



**ENGINEERING DATA  
SUPPLEMENT**

**AIR HANDLERS  
CBX32MV-068  
ARI and Expanded Ratings**

**NOTE - This Document is Only  
Available in Electronic Form!**

Bulletin No. 210426  
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Supersedes June 2005

**ARI RATINGS - CBX32MV-068 - AIR CONDITIONERS**

Outdoor Unit Model No.	<sup>1</sup> ARI Standard 210/240 Ratings					Indoor Unit Model No.	Expansion Device
	Cooling Capacity		Efficiency		Total Unit Watts		
	Btuh	kW	SEER	EER			
HSXA12-048	48,500	14.2	13.20	11.00	4410	<sup>2</sup> CBX32MV-068 (Multi-Position)	Factory Installed TXV
HSXA12-060	59,500	17.4	12.60	10.50	5665	<sup>2</sup> CBX32MV-068 (Multi-Position)	Factory Installed TXV
HSXB15-048	49,000	14.4	14.55	12.30	3985	<sup>2</sup> CBX32MV-068 (Multi-Position)	Factory Installed TXV
HSXB15-060	60,000	17.6	13.50	11.30	5310	<sup>2</sup> CBX32MV-068 (Multi-Position)	Factory Installed TXV
HSXA16-048	49,000	14.4	15.85	12.25	4000	<sup>2</sup> CBX32MV-068 (Multi-Position)	Factory Installed TXV
HSXA16-060	44,500	13.0	13.25	12.65	3515	<sup>2</sup> CBX32MV-068 (Multi-Position)	Factory Installed TXV
XC21-048	50,000	14.7	17.60	13.30	3755	<sup>2</sup> CBX32MV-068 (Multi-Position)	Factory Installed TXV
XC21-060	60,000	17.6	16.85	12.55	4775	<sup>2</sup> CBX32MV-068 (Multi-Position)	Factory Installed TXV

<sup>1</sup> Certified in accordance with USE certification program which is based on ARI Standard 210/240; 95°F (35°C) outdoor air temperature, 80°F (27°C) db / 67°F (19°C) wb entering evaporator air with 25 ft. (7.6 m) of connecting refrigerant lines.

<sup>2</sup> Blower control must be set for a time-off blower delay.

**ARI RATINGS - CBX32MV-068 - HEAT PUMPS**

Outdoor Unit Model No. Unit Size <sup>1</sup> Sound Rating Number	<sup>1</sup> ARI Standard 210/240 Ratings														Indoor Unit Model No.	Expansion Device	
	Cooling Capacity		High Temp. Heating Capacity		Low Temp. Heating Capacity		Efficiency				Total Cool. Watts	Total High Htg. Watts	Total Low Htg. Watts	High Htg. COP			Low Htg. COP
	Btuh	kW	Btuh	kW	Btuh	kW	SEER	EER	HSPF	IV							
HPXA12-048	50,000	14.7	47,500	13.9	31,200	9.1	13.95	11.75	7.70	6.90	4250	4430	4055	3.14	2.26	<sup>2</sup> CBX32MV-068 (Multi)	Factory Installed
HPXA12-060	60,000	17.6	54,500	16.0	36,000	10.6	12.80	10.65	7.75	7.00	5635	5085	4570	3.14	2.30	<sup>2</sup> CBX32MV-068 (Multi)	Factory Installed
HPXB15-048	48,000	14.1	44,500	13.0	28,400	8.3	13.75	12.25	7.60	6.70	3925	4195	3780	3.10	2.20	<sup>2</sup> CBX32MV-068 (Multi)	Factory Installed
HPXB15-060	55,500	16.3	56,000	16.4	34,800	10.2	12.55	10.35	8.00	6.95	5350	5570	4665	2.94	2.18	<sup>2</sup> CBX32MV-068 (Multi)	Factory Installed
HPXA16-060	58,000	17.0	51,500	15.1	32,200	9.4	15.10	11.60	7.90	6.90	5010	4775	4335	3.16	2.18	<sup>2</sup> CBX32MV-068 (Multi)	Factory Installed
XP19-048	47,000	13.8	43,500	12.7	26,000	7.6	16.95	12.85	8.65	7.30	3655	3665	3260	3.48	2.34	<sup>2</sup> CBX32MV-068 (Multi)	Factory Installed
XP19-060	58,500	17.1	53,500	15.7	32,800	9.6	16.30	12.05	8.25	7.10	4855	4845	4250	3.24	2.26	<sup>2</sup> CBX32MV-068 (Multi)	Factory Installed

<sup>1</sup> Certified in accordance with USE certification program which is based on ARI Standard 210/240 with 25 ft. (7.6 m) of connecting refrigerant lines;

**Cooling Ratings** - 95°F (35°C) outdoor air temperature and 80°F (27°C) db/67°F (19°C) wb entering indoor coil air.

**High Temperature Heating Ratings** - 47°F (8°C) db/43°F (6°C) wb outdoor air temperature and 70°F (21°C) db entering indoor coil air.

**Low Temperature Heating Ratings** - 17°F (-8.3°C) db/15°F (-9.4°C) wb outdoor air temperature and 70°F (21°C) db entering indoor coil air.

<sup>2</sup> Blower control must be set for a time-off blower delay.

# RATINGS - AIR CONDITIONERS

NOTE - For Temperatures and Capacities not shown in tables, see bulletin - Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
	Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb				
				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C		
cfm	L/s	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	
<b>COOLING CAPACITY - HSXA12-048 with [CBX32MV-068]</b>																										
63°F (17°C)	1465	690	48.5	14.2	3.32	.75	.88	1.00	46.5	13.6	3.74	.76	.90	1.00	44.0	12.9	4.23	.78	.93	1.00	41.5	12.2	4.80	.81	.96	1.00
	1625	765	49.5	14.5	3.33	.77	.92	1.00	47.5	13.9	3.75	.79	.94	1.00	45.0	13.2	4.24	.81	.97	1.00	42.0	12.3	4.82	.83	.99	1.00
	1840	870	51.0	14.9	3.34	.80	.96	1.00	48.5	14.2	3.76	.82	.98	1.00	46.0	13.5	4.25	.84	1.00	1.00	43.5	12.7	4.83	.87	1.00	1.00
67°F (19°C)	1465	690	51.0	14.9	3.34	.60	.73	.85	48.5	14.2	3.77	.61	.74	.87	46.5	13.6	4.26	.62	.76	.90	43.5	12.7	4.83	.63	.78	.93
	1625	765	52.0	15.2	3.35	.61	.75	.88	49.5	14.5	3.78	.62	.76	.91	47.0	13.8	4.27	.64	.79	.93	44.5	13.0	4.84	.65	.81	.97
	1840	870	53.5	15.7	3.37	.63	.78	.92	51.0	14.9	3.79	.65	.80	.95	48.0	14.1	4.28	.66	.82	.98	45.0	13.2	4.85	.67	.85	1.00
71°F (22°C)	1465	690	53.5	15.7	3.37	.46	.59	.71	51.5	15.1	3.79	.47	.59	.72	48.5	14.2	4.28	.47	.61	.74	46.0	13.5	4.86	.48	.62	.76
	1625	765	55.0	16.1	3.38	.47	.60	.73	52.5	15.4	3.81	.47	.61	.74	49.5	14.5	4.30	.48	.63	.77	46.5	13.6	4.87	.49	.64	.79
	1840	870	56.0	16.4	3.40	.48	.62	.76	53.5	15.7	3.82	.49	.63	.78	50.5	14.8	4.31	.49	.65	.80	47.5	13.9	4.88	.50	.66	.83
<b>COOLING CAPACITY - HSXA12-060 with [CBX32MV-068]</b>																										
63°F (17°C)	1640	775	59.5	17.4	4.24	.73	.85	.97	56.5	16.6	4.76	.74	.87	.99	54.0	15.8	5.35	.75	.89	1.00	51.0	14.9	6.05	.77	.91	1.00
	1840	870	61.0	17.9	4.26	.75	.88	1.00	58.5	17.1	4.78	.76	.90	1.00	55.5	16.3	5.37	.78	.92	1.00	52.5	15.4	6.06	.80	.95	1.00
	2000	945	62.0	18.2	4.28	.76	.90	1.00	59.5	17.4	4.79	.78	.92	1.00	56.5	16.6	5.39	.80	.95	1.00	53.5	15.7	6.08	.82	.98	1.00
67°F (19°C)	1640	775	62.0	18.2	4.28	.59	.71	.82	59.5	17.4	4.80	.60	.72	.83	57.0	16.7	5.39	.60	.73	.85	53.5	15.7	6.08	.61	.75	.88
	1840	870	64.0	18.8	4.30	.60	.72	.84	61.0	17.9	4.82	.61	.74	.86	58.5	17.1	5.42	.62	.75	.89	55.0	16.1	6.12	.63	.77	.92
	2000	945	65.0	19.0	4.32	.61	.74	.87	62.0	18.2	4.84	.62	.76	.89	59.5	17.4	5.44	.63	.77	.91	56.0	16.4	6.14	.64	.80	.94
71°F (22°C)	1640	775	66.0	19.3	4.33	.46	.57	.68	63.0	18.5	4.85	.46	.58	.69	60.0	17.6	5.45	.47	.59	.71	57.0	16.7	6.15	.47	.60	.72
	1840	870	67.0	19.6	4.36	.47	.59	.70	64.5	18.9	4.87	.47	.60	.71	61.5	18.0	5.47	.47	.61	.73	58.0	17.0	6.18	.48	.62	.75
	2000	945	68.0	19.9	4.37	.47	.60	.72	65.0	19.0	4.89	.48	.61	.73	62.0	18.2	5.48	.48	.62	.75	58.5	17.1	6.19	.49	.63	.77
<b>COOLING CAPACITY - HSXB15-048 with [CBX32MV-068]</b>																										
63°F (17°C)	1465	690	49.0	14.4	2.95	.75	.89	1.00	46.5	13.6	3.34	.77	.91	1.00	44.5	13.0	3.78	.79	.94	1.00	42.0	12.3	4.30	.81	.97	1.00
	1625	765	50.0	14.7	2.95	.78	.92	1.00	48.0	14.1	3.35	.79	.95	1.00	45.5	13.3	3.79	.81	.97	1.00	42.5	12.5	4.29	.84	1.00	1.00
	1840	870	51.5	15.1	2.95	.81	.96	1.00	49.0	14.4	3.35	.83	.99	1.00	46.5	13.6	3.79	.85	1.00	1.00	44.0	12.9	4.31	.88	1.00	1.00
67°F (19°C)	1465	690	51.5	15.1	2.95	.60	.73	.86	49.0	14.4	3.35	.61	.75	.88	46.5	13.6	3.79	.62	.77	.91	44.0	12.9	4.31	.64	.79	.94
	1625	765	52.5	15.4	2.95	.61	.76	.89	50.0	14.7	3.35	.63	.77	.91	47.5	13.9	3.80	.64	.79	.94	45.0	13.2	4.31	.65	.82	.97
	1840	870	53.5	15.7	2.95	.64	.79	.93	51.5	15.1	3.36	.65	.80	.96	48.5	14.2	3.80	.66	.83	.98	46.0	13.5	4.32	.68	.85	1.00
71°F (22°C)	1465	690	54.0	15.8	2.96	.47	.59	.71	51.5	15.1	3.36	.47	.59	.72	49.0	14.4	3.81	.48	.61	.74	46.5	13.6	4.32	.48	.63	.76
	1625	765	55.0	16.1	2.96	.47	.60	.73	52.5	15.4	3.36	.48	.61	.75	50.0	14.7	3.81	.48	.63	.77	47.0	13.8	4.32	.49	.64	.79
	1840	870	56.0	16.4	2.95	.49	.63	.76	53.5	15.7	3.36	.49	.64	.78	51.0	14.9	3.81	.50	.65	.80	48.0	14.1	4.32	.50	.67	.83
<b>COOLING CAPACITY - HSXB15-060 with [CBX32MV-068]</b>																										
63°F (17°C)	1640	775	60.5	17.7	3.97	.72	.84	.96	57.5	16.9	4.48	.73	.86	.98	55.0	16.1	5.06	.75	.88	1.00	52.0	15.2	5.72	.76	.90	1.00
	1840	870	62.0	18.2	3.98	.74	.87	.99	59.0	17.3	4.49	.75	.89	1.00	56.5	16.6	5.07	.77	.91	1.00	53.0	15.5	5.73	.79	.93	1.00
	2000	945	63.0	18.5	3.99	.76	.89	1.00	60.5	17.7	4.50	.77	.91	1.00	57.5	16.9	5.08	.79	.93	1.00	54.0	15.8	5.74	.81	.96	1.00
67°F (19°C)	1640	775	63.0	18.5	3.99	.59	.70	.81	60.5	17.7	4.50	.59	.71	.82	57.5	16.9	5.08	.60	.72	.84	54.5	16.0	5.75	.61	.74	.87
	1840	870	64.5	18.9	4.00	.60	.72	.84	62.0	18.2	4.51	.61	.73	.85	59.0	17.3	5.09	.61	.75	.88	55.5	16.3	5.76	.63	.77	.90
	2000	945	66.0	19.3	4.01	.61	.73	.86	63.0	18.5	4.52	.62	.75	.88	60.0	17.6	5.10	.63	.77	.90	56.5	16.6	5.78	.64	.79	.93
71°F (22°C)	1640	775	66.0	19.3	4.01	.46	.57	.68	63.5	18.6	4.53	.46	.58	.69	60.0	17.6	5.10	.47	.59	.70	56.5	16.6	5.77	.47	.60	.72
	1840	870	68.0	19.9	4.03	.47	.59	.70	64.5	18.9	4.54	.47	.59	.71	61.0	17.9	5.12	.47	.60	.73	58.0	17.0	5.79	.48	.61	.74
	2000	945	69.0	20.2	4.04	.48	.60	.71	65.0	19.0	4.55	.48	.60	.73	62.0	18.2	5.13	.48	.62	.74	59.0	17.3	5.81	.49	.63	.76









# RATINGS - HEAT PUMPS

NOTE - For Temperatures and Capacities not shown in tables, see bulletin - Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

## FIRST STAGE COOLING CAPACITY - HPXA16-060 with

[CBX32MV-068]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			75°F (24°C)						85°F (29°C)						95°F (35°C)						105°F (41°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
			kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	1180	555	43.0	12.6	2.07	.74	.87	.99	41.0	12.0	2.42	.75	.89	1.00	39.0	11.4	2.81	.77	.91	1.00	36.8	10.8	3.26	.79	.94	1.00
	1325	625	44.0	12.9	2.07	.76	.90	1.00	42.0	12.3	2.41	.78	.92	1.00	40.0	11.7	2.80	.80	.95	1.00	37.6	11.0	3.25	.82	.98	1.00
	1420	670	45.0	13.2	2.06	.78	.92	1.00	43.0	12.6	2.41	.80	.95	1.00	40.5	11.9	2.80	.82	.97	1.00	38.5	11.3	3.25	.84	1.00	1.00
67°F (19°C)	1180	555	45.5	13.3	2.06	.59	.71	.84	43.5	12.7	2.40	.60	.73	.85	41.5	12.2	2.79	.61	.74	.87	39.5	11.6	3.24	.62	.76	.90
	1325	625	47.0	13.8	2.06	.60	.74	.86	45.0	13.2	2.40	.61	.75	.89	43.0	12.6	2.78	.62	.77	.91	40.5	11.9	3.23	.63	.79	.94
	1420	670	47.5	13.9	2.05	.61	.75	.88	45.5	13.3	2.40	.62	.77	.91	43.5	12.7	2.78	.63	.79	.94	41.0	12.0	3.22	.65	.81	.97
71°F (22°C)	1180	555	48.5	14.2	2.05	.46	.57	.69	46.5	13.6	2.39	.46	.58	.70	44.0	12.9	2.77	.46	.59	.71	42.0	12.3	3.21	.46	.60	.73
	1325	625	49.5	14.5	2.05	.46	.59	.71	47.5	13.9	2.39	.47	.59	.72	45.5	13.3	2.77	.47	.61	.74	43.0	12.6	3.20	.48	.62	.76
	1420	670	50.5	14.8	2.05	.47	.60	.72	48.5	14.2	2.38	.47	.61	.74	46.0	13.5	2.76	.48	.62	.76	43.5	12.7	3.20	.48	.63	.79

## SECOND STAGE COOLING CAPACITY - HPXA16-060 with

[CBX32MV-068]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
			kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	1640	775	58.0	17.0	3.71	.75	.87	.99	55.5	16.3	4.16	.76	.90	1.00	52.5	15.4	4.67	.78	.92	1.00	49.0	14.4	5.24	.80	.96	1.00
	1840	870	60.0	17.6	3.73	.77	.91	1.00	57.0	16.7	4.18	.78	.93	1.00	54.0	15.8	4.69	.81	.96	1.00	50.5	14.8	5.26	.83	.99	1.00
	2000	945	61.0	17.9	3.74	.79	.93	1.00	58.0	17.0	4.20	.81	.96	1.00	55.0	16.1	4.71	.83	.99	1.00	51.5	15.1	5.28	.86	1.00	1.00
67°F (19°C)	1640	775	62.0	18.2	3.76	.60	.72	.84	59.0	17.3	4.22	.60	.74	.86	56.0	16.4	4.73	.61	.75	.89	52.5	15.4	5.29	.63	.77	.92
	1840	870	63.5	18.6	3.78	.61	.74	.87	60.5	17.7	4.23	.62	.76	.89	57.5	16.9	4.75	.63	.78	.92	54.0	15.8	5.32	.65	.81	.96
	2000	945	64.5	18.9	3.79	.62	.76	.90	61.5	18.0	4.25	.63	.78	.92	58.0	17.0	4.76	.65	.80	.95	54.5	16.0	5.33	.67	.83	.99
71°F (22°C)	1640	775	65.0	19.0	3.81	.46	.58	.69	62.5	18.3	4.27	.47	.59	.71	59.0	17.3	4.78	.47	.60	.73	56.0	16.4	5.36	.47	.61	.75
	1840	870	67.0	19.6	3.83	.47	.59	.72	64.0	18.8	4.29	.47	.60	.73	61.0	17.9	4.80	.48	.62	.75	57.0	16.7	5.38	.49	.63	.78
	2000	945	68.0	19.9	3.84	.48	.61	.74	65.0	19.0	4.31	.48	.62	.75	62.0	18.2	4.82	.49	.63	.78	58.0	17.0	5.40	.49	.65	.80

## FIRST STAGE HEATING CAPACITY - HPXA16-060 with

[CBX32MV-068]

Indoor Coil Air Volume 70°F db (21°C db)	Air Temperature Entering Outdoor Coil												
	65°F (18°C)			60°F (16°C)			55°F (13°C)			50°F (10°C)			
	cfm	L/s	Total Heating Capacity kBtuh	kW	Comp. Motor kW Input	Total Heating Capacity kBtuh	kW	Comp. Motor kW Input	Total Heating Capacity kBtuh	kW	Comp. Motor kW Input	Total Heating Capacity kBtuh	kW
1180	555	47.1	13.8	3.24	44.1	12.9	3.20	41.1	12.0	3.17	38.0	11.1	3.13
1324	625	47.9	14.0	3.11	44.8	13.1	3.07	41.8	12.3	3.04	38.8	11.4	3.00
1422	670	48.3	14.2	3.02	45.3	13.3	2.98	42.3	12.4	2.95	39.2	11.5	2.91

## SECOND STAGE HEATING CAPACITY - HPXA16-060 with

[CBX32MV-068]

Indoor Coil Air Volume 70°F db (21°C db)	Air Temperature Entering Outdoor Coil														
	65°F (18°C)			45°F (7°C)			25°F (-4°C)			5°F (-15°C)			-15°F (-26°C)		
	cfm	L/s	Total Heating Capacity kBtuh	kW	Comp. Motor kW Input	Total Heating Capacity kBtuh	kW	Comp. Motor kW Input	Total Heating Capacity kBtuh	kW	Comp. Motor kW Input	Total Heating Capacity kBtuh	kW	Comp. Motor kW Input	
1640	775	62.8	18.4	4.47	48.8	14.3	4.19	34.2	10.0	3.92	24.0	7.0	3.41		
1840	870	63.6	18.6	4.36	49.6	14.5	4.08	35.0	10.3	3.81	24.8	7.3	3.29		
2000	945	64.3	18.8	4.28	50.3	14.7	4.00	35.7	10.5	3.73	25.5	7.5	3.21		

## HEATING PERFORMANCE at 1840 cfm (870 L/s) Indoor Coil Air Volume HPXA16-060 with

[CBX32MV-068]

*Outdoor Temperature		Compressor Motor kW Input		Total Output	
°F	°C	kBtuh	kW	kBtuh	kW
65	18	4.36		63.6	18.6
60	16	4.28		60.3	17.7
55	13	4.21		57.1	16.7
50	10	4.13		53.8	15.8
47	8	4.08		51.9	15.2
45	7	4.08		49.6	14.5
40	4	4.06		44.0	12.9
35	2	4.04		38.3	11.2
30	-1	3.92		36.7	10.8
25	-4	3.81		35.0	10.3
20	-7	3.69		33.4	9.8
17	-8	3.62		32.4	9.5
15	-9	3.59		31.1	9.1
10	-12	3.52		27.8	8.1
5	-15	3.29		24.8	7.3
0	-18	3.07		21.8	6.4
-5	-21	2.84		18.8	5.5
-10	-23	2.62		15.8	4.6
-15	-26	2.40		12.7	3.7
-20	-29	2.17		9.7	2.8

\*Outdoor temperature 70% relative humidity. Indoor temperature 70°F (21°C).

# RATINGS - HEAT PUMPS

NOTE - For Temperatures and Capacities not shown in tables, see bulletin - Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

## FIRST STAGE COOLING CAPACITY - XP19-048 with

[CBX32MV-068]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			75°F (24°C)						85°F (29°C)						95°F (35°C)						105°F (41°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
			kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	1050	495	35.6	10.4	1.57	.76	.90	1.00	33.8	9.9	1.82	.78	.93	1.00	32.2	9.4	2.10	.80	.95	1.00	30.2	8.9	2.42	.82	.99	1.00
	1185	560	36.6	10.7	1.57	.79	.94	1.00	35.0	10.3	1.82	.81	.96	1.00	33.0	9.7	2.09	.83	.99	1.00	31.4	9.2	2.41	.86	1.00	1.00
	1325	625	37.8	11.1	1.57	.82	.97	1.00	36.0	10.6	1.81	.84	1.00	1.00	34.2	10.0	2.08	.86	1.00	1.00	32.6	9.6	2.40	.89	1.00	1.00
67°F (19°C)	1050	495	38.0	11.1	1.57	.60	.73	.86	36.4	10.7	1.81	.61	.75	.88	34.6	10.1	2.08	.62	.77	.91	32.6	9.6	2.39	.63	.79	.94
	1185	560	39.0	11.4	1.56	.62	.76	.90	37.4	11.0	1.81	.63	.78	.92	35.4	10.4	2.08	.64	.81	.95	33.4	9.8	2.38	.66	.83	.99
	1325	625	40.0	11.7	1.56	.64	.78	.93	38.0	11.1	1.80	.65	.81	.96	36.2	10.6	2.07	.66	.83	.99	34.2	10.0	2.38	.68	.86	1.00
71°F (22°C)	1050	495	40.5	11.9	1.56	.46	.59	.71	39.0	11.4	1.80	.46	.59	.72	36.8	10.8	2.07	.47	.61	.74	34.8	10.2	2.38	.47	.62	.76
	1185	560	41.5	12.2	1.56	.47	.60	.73	40.0	11.7	1.80	.47	.62	.75	37.8	11.1	2.06	.48	.63	.77	35.8	10.5	2.37	.48	.64	.80
	1325	625	42.5	12.5	1.56	.48	.62	.76	41.0	12.0	1.80	.48	.63	.78	39.0	11.4	2.06	.49	.65	.80	36.6	10.7	2.37	.49	.66	.83

## SECOND STAGE COOLING CAPACITY - XP19-048 with

[CBX32MV-068]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
			kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C	kBtuh	kW		75°F 24°C	80°F 27°C	85°F 29°C
63°F (17°C)	1465	690	47.0	13.8	2.73	.77	.91	1.00	45.0	13.2	3.06	.79	.93	1.00	42.5	12.5	3.44	.81	.96	1.00	40.0	11.7	3.85	.83	.99	1.00
	1625	765	48.5	14.2	2.74	.79	.94	1.00	46.0	13.5	3.08	.81	.97	1.00	43.5	12.7	3.45	.84	.99	1.00	41.0	12.0	3.87	.86	1.00	1.00
	1840	870	50.0	14.7	2.75	.82	.98	1.00	47.5	13.9	3.09	.84	1.00	1.00	45.0	13.2	3.46	.87	1.00	1.00	42.5	12.5	3.88	.90	1.00	1.00
67°F (19°C)	1465	690	50.5	14.8	2.75	.61	.74	.87	48.0	14.1	3.09	.61	.75	.90	45.5	13.3	3.47	.63	.78	.92	42.5	12.5	3.88	.64	.81	.96
	1625	765	51.5	15.1	2.76	.62	.77	.90	49.0	14.4	3.10	.63	.78	.93	46.5	13.6	3.47	.65	.81	.96	43.5	12.7	3.89	.67	.83	.99
	1840	870	52.5	15.4	2.78	.64	.79	.94	50.0	14.7	3.12	.66	.82	.97	47.5	13.9	3.49	.67	.84	1.00	44.5	13.0	3.91	.69	.88	1.00
71°F (22°C)	1465	690	53.5	15.7	2.78	.47	.59	.72	51.0	14.9	3.12	.47	.60	.73	48.5	14.2	3.50	.47	.62	.75	45.5	13.3	3.92	.48	.63	.78
	1625	765	54.5	16.0	2.79	.47	.61	.74	52.0	15.2	3.13	.48	.62	.76	49.5	14.5	3.51	.48	.63	.78	46.5	13.6	3.93	.49	.65	.81
	1840	870	56.0	16.4	2.81	.48	.63	.77	53.5	15.7	3.15	.49	.64	.79	50.5	14.8	3.52	.50	.66	.82	47.5	13.9	3.94	.50	.68	.85

## FIRST STAGE HEATING CAPACITY - XP19-048 with

[CBX32MV-068]

Indoor Coil Air Volume 70°F db (21°C db)	Air Temperature Entering Outdoor Coil															
	65°F (18°C)				60°F (16°C)				55°F (13°C)				50°F (10°C)			
	cfm	L/s	kBtuh	kW	Comp. Motor kW Input	kBtuh	kW	Comp. Motor kW Input	kBtuh	kW	Comp. Motor kW Input	kBtuh	kW	Comp. Motor kW Input		
1049	495	39.2	11.5	2.41	36.3	10.6	2.38	33.4	9.8	2.35	30.5	8.9	2.32			
1185	560	39.8	11.7	2.30	36.9	10.8	2.27	34.0	10.0	2.24	31.2	9.1	2.22			
1324	625	40.3	11.8	2.21	37.4	11.0	2.18	34.6	10.1	2.15	31.7	9.3	2.12			

## SECOND STAGE HEATING CAPACITY - XP19-048 with

[CBX32MV-068]

Indoor Coil Air Volume 70°F db (21°C db)	Air Temperature Entering Outdoor Coil																			
	65°F (18°C)				45°F (7°C)				25°F (-4°C)				5°F (-15°C)				-15°F (-26°C)			
	cfm	L/s	kBtuh	kW	Comp. Motor kW Input	kBtuh	kW	Comp. Motor kW Input	kBtuh	kW	Comp. Motor kW Input	kBtuh	kW	Comp. Motor kW Input	kBtuh	kW	Comp. Motor kW Input			
1465	690	53.9	15.8	3.45	40.5	11.9	3.08	26.0	7.6	2.65	18.8	5.5	2.50	9.5	2.8	1.85				
1625	765	54.5	16.0	3.38	41.1	12.0	3.00	26.7	7.8	2.57	19.4	5.7	2.43	10.1	3.0	1.78				
1840	870	55.3	16.2	3.28	41.8	12.3	2.91	27.4	8.0	2.48	20.2	5.9	2.33	10.9	3.2	1.68				

## HEATING PERFORMANCE at 1625 cfm (765 L/s) Indoor Coil Air Volume XP19-048 with

[CBX32MV-068]

*Outdoor Temperature		Compressor Motor kW Input		Total Output	
°F	°C	kBtuh	kW	kBtuh	kW
65	18	3.38	3.38	54.5	16.0
60	16	3.30	3.30	51.5	15.1
55	13	3.23	3.23	48.5	14.2
50	10	3.16	3.16	45.6	13.4
47	8	3.12	3.12	43.8	12.8
45	7	3.00	3.00	41.1	12.0
40	4	2.71	2.71	34.3	10.1
35	2	2.43	2.43	27.6	8.1
30	-1	2.50	2.50	27.1	7.9
25	-4	2.57	2.57	26.7	7.8
20	-7	2.64	2.64	26.2	7.7
17	-8	2.69	2.69	25.9	7.6
15	-9	2.66	2.66	24.7	7.2
10	-12	2.59	2.59	21.8	6.4
5	-15	2.43	2.43	19.4	5.7
0	-18	2.26	2.26	17.1	5.0
-5	-21	2.10	2.10	14.8	4.3
-10	-23	1.94	1.94	12.4	3.6
-15	-26	1.78	1.78	10.1	3.0
-20	-29	1.61	1.61	7.8	2.3

\*Outdoor temperature 70% relative humidity. Indoor temperature 70°F (21°C).



# RATINGS - HEAT PUMPS

NOTE - For Temperatures and Capacities not shown in tables, see bulletin - Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

## FIRST STAGE COOLING CAPACITY - XP19-060 with

[CBX32MV-068]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			75°F (24°C)						85°F (29°C)						95°F (35°C)						105°F (41°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
						75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C
cfm	L/s	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW			
63°F (17°C)	1180	555	43.0	12.6	2.08	.74	.87	.99	41.0	12.0	2.43	.75	.89	1.00	39.0	11.4	2.83	.77	.91	1.00	36.8	10.8	3.28	.79	.94	1.00
	1325	625	44.0	12.9	2.07	.76	.90	1.00	42.0	12.3	2.42	.78	.92	1.00	40.0	11.7	2.81	.80	.95	1.00	37.8	11.1	3.27	.82	.98	1.00
	1420	670	45.0	13.2	2.07	.78	.92	1.00	43.0	12.6	2.42	.79	.95	1.00	41.0	12.0	2.81	.82	.97	1.00	38.5	11.3	3.27	.84	1.00	1.00
67°F (19°C)	1180	555	45.5	13.3	2.07	.59	.71	.83	44.0	12.9	2.41	.60	.73	.85	42.0	12.3	2.80	.61	.74	.87	39.5	11.6	3.25	.62	.76	.90
	1325	625	47.0	13.8	2.07	.60	.73	.86	45.0	13.2	2.41	.61	.75	.88	43.0	12.6	2.80	.62	.77	.91	40.5	11.9	3.24	.63	.79	.94
	1420	670	47.5	13.9	2.06	.61	.75	.88	45.5	13.3	2.41	.62	.77	.91	43.5	12.7	2.79	.63	.79	.94	41.0	12.0	3.24	.65	.81	.97
71°F (22°C)	1180	555	48.5	14.2	2.06	.46	.57	.69	46.5	13.6	2.40	.46	.58	.70	44.5	13.0	2.79	.46	.59	.71	42.0	12.3	3.23	.46	.60	.73
	1325	625	49.5	14.5	2.06	.46	.59	.71	47.5	13.9	2.40	.46	.59	.72	45.5	13.3	2.78	.47	.61	.74	43.0	12.6	3.22	.48	.62	.76
	1420	670	50.5	14.8	2.06	.47	.60	.72	48.5	14.2	2.40	.47	.61	.73	46.5	13.6	2.77	.48	.62	.76	44.0	12.9	3.21	.48	.63	.78

## SECOND STAGE COOLING CAPACITY - XP19-060 with

[CBX32MV-068]

Entering Wet Bulb Temperature	Total Air Volume		Outdoor Air Temperature Entering Outdoor Coil																							
			85°F (29°C)						95°F (35°C)						105°F (41°C)						115°F (46°C)					
			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cooling Capacity		Comp Motor kW Input	Sensible To Total Ratio (S/T) Dry Bulb		
						75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C				75°F 24°C	80°F 27°C	85°F 29°C
cfm	L/s	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	kBtuh	kW	
63°F (17°C)	1640	775	58.5	17.1	3.68	.74	.87	.99	56.0	16.4	4.13	.76	.89	1.00	53.0	15.5	4.63	.77	.92	1.00	49.5	14.5	5.20	.80	.95	1.00
	1840	870	60.0	17.6	3.70	.77	.90	1.00	57.0	16.7	4.15	.78	.93	1.00	54.0	15.8	4.65	.80	.95	1.00	51.0	14.9	5.21	.83	.99	1.00
	2000	945	61.0	17.9	3.71	.78	.93	1.00	58.5	17.1	4.16	.80	.95	1.00	55.0	16.1	4.67	.83	.98	1.00	51.5	15.1	5.23	.85	1.00	1.00
67°F (19°C)	1640	775	62.0	18.2	3.72	.59	.71	.83	59.5	17.4	4.18	.60	.73	.86	56.0	16.4	4.68	.61	.75	.88	53.0	15.5	5.25	.62	.77	.91
	1840	870	64.0	18.8	3.74	.61	.74	.87	61.0	17.9	4.19	.62	.76	.89	57.5	16.9	4.70	.63	.78	.92	54.5	16.0	5.27	.64	.80	.95
	2000	945	65.0	19.0	3.75	.62	.76	.89	62.0	18.2	4.21	.63	.78	.92	58.5	17.1	4.72	.65	.80	.94	55.0	16.1	5.28	.66	.83	.98
71°F (22°C)	1640	775	66.0	19.3	3.76	.46	.58	.69	63.0	18.5	4.23	.47	.59	.71	59.5	17.4	4.73	.47	.60	.72	56.5	16.6	5.30	.47	.61	.74
	1840	870	68.0	19.9	3.78	.47	.59	.71	64.5	18.9	4.24	.47	.60	.73	61.5	18.0	4.75	.48	.61	.75	58.0	17.0	5.33	.48	.63	.77
	2000	945	69.0	20.2	3.80	.47	.61	.73	66.0	19.3	4.26	.48	.62	.75	62.5	18.3	4.77	.49	.63	.77	58.5	17.1	5.34	.49	.65	.80

## FIRST STAGE HEATING CAPACITY - XP19-060 with

[CBX32MV-068]

Indoor Coil Air Volume 70°F db (21°C db)	Air Temperature Entering Outdoor Coil															
	65°F (18°C)				60°F (16°C)				55°F (13°C)				50°F (10°C)			
	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	
cfm	L/s	kBtuh		kW	kBtuh		kW	kBtuh		kW	kBtuh		kW	kBtuh		kW
1180	555	47.6	14.0	3.31	44.4	13.0	3.28	41.3	12.1	3.25	38.1	11.2	3.22			
1324	625	48.3	14.2	3.15	45.1	13.2	3.12	42.0	12.3	3.08	38.8	11.4	3.05			
1422	670	48.7	14.3	3.06	45.6	13.4	3.03	42.4	12.4	2.99	39.3	11.5	2.96			

## SECOND STAGE HEATING CAPACITY - XP19-060 with

[CBX32MV-068]

Indoor Coil Air Volume 70°F db (21°C db)	Air Temperature Entering Outdoor Coil																			
	65°F (18°C)				45°F (7°C)				25°F (-4°C)				5°F (-15°C)				-15°F (-26°C)			
	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input	Total Heating Capacity		Comp. Motor kW Input					
cfm	L/s	kBtuh		kW	kBtuh		kW	kBtuh		kW	kBtuh		kW	kBtuh		kW	kBtuh	kW		
1640	775	65.4	19.2	4.69	49.2	14.4	4.13	31.5	9.2	3.47	24.0	7.0	3.33	12.0	3.5	2.47				
1840	870	66.3	19.4	4.57	50.1	14.7	4.00	32.4	9.5	3.35	24.9	7.3	3.20	12.9	3.8	2.35				
2000	945	66.9	19.6	4.47	50.8	14.9	3.91	33.1	9.7	3.25	25.6	7.5	3.10	13.5	4.0	2.25				

## HEATING PERFORMANCE at 1840 cfm (870 L/s) Indoor Coil Air Volume XP19-060 with

[CBX32MV-068]

*Outdoor Temperature		Compressor Motor kW Input		Total Output	
°F	°C	kBtuh	kW	kBtuh	kW
65	18	4.57		66.3	19.4
60	16	4.46		62.8	18.4
55	13	4.36		59.3	17.4
50	10	4.25		55.8	16.4
47	8	4.19		53.7	15.7
45	7	4.00		50.1	14.7
40	4	3.54		41.0	12.0
35	2	3.08		31.9	9.3
30	-1	3.21		32.2	9.4
25	-4	3.35		32.4	9.5
20	-7	3.48		32.7	9.6
17	-8	3.56		32.8	9.6
15	-9	3.52		31.4	9.2
10	-12	3.41		28.0	8.2
5	-15	3.20		24.9	7.3
0	-18	2.99		21.9	6.4
-5	-21	2.78		18.9	5.5
-10	-23	2.56		15.9	4.7
-15	-26	2.35		12.9	3.8
-20	-29	2.14		9.8	2.9

\*Outdoor temperature 70% relative humidity. Indoor temperature 70°F (21°C).



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