15.91 (404)	18.54 (471)	23.20 (589)	19.73 (501)	1 (25)
50	46 (1168)	70 (1778)	28 (711)	25.64 (651)	61.57 (1564)	15.91 (404)	18.54 (471)	23.20 (589)	25.73 (654)	1 (25)
65	46 (1168)	70 (1778)	36 (914)	33.64 (854)	61.57 (1564)	18.82 (478)	21.93 (557)	31.20 (792)	24.04 (611)	1 (25)
80	46 (1168)	82 (2083)	36 (914)	33.64 (854)	73.57 (1869)	18.82 (478)	21.93 (557)	31.20 (792)	30.03 (763)	1 (25)

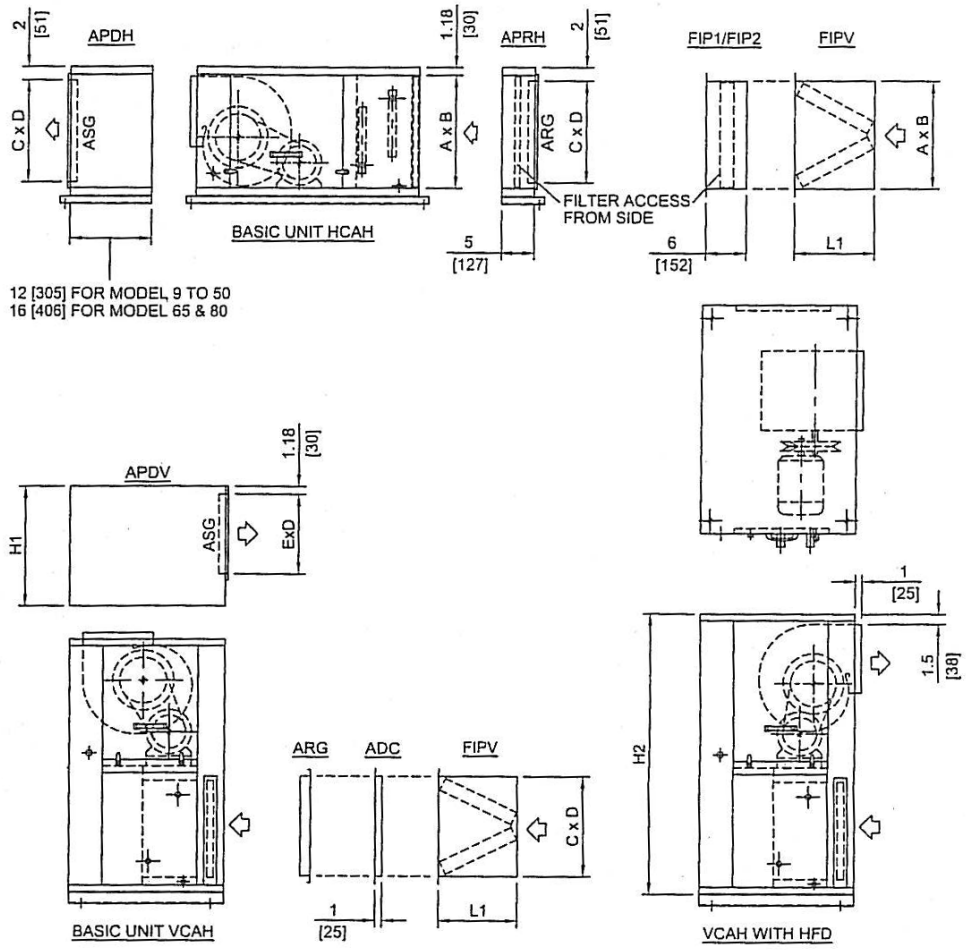
Dimensional Data - VCAH (Vertical Arrangement)



ALL DIMENSIONS ARE IN INCHES(MM)

MODEL VCAH	L	W	H	C	D	J	K	M	N	DRAIN Ø
9	26 (660)	34 (864)	30 (762)	12 (305)	22 (559)	8.19 (208)	9.13 (232)	11.50 (292)	15.50 (394)	0.75 (19)
12	26 (660)	34 (864)	36 (914)	16 (406)	22 (559)	10.31 (262)	11.73 (298)	15.51 (394)	15.50 (394)	0.75 (19)
16	26 (660)	40 (1016)	36 (914)	16 (406)	30 (762)	10.31 (262)	11.73 (298)	15.51 (394)	15.50 (394)	0.75 (19)
20	26 (660)	48 (1219)	38 (965)	16 (406)	37.5 (953)	11.38 (289)	13.03 (331)	15.51 (394)	17.49 (444)	0.75 (19)
25	26 (660)	55 (1397)	38 (965)	16 (406)	45 (1143)	11.38 (289)	13.03 (331)	15.51 (394)	20.99 (533)	0.75 (19)
30	30 (762)	55 (1397)	44 (1118)	20 (508)	45 (1143)	13.43 (341)	15.55 (395)	19.53 (496)	19.72 (501)	0.75 (19)
40	32 (813)	58 (1473)	52 (1321)	24 (610)	48 (1219)	15.91 (404)	18.54 (471)	23.50 (597)	19.73 (501)	1 (25)
50	32 (813)	70 (1778)	52 (1321)	24 (610)	60 (1524)	15.91 (404)	18.54 (471)	23.50 (597)	25.73 (654)	1 (25)
65	36 (914)	70 (1778)	64 (1626)	32 (813)	60 (1524)	18.82 (478)	21.93 (557)	31.50 (800)	24.04 (611)	1 (25)
80	36 (914)	82 (2083)	64 (1626)	32 (813)	72 (1829)	18.82 (478)	21.93 (557)	31.50 (800)	30.03 (763)	1 (25)

Dimensional Data - Accessories



ALL DIMENSIONS ARE IN INCHES [MM]

MODEL HCAH-VCAH	A	B	C	D	E	H1	H2	L1
9	13.64 [346]	23.57 [599]	12 [305]	22 [559]	12 [305]	18 [457]	34 [864]	12 [305]
12	17.64 [448]		16 [404]				40 [1016]	15 [381]
16		31.57 [802]		30 [762]				
20		39.07 [992]		37.5 [953]			42 [1067]	
25		46.57 [1183]		45 [1143]				
30	21.64 [550]		20 [508]				48 [1219]	18 [457]
40	25.64 [651]	49.57 [1259]	24 [610]	48 [1219]	18 [457]	24 [610]	56 [1422]	20 [508]
50		61.57 [1564]		60 [1524]				
65	33.64 [854]		32 [813]				68 [1727]	24 [610]
80		73.57 [1869]		72 [1829]				

LEGEND

ADC	DUCT CONNECTOR
AFI1	PANEL FILTER 1" THICK
AFI2	PANEL FILTER 2" THICK
APDH	DISCHARGE PLENUM + ASG
APDV	DISCHARGE PLENUM + ASG
APRH	RETURN PLENUM + ARG + (AFI1 or AFI2)
ARG	RETURN GRILL
ASG	SUPPLY GRILL
FIP1/2	PANEL FILTER SECTION +(AFI1 or AFI2)
FIPV	VEE FILTER SECTION +(AFI1 or AFI2)
HFD	HORIZONTAL FAN DISCHARGE

Weights

MODEL			H/V CAH	9	12	16	20	25	30	40	50	65	80
BASIC UNIT - SINGLE SKIN Fan + Casing + Filter with out motor	Horizontal Arrangement		lbs	110.7	133.9	145.6	167.4	181.1	226.7	281.0	333.7	401.2	439.9
			kg	50.3	60.8	66.2	76.1	82.3	103.1	127.7	151.7	182.4	200.0
	Vertical Arrangement		lbs	128.5	150.5	165.6	197.0	215.1	263.7	318.7	358.3	455.5	502.0
			kg	58.4	68.4	75.3	89.5	97.8	119.9	144.9	162.9	207.1	228.2
BASIC UNIT - DOUBLE SKIN Fan + Casing + Filter + Inner Skin with out motor	Horizontal Arrangement		lbs	161.4	193.2	212.7	244.5	267.2	330.3	409.9	483.2	572.1	633.6
			kg	73.3	87.8	96.7	111.2	121.4	150.1	186.3	219.6	260.0	288.0
	Vertical Arrangement		lbs	190.5	220.8	244.5	290.8	319.2	388.3	469.8	532.7	670.5	744.7
			kg	86.6	100.4	111.1	132.2	145.1	176.5	213.5	242.1	304.8	338.5
WEIGHT per ROW	with Aluminum Fins	8 fpi	lbs	3.5	4.4	5.6	6.8	8.0	9.5	11.6	14.2	18.1	21.3
			kg	1.6	2.0	2.6	3.1	3.6	4.3	5.3	6.5	8.2	9.7
		10 fpi	lbs	3.7	4.6	6.0	7.2	8.5	10.1	12.4	15.2	19.4	22.9
			kg	1.7	2.1	2.7	3.3	3.9	4.6	5.6	6.9	8.8	10.4
		12 fpi	lbs	3.9	4.8	6.3	7.6	9.0	10.7	13.2	16.1	20.7	24.4
			kg	1.8	2.2	2.9	3.5	4.1	4.9	6.0	7.3	9.4	11.1
	with Copper Fins	8 fpi	lbs	5.1	6.5	8.6	10.5	12.4	15.0	18.7	23.1	29.9	35.5
			kg	2.3	3.0	3.9	4.8	5.6	6.8	8.5	10.5	13.6	16.1
		10 fpi	lbs	5.7	7.3	9.6	11.8	14.0	17.0	21.3	26.3	34.1	40.6
			kg	2.6	3.3	4.4	5.4	6.4	7.7	9.7	11.9	15.5	18.5
		12 fpi	lbs	6.3	8.1	10.7	13.2	15.6	19.0	23.8	29.4	38.4	45.7
			kg	2.9	3.7	4.9	6.0	7.1	8.6	10.8	13.4	17.4	20.8
WEIGHT of WATER per ROW (for chilled water & hot water coils)			lbs	1.0	1.4	1.8	2.3	2.7	3.3	4.3	5.3	7.0	8.4
			kg	0.5	0.6	0.8	1.0	1.2	1.5	1.9	2.4	3.2	3.8
ELIMINATOR			lbs	3.7	4.9	6.7	8.3	10.0	12.5	16.0	20.0	26.7	32.0
			kg	1.7	2.2	3.0	3.8	4.5	5.7	7.3	9.1	12.1	14.5
HEATER			lbs	9.0	9.0	12.0	12.0	15.0	18.0	20.0	25.0	30.0	40.0
			kg	4.1	4.1	5.5	5.5	6.8	8.2	9.1	11.4	13.6	18.2
DISCHARGE PLENUM (Plenum + Grill)	Horizontal Arrangement		lbs	30.9	35.6	42.4	49.8	56.8	64.7	76.3	97.0	116.9	135.1
			kg	14.0	16.2	19.3	22.7	25.8	29.4	34.7	44.1	53.1	61.4
	Vertical Arrangement		lbs	39.4	39.4	45.8	52.9	59.6	61.6	84.5	99.2	101.6	116.4
			kg	17.9	17.9	20.8	24.1	27.1	28.0	38.4	45.1	46.2	52.9
RETURN AIR PLENUM [illegible]num + Grill)	Horizontal Arrangement		lbs	16.4	20.0	25.3	30.5	35.6	42.4	52.1	65.7	83.4	98.4
			kg	7.5	9.1	11.5	13.9	16.2	19.3	23.7	29.9	37.9	44.7
RETURN AIR GRILL	Vertical Arrangement		lbs	4.4	5.9	8.0	10.0	12.0	15.0	19.2	24.0	32.0	38.4
			kg	2.0	2.7	3.6	4.5	5.5	6.8	8.7	10.9	14.5	17.5
FLAT FILTER SECTION			lbs	5.5	6.3	7.9	9.3	10.7	11.9	13.7	16.3	19.0	22.0
			kg	2.5	2.9	3.6	4.2	4.9	5.4	6.2	7.4	8.7	10.0
VEE FILTER SECTION			lbs	15.0	20.9	25.6	35.3	40.5	43.8	54.1	63.6	83.7	95.3
			kg	6.8	9.5	11.6	16.1	18.4	19.9	24.6	28.9	38.1	43.3
DUCT CONNECTOR			lbs	2.3	2.6	3.1	3.6	4.1	4.4	4.8	5.6	6.2	7.0
			kg	1.0	1.2	1.4	1.6	1.9	2.0	2.2	2.6	2.8	3.2

MOTOR SIZE	KW	0.55 & 0.75	1.1	1.5	2.2	3.0
MOTOR WEIGHT	lbs	20	28	32	54	54
	kg	9.1	12.7	14.5	24.5	24.5

Table 15

GENERAL

Comfort Air Handling Units shall be completely factory assembled, type and size shall be as indicated on the equipment schedule. Units shall be draw-thru arrangement, compact and rigid construction. Each unit should consist of at least casing, fan, motor, coil, drain pan and filter.

Units shall be able to handle total static pressure up to 3.0 in W.G. (750 Pa) Units shall be horizontal or vertical arrangements as shown on attached drawings. Units shall be supplied with free return, 1 inch (25 mm) supply air duct collar and removable panels for easy access to internal components Units shall be installed at site as per Installation Operation & Maintenance Manual

CASING

- Units casing shall be constructed of heavy gauge hot dip galvanized steel, in galvanized or painted finish as indicated on the equipment schedule.
- Galvanized casing shall be made of hot-dip galvanized steel sheets.
- Painted casing shall be made of hot-dip galvanized steel sheets. Fabricated steel shall be thoroughly de-greased and then phosphatized before application of an average 60 micron baked electrostatic polyester dry powder coating in RAL 7032 color scheme. This finish can pass 1000 hour, 5% salt spray test at 95°F (35°C) and 95% relative humidity (ASTM B 117/85).
- Units casing shall be made of stainless steel or aluminum if so specified.
- Access panel shall be provided with quick release fasteners and handle.
- Casing shall be internally insulated. Insulation thickness of horizontal units shall be 1/2" (13 mm), one inch (25 mm) thick insulation shall be provided if so specified. Insulation thickness of vertical units shall be one inch (25 mm). Insulation density and thermal conductivity shall be 2 lb/ft^3 (32 kg/m^3) and 0.23 BTU. in/ft^2.F.h. (0.033 W/mm.°K) respectively and it shall be conformed to HH-1-545B type 1, SMACNA standard for duct liners and ASTM-C-423 and NFPA90A & 90B standard for fire resistance.
- To prevent insulation erosion into air stream, the unit shall be provided with "Double Skin" casing if so specified.
- Interior skin of casing shall be made of hot dip galvanized steel.
- Interior skin of casing shall be made of perforated galvanized steel, aluminum or stainless steel if so specified

FAN

- Fan shall be double width, double inlet, multi blades, and centrifugal type wheels.
- Fan shall be statically & dynamically balanced and tested in a registered laboratory in accordance with AMCA standard 210.
- Fan blades shall be forward curved type and they shall be made of galvanized steel. Fan shaft shall be made of C-45 carbon steel with an anti corrosion varnish.
- Fan impeller shall be keyed to fan shaft to prevent slipping.
- Fan bearings shall be ball type, hermetically sealed, self aligning with eccentric ring for clamping to the shaft.
- Fan shaft shall be stainless steel if so specified.
- Spark proof fan with polygly coating shall be provided if so specified.
- Fan shall be belt-driven by using anti static belts and adjustable pitch drives.

MOTOR

- Motor size and electrical characteristics shall be as indicated on the equipment schedule.
- Fan motor shall be mounted inside the unit on adjustable base. Motor shall be 3-phase, 50 or 60 Hz, totally enclosed fan cooled (TEFC), foot mounted, 4 poles, IP-55 protected with Class - F insulation.
- Single phase or explosion proof motor shall be provided if so specified.

COIL

- Chilled water, hot water, steam & DX coils shall be provided as indicated on the equipment schedule.
- Coil shall be constructed of seamless copper tubes of 3/8" (9.5 mm) O.D. arranged in a staggered form. 5/8" (15.9 mm) O.D. tubes shall be provided if so specified.
- All water coils shall be provided with manual air vents and drain plugs. Auto air vents shall be provided if so specified.
- DX coil shall be provided with distributor. Expansion valve shall be provided if so specified.
- Coil circuiting shall be counter flow. (Direction of coil water / refrigerant flow shall be counter to direction of unit airflow).
- Supply and return water connections of coil section shall

be labeled with "WATER IN" & "WATER OUT" respectively.

- DX coil section shall be labeled with "LIQUID" & "SUCTION".
- Coil connections shall be sealed against unit casing by flexible closed cell gasket.
- Coil tubes shall be mechanically expanded into continuous corrugated aluminum fins to provide compression bond of tubes to fins. Fins shall have drawn collars.
- Optional copper fins, electro-tinned coils or coils with protective coating shall be provided if specified.
- Maximum fins spacing shall be 12 fpi.
- Coil connections shall be sweat type. Optional MPT, FPT or flanged connections shall be provided if so specified.
- Coil shall be rated in accordance with ARI-410 and tested by compressed air under water to the pressure of 300 psig (2068 Kpa)
- Moisture eliminator shall be provided if so indicated on the equipment schedule.
- Eliminator blades shall be made of PVC with specially designed shape to trap water droplets.
- Eliminator blades shall be made of stainless steel or galvanized steel if so specified

DRAIN PAN

- Cooling coil shall be provided with drain pan to remove the condensate formed during the dehumidification.
- Drain pan shall be constructed such that coil headers & '-bends are enclosed by it.
- Drain pan shall be constructed from high thick zinc coated steel sheets, shall be painted, irrespective of the type of finish for unit casing, and insulated from outside with ½" (13 mm) thick fiberglass insulation. The bottom of drain pan shall be plane and drain connection shall be MPT (schedule 40 MS pipe).
- Drain pan shall be constructed of stainless steel if so specified.

FILTER

Units shall be provided with air filter. Filter shall be 1" (25 mm) thick washable aluminum media with Average dust arrestance 75 % based on ASHRAE test # 52 / 76. Filter removal shall be as shown on attached drawings.

Following filters (optional) shall be provided in panel form or arranged in a V-bank to increase the filtration area if so specified:

Thickness inches (mm)	Media	Form	Average dust arrestance based on ASHRAE test # 52/76
2 (50)	Washable Aluminium	Flat	Upto 75%
1-2 (25-50)	Disposable Fibreglass	Flat	Upto 87%
1-2 (25-50)	A blend of non-woven Cotton+Polyster (disposable)	Pleated	Upto 92%
1-2 (25-50)	Washable Synthetic	Flat	Upto 93%
1-2 (25-50)	Washable Synthetic	Pleated	Upto 94%

OPTIONS

Following shall be provided if so specified :

- Single deflection return air grill and double deflection supply air grill for exposed units.
- Discharge plenum for horizontal and vertical units.
- Return air plenum for horizontal units.
- Duct connector for ducted return applications.
- Magnetic switch box.
- Double skin drain pan.
- **Electric Heater Battery :**
  - Electric heater capacity and steps shall be as indicated on the equipment schedule.
  - Electric heater element shall be constructed from 80/ 20 nickel chrome resistance wire, which is connected to terminal pins and centered in stainless steel grade 304L sheath metal tubes by compressed magnesium oxide. The terminal pins shall be insulated from metal tube by ceramic bushes. Helical fins mild steel galvanized shall be tightly wounded around tabular heater elements. Helical fins stainless steel shall be provided if so specified.
  - Electric heater batteries shall be supplied with Auto and manual reset safety cutouts.
  - Electric heater batteries shall be supplied with contactors, fuses, disconnect switch and airflow switch if so specified.
  - Control panel consisting of all controls shall be provided as integral part of the unit.
  - Control panel for remote installation shall be provided if so specified.

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We reserve the right to change in part or in whole the specifications without prior notice

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