

### CB17/CBH17 SERIES UNITS

Lennox CB17 and CBH17 model blower-coil units, designed for indoor applications only, are available in two models; CB17 series with up-flow supply air discharge or CBH17 series with horizontal supply air discharge. Each model has dual circuit split evaporator coils. The units match up with Lennox HS17 and LSAC condensing units and with the field installation of heat pump check valve kit, HP17 and LSAP heat pump units.

Information contained in this manual is intended for use by a qualified service technician only. All specifications are subject to change. Procedures outlined in this manual are presented as a recommendation only and do not supersede or replace local or state codes.



CB17-95V  
Up-Flow Unit

### SPECIFICATIONS

Model Number		CB17-95V CBH17-95V	CB17-135V CBH17-135V	CB17-185V CBH17-185V	CB17-275V CBH17-275V
Nominal Cooling Capacity — Tons (kW)		7-1/2 (26)	10 (35)	15 (53)	20 (70)
Blower wheel nominal diameter x width — in. (mm)		(1) 15 x 15 (381 x 381)	(2) 15 x 9 (381 x 229)	(2) 15 x 11 (381 x 279)	(2) 15 x 15 (381 x 381)
Blower motor output and blower drives		See Drive Kit Table (shipped separately)			
*Number and size of air filters	in.	(2) 16 x 25 x 1 (1) 20 x 25 x 1	(4) 16 x 25 x 1	(6) 16 x 20 x 1 (2) 16 x 25 x 1	(6) 20 x 20 x 1 (2) 20 x 25 x 1
	mm	(2) 406 x 635 x 25 (1) 508 x 635 x 25	(4) 406 x 635 x 25	(6) 406 x 508 x 25 (2) 406 x 635 x 25	(6) 508 x 508 x 25 (2) 508 x 635 x 25
Condensate drain connection — female pipe thread	in.	(2) 1-1/4	(2) 1-1/4	(2) 1-1/4	(2) 1-1/4
	mm	(2) 31.8	(2) 31.8	(2) 31.8	(2) 31.8
Refrigerant		HCFC-22			
Evaporator Coil	Net face area — ft. <sup>2</sup> (m <sup>2</sup> )	7.98 (0.74)	10.07 (0.94)	17.38 (1.61)	23.16 (2.15)
	Coil split — 1st stage/2nd stage (%)	60/40	61.9/38.1	53.8/46.2	52.9/47.1
	Number of rows	4	4	4	4
	Tube outside diameter — in. (mm)	3/8 (9.5)	3/8 (9.5)	1/2 (12.7)	1/2 (12.7)
	Fins per inch (fins per m)	-2 units 12 (472) -3 units 14 (551)	-2 units 12 (472) -3 units 14 (551)	13 (512)	13 (512)
Evaporator Coil	Suction line connection — outside diameter (sweat)	in.	1-3/8	1-3/8	(2) 1-3/8
		mm	34.9	34.9	(2) 28.5
	Liquid line connection — outside diameter (sweat)	in.	(2) 3/8	(2) 3/8	(2) 1/2
		mm	(2) 9.5	(2) 9.5	(2) 12.7
**Shipping weight — lbs. (kg) (†2 packages)	Up-flow	350 (159)	418 (190)	720 (327)	815 (370)
	Horizontal	312 (142)	379 (172)	760 (345)	860 (390)

\*Standard filters are 1 inch (25 mm) thick. 2 inch (51 mm) filters may also be used.

\*\*Weight does not include motor and drives.

†Packages consist of: blower coil unit and drive kit with motor and drives.

### DRIVE KIT SELECTION

Using Total Air Volume and System External Static Pressure needed for unit requirements, determine from blower performance table blower speed and blower motor output required.

Unit Size	Drive Kit Model Number	Nominal Motor Output		① Max. Usable Motor Output		Voltage and Phase	② Minimum Circuit Ampacity	RPM Range	Shipping Weight	
		hp	W	hp	W				lbs	kg
-95V -135V	DKB17-95/135-1.5-19	1.5	1119	1.7	1268	200/230/460v — 60hz — 3ph	7.5/6.5/3.3	600 — 820	39	18
	⚡ DKB17-95/135-1.5-4					575v — 60hz — 3ph	3.0			
-95V, -135V -185V, -275V	DKB17-95/275-2-10	2	1492	2.3	1716	200/230/460v — 60hz — 3ph	9.9/8.5/4.3	730 — 950 (95/135 models) 520 — 660 (185/275 models)	45	20
	⚡ DKB17-95/135-2-11					575v — 60hz — 3ph	3.4			
-185V, -275V	DKB17-185/275-3-12	3	2238	3.4	2536	200/230/460v — 60hz — 3ph	13.9/12.0/6.0	600 — 750	51	23
	⚡ DKB17-185/275-3-13					575v — 60hz — 3ph	4.9			
	DKB17185/275-5-14	5	3730	5.7	4252	200/230/460v — 60hz — 3ph	21.9/19.0/9.5	690 — 830	70	32
	⚡ DKB17-185/275-5-15					575v — 60hz — 3ph	7.7			
<b>③ High Efficiency Motor Drive Kits</b>										
-185V, -275V	DKB17-185/275-5-20	5	3730	5.7	4252	200/230/460v — 60hz — 3ph	14.3/13.4/6.7	690 — 830	70	32
	⚡ DKB17-185/275-5-21					575v — 60hz — 3ph	5.6			

① Maximum useable output of motors furnished by Lennox are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

② At rated voltages shown.

③ Overload Kit required for high efficiency drive kits. LB-91331B (79K83) for 200/230v motors, LB-91331A (79K82) for 460/575v motors. Must be ordered extra.

NOTE — Magnetic starters are available and must be ordered extra. See Lennox Price Book.

⚡ Canada only

### OPTIONAL ACCESSORIES

Electric Heat Model Number		EH17-95	EH17-135	EH17-185/275	
Hot Water Coil	Model Number	HW17-95 (41F20)	HW17-135 (41F21)	HW17-185/275 (27G75)	
	Shipping weight — lbs. (kg)	95 (43)	104 (47)	160 (73)	
	†† Heating capacity — Btuh (kW)	185,000 (54.2)	257,000 (75.3)	405,000 (118.7)	462,000 (135.4)
	Net face area — ft. <sup>2</sup> (m <sup>2</sup> )	6.4 (0.59)	8.5 (0.79)	15.6 (1.45)	
	Tube outside diameter — in. (mm)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	
	number of rows	2	2	2	
	Fins per inch (fins per m)	12 (472)	12 (472)	12 (472)	
Water line connections Outside diameter — in. (mm)	Inlet	1-3/8 (35) sweat	1-3/8 (35) sweat	1-5/8 (41) sweat	
	Outlet	1-3/8 (35) sweat	1-3/8 (35) sweat	1-5/8 (41) sweat	
Supply Air Plenum and Grille (shipping weight)	Up-flow	SPG17-95 (68F08) 124 lbs. (56 kg)	SPG17-135 (68F09) 148 lbs. (67 kg)	SPG17-185/275 (25G89) 242 lbs. (110 kg)	
	Horizontal	SPGH17-95 (68F10) 41 lbs. (19 kg)	SPGH17-135 (68F11) 50 lbs. (23 kg)	SPGH17-185/275 (25G88) 86 lbs. (39 kg)	
Return Air Grille (shipping weight)	RG17-95 (68F14) 29 lbs. (13 kg)	RG17-135 (68F15) 37 lbs. (17 kg)	RG17-185 (25G97) 65 lbs. (29 kg)	RG17-275 (25G98) 82 lbs. (37 kg)	
Empty Spacer Cabinet (shipping weight)	CB17-95-00 (50F06) 55 lbs. (25 kg)	CB17-135-00 (50F07) 60 lbs. (27 kg)	CB17-185/275-00 (27G76) 82 lbs. (37 kg)		
Economizer Dampers (shipping weight)	EMD17M-95 (74G20) 145 lbs. (66 kg)	EMD17M-135 (74G21) 185 lbs. (84 kg)	EMD17M-185 (43G63) 395 lbs. (179 kg)	EMD17M-275 (43G64) 542 lbs. (264 kg)	
Differential Enthalpy Control	<b>54G44</b>				
CBH17 Horizontal Suspension Kit (shipping weight)	LB-50866CA (44F93) 21 lbs. (10 kg)	LB-50866CB (44F94) 25 lbs. (11 kg)	Not Available		
Heat Pump Check Valve Kit	LB-51486CA (53F21)	LB-51486CA (53F21)	LB-55674CA (29G19)	LB-51486CB (29G20)	

†† Rated at 180°F (82°C) supply water temperature, 70°F (21°C) entering air temperature, 20°F (11°C) water temperature drop and 450 cfm air volume per ton (60 L/s air volume per kW) of cooling capacity. See Hot Water Capacity Curves for heating capacities at different conditions.

**BLOWER DATA**  
**CB17-95V AND CBH17-95V BLOWER PERFORMANCE**

Air Volume cfm (L/s)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge (Pa)										
	0.2 (50)	0.3 (75)	0.4 (100)	0.5 (125)	0.6 (150)	0.7 (175)	0.8 (200)	0.9 (225)	1.0 (250)	1.25 (310)	1.5 (375)
	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)
2000 (945)	----	----	----	550 0.35 (261)	590 0.50 (373)	630 0.55 (410)	650 0.60 (448)	690 0.70 (522)	720 0.75 (560)	790 1.05 (783)	850 1.30 (970)
2500 (1180)	----	----	560 0.30 (224)	600 0.55 (410)	630 0.65 (485)	670 0.75 (560)	700 0.80 (597)	730 .90 (671)	760 1.00 (746)	830 1.30 (970)	880 1.40 (1044)
3000 (1415)	560 0.60 (448)	590 0.65 (485)	625 0.75 (560)	650 0.85 (634)	690 0.95 (709)	720 1.00 (746)	750 1.15 (858)	775 1.25 (933)	800 1.30 (970)	860 1.55 (1156)	925 1.80 (1343)
3500 (1650)	620 0.95 (709)	650 1.05 (783)	685 1.05 (783)	715 1.15 (858)	740 1.30 (970)	770 1.35 (1007)	800 1.50 (1119)	825 1.60 (1194)	840 1.65 (1231)	910 1.95 (1455)	970 2.20 (1641)
4000 (1890)	700 1.40 (1044)	725 1.50 (1119)	750 1.60 (1194)	775 1.65 (1231)	800 1.75 (1306)	825 1.85 (1380)	850 1.95 (1455)	875 2.05 (1529)	900 2.15 (1604)	----	----

NOTE — All data is measured external to the unit with air filters in place.

**CB17-135V AND CBH17-135V BLOWER PERFORMANCE**

Air Volume cfm (L/s)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge (Pa)										
	0.2 (50)	0.3 (75)	0.4 (100)	0.5 (125)	0.6 (150)	0.7 (175)	0.8 (200)	0.9 (225)	1.0 (250)	1.25 (310)	1.5 (375)
	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)
3000 (1415)	----	550 0.50 (373)	575 0.60 (448)	610 0.70 (522)	650 0.80 (597)	680 .90 (671)	725 1.05 (783)	750 1.20 (895)	790 1.30 (970)	860 1.55 (1156)	925 1.85 (1380)
3500 (1650)	550 0.60 (448)	575 0.70 (522)	620 0.80 (597)	650 .95 (709)	680 1.05 (793)	725 1.15 (858)	750 1.25 (933)	790 1.40 (1044)	820 1.55 (1156)	900 1.95 (1455)	950 2.10 (1567)
4000 (1890)	595 0.85 (634)	625 0.95 (709)	665 1.10 (821)	700 1.20 (895)	725 1.30 (970)	750 1.40 (1044)	790 1.55 (1156)	820 1.70 (1268)	850 1.90 (1417)	920 2.15 (1604)	----
4500 (2125)	650 1.15 (858)	680 1.30 (970)	715 1.40 (1044)	740 1.55 (1156)	755 1.70 (1268)	810 1.80 (1343)	840 1.95 (1455)	870 2.10 (1567)	890 2.25 (1679)	----	----
5000 (2360)	710 1.55 (1156)	730 1.70 (1268)	760 1.80 (1343)	800 1.95 (1455)	825 2.15 (1604)	850 2.30 (1716)	----	----	----	----	----
5500 (2595)	750 2.00 (1492)	775 2.10 (1567)	815 2.30 (1716)	----	----	----	----	----	----	----	----

NOTE — All data is measured external to the unit with air filters in place.

**CB17-185V AND CBH17-185V BLOWER PERFORMANCE**

Air Volume cfm (L/s)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge (Pa)										
	0.1 (25)	0.2 (50)	0.3 (75)	0.4 (100)	0.5 (125)	0.6 (150)	0.7 (175)	0.8 (200)	0.9 (225)	1.0 (250)	1.25 (310)
	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)
5000 (2360)	----	----	500 1.00 (746)	530 1.05 (783)	560 1.20 (895)	630 1.50 (1119)	640 1.55 (1156)	660 1.65 (1231)	685 1.75 (1306)	720 1.90 (1417)	800 2.25 (1679)
5500 (2595)	----	495 1.05 (783)	525 1.20 (895)	555 1.35 (1007)	585 1.50 (1119)	635 1.65 (1231)	650 1.70 (1268)	680 1.85 (1380)	710 2.05 (1529)	740 2.20 (1641)	825 2.55 (1902)
6000 (2830)	490 1.20 (895)	520 1.30 (970)	550 1.45 (1082)	580 1.60 (1194)	610 1.75 (1306)	640 1.90 (1417)	675 2.10 (1567)	705 2.20 (1641)	730 2.35 (1753)	760 2.50 (1865)	840 2.90 (2163)
6500 (3065)	515 1.45 (1082)	550 1.60 (1194)	575 1.75 (1306)	610 1.90 (1417)	635 2.05 (1529)	670 2.25 (1679)	700 2.35 (1753)	725 2.50 (1865)	750 2.65 (1977)	780 2.75 (2052)	870 3.30 (2462)
7000 (3305)	550 1.75 (1306)	575 1.90 (1417)	605 2.05 (1529)	635 2.25 (1679)	665 2.35 (1753)	690 2.55 (1902)	720 2.65 (1977)	745 2.85 (2126)	775 3.00 (2238)	810 3.20 (2387)	----
7500 (3540)	575 2.05 (1529)	605 2.25 (1679)	635 2.55 (1828)	660 2.45 (1902)	690 2.75 (2052)	720 2.90 (2163)	740 3.05 (2275)	775 3.25 (2425)	800 3.40 (2536)	835 3.55 (2648)	----
8000 (3775)	605 2.40 (1790)	635 2.60 (1940)	660 2.80 (2089)	690 2.95 (2201)	720 3.15 (2350)	740 3.30 (2462)	775 3.50 (2611)	800 3.65 (2723)	835 3.85 (2872)	870 4.10 (3059)	----

NOTE — All data is measured external to the unit with air filters in place.

**BLOWER DATA (Continued)**  
**CB17-275V AND CBH17-275V BLOWER PERFORMANCE**

Air Volume cfm (L/s)	STATIC PRESSURE EXTERNAL TO UNIT — Inches Water Gauge (Pa)										
	0.1 (25)	0.2 (50)	0.3 (75)	0.4 (100)	0.5 (125)	0.6 (150)	0.7 (175)	0.8 (200)	0.9 (225)	1.0 (250)	1.25 (310)
	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)	RPM hp (W)
6500 (3065)	515 1.35 (1007)	535 1.45 (1082)	570 1.70 (1268)	585 1.80 (1343)	615 1.90 (1417)	635 2.00 (1492)	670 2.25 (1679)	690 2.30 (1716)	720 2.45 (1828)	740 2.50 (1865)	805 2.95 (2201)
7000 (3305)	525 1.55 (1156)	545 1.70 (1268)	575 1.85 (1380)	600 2.00 (1492)	625 2.15 (1604)	650 2.30 (1716)	680 2.45 (1828)	705 2.55 (1902)	730 2.70 (2014)	755 2.80 (2089)	820 3.25 (2425)
7500 (3540)	530 1.70 (1268)	555 1.85 (1380)	585 2.05 (1529)	615 2.25 (1679)	630 2.30 (1716)	665 2.55 (1902)	685 2.65 (1977)	720 2.80 (2089)	740 2.90 (2163)	770 3.15 (2350)	825 3.60 (2686)
8000 (3775)	540 1.90 (1417)	565 2.15 (1604)	590 2.25 (1679)	625 2.45 (1828)	650 2.65 (1977)	675 2.80 (2089)	705 2.95 (2201)	730 3.05 (2275)	760 3.35 (2499)	785 3.40 (2536)	840 3.95 (2947)
8500 (4010)	555 2.15 (1604)	580 2.30 (1714)	610 2.55 (1902)	630 2.70 (2014)	665 2.90 (2163)	690 3.10 (2313)	720 3.20 (2387)	745 3.35 (2499)	775 3.60 (2686)	805 3.80 (2835)	855 4.40 (3282)
9000 (4245)	565 2.35 (1753)	595 2.60 (1940)	630 2.85 (2126)	655 3.05 (2275)	680 3.20 (2387)	710 3.40 (2536)	735 3.55 (2648)	760 3.75 (2798)	795 4.00 (2894)	820 4.20 (3133)	870 4.70 (3506)
9500 (4485)	585 2.65 (1977)	620 2.95 (2201)	640 3.15 (2350)	670 3.05 (2275)	700 3.55 (2648)	730 3.75 (2798)	755 3.90 (2909)	785 4.15 (3096)	815 4.40 (3282)	840 4.65 (3469)	890 5.15 (3842)
10,000 (4720)	610 3.05 (2275)	635 3.30 (2462)	660 3.45 (2574)	690 3.30 (2462)	720 3.90 (2909)	750 4.10 (3059)	775 4.35 (3245)	805 4.55 (3394)	835 4.85 (3618)	860 5.15 (3842)	----
10,500 (4955)	625 3.35 (2499)	655 3.55 (2648)	685 3.80 (2835)	715 4.05 (3021)	745 4.30 (3208)	775 4.60 (3432)	800 4.75 (3544)	830 5.05 (3767)	860 5.40 (4028)	880 5.70 (4252)	----

NOTE — All data is measured external to the unit with air filters in place.

**SUPPLY AIR PLENUM AND GRILLE AIR THROW DATA**

Blower Coil and Supply Plenum and Grille Model Number	Air Volume		*Effective Throw — ft. (m)	
			†10 ft. (3.0 m) Ceiling	
	cfm	L/s	Front of Unit	45° From Unit
†CB17-95V With SPG17-95 or CBH17-95V With SPGH17-95	2000	945	40 (12.2)	31 (9.4)
	2500	1180	46 (14.0)	36 (11.0)
	3000	1415	53 (16.2)	41 (12.5)
	3500	1650	56 (17.1)	45 (13.7)
	4000	1890	63 (19.2)	50 (15.2)
†CB17-135V With SPG17-135 or CBH17-135V With SPGH17-135	3000	1415	50 (15.2)	35 (10.7)
	3500	1650	55 (16.8)	40 (12.2)
	4000	1890	61 (18.6)	44 (13.4)
	4500	2125	67 (20.4)	50 (15.2)
	5000	2360	71 (21.6)	56 (17.1)
†CB17-185V With SPG17-185/275 or CBH17-185V With SPGH17-185/275	5000	2360	30 (9.1)	19 (5.8)
	5500	2595	31 (9.4)	19 (5.8)
	6000	2830	35 (10.7)	22 (6.7)
	6500	3070	36 (11.0)	22 (6.7)
	7000	3305	36 (11.0)	22 (6.7)
	7500	3540	39 (11.9)	24 (7.3)
†CB17-275V With SPG17-185/275 or CBH17-275V With SPGH17-185/275	8000	3775	41 (12.5)	26 (7.9)
	6500	3070	36 (11.0)	22 (6.7)
	7000	3305	36 (11.0)	22 (6.7)
	7500	3540	39 (11.9)	24 (7.3)
	8000	3775	41 (12.5)	26 (7.9)
	8500	4010	43 (13.1)	27 (8.2)
	9000	4250	46 (14.0)	29 (8.8)
	9500	4485	49 (14.9)	30 (9.1)
10,000	4720	53 (16.2)	33 (10.1)	
10,500	4955	55 (16.8)	34 (10.4)	

\*Effective throw is terminated at a point where conditioned air reaches a level of 3 feet (1 m) above the floor or where velocity has decreased to 50 feet per minute (0.25 m/s). †Ceiling height not applicable to CB17 Up-Flow models.

**BLOWER DATA (Continued)**  
**ACCESSORY AIR RESISTANCE — CB17-95V, CBH17-95V, CBH17-135V AND CB17-135V**

Model Number	Air Volume		Total Resistance — inches water gauge (Pa)			
			HW17 Hot Water Coil		EMD17M Economizer Dampers	
	cfm	L/s	HW17-95	HW17-135	EMD17M-95	EMD17-135
CB17-95V CBH17-95V	2000	945	0.13 (32)	----	0.02 (5)	----
	2500	1180	0.16 (40)	----	0.04 (10)	----
	3000	1415	0.18 (45)	----	0.07 (17)	----
	3500	1650	0.20 (50)	----	0.09 (22)	----
	4000	1890	0.24 (60)	----	0.12 (30)	----
CB17-135V CBH17-135V	3000	1415	----	0.14 (35)	----	0.03 (70)
	3500	1650	----	0.17 (42)	----	0.05 (12)
	4000	1890	----	0.18 (45)	----	0.07 (17)
	4500	2125	----	0.20 (50)	----	0.09 (22)
	5000	2360	----	0.24 (60)	----	0.11 (27)
	5500	2595	----	0.27 (67)	----	0.13 (32)

NOTE — Electric heat section, plenum and grilles have no appreciable air resistance.

**ACCESSORY AIR RESISTANCE — CB17-185V, CBH17-185V, CBH17-275V AND CB17-275V**

Model Number	Air Volume		Total Resistance — inches water gauge (Pa)		
			HW17 Hot Water Coil	EMD17M Economizer Dampers	
	cfm	L/s	HW17-185/275	EMD17M-185	EMD17-275
CB17-185V CBH17-185V	5000	2360	0.08 (20)	0.04 (10)	----
	5500	2595	0.10 (25)	0.05 (12)	----
	6000	2830	0.11 (27)	0.06 (15)	----
	6500	3070	0.13 (32)	0.07 (17)	----
	7000	3305	0.15 (37)	0.08 (20)	----
	7500	3540	0.17 (42)	0.09 (22)	----
	8000	3775	0.18 (45)	0.10 (25)	----
CB17-275V CBH17-275V	6500	3070	0.13 (32)	----	0.04 (10)
	7000	3305	0.15 (37)	----	0.05 (12)
	7500	3540	0.17 (42)	----	0.06 (15)
	8000	3775	0.18 (45)	----	0.07 (17)
	8500	4010	0.21 (52)	----	0.08 (20)
	9000	4250	0.23 (57)	----	0.08 (20)
	9500	4485	0.25 (62)	----	0.09 (22)
	10,000	4720	0.27 (67)	----	0.10 (25)
10,500	4955	0.30 (75)	----	0.11 (27)	

NOTE — Electric heat section, plenum and grilles have no appreciable air resistance.

**HOT WATER COIL PRESSURE DROP**

Flow Rate		Pressure Drop — feet of water (kPa)		
gpm	L/s	HW17-95	HW17-135	HW17-185/275
15	0.95	0.93 (3.0)	1.18 (3.5)	----
20	1.25	1.56 (4.5)	1.99 (6.0)	0.55 (1.5)
25	1.60	2.33 (7.0)	2.97 (9.0)	0.82 (2.5)
30	1.90	3.24 (9.5)	4.13 (12.5)	1.14 (3.5)
35	2.20	4.27 (12.5)	5.44 (16.0)	1.50 (4.5)
40	2.50	5.44 (16.0)	6.92 (20.5)	1.91 (5.5)
45	2.85	6.72 (20.0)	8.56 (25.5)	2.36 (7.0)
50	3.15	----	----	2.86 (8.5)
55	3.45	----	----	3.39 (10.0)
60	3.80	----	----	3.97 (12.0)
65	4.10	----	----	4.58 (13.5)
70	4.40	----	----	5.23 (15.5)

## I - PARTS ARRANGEMENT

(FIGURE 1)

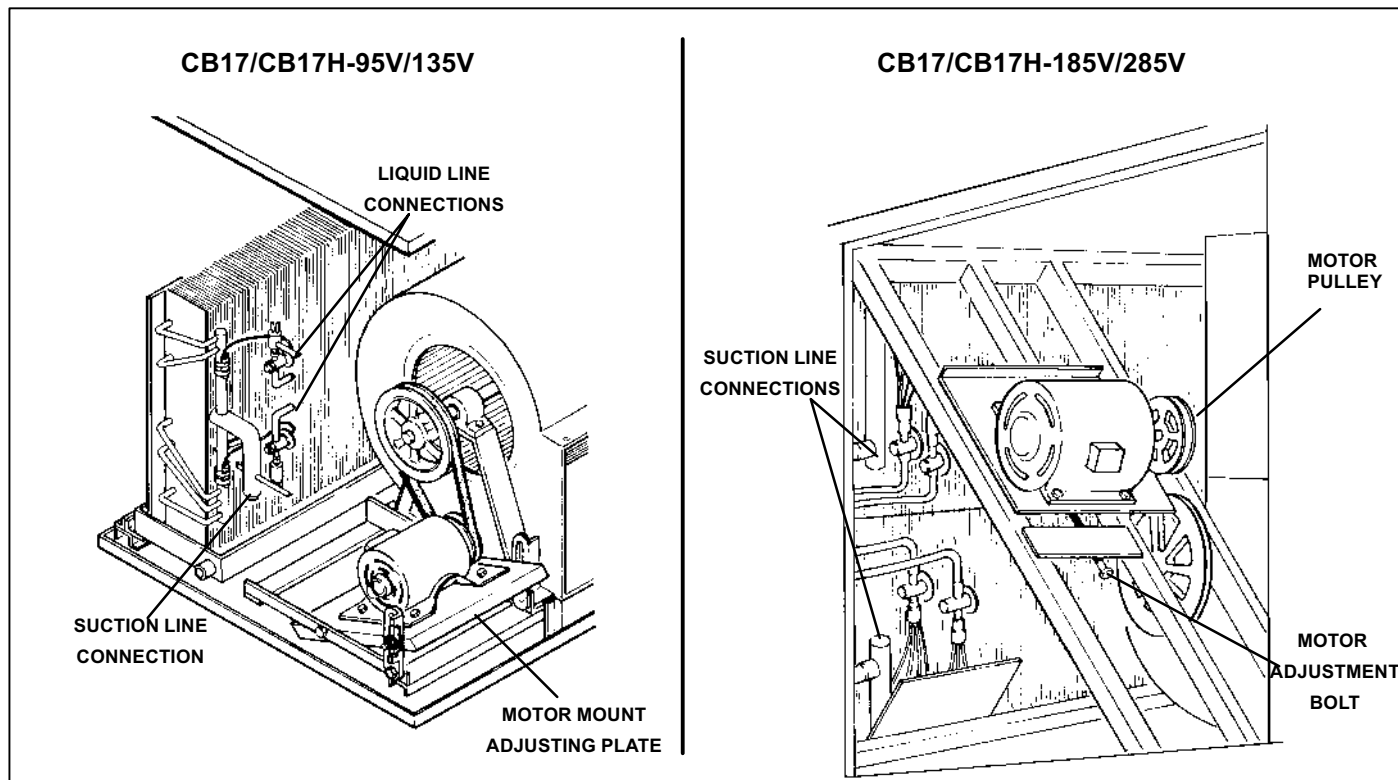


FIGURE 1

## II - COMPONENTS

### A - Blower Contactor K3 & K36 (optional)

K3 is a three-pole contactor and heat relay K36 is a 24V single-pole double throw relay used to control the blower. K3 and K36 work simultaneously during a call for heat (see economizer relay K43), cool or continuous blower. When there is a thermostat demand K36 is energized. K36-1 contacts close energizing K3. K3-1 contacts close energizing the indoor blower B3. See wiring diagram.

### B - Economizer Relay K43 (optional)

Relay K43 is a single-pole double throw relay used to control the economizer. When there is a call for heat, K43-1 contacts close energizing the economizer and relay K36, which energizes blower contactor K3. See wiring diagram.

### C - Transformer T1 (field provided)

T1 is a line voltage to 24V transformer. Transformers are rated at 45VA.

### D - Blower Motor B3

See DRIVE KIT SELECTION TABLE at front of this manual.

### E - Blower Motor Overload Relay S42

Relay S42 is used for "M" voltage and units with high efficiency motors only. S42 is connected in line with the blower motor to monitor the current flow to the motor. When the relay senses an overload condition, a set of N.C. contacts open to de-energize all 24 volt circuits.

### III - BLOWER SPEED & BELT TENSION ADJUSTMENTS

#### Determining CFM

*NOTE - The indoor coil must be dry and the air filters must be in place when the following measurements are taken.*

- 1 - Run the blower without a cooling demand.
- 2 - Measure the static pressure external to the unit.
- 3 - Measure the indoor blower motor's rpm.
- 4 - Refer to tables in BLOWER DATA section to determine the unit's air volume.
- 5 - Adjust the unit's air volume at the blower motor pulley. Loosen the Allen screw. Turn the adjustable sheave clockwise to increase the air volume or counterclockwise to decrease the air volume. See figure 1.

#### Adjusting Belt Tension

Maximum life and wear can only be obtained from belts if proper pulley alignment and belt tension are maintained. Initially tension new belts at the maximum deflection force recommended (1/64 inch per inch of span), and then re-tension belt after 24-48 hour run period. This allows belt to stretch and seat in grooves.

To remove or tension belt, loosen the bolts on the hinged motor cradle and slide up or down.

#### Check Belt Tension

Overtensioning belts shortens belt and bearing life. Check belt tension as follows:

- 1- Measure span length X. See figure 2.
- 2- Apply perpendicular force to center of span (X) with enough pressure to deflect belt 1/64" for every inch of span length or 1.5mm per 100mm of span length.

Example: Deflection distance of a 40" span would be 40/64" or 5/8".

Example: Deflection distance of a 400mm span would be 6mm.

- 3- Measure belt deflection force. For a used belt, the deflection force should be 5 lbs. (35kPa). A new belt deflection force should be 7 lbs. (48kPa).

A force below these values indicates an undertensioned belt. A force above these values indicates an overtensioned belt.

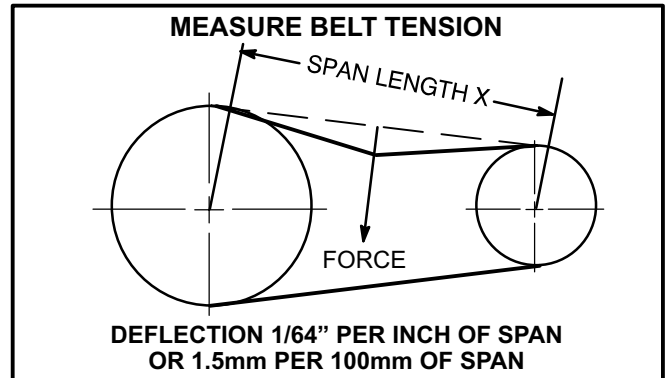


FIGURE 2

### IV - REFRIGERATION SYSTEM

The coil is divided into two sections. The lower portion is first stage and the upper section is second stage. Each section has its own liquid line connection and expansion valve or valves. This configuration allows the use of a solenoid valve to control the flow of refrigerant into one coil section. Use this feature for capacity reduction or latent heat control. If a solenoid valve is used, install it directly ahead of the expansion valve of the coil section being controlled. Size the solenoid valve for approximately 50 percent of the total evaporator unit capacity.

The expansion valves are sized specifically for the two stages. The CB17/CB17H-95-2 units have 4 ton first stage expansion valves and 3 ton second stage valves. The CB17/CB17H-135-2 units have 5 ton first stage expansion valves and 4 ton second stage valves. The CB17/CB17H-95-3 units have 6 ton first stage expansion valves and 4 ton second stage valves. The CB17/CB17H-135-3 units have 6 ton first stage expansion valves and 4 ton second stage valves.

The CB17/CBH17-185 has a 7-1/2-ton first- and second-stage expansion valve. The CB17/CBH17-275 has two 5-ton first- and two 5 ton second-stage expansion valves.

Refrigerant lines or stubbed for sweat connections and are located inside the unit cabinet. See figure 1.

### V - CONDENSATE PAN

Two drain outlets are provided, one per side. Never connect condensate drain to a closed system. Condensate drain line must have a trap in the line at the unit exit.

# VI - Wiring Diagram

