

EVD5X

Evaporator Coil with Power-V Technology for R-454B Refrigerant

Upflow/Downflow – Cooling and Heating

*Refer to AHRI Directory for Approved Rated Combinations.



Product Data

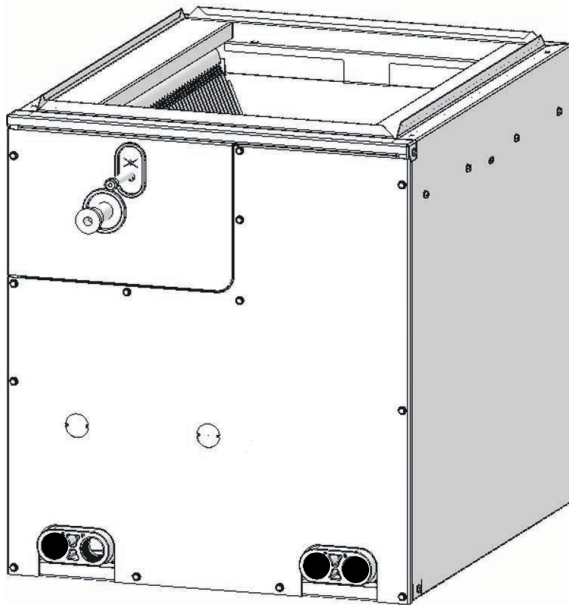


Fig. 1 – Typical Coil

A210758C



A200449AICP

This evaporator coil incorporates proven standards for reliable system operation and performance throughout the life of this product. These quality coils, manufactured and installed as part of a total comfort system, provide AHRI-rated performance ratings and are additionally listed with UL and c-UL.

Available for use in R-454B refrigerant only, it is a cased V-coil or slope coil that is housed in a durable, 24-gauge, pre-painted cool gray cabinet. The fully insulated cabinet (foil faced with R-2.1 insulation) provides for quiet efficient operation of the evaporator coil.

DESIGN FEATURES

- Refrigerant leak detection dissipation system for added safety.
- Designed with performance in mind, this new evaporator coil offers lower pressure drops to enhance system performance and airflow characteristics.
- All coils have refrigerant-specific, factory-installed TXVs. All models are factory pre-set to approximately 10° of superheat at the suction service valve.

- The corrosion-resistant drain pan is designed of a “Polybutylene terephthalate” material (PBT) that offers unsurpassed pan strength. It is engineered with proper slope to help ensure water drainage, improved moisture removal, and home comfort.
- The drain pan is supplied with three water-tight drain plugs to prevent leakage from unused drain connections.
- Provided with industry proven sweat connections for leak-free operation to maintain system reliability. The location of the lineset connections allows for removal of the access door for easy cleaning/servicing of the coils, as well as easy access to the TXV. All models come from the factory with enough length of straight tube to accommodate braze-less compression fittings.
- Meets or exceeds burst pressure of 2100 psi, which is at least three times the maximum operating pressure it would see in actual cooling or heating application.
- This cased coil comes with factory-installed UV knockouts for quick and easy installation of UV lights.
- Comes with a “no delta plate” for easy, quick access to both sides of the coil for service and cleaning. Also, after the door is removed and refrigerant lines disconnected, the coil is removable from the front of the unit without the use of any tools.
- All models are shipped with a complete A2L (R-454B) dissipation system, which is required for installation.

Table 1 – Dissipation Parts List

Component	Location
Refrigerant Sensor	Factory Installed
Sensor Wire Harness	Factory Installed
Leak Dissipation Control Board	Parts Box
Dissipation Board Housing	Parts Box
Power Wire	

MODEL NUMBER NOMENCLATURE

1	2	3	4	5	6	7	8	9	10	11
E	V	D	5	X	3	6	M	1	7	A
Product Description E = Evaporator Coil								Major Series A = First B = Second Etc...		
Type V = V-Coil S = Slope Coil								Unit Width (Nom.) 14 = 14-in (325 mm) 17 = 17-in (432 mm) 21 = 21-in (533 mm) 24 = 24-in (610 mm)		
Installation Configuration D = Vertical; M = Multi-poise								M = with Dissipation		
Refrigerant Type 5 = R-454B								Unit Capacity (Nom.) 18 - 23 = 1.5 Ton 24 - 29 = 2 Ton 30 - 35 = 2.5 Ton 36 - 41 = 3 Ton 42 - 47 = 3.5 Ton 48 - 51 = 4 Ton 60 - 62 = 5 Ton		
Metering Device X = TXV										

Table 2 – Coil Connections / Orientations

Model	Nom. Tons	Line Set Connection Tube Size, in.		Flush Fit to Furnace Width, in. (mm)	Fits Next Smaller Furnace Width			90° Rotation to Furnace (4" Min. Transition Required)	180° Rotation to Furnace
		Suction	Liquid		Equal Overhang	Offset Left	Offset Right		
EVD5X18M14A	1.5	5/8	3/8	14-3/16 (360)				ALL Upflow or Downflow	
EVD5X19M17A	1.5	5/8	3/8	17-1/2 (445)	X	X	X		
EVD5X24M14A	2	5/8	3/8	14-3/16 (360)					

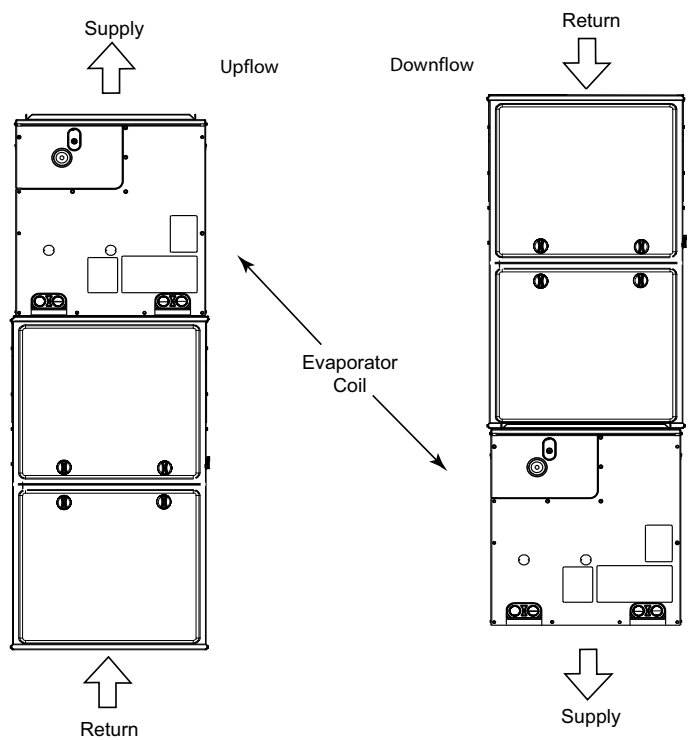


Fig. 2 – Typical Flush-Fit Coil Installation on Furnace
(recommended) A200227C

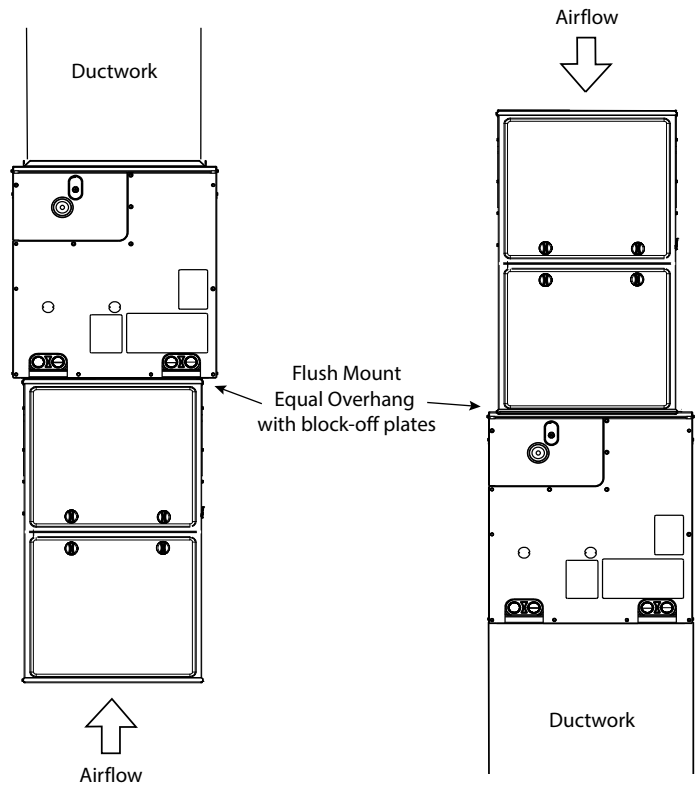


Fig. 4 – Smaller Furnace, Equal Overhang, Flush Mount
(not recommended) A221112A

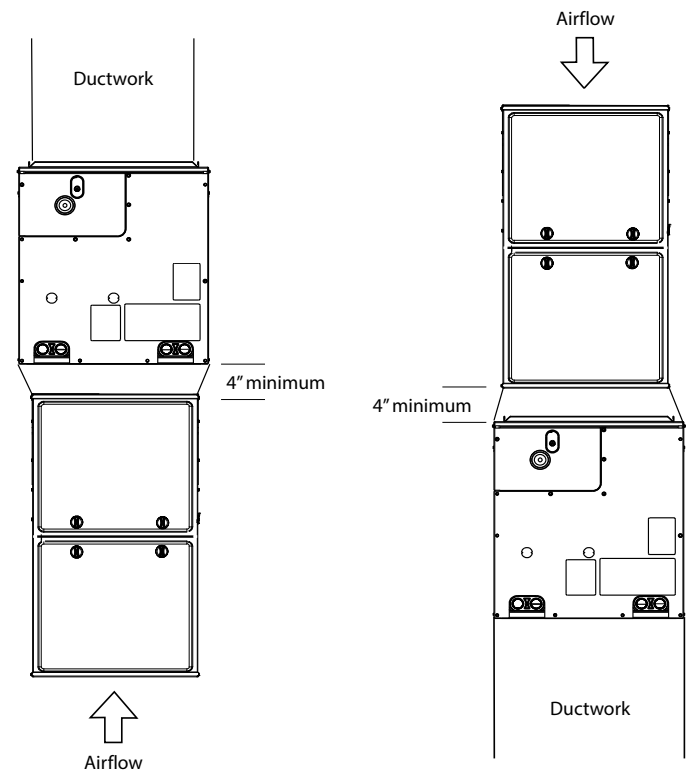


Fig. 3 – Adapter(s) Installation When Coil is Larger than Furnace
(recommended) A200228C

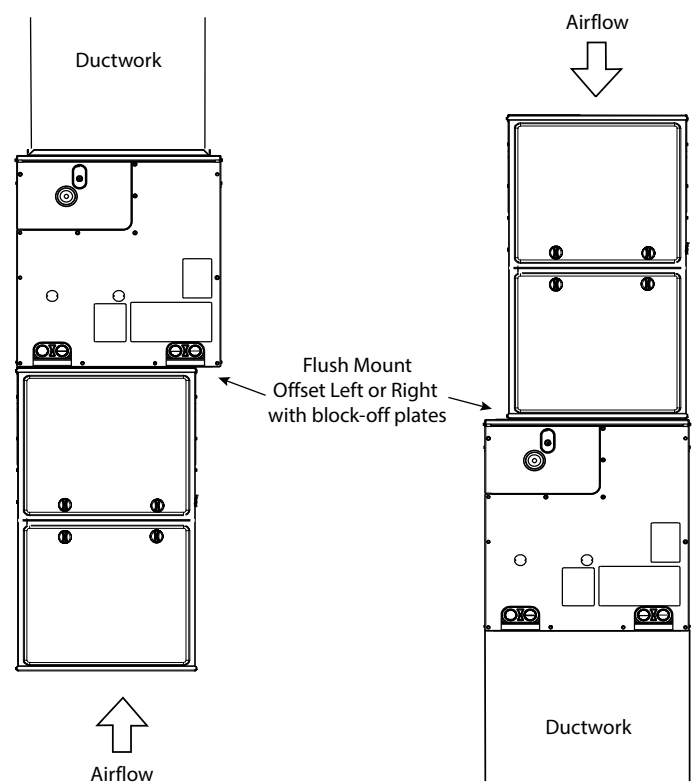


Fig. 5 – Smaller Furnace, Offset, Flush Mount Right or Left
(not recommended) A221113A

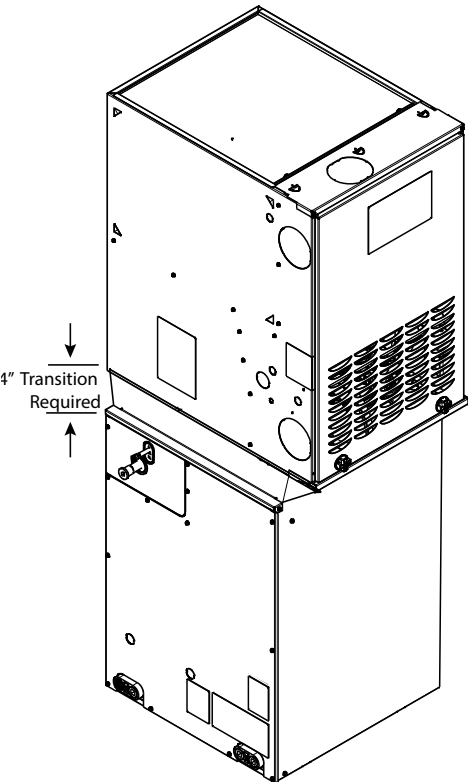


Fig. 6 – 90° Rotation (shown in downflow)
4" Transition Required (not recommended)

A221110A

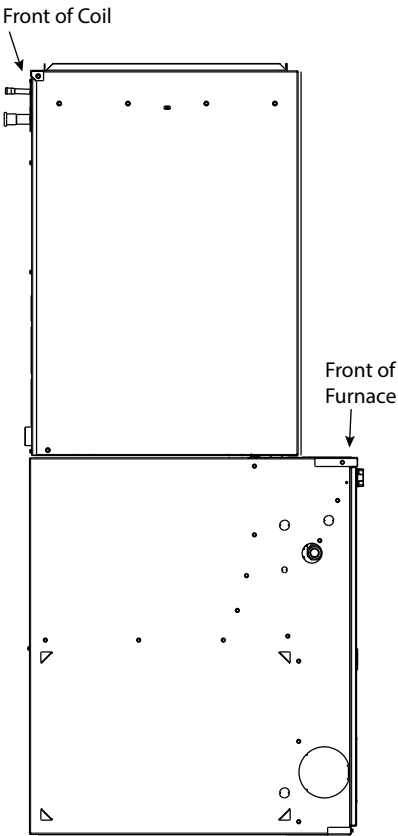


Fig. 7 – 180° Rotation (shown in upflow)
(not recommended)

A221111

Table 3 – Accessories

Part Number	Description
NAHB00101CA	Coil Adapter Kits - No Offset
NAHB00201CA	Coil Adapter Kits - Single Offset
NAHB00301CA	Coil Adapter Kits - Double Offset
ACAWHNDIS01A	Alternate Wire Harness / Relay Kit - Higher Airflow
ACAINTDIS10A	CNN / Communicating Plug (10-pack)

DIMENSIONS

UNIT	SERIES	A		B (Cabinet Width)		C		D		E		F		H (Suction Line)		OPERATING WEIGHT		SHIPPING WEIGHT		SHIPPING HEIGHT		SHIPPING WIDTH		SHIPPING DEPTH	
		INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	Lbs	Kgs	Lbs	Kgs	INCH	MM	INCH	MM	INCH	MM
EVD5X18M14A	1	14 11/16	372.4	14 3/16	360.4	12 7/16	316.2	13 3/16	335.2	11 5/8	294.8	7 1/8	180.2	5/8	15.9	25.6	11.6	30.0	13.6	16.0	406.4	16.3	414.0	23.8	604.5
EVD5X19M17A	1	19 7/16	494.5	17 1/2	444.5	15 3/4	400.3	17 5/16	440.4	15 11/16	398.7	8 3/4	222.3	5/8	15.9	33.2	15.1	39.0	17.7	20.7	525.8	19.6	497.8	23.8	604.5
EVD5X24M14A	1	14 11/16	372.4	14 3/16	360.4	12 7/16	316.2	13 3/16	335.2	11 5/8	294.8	7 1/8	180.2	5/8	15.9	25.6	11.6	30.0	13.6	16.0	406.4	16.3	414.0	23.8	604.5
EVD5X24M17A	1	14 11/16	372.4	17 1/2	444.5	15 3/4	400.3	13 3/16	335.2	11 5/8	294.8	8 3/4	222.3	5/8	15.9	33.2	15.1	39.0	17.7	16.0	406.4	19.6	497.8	23.8	604.5
EVD5X25M14A	1	17 1/16	432.6	14 3/16	360.4	12 7/16	316.2	14 15/16	380.2	14	355.0	7 1/8	180.2	5/8	15.9										

DIMENSIONS (cont)

UNIT	SERIES	A		B (Cabinet Width)		C		D		E		F		H (Suction Line)		OPERATING WEIGHT		SHIPPING WEIGHT		SHIPPING HEIGHT		SHIPPING WIDTH		SHIPPING DEPTH	
		INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	Lbs	Kgs	Lbs	Kgs	INCH	MM	INCH	MM	INCH	MM
EVD5X36M21A	1	19 1/16	483.4	21	533.4	19 1/4	489.2	16 7/8	427.9	16	405.8	10 1/2	266.7	3/4	19.1	34.0	15.4	40.0	18.1	20.4	518.2	23.1	586.7	23.8	604.5
EVD5X37M21A	1	21 15/16	557.9	21	533.4	19 1/4	489.2	20 1/16	510.0	18 5/16	465.0	10 1/2	266.7	3/4	19.1	37.4	17.0	44.0	20.0	23.5	596.9	23.1	586.7	23.8	604.5
EVD5X42M21A	1	19 1/16	483.4	21	533.4	19 1/4	489.2	16 7/8	427.9	16	405.8	10 1/2	266.7	7/8	22.2	34.0	15.4	40.0	18.1	20.4	518.2	23.1	586.7	23.8	604.5
EVD5X42M24A	1	26 5/16	669.0	24 1/2	622.3	22 3/4	578.1	24 3/4	629.3	23 5/16	591.4	12 1/4	311.2	7/8	22.2	43.3	19.6	51.0	23.1	27.7	703.6	26.6	675.6	23.8	604.5
EVD5X48M21A	1	21 15/16	557.9	21	533.4	19 1/4	489.2	20 1/16	510.0	18 5/16	465.0	10 1/2	266.7	7/8	22.2	37.4	17.0	44.0	20.0						

INDOOR PERFORMANCE DATA - COIL STATIC PRESSURE DROP (in. w.c.) BY SCFM – wet coil

Unit Size	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	
EVD5X18M14A	.12	.14	.16	.19	.22	.24	.27																																				
EVD5X19M17A	.07	.08	.10	.11	.13	.14	.16																																				
EVD5X24M14A				.19	.22	.24	.27	.31	.34	.37	.41	.45																															
EVD5X24M17A				.13	.15	.17	.19	.21	.23	.25	.28	.30																															
EVD5X25M14A				.16	.18	.21	.24	.26	.30	.33	.36	.40																															
EVD5X25M17A				.11	.13	.14	.16	.18	.20	.22	.24	.26																															
EVD5X30M14A							.24	.26	.30	.																																	

INDOOR PERFORMANCE DATA - COIL STATIC PRESSURE DROP (in. w.c.) BY SCFM – dry coil

Unit Size	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	
EVD5X18M14A	.10	.12	.14	.16	.18	.21	.23																																				
EVD5X19M17A	.06	.07	.08	.09	.10	.11	.13																																				
EVD5X24M14A				.16	.18	.21	.23	.25	.28	.31	.34	.37																															
EVD5X24M17A				.11	.12	.14	.15	.17	.19	.21	.23	.25																															
EVD5X25M14A				.14	.16	.19	.21	.24	.26	.29	.32	.35																															
EVD5X25M17A				.09	.10	.11	.13	.14	.16	.18	.19	.21																															
EVD5X30M14A							.21	.24	.26																																		

Table 4 – Cooling Capacities (MBH) – R-454B

INDOOR COIL AIR		SATURATED TEMPERATURE LEAVING EVAPORATOR (deg F)														
		35			40			45			50			55		
CFM	EWB	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF
SIZE1814																
450	72	32.33	16.37	0.00	29.42	14.73	0.00	25.84	12.98	0.00	21.83	11.20	0.25	17.26	9.21	0.23
	67	26.69	16.93	0.21	23.50	15.18	0.20	20.00	13.36	0.20	15.94	11.34	0.21	11.68	9.30	0.23
	62	21.27	17.16	0.18	18.22	15.37	0.19	14.67	13.38	0.20	11.12	11.11	0.20	9.40	9.40	0.31
600	72	38.94	19.67	0.00	35.98	17.92	0.00	31.74	15.89	0.00	26.92	13.77	0.31	21.49	11.47	0.27
	67	32.77	20.73	0.29	28.93	18.71	0.25	24.71	16.55	0.24	19.84	14.18	0.25	14.56	11.68	0.27
	62	26.18	21.23	0.22	22.68	19.22	0.23	18.22	16.80	0.24	14.16	14.15	0.23	11.66	11.66	0.36
750	72	45.01	22.59	0.00	41.48	20.57	0.00</									

Table 4 – Cooling Capacities (MBH) – R-454B (Continued)

INDOOR COIL AIR		SATURATED TEMPERATURE LEAVING EVAPORATOR (deg F)														
		35			40			45			50			55		
CFM	EWB	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF
SIZE2417																
600	72	42.67	21.23	0.00	38.94	19.26	0.00	34.35	17.08	0.00	29.22	14.84	0.30	23.34	12.37	0.26
	67	35.37	22.23	0.28	31.20	20.03	0.24	26.73	17.79	0.23	21.51	15.27	0.23	15.83	12.61	0.25
	62	28.32	22.80	0.21	24.31	20.51	0.22	19.79	18.12	0.22	15.27	15.25	0.22	12.67	12.66	0.34
800	72	50.41	25.11	0.00	46.62	22.97	0.00	41.33	20.51	0.00	35.21	17.94	0.33	28.46	15.12	0.31
	67	42.46	26.73	0.32	37.68	24.27	0.29	32.39	21.66	0.28	26.20	18.75	0.28	19.46	15.68	0.29
	62	34.27	27.81	0.26	29.71	25.27	0.26	24.07	22.34	0.27	19.48	19.48	0.25	16.16	16.15	0.37
1000	72	57.71	28.53	0.00	53.10	26.06	0.00									

Table 4 – Cooling Capacities (MBH) – R-454B (Continued)

INDOOR COIL AIR		SATURATED TEMPERATURE LEAVING EVAPORATOR (deg F)														
		35			40			45			50			55		
CFM	EWB	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF
SIZE3014																
750	72	52.98	26.54	0.00	48.73	24.12	0.00	42.98	21.36	0.00	36.59	18.54	0.36	29.30	15.53	0.27
	67	44.33	27.78	0.00	39.04	25.04	0.26	33.41	22.21	0.24	26.94	19.14	0.24	19.95	15.94	0.25
	62	35.48	28.53	0.23	30.38	25.64	0.23	24.69	22.63	0.23	19.19	19.19	0.22	16.06	16.06	0.34
1000	72	63.77	31.71	0.00	58.72	28.91	0.00	51.92	25.71	0.00	44.24	22.41	0.40	35.93	18.98	0.33
	67	53.32	33.42	0.00	47.11	30.27	0.32	40.41	26.97	0.30	32.70	23.39	0.29	24.16	19.54	0.30
	62	42.86	34.67	0.28	37.04	31.43	0.28	30.01	27.86	0.28	24.41	24.41	0.25	20.46	20.46	0.36
1250	72	73.25	36.12	0.00	67.27	32.96	0.00									

Table 4 – Cooling Capacities (MBH) – R-454B (Continued)

INDOOR COIL AIR		SATURATED TEMPERATURE LEAVING EVAPORATOR (deg F)														
		35			40			45			50			55		
CFM	EWB	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF
SIZE3617																
900	72	63.59	31.40	0.00	58.07	28.55	0.00	51.34	25.37	0.00	43.91	22.13	0.37	35.70	18.77	0.27
	67	52.65	32.87	0.00	46.50	29.71	0.26	39.95	26.51	0.24	32.45	23.03	0.23	24.29	19.40	0.23
	62	42.27	33.95	0.22	36.52	30.74	0.22	29.68	27.25	0.22	23.68	23.68	0.19	19.95	19.95	0.32
1200	72	75.07	36.98	0.00	69.27	33.86	0.00	61.53	30.33	0.00	52.72	26.57	0.40	42.67	22.59	0.31
	67	62.84	39.30	0.40	55.73	35.76	0.31	48.01	32.04	0.29	39.11	28.01	0.28	29.21	23.66	0.28
	62	50.60	41.03	0.27	43.93	37.43	0.27	35.83	33.40	0.27	29.58	29.58	0.24	24.98	24.98	0.35
1500	72	85.66	41.83	0.00	78.70	38.35	0.00	70.07	34.5							

Table 4 – Cooling Capacities (MBH) – R-454B (Continued)

INDOOR COIL AIR		SATURATED TEMPERATURE LEAVING EVAPORATOR (deg F)														
		35			40			45			50			55		
CFM	EWB	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF
SIZE3817																
900	72	60.47	29.96	0.00	55.64	27.53	0.00	49.77	24.84	0.00	43.04	21.92	0.29	35.19	18.82	0.18
	67	50.49	31.48	0.25	45.12	28.74	0.19	39.05	25.86	0.16	32.16	22.77	0.15	24.63	19.52	0.15
	62	40.91	32.59	0.14	35.70	29.76	0.14	29.51	26.68	0.14	23.44	23.44	0.13	20.00	20.00	0.25
1200	72	72.23	35.77	0.00	67.03	33.14	0.00	60.22	30.11	0.00	52.33	26.79	0.31	43.00	23.19	0.23
	67	60.88	38.21	0.26	54.64	35.11	0.23	47.53	31.84	0.20	39.40	28.27	0.19	30.37	24.48	0.19
	62	49.57	39.99	0.19	43.50	36.83	0.18	36.03	33.19	0.18	29.87	29.87	0.16	25.71	25.71	0.28
1500	72	82.19	40.55	0.00	76.35	37.75										

Table 4 – Cooling Capacities (MBH) – R-454B (Continued)

INDOOR COIL AIR		SATURATED TEMPERATURE LEAVING EVAPORATOR (deg F)														
		35			40			45			50			55		
CFM	EWB	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF
SIZE4224																
1050	72	71.46	35.31	0.00	65.56	32.37	0.00	58.52	29.15	0.00	50.47	25.67	0.00	41.15	22.01	0.22
	67	59.50	37.02	0.00	53.05	33.74	0.23	45.82	30.32	0.20	37.66	26.68	0.18	28.79	22.87	0.18
	62	48.10	38.24	0.18	41.88	34.88	0.18	34.54	31.28	0.17	28.03	28.03	0.14	23.80	23.80	0.27
1400	72	85.21	42.02	0.00	78.79	38.82	0.00	70.52	35.16	0.00	61.10	31.22	0.37	50.46	27.03	0.28
	67	71.50	44.69	0.34	63.99	40.99	0.27	55.53	37.10	0.25	45.82	32.87	0.23	35.12	28.35	0.23
	62	58.07	46.71	0.23	50.83	42.93	0.22	42.00	38.69	0.22	35.05	35.05	0.20	30.11	30.11	0.31
1750	72	96.97	47.60	0.00	89.61	44.16										

Table 4 – Cooling Capacities (MBH) – R-454B (Continued)

INDOOR COIL AIR		SATURATED TEMPERATURE LEAVING EVAPORATOR (deg F)														
		35			40			45			50			55		
CFM	EWB	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF
SIZE4924																
1200	72	83.25	40.55	0.00	76.32	37.12	0.00	68.07	33.36	0.00	58.59	29.28	0.36	47.56	24.93	0.24
	67	69.15	42.90	0.33	61.57	39.06	0.25	53.06	35.04	0.22	43.42	30.73	0.21	32.88	26.22	0.20
	62	55.65	44.61	0.20	48.39	40.73	0.20	39.52	36.31	0.19	32.28	32.28	0.17	27.26	27.26	0.29
1600	72	97.95	47.46	0.00	90.55	43.85	0.00	80.92	39.61	0.00	69.97	35.05	0.37	57.53	30.16	0.30
	67	81.94	51.07	0.34	73.20	46.77	0.30	63.40	42.30	0.27	52.00	37.33	0.25	39.51	32.08	0.25
	62	66.28	53.88	0.25	57.49	49.40	0.24	47.48	44.51	0.24	39.82	39.82				

Table 4 – Cooling Capacities (MBH) – R-454B (Continued)

INDOOR COIL AIR		SATURATED TEMPERATURE LEAVING EVAPORATOR (deg F)														
		35			40			45			50			55		
CFM	EWB	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF	TC	SHC	BF
SIZE6121																
1500	72	103.06	49.53	0.00	94.76	45.59	0.00	84.80	41.18	0.00	73.38	36.37	0.33	59.90	31.15	0.24
	67	85.67	52.79	0.29	76.67	48.36	0.24	66.36	43.58	0.21	54.42	38.44	0.19	41.40	32.98	0.19
	62	69.16	55.35	0.19	60.01	50.65	0.18	49.63	45.61	0.18	40.90	40.90	0.16	34.84	34.84	0.28
2000	72	120.52	57.59	0.00	111.65	53.60	0.00	100.15	48.68	0.00	87.04	43.36	0.35	71.33	37.42	0.28
	67	100.92	62.70	0.31	90.57	57.74	0.28	78.70	52.44	0.26	64.85	46.63	0.24	49.44	40.29	0.23
	62	81.71	66.56	0.24	71.22	61.44	0.23	58.99	55.63	0.23	50.71	50.71	0.22	43.27	43.27	0.33
2500	72	134.87	64.31	0.00	124.88											

- 7. Before using maximum cfm shown in table, check coil static pressure drop to ensure system blower can provide necessary static pressure needed for coil and duct systems.
- 8. Bypass Factor = 0 indicates no psychometric solution. Use bypass factor of next lower EWB for approximation.

BYPASS FACTOR	ENTERING AIR DRY BULB TEMPERATURE (°F)					
	79	78	77	76	75	Under 75
	81	82	83	84	84	Above 85
	Correction Factor					
0.10	0.98	1.96	2.94	3.92	4.91	Use formula shown below
0.20	0.87	1.74	2.62	3.49	4.36	
0.30	0.76	1.53	2.29	3.05	3.82	

Interpolation is permissible.

$Correction\ Factor = 1.09 \times (1 - BF) \times (db - 80)$