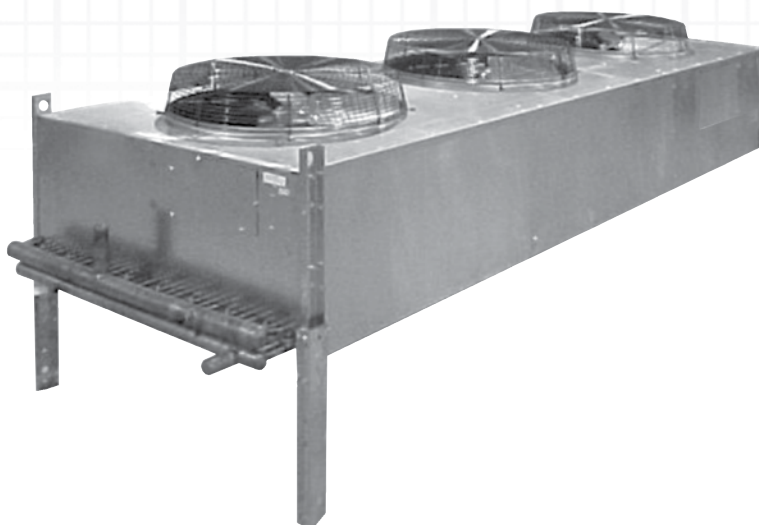




Air Cooled Condensers Technical Guide

Model FCB 1 through 26 Tons





TABLE OF CONTENTS

Features & Options 3

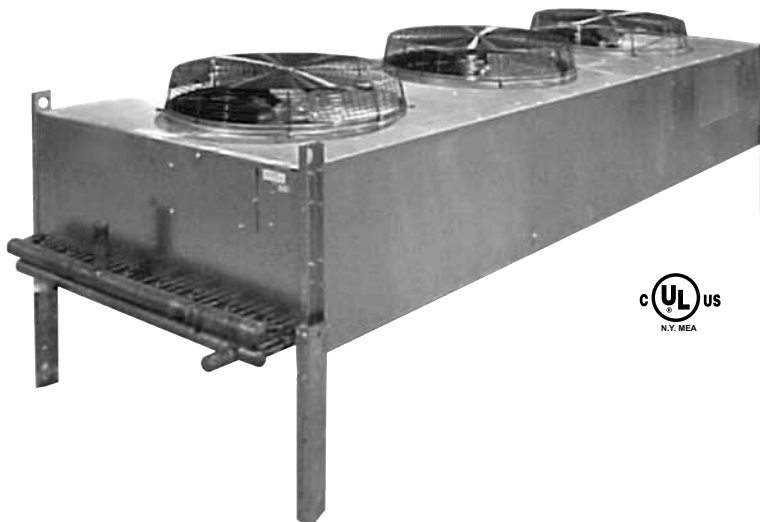
Performance Data 4

Dimensional Diagram..... 5

Specifications..... 6

MODEL FCB AIR COOLED CONDENSERS

FCB air cooled condensers are available from 1 through 26 ton models. They are designed for efficient performance and low maintenance.



Design Features

- Horizontal or vertical air discharge
- Attractive aluminum housing
- Multicircuiting at no additional charge
- Coated steel fan guards
- Energy efficient fan motors with internal overload protection and permanently lubricated ball bearings
- Motors wired to a common junction box
- Fully baffled fan sections to prevent windmilling

Available Options

- Resource II head pressure control (consult factory)
- Ambient or pressure activated fan cycling
- Optional coils including Heresite® coated, ProKote™, and all copper coils
- Single phase fan motors available on all models
- Three phase motors available on models 5 - 26
- 575/3/60 motors available on models 5 - 26
- Sealtite wiring on models 5 - 026
- Variable speed and fan cycling combination

CONDENSER PERFORMANCE

Table 1. Performance Data for 60 Hz.

FCB Model	Total Heat of Rejection, MBH/kcal/hr																Max. Feeds Available				
	R404A/R507										R22										
	1°F.T.D.		10°F.T.D.		15°F.T.D.		20°F.T.D.		30°F.T.D.		1°F.T.D.		10°F.T.D.		15°F.T.D.			20°F.T.D.		30°F.T.D.	
	1°C.T.D.	6°C.T.D.	8°C.T.D.	12°C.T.D.	17°C.T.D.	1°C.T.D.	6°C.T.D.	8°C.T.D.	12°C.T.D.	17°C.T.D.	1°C.T.D.	6°C.T.D.	8°C.T.D.	12°C.T.D.	17°C.T.D.						
1	.074	340	7.5	2,000	11.2	2,700	15.0	4,100	22.4	5,800	0.76	350	7.6	2,100	11.4	2,800	15.3	4,200	22.9	5,900	1
1.5	0.87	400	8.7	2,400	13.1	3,200	17.4	4,700	26.2	6,700	0.89	2,400	8.9	2,400	13.4	3,200	17.8	4,900	26.7	6,900	1
2	1.00	450	10.0	2,700	15.0	3,600	19.9	5,400	29.9	7,700	1.02	460	10.2	2,800	15.3	3,700	20.3	5,500	30.5	7,800	2
3	1.54	700	15.4	4,200	23.0	5,600	30.8	8,400	46.2	11,900	1.57	710	15.7	4,300	23.5	5,700	31.4	8,500	47.1	12,100	4
5	2.38	1,080	23.8	6,500	35.8	8,700	47.7	13,000	71.5	18,400	2.43	1,100	24.3	6,600	36.5	8,800	48.7	13,300	73.0	18,800	8
8	3.92	1,780	39.2	10,700	58.8	14,200	78.4	21,300	117.6	30,200	4.00	1,810	40.0	10,900	60.0	14,500	80.0	21,700	120.0	30,800	16
10	4.77	2,160	47.7	13,000	71.5	17,300	95.4	26,000	143.1	36,800	4.87	2,210	48.7	13,200	73.0	17,600	97.3	26,500	146.0	37,500	16
12	5.96	2,700	59.6	16,200	89.4	21,600	119.2	32,400	178.8	45,900	6.08	16,600	60.8	16,600	91.2	22,100	121.6	33,100	182.4	46,900	16
14	6.85	3,110	68.5	18,600	102.7	24,900	136.9	37,300	205.5	52,800	6.99	3,170	69.9	19,000	104.8	25,400	139.7	38,000	209.7	53,900	16
16	7.83	3,550	78.3	21,300	117.4	28,400	156.5	42,600	234.8	60,300	7.99	3,620	79.9	21,700	119.8	29,000	159.7	43,500	239.6	61,600	32
21	10.29	4,650	102.9	27,900	154.0	37,200	205.3	55,900	307.9	79,100	10.50	4,750	105.0	28,500	157.1	38,000	209.5	57,000	314.2	80,700	24
23	11.07	5,030	110.7	30,200	166.4	40,300	221.9	60,400	332.8	85,500	11.30	5,140	113.0	30,800	169.8	41,100	226.4	61,600	339.6	87,300	24
26	13.03	5,900	130.3	35,400	195.1	47,200	260.2	70,800	390.2	100,300	13.30	6,020	133.0	36,100	199.1	48,100	265.5	72,200	398.2	102,300	32

Notes: For R134a, multiply R22 capacity by 0.95.

Table 2. Performance Data for 50 Hz.

FCB Model	Total Heat of Rejection, kcal/hr									
	R404A/R507					R22				
	1°C.T.D.	6°C.T.D.	8°C.T.D.	12°C.T.D.	17°C.T.D.	1°C.T.D.	6°C.T.D.	8°C.T.D.	12°C.T.D.	17°C.T.D.
1	310	1,900	2,500	3,700	5,300	320	1,900	2,500	3,800	5,400
1.5	360	2,200	2,900	4,400	6,200	370	2,200	3,000	4,400	6,300
2	420	2,500	3,300	5,000	7,100	420	2,500	3,400	5,100	7,200
3	640	3,900	5,100	7,700	10,900	650	3,900	5,200	7,800	11,100
5	990	6,000	8,000	11,900	16,900	1,020	6,100	8,100	12,200	17,300
8	1,640	9,800	13,100	19,600	27,800	1,670	10,000	13,400	20,000	28,400
10	1,990	11,900	15,900	23,900	33,800	2,030	12,200	16,200	24,400	34,500
12	2,490	14,900	19,900	29,800	42,300	2,540	15,200	20,300	30,400	43,100
14	2,860	17,100	22,900	34,300	48,600	2,920	17,500	23,300	35,000	49,600
16	3,270	19,600	26,100	39,200	55,500	3,340	20,000	26,700	40,000	56,700
21	4,280	25,700	34,300	51,400	72,800	4,370	26,200	35,000	52,400	74,300
23	4,630	27,800	37,000	55,500	78,700	4,720	28,300	37,800	56,700	80,300
26	5,430	32,600	43,400	65,100	92,300	5,540	33,200	44,300	66,500	94,200

CONDENSER SPECIFICATIONS

Diagram 1. Dimensions for FCB Models 1 through 3

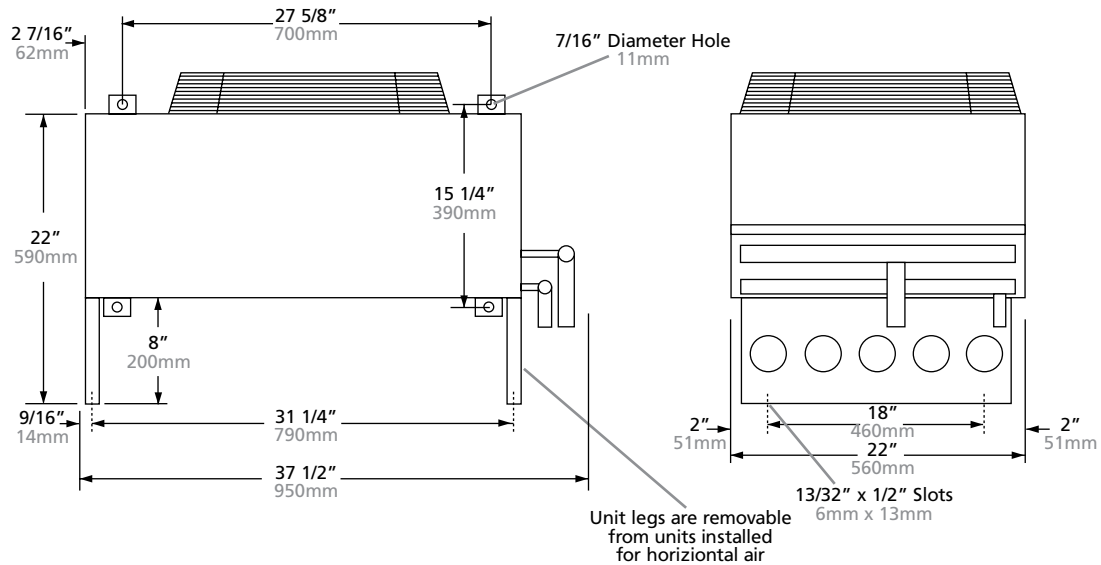


Diagram 2. Dimensions for FCB Models 5 through 26 with Vertical Air Flow

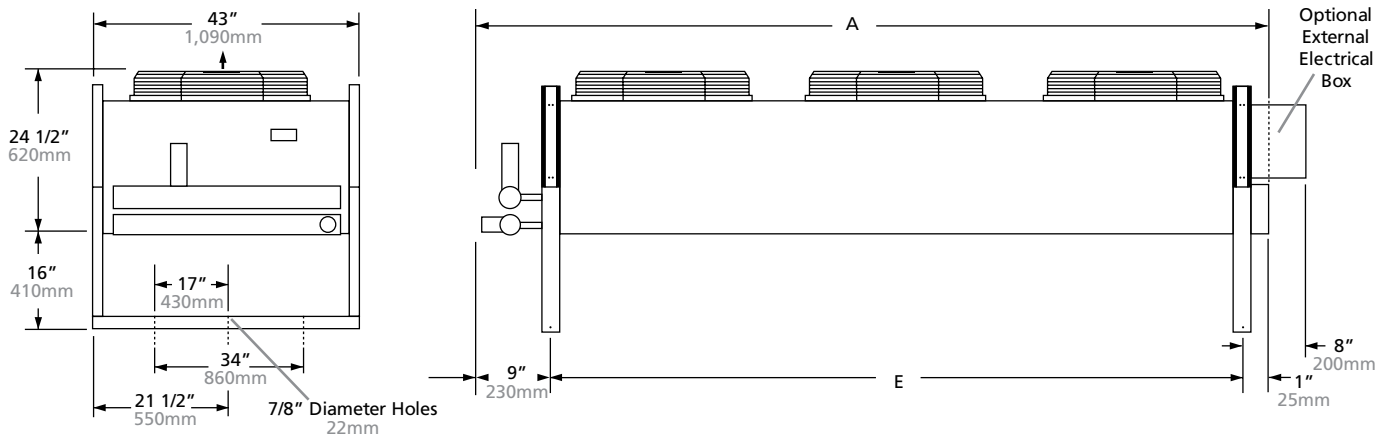
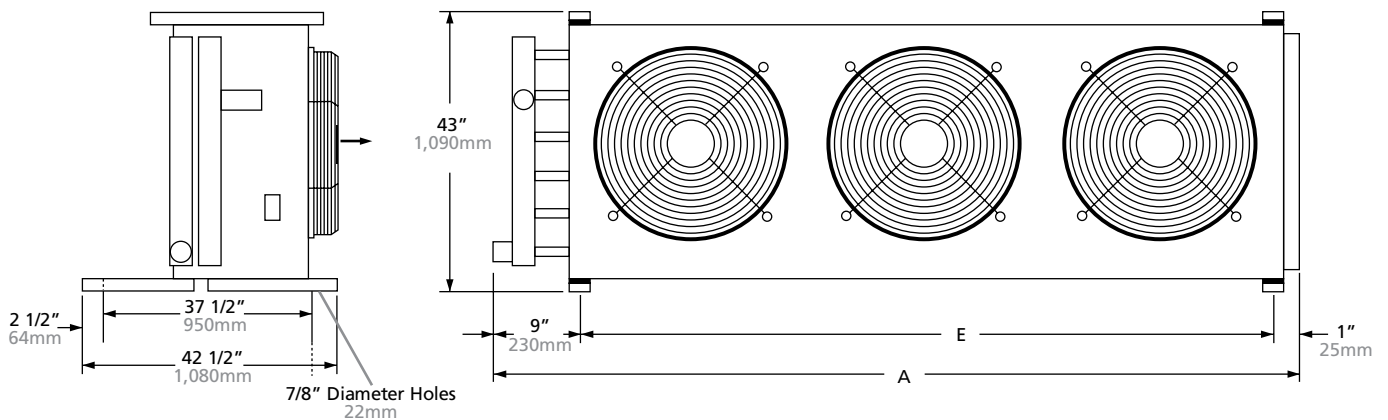


Diagram 3. Dimensions for FCB Models 5 through 26 with Horizontal Flow



CONDENSER SPECIFICATION / CONDENSER FAN CYCLING

Table 3. Specifications

FCB Models	Dimensions Inches/mm		CFM/m ³ h	Fan			Max. Circ. Avail.	Motor Data				Connections ODS (In.)		Approx. Net Wt. Lbs./kg	
	A	E		No.	Dia. In./mm			HP ¹	FLA ¹	HP ²	FLA ²	Inlet	Outlet		
1	---	---	2400 4100	1	18 460		1	1/4	2.0	---	---	3/8	3/8	96	44
1.5	---	---	2400 4100	1	18 460		1	1/4	2.0	---	---	5/8	5/8	96	44
2	---	---	2400 4100	1	18 460		2	1/4	2.0	---	---	7/8	5/8	96	44
3	---	---	2100 3600	1	18 460		3	1/4	2.0	---	---	7/8	5/8	114	52
5	40 1010	30 760	5050 8600	1	24 610		8	1/3	3.4	1/3	2.6/1.3	1-1/8	7/8	180	82
8	50 1260	40 1020	6450 11000	1	26 660		16	1/2	3.9	1/3	2.6/1.3	1-1/8	7/8	260	118
10	70 1770	60 1520	10100 17200	2	24 610		16	1/3	6.8	1/3	5.2/2.6	(2) 1-1/8	(2) 7/8	450	204
12	70 1770	60 1520	12400 21100	2	26 660		16	1/2	7.8	1/3	5.2/2.6	(2) 1-1/8	(2) 7/8	470	213
14	90 2280	80 2030	13700 23300	2	26 660		16	1/2	7.8	1/3	5.2/2.6	(2) 1-1/8	(2) 7/8	510	231
16	90 2280	80 2030	12900 21900	2	26 660		32	1/2	7.8	1/3	5.2/2.6	(2) 1-3/8	(2) 1-1/8	530	240
21	130 3300	120 3050	20500 34800	3	26 660		24	1/2	11.7	1/3	7.8/3.9	(2) 1-5/8	(2) 1-1/8	550	249
23	130 3300	120 3050	19900 33800	3	26 660		24	1/2	11.7	1/3	7.8/3.9	(2) 1-5/8	(2) 1-1/8	580	263
26	130 3300	120 3050	19400 33000	3	26 660		24	1/2	11.7	1/3	7.8/3.9	(2) 1-5/8	(2) 1-1/8	625	284

¹Motor voltage 208-230/1/60; 1075 RPM

²Motor voltage 208-230-460/3/60; 1140 RPM

Note: FCB 1-2 available in 115/1/60 voltage; FCB 5 - 26 available in 575/3/60 voltage

Condenser Fan Cycling

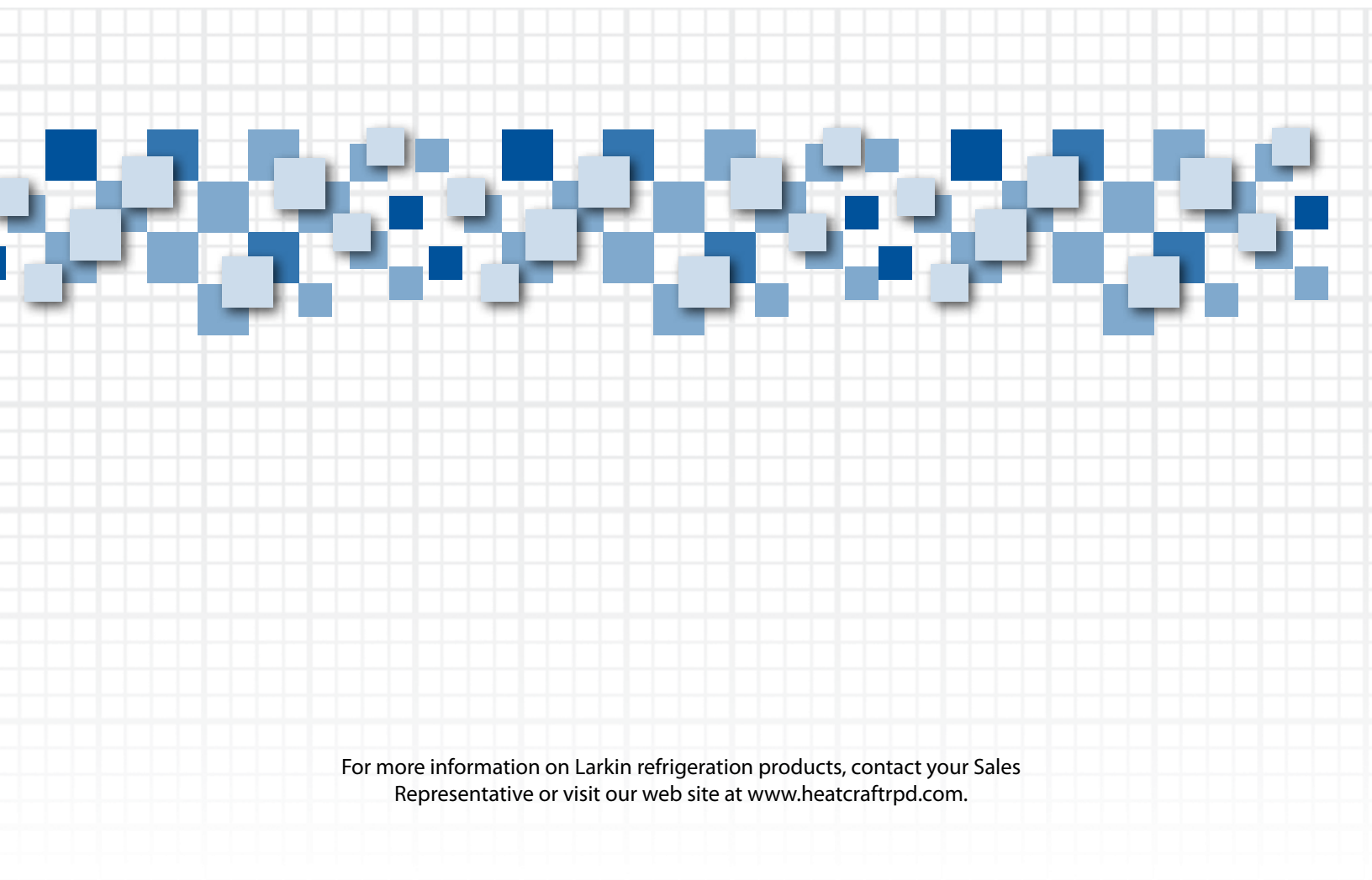
FCB models 10 to 26 condensers are available with either ambient or pressure activated fan cycling packages. Head pressure can be controlled by varying the air flow across the coil in response to changes in ambient temperatures or refrigerant pressures. See Table 4 below for minimum ambients for fan cycling.

Table 4. Minimum Ambient for Fan Cycling (90°F./32°C. Condensing Temperature)

FCB Models	Fans	Design T.D.					
		30°F. / 17°C.	25°F. / 15°C.	20°F. / 12°C.	15°F. / 8°C.	10°F. / 6°C.	
10, 12, 14, 16	2	35 2	45 7	55 13	60 16	70 21	
21, 23, 26	3	15 -9	30 -1	40 4	55 13	65 18	



NOTES



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