

***DIRECT DRIVE
AIR COOLED CONDENSERS
AND HEAT RECLAIM UNITS***





Standard features

- 3/8 inch inner grooved copper tubing up to 5 fan long units.
- Reduced refrigerant charge with high heat-transfer.
- Tube sheets with oversized holes and unique coil support system, helps friction free expansion and contraction of the tubes, thus minimizing tube wear.
- Choice of single circuit or multi-circuit applications.
- Variety of fan cycling options.
- Choice of fin spacing 8 FPI to 12 FPI.
- All weather fan motors with permanently lubricated sealed ball bearings and internal overload protection.
- 3 3/4 inch spun venturi fan orifices provides maximum fan efficiency and minimum noise level.
- Modular design and individual fan chambers eliminate wind milling effect.
- Oversized access doors for easy coil cleaning.

Optional features

- Choice of copper or polyester coated aluminium fins / Backed phenolic coated coil.
- Horizontal air flow units.
- Variable speed motor controller.
- Multi-circuited coil / liquid sub cooling circuits.
- Choice of individual fan fusing and fan cycling on multi-fan units.
- Heated and insulated receiver with head pressure control valves (Call manufacturer).

Unit Nomenclature

CONDENSER NOMENCLATURE

C D V A - 1 4 4 10 - 8

UNIT VOLTAGE: 2: 240/1/60
5: 208-240/3/60
8: 600/3/60
9: 480/3/60

FIN PER INCH: 08, 09, 10, 11 & 12

ROWS DEEP: 2, 3, 4, 5 & 6

FAN IN LINE: 1, 2, 3, 4, 5 & 6

FAN WIDE: 1 or 2

MOTORS: A: 1.5 HP - 1140 RPM; B: 1 HP - 850 RPM; C: 0.5 HP - 1140 RPM

FAN DISCHARGE: V: Vertical; H: Horizontal

TUBE SIZE: D: 3/8; E: 1/2

UNIT TYPE: C: Condenser; H: Heat reclaim

Control Nomenclature

FAN CYCLING CONTROL PANEL NOMENCLATURE

KFC - 8 - X - 00 - ABC

Options: N: No option
A: Motor Fusing
(One fuse per pair of motors for 2 fans wide units)
B: Individual motor fusing (One fuse per motor)
C: Speed Controller - Temperature
D: Speed Controller - Pressure
E: Non-fused disconnect
D: Fused disconnect

Panel description: 00: No controls, only control box & terminal block
01: Contactor(s), no control
02: Ambient fan cycling (Contactors) & Thermostats
03: Pressure fan cycling (Contactors & Pressurestats)
04: Pressure fan cycling with dual circuits
05: Contactors, ambient fan cycling with pressure override
07: Split Electrical. Contactors, pressure fan cycling
08: Contactors for individually wired motors. No control

Control voltage: 0: No control; X: 24 Volts; 1: 115 Volt; 2: 240 Volts

Unit voltage: 2: 240/1/60; 5: 208-240/3/60; 8: 600/3/60; 9: 480/3/60

COOL-AIR FAN CYCLING CONTROL PANEL

NOTE: One fan or one pair of fans (The first stage) must operate when the compressor(s) to which they are connected to is operating. Two fans wide unit, fan motors wired in pairs, unless stated otherwise.

Selection of an air cooled condenser

Kool-Air Inc. table of selection are based on the **Total Heat Rejection** factor: the THR. The THR is the quantity of heat removed from superheated gas to convert it in to sub cooled liquid. The THR is the sum of the **Net Refrigerating Effect**: the NRE (or net compressor capacity in BTU/H) and the **Heat of Compression** which is the heat gain by refrigerant during compression.

For an open drive compressor the
Heat of Compression = (2546 x BHP)
For a hermetic or semi-hermetic compressor the
Heat of Compression = (3413 x kW x 0.92)
So THR = NEC (BTU/H) + (2546 x BHP)
Or THR = NEC (BTU/H) + (3413 x kW x 0.92)

If the BHP or kW are not available you can use the heat rejection factor in table A, A1 (**should only be used with single stage compressor**)

When you have the THR find your altitude correction factor (**all capacities are for sea level unit**). See table B for altitude correction factor. Then find your refrigerant type correction factor (**all capacities are for R-404A & R-507**). See table C for refrigerant type correction factor. Multiply your THR by the altitude correction factor and by the refrigerant type corrector (if applicable) and then find your model in the condenser table with the right °FTD (**condensing temperature – ambient temperature**)

Example:

INFORMATION:

Open compressor: 225 MBH
(NEC x 1000), 21.2 BHP
Refrigerant: R-404A
Altitude: Sea level
Saturated suction temperature (SST): 20 °F
Saturated condensing temperature (SCT): 110 °F

AMBIENT TEMPERATURE: 90 °F

FORMULA:

FTD = SCT – AMBIENT
FTD = 100 °F - 90 °F
FTD = 20 °F
THR = 225 000 + (2546 x 21.2)
or rejection factor table A1
THR = 225 000 + 53 975
THR = 278 975 BTU/H @ 20 °FTD
or 279 MBH @ 20 °FTD

Selection: CDVC-13409 Cap: 280 MBH @ 20 °FTD

Multiple compressors

The key for multiple compressor selection is to find the THR at 1 °FTD of each compressor. All you need is: the type of compressors (for heat rejection factor) and their capacities (NRE), the refrigerant, the local design ambient temperature, the SST and the SCT.

How to do it:

STEP 1

For **each** compressor fill the following formula:
NRE x Heat Reject. Factor ÷ Altitude Factor ÷ Refrigerant type Factor ÷ FTD = THR @ 1 °FTD

STEP 2

Then make the sum of all THR @ 1 °FTD divide it by 1000 for MBH and find in the table the right condenser (at 1 °FTD capacity) .

STEP 3

Then you have to find the number of circuits for each compressor. Take in the selection table the capacity per circuit in BTU/H/FTD of your selected model. Convert it to your refrigerant type and altitude (if applicable) with table B and C. Divide the number you found in step 1 by this number and this is your number of circuits needed for your compressor. If the total of circuits required exceeds the quantity of circuits available you can select the next larger unit or you can let it this way knowing it will raise the condensing temperature a little which is not dramatic.

Example:

INFORMATION:

Compressors:
1) hermetic, 100 000 BTU/H, 30 °F SST,
105 °F SCT, R-22

Compressors:
2) semi-hermetic, 56 000 BTU/H, 25 °F SST,
110 °F SCT, R-404A

Compressors:
3) open, 245 000 BTU/H, 40 °F SST,
105 °F SCT, R-134a

AMBIENT TEMPERATURE: 90 °F

STEP 1

$$100\,000 \times 1.27 \div 1.02 \div 15 \text{ }^\circ\text{FTD} = 8300 \text{ BUT/H @ } 1 \text{ }^\circ\text{FTD}$$

$$56\,000 \times 1.31 \div 20 \text{ }^\circ\text{FTD} = 3\,668 \text{ BTU/H @ } 1 \text{ }^\circ\text{FTD}$$

$$245\,000 \times 1.16 \div 0.959 \div 15 \text{ }^\circ\text{FTD} = 19\,757 \text{ BTU/H @ } 1 \text{ }^\circ\text{FTD}$$

STEP 2

$$(8300 + 3668 + 19757) \div 1000 = 31.7 \text{ MBH @ } 1 \text{ }^\circ\text{FTD}$$

Selection: CDVB-15312 Cap: 32.3 MBH @ 1°FTD

Circuits available: 52

Capacity/circuit: 621 BTU/H/FTD

STEP 3

$$621 \text{ BTU/H/FTD} \times 1.02 \text{ (R-22)} = 633 \text{ BTU/H/FTD}$$

$$621 \text{ BTU/H/FTD} \times 0.959 \text{ (R-134a)} = 596 \text{ BTU/H/FTD}$$

$$8300 \text{ BUT/H} \div 633 \text{ BTU/H} = 13.11 \pm 13 \text{ circuits for this compressor}$$

$$3668 \text{ BTU/H} \div 621 \text{ BTU/H} = 5.9 \pm 6 \text{ circuits for this compressor}$$

$$19757 \text{ BTU/H} \div 596 \text{ BTU/H} = 33.14 \pm 33 \text{ circuits for this compressor}$$

$$13 + 6 + 33 = 52 \text{ circuits total}$$

SELECTION IS OK

Table A
Heat rejection factors for hermetic and semi-hermetic compressors

SATURATED SUCTION TEMP. F DEG	SATURATED CONDENSING TEMPERATURES F DEG					
	90	100	105	110	120	130
-40	1.66	1.73	1.77	1.80	2.00	2.14
-30	1.57	1.62	1.65	1.68	1.80	1.93
-20	1.49	1.53	1.56	1.58	1.63	1.78
-10	1.42	1.46	1.48	1.50	1.57	1.64
0	1.36	1.40	1.42	1.44	1.50	1.56
10	1.3	1.34	1.36	1.38	1.43	1.49
20	1.26	1.29	1.31	1.33	1.37	1.43
25	1.24	1.27	1.29	1.31	1.35	1.40
30	1.22	1.25	1.27	1.28	1.32	1.37
40	1.28	1.21	1.23	1.24	1.27	1.31
45	1.16	1.19	1.21	1.22	1.25	1.29

Table A1
Heat rejection factors for open compressors

SATURATED SUCTION TEMP. F DEG	SATURATED CONDENSING TEMPERATURES F DEG					
	90	100	105	110	120	130
-40	1.43	1.47	1.50	1.54	1.59	1.67
-30	1.37	1.42	1.45	1.48	1.52	1.60
-20	1.31	1.37	1.39	1.41	1.45	1.52
-10	1.28	1.33	1.35	1.37	1.40	1.47
0	1.25	1.28	1.30	1.32	1.35	1.41
10	1.22	1.25	1.27	1.28	1.32	1.37
20	1.18	1.21	1.22	1.23	1.28	1.32
25	1.16	1.20	1.21	1.22	1.26	1.30
30	1.14	1.18	1.19	1.21	1.24	1.28
40	1.11	1.15	1.16	1.18	1.20	1.23

Table B
Altitude correction factors

ALTITUDE (ft)	FACTOR
1000	1.02
2000	1.05
3000	1.07
4000	1.10
5000	1.12
6000	1.15
7000	1.17
8000	1.20

T.H.R. x Altitude factor = Adjusted T.H.R. req'd

Table C
Refrigerant type correction factors

REFRIGERANT	FACTOR
R-12	0.969
R-134a	0.959
R-22	1.02
R-502	0.99
R-407A,B	1
R-407C	1.02

T.H.R. (R-404A, R-507) x refrigerant type factor = Your refrigerant T.H.R.

Table D
Recommended connection sizes for multi-circuiting

SIZE O.D. INCH	MAXIMUM CAPACITY (MBH THR)			
	R-22		R-404A	
	INLET	OUTLET	INLET	OUTLET
5/8	40	100	30	50
7/8	100	210	90	110
1 1/8	190	360	180	190
1 3/8	340	550	310	290
1 5/8	520	780	480	400
2 1/8	1100	1400	1000	710
2 5/8	1900	2100	1800	1100

SELECTION TABLES

Low CFM Condensers

1/2 HP, 1140 RPM Motors

MODEL	TOTAL HEAT REJECTION (MBH) R-404A, R-507 PER T.D.					AVAILABLE CIRCUITS	CAP. / CIRCUIT BTU/HR /FTD	CONNECTION SIZE OD (IN)		REFRIGERANT CHARGE (Lbs)		SHIPPING WEIGHT Lbs
	1°F	15°F	20°F	25°F	30°F			INLET	OUTLET	SUMMER	WINTER	
CDVC-11209	2.5	38	50	63	75	7	357	7/8	7/8	3.0	10	290
CDVC-11212	2.8	42	56	70	84	7	400	7/8	7/8	3.0	10	298
CDVC-11312	3.6	54	72	90	108	7	514	7/8	7/8	4.5	15	325
CDVC-11412	4.1	62	82	103	123	7	586	1 1/8	7/8	6.0	20	340
CDVC-12212	5.7	86	114	143	171	13	438	1 1/8	7/8	5.9	20	475
CDVC-12309	6.5	98	130	163	195	13	500	1 1/8	1 1/8	8.8	29	500
CDVC-12312	7.2	108	144	180	216	13	554	1 1/8	1 1/8	8.8	29	515
CDVC-12409	7.5	113	150	188	225	13	577	1 1/8	1 1/8	12	39	530
CDVC-12412	8.1	122	162	203	243	13	623	1 3/8	1 1/8	12	39	550
CDVC-13309	9.7	146	194	243	291	20	746	1 3/8	1 1/8	13	43	700
CDVC-13312	10.8	162	216	270	324	20	831	1 3/8	1 1/8	13	43	720
CDVC-13409	11.2	168	224	280	336	27	862	1 3/8	1 1/8	18	60	750
CDVC-13412	12.0	180	240	300	360	27	923	1 3/8	1 1/8	18	60	765

NOTE: For R-22 multiply tabulated capacity by 1.02

For 50 HZ multiply capacity by 0.92

Summer charge is based on 30% of condenser volume with 100 F liquid. Multiply by 1.14 for R-22

Winter charge is based on 90% of condenser volume with -20 F liquid. Multiply by 1.10 for R-22

Heat reclaim units

1/2 HP, 1140 RPM Motors

MODEL	TOTAL HEAT REJECTION (MBH) R-404A, R-507 PER T.D.					AVAILABLE CIRCUITS	CAP. / CIRCUIT BTU/HR /FTD	CONNECTION SIZE OD (IN)		REFRIGERANT CHARGE (Lbs)	SHIPPING WEIGHT Lbs
	1°F	30°F	35°F	40°F	45°F			INLET	OUTLET		
HDHC-11209	2.5	75	88	100	113	26	93	1 3/8	1 3/8	1.0	290
HDHC-11212	2.8	84	98	112	126	26	104	1 3/8	1 3/8	1.0	298
HDHC-11312	3.6	108	126	144	162	20	180	1 3/8	1 3/8	1.5	325
HDHC-11412	4.1	123	144	164	185	27	152	1 3/8	1 3/8	1.9	340
HDHC-12212	5.7	171	200	228	257	26	211	1 5/8	1 5/8	1.9	475
HDHC-12309	6.5	195	228	260	293	40	163	1 5/8	1 5/8	2.8	500
HDHC-12312	7.2	216	252	288	324	40	180	2 1/8	2 1/8	2.8	515
HDHC-12409	7.5	225	263	300	338	27	278	2 1/8	2 1/8	3.9	530
HDHC-12412	8.1	243	284	324	365	27	300	2 1/8	2 1/8	3.9	550
HDHC-13309	9.7	291	340	388	437	40	243	2 1/8	2 1/8	4.1	700
HDHC-13312	10.8	324	378	432	486	40	270	2 1/8	2 1/8	4.1	720
HDHC-13409	11.2	336	392	448	504	54	207	2 1/8	2 1/8	5.7	750
HDHC-13412	12.0	360	420	480	540	54	222	2 1/8	2 1/8	5.7	765

NOTE: For R-22 multiply tabulated capacity by 1.02

For 50 HZ multiply capacity by 0.92

Refrigerant charge is based on 90% vapor and 10% liquid

Connection sizes are based on 10% liquid and 90% vapor

High CFM Condensers

1 1/2 HP, 1140 RPM Motors

MODEL	TOTAL HEAT REJECTION (MBH) R-404A, R-507 PER T.D.					AVAILABLE CIRCUITS	CAP. / CIRCUIT BTU/HR /FTD	CONNECTION SIZE OD (IN)		REFRIGERANT CHARGE (Lbs)		SHIPPING WEIGHT Lbs
	1°F	15°F	20°F	25°F	30°F			INLET	OUTLET	SUMMER	WINTER	
CDVA-11209	4.9	74	98	123	147	17	288	1 3/8	1 1/8	5	18	460
CDVA-11212	5.8	87	116	145	174	17	341	1 3/8	1 1/8	5	18	470
CDVA-11309	6.7	101	134	168	201	17	394	1 3/8	1 1/8	7	28	490
CDVA-11312	7.5	113	150	188	225	17	441	1 3/8	1 1/8	7	28	500
CDVA-11409	7.7	116	154	193	231	17	453	1 3/8	1 1/8	9	37	520
CDVA-11412	8.7	131	174	218	261	17	512	1 3/8	1 1/8	9	37	535
CDVA-12209	10.0	150	200	250	300	17	588	1 5/8	1 3/8	9	36	755
CDVA-12212	11.6	174	232	290	348	17	682	1 5/8	1 3/8	9	38	765
CDVA-12309	13.3	200	266	333	399	52	256	1 5/8	1 3/8	13	53	815
CDVA-12312	14.9	224	298	373	447	52	287	1 5/8	1 3/8	13	53	830
CDVA-12409	15.7	236	314	393	471	35	449	1 5/8	1 3/8	17	71	870
CDVA-12412	17.2	258	344	430	516	35	491	1 5/8	1 3/8	17	71	900
CDVA-13309	19.9	299	398	498	597	52	383	2 1/8	1 5/8	19	79	1095
CDVA-22209	20.0	300	400	500	600	34	588	(2) 1 5/8	(2) 1 3/8	18	71	1375
CDVA-13312	22.5	338	450	563	675	52	433	2 1/8	1 5/8	19	79	1210
CDVA-13409	23.6	354	472	590	708	70	337	2 1/8	1 5/8	18	105	1270
CDVA-22212	23.1	347	462	578	693	34	679	(2) 1 5/8	(2) 1 3/8	18	71	1405
CDVA-13412	25.8	387	516	645	774	70	369	2 1/8	1 5/8	26	105	1310
CDVA-14309	26.6	399	532	665	798	52	512	2 1/8	1 5/8	26	105	1510
CDVA-22309	26.6	399	532	665	798	52	511	(2) 1 5/8	(2) 1 3/8	26	107	1495
CDVA-14312	30.0	450	600	750	900	52	577	2 1/8	1 5/8	26	105	1550
CDVA-22312	30.0	450	600	750	900	52	577	(2) 1 5/8	(2) 1 3/8	26	107	1535
CDVA-14409	31.4	471	628	785	942	70	449	2 1/8	1 5/8	34	140	1630
CDVA-22409	31.4	471	628	785	942	70	449	(2) 1 5/8	(2) 1 3/8	34	142	1615
CDVA-14412	34.4	516	688	860	1032	70	491	2 1/8	1 5/8	34	140	1680
CDVA-22412	34.4	516	688	860	1032	70	491	(2) 1 5/8	(2) 1 3/8	34	142	1665
CDVA-15309	33.3	500	666	833	999	52	640	2 1/8	2 1/8	32	130	2120
CDVA-23212	34.8	522	696	870	1044	68	512	(2) 2 1/8	(2) 1 5/8	26	105	2010
CDVA-15312	37.5	563	750	938	1125	52	721	2 1/8	2 1/8	32	130	2170
CDVA-15409	39.3	590	786	983	1179	70	561	2 1/8	2 1/8	43	174	2270
CEVA-16309	39.9	599	798	998	1197	52	767	(2) 2 1/8	(2) 1 5/8	72	292	2680
CDVA-23309	39.9	599	798	998	1197	104	384	(2) 2 1/8	(2) 1 5/8	39	158	2145
CDVA-15412	43.0	645	860	1075	1290	70	614	2 1/8	2 1/8	43	174	2335
CEVA-16312	44.9	674	898	1123	1347	52	863	2 1/8	1 5/8	72	292	2740
CDVA-23312	44.9	674	898	1123	1347	104	432	(2) 2 1/8	(2) 1 5/8	39	158	2200
CEVA-16409	47.0	705	940	1175	1410	70	671	2 1/8	1 5/8	95	389	2925
CDVA-23409	47.0	705	940	1175	1410	140	336	(2) 2 1/8	(2) 1 5/8	52	211	2325
CEVA-16412	51.5	773	1030	1288	1545	70	736	2 1/8	1 5/8	95	388	3000
CDVA-23412	51.5	773	1030	1288	1545	140	368	(2) 2 1/8	(2) 1 5/8	52	211	2400
CDVA-24309	53.2	798	1064	1330	1596	104	512	(2) 2 1/8	(2) 1 5/8	52	209	2750
CDVA-24312	58.8	882	1176	1470	1764	104	565	(2) 2 1/8	(2) 1 5/8	52	209	2835
CDVA-24409	62.7	941	1254	1568	1881	140	448	(2) 2 1/8	(2) 1 5/8	69	279	2990
CDVA-24412	68.7	1031	1374	1718	2061	140	491	(2) 2 1/8	(2) 1 5/8	69	279	3100
CDVA-25310	69.6	1044	1392	1740	2088	104	669	(2) 2 1/8	(2) 2 1/8	64	281	3910
CDVA-25312	74.6	1119	1492	1865	2238	104	717	(2) 2 1/8	(2) 2 1/8	64	281	4010
CDVA-25409	78.3	1175	1566	1958	2349	140	559	(2) 2 1/8	(2) 2 1/8	86	348	4200
CEVA-26310	83.5	1253	1670	2088	2505	104	803	(2) 2 5/8	(2) 2 1/8	168	523	4990
CDVA-25412	85.8	1287	1716	2145	2574	140	613	(2) 2 1/8	(2) 2 1/8	86	348	4335
CEVA-26312	89.5	1343	1790	2238	2685	104	861	(2) 2 5/8	(2) 2 1/8	168	523	5115
CEVA-26410	97.6	1464	1952	2440	2928	140	697	(2) 2 5/8	(2) 2 1/8	224	680	5480
CEVA-26412	101.9	1529	2038	2548	3057	140	728	(2) 2 5/8	(2) 2 1/8	224	680	5635

NOTE: For R-22 multiply tabulated capacity by 1.02

For 50 HZ multiply capacity by 0.92

Summer charge is based on 30% of condenser volume with 100 F liquid. Multiply by 1.14 for R-22

Winter charge is based on 90% of condenser volume with -20 F liquid. Multiply by 1.10 for R-22

SELECTION TABLES

Low CFM Condensers

1 HP, 850 RPM Motors

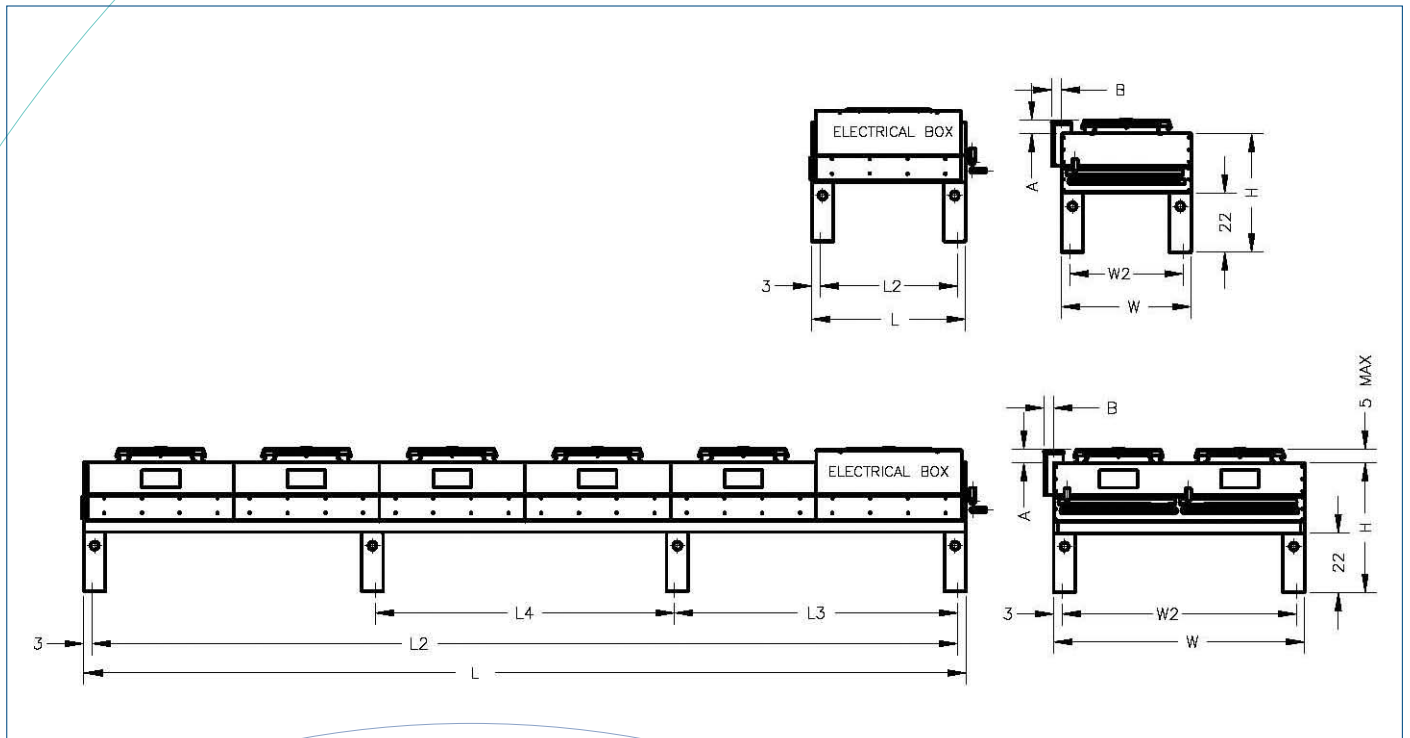
MODEL	TOTAL HEAT REJECTION (MBH) R-404A, R-507 PER T.D.					AVAILABLE CIRCUITS	CAP. / CIRCUIT BTU/HR /FTD	CONNECTION SIZE OD (IN)		REFRIGERANT CHARGE (Lbs)		SHIPPING WEIGHT Lbs
	1°F	15°F	20°F	25°F	30°F			INLET	OUTLET	SUMMER	WINTER	
CDVB-11209	4.4	66	88	110	132	17	259	1 3/8	1 1/8	5	18	460
CDVB-11212	5.1	77	102	128	153	17	300	1 3/8	1 1/8	5	18	470
CDVB-11309	5.8	87	116	145	174	17	341	1 3/8	1 1/8	7	28	490
CDVB-11312	6.5	98	130	163	195	17	382	1 3/8	1 1/8	7	28	500
CDVB-11409	6.9	104	138	173	207	17	406	1 3/8	1 1/8	9	37	520
CDVB-11412	7.2	108	144	180	216	17	424	1 3/8	1 1/8	9	37	535
CDVB-12209	8.9	134	178	223	267	17	524	1 5/8	1 3/8	9	36	755
CDVB-12212	10.2	153	204	255	306	17	600	1 5/8	1 3/8	9	38	765
CDVB-12309	11.6	174	232	290	348	52	223	1 5/8	1 3/8	13	53	815
CDVB-12312	13.0	195	260	325	390	52	250	1 5/8	1 3/8	13	53	830
CDVB-12409	13.4	201	268	335	402	35	383	1 5/8	1 3/8	17	71	870
CDVB-12412	14.4	216	288	360	432	35	411	1 5/8	1 3/8	17	71	900
CDVB-13309	17.8	267	356	445	534	52	342	2 1/8	1 5/8	19	79	1095
CDVB-22209	17.8	267	356	445	534	34	524	(2) 1 5/8	(2) 1 3/8	18	71	1375
CDVB-13312	19.4	291	388	485	582	52	373	2 1/8	1 5/8	19	79	1210
CDVB-13409	20.0	300	400	500	600	70	286	2 1/8	1 5/8	18	105	1270
CDVB-22212	20.5	308	410	513	615	34	603	(2) 1 5/8	(2) 1 3/8	18	71	1405
CDVB-13412	21.5	323	430	538	645	70	307	2 1/8	1 5/8	26	105	1310
CDVB-14309	23.3	350	466	583	699	52	448	2 1/8	1 5/8	26	105	1510
CDVB-22309	23.3	350	466	583	699	52	448	(2) 1 5/8	(2) 1 3/8	26	107	1495
CDVB-14312	25.8	387	516	645	774	52	496	2 1/8	1 5/8	26	105	1550
CDVB-22312	25.8	387	516	645	774	52	496	(2) 1 5/8	(2) 1 3/8	26	107	1535
CDVB-14409	26.7	401	534	668	801	70	381	2 1/8	1 5/8	34	140	1630
CDVB-22409	28.1	422	562	703	843	70	401	(2) 1 5/8	(2) 1 3/8	34	142	1615
CDVB-14412	28.6	429	572	715	858	70	409	2 1/8	1 5/8	34	140	1680
CDVB-22412	28.8	432	576	720	864	70	411	(2) 1 5/8	(2) 1 3/8	34	142	1665
CDVB-15309	29.0	435	580	725	870	52	558	2 1/8	2 1/8	32	130	2120
CDVB-23212	30.8	462	616	770	924	68	453	(2) 2 1/8	(2) 1 5/8	26	105	2010
CDVB-15312	32.3	485	646	808	969	52	621	2 1/8	2 1/8	32	130	2170
CDVB-15409	34.6	519	692	865	1038	70	494	2 1/8	2 1/8	43	174	2270
CEVB-16309	34.8	522	696	870	1044	52	669	(2) 2 1/8	(2) 1 5/8	72	292	2680
CDVB-23309	34.8	522	696	870	1044	104	335	(2) 2 1/8	(2) 1 5/8	39	158	2145
CDVB-15412	35.8	537	716	895	1074	70	511	2 1/8	2 1/8	43	174	2335
CEVB-16312	38.8	582	776	970	1164	52	746	2 1/8	1 5/8	72	292	2740
CDVB-23312	38.8	582	776	970	1164	104	373	(2) 2 1/8	(2) 1 5/8	39	158	2200
CEVB-16409	40.2	603	804	1005	1206	70	574	2 1/8	1 5/8	95	389	2925
CDVB-23409	40.2	603	804	1005	1206	140	287	(2) 2 1/8	(2) 1 5/8	52	211	2325
CEVB-16412	43.0	645	860	1075	1290	70	614	2 1/8	1 5/8	95	388	3000
CDVB-23412	43.0	645	860	1075	1290	140	307	(2) 2 1/8	(2) 1 5/8	52	211	2400
CDVB-24309	46.5	698	930	1163	1395	104	447	(2) 2 1/8	(2) 1 5/8	52	209	2750
CDVB-24312	51.7	776	1034	1293	1551	104	497	(2) 2 1/8	(2) 1 5/8	52	209	2835
CDVB-24409	53.5	803	1070	1338	1605	140	382	(2) 2 1/8	(2) 1 5/8	69	279	2990
CDVB-24412	57.4	861	1148	1435	1722	140	410	(2) 2 1/8	(2) 1 5/8	69	279	3100
CDVB-25310	60.7	911	1214	1518	1821	104	584	(2) 2 1/8	(2) 2 1/8	64	281	3910
CDVB-25312	64.6	969	1292	1615	1938	104	621	(2) 2 1/8	(2) 2 1/8	64	281	4010
CDVB-25409	70.0	1050	1400	1750	2100	140	500	(2) 2 1/8	(2) 2 1/8	86	348	4200
CEVB-26310	72.9	1094	1458	1823	2187	104	701	(2) 2 5/8	(2) 2 1/8	168	523	4990
CDVB-25412	74.8	1122	1496	1870	2244	140	534	(2) 2 1/8	(2) 2 1/8	86	348	4335
CEVB-26312	77.5	1163	1550	1938	2325	104	745	(2) 2 5/8	(2) 2 1/8	168	523	5115
CEVB-26410	83.0	1245	1660	2075	2490	140	593	(2) 2 5/8	(2) 2 1/8	224	680	5480
CEVB-26412	86.0	1290	1720	2150	2580	140	614	(2) 2 5/8	(2) 2 1/8	224	680	5635

NOTE: For R-22 multiply tabulated capacity by 1.02

For 50 HZ multiply capacity by 0.92

Summer charge is based on 30% of condenser volume with 100 F liquid. Multiply by 1.14 for R-22

Winter charge is based on 90% of condenser volume with -20 F liquid. Multiply by 1.10 for R-22



Vertical units

One Fan Wide

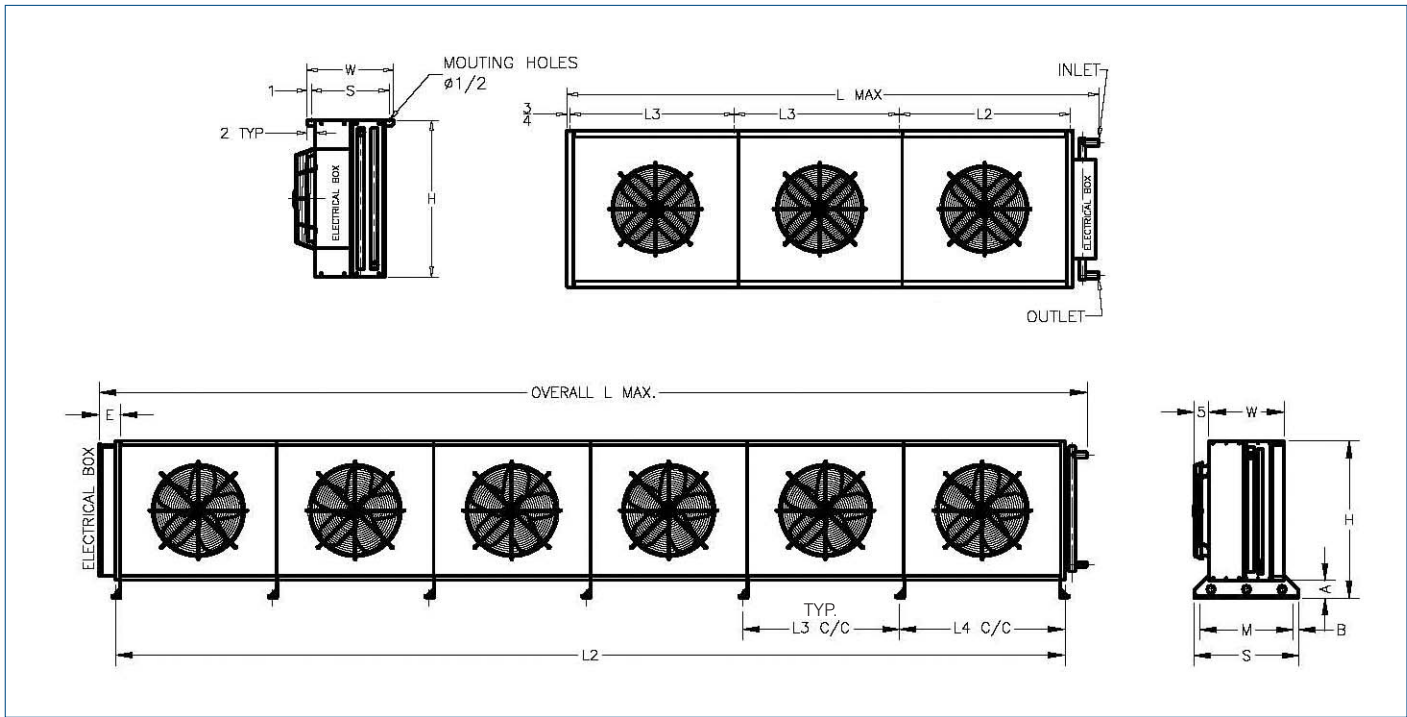
MODEL	LENGTH (L)	WIDTH (W)	HEIGHT (H)	L2	L3	L4	W2	A	B
CDV(A,B)-11	57	48	44	51	-	-	42	5	3 3/4
CDV(A,B)-12	111	48	44	105	-	-	42	5	3 3/4
CDV(A,B)-13	165	48	44	159	105	-	42	5	3 3/4
CDV(A,B)-14	219	48	44	213	105	-	42	5	3 3/4
CDV(A,B)-15	273	48	48	267	105	57	42	5	3 3/4
CEV(A,B)-16	327	48	48	321	105	111	42	5	3 3/4
CDVC-11*	43	38	34	37	-	-	32	3 1/2	3 1/2
CDVC-12*	83	38	34	77	-	-	32	3 1/2	3 1/2
CDVC-13*	123	38	34	77	40	-	32	3 1/2	3 1/2

Two Fan Wide

CDV(A,B)-22	111	93	44	105	-	-	87	5	3 3/4
CDV(A,B)-23	165	93	44	159	105	-	87	5	3 3/4
CDV(A,B)-24	219	93	44	213	105	-	87	5	3 3/4
CDV(A,B)-25	273	93	48	267	105	57	87	5	3 3/4
CEV(A,B)-26	327	93	48	321	105	111	87	5	3 3/4

*NOTE: CDVC Units have 17 inches legs instead of 22 inches for CDVA & CDVB

DIMENSIONAL DATA












Horizontal Units

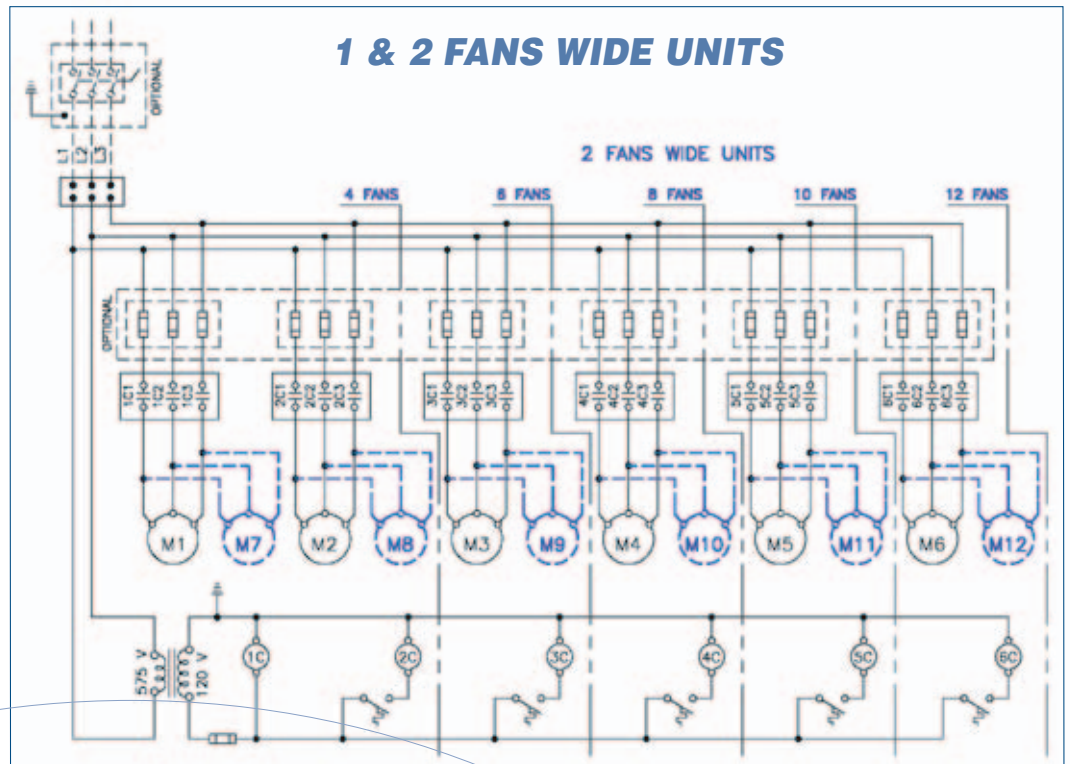
Horizontal flow & heat reclaim units

MODEL	LENGTH (L)	WIDTH (W)	HEIGHT (H)	L2	L3	L4	M	S	E	A	B
HDHC-11	50	21	38 1/8	41 1/2	—	—	—	19	—	—	—
HDHC-12	90	21	38 1/8	41 1/2	40	—	—	19	—	—	—
HDHC-13	130	21	38 1/8	41 1/2	40	—	—	19	—	—	—
CDH(A,B)-11	70 1/4	22	54	—	—	57	28	32	7 1/8	6	2
CDH(A,B)-12	124 1/4	22	54	111	54	57	28	32	7 1/8	6	2
CDH(A,B)-13	178 1/4	22	54	165	54	57	28	32	7 1/8	6	2
CDH(A,B)-14	232 1/4	22	54	219	54	57	28	32	7 1/8	6	2
CDH(A,B)-15	286 1/4	26	54	273	54	57	32	36	7 1/8	6	2
CDH(A,B)-16	340 1/4	26	54	327	54	57	32	36	7 1/8	6	2
CDHC-11	55 1/2	17	42	—	—	43	20	23	5 1/2	4	1 1/2
CDHC-12	95 1/2	17	42	83	40	43	20	23	5 1/2	4	1 1/2
CDHC-13	135 1/2	17	42	123	40	43	20	23	5 1/2	4	1 1/2

Typical Fan Cycling Control Wiring

Legend

-  CONTACTOR
-  DISCONNECT SWITCH (OPTIONAL)
-  FUSE
-  FUSE BLOCK (OPTIONAL)
-  FAN MOTOR
-  2 FANS WIDE UNITS
-  MOTOR CONTACTOR COIL
-  TEMPERATURE OR PRESSURE ACTUATED SWITCH
-  TRANSFORMER



Fan Motor Electrical Data

One Fan Wide

MODEL	208-240/1/60		208-240/3/60		480/3/60		600/3/60	
	AMP.	FUSE	AMP.	FUSE	AMP.	FUSE	AMP.	FUSE
CDVA-11	N/A	N/A	6	15	3	15	2.3	15
CDVA-12	N/A	N/A	12	15	6	15	4.6	15
CDVA-13	N/A	N/A	18	20	9	15	6.9	15
CDVA-14	N/A	N/A	24	30	12	15	9.2	15
CDVA-15	N/A	N/A	30	35	15	20	11.5	15
CEVA-16	N/A	N/A	36	45	18	20	13.8	15
CDVB-11	N/A	N/A	4.4	15	2.0	15	1.6	15
CDVB-12	N/A	N/A	8.8	15	4.0	15	3.2	15
CDVB-13	N/A	N/A	13.2	15	6.0	15	4.8	15
CDVB-14	N/A	N/A	17.6	20	8.0	15	6.4	15
CDVB-15	N/A	N/A	22.0	25	10.0	15	8.0	15
CEVB-16	N/A	N/A	26.4	30	12.0	15	9.6	15
CDVC-11	2.9	15	2.6	15	1.3	15	0.6	15
CDVC-12	5.8	15	5.2	15	2.6	15	1.2	15
CDVC-13	8.7	15	7.8	15	3.9	15	1.8	15

Two Fan Wide

CDVA-22	N/A	N/A	24	30	12	15	9.2	15
CDVA-23	N/A	N/A	36	45	18	20	13.8	15
CDVA-24	N/A	N/A	48	60	24	30	18.4	20
CDVA-25	N/A	N/A	60	70	30	35	23.0	30
CEVA-26	N/A	N/A	72	80	36	40	27.6	30
CDVB-22	N/A	N/A	17.6	20	8.0	15	6.4	15
CDVB-23	N/A	N/A	26.4	30	12.0	15	9.6	15
CDVB-24	N/A	N/A	35.2	40	16.0	20	12.8	15
CDVB-25	N/A	N/A	44.0	50	20.0	25	16.0	20
CEVB-26	N/A	N/A	52.8	60	24.0	30	19.2	25

Specification

- Casing:** Heavy gauge galvanized steel. All cabinet are modular with individual fan chambers. All models have side access panels for easy coil inspection and cleaning.
- Fan venturi:** 20 inch dia. fans orifices have a 1" venturi and 30" dia. fans orifices have a 3 3/4 spun venturi to provide maximum fan efficiency and minimum noise level.
- Fans:** Direct driven have aluminium blades, steel hubs and are statically & dynamically balanced for smooth, vibration free operation.
- Coils:** Heavy wall, copper tubes are mechanically expanded in self-spaced, full-collared aluminium corrugated plate fins for permanent bond and maximum heat transfer. Coils are pressure tested under water with 400 PSIG. They are dried with nitrogen and shipped pressurized.
- Fan guards & motor mounts:** Are welded wire construction. Baked on powder epoxy coating provides corrosion protection.
- Fan motors:** 1/2 H.P. 1140 RPM, 1.0 H.P. 850 RPM and 1 1/2 H.P. 1140 RPM motors have automatic reset, internal overload protection and have permanently lubricated, sealed ball bearings for long and dependable life. Motors are weather protected for year-round, outdoor condenser duty.
- Control Panel:** Weather resistant electrical box have hinged access panel and is mounted on the same end as the headers for compact and easy installation. All ordered components i.e. contactors, fuses, fan cycling controls, terminal block, control transformer etc. are all mounted and wired inside the panel with weather resistant harnesses.



HEAD OFFICE:

REFRIGERATION KOOL-AIR INC.
100 Conrad Gosselin
Saint-Jean-sur-Richelieu, Québec Canada
J2X 5L6

Tel: (450) 346-5007
Toll free: 1-866-346-5007
Fax: (450) 346-7631
Email: kool-air@kool-air-inc.com
Web site: www.kool-air-inc.com

ONTARIO SALES OFFICE:

REFRIGERATION KOOL-AIR INC.
237 Vallemede Drive
Richmond Hill, Ontario Canada
L4B 2A3

Tel: (905) 771-8972
Fax: (905) 771-8908

Due to Kool-Air policies to continuously improve the quality of its products, specifications are subject to change without notice.