

HIGH EFFICIENCY UP TO 19 SEER VARIABLE-SPEED HEAT PUMP WITH OBSERVER® COMMUNICATING CONTROL SYSTEM 2 THRU 5 TONS SPLIT SYSTEM

208–230 Volt, 1-phase, 60 Hz

REFRIGERATION CIRCUIT

- Variable speed compressor operates at 5 stages with capacity range as wide as 25 – 100%
- Electronic expansion valve (EXV) for precise heating control
- High pressure switch
- Suction pressure transducer
- Pressure equalizer valve for easy starting
- Compressor discharge temperature sensor
- Coil temperature sensor
- Copper tube/aluminum fin coil
- Internal crankcase heater standard
- Suction line accumulator factory installed

PERFORMANCE

- Up to 13.0 EER and 11 HSPF
- Integrated inverter control enables 5-stage operation with complete Observer communicating system including Observer control
 - Observer Wall Control with version 5.0 or newer software required
 - Also capable of 2-stage operation with 2-stage thermostat
- Self-configuring installation with Observer Communicating Wall Control
- Compact ECM fan motor driven by integrated inverter control
- Outdoor temperature sensor factory installed
- High-performance compressor sound shield standard
- Isolation compressor grommets
- Enhanced dehumidification

EASY TO INSTALL AND SERVICE

- Text based diagnostics with Observer Communicating Wall Control
- Only 2 control wires required from communicating indoor unit to condenser
- External high and low refrigerant service ports
- Factory charged with R-410A refrigerant
- Adjustments for min and max staging with Observer Wall Control

BUILT TO LAST

- High gloss, baked-on powder coat finish over galvanized steel
- Post-painted (black) coil fins
- Coated inlet grille with 3/8" (10mm) spacing for extra protection (hail guard)
- Corner posts for extra strength and style

WARRANTY*

- 10 year No Hassle Replacement™ limited warranty
- 5 year parts limited warranty (including compressor and coil)
 - With timely registration, an additional 5 year parts limited warranty (including compressor and coil)
- * For residential applications only. See Warranty certificate for complete details and restrictions, including warranty coverage for other applications.



TSTAT0201CW
(Sold Separately)



smartsense
TECHNOLOGY



Qualifying models only

This product has been designed and manufactured to meet ENERGY STAR criteria for energy efficiency when matched with appropriate coil components. However, proper refrigerant charge and proper air flow are critical to achieve rated capacity and efficiency. Installation of this product should follow the manufacturer's refrigerant charging and air flow instructions. Failure to confirm proper charge and airflow may reduce energy efficiency and shorten equipment life.



Use of the AHRI Certified TM Mark indicates a manufacturer's participation in the program. For verification of certification for individual products, go to www.ahridirectory.org.

Model Number	Size (tons)	Nominal Btu/hr	Min. Circuit Ampacity	Max. Fuse or Breaker	Operating Dimensions height x length/width(sq.) in. (mm)	Operating/Ship Weight lbs. (kg)
CVH824GKA	2	24,000	13.5	20	31–13/16 x 23–1/8 (807 x 587)	132/154(60/70)
CVH825GKA ‡	2	24,000	23.6	40	38–1/2 x 23–1/8 (980 x 587)	156/181 (71/82)
CVH836GKA	3	36,000	24.4	40		156/181 (71/82)
CVH837GKA ‡	3	36,000	26.0	40	38–15/16 x 31–3/16 (989 x 792)	207/244 (94/111)
CVH848GKA	4	48,000	31.4	50		207/244 (94/111)
CVH860GKA	5	60,000	40.8	60	42–5/16 x 31–3/16 (1075 x 792)	233/272 (106/123)

‡ = Meets Energy Star criteria when matched with appropriate coil

OUTDOOR UNIT MODEL NUMBER IDENTIFICATION GUIDE (single phase)											
Digit Position:	1	2	3	4	5, 6	7	8	9	10	11	12
Example Part Number:	C	V	H	8	24	G	K	A	1	0	0
C = Mainline BRANDING											
V = Variable Speed											
KEY CHARACTERISTIC											
A = Air Conditioner											
H = Heat Pump TYPE											
6 = 16 SEER											
7 = 17 SEER											
8 = 18 SEER											
9 = 19 SEER NOMINAL EFFICIENCY											
24 = 24,000 BTUH = 2 tons											
25 = 24,000 BTUH = 2 tons											
36 = 36,000 BTUH = 3 tons											
37 = 36,000 BTUH = 3 tons											
48 = 48,000 BTUH = 4 tons											
60 = 60,000 BTUH = 5 tons NOMINAL CAPACITY											
G = Coil Guard Grille FEATURES											
K = 208/230-1-60 VOLTAGE											
Sales Code											
Engineering Revision											
Extra Digit											
Extra Digit											

ACCESSORIES PART NUMBER IDENTIFICATION GUIDE									
Digit Position:	1	2	3	4	5	6, 7	8, 9	10, 11	
Example Part Number:	N	A	S	A	0	01	01	CH	
N = Non-Branded									
A = Accessory PRODUCT GROUP									
S = Split System (AC & HP) KIT USAGE									
A = Original									
B = 2nd Generation MAJOR SERIES									
0 = Generic or Not Applicable									
2 = R-22									
4 = R-410A REFRIGERANT									
Product Identifier Number									
Package Quantity									
Type of Kit (Example: CH = Crankcase Heater)									

REFRIGERANT PIPING LENGTH LIMITATIONS

Maximum Line Lengths:

The maximum allowable total equivalent length for heat pumps can vary depending on the vertical separation. See the tables below for allowable lengths depending on whether the outdoor unit is on the same level, above or below the indoor unit.

Maximum Line Lengths for Heat Pump Applications

	MAXIMUM ACTUAL LENGTH ft (m)	MAXIMUM EQUIVALENT LENGTH† ft (m)	MAXIMUM VERTICAL SEPARATION ft (m)
Units on equal level	100 (30.5)	100 (30.5)	N/A
Outdoor unit ABOVE indoor unit	100 (30.5)	100 (30.5)	100 (30.5)
Outdoor unit BELOW indoor unit	See Table 'Maximum Total Equivalent Length: Outdoor Unit BELOW Indoor Unit'		

† Total equivalent length accounts for losses due to elbows or fitting. See the Long Line Guideline for details.

Maximum Total Equivalent Length† – Outdoor Unit BELOW Indoor Unit

Size	Liquid Line Diameter w/ TXV	HP with R-410A Refrigerant – Maximum Total Equivalent Length† Vertical Separation ft (m) Outdoor unit BELOW indoor unit;						
		0–20 (0 – 6.1)	21–30 (6.4 – 9.1)	31–40 (9.4 – 12.2)	41–50 (12.5 – 15.2)	51–60 (15.5 – 18.3)	61–70 (18.6 – 21.3)	71–80 (21.6 – 24.4)
2–Ton	3/8	100*	100*	100*	100*	100*	100*	100*
3–Ton	3/8	100*	100*	100*	100*	100*	100*	100*
4–Ton	3/8	100*	100*	100*	100*	100	100	--
5–Ton	3/8	100*	100*	100*	100*	100	100	--

* Maximum actual length not to exceed 100 ft (30.5 m)

† Total equivalent length accounts for losses due to elbows or fitting.

-- = outside acceptable range

LONG LINE APPLICATIONS

Unit is approved for up to 100 ft (30.5 m) equivalent length and vertical separations shown above with no additional accessories.

Longer line set applications are not permitted.

COOLING CAPACITY LOSS TABLE

Nominal Size (Btuh)	Line OD (in.)	CVH8 Cooling Capacity Loss (%)				
		Total Equivalent Line Length (ft)				
		25	50	75	80	100
24	5/8	0.5	1.2	1.8	1.9	2.4
	3/4	0.1	0.4	0.6	0.7	0.8
25	5/8	0.5	1.2	1.8	1.9	2.4
	3/4	0.1	0.4	0.6	0.7	0.8
	7/8	0.0	0.1	0.3	0.3	0.4
36 37	5/8	1.1	2.4	3.7	4.0	5.0
	3/4	0.3	0.8	1.3	1.4	1.8
	7/8	0.0	0.3	0.5	0.6	0.8
48	3/4	0.7	1.6	2.4	2.6	3.2
	7/8	0.3	0.7	1.1	1.2	1.6
	1 1/8	0.0	0.1	0.2	0.3	0.4
60	3/4	1.0	2.3	3.5	3.8	4.8
	7/8	0.4	1.0	1.7	1.8	2.3
	1 1/8	0.0	0.1	0.3	0.4	0.5

Rating Line Size in **BOLD**

EQUIPMENT SIZING GUIDELINES

If primary load is cooling, size the same as any other air conditioning system. If primary load is heating, use the chart below for maximum size for heating.

MAXIMUM RECOMMENDED EQUIPMENT SIZE – HEATING

COOLING LOAD (tons)	MAXIMUM RECOMMENDED EQUIPMENT SIZE FOR HEATING*
1	25
1.5	25
2	37
2.5	37
3	48
3.5	60
4	60
5	60

* Make sure duct work is capable of delivering required airflow. Make sure combination rating exists for desired indoor and outdoor combination.

MIN/MAX AIRFLOW TABLES

The indoor airflow delivered by this system varies significantly based on outdoor temperature, indoor unit combination, and system demand. The airflows on these tables are for duct design considerations.

Duct systems capable of these ranges will ensure the system will deliver full capacity at all outdoor temperatures.

Minimum and maximum compressor stage can be adjusted from these numbers in the Observer® Control Heat Pump Setup screen.

Cooling — Comfort Mode			Minimum Cooling (Dehum or Zoning)
Size	Max Stage 5 Airflow	Max Stage 1 Airflow	
2—Ton	739	300	300
3—Ton	990	300	300
4—Ton	1389	542	457
5—Ton	1600	700	600

Cooling — Efficiency Mode		
Size	Max Stage 5 Airflow	Max Stage 1 Airflow
2—Ton	825	585
3—Ton	1050	600
4—Ton	1400	875
5—Ton	1800	975

Heating — Comfort Mode		
Size	Max Stage 5 Airflow	Max Stage 1 Airflow
2—Ton	819	300
3—Ton	1014	226
4—Ton	1550	429
5—Ton	1600	500

Heating — Efficiency Mode		
Size	Max Stage 5 Airflow	Max Stage 1 Airflow
2—Ton	825	585
3—Ton	1200	700
4—Ton	1600	1000
5—Ton	1600	900

Cooling Max Mode		
Size	Max Stage 5 Airflow	Max Stage 1 Airflow
2—Ton (24)	850	585
2—Ton (25) (550 cfm/ delivered ton)*	1350	510
3—Ton	1200	600
4—Ton	1600	875
4—Ton—49	1450	875
5—Ton	2000	975

Heating Max Mode		
Size	Max Stage 5 Airflow	Max Stage 1 Airflow
2—Ton (24)	850	585
2—Ton (25) (550 cfm/ delivered ton)*	850	585
3—Ton	1200	700
4—Ton	1600	1000
5—Ton	2000	900

* Serial number beginning with 0115E and newer

LEGEND::

Max Capacity Airflow — Stage 5 airflow varies depending on conditions. This is the highest airflow the system will attempt to deliver in this particular mode. Ductwork for non—zoned systems should be sized for this airflow to ensure the system can deliver full capacity when needed. Improper duct design may result in excessive airflow noise and/or cutback occurrences at max airflow conditions.

Highest Min. Capacity Airflow — Stage 1 airflow also varies depending on conditions. In zoned systems, each zone must be capable of delivering this airflow for the system to deliver full capacity into the zone. Otherwise, airflow may be diverted to other zones or cutback may occur.

Min Cooling (Dehum or Zoning) — Lowest airflow the system will deliver. May operate down to this airflow in dehumidification mode or in zoning applications where ductwork restrictions have caused the blower to cut—back.

PHYSICAL DATA

UNIT SIZE SERIES	24	25	36	37	48	60
Compressor Type	Variable Speed Rotary					
REFRIGERANT	R-410A					
Control	TXV (R-410A Hard Shutoff)					
Charge lb (kg)	5.40 (2.45)	6.38 (2.89)	6.38 (2.89)	7.5 (3.40)	8.30 (3.76)	8.60 (3.90)
Outdoor Htg Exp. Device	EXV					
COND FAN	Forward Swept Propeller Type, Direct Drive					
Air Discharge	Vertical					
Air Qty (CFM)	2080	2500	2500	3800	4500	4500
Motor HP	1/5	1/3	1/3	1/3	1/3	1/3
Motor RPM	825	1050	1050	750	850	900
COND COIL						
Face Area (Sq ft)	11.12	13.90	13.90	21.50	21.50	23.65
Fins per In.	20	20	20	20	20	20
Rows	1	1	1	1	1	1
Circuits	5	6	6	8	8	8
VALVE CONNECT. (In. ID)						
Vapor	5/8	3/4	3/4	7/8	7/8	7/8
Liquid	3/8					
REFRIGERANT TUBES (In. OD)						
Rated Vapor*	3/4	7/8	7/8	1-1/8	1-1/8	1-1/8
Max Liquid Line	3/8					

* Units are rated with 25 ft (7.6 m) of lineset length. See Vapor Line Sizing and Cooling Capacity Loss table when using other sizes and lengths of lineset.

Note: See unit Installation Instruction for proper installation.

ELECTRICAL DATA

UNIT SIZE— VOLTAGE, SERIES	V/PH	OPER VOLTS*		COMPR		FAN	MCA	MAX FUSE ** or CKT BRK AMPS
		MAX	MIN	LRA	RLA	FLA		
24	208/230 —1—60	253	197	N/A	10.32	0.58	13.50	20
25				N/A	17.70	1.20	23.60	40
36				N/A	18.30	1.20	24.40	40
37				N/A	19.60	1.20	26.00	40
48				N/A	23.90	1.20	31.40	50
60				N/A	31.30	1.40	40.80	60

* Permissible limits of the voltage range at which the unit will operate satisfactorily

** Time—Delay fuse.

FLA — Full Load Amps

LRA — Locked Rotor Amps

MCA — Minimum Circuit Amps

RLA — Rated Load Amps

NOTE: Control circuit is 24—V on all units and requires external power source. Copper wire must be used from service disconnect to unit.

All motors/compressors contain internal overload protection.

Complies with 2010 requirements of ASHRAE Standards 90.1

CHARGING SUBCOOLING (TXV-TYPE EXPANSION DEVICE)

UNIT SIZE—VOLTAGE, SERIES	Subcooling recommendation displayed in the subcooling chart shown on the charging label must be followed
24	
25	
36	
37	
48	
60	

SOUND POWER LEVEL (dBA)

Unit Size— Voltage, Series	Typical Octave Band Spectrum (without tone adjustment)	Min Speed Cooling	Max Speed Cooling	Max Speed Heating
24	Freq (Hz)	1500 RPM	4700 RPM	5400 RPM
	125	40.5	44.0	45.5
	250	45.5	49.5	53.5
	500	41.5	53.0	56.0
	1000	44.0	52.5	54.0
	2000	39.0	50.5	53.0
	4000	34.5	53.0	56.5
	8000	31.0	45.0	45.5
	Sound Rating (dBA)	56	67	68
25	Freq (Hz)	1200 RPM	3300 RPM	4800 RPM
	125	43.0	52.0	52.5
	250	47.0	59.5	59.0
	500	51.0	64.5	61.5
	1000	49.5	63.0	62.0
	2000	42.5	60.0	60.0
	4000	35.5	59.5	64.0
	8000	46.0	50.5	54.5
	Sound Rating (dBA)	56	69	71
36	Freq (Hz)	1200 RPM	4800 RPM	5400 RPM
	125	43.0	53.0	51.5
	250	47.0	59.5	61.5
	500	51.0	62.5	62.5
	1000	49.5	63.5	63.5
	2000	42.5	63.0	61.5
	4000	35.5	63.5	62.0
	8000	46.0	54.0	54.5
	Sound Rating (dBA)	56	72	71
37	Freq (Hz)	1200 RPM	3000 RPM	4800 RPM
	125	49.5	55.5	62.0
	250	52.5	60.0	63.0
	500	54.0	63.0	64.5
	1000	53.5	61.0	63.5
	2000	50.5	60.5	62.0
	4000	43.0	58.0	64.5
	8000	41.5	50.0	55.0
	Sound Rating (dBA)	60	69	72
48	Freq (Hz)	1500 RPM	4320 RPM	5400 RPM
	125	49.5	59.0	52.5
	250	54.5	64.0	60.0
	500	54.0	66.0	63.5
	1000	54.5	64.5	64.0
	2000	52.0	63.5	63.0
	4000	54.5	63.5	65.5
	8000	46.5	53.0	59.0
	Sound Rating (dBA)	64	72	74
60	Freq (Hz)	1200 RPM	4140 RPM	5400 RPM
	125	39	49.5	46
	250	48	59.5	59
	500	46.5	62	60
	1000	45.5	60	57
	2000	39.5	58.5	56.5
	4000	36.5	55	56.5
	8000	35.5	48	54.5
	Sound Rating (dBA)	57	72	71

NOTE: Tested in compliance with AHRI 270—2008 but not listed with AHRI.

RPM-CAPACITY-SOUND (dBA)*

STAGE #	COMP RPM	CAPACITY %	SOUND (dBA)
CVH824			
COOLING			
1	1500	35%	56
2	2566	56%	60
3	3150	69%	65
4	3950	87%	66
5	4700	100%	67
HEATING			
1	1500	29%	56
2	2800	53%	59
3	3150	59%	62
4	4700	88%	65
5	5400	100%	68
CVH825			
COOLING			
1	1200	38%	56
2	1900	58%	60
3	2400	73%	62
4	2600	79%	66
5	3300	100%	69
HEATING			
1	1200	25%	56
2	2400	50%	60
3	3300	69%	62
4	4200	88%	68
5	4800	100%	71
CVH836			
COOLING			
1	1200	25%	56
2	2400	50%	61
3	3300	69%	65
4	4200	88%	69
5	4800	100%	72
HEATING			
1	1200	22%	56
2	2600	48%	60
3	3400	63%	63
4	4800	89%	69
5	5400	100%	71
CVH837			
COOLING			
1	1200	25%	60
2	1800	60%	61
3	2200	73%	67
4	2600	87%	67
5	3000	100%	69
HEATING			
1	1200	25%	60
2	2400	50%	67
3	2700	56%	68
4	3000	63%	69
5	4800	100%	72
CVH848			
COOLING			
1	1500	35%	64
2	2460	57%	67
3	2800	65%	68
4	3650	84%	70
5	4320	100%	72
HEATING			
1	1500	28%	64
2	2800	52%	67
3	3300	61%	68
4	4320	80%	71
5	5400	100%	74
CVH860			
COOLING			
1	1200	32%	57
2	2180	55%	61
3	2850	70%	65
4	3700	90%	68
5	4140	100%	72
HEATING			
1	1200	25%	57
2	2600	50%	51
3	3200	61%	65
4	4140	88%	69
5	5400	100%	71

*Estimated sound for stages 2, 3, and 4

*For 2-stage operation: Cooling Low = Stage 2, Heating low = Stage 3; both cooling and heating High = Stage 5

DIMENSIONS – ENGLISH

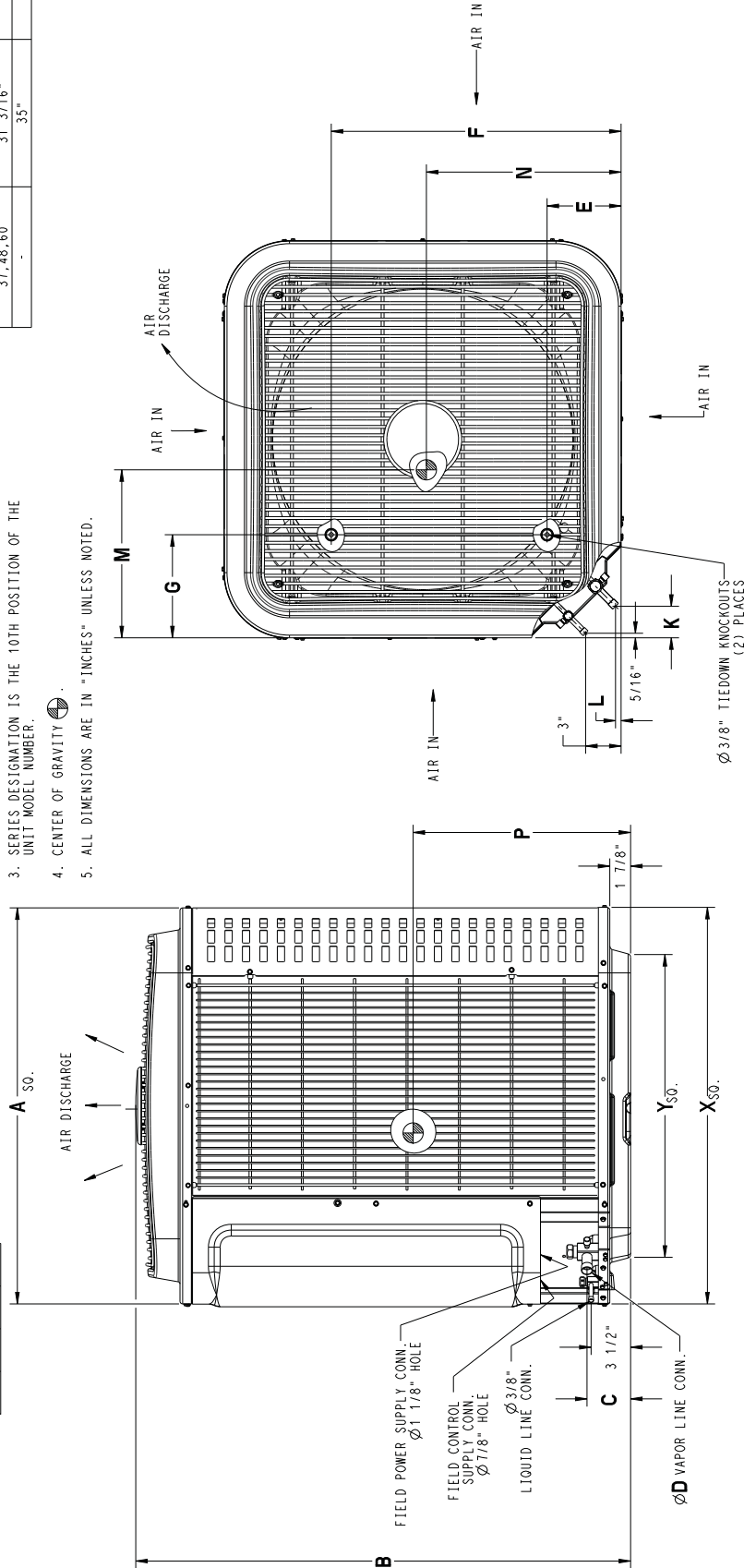
UNIT	SERIES	ELECTRICAL CHARACTERISTICS		A	B	C	D	E	F	G	K	L	M	N	P	OPERATING WEIGHT (lbs)	SHIPPING WEIGHT (lbs)	SHIPPING DIMENSIONS (L x W x H)	
*VH824GKA	1	X	0	0	23 1/8"	31 13/16"	3 3/4"	4 7/16"	18 1/16"	7 13/16"	2 13/16"	1/2"	11 1/4"	11 1/4"	14 1/2"	132	154	25 1/4" X 25 1/4" X 35 5/8"	
*VH825GKA	1	X	0	0	23 1/8"	38 1/2"	3 3/4"	4 7/16"	18 1/16"	7 13/16"	2 13/16"	1/2"	10 3/4"	10 3/4"	18 1/4"	156	181	25 1/4" X 25 1/4" X 43 3/8"	
*VH836GKA	1	X	0	0	23 1/8"	38 1/2"	3 3/4"	4 7/16"	18 1/16"	7 13/16"	2 13/16"	1/2"	10 3/4"	10 3/4"	18 1/4"	156	181	25 1/4" X 25 1/4" X 43 3/8"	
*VH837GKA	1	X	0	0	31 3/16"	38 15/16"	3 7/8"	7/8"	24 11/16"	9 1/8"	2 15/16"	5/8"	14 1/2"	14 1/2"	18 3/4"	207	244	33 3/8" X 33 3/8" X 46 1/8"	
*VH848GKA	1	X	0	0	31 3/16"	38 15/16"	3 7/8"	7/8"	24 11/16"	9 1/8"	2 15/16"	5/8"	14 1/2"	14 5/8"	18 3/4"	207	244	33 3/8" X 33 3/8" X 46 1/8"	
*VH860GKA	1	X	0	0	31 3/16"	42 5/16"	3 7/8"	7/8"	24 11/16"	9 1/8"	2 15/16"	5/8"	16 1/2"	15"	20"	233	272	33 3/8" X 33 3/8" X 49 9/16"	

X = YES
O = NO

208/230-160	230-160	208/230-3-60	460-3-60
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UNIT SIZE	"X" MIN GROUND MOUNTING PAD APPLICATION DIMENSIONS	"Y" MIN ROOF-TOP MOUNTING PAD APPLICATION DIMENSIONS
24, 25, 36	23 1/8"	17 3/4"
-	25 3/4"	20 7/16"
37, 48, 60	31 3/16"	23"
-	35"	26 3/4"

- NOTES:
1. ALLOW 30" CLEARANCE TO SERVICE SIDE OF UNIT, 48" ABOVE UNIT, 6" ON ONE SIDE, 12" ON REMAINING SIDE, AND 24" BETWEEN UNITS FOR PROPER AIRFLOW.
 2. MINIMUM OUTDOOR OPERATING AMBIENT IN COOLING MODE IS 55°F, MAX. 115°F.
 3. SERIES DESIGNATION IS THE 10TH POSITION OF THE UNIT MODEL NUMBER.
 4. CENTER OF GRAVITY.
 5. ALL DIMENSIONS ARE IN *INCHES* UNLESS NOTED.



Representative drawing only, some models may vary in appearance.

SD5334-4 REV B

* = C, H, T

DIMENSIONS – SI

UNIT	SERIES	ELECTRICAL CHARACTERISTICS					A	B	C	D	E	F	G	K	L	M	N	P	OPERATING WEIGHT (Kgs)	SHIPPING WEIGHT (Kgs)	SHIPPING DIMENSIONS (L x W x H)	
*VH824GKA	1	X	0	0	0	587.3	807.3	96.1	19.1	112.7	458.8	198.4	71.4	12.7	285.8	285.8	285.8	368.3	60	70	641.5 X 641.5 X 905.2	
*VH825GKA	1	X	0	0	0	587.3	980.1	96.1	19.1	112.7	458.8	198.4	71.4	12.7	273.1	273.1	273.1	463.6	71	82	641.5 X 641.5 X 1102.2	
*VH836GKA	1	X	0	0	0	587.3	980.1	96.1	19.1	112.7	458.8	198.4	71.4	12.7	273.1	273.1	273.1	463.6	71	82	641.5 X 641.5 X 1102.2	
*VH837GKA	1	X	0	0	0	792.2	988.5	98.4	22.2	166.7	627.1	231.8	74.6	15.9	368.3	371.5	371.5	476.3	94	111	846.6 X 846.6 X 1172.2	
*VH848GKA	1	X	0	0	0	792.2	988.5	98.4	22.2	166.7	627.1	231.8	74.6	15.9	368.3	371.5	371.5	476.3	94	111	846.6 X 846.6 X 1172.2	
*VH860GKA	1	X	0	0	0	792.2	1074.9	98.4	22.2	166.7	627.1	231.8	74.6	15.9	419.1	419.1	381.0	508.0	106	123	846.6 X 846.6 X 1258.6	

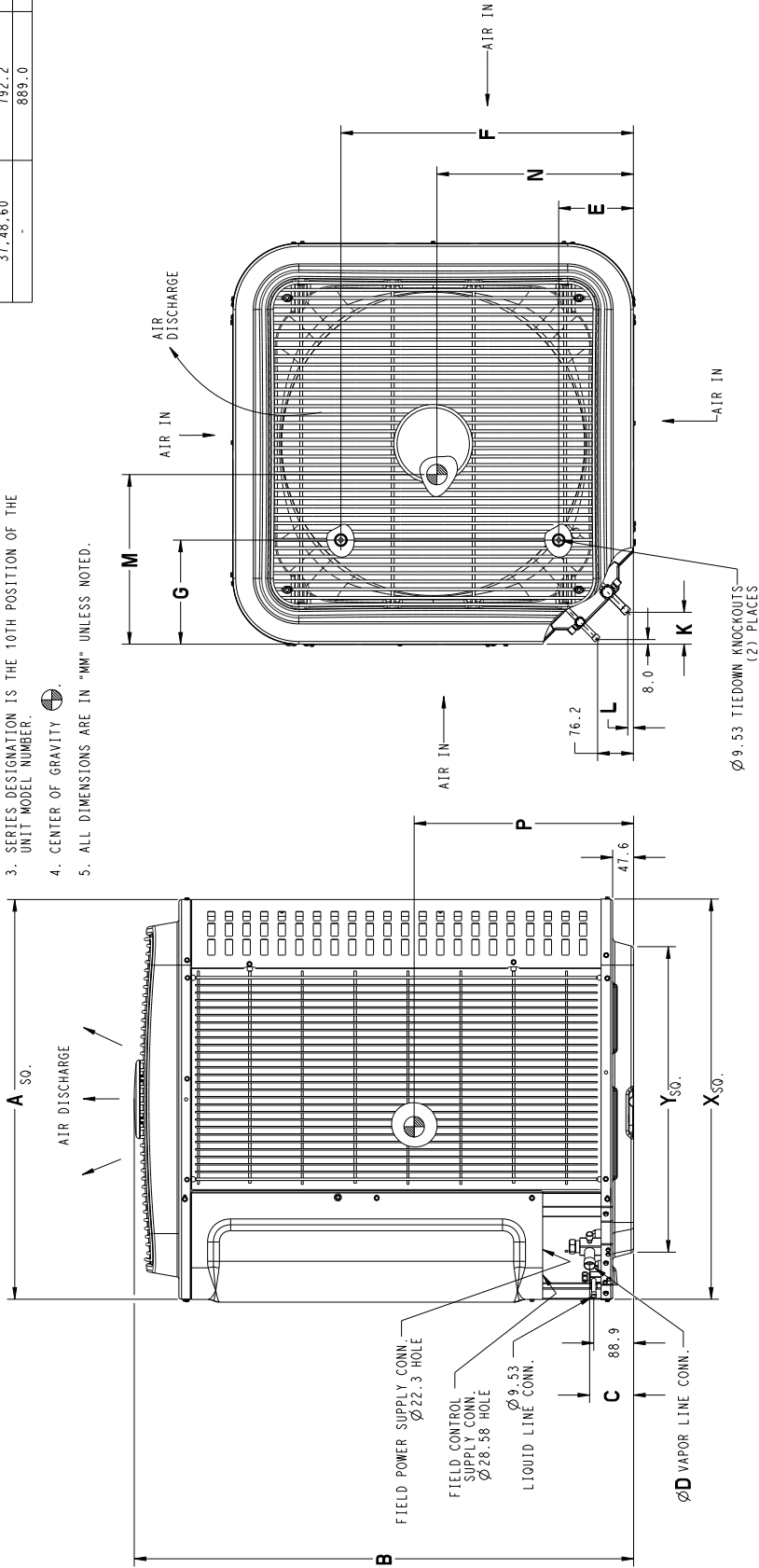
X = YES
O = NO

208/230-160	230-160	208/230-3-60	460-3-60
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NOTES:

1. ALLOW 762.0 CLEARANCE TO SERVICE SIDE OF UNIT, 1219.2 ABOVE UNIT, 152.4 ON ONE SIDE, 304.8 ON REMAINING SIDE, AND 609.6 BETWEEN UNITS FOR PROPER AIRFLOW.
2. MINIMUM OUTDOOR OPERATING AMBIENT IN COOLING MODE IS 13°C, MAX. 46°C.
3. SERIES DESIGNATION IS THE 10TH POSITION OF THE UNIT MODEL NUMBER.
4. CENTER OF GRAVITY
5. ALL DIMENSIONS ARE IN "MM" UNLESS NOTED.

UNIT SIZE	"X" MIN GROUND MOUNTING PAD APPLICATION DIMENSIONS	"Y" MIN ROOF-TOP MOUNTING PAD APPLICATION DIMENSIONS
24,25,36	587.4	451.3
-	654.0	518.5
37,48,60	792.2	583.2
-	889.0	679.7

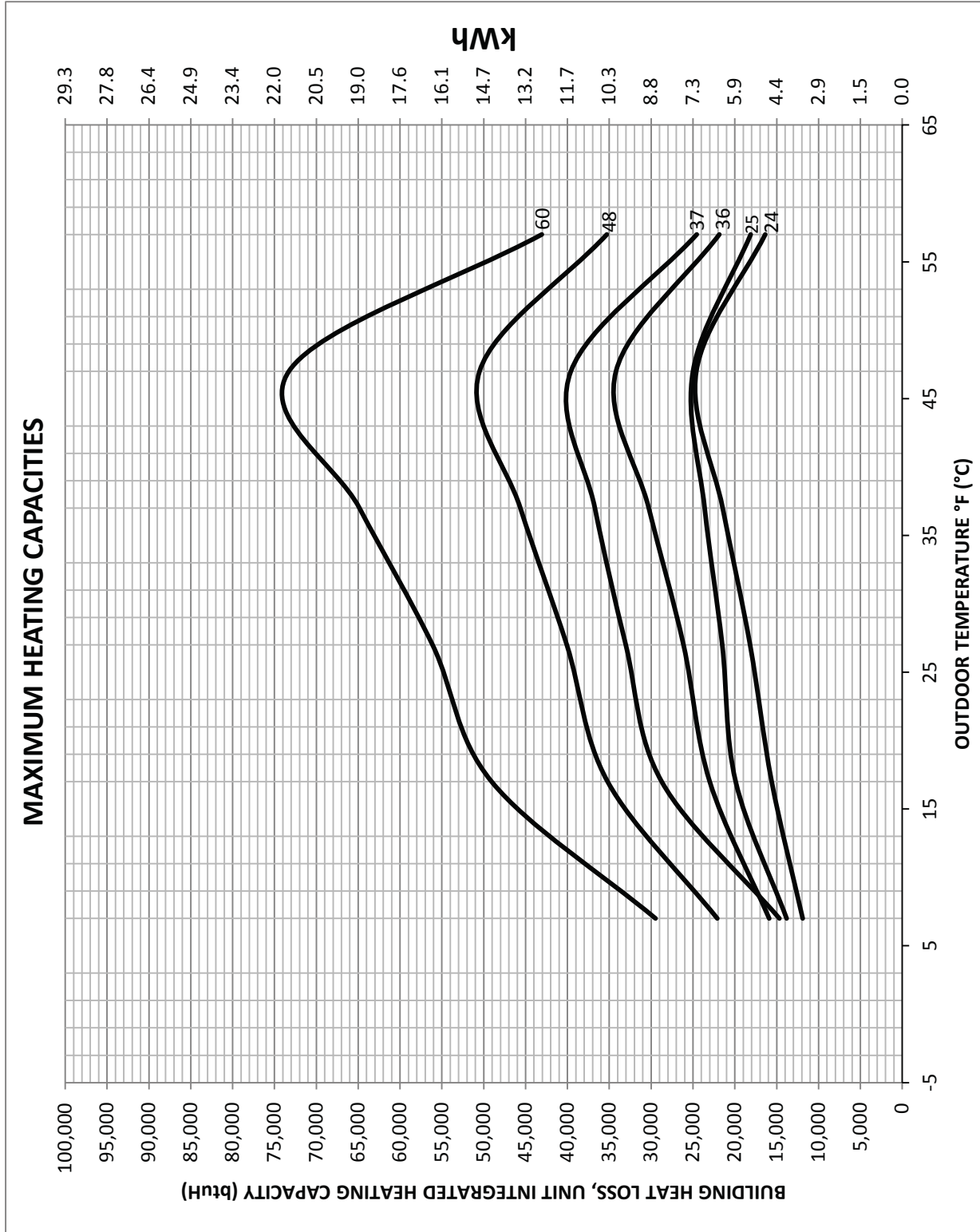


Representative drawing only, some models may vary in appearance.

SD5334-4 REV B

* = C, H, T

CVH8 BALANCE POINT WORKSHEET



TESTED AHRI COMBINATION RATINGS*

NOTE: Ratings contained in this document are subject to change at any time.

For AHRI ratings certificates, please refer to the AHRI directory. www.ahridirectory.org

Additional ratings and system combinations can be accessed via the Comfortmaker database at: <http://www.icpeqp.com/AHRIratings/ratings.aspx?Brand=Comfortmaker>

Or scan this QR code:



Outdoor Model	Indoor Model	Furnace Model	Stages	Cooling				Heating			
				Cooling Cap.	SEER	EER	ID CFM	HSPF	High Temp		Low Temp
									Capacity 47°F (8°C)	COP	
CVH824GKA101	FCM4X24***L + WALLCON		5	24,000	17.5	11.0	825	10.5	24,400	3.61	15,800
CVH824GKA101	FVM4X24***L		2	23,200	15.0	10.5	700	9.0	23,800	3.42	15,600
CVH825GKA101	FCM4X48***L + WALLCON		5	24,000	18.0	12.5	825	10.0	26,800	3.56	19,900
CVH825GKA101	FVM4X36***L		2	23,200	16.5	12.0	700	8.2	30,200	3.04	19,900
CVH836GKA101	FCM4X48***L + WALLCON		5	34,200	17.5	10.5	1050	10.5	34,200	3.56	23,000
CVH836GKA101	FVM4X48***L		2	34,600	15.5	10.0	1050	9.0	34,000	3.58	22,400
CVH837GKA101	FCM4X60***L + WALLCON		5	33,600	19.0	13.0	1050	11.0	40,000	3.50	30,400
CVH848GKA101	FCM4X48***L + WALLCON		5	46,000	18.0	11.0	1400	11.0	50,500	3.44	35,200
CVH860GKA101	FCM4X60***L + WALLCON		5	57,000	17.0	10.0	1600	10.0	60,000	3.10	44,500
CVH860GKA101	FVM4X60***L		2	57,000	15.0	10.0	1750	9.0	60,000	3.05	44,000

Ratings with “+ WALLCON” are **communicating** systems with Observer® Wall Control and 5—stages of operation. Ratings without “+ WALLCON” are **non—communicating** systems with 2—stage operation.

* Ratings are net values reflecting the effects of circulating fan heat. Supplemental electric heat is not included. Ratings are based on:

Cooling Standard: 80°F (27°C) db 67°F (19°C) wb indoor entering air temperature and 95°F (35°C) db air entering outdoor unit.

High—Temp Heating Standard: 70°F (21°C) db indoor entering air temperature and 47°F (8°C) db 43°F (6°C) wb air entering outdoor unit.

Low—Temp Heating Standard: 70°F (21°C) db indoor entering air temperature and 17°F (–8°C) db 15°F (–9°C) wb air entering outdoor unit.

COP — Coefficient of Performance

EER — Energy Efficiency Ratio

HSPF — Heating Seasonal Performance Factor

SEER — Seasonal Energy Efficiency Ratio

WALLCON — Wall Control

NOTE: Ratings contained in this document are subject to change at any time.

DETAILED COOLING CAPACITIES# – EFFICIENCY MODE

DETAILED COOLING CAPACITIES# – COMFORT + DEHUMIDIFY MODE

Operation in this area is restricted to maintain reliable system operation and customer comfort. The system will default to the next available stage

Stage 1 – Compressor speed limited to stage two at 105 outdoor.

See additional notes on page 43

DETAILED COOLING CAPACITIES# – EFFICIENCY MODE & COMFORT + DEHUMIDIFY MODE CONTINUED

CVH824

COOLING INDOOR MODEL		CAPACITY	POWER	2-STAGE (HI-Stage 5, Lo-Stage 2)				FURNACE MODEL	
FCM4X24***L	FCM4X36***L	1.00	1.00	COOLING INDOOR MODEL	HIGH SPEED CAR	POWER	LOW SPEED CAR	POWER	FURNACE MODEL
EA4X36L14A*	EA4X36L17A*	1.01	1.01	FVM4X24***L	1.00	1.00	1.00	1.00	
EA4X36L17A*	EA4X36L21A*	1.00	1.05	FVM4X24***L	0.98	0.84	0.97	0.96	
EA4X36L21A*	EA4X36L24A*	1.00	1.05	EA4X24L14A*	0.96	0.91	0.96	1.07	*9MX*0401410A**
EA4X36L24A*	EA4X36L27A*	1.01	1.01	EA4X24L17A*	0.95	0.85	0.97	1.06	*9MX*0401712A**
EA4X36L27A*	EA4X36L30L17A*	1.01	1.01	EA4X24L17A*	0.97	0.88	1.00	1.12	OMV098J12*
EA4X36L30L17A*	EA4X36L33L17A*	1.00	1.05	EA4X24L17A*	0.97	0.88	1.00	1.09	OMV098A12*
EA4X36L33L17A*	EA4X36L36L17A*	1.00	1.05	EA4X24L17A*	0.97	0.84	1.00	1.04	OMV112K14A
EA4X36L36L17A*	EA4X36L39L17A*	1.01	1.01	EA4X30L14A*	0.97	0.92	0.96	1.07	*9MX*0401410A**
EA4X36L39L17A*	EA4X36L42L17A*	1.01	1.01	EA4X30L17A*	0.96	0.86	0.97	1.06	*9MX*0401712A**
EA4X36L42L17A*	EA4X36L45L17A*	1.01	1.06	EA4X30L17A*	0.98	0.84	1.00	1.11	OMV098J12*
EA4X36L45L17A*	EA4X36L48L17A*	1.01	1.06	EA4X30L17A*	0.99	0.85	1.00	1.08	OLV098A12*
EA4X36L48L17A*	EA4X36L51L17A*	1.01	1.06	EA4X30L17A*	0.99	0.85	1.00	1.03	OMV112K14A
EA4X36L51L17A*	EA4X36L54L17A*	1.02	1.02	EA4X36L14A*	0.97	0.92	0.97	1.07	*9MX*0401410A**
EA4X36L54L17A*	EA4X36L57L17A*	1.03	1.03	EA4X36L17A*	0.97	0.83	0.97	1.05	*9MX*0401712A**
EA4X36L57L17A*	EA4X36L60L17A*	1.03	1.03	ENIA.D4X30L14**	0.97	0.92	0.96	1.07	*9MX*0401410A**
EA4X36L60L17A*	EA4X36L63L17A*	1.03	1.03	ENIA.D4X30L17**	0.96	0.86	0.96	1.05	*9MX*0401712A**
EA4X36L63L17A*	EA4X36L66L17A*	1.03	1.03	ENIA.D4X30L17**	0.98	0.88	1.00	1.11	OMV098J12*
EA4X36L66L17A*	EA4X36L69L17A*	1.03	1.03	ENIA.D4X30L17**	0.99	0.85	1.00	1.08	OLV098A12*
EA4X36L69L17A*	EA4X36L72L17A*	1.02	1.02	ENIA.D4X30L17**	0.96	0.86	0.96	1.05	*9MX*0401712A**
EA4X36L72L17A*	EA4X36L75L17A*	1.02	1.02	ENIA.D4X36L17**	0.97	0.83	0.97	1.05	*9MX*0401410A**
EA4X36L75L17A*	EA4X36L78L17A*	1.02	1.02	END4X24L17**	0.97	0.83	0.96	1.07	*9MX*0401712A**
EA4X36L78L17A*	EA4X36L81L17A*	1.03	1.03	EHD4X24AAL	0.97	0.92	0.97	1.06	*9MX*0401410A**
EA4X36L81L17A*	EA4X36L84L17A*	1.03	1.05	EHD4X24AAL	0.95	0.85	0.97	1.07	*9MX*0401712A**
EA4X36L84L17A*	EA4X36L87L17A*	1.00	1.05	EHD4X30AAL	0.97	0.92	0.97	1.07	*9MX*0401410A**
EA4X36L87L17A*	EA4X36L90L17A*	1.00	1.05	EHD4X30AAL	0.96	0.86	0.97	1.05	*9MX*0401712A**
EA4X36L90L17A*	EA4X36L93L17A*	1.01	1.06	EHD4X36AAL	0.99	0.94	0.97	1.06	*9MX*0401410A**
EA4X36L93L17A*	EA4X36L96L17A*	1.02	1.07	EHD4X36AAL	0.97	0.88	0.97	1.04	*9MX*0401712A**
EA4X36L96L17A*	EA4X36L99L17A*	1.02	1.02	EA4X36L17A*	0.97	0.88	0.99	1.13	*9MV*0601412A**
EA4X36L99L17A*	EA4X36L102L17A*	1.02	1.06	EA4X36L17A*	0.96	0.84	0.99	1.05	*9MV*0601714A**
EA4X36L102L17A*	EA4X36L105L17A*	1.01	1.06	EA4X36L17A*	0.98	0.84	0.99	1.04	*9MV*0601716A**
EA4X36L105L17A*	EA4X36L108L17A*	1.01	1.06	EA4X36L17A*	0.97	0.83	0.97	1.05	*9MX*0401712A**
EA4X36L108L17A*	EA4X36L111L17A*	1.02	1.02	EA4X36L21A*	0.97	0.88	0.99	1.12	*9MV*0401712A**
EA4X36L111L17A*	EA4X36L114L17A*	1.02	1.07	EA4X36L21A*	0.96	0.84	0.99	1.05	*9MV*0601714A**
EA4X36L114L17A*	EA4X36L117L17A*	1.03	1.03	EA4X36L21A*	0.98	0.84	1.00	1.04	*9MV*0601716A**
EA4X36L117L17A*	EA4X36L120L17A*	1.03	1.07						
EA4X36L120L17A*	EA4X36L123L17A*	1.02	1.07						
EA4X36L123L17A*	EA4X36L126L17A*	1.02	1.07						
EA4X36L126L17A*	EA4X36L129L17A*	1.03	1.07						
EA4X36L129L17A*	EA4X36L132L17A*	1.03	1.07						
EA4X36L132L17A*	EA4X36L135L17A*	1.03	1.07						
EA4X36L135L17A*	EA4X36L138L17A*	1.03	1.07						
EA4X36L138L17A*	EA4X36L141L17A*	1.03	1.07						
EA4X36L141L17A*	EA4X36L144L17A*	1.03	1.07						
EA4X36L144L17A*	EA4X36L147L17A*	1.03	1.07						
EA4X36L147L17A*	EA4X36L150L17A*	1.03	1.07						
EA4X36L150L17A*	EA4X36L153L17A*	1.03	1.07						
EA4X36L153L17A*	EA4X36L156L17A*	1.03	1.07						
EA4X36L156L17A*	EA4X36L159L17A*	1.03	1.07						
EA4X36L159L17A*	EA4X36L162L17A*	1.03	1.07						
EA4X36L162L17A*	EA4X36L165L17A*	1.03	1.07						
EA4X36L165L17A*	EA4X36L168L17A*	1.03	1.07						
EA4X36L168L17A*	EA4X36L171L17A*	1.03	1.07						
EA4X36L171L17A*	EA4X36L174L17A*	1.03	1.07						
EA4X36L174L17A*	EA4X36L177L17A*	1.03	1.07						
EA4X36L177L17A*	EA4X36L180L17A*	1.03	1.07						
EA4X36L180L17A*	EA4X36L183L17A*	1.03	1.07						
EA4X36L183L17A*	EA4X36L186L17A*	1.03	1.07						
EA4X36L186L17A*	EA4X36L189L17A*	1.03	1.07						
EA4X36L189L17A*	EA4X36L192L17A*	1.03	1.07						
EA4X36L192L17A*	EA4X36L195L17A*	1.03	1.07						
EA4X36L195L17A*	EA4X36L198L17A*	1.03	1.07						
EA4X36L198L17A*	EA4X36L201L17A*	1.03	1.07						
EA4X36L201L17A*	EA4X36L204L17A*	1.03	1.07						
EA4X36L204L17A*	EA4X36L207L17A*	1.03	1.07						
EA4X36L207L17A*	EA4X36L210L17A*	1.03	1.07						
EA4X36L210L17A*	EA4X36L213L17A*	1.03	1.07						
EA4X36L213L17A*	EA4X36L216L17A*	1.03	1.07						
EA4X36L216L17A*	EA4X36L219L17A*	1.03	1.07						
EA4X36L219L17A*	EA4X36L222L17A*	1.03	1.07						
EA4X36L222L17A*	EA4X36L225L17A*	1.03	1.07						
EA4X36L225L17A*	EA4X36L228L17A*	1.03	1.07						
EA4X36L228L17A*	EA4X36L231L17A*	1.03	1.07						
EA4X36L231L17A*	EA4X36L234L17A*	1.03	1.07						
EA4X36L234L17A*	EA4X36L237L17A*	1.03	1.07						
EA4X36L237L17A*	EA4X36L240L17A*	1.03	1.07						
EA4X36L240L17A*	EA4X36L243L17A*	1.03	1.07						
EA4X36L243L17A*	EA4X36L246L17A*	1.03	1.07						
EA4X36L246L17A*	EA4X36L249L17A*	1.03	1.07						
EA4X36L249L17A*	EA4X36L252L17A*	1.03	1.07						
EA4X36L252L17A*	EA4X36L255L17A*	1.03	1.07						
EA4X36L255L17A*	EA4X36L258L17A*	1.03	1.07						
EA4X36L258L17A*	EA4X36L261L17A*	1.03	1.07						
EA4X36L261L17A*	EA4X36L264L17A*	1.03	1.07						
EA4X36L264L17A*	EA4X36L267L17A*	1.03	1.07						
EA4X36L267L17A*	EA4X36L270L17A*	1.03	1.07						
EA4X36L270L17A*	EA4X36L273L17A*	1.03	1.07						
EA4X36L273L17A*	EA4X36L276L17A*	1.03	1.07						
EA4X36L276L17A*	EA4X36L279L17A*	1.03	1.07						
EA4X36L279L17A*	EA4X36L282L17A*	1.03	1.07						
EA4X36L282L17A*	EA4X36L285L17A*	1.03	1.07						
EA4X36L285L17A*	EA4X36L288L17A*	1.03	1.07						
EA4X36L288L17A*	EA4X36L291L17A*	1.03	1.07						
EA4X36L291L17A*	EA4X36L294L17A*	1.03	1.07						
EA4X36L294L17A*	EA4X36L297L17A*	1.03	1.07						
EA4X36L297L17A*	EA4X36L300L17A*	1.03	1.07						
EA4X36L300L17A*	EA4X36L303L17A*	1.03	1.07						
EA4X36L303L17A*	EA4X36L306L17A*	1.03	1.07						
EA4X36L306L17A*	EA4X36L309L17A*	1.03	1.07						
EA4X36L309L17A*	EA4X36L312L17A*	1.03	1.07						
EA4X36L312L17A*	EA4X36L315L17A*	1.03	1.07						
EA4X36L315L17A*	EA4X36L318L17A*	1.03	1.07						
EA4X36L318L17A*	EA4X36L321L17A*	1.03	1.07						
EA4X36L321L17A*	EA4X36L324L17A*	1.03	1.07						
EA4X36L324L17A*	EA4X36L327L17A*	1.03	1.07						
EA4X36L327L17A*	EA4X36L330L17A*	1.03	1.07						
EA4X36L330L17A*	EA4X36L333L17A*	1.03	1.07						
EA4X36L333L17A*	EA4X36L336L17A*	1.03	1.07						
EA4X36L336L17A*	EA4X36L339L17A*	1.03	1.07						
EA4X36L339L17A*	EA4X36L342L17A*	1.03	1.07						
EA4X36L342L17A*	EA4X36L345L17A*	1.03	1.07						
EA4X36L345L17A*	EA4X36L348L17A*	1.03	1.07						
EA4X36L348L17A*	EA4X36L351L17A*	1.03	1.07						
EA4X36L351L17A*	EA4X36L354L17A*	1.03	1.07						
EA4X36L354L17A*	EA4X36L357L17A*	1.03	1.07						
EA4X36L357L17A*	EA4X36L360L17A*	1.03	1.07						
EA4X36L360L17A*	EA4X36L363L17A*	1.03	1.07						
EA4X36L363L17A*	EA4X36L366L17A*	1.03	1.07						
EA4X36L366L17A*	EA4X36L369L17A*	1.03	1.07						
EA4X36L369L17A*	EA4X36L372L17A*	1.03	1.07						
EA4X36L372L17A*	EA4X36L375L17A*	1.03	1.07						
EA4X36L375L17A*	EA4X36L378L17A*	1.03	1.07						
EA4X36L378L17A*	EA4X36L381L17A*	1.03	1.07						
EA4X36L381L17A*	EA4X36L384L17A*	1.03	1.07						
EA4X36L384L17A*	EA4X36L387L17A*	1.03	1.07						
EA4X36L387L17A*	EA4X36L390L17A*	1.03	1.07						
EA4X36L390L17A*	EA4X36L393L17A*	1.03	1.07						
EA4X36L393L17A*	EA4X36L396L17A*	1.03	1.07						
EA4X36L396L17A*	EA4X36L399L17A*	1.03	1.07						
EA4X36L399L17A*	EA4X36L402L17A*	1.03	1.07						
EA4X36L402L17A*	EA4X36L405L17A*	1.03	1.07						

CVH824
HEAT PUMP HEATING PERFORMANCE – EFFICIENCY MODE

CVH824 / FCM4X24***L Heating Efficiency Mode Outdoor Coil Entering Air Temperature °F (°C)												
INDOOR AIR		7 (–13.9)				17 (–8.3)				27 (–2.8)		
		ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh	
			Total	Integ†			Total	Integ†			Total	Integ†
65 (18.3) 70 (21.1) 75 (23.3)		450	12.00	11.03	1.37	825	15.76	14.37	1.69	825	18.37	16.31
			11.90	10.93	1.45		15.60	14.22	1.77		18.18	16.15
			11.70	10.75	1.50		15.44	14.07	1.86		17.99	15.98
STAGE 5												
65 (18.3) 70 (21.1) 75 (23.3)		300	8.37	7.69	0.89	500	10.11	9.21	0.88	650	11.81	10.49
			8.22	7.56	0.94		9.93	9.05	0.93		11.61	10.31
			8.07	7.42	0.98		9.75	8.89	0.99		11.41	10.13
STAGE 1												
65 (18.3) 70 (21.1) 75 (23.3)		300	8.37	7.69	0.89	500	10.10	9.21	0.88	650	10.55	9.37
			8.22	7.56	0.94		9.93	9.05	0.93		10.36	9.20
			8.07	7.42	0.98		9.75	8.89	0.99		10.17	9.03
STAGE 1												
65 (18.3) 70 (21.1) 75 (23.3)		300	8.37	7.69	0.89	500	10.10	9.21	0.88	650	10.55	9.37
			8.22	7.56	0.94		9.93	9.05	0.93		10.36	9.20
			8.07	7.42	0.98		9.75	8.89	0.99		10.17	9.03
STAGE 1												
65 (18.3) 70 (21.1) 75 (23.3)		300	8.37	7.69	0.89	500	10.10	9.21	0.88	650	10.55	9.37
			8.22	7.56	0.94		9.93	9.05	0.93		10.36	9.20
			8.07	7.42	0.98		9.75	8.89	0.99		10.17	9.03
STAGE 1												

CVH824 / FCM4X24***L Heating Efficiency Mode Outdoor Coil Entering Air Temperature °F (°C)													
INDOOR AIR		37 (2.8)				47 (8.3)				57 (13.9)			
		ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†
			Total	Integ†			Total	Integ†			Total	Integ†	
		STAGE 5											
65 (18.3)	70 (21.1) 75 (23.3)	825	21.73	19.77	1.82	24.94	24.94	1.89	650	16.71	16.71	1.01	
70 (21.1)			21.46	19.52	1.92	24.60	24.60	1.99		16.37	16.37	1.08	
75 (23.3)			21.18	19.27	2.02	24.26	24.26	2.10		16.03	16.03	1.16	
		STAGE 3											
65 (18.3)	70 (21.1) 75 (23.3)	650	13.45	12.24	0.95	15.09	15.09	0.99	650	16.71	16.71	1.01	
70 (21.1)			13.21	12.02	1.01	14.83	14.83	1.06		16.38	16.38	1.09	
75 (23.3)			12.98	11.81	1.07	14.56	14.56	1.13		16.07	16.07	1.16	
		STAGE 1											
65 (18.3)	70 (21.1) 75 (23.3)	650	11.91	10.84	0.81	7.42	7.42	0.37	585	7.98	7.98	0.37	
70 (21.1)			11.62	10.58	0.87	7.20	7.20	0.42		7.74	7.74	0.42	
75 (23.3)			11.38	10.35	0.93	6.99	6.99	0.46		7.52	7.52	0.47	

Operation in this area is restricted to maintain reliable system operation and customer comfort. The system will default to the next available stage
Stage 5 – Compressor speed limited to stage four at 7 and stage three at 57 outdoor; **Stage 1** – Compressor speed limited to stage three at 7 and 17 and to stage two at 27 and 37 outdoor.

See additional notes on page 45

CVH824
HEAT PUMP HEATING PERFORMANCE – COMFORT MODE

CVH825 / FCM4X48***L Heating Comfort Mode Outdoor Coil Entering Air Temperature °F (°C)													
INDOOR AIR		7 (–13.9)			17 (–8.3)			27 (–2.8)					
		ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†
EDB °F (°C)			Total	Integ†			Total	Integ†			Total	Integ†	
65 (18.3) 70 (21.1) 75 (23.3)		450	12.00	11.03	1.37	825	15.76	14.37	1.69	825	18.37	16.31	1.74
			11.90	10.93			15.60	14.22			18.18	16.15	
			11.70	10.75			15.44	14.07			17.99	15.98	
STAGE 3													
65 (18.3) 70 (21.1) 75 (23.3)		300	8.37	7.69	0.89	500	10.11	9.21	0.88	650	11.81	10.49	0.90
			8.22	7.56			9.93	9.05			11.61	10.31	
			8.07	7.42			9.75	8.89			11.41	10.13	
STAGE 1													
65 (18.3) 70 (21.1) 75 (23.3)		300	8.37	7.69	0.89	500	10.10	9.21	0.88	650	10.55	9.37	0.81
			8.22	7.56			9.93	9.05			10.36	9.20	
			8.07	7.42			9.75	8.89			10.17	9.03	
CVH825 / FCM4X48***L Heating Comfort Mode Outdoor Coil Entering Air Temperature °F (°C)													
INDOOR AIR		37 (2.8)			47 (8.3)			57 (13.9)					
		ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†
EDB °F (°C)			Total	Integ†			Total	Integ†			Total	Integ†	
65 (18.3) 70 (21.1) 75 (23.3)		825	21.73	19.77	1.82	825	24.94	24.94	1.89	650	16.71	16.71	1.01
			21.46	19.52			24.60	24.60			16.37	16.37	
			21.18	19.27			24.26	24.26			16.03	16.03	
STAGE 3													
65 (18.3) 70 (21.1) 75 (23.3)		650	13.45	12.24	0.95	650	15.09	15.09	0.99	650	16.71	16.71	1.01
			13.21	12.02			14.83	14.83			16.38	16.38	
			12.98	11.81			14.56	14.56			16.07	16.07	
STAGE 1													
65 (18.3) 70 (21.1) 75 (23.3)		650	11.91	10.84	0.81	585	7.42	7.42	0.37	585	7.98	7.98	0.37
			11.62	10.58			7.20	7.20			7.74	7.74	
			11.38	10.35			6.99	6.99			7.52	7.52	

Operation in this area is restricted to maintain reliable system operation and customer comfort. The system will default to the next available stage
Stage 5 – Compressor speed limited to stage four at 7 and stage three at 57 outdoor; **Stage 1** – Compressor speed limited to stage three at 7 and 17 and to stage two at 27 and 37 outdoor.

See additional notes on page 45

DETAILED HEATING CAPACITIES# – EFFICIENCY MODE & COMFORT MODE CONTINUED

CVH824

[illegible]

CVH825
DETAILED COOLING CAPACITIES# – EFFICIENCY MODE

EDB °F (°C)	EVAR AIR	CVH825 / FCM4x48***L Efficiency Mode																							
		Condenser Entering Air Temperature °F (°C)																							
		95 (35)				85 (29.4)				75 (23.9)				65 (18.3)											
EWB °F (°C)	ID SCF M	115 (46.1)		ID SCF M	105 (40.5)		ID SCF M	95 (35)		ID SCF M	85 (29.4)		ID SCF M	75 (23.9)		ID SCF M	65 (18.3)								
		Capacity MBtuh Total	Sens \$ ‡		Total Syst. KW**	Capacity MBtuh Total		Sens \$ ‡	Total Syst. KW**		Capacity MBtuh Total	Sens \$ ‡		Total Syst. KW**	Capacity MBtuh Total		Sens \$ ‡	Total Syst. KW**							
75 (23.9)	72 (22.2)	825	23.61	9.88	2.53	825	25.24	10.47	2.23	825	26.64	10.98	1.92	825	28.18	11.54	1.41	825	29.67	12.09	1.41	825	31.12	12.64	1.18
	67 (19.4)		21.33	13.74	2.50		22.80	14.32	2.22		24.06	14.87	1.92		25.46	15.46	1.67		26.82	16.05	1.43		28.12	16.59	1.21
	63 (17.2)		19.66	16.76	2.48		21.01	17.35	2.21		22.17	17.92	1.92		23.46	18.51	1.67		24.71	19.11	1.44		25.92	19.72	1.23
	57 (13.9)		18.72	18.72	2.47		19.79	19.79	2.20		20.71	20.71	1.91		21.71	21.71	1.67		22.67	22.67	1.45		23.60	23.60	1.24
	72 (22.2)		23.53	13.78	2.53		25.17	14.37	2.23		26.56	14.92	1.92		28.10	15.50	1.66		29.60	16.09	1.41		31.02	16.63	1.18
80 (26.7)	67 (19.4)	825	21.28	17.58	2.50	825	22.75	18.19	2.22	825	24.00	18.75	1.92	825	25.40	19.35	1.67	825	26.74	19.96	1.43	825	28.05	20.56	1.21
	63 (17.2)		20.03	20.03	2.49		21.17	21.09	2.21		22.29	21.72	1.92		23.54	22.34	1.67		24.78	22.95	1.44		25.96	23.61	1.23
	57 (13.9)		19.99	19.99	2.49		21.10	21.10	2.21		22.06	22.06	1.91		23.08	23.08	1.67		24.09	24.09	1.44		25.06	25.06	1.23
	STAGE 3																								
	72 (22.2)		15.43	6.56	1.50		650	16.55	6.96		1.36	650	17.40		7.27	1.13	650		18.52	7.59	0.97		650	19.58	8.06
67 (19.4)	13.88	9.30	1.50	14.90	9.71	1.36		15.70	10.04	1.14	16.69		10.46	0.99	17.67	10.87		0.85	18.63	11.27	0.71				
63 (17.2)	12.80	11.44	1.50	13.73	11.87	1.37		14.47	12.22	1.14	15.39		12.65	1.00	16.27	13.10		0.87	17.17	13.48	0.73				
57 (13.9)	12.38	12.38	1.50	13.13	13.13	1.37		13.73	13.73	1.14	14.44		14.44	1.01	15.14	15.14		0.88	15.81	15.81	0.76				
72 (22.2)	15.37	9.34	1.50	16.49	9.75	1.36		17.33	10.09	1.13	18.42		10.48	0.97	19.51	10.89		0.82	20.58	11.27	0.67				
80 (26.7)	67 (19.4)	650	13.87	12.03	1.50	650	14.88	12.46	1.36	650	15.67	12.80	1.14	650	16.66	13.25	0.99	650	17.62	13.69	0.85	650	18.59	14.08	0.71
	63 (17.2)		13.28	13.28	1.50		14.07	14.07	1.37		14.69	14.69	1.14		15.58	15.21	1.00		16.44	15.74	0.87		17.23	16.25	0.73
	57 (13.9)		13.26	13.26	1.50		14.04	14.04	1.37		14.66	14.66	1.14		15.42	15.42	1.00		16.14	16.14	0.87		16.85	16.85	0.74
	STAGE 1																								
	72 (22.2)		11.91	5.24	1.08		650	12.82	5.56		1.00	650	10.38		4.52	0.57	650		11.19	4.70	0.49		650	11.92	5.07
67 (19.4)	10.68	7.75	1.09	11.52	8.07	1.01		9.32	6.60	0.59	10.00		6.88	0.52	10.68	7.16		0.44	11.35	7.44	0.35				
63 (17.2)	9.85	9.65	1.09	10.61	10.02	1.02		8.58	8.20	0.60	9.20		8.49	0.54	9.81	8.79		0.47	10.41	9.08	0.38				
57 (13.9)	9.79	9.79	1.09	10.43	10.43	1.02		8.47	8.47	0.60	8.98		8.98	0.54	9.48	9.48		0.48	9.96	9.96	0.40				
72 (22.2)	11.85	7.79	1.08	12.79	8.13	1.00		10.33	6.64	0.57	11.10		6.91	0.49	11.86	7.20		0.40	12.62	7.48	0.30				
80 (26.7)	67 (19.4)	650	10.87	9.78	1.09	650	11.51	10.58	1.01	650	9.33	8.66	0.58	650	10.00	8.96	0.52	650	10.67	9.26	0.44	650	11.33	9.56	0.35
	63 (17.2)		10.56	10.56	1.09		11.24	11.24	1.02		9.12	9.12	0.59		9.67	9.67	0.52		10.20	10.20	0.45		10.72	10.72	0.37
	57 (13.9)		10.54	10.54	1.09		11.22	11.22	1.02		9.11	9.11	0.59		9.65	9.65	0.52		10.18	10.18	0.45		10.69	10.69	0.37
	STAGE 1																								
	72 (22.2)		11.91	5.24	1.08		650	12.82	5.56		1.00	650	10.38		4.52	0.57	650		11.19	4.70	0.49		650	11.92	5.07
67 (19.4)	10.68	7.75	1.09	11.52	8.07	1.01		9.32	6.60	0.59	10.00		6.88	0.52	10.68	7.16		0.44	11.35	7.44	0.35				
63 (17.2)	9.85	9.65	1.09	10.61	10.02	1.02		8.58	8.20	0.60	9.20		8.49	0.54	9.81	8.79		0.47	10.41	9.08	0.38				
57 (13.9)	9.79	9.79	1.09	10.43	10.43	1.02		8.47	8.47	0.60	8.98		8.98	0.54	9.48	9.48		0.48	9.96	9.96	0.40				
72 (22.2)	11.85	7.79	1.08	12.79	8.13	1.00		10.33	6.64	0.57	11.10		6.91	0.49	11.86	7.20		0.40	12.62	7.48	0.30				
80 (26.7)	67 (19.4)	650	10.87	9.78	1.09	650	11.51	10.58	1.01	650	9.33	8.66	0.58	650	10.00	8.96	0.52	650	10.67	9.26	0.44	650	11.33	9.56	0.35
	63 (17.2)		10.56	10.56	1.09		11.24	11.24	1.02		9.12	9.12	0.59		9.67	9.67	0.52		10.20	10.20	0.45		10.72	10.72	0.37
	57 (13.9)		10.54	10.54	1.09		11.22	11.22	1.02		9.11	9.11	0.59		9.65	9.65	0.52		10.18	10.18	0.45		10.69	10.69	0.37
	STAGE 1																								
	72 (22.2)		11.91	5.24	1.08		650	12.82	5.56		1.00	650	10.38		4.52	0.57	650		11.19	4.70	0.49		650	11.92	5.07
67 (19.4)	10.68	7.75	1.09	11.52	8.07	1.01		9.32	6.60	0.59	10.00		6.88	0.52	10.68	7.16		0.44	11.35	7.44	0.35				
63 (17.2)	9.85	9.65	1.09	10.61	10.02	1.02		8.58	8.20	0.60	9.20		8.49	0.54	9.81	8.79		0.47	10.41	9.08	0.38				
57 (13.9)	9.79	9.79	1.09	10.43	10.43	1.02		8.47	8.47	0.60	8.98		8.98	0.54	9.48	9.48		0.48	9.96	9.96	0.40				
72 (22.2)	11.85	7.79	1.08	12.79	8.13	1.00		10.33	6.64	0.57	11.10		6.91	0.49	11.86	7.20		0.40	12.62	7.48	0.30				
80 (26.7)	67 (19.4)	650	10.87	9.78	1.09	650	11.51	10.58	1.01	650	9.33	8.66	0.58	650	10.00	8.96	0.52	650	10.67	9.26	0.44	650	11.33	9.56	0.35
	63 (17.2)		10.56	10.56	1.09		11.24	11.24	1.02		9.12	9.12	0.59		9.67	9.67	0.52		10.20	10.20	0.45		10.72	10.72	0.37
	57 (13.9)		10.54	10.54	1.09		11.22	11.22	1.02		9.11	9.11	0.59		9.65	9.65	0.52		10.18	10.18	0.45		10.69	10.69	0.37
	STAGE 1																								
	72 (22.2)		11.91	5.24	1.08		650	12.82	5.56		1.00	650	10.38		4.52	0.57	650		11.19	4.70	0.49		650	11.92	5.07
67 (19.4)	10.68	7.75	1.09	11.52	8.07	1.01		9.32	6.60	0.59	10.00		6.88	0.52	10.68	7.16		0.44	11.35	7.44	0.35				
63 (17.2)	9.85	9.65	1.09	10.61	10.02	1.02		8.58	8.20	0.60	9.20		8.49	0.54	9.81	8.79		0.47	10.41	9.08	0.38				
57 (13.9)	9.79	9.79	1.09	10.43	10.43	1.02		8.47	8.47	0.60	8.98		8.98	0.54	9.48	9.48		0.48	9.96	9.96	0.40				
72 (22.2)	11.85	7.79	1.08	12.79	8.13	1.00		10.33	6.64	0.57	11.10		6.91	0.49	11.86	7.20		0.40	12.62	7.48	0.30				
80 (26.7)	67 (19.4)	650	10.87	9.78	1.09	650	11.51	10.58	1.01	650	9.33	8.66	0.58	650	10.00	8.96	0.52	650	10.67	9.26	0.44	650	11.33	9.56	0.35
	63 (17.2)		10.56	10.56	1.09		11.24	11.24	1.02		9.12	9.12	0.59		9.67	9.67	0.52		10.20	10.20	0.45		10.72	10.72	0.37
	57 (13.9)		10.54	10.54	1.09		11.22	11.22	1.02		9.11	9.11	0.59		9.65	9.65	0.52		10.18	10.18	0.45		10.69	10.69	0.37
	STAGE 1																								
	72 (22.2)		11.91	5.24	1.08		650	12.82	5.56		1.00	650	10.38		4.52	0.57	650		11.19	4.70	0.49		650	11.92	5.07
67 (19.4)	10.68	7.75	1.09	11.52	8.07	1.01		9.32	6.60	0.59	10.00		6.88	0.52	10.68	7.16		0.44	11.35	7.44	0.35				
63 (17.2)	9.85	9.65	1.09	10.61	10.02	1.02		8.58	8.20	0.60	9.20		8.49	0.54	9.81	8.79		0.47	10.41	9.08	0.38				
57 (13.9)	9.79	9.79	1.09	10.43	10.43	1.02		8.47	8.47	0.60	8.98		8.98	0.54	9.48	9.48		0.48	9.96	9.96	0.40				
72 (22.2)	11.85	7.79	1.08	12.79	8.13	1.00		10.33	6.64	0.57	11.10		6.91	0.49	11.86	7.20		0.40	12.62	7.48	0.30				
80 (26.7)	67 (19.4)	650	10.87	9.78	1.09	650	11.51	10.58	1.01	650	9.33	8.66	0.58	650	10.00	8.96	0.52	650	10.67	9.26	0.44	650	11.33	9.56	0.35
	63 (17.2)		10.56	10.56	1.09		11.24	11.24	1.02		9.12	9.12	0.59		9.67	9.67	0.52		10.20	10.20	0.45		10.72	10.72	0.37
	57 (13.9)		10.54	10.54	1.09		11.22	11.22	1.02		9.11	9.11	0.59		9.65	9.65	0.52		10.18	10.18	0.45		10.69	10.69	0.37
	STAGE 1																								
	72 (22.2)		11.91	5.24	1.08		650	12.82	5.56		1.00	650	10.38		4.52	0.57	650		11.19	4.70	0.49		650	11.92	5.07
67 (19.4)	10.68																								

CVH825

DETAILED COOLING CAPACITIES# – COMFORT + DEHUMIDIFY MODE

EDB °F (°C)	EVAIR AIR °F (°C)	CVH825 / FCMA48***L Comfort + Dehumidify Mode Condenser Entering Air Temperature °F (°C)												65 (18.3)			
		105 (40.5)				95 (35)				85 (29.4)				75 (23.9)			
		Capacity MBtuh		Total Sys. KW		Capacity MBtuh		Total Sys. KW		Capacity MBtuh		Total Sys. KW		Capacity MBtuh		Total Sys. KW	
		Total	Sens†	ID SCFM		Total	Sens†	ID SCFM		Total	Sens†	ID SCFM		Total	Sens†	ID SCFM	
75 (23.9)	72 (22.2)	24.05	9.74	2.20		25.31	10.23	1.90		26.93	10.87	1.64		28.53	11.51	1.40	
	67 (19.4)	21.69	12.60	2.19	608	22.84	13.11	1.89		24.30	13.88	1.65	634	25.76	14.68	1.42	708
	63 (17.2)	19.98	14.84	2.17		21.05	15.36	1.88		22.40	16.25	1.65		23.76	17.17	1.43	
	57 (13.9)	17.96	17.96	2.15		18.83	18.68	1.87		20.01	19.72	1.64		21.32	20.70	1.43	
	72 (22.2)	23.98	12.65	2.20		25.25	13.15	1.90		26.85	13.94	1.64		28.46	14.73	1.40	
80 (26.7)	67 (19.4)	21.63	15.47	2.19	608	22.79	15.99	1.89		24.25	16.90	1.65	634	25.71	17.85	1.42	708
	63 (17.2)	19.98	17.70	2.17		21.04	18.23	1.88		22.39	19.25	1.65		23.75	20.31	1.43	
	57 (13.9)	19.08	19.08	2.16		19.91	19.91	1.88		21.11	21.11	1.65		22.34	22.34	1.43	
	72 (22.2)	15.55	6.31	1.34		16.33	6.61	1.11		17.39	7.04	0.97		18.54	7.49	0.82	
	67 (19.4)	13.99	8.14	1.35	437	14.70	8.46	1.12		15.68	8.96	0.98	452	16.71	9.53	0.84	510
75 (23.9)	63 (17.2)	12.85	9.59	1.35		13.52	9.91	1.12		14.42	10.48	0.99		15.37	11.12	0.86	
	57 (13.9)	11.51	11.51	1.35		12.02	12.02	1.12		12.80	12.70	1.00		13.64	13.47	0.88	
	72 (22.2)	15.51	8.19	1.34		16.26	8.49	1.11		17.34	9.02	0.97		18.49	9.57	0.82	
	67 (19.4)	13.96	10.01	1.35	437	14.66	10.33	1.12		15.64	10.92	0.98	452	16.67	11.58	0.84	510
	63 (17.2)	12.84	11.44	1.35		13.51	11.79	1.12		14.41	12.41	0.99		15.36	13.18	0.86	
80 (26.7)	57 (13.9)	12.26	12.26	1.35		12.79	12.79	1.12		13.57	13.57	1.00		14.43	14.43	0.87	
	72 (22.2)	11.60	4.69	1.00		8.92	3.59	0.58		9.47	3.82	0.52		10.00	4.04	0.45	
	67 (19.4)	10.38	6.01	1.01	342	7.98	4.45	0.60		8.46	4.67	0.54	250	8.93	4.88	0.48	250
	63 (17.2)	9.51	7.00	1.01		7.29	5.10	0.61		7.72	5.33	0.56		8.15	5.55	0.50	
	57 (13.9)	10.39	5.98	1.01		6.36	6.09	0.62		6.74	6.31	0.58		7.10	6.52	0.54	
80 (26.7)	72 (22.2)	11.57	6.04	1.00		8.90	4.49	0.58		9.45	4.72	0.52		9.98	4.95	0.45	
	67 (19.4)	10.36	7.32	1.01	342	7.96	5.34	0.60		8.44	5.57	0.54	250	8.91	5.79	0.48	250
	63 (17.2)	9.50	8.34	1.01		7.28	5.99	0.61		7.71	6.23	0.56		8.14	6.45	0.51	
	57 (13.9)	8.99	8.99	1.02		6.65	6.65	0.61		6.96	6.96	0.58		7.27	7.27	0.53	
	72 (22.2)	11.60	4.69	1.00		8.64	3.49	0.58		9.30	3.76	0.52		9.74	3.95	0.45	
75 (23.9)	67 (19.4)	10.38	6.01	1.01	342	7.72	4.24	0.59		8.31	4.55	0.54	222	8.69	4.72	0.48	245
	63 (17.2)	9.51	7.00	1.01		7.04	4.82	0.60		7.58	5.17	0.56		7.93	5.31	0.51	
	57 (13.9)	8.42	8.42	1.02		6.16	5.65	0.61		6.61	6.07	0.58		6.92	6.18	0.54	
	72 (22.2)	11.57	6.03	1.00		8.62	4.29	0.58		9.28	4.61	0.52		9.72	4.78	0.45	
	67 (19.4)	10.36	7.32	1.01	342	7.70	5.03	0.59		8.29	5.39	0.54	222	8.68	5.55	0.48	245
80 (26.7)	63 (17.2)	9.50	8.34	1.01		7.03	5.61	0.60		7.57	6.01	0.56		7.92	6.14	0.51	
	57 (13.9)	8.99	8.99	1.02		6.30	6.30	0.61		6.76	6.76	0.57		6.98	6.98	0.53	
	72 (22.2)	11.60	4.69	1.00		8.64	3.49	0.58		9.30	3.76	0.52		9.74	3.95	0.45	
	67 (19.4)	10.38	6.01	1.01	342	7.72	4.24	0.59		8.31	4.55	0.54	222	8.69	4.72	0.48	245
	63 (17.2)	9.51	7.00	1.01		7.04	4.82	0.60		7.58	5.17	0.56		7.93	5.31	0.51	
80 (26.7)	57 (13.9)	8.42	8.42	1.02		6.16	5.65	0.61		6.61	6.07	0.58		6.92	6.18	0.54	
	72 (22.2)	11.57	6.03	1.00		8.62	4.29	0.58		9.28	4.61	0.52		9.72	4.78	0.45	
	67 (19.4)	10.36	7.32	1.01	342	7.70	5.03	0.59		8.29	5.39	0.54	222	8.68	5.55	0.48	245
	63 (17.2)	9.50	8.34	1.01		7.03	5.61	0.60		7.57	6.01	0.56		7.92	6.14	0.51	
	57 (13.9)	8.99	8.99	1.02		6.30	6.30	0.61		6.76	6.76	0.57		6.98	6.98	0.53	

Operation in this area is restricted to maintain reliable system operation and customer comfort. The system will default to the next available stage

Stage 1 — Compressor speed limited to stage two at 105 outdoor.

See additional notes on page 43

DETAILED COOLING CAPACITIES# – EFFICIENCY MODE & COMFORT + DEHUMIDIFY MODE CONTINUED

CVH825

2-STAGE (HI-Stage 5, Lo-Stage 2)									
COOLING INDOOR MODEL	CAPACITY	POWER	FURNACE MODEL	COOLING INDOOR MODEL	HIGH SPEED CAR	POWER	LOW SPEED CAR	POWER	FURNACE MODEL
FVMA4X48***L	1.00	1.00		FVMA4X48***L	1.00	1.00	1.00	1.00	
FVMA4X24***L	1.01	1.10	*8MV*0701412**	FVMA4X36***L	0.94	0.98	0.97	1.00	
EA4X36L14A*	1.01	1.05	*9MA*0601714A**	FVMA4X24***L	0.94	0.98	0.98	1.02	
EA4X36L17A*	1.01	1.05	*9MA*0801714A**	EA4X24L14A*	0.93	1.06	0.96	1.14	*9MX*0401410A**
EA4X36L17A*	1.01	1.05	*8MV*0601716**	EA4X24L17A*	0.93	1.01	0.96	1.12	*9MX*0401712A**
EA4X36L21A*	1.01	1.10	*9MA*0602120A**	EA4X24L17A*	0.98	1.07	1.01	1.12	OMV098J12*
EN(A,D,W)4X36L17**	1.00	1.09	*9MA*0601714A**	EA4X24L17A*	0.98	1.07	1.02	1.19	OLV098A12*
EN(A,D,W)4X36L17**	1.00	1.09	*9MA*0801714A**	EA4X24L17A*	0.98	1.07	1.02	1.14	OMV112K14A
EN(A,D)4X36L21**	1.00	1.09	*9MA*0602120A**	EA4X30L14A*	0.95	1.08	0.96	1.13	*9MX*0401410A**
EN(A,D)4X36L21**	1.01	1.05	*9MA*0802120A**	EA4X30L17A*	0.94	1.03	0.96	1.11	*9MX*0401712A**
END4X42L17**	1.02	1.11	*9MA*0601714A**	EA4X30L17A*	0.99	1.08	1.00	1.14	OMV098J12*
END4X42L17**	1.02	1.06	*9MA*0801714A**	EA4X30L17A*	0.99	1.08	1.02	1.17	OLV098A12*
END4X42L17**	1.03	1.07	*8MV*0601716**	EA4X30L17A*	0.99	1.08	1.02	1.17	OLV098A12*
EN(A,D,W)4X42L21**	1.01	1.05	*9MA*0602120A**	EA4X30L17A*	1.00	1.04	1.02	1.13	OMV112K14A
EHD4X36AAL	1.02	1.16	*9MA*0601714A**	EA4X36L14A*	0.95	1.08	0.96	1.13	*9MX*0401410A**
EHD4X36AAL	1.02	1.11	*9MA*0801714A**	EA4X36L17A*	0.94	1.03	0.97	1.11	*9MX*0401712A**
EHD4X36AAL	1.02	1.11	*9MA*0602120A**	EN(A,D)4X24L17**	0.98	1.11	1.00	1.16	OMV098J12*
EHD4X36AAL	1.03	1.11	*8MV*0701412**	EN(A,D)4X24L17**	0.98	1.11	1.02	1.22	OLV098A12*
EHD4X36AAL	1.03	1.11	*8MV*0601716**	EN(A,D)4X24L17**	0.98	1.07	1.02	1.16	OMV112K14A
EHD4X42AAL	1.03	1.11	*9MA*0601714A**	EN(A,D)4X30L14**	0.94	1.07	0.96	1.13	*9MX*0401410A**
EHD4X42AAL	1.03	1.11	*9MA*0801714A**	EN(A,D)4X30L17**	0.93	1.02	0.96	1.12	*9MX*0401712A**
EHD4X42AAL	1.03	1.11	*9MA*0602120A**	EN(A,D)4X30L17**	0.99	1.08	1.00	1.14	OMV098J12*
EHD4X42AAL	1.03	1.11	*8MV*0701412**	EN(A,D)4X30L17**	0.99	1.08	1.02	1.18	OLV098A12*
EHD4X42AAL	1.03	1.12	*8MV*0601716**	EN(A,D)4X30L17**	1.00	1.04	1.02	1.13	OMV112K14A
				EN(A,D)4X36L17**	0.93	1.02	0.96	1.12	*9MX*0401712A**
				END4X24L17**	0.95	1.03	0.98	1.11	*9MX*0401712A**
				EHD4X24AAL	0.94	1.12	0.96	1.14	*9MX*0401410A**
				EHD4X24AAL	0.93	1.06	0.96	1.12	*9MX*0401712A**
				EHD4X30AAL	0.95	1.08	0.97	1.12	*9MX*0401410A**
				EHD4X30AAL	0.94	1.03	0.98	1.11	*9MX*0401712A**
				EHD4X36AAL	0.97	1.10	0.98	1.12	*9MX*0401410A**
				EHD4X36AAL	0.96	1.04	0.98	1.10	*9MX*0401712A**

CVH825
HEAT PUMP HEATING PERFORMANCE – EFFICIENCY MODE

CVH825 / FCM4X48***L Heating Efficiency Mode Outdoor Coil Entering Air Temperature °F (°C)													
INDOOR AIR	7 (–13.9)				17 (–8.3)				27 (–2.8)				
	EDB °F (°C)	Capacity MBtuh		ID SCFM	Total Sys. KWt		Capacity MBtuh		ID SCFM	Total Sys. KWt		Capacity MBtuh	
		Total	Integ†		Total	Integ†	Total	Integ†					
		STAGE 5											
65 (18.3)	13.73	12.61	450	1.94	20.11	18.34	2.16	825	22.21	19.73	2.08		
70 (21.1)	13.57	12.47		2.01	19.90	18.14	2.26		21.97	19.52		2.17	
75 (23.3)	13.48	12.39		2.08	19.71	17.97	2.36		21.73	19.30		2.27	
STAGE 3													
65 (18.3)	9.32	8.57	340	1.42	11.26	10.27	1.36	650	13.17	11.70	1.22		
70 (21.1)	9.21	8.46		1.48	11.11	10.13	1.42		12.99	11.54		1.29	
75 (23.3)	9.10	8.36		1.54	10.96	10.00	1.48		12.82	11.39		1.35	
STAGE 1													
65 (18.3)	9.32	8.56	340	1.42	11.23	10.24	1.35	650	8.59	7.63	0.80		
70 (21.1)	9.19	8.45		1.48	11.07	10.10	1.41		8.45	7.50		0.83	
75 (23.3)	9.07	8.34		1.53	10.87	9.91	1.47		8.30	7.37		0.88	
CVH825 / FCM4X48***L Heating Efficiency Mode Outdoor Coil Entering Air Temperature °F (°C)													
INDOOR AIR	37 (2.8)				47 (8.3)				57 (13.9)				
	EDB °F (°C)	Capacity MBtuh		ID SCFM	Total Sys. KWt		Capacity MBtuh		ID SCFM	Total Sys. KWt		Capacity MBtuh	
		Total	Integ†		Total	Integ†	Total	Integ†					
		STAGE 5											
65 (18.3)	25.00	22.75	825	2.11	27.16	27.16	2.11	650	19.19	19.19	1.28		
70 (21.1)	24.69	22.46		2.21	26.80	26.80	2.21		19.22	19.22		1.36	
75 (23.3)	24.36	22.17		2.31	26.41	26.41	2.31		18.44	18.44		1.42	
STAGE 3													
65 (18.3)	15.11	13.75	650	1.25	17.04	17.04	1.25	650	19.10	19.10	1.27		
70 (21.1)	14.89	13.55		1.32	16.77	16.77	1.32		18.78	18.78		1.35	
75 (23.3)	14.67	13.35		1.39	16.51	16.51	1.40		18.44	18.44		1.42	
STAGE 1													
65 (18.3)	10.20	9.28	650	0.80	7.58	7.58	0.44	585	9.05	9.05	0.42		
70 (21.1)	9.99	9.09		0.85	7.40	7.40	0.48		8.83	8.83		0.47	
75 (23.3)	9.81	8.93		0.90	7.22	7.22	0.52		8.62	8.62		0.52	

Operation in this area is restricted to maintain reliable system operation and customer comfort. The system will default to the next available stage
Stage 5 – Compressor speed limited to stage four at 7 and stage three at 57 outdoor; **Stage 1** – Compressor speed limited to stage three at 7 and 17 and to stage two at 27 and 37 outdoor.
See additional notes on page 45

CVH825

HEAT PUMP HEATING PERFORMANCE – COMFORT MODE

CVH825 / FCM4X48***L Heating Comfort Mode Outdoor Coil Entering Air Temperature °F (°C)													
INDOOR AIR		7 (–13.9)				17 (–8.3)				27 (–2.8)			
		ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†
EDB °F (°C)			Total	Integ†			Total	Integ†			Total	Integ†	
65 (18.3)		450	13.73	12.61	1.94	825	20.11	18.34	2.16	825	22.21	19.73	2.08
70 (21.1)			13.57	12.47	2.01		19.90	18.14	2.26		21.97	19.52	2.17
75 (23.3)			13.48	12.39	2.08		19.71	17.97	2.36		21.73	19.30	2.27
65 (18.3)		340	9.32	8.57	1.42	500	11.26	10.27	1.36	650	13.17	11.70	1.22
70 (21.1)			9.21	8.46	1.48		11.11	10.13	1.42		12.99	11.54	1.29
75 (23.3)			9.10	8.36	1.54		10.96	10.00	1.48		12.82	11.39	1.35
65 (18.3)		340	9.32	8.56	1.42	500	11.23	10.24	1.35	650	8.59	7.63	0.80
70 (21.1)			9.19	8.45	1.48		11.07	10.10	1.41		8.45	7.50	0.83
75 (23.3)			9.07	8.34	1.53		10.87	9.91	1.47		8.30	7.37	0.88
CVH825 / FCM4X48***L Heating Comfort Mode Outdoor Coil Entering Air Temperature °F (°C)													
INDOOR AIR		37 (2.8)				47 (8.3)				57 (13.9)			
		ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†
EDB °F (°C)			Total	Integ†			Total	Integ†			Total	Integ†	
65 (18.3)		825	25.00	22.75	2.11	825	27.16	27.16	2.11	650	19.19	19.19	1.28
70 (21.1)			24.69	22.46	2.21		26.80	26.80	2.21		19.22	19.22	1.36
75 (23.3)			24.36	22.17	2.31		26.41	26.41	2.31		18.44	18.44	1.42
65 (18.3)		650	15.11	13.75	1.25	650	17.04	17.04	1.25	650	19.10	19.10	1.27
70 (21.1)			14.89	13.55	1.32		16.77	16.77	1.32		18.78	18.78	1.35
75 (23.3)			14.67	13.35	1.39		16.51	16.51	1.40		18.44	18.44	1.42
65 (18.3)		650	10.20	9.28	0.80	585	7.58	7.58	0.44	585	9.05	9.05	0.42
70 (21.1)			9.99	9.09	0.85		7.40	7.40	0.48		8.83	8.83	0.47
75 (23.3)			9.81	8.93	0.90		7.22	7.22	0.52		8.62	8.62	0.52

Operation in this area is restricted to maintain reliable system operation and customer comfort. The system will default to the next available stage
Stage 5 – Compressor speed limited to stage four at 7 and stage three at 57 outdoor; **Stage 1** – Compressor speed limited to stage three at 7 and 17 and to stage two at 27 and 37 outdoor.
 See additional notes on page 45

DETAILED HEATING CAPACITIES# – EFFICIENCY MODE & COMFORT MODE CONTINUED

CVH825

HEATING INDOOR MODEL		CAPACITY	POWER	2-STAGE (Hi-Stage 5, Lo-Stage 2)				COOLING INDOOR MODEL		HIGH SPEED CAP.	POWER	LOW SPEED CAP.	POWER	FURNACE MODEL	
FCM4X48**L		1.00	1.00												
FCM4X24**L		1.08	1.10												
EA*4X36L14A*		1.07	1.11					FVMA4X48**L		1.00	1.00	1.00	1.00		
EA*4X36L17A*		1.07	1.11					FVMA4X36**L		1.01	1.09	1.01	1.00		
EA*4X36L17A*		1.07	1.11					FVMA4X24**L		1.03	1.09	1.01	1.05		
EA*4X36L17A*		1.07	1.09					EA*4X24L14A*		1.07	1.16	1.05	1.14		*9MX*0401410A**
EA*4X36L21A*		1.07	1.11					EA*4X24L17A*		1.05	1.17	1.05	1.13		*9MX*0401712A**
EN(A,D,W)4X36L17**		1.08	1.13					EA*4X24L17A*		1.09	1.15	1.08	1.12		OMV098J12*
EN(A,D,W)4X36L17**		1.08	1.12					EA*4X24L17A*		1.09	1.15	1.09	1.11		OLV098A12*
EN(A,D,W)4X36L17**		1.07	1.10					EA*4X24L17A*		1.09	1.13	1.08	1.10		OMV112K14A
EN(A,D)4X36L21**		1.08	1.12					EA*4X30L14A*		1.05	1.14	1.02	1.11		*9MX*0401410A**
EN(A,D)4X36L21**		1.08	1.11					EA*4X30L17A*		1.03	1.14	1.02	1.09		*9MX*0401712A**
ENDX42L17**		1.07	1.09					EA*4X30L17A*		1.07	1.12	1.06	1.10		OMV098J12*
ENDX42L17**		1.07	1.08					EA*4X30L17A*		1.07	1.12	1.07	1.07		OLV098A12*
ENDX42L17**		1.06	1.06					EA*4X36L14A*		1.04	1.12	1.02	1.09		*9MX*0401410A**
EN(A,D,W)4X42L21**		1.07	1.10					EA*4X36L17A*		1.03	1.14	1.02	1.08		*9MX*0401712A**
EHD4X36AAL		1.07	1.09					EN(A,D)4X24L17**		1.09	1.13	1.09	1.12		OMV098J12*
EHD4X36AAL		1.07	1.08					EN(A,D)4X24L17**		1.09	1.12	1.09	1.08		OLV098A12*
EHD4X36AAL		1.06	1.08					EN(A,D)4X30L14**		1.05	1.14	1.02	1.11		OMV112K14A
EHD4X36AAL		1.06	1.07					EN(A,D)4X30L17**		1.03	1.16	1.02	1.09		*9MX*0401712A**
EHD4X36AAL		1.06	1.06					EN(A,D)4X30L17**		1.07	1.12	1.06	1.09		OMV098J12*
EHD4X42AAL		1.06	1.07					EN(A,D)4X30L17**		1.07	1.12	1.07	1.06		OLV098A12*
EHD4X42AAL		1.06	1.07					EN(A,D)4X36L17**		1.07	1.10	1.06	1.05		OMV112K14A
EHD4X42AAL		1.06	1.07					EN(A,D,W)4X36L17**		1.03	1.16	1.02	1.09		*9MX*0401712A**
EHD4X42AAL		1.05	1.05					ENDX42L17**		1.03	1.12	1.02	1.07		*9MX*0401712A**
EHD4X42AAL		1.05	1.05					EHDX42AAL		1.06	1.13	1.04	1.13		*9MX*0401410A**
EHD4X42AAL		1.05	1.05					EHDX42AAL		1.05	1.16	1.04	1.13		*9MX*0401712A**
EHD4X42AAL		1.05	1.05					EHD4X30AAL		1.05	1.10	1.04	1.11		*9MX*0401410A**
EHD4X42AAL		1.05	1.05					EHD4X30AAL		1.04	1.13	1.04	1.10		*9MX*0401712A**
EHD4X42AAL		1.05	1.05					EHD4X36AAL		1.04	1.09	1.02	1.08		*9MX*0401410A**
EHD4X42AAL		1.05	1.05					EHD4X36AAL		1.03	1.11	1.02	1.07		*9MX*0401712A**

CVH836

DETAILED COOLING CAPACITIES# – EFFICIENCY MODE

CVH836 / FCM4X48***L Efficiency Mode																							
EDB °F (°C)		EVB °F (°C)		Condenser Entering Air Temperature °F (°C)																			
				115 (46.1)				105 (40.5)				95 (35)				85 (29.4)				75 (23.9)			
		ID SCF M	Capacity MBtuh Total	Sens ‡	Total Sys. KW**	ID SCF M	Capacity MBtuh Total	Sens ‡	Total Sys. KW**	ID SCF M	Capacity MBtuh Total	Sens ‡	Total Sys. KW**	ID SCF M	Capacity MBtuh Total	Sens ‡	Total Sys. KW**	ID SCF M	Capacity MBtuh Total	Sens ‡	Total Sys. KW**		
STAGE 5																							
75 (23.9)	72 (22.2)	1050	33.66	13.76	3.92	35.83	14.56	3.62	37.64	15.24	3.33	39.71	16.02	3.03	1050	41.70	16.78	2.74	43.66	17.54	2.45		
	67 (19.4)		30.67	18.58	3.83	32.63	19.41	3.55	34.28	20.14	3.26	36.14	20.93	2.98		37.96	21.76	2.70	39.71	22.50	2.42		
	63 (17.2)		28.43	22.37	3.76	30.25	23.22	3.49	31.80	23.97	3.20	33.50	24.78	2.93		35.17	25.58	2.67	36.77	26.36	2.41		
	57 (13.9)		26.29	26.29	3.70	27.67	27.67	3.42	28.85	28.85	3.14	30.12	30.12	2.88		31.51	31.06	2.63	32.87	31.93	2.38		
	72 (22.2)		33.58	18.53	3.92	35.75	19.37	3.62	37.55	20.09	3.33	39.61	20.91	3.03		41.61	21.68	2.74	43.56	22.44	2.45		
80 (26.7)	67 (19.4)	1050	30.58	23.31	3.83	32.54	24.17	3.55	34.20	24.92	3.26	36.06	25.73	2.98	1050	37.87	26.55	2.70	39.64	27.35	2.42		
	63 (17.2)		28.45	27.05	3.77	30.25	27.93	3.49	31.78	28.71	3.20	33.48	29.54	2.93		35.15	30.40	2.67	36.73	31.18	2.41		
	57 (13.9)		27.92	27.92	3.75	29.37	29.37	3.47	30.60	30.60	3.18	31.93	31.93	2.91		33.21	33.21	2.65	34.45	34.45	2.39		
	STAGE 3																						
	72 (22.2)		21.50	9.09	2.51	22.99	9.62	2.19	24.00	9.99	1.85	25.46	10.52	1.58		26.89	11.04	1.32	28.22	11.54	1.09		
75 (23.9)	67 (19.4)	900	19.38	12.78	2.49	20.72	13.34	2.18	21.71	13.77	1.84	23.03	14.33	1.57	900	24.32	14.88	1.33	25.58	15.44	1.11		
	63 (17.2)		17.85	15.69	2.47	19.07	16.26	2.18	20.03	16.73	1.83	21.24	17.32	1.57		22.42	17.89	1.34	23.59	18.46	1.12		
	57 (13.9)		17.16	17.16	2.47	18.15	18.15	2.17	18.94	18.94	1.82	19.90	19.90	1.57		20.84	20.84	1.34	21.76	21.76	1.13		
	72 (22.2)		21.43	12.83	2.51	22.91	13.39	2.19	23.93	13.80	1.85	25.39	14.36	1.58		26.81	14.92	1.32	28.20	15.48	1.09		
	67 (19.4)		19.34	16.49	2.49	20.67	17.07	2.18	21.66	17.54	1.84	22.97	18.13	1.57		24.25	18.71	1.33	25.52	19.29	1.11		
80 (26.7)	63 (17.2)	900	18.40	18.40	2.48	19.44	19.44	2.18	20.23	20.23	1.83	21.35	21.04	1.57	900	22.50	21.67	1.34	23.66	22.27	1.12		
	57 (13.9)		18.36	18.36	2.48	19.40	19.40	2.18	20.20	20.20	1.83	21.20	21.20	1.57		22.18	22.18	1.34	23.13	23.13	1.12		
	STAGE 1																						
	72 (22.2)		14.47	6.38	1.82	15.58	6.77	1.53	10.69	4.69	0.66	11.51	4.98	0.49		12.34	5.28	0.34	13.17	5.58	0.22		
	67 (19.4)		13.00	9.42	1.82	14.02	9.86	1.54	9.54	6.85	0.69	10.28	7.17	0.52		11.02	7.49	0.37	11.76	7.81	0.25		
75 (23.9)	63 (17.2)	800	12.02	11.77	1.82	12.97	12.18	1.55	8.78	8.53	0.70	9.43	8.87	0.54	600	10.10	9.21	0.39	10.77	9.55	0.27		
	57 (13.9)		11.94	11.94	1.82	12.73	12.73	1.55	8.69	8.69	0.71	9.25	9.25	0.54		9.81	9.81	0.40	10.36	10.36	0.28		
	72 (22.2)		14.41	9.47	1.82	15.54	9.92	1.52	10.64	6.90	0.71	11.46	7.22	0.54		12.29	7.55	0.40	13.12	7.88	0.28		
	67 (19.4)		13.03	12.45	1.82	14.03	12.93	1.54	9.56	9.02	0.71	10.28	9.37	0.54		11.01	9.72	0.40	11.75	10.07	0.28		
	63 (17.2)		12.86	12.86	1.82	13.70	13.70	1.54	9.40	9.40	0.69	9.99	9.99	0.52		10.58	10.58	0.38	11.17	11.17	0.26		
80 (26.7)	57 (13.9)	800	12.84	12.84	1.82	13.67	13.67	1.54	9.38	9.38	0.69	9.97	9.97	0.52	600	10.56	10.56	0.38	11.15	11.15	0.26		
	STAGE 1																						
	72 (22.2)		14.47	6.38	1.82	15.58	6.77	1.53	10.69	4.69	0.66	11.51	4.98	0.49		12.34	5.28	0.34	13.17	5.58	0.22		
	67 (19.4)		13.00	9.42	1.82	14.02	9.86	1.54	9.54	6.85	0.69	10.28	7.17	0.52		11.02	7.49	0.37	11.76	7.81	0.25		
	63 (17.2)		12.02	11.77	1.82	12.97	12.18	1.55	8.78	8.53	0.70	9.43	8.87	0.54		10.10	9.21	0.39	10.77	9.55	0.27		
75 (23.9)	57 (13.9)	800	11.94	11.94	1.82	12.73	12.73	1.55	8.69	8.69	0.71	9.25	9.25	0.54	600	9.81	9.81	0.40	10.36	10.36	0.28		
	72 (22.2)		14.41	9.47	1.82	15.54	9.92	1.52	10.64	6.90	0.71	11.46	7.22	0.54		12.29	7.55	0.40	13.12	7.88	0.28		
	67 (19.4)		13.03	12.45	1.82	14.03	12.93	1.54	9.56	9.02	0.71	10.28	9.37	0.54		11.01	9.72	0.40	11.75	10.07	0.28		
	63 (17.2)		12.86	12.86	1.82	13.70	13.70	1.54	9.40	9.40	0.69	9.99	9.99	0.52		10.58	10.58	0.38	11.17	11.17	0.26		
	57 (13.9)		12.84	12.84	1.82	13.67	13.67	1.54	9.38	9.38	0.69	9.97	9.97	0.52		10.56	10.56	0.38	11.15	11.15	0.26		

DETAILED COOLING CAPACITIES# - COMFORT + DEHUMIDIFY MODE

EDB °F (°C)	EVAP. AIR	Condenser Entering Air Temperature °F (°C)																			
		105 (40.5)				95 (35)				85 (29.4)				75 (23.9)				65 (18.3)			
		ID SCFM	Capacity MBtuh		Total Sys. KW	ID SCFM	Capacity MBtuh		Total Sys. KW	ID SCFM	Capacity MBtuh		Total Sys. KW	ID SCFM	Capacity MBtuh		Total Sys. KW	ID SCFM	Capacity MBtuh		Total Sys. KW
			Sensit	Total			Sensit	Total			Sensit	Total			Sensit	Total			Sensit	Total	
STAGE 5																					
75 (23.9)	72 (22.2)	812	34.41	13.87	3.52	36.07	14.52	3.23	38.26	15.40	2.95	40.48	16.29	2.67	887	948	42.89	17.25	2.40		
	67 (19.4)		31.28	17.66	3.45	32.82	18.35	3.16	34.81	19.41	2.89	36.83	20.49	2.63			39.01	21.75	2.38		
	63 (17.2)		28.96	20.61	3.39	30.39	21.30	3.10	32.22	22.51	2.85	34.07	23.75	2.60			30.74	18.23	4.07		
	57 (13.9)		25.84	24.91	3.30	27.09	25.64	3.03	28.72	27.04	2.79	30.37	28.48	2.56			28.52	21.76	3.99		
	72 (22.2)		34.33	17.65	3.52	35.98	18.32	3.23	38.18	19.39	2.95	40.34	20.45	2.67			42.89	17.25	2.40		
80 (26.7)	67 (19.4)	812	31.22	21.37	3.45	32.75	22.08	3.16	34.75	23.33	2.89	36.76	24.61	2.63	887	948	33.65	18.17	4.17		
	63 (17.2)		28.92	24.31	3.39	30.34	25.03	3.10	32.18	26.41	2.85	34.02	27.82	2.60			30.66	22.60	4.07		
	57 (13.9)		26.99	26.99	3.34	28.06	28.06	3.05	29.68	29.68	2.81	31.34	31.34	2.57			28.51	26.12	3.99		
	STAGE 3																				
	72 (22.2)		566	21.33	8.62	2.14	22.26	8.99	1.80	23.79	9.60	1.53	25.26	10.19			1.29	626	664	26.82	10.82
67 (19.4)	19.21	10.97		2.13	20.08	11.37	1.78	21.48	12.15	1.53	22.80	12.86	1.30	24.22	13.70	1.08					
63 (17.2)	17.68	12.82		2.12	18.52	13.25	1.77	19.80	14.15	1.53	21.03	14.96	1.30	22.34	15.92	1.09					
57 (13.9)	15.76	15.54		2.10	16.50	16.02	1.75	17.65	17.11	1.52	18.74	18.07	1.31	19.91	19.23	1.11					
72 (22.2)	566	21.30		11.04	2.14	22.20	11.42	1.80	23.73	12.20	1.53	25.20	12.92	1.29	626	664	26.77			13.74	1.07
67 (19.4)		19.17	13.36	2.13	20.04	13.77	1.78	21.43	14.71	1.53	22.75	15.55	1.30	24.18			16.55	1.08			
63 (17.2)		17.67	15.20	2.12	18.51	15.64	1.77	19.79	16.70	1.53	21.01	17.64	1.30	22.33			18.78	1.09			
57 (13.9)		16.63	16.63	2.11	17.30	17.30	1.76	18.49	18.49	1.52	19.59	19.59	1.30	20.84			20.84	1.10			
STAGE 1 – FCM4X48***L ONLY																					
75 (23.9)	72 (22.2)	417	14.17	5.74	1.50	9.11	3.68	0.68	9.70	3.92	0.52	10.29	4.16	0.38	250	267	11.09	4.48	0.26		
	67 (19.4)		12.71	7.33	1.51	8.12	4.54	0.70	8.64	4.78	0.54	9.16	5.03	0.40			9.89	5.42	0.28		
	63 (17.2)		11.65	8.59	1.51	7.40	5.21	0.71	7.88	5.46	0.56	8.35	5.71	0.42			9.01	6.16	0.30		
	57 (13.9)		10.35	10.35	1.51	6.44	6.21	0.72	6.86	6.46	0.57	7.27	6.71	0.44			7.86	7.24	0.32		
	72 (22.2)		417	14.11	7.38	1.50	9.09	4.60	0.68	9.68	4.85	0.52	10.26	5.10			0.38	250	267	11.06	5.50
67 (19.4)	12.68	8.97		1.51	8.10	5.46	0.70	8.62	5.71	0.54	9.14	5.97	0.40	9.86	6.44	0.28					
63 (17.2)	11.65	10.21		1.51	7.38	6.13	0.71	7.86	6.39	0.56	8.34	6.65	0.42	9.00	7.18	0.30					
57 (13.9)	11.03	11.03		1.51	6.76	6.76	0.72	7.12	7.12	0.57	7.46	7.46	0.44	8.06	8.06	0.32					
STAGE 1 – ALL OTHER INDOOR COMBINATIONS																					
75 (23.9)	72 (22.2)	417	14.17	5.74	1.50	8.96	3.62	0.69	9.48	3.83	0.52	10.23	4.13	0.38	236	246	11.09	4.48	0.26		
	67 (19.4)		14.17	5.74	1.50	7.98	4.42	0.71	8.44	4.62	0.55	9.11	4.99	0.41			9.88	5.42	0.28		
	63 (17.2)		14.17	5.74	1.50	7.27	5.05	0.72	7.69	5.25	0.56	8.30	5.65	0.42			9.01	6.16	0.30		
	57 (13.9)		14.17	5.74	1.50	6.32	5.98	0.73	6.69	6.17	0.58	7.23	6.64	0.44			7.85	7.24	0.33		
	72 (22.2)		417	14.17	5.74	1.50	8.94	4.49	0.69	9.43	4.69	0.52	10.20	5.06			0.38	236	246	11.06	5.50
67 (19.4)	14.17	5.74		1.50	7.96	5.29	0.71	8.42	5.49	0.55	9.09	5.91	0.41	9.86	6.43	0.28					
63 (17.2)	14.17	5.74		1.50	7.26	5.92	0.72	7.67	6.11	0.56	8.29	6.58	0.42	8.99	7.17	0.30					
57 (13.9)	14.17	5.74		1.50	6.58	6.58	0.72	6.86	6.86	0.57	7.40	7.40	0.44	8.06	8.06	0.32					

Operation in this area is restricted to maintain reliable system operation and customer comfort. The system will default to the next available stage

Stage 1 – Compressor speed limited to stage two at 105 outdoor.

See additional notes on page 43

CVH836

COOLING INDOOR MODEL	CAPACITY	POWER	FURNACE MODEL
EN(A,D,W)X42L21**	0.96	1.07	*9MA*0802120A**
EN(A,D,W)X42L21**	0.96	1.07	*9MA*1002122A**
EN(A,D,W)X42L21**	0.96	1.07	*8MW*1102120**
EN(A,D,W)X48L21**	0.98	1.08	*9MA*0602120A**
EN(A,D,W)X48L21**	0.98	1.08	*9MA*0802120A**
EN(A,D,W)X48L21**	0.98	1.03	*9MA*1002122A**
EN(A,D,W)X48L21**	0.98	1.03	*8MW*1102120**
EN(A,D)X48L24**	0.98	1.08	*9MA*1202422A**
EN(A,D)X48L24**	0.98	1.03	*8MW*1352422**
EHDX436AAL	0.96	1.13	*9MA*0601714A**
EHDX436AAL	0.97	1.13	*9MA*0801714A**
EHDX436AAL	0.97	1.13	*9MA*0602120A**
EHDX436AAL	0.98	1.08	*9MA*0802120A**
EHDX436AAL	0.98	1.08	*9MA*1002122A**
EHDX436AAL	0.98	1.14	*9MA*1202422A**
EHDX436AAL	0.97	1.07	*8MW*0701412**
EHDX436AAL	0.98	1.08	*8MW*0901716**
EHDX436AAL	0.98	1.08	*8MW*1102120**
EHDX436AAL	0.98	1.08	*8MW*1352422**
EHDX424AAL	0.97	1.13	*9MA*0601714A**
EHDX424AAL	0.98	1.08	*9MA*0801714A**
EHDX424AAL	0.98	1.08	*9MA*0602120A**
EHDX424AAL	0.98	1.09	*9MA*0802120A**
EHDX424AAL	0.98	1.09	*9MA*1002122A**
EHDX424AAL	0.98	1.09	*9MA*1202422A**
EHDX424AAL	0.98	1.08	*8MW*0701412**
EHDX424AAL	0.98	1.08	*8MW*0901716**
EHDX424AAL	0.98	1.09	*8MW*1102120**
EHDX424AAL	0.98	1.09	*8MW*1352422**
EHDX484AAL	0.98	1.14	*9MA*0601714A**
EHDX484AAL	0.98	1.14	*9MA*0801714A**
EHDX484AAL	0.98	1.09	*9MA*0602120A**
EHDX484AAL	0.98	1.09	*9MA*0802120A**
EHDX484AAL	0.98	1.09	*9MA*1002122A**
EHDX484AAL	0.98	1.09	*9MA*1202422A**
EHDX484AAL	0.98	1.09	*8MW*0701412**
EHDX484AAL	0.98	1.09	*8MW*0901716**
EHDX484AAL	0.99	1.09	*8MW*1102120**
EHDX484AAL	0.99	1.09	*8MW*1352422**

COOLING INDOOR MODEL	CAPACITY	POWER	FURNACE MODEL
EA4X36L14A**	0.95	1.05	*8MV*0701412**
EA4X36L17A*	0.95	1.11	*9MA*0801714A**
EA4X36L17A*	0.95	1.05	*9MA*0801714A**
EA4X36L17A*	0.95	1.06	*8MV*0901716**
EA4X36L21A*	0.96	1.05	*9MA*0602120A**
EA4X36L21A*	0.96	1.06	*9MA*0802120A**
EA4X36L21A*	0.96	1.06	*9MA*1002122A**
EA4X36L21A*	0.96	1.06	*9MV*1102122A**
EA4X36L21A*	0.96	1.06	*9MV*1102120**
EA4X42L21A*	0.96	1.06	*9MA*0602120A**
EA4X42L21A*	0.96	1.07	*9MA*1002122A**
EA4X42L21A*	0.96	1.07	*9MV*1102120**
EA4X42L24A*	0.96	1.07	*9MA*1202422A**
EA4X42L24A*	0.96	1.07	*8MV*1352422**
EA4X48L17A*	0.97	1.08	*9MA*0601714A**
EA4X48L17A*	0.98	1.06	*9MA*0801714A**
EA4X48L17A*	0.98	1.03	*8MV*0901716**
EA4X48L21A*	0.97	1.07	*9MA*0602120A**
EA4X48L21A*	0.98	1.08	*9MA*0802120A**
EA4X48L21A*	0.98	1.03	*9MA*1002122A**
EA4X48L21A*	0.98	1.03	*8MV*1102120**
EA4X48L24A*	0.98	1.03	*9MA*1202422A**
EA4X48L24A*	0.98	1.03	*8MV*1352422**
EN/A.D.W4X36L17**	0.95	1.11	*9MA*0601714A**
EN/A.D.W4X36L17**	0.95	1.11	*9MA*0801714A**
EN/A.D.W4X36L17**	0.95	1.05	*8MV*0901716**
EN/A.D.W4X36L17**	0.96	1.06	*8MV*0701412**
EN/A.D4X36L21**	0.95	1.11	*9MA*0602120A**
EN/A.D4X36L21**	0.95	1.05	*9MA*0802120A**
EN/A.D4X36L21**	0.95	1.05	*9MA*1002122A**
EN/A.D4X36L21**	0.95	1.05	*8MV*1102120**
EN/D4X42L17**	0.96	1.07	*9MA*0601714A**
EN/D4X42L17**	0.96	1.07	*9MA*0801714A**
EN/D4X42L17**	0.97	1.07	*8MV*0901716**
EN/D4X42L17**	0.98	1.08	*8MV*0701412**
EN/A.D.W4X42L21**	0.96	1.06	*9MA*0602120A**

CVH836
HEAT PUMP HEATING PERFORMANCE – EFFICIENCY MODE

CVH836 / FCM4X48***L Heating Efficiency Mode Outdoor Coil Entering Air Temperature °F (°C)												
INDOOR AIR	EDB °F (°C)	7 (–13.9)			17 (–8.3)			27 (–2.8)				
		ID SCFM	Capacity MBtuh		ID SCFM	Capacity MBtuh		ID SCFM	Capacity MBtuh		Total Sys. KW†	Total Sys. KW†
			Total	Integ†		Total	Integ†		Total	Integ†		
65 (18.3) 70 (21.1) 75 (23.3)	450	16.00	14.70	2.35	23.19	21.15	2.51	1200	26.38	23.43	2.48	
		15.90	14.61	2.44	20.97	2.61	23.21		2.60			
		15.75	14.48	2.53	20.79	2.72	22.98		2.71			
65 (18.3) 70 (21.1) 75 (23.3)	360	10.11	9.29	1.52	12.21	11.13	1.49	900	14.64	13.01	1.31	
		9.99	9.18	1.58	12.06	10.99	1.56		12.85	1.38		
		9.87	9.07	1.64	10.86	1.63	12.69		1.45			
65 (18.3) 70 (21.1) 75 (23.3)	360	10.10	9.28	1.51	12.21	11.14	1.49	900	10.13	9.00	0.92	
		9.98	9.17	1.57	12.06	11.00	1.56		9.98	8.86	0.96	
		9.85	9.06	1.64	10.86	1.63	9.83		8.73	1.01		
INDOOR AIR	EDB °F (°C)	37 (2.8)			47 (8.3)			57 (13.9)				
		ID SCFM	Capacity MBtuh		ID SCFM	Capacity MBtuh		ID SCFM	Capacity MBtuh		Total Sys. KW†	Total Sys. KW†
			Total	Integ†		Total	Integ†		Total	Integ†		
65 (18.3) 70 (21.1) 75 (23.3)	1200	30.82	27.87	2.60	34.60	34.60	2.69	900	22.12	22.12	1.39	
		30.29	27.56	2.72	34.20	34.20	2.82		21.86	21.86	1.48	
		29.94	27.24	2.84	33.79	33.79	2.94		21.51	21.51	1.57	
65 (18.3) 70 (21.1) 75 (23.3)	900	17.02	15.49	1.35	19.45	19.45	1.35	900	22.19	22.19	1.38	
		16.79	15.28	1.42	19.17	19.17	1.44		21.81	21.81	1.47	
		16.57	15.08	1.50	18.89	18.89	1.52		21.45	21.45	1.56	
65 (18.3) 70 (21.1) 75 (23.3)	900	11.92	10.84	0.92	7.88	7.88	0.44	700	9.16	9.16	0.42	
		11.73	10.68	0.98	7.70	7.70	0.49		8.95	8.95	0.47	
		11.55	10.51	1.04	7.52	7.52	0.53		8.74	8.74	0.52	

Operation in this area is restricted to maintain reliable system operation and customer comfort. The system will default to the next available stage
Stage 5 – Compressor speed limited to stage four at 7 and stage three at 57 outdoor; **Stage 1** – Compressor speed limited to stage three at 7 and 17 and to stage two at 27 and 37 outdoor.
See additional notes on page 45

CVH836
HEAT PUMP HEATING PERFORMANCE - COMFORT MODE

CVH836 / FCM4X48***L Heating Comfort Mode Outdoor Coil Entering Air Temperature °F (°C)													
INDOOR AIR		7 (−13.9)			17 (−8.3)			27 (−2.8)					
		ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†	Capacity MBtuh			
EDB °F (°C)			Total	Integ†		Total	Integ†		Total	Integ†	Total Sys. KW†		
65 (18.3) 70 (21.1) 75 (23.3)		434	16.04	14.74	2.38	595	22.29	20.33	2.79	735	25.50	22.65	2.67
			15.86	14.57	2.46		25.24	22.42	2.79				
			15.74	14.46	2.56		24.99	22.20	2.90				
65 (18.3) 70 (21.1) 75 (23.3)		277	9.92	9.11	1.64	325	11.82	10.78	1.69	425	13.89	12.34	1.55
			9.80	9.01	1.70		13.71	12.18	1.62				
			9.69	8.90	1.76		13.54	12.02	1.69				
STAGE 1 – FCM4X48***L ONLY													
65 (18.3) 70 (21.1) 75 (23.3)		277	9.90	9.10	1.63	277	11.61	10.59	1.79	341	9.37	8.32	1.09
			9.78	8.99	1.69		9.22	8.19	1.14				
			9.66	8.88	1.75		9.06	8.05	1.20				
STAGE 1 – ALL OTHER INDOOR COILS													
65 (18.3) 70 (21.1) 75 (23.3)		277	9.90	9.10	1.63	277	11.61	10.59	1.79	341	9.37	8.32	1.09
			9.78	8.99	1.69		9.22	8.19	1.14				
			9.66	8.88	1.75		9.06	8.05	1.20				
CVH836 / FCM4X48***L Heating Comfort Mode Outdoor Coil Entering Air Temperature °F (°C)													
INDOOR AIR		37 (2.8)			47 (8.3)			57 (13.9)					
		ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†	Capacity MBtuh			
EDB °F (°C)			Total	Integ†		Total	Integ†		Total	Integ†	Total Sys. KW†		
65 (18.3) 70 (21.1) 75 (23.3)		874	29.79	27.11	2.72	1014	34.01	34.01	2.75	736	21.71	21.71	1.46
			29.45	26.80	2.84		21.29	21.29	1.55				
			29.09	26.48	2.96		20.98	20.98	1.64				
65 (18.3) 70 (21.1) 75 (23.3)		526	16.28	14.82	1.53	626	18.77	18.77	1.49	737	21.39	21.39	1.46
			16.06	14.61	1.61		21.31	21.31	1.55				
			15.84	14.41	1.69		20.96	20.96	1.64				
STAGE 1 – FCM4X48***L ONLY													
65 (18.3) 70 (21.1) 75 (23.3)		406	11.08	10.08	1.09	250	6.91	6.91	0.64	250	7.92	7.92	0.67
			10.89	9.91	1.15		7.73	7.73	0.71				
			10.70	9.74	1.21		7.55	7.55	0.76				
STAGE 1 – ALL OTHER INDOOR COILS													
65 (18.3) 70 (21.1) 75 (23.3)		406	11.09	10.09	1.09	199	6.61	6.61	0.72	217	7.68	7.68	0.73
			10.89	9.91	1.15		7.50	7.50	0.77				
			10.70	9.74	1.21		7.31	7.31	0.82				

Operation in this area is restricted to maintain reliable system operation and customer comfort. The system will default to the next available stage

Stage 5 – Compressor speed limited to stage four at 7 and stage three at 57 outdoor; **Stage 1** – Compressor speed limited to stage three at 27 and 37 outdoor.

See additional notes on page 45

CVH836

Specifications subject to change without notice.

CVH837

DETAILED COOLING CAPACITIES# – EFFICIENCY MODE

EDB °F (°C)	EVB AIR °F (°C)	CVH837 / FCMA48***L Efficiency Mode Condenser Entering Air Temperature °F (°C)																		
		115 (46.1)			105 (40.5)			95 (35)			85 (29.4)			75 (23.9)			65 (18.3)			
		ID SCF M	Capacity MBtuh Total Sens ‡	Total Sys. KW**	ID SCF M	Capacity MBtuh Total Sens ‡	Total Sys. KW**	ID SCF M	Capacity MBtuh Total Sens ‡	Total Sys. KW**	ID SCF M	Capacity MBtuh Total Sens ‡	Total Sys. KW**	ID SCF M	Capacity MBtuh Total Sens ‡	Total Sys. KW**	ID SCF M	Capacity MBtuh Total Sens ‡	Total Sys. KW**	
75 (23.9)	72 (22.2)	1050	33.34	13.68	3.38	35.38	14.43	2.99	37.11	15.07	2.60	39.00	15.77	2.25	40.82	16.46	1.93	42.56	17.12	1.64
	67 (19.4)		30.28	18.76	3.34	32.11	19.52	2.97	33.70	20.19	2.58	35.41	20.92	2.26	37.04	21.61	1.95	38.64	22.30	1.66
	63 (17.2)		28.02	22.76	3.31	29.71	23.52	2.95	31.19	24.21	2.57	32.77	24.95	2.25	34.29	25.67	1.95	35.77	26.37	1.67
	57 (13.9)		26.22	26.22	3.28	27.53	27.53	2.93	28.66	28.66	2.56	29.86	29.86	2.25	31.00	31.00	1.96	32.09	32.09	1.69
	72 (22.2)		33.22	18.74	3.38	35.26	19.50	2.99	36.99	20.17	2.60	38.88	20.89	2.25	40.70	21.60	1.93	42.44	22.28	1.64
80 (26.7)	67 (19.4)	1050	30.18	23.76	3.34	32.01	24.54	2.97	33.60	25.23	2.58	35.31	25.97	2.26	36.94	26.69	1.95	38.54	27.40	1.66
	63 (17.2)		28.06	27.66	3.31	29.73	28.49	2.95	31.18	29.21	2.57	32.75	29.98	2.25	34.26	30.72	1.95	35.73	31.44	1.67
	57 (13.9)		27.88	27.88	3.31	29.25	29.25	2.95	30.44	30.44	2.57	31.68	31.68	2.25	32.88	32.88	1.96	34.02	34.02	1.68
	STAGE 3																			
	72 (22.2)		22.97	9.60	3.06	24.68	10.23	2.52	26.27	10.83	1.97	27.96	11.46	1.55	29.61	12.08	1.19	31.25	12.70	0.88
75 (23.9)	67 (19.4)	900	20.76	13.46	3.06	22.31	14.15	2.53	23.77	14.82	1.99	25.28	15.50	1.58	26.77	16.18	1.23	28.24	16.87	0.92
	63 (17.2)		19.15	16.49	3.06	20.58	17.23	2.54	21.93	17.94	2.00	23.33	18.68	1.60	24.69	19.40	1.25	26.04	20.13	0.95
	57 (13.9)		18.30	18.30	3.06	19.47	19.47	2.54	20.57	20.57	2.01	21.69	21.69	1.61	22.78	22.78	1.27	23.85	23.85	0.98
	72 (22.2)		22.86	13.49	3.06	24.58	14.18	2.52	26.17	14.84	1.97	27.85	15.54	1.55	29.51	16.22	1.19	31.14	16.90	0.88
	67 (19.4)		20.69	17.29	3.06	22.23	18.04	2.53	23.70	18.78	1.99	25.20	19.52	1.58	26.69	20.27	1.23	28.16	21.01	0.92
80 (26.7)	63 (17.2)	900	19.55	19.55	3.06	20.79	20.79	2.54	22.01	21.83	2.00	23.37	22.66	1.60	24.72	23.46	1.25	26.05	24.25	0.95
	57 (13.9)		19.52	19.52	3.06	20.75	20.75	2.54	21.91	21.91	2.00	23.09	23.09	1.60	24.24	24.24	1.26	25.37	25.37	0.96
	STAGE 1																			
	72 (22.2)		17.86	7.53	2.92	19.41	8.11	2.31	14.82	6.15	1.11	16.14	6.65	0.76	17.47	7.17	0.48	18.85	7.63	0.26
	67 (19.4)		16.10	10.65	2.94	17.51	11.32	2.34	13.41	8.44	1.15	14.59	9.03	0.80	15.79	9.63	0.52	17.00	10.24	0.30
75 (23.9)	63 (17.2)	800	14.87	13.08	2.95	16.15	13.82	2.36	12.38	10.26	1.18	13.46	10.91	0.83	14.56	11.57	0.55	15.67	12.24	0.33
	57 (13.9)		14.32	14.32	2.95	15.40	15.40	2.37	11.67	11.67	1.20	12.58	12.58	0.85	13.49	13.49	0.57	14.41	14.41	0.35
	72 (22.2)		17.78	10.67	2.92	19.33	11.35	2.31	14.76	8.44	1.11	16.08	9.04	0.76	17.41	9.64	0.48	18.76	10.26	0.26
	67 (19.4)		16.07	13.74	2.94	17.46	14.50	2.34	13.37	10.73	1.15	14.55	11.41	0.80	15.74	12.09	0.52	16.94	12.78	0.30
	63 (17.2)		15.31	15.31	2.94	16.47	16.47	2.35	12.45	12.45	1.17	13.49	13.26	0.82	14.58	14.02	0.54	15.67	14.78	0.33
80 (26.7)	57 (13.9)	800	15.28	15.28	2.94	16.44	16.44	2.35	12.43	12.43	1.18	13.39	13.39	0.83	14.36	14.36	0.55	15.33	15.33	0.33
	STAGE 2																			
	72 (22.2)		22.97	9.60	3.06	24.68	10.23	2.52	26.27	10.83	1.97	27.96	11.46	1.55	29.61	12.08	1.19	31.25	12.70	0.88
	67 (19.4)		20.76	13.46	3.06	22.31	14.15	2.53	23.77	14.82	1.99	25.28	15.50	1.58	26.77	16.18	1.23	28.24	16.87	0.92
	63 (17.2)		19.15	16.49	3.06	20.58	17.23	2.54	21.93	17.94	2.00	23.33	18.68	1.60	24.69	19.40	1.25	26.04	20.13	0.95
75 (23.9)	57 (13.9)	900	18.30	18.30	3.06	19.47	19.47	2.54	20.57	20.57	2.01	21.69	21.69	1.61	22.78	22.78	1.27	23.85	23.85	0.98
	72 (22.2)		22.86	13.49	3.06	24.58	14.18	2.52	26.17	14.84	1.97	27.85	15.54	1.55	29.51	16.22	1.19	31.14	16.90	0.88
	67 (19.4)		20.69	17.29	3.06	22.23	18.04	2.53	23.70	18.78	1.99	25.20	19.52	1.58	26.69	20.27	1.23	28.16	21.01	0.92
	63 (17.2)		19.55	19.55	3.06	20.79	20.79	2.54	22.01	21.83	2.00	23.37	22.66	1.60	24.72	23.46	1.25	26.05	24.25	0.95
	57 (13.9)		19.52	19.52	3.06	20.75	20.75	2.54	21.91	21.91	2.00	23.09	23.09	1.60	24.24	24.24	1.26	25.37	25.37	0.96
80 (26.7)	72 (22.2)	800	17.86	7.53	2.92	19.41	8.11	2.31	14.82	6.15	1.11	16.14	6.65	0.76	17.47	7.17	0.48	18.85	7.63	0.26
	67 (19.4)		16.10	10.65	2.94	17.51	11.32	2.34	13.41	8.44	1.15	14.59	9.03	0.80	15.79	9.63	0.52	17.00	10.24	0.30
	63 (17.2)		14.87	13.08	2.95	16.15	13.82	2.36	12.38	10.26	1.18	13.46	10.91	0.83	14.56	11.57	0.55	15.67	12.24	0.33
	57 (13.9)		14.32	14.32	2.95	15.40	15.40	2.37	11.67	11.67	1.20	12.58	12.58	0.85	13.49	13.49	0.57	14.41	14.41	0.35
	72 (22.2)		17.78	10.67	2.92	19.33	11.35	2.31	14.76	8.44	1.11	16.08	9.04	0.76	17.41	9.64	0.48	18.76	10.26	0.26
75 (23.9)	67 (19.4)	800	16.07	13.74	2.94	17.46	14.50	2.34	13.37	10.73	1.15	14.55	11.41	0.80	15.74	12.09	0.52	16.94	12.78	0.30
	63 (17.2)		15.31	15.31	2.94	16.47	16.47	2.35	12.45	12.45	1.17	13.49	13.26	0.82	14.58	14.02	0.54	15.67	14.78	0.33
	57 (13.9)		15.28	15.28	2.94	16.44	16.44	2.35	12.43	12.43	1.18	13.39	13.39	0.83	14.36	14.36	0.55	15.33	15.33	0.33
	STAGE 2																			
	72 (22.2)		22.97	9.60	3.06	24.68	10.23	2.52	26.27	10.83	1.97	27.96	11.46	1.55	29.61	12.08	1.19	31.25	12.70	0.88
80 (26.7)	67 (19.4)	900	20.76	13.46	3.06	22.31	14.15	2.53	23.77	14.82	1.99	25.28	15.50	1.58	26.77	16.18	1.23	28.24	16.87	0.92
	63 (17.2)		19.15	16.49	3.06	20.58	17.23	2.54	21.93	17.94	2.00	23.33	18.68	1.60	24.69	19.40	1.25	26.04	20.13	0.95
	57 (13.9)		18.30	18.30	3.06	19.47	19.47	2.54	20.57	20.57	2.01	21.69	21.69	1.61	22.78	22.78	1.27	23.85	23.85	0.98
	72 (22.2)		22.86	13.49	3.06	24.58	14.18	2.52	26.17	14.84	1.97	27.85	15.54	1.55	29.51	16.22	1.19	31.14	16.90	0.88
	67 (19.4)		20.69	17.29	3.06	22.23	18.04	2.53	23.70	18.78	1.99	25.20	19.52	1.58	26.69	20.27	1.23	28.16	21.01	0.92
75 (23.9)	63 (17.2)	900	19.55	19.55	3.06	20.79	20.79	2.54	22.01	21.83	2.00	23.37	22.66	1.60	24.72	23.46	1.25	26.05	24.25	0.95
	57 (13.9)		19.52	19.52	3.06	20.75	20.75	2.54	21.91	21.91	2.00	23.09	23.09	1.60	24.24	24.24	1.26	25.37	25.37	0.96
	STAGE 1																			
	72 (22.2)		17.86	7.53	2.92	19.41	8.11	2.31	14.82	6.15	1.11	16.14	6.65	0.76	17.47	7.17	0.48	18.85	7.63	0.26
	67 (19.4)		16.10	10.65	2.94	17.51	11.32	2.34	13.41	8.44	1.15	14.59	9.03	0.80	15.79	9.63	0.52	17.00	10.24	0.30
80 (26.7)	63 (17.2)	800	14.87	13.08	2.95	16.15	13.82	2.36	12.38	10.26	1.18	13.46	10.91	0.83	14.56	11.57	0.55	15.67	12.24	0.33
	57 (13.9)		14.32	14.32	2.95	15.40	15.40	2.37	11.67	11.67	1.20	12.58	12.58	0.85	13.49	13.49	0.57	14.41	14.41	0.35
	72 (22.2)		17.78	10.67	2.92	19.33	11.35	2.31	14.76	8.44	1.11	16.08	9.04	0.76	17.41	9.64	0.48	18.76	10.26	0.26
	67 (19.4)		16.07	13.74	2.94	17.46	14.50	2.34	13.37	10.73	1.15	14.55	11.41	0.80	15.74	12.09	0.52	16.94	12.78	0.30
	63 (17.2)		15.31	15.31	2.94	16.47	16.47	2.35	12.45	12.45	1.17	13.49	13.26	0.82	14.58	14.02	0.54	15.67	14.78	0.33
80 (26.7)	57 (13.9)	800	15.28	15.28	2.94	16.44	16.44	2.35	12.43	12.43	1.18	13.39	13.39	0.83	14.36	14.36	0.55	15.33	15.33	0.33
	STAGE 2																			
	72 (22.2)		22.97	9.60	3.06	24.68	10.23	2.52	26.27	10.83	1.97	27.96	11.46	1.55	29.61	12.08	1.19	31.25	12.70	0.88
	67 (19.4)		20.76	13.46	3.06	22.31	14.15	2.53	23.77	14.82	1.99	25.28	15.50	1.58	26.77	16.18	1.23	28.24	16.87	0.92
	63 (17.2)		19.15	16.49	3.06	20.58	17.23	2.54	21.93	17.94	2.00	23.33	18.68	1.60	24.69	19.40	1.25	26.04	20.13	0.95
75 (23.9)	57 (13.9)	900	18.30	18.30	3.06	19.47	19.47	2.54	20.57	20.57	2.01									

CVH837

DETAILED COOLING CAPACITIES# – COMFORT + DEHUMIDIFY MODE

EDB °F (°C)	EVAP AIR	CVH837 / FCM4X60***L Comfort + Dehumidify Mode Condenser Entering Air Temperature °F (°C)																					
		105 (40.5)				95 (35)				85 (29.4)				75 (23.9)				65 (18.3)					
		ID SCFM	Capacity MBtuh Total	Sens†	Total Sys. KW	ID SCFM	Capacity MBtuh Total	Sens†	Total Sys. KW	ID SCFM	Capacity MBtuh Total	Sens†	Total Sys. KW	ID SCFM	Capacity MBtuh Total	Sens†	Total Sys. KW						
75 (23.9)	72 (22.2)	812	34.02	13.71	2.91	14.33	35.60	14.33	2.52	848	37.64	15.13	2.19	888	39.66	15.93	1.89	948	41.83	16.79	1.61		
	67 (19.4)		30.97	17.74	2.85	18.38	32.42	18.38	2.47		19.38	34.27	19.38		2.17	20.40	36.10		20.40	1.88	21.11	1.73	
	63 (17.2)		28.74	20.92	2.80	21.57	30.10	21.57	2.43		22.72	31.81	22.72		2.14	23.41	32.83		23.41	2.00	24.80	1.72	
	57 (13.9)		25.73	25.56	2.73	26.26	26.93	26.26	2.37		27.05	27.87	27.05		2.26	28.45	29.38		28.45	1.98	30.18	1.72	
	72 (22.2)		34.41	17.92	2.77	18.16	35.26	18.16	2.58		19.15	37.27	19.15		2.25	20.16	39.27		20.16	1.94	41.41	21.33	1.65
80 (26.7)	67 (19.4)	812	30.67	21.50	2.92	22.15	32.12	22.15	2.53	848	33.95	23.33	2.22	888	35.78	24.54	1.92	948	37.75	26.02	1.65		
	63 (17.2)		28.49	24.67	2.87	25.33	29.84	25.33	2.49		26.66	31.53	26.66		2.19	28.05	33.25		28.05	1.90	29.75	1.64	
	57 (13.9)		27.02	27.02	2.82	28.04	28.04	2.45	28.59		29.59	28.59	2.16		31.17	31.17	1.88		32.28	32.28	1.75		
	STAGE 3																						
75 (23.9)	72 (22.2)	566	22.84	9.21	2.45	9.76	24.22	9.76	1.91	600	26.00	10.47	1.51	625	27.69	11.14	1.16	665	29.54	11.89	0.87		
	67 (19.4)		20.96	11.85	2.26	12.44	22.23	12.44	1.76		13.36	23.85	13.36		1.39	14.20	25.39		14.20	1.07	13.84	1.44	
	63 (17.2)		19.62	14.03	2.06	14.66	20.81	14.66	1.60		15.74	22.32	15.74		1.25	15.23	21.65		15.23	1.74	16.32	1.38	
	57 (13.9)		17.72	17.24	1.86	17.93	18.79	17.93	1.43		17.54	18.37	17.54		2.03	18.63	19.57		18.63	1.65	19.98	1.32	
	72 (22.2)		24.22	12.44	1.66	11.90	23.40	11.90	2.24		12.78	25.13	12.78		1.80	13.60	26.78		13.60	1.41	14.55	1.07	
80 (26.7)	67 (19.4)	566	20.25	13.91	2.65	14.53	21.49	14.53	2.09	600	23.07	15.61	1.68	625	24.57	16.59	1.32	665	26.21	17.77	1.01		
	63 (17.2)		18.96	16.11	2.46	16.72	20.15	16.72	1.93		17.97	21.61	17.97		1.55	19.07	23.01		19.07	1.22	20.43	0.93	
	57 (13.9)		18.02	18.02	2.26	18.96	18.96	1.77	20.34		20.34	20.34	1.42		21.63	21.63	1.11		21.07	21.07	1.53		
	STAGE 1 – FCM4X60 ONLY																						
75 (23.9)	72 (22.2)	500	17.97	7.25	2.27	5.88	14.42	5.88	1.11	500	15.67	6.37	0.76	500	16.94	6.86	0.48	500	18.21	7.36	0.27		
	67 (19.4)		15.37	8.76	2.23	8.09	13.55	8.09	0.95		8.66	14.69	8.66		0.64	9.23	15.85		9.23	0.39	8.71	0.70	
	63 (17.2)		14.72	10.65	1.87	10.01	12.96	10.01	0.78		10.64	14.03	10.64		0.50	10.01	13.42		10.01	0.94	10.52	0.68	
	57 (13.9)		13.65	13.33	1.50	12.28	12.28	0.60	11.69		11.69	11.69	1.18		12.40	12.40	0.90		12.11	12.11	0.72	12.11	0.72
	72 (22.2)		18.97	9.81	1.10	8.00	14.74	8.00	1.27		8.48	15.86	8.48		0.93	8.28	15.67		8.28	0.72	8.64	0.45	
80 (26.7)	67 (19.4)	500	15.73	10.94	2.56	10.22	13.71	10.22	1.18	500	13.59	9.93	0.96	500	14.70	10.56	0.65	500	15.82	11.20	0.41		
	63 (17.2)		14.92	12.81	2.31	11.19	12.02	11.19	1.17		11.88	13.04	11.88		0.82	12.56	14.08		12.56	0.55	13.26	0.33	
	57 (13.9)		13.31	13.31	2.25	12.15	12.15	0.98	13.05		13.05	13.05	0.67		13.95	13.95	0.42		13.19	13.19	0.79		
	STAGE 1 – OTHER COILS																						
75 (23.9)	72 (22.2)	417	17.21	6.93	2.27	4.85	11.89	4.85	1.16	236	12.71	5.21	0.82	246	13.90	5.70	0.54	267	15.29	6.25	0.32		
	67 (19.4)		14.73	8.14	2.23	5.91	11.15	5.91	0.99		6.32	11.87	6.32		0.68	6.90	12.96		6.90	0.43	6.74	0.80	
	63 (17.2)		14.10	9.74	1.87	6.89	10.62	6.89	0.80		7.28	11.31	7.28		0.52	7.06	10.96		7.06	1.03	7.72	0.76	
	57 (13.9)		12.97	12.07	1.50	8.24	9.73	8.24	0.61		7.68	9.18	7.68		1.24	8.34	9.95		8.34	0.96	8.43	0.79	
	72 (22.2)		18.18	9.13	1.10	5.90	12.17	5.90	1.33		6.23	12.87	6.23		1.01	6.23	12.88		6.23	0.81	6.88	0.53	
80 (26.7)	67 (19.4)	417	15.07	9.98	2.56	6.98	11.27	6.98	1.22	236	11.00	6.75	1.02	246	12.04	7.40	0.72	267	13.26	8.18	0.47		
	63 (17.2)		14.28	11.55	2.30	7.28	9.83	7.28	1.22		7.69	10.51	7.69		0.87	8.42	11.50		8.42	0.60	9.30	0.37	
	57 (13.9)		12.37	12.37	2.25	8.60	9.04	8.60	1.02		9.01	9.64	9.01		0.72	9.87	10.53		9.87	0.47	9.71	0.91	

CVH837

COOLING INDOOR MODEL	CAPACITY	POWER	FURNACE MODEL
EHD4X48AAL	0.98	1.06	*9MA*1202422A**
EHD4X48AAL	0.98	1.06	*9MV*0901716*
EHD4X48AAL	0.99	1.07	*9MV*1102120**
EHD4X48AAL	0.99	1.03	*9MV*1352422**
EHD4X60AAL	0.98	1.11	*9MA*0601714A**
EHD4X60AAL	0.99	1.07	*9MA*0801714A**
EHD4X60AAL	0.99	1.07	*9MA*0602120A**
EHD4X60AAL	0.99	1.03	*9MA*0802120A**
EHD4X60AAL	0.99	1.03	*9MA*1002122A**
EHD4X60AAL	0.99	1.03	*9MA*1202422A**
EHD4X60AAL	0.99	1.03	*9MV*0901716*
EHD4X60AAL	0.99	1.03	*9MV*1102120**
EHD4X60AAL	0.99	1.03	*9MV*1352422**

2-STAGE (HI-Stage 5, Lo-Stage 2)					
COOLING INDOOR MODEL	HIGH SPEED CAR.	POWER	LOW SPEED CAR.	POWER	FURNACE MODEL
FCM4X360**L	1.00	1.00	1.00	1.00	
EA4X36L14A*	0.93	1.16	0.96	1.13	*9MX*0601 412A**
EA4X36L17A*	0.94	1.22	0.98	1.26	*9MX*0401 712A**
EA4X36L17A*	0.95	1.07	0.97	1.06	*9MX*0601 714A**
EA4X36L17A*	0.95	1.12	0.98	1.19	OMV098U12*
EA4X36L17A*	0.94	1.06	0.98	1.15	OLV098A12*
EA4X36L17A*	0.95	1.08	0.98	1.08	OMV112K14A
EA4X36L21A*	0.95	1.08	0.99	1.12	OLV12A16A
EA4X42L21A*	0.96	1.09	1.00	1.12	OLV12A16A
EA4X42L24A*	0.96	1.03	1.00	1.05	9MX154L20A
EA4X48L17A*	0.98	1.10	0.99	1.05	*9MX*0601 714A**
EA4X48L17A*	0.98	1.10	0.99	1.05	*9MX*0601 714A**
EHDX36AAL	0.96	1.19	0.97	1.12	*9MX*0401 712A**
EHDX36AAL	0.96	1.19	0.98	1.10	*9MX*0601 412A**
EHDX36AAL	0.97	1.10	0.98	1.07	*9MX*0601 714A**
EHDX36AAL	0.96	1.19	0.98	1.12	*9MX*0601 412A**
EHDX36AAL	0.97	1.10	0.98	1.07	*9MX*0601 714A**
EHDX48AAL	0.97	1.20	0.98	1.11	*9MX*0601 412A**
EHDX48AAL	0.98	1.10	0.99	1.05	*9MX*0601 714A**
EN(D)4X36L21**	0.95	1.08	0.99	1.15	OLV12A16A
EN(D)4X36L17**	0.95	12.30	0.00	0.00	*9MX*0601 714A**
EN(D)4X36L17**	0.94	1.11	0.98	1.21	OMV098U12*
EN(D)4X36L17**	0.95	1.07	0.98	1.09	OMV112K14A
EN(D)4X42L21**	0.96	1.09	1.00	1.14	OLV12A16A
ENDX42L17**	0.96	1.09	0.98	1.06	*9MX*0601 714A**
ENDX42L17**	0.96	1.08	1.00	1.19	OMV098U12*
ENDX42L17**	0.96	1.08	1.00	1.15	OLV098A12*
ENDX42L17**	0.96	1.09	1.00	1.08	OMV112K14A

CVH837
HEAT PUMP HEATING PERFORMANCE – EFFICIENCY MODE

INDOOR AIR		CVH837 / FCM4X60***L Heating Efficiency Mode Outdoor Coil Entering Air Temperature °F (°C)										
		7 (–13.9)				17 (–8.3)				27 (–2.8)		
		Capacity MBtuh		ID SCFM	Total Sys. KW†	Capacity MBtuh		ID SCFM	Total Sys. KW†	Capacity MBtuh		Total Sys. KW†
Total	Integ†	Total	INTEG†			Total	Integ†					
STAGE 5 – FCM4X60***L ONLY												
65 (18.3)	500	15.01	13.79	1.95	1200	30.72	28.01	3.22	1200	34.01	30.20	3.21
70 (21.1)		14.67	13.48	2.00		30.40	27.72	3.35		33.69	29.92	3.35
75 (23.3)		14.23	13.08	2.04		30.00	27.36	3.47		33.30	29.58	3.48
STAGE 5 – OTHER COILS												
65 (18.3)	450	14.91	13.70	1.98	1200	30.72	28.01	3.22	1200	34.01	30.20	3.21
70 (21.1)		14.50	13.33	2.02		30.40	27.72	3.35		33.69	29.92	3.35
75 (23.3)		14.00	12.87	2.05		30.00	27.36	3.47		33.30	29.58	3.48
STAGE 3 – FCM4X60***L ONLY												
65 (18.3)	500	12.11	11.13	1.72	500	14.47	13.20	1.82	900	17.03	15.12	1.63
70 (21.1)		11.88	10.92	1.78		14.26	13.00	1.89		16.82	14.94	1.71
75 (23.3)		11.58	10.64	1.83		14.02	12.78	1.96		16.60	14.74	1.80
STAGE 3 – OTHER COILS												
65 (18.3)	360	11.82	10.86	1.82	500	14.47	13.20	1.82	900	17.03	15.12	1.63
70 (21.1)		11.45	10.52	1.85		14.26	13.00	1.89		16.82	14.94	1.71
75 (23.3)		11.00	10.11	1.86		14.02	12.78	1.96		16.60	14.74	1.80
STAGE 1 – FCM4X60***L ONLY												
65 (18.3)	500	12.11	11.13	1.72	500	14.47	13.19	1.82	900	13.77	12.23	1.51
70 (21.1)		11.88	10.91	1.78		14.25	12.99	1.89		13.60	12.08	1.55
75 (23.3)		11.58	10.64	1.83		14.01	12.78	1.96		13.41	11.91	1.63
STAGE 1 – OTHER COILS												
65 (18.3)	360	11.83	10.87	1.83	500	14.47	13.19	1.82	900	13.77	12.23	1.51
70 (21.1)		11.45	10.52	1.85		14.25	12.99	1.89		13.60	12.08	1.55
75 (23.3)		11.00	10.11	1.86		14.01	12.78	1.96		13.41	11.91	1.63
CVH837 / FCM4X60***L Heating Efficiency Mode Outdoor Coil Entering Air Temperature °F (°C)												
INDOOR AIR		37 (2.8)				47 (8.3)				57 (13.9)		
		ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		ID SCFM	Capacity MBtuh		Total Sys. KW†
			Total	Integ†			Total	Integ†		Total	Integ†	
STAGE 5 – FCM4X60***L ONLY												
65 (18.3)	1200	37.61	34.23	3.24	1200	40.49	40.49	3.21	900	25.27	25.27	1.66
70 (21.1)		37.20	33.85	3.38		40.00	40.00	3.35		24.90	24.90	1.75
75 (23.3)		36.77	33.46	3.52		39.49	39.49	3.48		24.49	24.49	1.85
STAGE 5 – OTHER COILS												
65 (18.3)	1200	37.61	34.23	3.24	1200	40.49	40.49	3.21	900	25.27	25.27	1.66
70 (21.1)		37.20	33.85	3.38		40.00	40.00	3.35		24.90	24.90	1.75
75 (23.3)		36.77	33.46	3.52		39.49	39.49	3.48		24.49	24.49	1.85
STAGE 3 – FCM4X60***L ONLY												
65 (18.3)	900	19.68	17.91	1.65	900	22.48	22.48	1.66	900	25.26	25.26	1.66
70 (21.1)		19.42	17.67	1.74		22.17	22.17	1.75		24.82	24.82	1.75
75 (23.3)		19.15	17.43	1.83		21.84	21.84	1.84		24.43	24.43	1.85
STAGE 3 – OTHER COILS												
65 (18.3)	900	19.68	17.91	1.65	900	22.48	22.48	1.66	900	25.26	25.26	1.66
70 (21.1)		19.42	17.67	1.74		22.17	22.17	1.75		24.82	24.82	1.75
75 (23.3)		19.15	17.43	1.83		21.84	21.84	1.84		24.43	24.43	1.85
STAGE 1 – FCM4X60***L ONLY												
65 (18.3)	900	16.65	15.15	1.51	700	11.61	11.61	0.70	700	14.22	14.22	0.68
70 (21.1)		16.42	14.94	1.60		11.40	11.40	0.76		13.94	13.94	0.74
75 (23.3)		16.18	14.73	1.68		11.19	11.19	0.82		13.65	13.65	0.81
STAGE 1 – OTHER COILS												
65 (18.3)	900	16.65	15.15	1.51	700	11.61	11.61	0.70	700	14.22	14.22	0.68
70 (21.1)		16.42	14.94	1.60		11.40	11.40	0.76		13.94	13.94	0.74
75 (23.3)		16.18	14.73	1.68		11.19	11.19	0.82		13.65	13.65	0.81

Operation in this area is restricted to maintain reliable system operation and customer comfort. The system will default to the next available stage
Stage 5 – Compressor speed limited to stage four at 7 and stage three at 57 outdoor; **Stage 1** – Compressor speed limited to stage three at 7 and 17 and to stage two at 27 and 37 outdoor.
See additional notes on page 45

CVH837
HEAT PUMP HEATING PERFORMANCE – COMFORT MODE

INDOOR AIR		CVH837 / FCM4X60***L Heating Comfort Mode Outdoor Coil Entering Air Temperature °F (°C)											
		7 (–13.9)				17 (–8.3)				27 (–2.8)			
EDB °F (°C)	ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†	
		Total	Integ†			Total	Integ†			Total	Integ†		
STAGE 5 – FCM4X60***L ONLY													
65 (18.3)	500	15.03	13.81	1.95	595	29.43	26.83	3.54	735	33.56	29.80	3.54	
70 (21.1)		14.68	13.49	2.00		28.74	26.20	3.60		33.03	29.34	3.65	
75 (23.3)		14.23	13.08	2.04		27.40	24.98	3.54		32.53	28.89	3.75	
STAGE 5 – OTHER COILS													
65 (18.3)	434	14.85	13.64	1.99	595	29.43	26.83	3.54	735	33.56	29.80	3.54	
70 (21.1)		14.41	13.25	2.03		28.74	26.20	3.60		33.03	29.34	3.65	
75 (23.3)		13.90	12.78	2.05		27.40	24.98	3.54		32.53	28.89	3.75	
STAGE 3 – FCM4X60***L ONLY													
65 (18.3)	500	12.11	11.13	1.72	500	14.47	13.20	1.82	500	16.81	14.93	1.86	
70 (21.1)		11.88	10.91	1.78		14.26	13.00	1.89		16.58	14.73	1.94	
75 (23.3)		11.58	10.64	1.83		14.01	12.78	1.96		16.33	14.51	2.02	
STAGE 3 – OTHER COILS													
65 (18.3)	277	11.00	10.11	1.82	325	14.13	12.88	2.05	425	16.74	14.87	1.97	
70 (21.1)		10.46	9.61	1.81		13.78	12.56	2.09		16.49	14.65	2.05	
75 (23.3)		10.14	9.32	1.84		13.37	12.19	2.12		16.22	14.40	2.12	
STAGE 1 – FCM4X60***L ONLY													
65 (18.3)	500	12.11	11.13	1.72	500	14.47	13.19	1.82	500	13.59	12.07	1.76	
70 (21.1)		11.88	10.91	1.78		14.26	13.00	1.89		13.40	11.90	1.74	
75 (23.3)		11.58	10.64	1.83		14.01	12.78	1.96		13.19	11.72	1.81	
STAGE 1 – ALL OTHER INDOOR COILS													
65 (18.3)	277	11.00	10.11	1.82	277	13.71	12.50	2.11	341	13.42	11.92	1.92	
70 (21.1)		10.47	9.62	1.81		13.27	12.09	2.12		13.19	11.72	1.98	
75 (23.3)		10.14	9.32	1.84		12.79	11.66	2.13		12.95	11.50	2.04	

INDOOR AIR		CVH837 / FCM4X60***L Heating Comfort Mode Outdoor Coil Entering Air Temperature °F (°C)											
		37 (2.8)				47 (8.3)				57 (13.9)			
EDB °F (°C)	ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†	
		Total	Integ†			Total	Integ†			Total	Integ†		
STAGE 5 – FCM4X60***L ONLY													
65 (18.3)	875	37.18	33.84	3.48	1014	40.10	40.10	3.34	737	24.96	24.96	1.77	
70 (21.1)		36.72	33.41	3.61		39.59	39.59	3.47		24.55	24.55	1.86	
75 (23.3)		36.23	32.97	3.73		39.05	39.05	3.60		24.14	24.14	1.95	
STAGE 5 – OTHER COILS													
65 (18.3)	875	37.18	33.84	3.48	1014	40.10	40.10	3.34	737	24.96	24.96	1.77	
70 (21.1)		36.72	33.41	3.61		39.59	39.59	3.47		24.55	24.55	1.86	
75 (23.3)		36.23	32.97	3.73		39.05	39.05	3.60		24.14	24.14	1.95	
STAGE 3 – FCM4X60***L ONLY													
65 (18.3)	526	19.31	17.58	1.91	626	22.06	22.06	1.84	737	24.96	24.96	1.77	
70 (21.1)		19.04	17.32	1.99		21.73	21.73	1.93		24.38	24.38	1.85	
75 (23.3)		18.75	17.07	2.08		21.39	21.39	2.02		24.12	24.12	1.95	
STAGE 3 – OTHER COILS													
65 (18.3)	526	19.31	17.58	1.91	626	22.06	22.06	1.84	737	24.96	24.96	1.77	
70 (21.1)		19.04	17.32	1.99		21.73	21.73	1.93		24.55	24.55	1.86	
75 (23.3)		18.75	17.07	2.08		21.39	21.39	2.02		24.14	24.14	1.95	
STAGE 1 – FCM4X60***L ONLY													
65 (18.3)	500	16.30	14.84	1.76	500	11.40	11.40	0.77	500	13.86	13.86	0.77	
70 (21.1)		16.06	14.62	1.84		11.19	11.19	0.83		13.45	13.45	0.83	
75 (23.3)		15.81	14.39	1.92		10.97	10.97	0.89		13.18	13.18	0.89	
STAGE 1 – OTHER COILS													
65 (18.3)	405	16.15	14.70	1.92	199	10.53	10.53	1.24	217	12.45	12.45	1.23	
70 (21.1)		15.90	14.47	1.99		10.31	10.31	1.28		12.27	12.27	1.28	
75 (23.3)		15.64	14.24	2.07		10.08	10.08	1.33		11.98	11.98	1.33	

Operation in this area is restricted to maintain reliable system operation and customer comfort. The system will default to the next available stage
Stage 5 – Compressor speed limited to stage four at 7 and stage three at 57 outdoor; **Stage 1** – Compressor speed limited to stage three at 7 and 17 and to stage two at 27 and 37 outdoor.
 See additional notes on page 45

CVH837

[illegible]

CVH848

DETAILED COOLING CAPACITIES# – EFFICIENCY MODE

EDB °F (°C)	EVAR AIR	CVH848 / FCM4x48***L Efficiency Mode																												
		Condenser Entering Air Temperature °F (°C)																												
		115 (46.1)				105 (40.5)				95 (35)				85 (29.4)				75 (23.9)				65 (18.3)								
		ID SCF M	Capacity MBtuh Total	MBtuh Sens ‡	Total Sys. KW**	ID SCF M	Capacity MBtuh Total	MBtuh Sens ‡	Total Sys. KW**	ID SCF M	Capacity MBtuh Total	MBtuh Sens ‡	Total Sys. KW**	ID SCF M	Capacity MBtuh Total	MBtuh Sens ‡	Total Sys. KW**	ID SCF M	Capacity MBtuh Total	MBtuh Sens ‡	Total Sys. KW**									
75 (23.9)	72 (22.2)	1400	44.46	17.96	5.30	1400	47.55	19.13	4.76	1400	50.59	20.28	4.26	1400	53.58	21.41	3.78	1400	56.49	22.53	3.33	1400	59.36	23.64	2.90					
	67		40.53	24.37	5.19		43.36	25.62	4.67		46.12	26.85	4.18		48.81	28.07	3.72		51.44	29.27	3.28		54.03	30.47	2.88					
	63		37.62	29.42	5.09		40.24	30.72	4.59		42.79	32.02	4.12		45.28	33.30	3.67		47.70	34.55	3.25		50.09	35.81	2.86					
	57		34.79	34.79	4.99		36.84	36.84	4.50		38.82	38.82	4.04		40.75	40.75	3.61		42.87	42.14	3.21		44.94	43.50	2.83					
	72		44.36	24.28	5.30		47.46	25.53	4.77		50.50	26.76	4.26		53.48	27.99	3.78		56.39	29.19	3.33		59.24	30.40	2.90					
80 (26.7)	67	1400	40.43	30.64	5.19	1400	43.26	31.96	4.67	1400	46.02	33.28	4.18	1400	48.71	34.57	3.72	1400	51.35	35.85	3.28	1400	53.94	37.15	2.88					
	63		37.66	35.55	5.10		40.25	36.99	4.59		42.77	38.38	4.12		45.25	39.75	3.67		47.66	41.09	3.25		50.04	42.41	2.86					
	57		36.88	36.88	5.07		39.04	39.04	4.56		41.10	41.10	4.09		43.11	43.11	3.64		45.06	45.06	3.23		46.95	46.95	2.84					
	72		29.36	12.30	3.08		1200	31.57	13.11		2.74	1200	33.60		13.87	2.38	1200		35.73	14.66	2.08		1200	37.85	15.46	1.79	1200	39.94	16.25	1.53
	67		26.65	17.55	3.05			28.66	18.45		2.73		30.51		19.30	2.38			32.44	20.17	2.09			34.35	21.05	1.82		36.25	21.92	1.56
63	24.64	21.63	3.04	26.47	22.60	2.72		28.19	23.52	2.38	29.95		24.47	2.10	31.72	25.42		1.83	33.46	26.36	1.58									
57	23.69	23.69	3.03	25.21	25.21	2.71		26.63	26.63	2.37	28.09		28.09	2.10	29.52	29.52		1.84	30.92	30.92	1.60									
72	29.26	17.54	3.08	1200	31.47	18.44		2.74	1200	33.50	19.28		2.38	1200	35.64	20.16		2.08	1200	37.75	21.04	1.79		1200	39.84	21.91		1.53		
67	26.58	22.70	3.06		28.58	23.70	2.73	30.43		24.64	2.38	32.35	25.61		2.09	34.25	26.57	1.82		36.15	27.54	1.56								
63	25.33	25.33	3.04		26.94	26.94	2.72	28.40		28.38	2.38	30.14	29.65		2.10	31.85	30.76	1.83		33.56	31.83	1.58								
57	25.29	25.29	3.04		26.90	26.90	2.72	28.39		28.39	2.38	29.92	29.92		2.10	31.42	31.42	1.83		32.90	32.90	1.58								
72	25.37	10.73	2.67		1100	27.27	11.42	2.37		1100	19.54	8.42	1.06		875	20.95	8.94	0.89		875	22.36	9.47	0.72		875	23.78	10.00	0.56		
67	22.95	15.36	2.66	24.75		16.20	2.37	17.66	12.16		1.09	18.94	12.78	0.92		20.22	13.39	0.76	21.49		14.00	0.61								
63	21.20	18.93	2.65	22.84		19.87	2.38	16.38	15.07		1.11	17.54	15.80	0.95		18.70	16.45	0.79	19.87		17.13	0.65								
57	20.51	20.51	2.65	21.90		21.90	2.38	16.01	16.01		1.11	17.02	17.02	0.96		18.02	18.02	0.81	19.01		19.01	0.67								
72	25.29	15.39	2.67	1100		27.28	16.22	2.37	1100		19.46	12.19	1.06	875		20.87	12.80	0.89	875		22.28	13.41	0.72	875		23.69	14.03	0.56		
67	22.91	19.93	2.66		24.69	20.87	2.37	17.66		15.85	1.09	18.93	16.56		0.92	20.19	17.27	0.76		21.46	17.97	0.61								
63	21.96	21.96	2.66		23.43	23.43	2.38	17.13		17.13	1.10	18.21	18.21		0.93	19.27	19.27	0.78		20.33	20.33	0.64								
57	21.92	21.92	2.66		23.39	23.39	2.38	17.10		17.10	1.10	18.18	18.18		0.93	19.24	19.24	0.78		20.29	20.29	0.64								

CVH848
DETAILED COOLING CAPACITIES# – COMFORT + DEHUMIDIFY MODE

EDB °F (°C)	EVAP. AIR	CVH848 / FCM4X**L Comfort + Dehumidify Mode Condenser Entering Air Temperature °F (°C)																														
		105 (40.5)			95 (35)			85 (29.4)			75 (23.9)			65 (18.3)																		
		ID SCFM	Capacity MBtuh		Total Sys. KW	ID SCFM	Capacity MBtuh		Total Sys. KW	ID SCFM	Capacity MBtuh		Total Sys. KW	ID SCFM	Capacity MBtuh		Total Sys. KW															
			Total	Sens†			Total	Sens†			Total	Sens†			Total	Sens†		Total	Sens†													
75 (23.9)	72 (22.2)	1110	4.57	46.15	18.51	4.57	1184	19.81	4.11	1257	1330	1226	56.10	22.38	3.28	58.13	23.21	2.80														
	67 (19.4)																		4.47	42.05	23.76	4.47	4.03	48.10	27.15	3.62	51.08	28.84	3.24	52.88	29.26	2.77
	63 (17.2)																		4.39	39.02	27.87	4.39	3.97	44.61	31.87	3.57	47.36	33.85	3.20	49.01	33.96	2.76
	57 (13.9)																		4.28	35.01	33.85	4.28	3.88	40.02	38.72	3.51	42.47	41.16	3.16	43.86	40.86	2.73
	72 (22.2)																		4.57	46.07	23.69	4.57	4.11	52.71	27.07	3.68	55.99	28.76	3.26	58.04	29.22	2.80
80 (26.7)	67 (19.4)	1110	4.47	41.97	26.88	4.47	1184	19.81	4.03	1257	1330	1226	56.10	22.38	3.28	58.04	29.22	2.80														
	63 (17.2)																		4.39	38.97	32.95	4.39	3.97	44.56	37.73	3.57	47.31	40.09	3.20	48.95	39.83	2.76
	57 (13.9)																		4.32	36.54	36.54	4.32	3.92	41.80	41.80	3.53	44.40	44.40	3.17	45.07	45.07	2.73
	72 (22.2)																		4.57	46.07	23.69	4.57	4.11	52.71	27.07	3.68	55.99	28.76	3.26	58.04	29.22	2.80
	67 (19.4)																		4.47	41.97	26.88	4.47	4.03	48.01	33.04	3.62	50.99	35.10	3.24	52.80	35.16	2.77
75 (23.9)	72 (22.2)	744	2.58	29.64	11.97	2.58	801	12.87	2.24	842	887	1001	36.31	14.65	1.69	39.02	15.76	1.45														
	67 (19.4)																		2.57	26.82	15.33	2.57	2.24	30.87	17.64	1.96	32.91	18.82	1.71	35.37	20.54	1.48
	63 (17.2)																		2.56	24.74	17.92	2.56	2.23	26.64	19.39	1.97	30.37	22.07	1.72	32.64	24.25	1.50
	57 (13.9)																		2.54	22.07	21.73	2.54	2.22	23.80	23.54	1.97	27.16	26.77	1.74	29.37	29.37	1.53
	72 (22.2)																		2.58	29.56	15.35	2.58	2.24	31.78	16.57	1.96	36.22	18.85	1.69	38.92	20.56	1.45
80 (26.7)	67 (19.4)	744	2.57	26.77	18.65	2.57	801	12.87	2.24	842	887	1001	36.31	14.65	1.69	38.92	20.56	1.45														
	63 (17.2)																		2.56	24.72	21.24	2.56	2.23	26.62	23.01	1.97	30.35	26.20	1.72	32.64	28.94	1.50
	57 (13.9)																		2.55	23.28	23.28	2.55	2.23	25.15	25.15	1.97	28.66	28.66	1.73	31.18	31.18	1.52
	72 (22.2)																		2.58	29.56	15.35	2.58	2.24	31.78	16.57	1.96	36.22	18.85	1.69	38.92	20.56	1.45
	67 (19.4)																		2.57	26.77	18.65	2.57	2.24	30.80	21.51	1.96	32.83	22.97	1.71	35.29	25.26	1.48
75 (23.9)	72 (22.2)	662	2.25	25.50	10.32	2.25	457	17.80	1.03	482	508	534	20.61	8.34	0.70	22.05	8.92	0.55														
	67 (19.4)																		2.25	23.02	13.19	2.25	1.06	17.34	9.88	0.90	18.62	10.62	0.74	19.92	11.37	0.60
	63 (17.2)																		2.25	21.21	15.43	2.25	1.07	15.98	11.55	0.92	17.16	12.41	0.77	18.35	13.29	0.64
	57 (13.9)																		2.24	18.95	18.71	2.24	1.09	14.23	14.01	0.95	15.29	15.05	0.81	16.35	16.12	0.68
	72 (22.2)																		2.25	25.43	13.24	2.25	1.03	19.14	9.91	0.86	20.56	10.65	0.70	21.99	11.40	0.55
80 (26.7)	67 (19.4)	662	2.25	22.97	16.07	2.25	457	17.80	1.06	482	508	534	20.61	8.34	0.70	19.86	13.83	0.60														
	63 (17.2)																		2.25	21.20	18.29	2.25	1.07	17.30	12.01	0.90	18.57	12.91	0.74	19.86	13.83	0.60
	57 (13.9)																		2.25	20.00	20.00	2.25	1.08	15.01	15.01	0.94	17.15	14.70	0.77	18.34	15.74	0.63
	72 (22.2)																		2.25	25.43	13.24	2.25	1.03	19.14	9.91	0.86	20.56	10.65	0.70	21.99	11.40	0.55
	67 (19.4)																		2.25	22.97	16.07	2.25	1.06	17.30	12.01	0.90	18.57	12.91	0.74	19.86	13.83	0.60
Operation in this area is restricted to maintain reliable system operation and customer comfort. The system will default to the next available stage Stage 5 – Compressor speed limited to stage four at 65 outdoor; Stage 1 – Compressor speed limited to stage two at 105 outdoor.																																

See additional notes on page 43

DETAILED COOLING CAPACITIES# – EFFICIENCY MODE & COMFORT + DEHUMIDIFY MODE CONTINUED

CVH848

COOLING INDOOR MODEL		CAPACITY	POWER	2-STAGE (HI-Stage 5, Lo-Stage 2)				COOLING INDOOR MODEL	HIGH SPEED CAR	POWER	LOW SPEED CAR	POWER	FURNACE MODEL
FCM4X48**L		1.00	1.00					FVMA48**L	1.00	1.00	1.00	1.00	
EA*4X48L17A*		0.98	1.08					FVMA4860**L	1.00	0.99	0.98	0.95	*9MX*0801716A**
EA*4X48L21A*		0.97	1.06					EA*4X48L17A*	1.05	1.08	1.01	1.05	*9MX*1002120A**
EA*4X48L21A*		0.98	1.08					EA*4X48L21A*	1.05	1.08	1.02	1.04	*9MX*1002120A**
EA*4X48L21A*		0.98	1.02					EA*4X48L21A*	1.06	1.10	1.02	1.07	OLV12A16A
EA*4X48L21A*		0.98	1.02					EA*4X48L24A*	1.05	1.06	1.01	1.02	OLV154F20A
EA*4X48L24A*		0.98	1.02					EA*4X48L24A*	1.04	1.06	1.01	1.03	OMV154L20A
EA*4X60L21A*		0.99	1.09					EA*4X60L21A*	1.03	1.05	1.00	1.01	*9MX*1002120A**
EA*4X60L21A*		1.00	1.05					EA*4X60L21A*	1.04	1.07	1.01	1.04	OLV12A16A
EA*4X60L21A*		1.00	1.05					EA*4X60L24A*	1.03	1.03	0.99	0.99	OLV154F20A
EA*4X60L24A*		1.00	1.05					EA*4X60L24A*	1.03	1.04	0.99	1.00	OMV154L20A
EN(A,D,W)4X48L21**		0.97	1.06					EN(A,D,W)4X48L21**	1.06	1.07	1.03	1.04	*9MX*1002120A**
EN(A,D,W)4X48L21**		0.98	1.02					EN(A,D)4X48L24**	1.06	1.06	1.02	1.03	OLV154F20A
EN(A,D,W)4X48L21**		0.98	1.02					EN(A,D)4X48L24**	1.06	1.07	1.02	1.04	OMV154L20A
EN(A,D,W)4X48L21**		0.98	1.02					EN(A,D,W)4X60L24**	1.04	1.03	1.00	0.99	OLV154F20A
EN(A,D)4X48L24**		0.98	1.02					EN(A,D,W)4X60L24**	1.04	1.05	1.01	1.01	OMV154L20A
EN(A,D)4X48L24**		0.98	1.02					EHD4X48AAL	1.06	1.09	1.02	1.07	*9MX*0801716A**
EN(A,D)4X48L24**		0.98	1.02					EHD4X48AAL	1.06	1.07	1.03	1.04	*9MX*1002120A**
EN(A,D)4X48L24**		0.98	1.02					EHD4X60AAL	1.05	1.07	1.01	1.04	*9MX*0801716A**
EN(A,D)4X60L24**		1.00	1.05										
EN(A,D)4X60L24**		1.00	1.00										
EN(A,D)4X60L24**		1.00	1.00										
EHD4X48AAL		0.99	1.15										
EHD4X48AAL		0.99	1.15										
EHD4X48AAL		0.99	1.09										
EHD4X48AAL		0.99	1.15										
EHD4X48AAL		0.99	1.09										
EHD4X48AAL		0.99	1.15										
EHD4X60AAL		0.99	1.15										
EHD4X60AAL		1.00	1.16										
EHD4X60AAL		1.00	1.10										
EHD4X60AAL		1.00	1.10										
EHD4X60AAL		1.00	1.10										
EHD4X60AAL		1.01	1.11										

CVH848
HEAT PUMP HEATING PERFORMANCE – EFFICIENCY MODE

CVH848 / FCM4X48***L Heating Efficiency Mode															
Indoor Air				7 (–13.9)				17 (–8.3)				27 (–2.8)			
EDB °F (°C)	ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†			
		Total	Integ†			Total	Integ†			Total	Integ†				
STAGE 5															
65 (18.3)	700	22.65	20.82	2.72	1600	35.57	32.43	3.74	1600	40.44	35.92	3.87			
70 (21.1)		22.10	20.31	2.77		35.20	32.09	3.88		40.08	35.59	4.02			
75 (23.3)		20.89	19.19	2.73		34.73	31.67	4.00		39.66	35.23	4.17			
STAGE 3															
65 (18.3)	600	17.23	15.83	2.08	700	20.52	18.71	2.19	1275	24.10	21.40	2.18			
70 (21.1)		16.82	15.46	2.13		20.25	18.46	2.29		23.86	21.19	2.29			
75 (23.3)		16.32	15.00	2.17		19.94	18.18	2.37		23.61	20.97	2.40			
STAGE 1															
65 (18.3)	600	17.23	15.83	2.08	700	20.51	18.70	2.19	1275	20.26	17.99	1.88			
70 (21.1)		16.82	15.46	2.13		20.24	18.45	2.28		20.03	17.79	1.97			
75 (23.3)		16.32	15.00	2.17		19.93	18.17	2.37		19.81	17.60	2.07			
CVH848 / FCM4X48***L Heating Efficiency Mode															
Indoor Air				37 (2.8)				47 (8.3)				57 (13.9)			
EDB °F (°C)	ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†			
		Total	Integ†			Total	Integ†			Total	Integ†				
STAGE 5															
65 (18.3)	1600	46.06	41.92	4.02	1600	51.02	51.02	4.13	1275	35.74	35.74	2.39			
70 (21.1)		45.63	41.52	4.18		50.50	50.50	4.30		35.29	35.29	2.51			
75 (23.3)		45.16	41.10	4.34		49.96	49.96	4.47		34.80	34.80	2.64			
STAGE 3															
65 (18.3)	1275	27.80	25.30	2.26	1275	31.75	31.75	2.33	1275	35.74	35.74	2.39			
70 (21.1)		27.51	25.03	2.37		31.38	31.38	2.45		35.28	35.28	2.51			
75 (23.3)		27.20	24.76	2.49		31.01	31.01	2.58		34.80	34.80	2.64			
STAGE 1															
65 (18.3)	1275	23.56	21.44	1.94	1000	16.14	16.14	0.88	1000	18.69	18.69	0.87			
70 (21.1)		23.29	21.19	2.04		15.90	15.90	0.95		18.40	18.40	0.94			
75 (23.3)		23.01	20.94	2.15		15.65	15.65	1.02		18.10	18.10	1.02			
Operation in this area is restricted to maintain reliable system operation and customer comfort. The system will default to the next available stage															
Stage 5 – Compressor speed limited to stage four at 7 and stage three at 57 outdoor; Stage 1 – Compressor speed limited to stage three at 7 and 17 and to stage two at 27 and 37 outdoor.															
See additional notes on page 45															

CVH848

HEAT PUMP HEATING PERFORMANCE – COMFORT MODE

CVH860 / FCM4X60***L Heating Comfort Mode Outdoor Coil Entering Air Temperature °F (°C)													
INDOOR AIR	EDB °F (°C)	7 (–13.9)			17 (–8.3)			27 (–2.8)					
		ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†
			Total	Integ†			Total	Integ†			Total	Integ†	
STAGE 5													
65 (18.3) 70 (21.1) 75 (23.3)	600	22.44	20.62	2.78	934	34.33	31.30	3.70	1139	39.97	35.50	3.80	
		20.06	18.43	2.60		33.36	30.42	3.99		40.36	35.85	4.06	
		20.34	18.69	2.57		32.54	29.67	3.83		39.62	35.19	4.44	
STAGE 3													
65 (18.3) 70 (21.1) 75 (23.3)	450	16.76	15.40	2.15	633	20.49	18.68	2.24	724	23.71	21.06	2.29	
		15.82	14.54	2.03		20.28	18.49	2.36		23.55	20.92	2.43	
		15.13	13.91	2.12		19.73	17.99	2.41		23.38	20.76	2.56	
STAGE 1													
65 (18.3) 70 (21.1) 75 (23.3)	450	16.80	15.44	2.16	569	20.44	18.64	2.30	629	19.82	17.60	1.98	
		16.51	15.17	2.43		20.20	18.42	2.41		20.00	17.77	1.98	
		13.93	12.80	2.31		18.49	16.86	2.70		19.83	17.61	2.09	
CVH860 / FCM4X60***L Heating Comfort Mode Outdoor Coil Entering Air Temperature °F (°C)													
INDOOR AIR	EDB °F (°C)	37 (2.8)			47 (8.3)			57 (13.9)					
		ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†
			Total	Integ†			Total	Integ†			Total	Integ†	
STAGE 5													
65 (18.3) 70 (21.1) 75 (23.3)	1344	45.25	41.18	4.09	1550	50.80	50.80	4.12	996	35.14	35.14	2.47	
		45.69	41.58	4.37		51.38	51.38	4.42		34.47	34.47	2.34	
		46.09	41.94	4.66		51.92	51.92	4.74		34.72	34.72	2.52	
STAGE 3													
65 (18.3) 70 (21.1) 75 (23.3)	814	27.37	24.91	2.37	905	31.23	31.23	2.43	996	35.14	35.14	2.47	
		27.16	24.72	2.51		30.96	30.96	2.58		34.84	34.84	2.62	
		26.96	24.54	2.66		30.69	30.69	2.73		34.50	34.50	2.78	
STAGE 1													
65 (18.3) 70 (21.1) 75 (23.3)	690	23.02	20.95	2.06	350	15.27	15.27	1.19	403	17.49	17.49	1.15	
		22.56	20.53	2.16		14.75	14.75	1.17		16.87	16.87	1.22	
		22.78	20.73	2.16		14.36	14.36	1.23		16.27	16.27	1.20	

Operation in this area is restricted to maintain reliable system operation and customer comfort. The system will default to the next available stage
Stage 5 – Compressor speed limited to stage four at 7 and stage three at 57 outdoor; **Stage 1** – Compressor speed limited to stage three at 7 and 17 and to stage two at 27 and 37 outdoor.
 See additional notes on page 45

DETAILED HEATING CAPACITIES# – EFFICIENCY MODE & COMFORT MODE CONTINUED

CVH848

HEATING INDOOR MODEL		CAPACITY	POWER	FURNACE MODEL	
FCV4X48**L		1.00	1.00		
EA*4X48L17A*		1.04	1.03	*8MV*0901716**	
EA*4X48L21A*		1.04	1.03	*8MV*1102120**	
EA*4X48L21A*		1.05	1.08	*9MA*0602120A**	
EA*4X48L21A*		1.04	1.05	*9MA*0802120A**	
EA*4X48L21A*		1.04	1.04	*9MA*1002122A**	
EA*4X48L21A*		1.03	1.01	*8MV*1352422**	
EA*4X48L24A*		1.04	1.04	*9MA*1202422A**	
EA*4X60L21A*		1.02	1.02	*8MV*1102120**	
EA*4X60L21A*		1.03	1.07	*9MA*0602120A**	
EA*4X60L21A*		1.02	1.03	*9MA*0802120A**	
EA*4X60L21A*		1.01	1.01	*9MA*1002122A**	
EA*4X60L24A*		1.01	1.00	*8MV*1352422**	
EA*4X60L24A*		1.02	1.02	*9MA*1202422A**	
EHD4X48AAL		1.05	1.04	*8MV*0901716**	
EHD4X48AAL		1.05	1.04	*8MV*1102120**	
EHD4X48AAL		1.06	1.08	*9MA*0602120A**	
EHD4X48AAL		1.05	1.05	*9MA*0802120A**	
EHD4X48AAL		1.05	1.04	*9MA*1002122A**	
EHD4X48AAL		1.05	1.04	*9MA*1202422A**	
EHD4X60AAL		1.03	1.01	*8MV*0901716**	
EHD4X60AAL		1.03	1.00	*8MV*1102120**	
EHD4X60AAL		1.02	0.99	*8MV*1352422**	
EHD4X60AAL		1.04	1.05	*9MA*0602120A**	
EHD4X60AAL		1.03	1.01	*9MA*0802120A**	
EHD4X60AAL		1.03	1.01	*9MA*1002122A**	
EN(A,D)4X48L24**		1.04	1.03	*8MV*1352422**	
EN(A,D)4X48L24**		1.05	1.05	*9MA*1202422A**	
EN(A,D,W)4X48L21**		1.05	1.04	*8MV*1102120**	
EN(A,D,W)4X48L21**		1.06	1.09	*9MA*0602120A**	
EN(A,D,W)4X48L21**		1.05	1.06	*9MA*0802120A**	
EN(A,D,W)4X48L21**		1.05	1.04	*9MA*1002122A**	
EN(A,D,W)4X60L24**		1.03	1.01	*8MV*1352422**	
EN(A,D,W)4X60L24**		1.03	1.03	*9MA*1202422A**	

HEATING INDOOR MODEL		HIGH SPEED CAP.	POWER	LOW SPEED CAP.	POWER	FURNACE MODEL
FVMA4X48**L		1.00	1.00	1.00	1.00	
FVMA4X60**L		1.00	0.99	0.98	0.95	
EA*4X48L17A*		1.05	1.08	1.01	1.05	*9MX*0801716A**
EA*4X48L21A*		1.05	1.08	1.02	1.04	*9MX*1002120A**
EA*4X48L21A*		1.06	1.10	1.02	1.07	OLV112A16A
EA*4X48L24A*		1.05	1.06	1.01	1.02	OLV154F20A
EA*4X48L24A*		1.04	1.06	1.01	1.03	OMV154L20A
EA*4X60L21A*		1.03	1.05	1.00	1.01	*9MX*1002120A**
EA*4X60L21A*		1.04	1.07	1.01	1.04	OLV112A16A
EA*4X60L24A*		1.03	1.03	0.99	0.99	OLV154F20A
EA*4X60L24A*		1.03	1.04	0.99	1.00	OMV154L20A
EN(A,D,W)4X48L21**		1.06	1.07	1.03	1.04	*9MX*1002120A**
EN(A,D)4X48L24**		1.06	1.06	1.02	1.03	OLV154F20A
EN(A,D)4X48L24**		1.06	1.07	1.02	1.04	OMV154L20A
EN(A,D,W)4X60L24**		1.04	1.03	1.00	0.99	OLV154F20A
EN(A,D,W)4X60L24**		1.04	1.05	1.01	1.01	OMV154L20A
EHD4X48AAL		1.06	1.09	1.02	1.07	*9MX*0801716A**
EHD4X48AAL		1.06	1.07	1.03	1.04	*9MX*1002120A**
EHD4X60AAL		1.05	1.07	1.01	1.04	*9MX*0801716A**

CVH860
DETAILED COOLING CAPACITIES# – EFFICIENCY MODE

EDB °F (°C)		CVH860 / FCM4X60***L Efficiency Mode Condenser Entering Air Temperature °F (°C)																							
		115 (46.1)				105 (40.5)				95 (35)				85 (29.4)				75 (23.9)				65 (18.3)			
		ID SCF M	Capacity MBtuh Total	Sens †	Total Sys. KW**	ID SCF M	Capacity MBtuh Total	Sens †	Total Sys. KW**	ID SCF M	Capacity MBtuh Total	Sens †	Total Sys. KW**	ID SCF M	Capacity MBtuh Total	Sens †	Total Sys. KW**	ID SCF M	Capacity MBtuh Total	Sens †	Total Sys. KW**				
75 (23.9)	1600	54.16	21.71	7.27	58.13	23.22	6.50	62.05	24.71	5.83	65.88	26.19	5.23	1600	69.70	27.67	4.69	1600	73.51	29.16	4.22				
		49.48	29.16	7.08	53.10	30.83	6.32	56.82	32.47	5.65	60.10	34.10	5.06		63.54	35.73	4.54		66.97	37.36	4.08				
		46.01	35.04	6.94	49.36	36.81	6.19	52.82	38.56	5.52	55.84	40.30	4.93		59.02	42.03	4.42		62.18	43.77	3.96				
		42.15	42.15	6.80	44.79	44.79	6.03	47.47	47.22	5.36	50.24	49.26	4.78		53.01	51.19	4.27		55.79	53.12	3.82				
		54.02	29.01	7.27	57.99	30.66	6.51	61.91	32.31	5.83	65.73	33.94	5.23		1600	69.54	35.58		4.69	1600	73.38	37.25	4.22		
49.35	36.40	7.08	52.97	38.20	6.32	56.50	39.99	5.65	59.97	41.75	5.06	63.42	43.53	4.54		66.85	45.31	4.08							
45.98	42.19	6.95	49.31	44.12	6.19	52.56	46.03	5.52	55.76	47.91	4.94	58.94	49.79	4.42		62.09	51.68	3.96							
44.59	44.59	6.89	47.37	47.37	6.12	50.06	50.06	5.44	52.70	52.70	4.85	55.28	55.28	4.33		57.84	57.84	3.87							
75 (23.9)	1350	35.59	14.62	3.53	38.22	15.60	3.17	40.53	16.44	2.81	43.15	17.42	2.52	1350		45.75	18.40	2.26	1350		48.31	19.37	2.03		
		32.14	20.20	3.49	34.58	21.25	3.13	36.71	22.19	2.76	39.08	23.23	2.48		41.41	24.27	2.22	43.72		25.33	1.99				
		29.59	24.58	3.46	31.84	25.69	3.11	33.86	26.69	2.73	36.06	27.78	2.44		38.24	28.87	2.19	40.37		29.94	1.96				
		27.84	27.84	3.44	29.62	29.62	3.09	31.23	31.23	2.70	32.94	32.94	2.42		34.60	34.60	2.16	36.29		36.28	1.94				
		35.48	20.25	3.53	38.16	21.30	3.17	40.41	22.20	2.81	43.03	23.25	2.52		45.63	24.29	2.26	48.16		25.35	2.03				
80 (26.7)	1350	32.03	25.76	3.49	34.46	26.87	3.13	36.60	27.89	2.76	38.97	28.99	2.48	1350	41.31	30.09	2.22	1350	43.64	31.19	1.99				
		29.79	29.79	3.46	31.90	31.19	3.11	33.89	32.31	2.73	36.06	33.48	2.45		38.22	34.66	2.19		40.34	35.78	1.96				
		29.73	29.73	3.46	31.58	31.58	3.11	33.26	33.26	2.72	35.03	35.03	2.44		36.78	36.78	2.18		38.50	38.50	1.95				
		75 (23.9)	1200	26.64	11.15	2.26	28.72	11.89	2.04	21.20	8.81	1.13	22.74		9.36	0.98	1200		24.22	9.89	0.82	1200	25.66	10.41	0.64
				23.82	15.66	2.25	25.70	16.41	2.04	18.84	12.09	1.11	20.25		12.62	0.97			21.61	13.15	0.82		22.93	13.66	0.65
21.78	19.18			2.24	23.51	19.96	2.03	17.10	14.65	1.10	18.39	15.16	0.97	19.66	15.66	0.82		20.87	16.17	0.66					
20.87	20.87			2.23	22.22	22.22	2.03	16.17	16.17	1.10	17.13	17.13	0.97	18.04	18.04	0.83		18.90	18.90	0.68					
26.55	15.78			2.26	28.63	16.54	2.04	21.10	12.29	1.13	22.65	12.79	0.98	24.14	13.29	0.82		25.57	13.80	0.64					
80 (26.7)	1200	23.75	20.23	2.25	25.64	21.01	2.04	18.79	15.49	1.11	20.19	16.00	0.97	1200	21.54	16.51	0.82	1200	22.86	17.00	0.65				
		22.48	22.48	2.24	23.92	23.92	2.03	17.50	17.50	1.11	18.50	18.45	0.97		19.71	19.00	0.82		20.90	19.49	0.66				
		22.45	22.45	2.24	23.87	23.87	2.03	17.47	17.47	1.11	18.45	18.45	0.97		19.40	19.40	0.82		20.29	20.29	0.67				
		75 (23.9)	975	45.75	18.40	2.26	41.41	24.27	2.22	43.15	17.42	2.52	45.63		24.29	2.26	975		48.16	25.35	2.03	975	50.34	26.36	1.76
				41.31	30.09	2.22	38.97	28.99	2.48	41.03	30.09	2.22	43.64		31.19	1.99			45.63	24.29	2.26		48.16	25.35	2.03
38.22	34.66			2.19	36.06	33.48	2.45	38.22	34.66	2.19	40.34	35.78	1.96	42.86	23.86	2.00		44.86	26.86	1.76					
36.78	36.78			2.18	36.78	36.78	2.18	36.78	36.78	2.18	36.78	36.78	2.18	36.78	36.78	2.18		36.78	36.78	2.18					
48.31	19.37			2.03	48.31	19.37	2.03	48.31	19.37	2.03	48.31	19.37	2.03	48.31	19.37	2.03		48.31	19.37	2.03	48.31		19.37	2.03	
80 (26.7)	975	43.72	25.33	1.99	43.72	25.33	1.99	43.72	25.33	1.99	43.72	25.33	1.99	975	43.72	25.33	1.99	975	43.72	25.33	1.99				
		40.37	29.94	1.96	40.37	29.94	1.96	40.37	29.94	1.96	40.37	29.94	1.96		40.37	29.94	1.96		40.37	29.94	1.96	40.37	29.94	1.96	
		36.29	36.28	1.94	36.29	36.28	1.94	36.29	36.28	1.94	36.29	36.28	1.94		36.29	36.28	1.94		36.29	36.28	1.94	36.29	36.28	1.94	
		48.16	25.35	2.03	48.16	25.35	2.03	48.16	25.35	2.03	48.16	25.35	2.03		48.16	25.35	2.03		48.16	25.35	2.03	48.16	25.35	2.03	
		43.64	31.19	1.99	43.64	31.19	1.99	43.64	31.19	1.99	43.64	31.19	1.99		43.64	31.19	1.99		43.64	31.19	1.99	43.64	31.19	1.99	

CVH860

DETAILED COOLING CAPACITIES# – COMFORT + DEHUMIDIFY MODE

EDB °F (°C)	EVAP. AIR EWB °F (°C)	CVH860 / FCM4X60***L Comfort + Dehumidify Mode Condenser Entering Air Temperature °F (°C)																								
		105 (40.5)				95 (35)				85 (29.4)				75 (23.9)				65 (18.3)								
		ID SCFM	Capacity MBtuh		Total Sys. KW	ID SCFM	Capacity MBtuh		Total Sys. KW	ID SCFM	Capacity MBtuh		Total Sys. KW	ID SCFM	Capacity MBtuh		Total Sys. KW	ID SCFM	Capacity MBtuh		Total Sys. KW					
			Sens†	Total			Sens†	Total			Sens†	Total			Sens†	Total			Sens†	Total		Sens†	Total			
STAGE 5																										
75 (23.9)	72 (22.2)	1367	1440	56.98	22.75	6.30	1440	1514	61.18	24.39	5.69	1514	1566	65.39	26.02	5.16	1488	72.77	28.99	4.11						
	67 (19.4)			57.22	39.64	4.45			52.98	29.89	5.92			56.86	32.03	5.32			60.74	34.16	4.81					
	63 (17.2)			50.09	48.04	4.68			52.36	48.62	4.14			50.15	35.79	5.59			53.79	38.31	5.01					
	57 (13.9)			62.88	32.18	5.53			66.96	34.17	4.99			70.04	35.24	4.44			45.89	44.38	5.24					
	72 (22.2)			54.69	37.56	5.71			58.47	40.09	5.17			62.20	42.47	4.65			64.99	43.29	4.12					
80 (26.7)	67 (19.4)	1367	1440	48.26	40.83	5.99	1440	1514	51.80	43.73	5.39	1514	1566	55.34	46.67	4.87	1488	61.43	50.01	3.85						
	63 (17.2)			48.26	40.83	5.99			46.16	46.16	5.69			49.48	49.48	5.10			52.81	52.81	4.60					
	57 (13.9)			45.30	45.30	5.89			48.58	48.58	5.29			51.87	51.87	4.77			54.71	54.71	4.27					
	STAGE 3																									
	72 (22.2)			36.31	14.61	3.03			1013	38.82	15.60			2.68	1066	41.60			16.70	2.41	1120	44.40	17.81	2.17	1210	47.48
67 (19.4)	32.79	18.66	3.00	35.12	19.95	2.63	37.63	21.32		2.37	40.17	22.70	2.13													
63 (17.2)	30.18	21.81	2.97	32.38	23.34	2.61	34.71	24.92		2.34	37.06	26.53	2.10													
57 (13.9)	26.75	26.42	2.95	28.76	28.28	2.57	30.84	30.17		2.31	32.95	32.10	2.07													
72 (22.2)	36.22	18.72	3.03	1013	38.73	19.96	2.68	1066		41.49	21.36	2.41	1120	44.30		22.74	2.17	1210	47.35	24.41		1.97				
67 (19.4)	32.71	22.72	3.00		35.04	24.28	2.63		37.54	25.92	2.37	40.08		27.58	2.13											
63 (17.2)	30.13	25.85	2.97		32.33	27.65	2.61		34.66	29.50	2.34	37.01		31.38	2.10											
57 (13.9)	26.27	28.27	2.96		30.32	30.32	2.59		32.44	32.44	2.32	34.59		34.59	2.08											
STAGE 1																										
75 (23.9)	72 (22.2)	748	600	26.49	10.68	1.96	600	600	19.30	7.79	1.08	600	647	20.56	8.28	0.94	700	23.90	9.62	0.61						
	67 (19.4)			23.68	13.47	1.96			17.11	9.75	1.07			18.24	10.22	0.93			19.74	11.04	0.79					
	63 (17.2)			21.61	15.64	1.95			15.49	11.27	1.06			16.55	11.74	0.93			17.93	12.67	0.79					
	57 (13.9)			18.94	18.82	1.95			13.48	13.48	1.05			14.35	13.97	0.93			15.59	15.07	0.80					
	72 (22.2)			26.42	13.61	1.96			19.25	9.91	1.08			20.51	10.39	0.94			22.16	11.21	0.78					
80 (26.7)	67 (19.4)	748	600	23.63	16.38	1.96	600	647	17.06	11.86	1.07	647	700	18.20	12.32	0.93	700	21.24	14.31	0.63						
	63 (17.2)			21.58	18.54	1.95			15.48	13.38	1.06			16.52	13.83	0.93			17.91	14.91	0.79					
	57 (13.9)			20.17	20.17	1.95			14.47	14.47	1.05			15.19	15.19	0.93			16.42	16.42	0.80					
	STAGE 3																									
	72 (22.2)			36.31	14.61	3.03			1013	38.82	15.60			2.68	1066	41.60			16.70	2.41	1120	44.40	17.81	2.17	1210	47.48
67 (19.4)	32.79	18.66	3.00	35.12	19.95	2.63	37.63	21.32		2.37	40.17	22.70	2.13													
63 (17.2)	30.18	21.81	2.97	32.38	23.34	2.61	34.71	24.92		2.34	37.06	26.53	2.10													
57 (13.9)	26.75	26.42	2.95	28.76	28.28	2.57	30.84	30.17		2.31	32.95	32.10	2.07													
72 (22.2)	36.22	18.72	3.03	1013	38.73	19.96	2.68	1066		41.49	21.36	2.41	1120	44.30		22.74	2.17	1210	47.35	24.41		1.97				
67 (19.4)	32.71	22.72	3.00		35.04	24.28	2.63		37.54	25.92	2.37	40.08		27.58	2.13											
63 (17.2)	30.13	25.85	2.97		32.33	27.65	2.61		34.66	29.50	2.34	37.01		31.38	2.10											
57 (13.9)	26.27	28.27	2.96		30.32	30.32	2.59		32.44	32.44	2.32	34.59		34.59	2.08											
STAGE 1																										
75 (23.9)	72 (22.2)	748	600	26.49	10.68	1.96	600	600	19.30	7.79	1.08	600	647	20.56	8.28	0.94	700	23.90	9.62	0.61						
	67 (19.4)			23.68	13.47	1.96			17.11	9.75	1.07			18.24	10.22	0.93			19.74	11.04	0.79					
	63 (17.2)			21.61	15.64	1.95			15.49	11.27	1.06			16.55	11.74	0.93			17.93	12.67	0.79					
	57 (13.9)			18.94	18.82	1.95			13.48	13.48	1.05			14.35	13.97	0.93			15.59	15.07	0.80					
	72 (22.2)			26.42	13.61	1.96			19.25	9.91	1.08			20.51	10.39	0.94			22.16	11.21	0.78					
80 (26.7)	67 (19.4)	748	600	23.63	16.38	1.96	600	647	17.06	11.86	1.07	647	700	18.20	12.32	0.93	700	21.24	14.31	0.63						
	63 (17.2)			21.58	18.54	1.95			15.48	13.38	1.06			16.52	13.83	0.93			17.91	14.91	0.79					
	57 (13.9)			20.17	20.17	1.95			14.47	14.47	1.05			15.19	15.19	0.93			16.42	16.42	0.80					
	STAGE 3																									
	72 (22.2)			36.31	14.61	3.03			1013	38.82	15.60			2.68	1066	41.60			16.70	2.41	1120	44.40	17.81	2.17	1210	47.48
67 (19.4)	32.79	18.66	3.00	35.12	19.95	2.63	37.63	21.32		2.37	40.17	22.70	2.13													
63 (17.2)	30.18	21.81	2.97	32.38	23.34	2.61	34.71	24.92		2.34	37.06	26.53	2.10													
57 (13.9)	26.75	26.42	2.95	28.76	28.28	2.57	30.84	30.17		2.31	32.95	32.10	2.07													
72 (22.2)	36.22	18.72	3.03	1013	38.73	19.96	2.68	1066		41.49	21.36	2.41	1120	44.30		22.74	2.17	1210	47.35	24.41		1.97				
67 (19.4)	32.71	22.72	3.00		35.04	24.28	2.63		37.54	25.92	2.37	40.08		27.58	2.13											
63 (17.2)	30.13	25.85	2.97		32.33	27.65	2.61		34.66	29.50	2.34	37.01		31.38	2.10											
57 (13.9)	26.27	28.27	2.96		30.32	30.32	2.59		32.44	32.44	2.32	34.59		34.59	2.08											
STAGE 1																										
75 (23.9)	72 (22.2)	748	600	26.49	10.68	1.96	600	600	19.30	7.79	1.08	600	647	20.56	8.28	0.94	700	23.90	9.62	0.61						
	67 (19.4)			23.68	13.47	1.96			17.11	9.75	1.07			18.24	10.22	0.93			19.74	11.04	0.79					
	63 (17.2)			21.61	15.64	1.95			15.49	11.27	1.06			16.55	11.74	0.93			17.93	12.67	0.79					
	57 (13.9)			18.94	18.82	1.95			13.48	13.48	1.05			14.35	13.97	0.93			15.59	15.07	0.80					
	72 (22.2)			26.42	13.61	1.96			19.25	9.91	1.08			20.51	10.39	0.94			22.16	11.21	0.78					
80 (26.7)	67 (19.4)	748	600	23.63	16.38	1.96	600	647	17.06	11.86	1.07	647	700	18.20	12.32	0.93	700	21.24	14.31	0.63						
	63 (17.2)			21.58	18.54	1.95			15.48	13.38	1.06			16.52	13.83	0.93			17.91	14.91	0.79					
	57 (13.9)			20.17	20.17	1.95			14.47	14.47	1.05			15.19	15.19	0.93			16.42	16.42	0.80					
	STAGE 3																									
	72 (22.2)			36.31	14.61	3.03			1013	38.82	15.60			2.68	1066	41.60			16.70	2.41	1120	44.40	17.81	2.17	1210	47.48
67 (19.4)	32.79	18.66	3.00	35.12	19.95	2.63	37.63	21.32		2.37	40.17	22.70	2.13													
63 (17.2)	30.18	21.81	2.97	32.38	23.34	2.61	34.71	24.92		2.34	37.06	26.53	2.10													
57 (13.9)	26.75	26.42	2.95	28.76	28.28	2.57	30.84	30.17		2.31	32.95	32.10	2.07													
72 (22.2)	36.22	18.72	3.03	1013	38.73	19.96	2.68	1066		41.49	21.36	2.41	1120	44.30		22.74	2.17	1210	47.35	24.41		1.97				
67 (19.4)	32.71	22.72	3.00		35.04	24.28	2.63		37.54	25.92	2.37	40.08		27.58	2.13											
63 (17.2)	30.13	25.85	2.97		32.33	27.65	2.61		34.66	29.50	2.34	37.01		31.38	2.10											
57 (13.9)	26.27	28.27	2.96		30.32	30.32	2.59		32.44	32.44	2.32	34.59		34.59	2.08											
STAGE 1																										
75 (23.9)	72 (22.2)	748	600	26.49	10.68	1.96	600	600	19.30	7.79	1.08	600	647	20.56	8.28	0.94	700	23.90	9.62	0.61						
	67 (19.4)			23.68	13.47	1.96			17.11	9.75	1.07			18.24	10.22	0.93			19.74	11.04	0.79					
	63 (17.2)			21.61	15.64	1.95			15.49	11.27	1.06			16.55	11.74	0.93			17.93	12.67	0.79					
	57 (13.9)			18.94	18.82	1.95			13.48	13.48	1.05			14.35	13.97	0.93			15.59	15.07	0.80					
	72 (22.2)			26.42	13.61	1.96			19.25	9.91	1.08			20.51	10.39	0.94			22.16	11.21	0.78					
80 (26.7)	67 (19.4)	748	600	23.63	16.38	1.96	600	647	17.06	11.86	1.07	647	700	18.20	12.32	0.93	700	21.24	14.31	0.63						
	63 (17.2)			21.58	18.54	1.95			15.48	13.38	1.06			16.52	13.83	0.93			17.91	14.91	0.79					
	57 (13.9)			20.17	20.17	1.95			14.47	14.47	1.05			15.19	15.19	0.93			16.42	16.42	0.80					
	STAGE 3																									
	72 (22.2)			36.31	14.61	3.03			1013	38.82	15.60			2.68	1066	41.60			16.70	2.41	1120	44.40	17.81	2.17	1210	47.48
67 (19.4)	32.79	18.66	3.00	35.12	19.95	2.63	37.63	21.32		2.37	40.17	22.70	2.13													
63 (17.2)	30.18	21.81	2.97	32.38	23.34	2.61	34.71	24.92		2.34	37.06	26.53	2.10													
57 (13.9)	26.75	26.42	2.95	28.76	28.28	2.57	30.84	30.17																		

DETAILED COOLING CAPACITIES# – EFFICIENCY MODE & COMFORT + DEHUMIDIFY MODE CONTINUED

CVH860

COOLING INDOOR MODEL	CAPACITY	POWER	FURNACE MODEL
FCM4X60**L	1.00	1.00	
EA4X60L21A*	0.96	1.07	*9MA*0602120A**
EA4X60L21A*	0.97	1.02	*9MA*0802120A**
EA4X60L21A*	0.97	1.02	*9MA*1002122A**
EA4X60L21A*	0.97	1.02	*9MA*1102120**
EA4X60L21A*	0.96	1.07	*9MA*0602120A**
EA4X60L24A*	0.97	1.02	*9MA*0802120A**
EA4X60L24A*	0.97	1.02	*9MA*1002122A**
EA4X60L24A*	0.97	1.02	*9MA*1202422A**
EA4X60L24A*	0.97	1.02	*8MV*1102120**
EA4X60L24A*	0.97	1.02	*8MV*1352422**
EN(A,D)W4X60L24**	0.96	1.02	*9MA*0602120A**
EN(A,D)W4X60L24**	0.97	1.02	*9MA*0802120A**
EN(A,D)W4X60L24**	0.97	1.02	*9MA*1002122A**
EN(A,D)W4X60L24**	0.97	1.02	*9MA*1202422A**
EN(A,D)W4X60L24**	0.97	0.97	*8MV*1102120**
EN(A,D)W4X60L24**	0.97	0.97	*8MV*1352422**
EHD4X60AAL	0.96	1.07	*9MA*0602120A**
EHD4X60AAL	0.97	1.02	*9MA*0802120A**
EHD4X60AAL	0.98	1.03	*9MA*1002122A**
EHD4X60AAL	0.97	1.02	*9MA*1202422A**
EHD4X60AAL	0.98	1.03	*8MV*1102120**
EHD4X60AAL	0.98	1.03	*8MV*1352422**

2-STAGE (H1-Stage 5, Lo-Stage 2)				
COOLING INDOOR MODEL	HIGH SPEED CAR	POWER	LOW SPEED CAR	POWER
FVMA4X60**L	1.00	1.00	1.00	1.00
EN(A,D)W4X60L24**	1.00	1.11	1.00	1.09
				OLV154F20A

NOTES:

- * Tested combination.
 - † Total and sensible capacities are net capacities. Blower motor heat has been subtracted.
 - ‡ Sensible capacities are shown for both 80°F (27°C) and 75°F (24°C) entering air at the indoor coil.
 - # Detailed cooling capacities are based on indoor and outdoor unit at the same elevation per AHRI standard 210/240–2008. If additional tubing length and/or indoor unit is located above outdoor unit, a slight variation in capacity may occur.
 - ** System kw is total of indoor and outdoor unit kilowatts.
- NOTE:** When the required data falls between the published data, interpolation may be performed. Extrapolation is not an acceptable practice.
- EWB** — Entering Wet Bulb

CVH860
HEAT PUMP HEATING PERFORMANCE – EFFICIENCY MODE

CVH860 / FCM4X60***L Heating Efficiency Mode Outdoor Coil Entering Air Temperature °F (°C)														
INDOOR AIR			7 (–13.9)			17 (–8.3)			27 (–2.8)			Total Sys. KWt		
			Capacity MBtuh		ID SCFM	Capacity MBtuh		ID SCFM	Capacity MBtuh		Capacity MBtuh			
EDB °F (°C)	Total	Integ†	Total Sys. KWt	ID SCFM		Total	Integ†		Total Sys. KWt	ID SCFM	Total		Integ†	Total Sys. KWt
STAGE 5														
65 (18.3)	29.44	27.05	3.99	840	1600	48.43	44.16	6.49	1600	55.69	49.46	6.61		
70 (21.1)	29.47	27.09	4.22			49.06	44.73	7.02		56.12	49.84	7.10		
75 (23.3)	29.57	27.17	4.47			49.80	45.40	7.61		56.61	50.28	7.63		
STAGE 3														
65 (18.3)	20.47	18.81	2.46	700	900	24.06	21.94	2.39	1275	28.38	25.21	2.32		
70 (21.1)	20.30	18.66	2.58			23.86	21.75	2.51		28.08	24.94	2.44		
75 (23.3)	20.25	18.60	2.73			23.67	21.58	2.64		27.78	24.68	2.56		
STAGE 1														
65 (18.3)	20.47	18.81	2.46	700	900	24.06	21.93	2.39	1275	21.17	18.80	1.57		
70 (21.1)	20.31	18.66	2.58			23.85	21.75	2.51		20.88	18.55	1.56		
75 (23.3)	20.27	18.62	2.73			23.66	21.57	2.64		20.60	18.30	1.65		
CVH860 / FCM4X60***L Heating Efficiency Mode Outdoor Coil Entering Air Temperature °F (°C)														
INDOOR AIR			37 (2.8)			47 (8.3)			57 (13.9)			Total Sys. KWt		
			Capacity MBtuh		ID SCFM	Capacity MBtuh		ID SCFM	Capacity MBtuh		Capacity MBtuh			
EDB °F (°C)	Total	Integ†	Total Sys. KWt	ID SCFM		Total	Integ†		Total Sys. KWt	ID SCFM	Total		Integ†	Total Sys. KWt
STAGE 5														
65 (18.3)	64.63	58.81	6.84	1600	1600	73.25	73.25	7.06	1400	43.82	43.82	2.61		
70 (21.1)	64.85	59.01	7.31			73.27	73.27	7.50		43.06	43.06	2.72		
75 (23.3)	65.13	59.27	7.81			73.33	73.33	7.98		42.35	42.35	2.83		
STAGE 3														
65 (18.3)	33.13	30.14	2.42	1275	1275	38.00	38.00	2.52	1400	43.82	43.82	2.61		
70 (21.1)	32.71	29.76	2.53			37.45	37.45	2.63		43.06	43.06	2.72		
75 (23.3)	32.29	29.38	2.65			36.91	36.91	2.75		42.35	42.35	2.83		
STAGE 1														
65 (18.3)	24.69	22.46	1.57	1275	900	16.76	16.76	0.84	900	19.39	19.39	0.96		
70 (21.1)	24.31	22.12	1.66			16.40	16.40	0.93		18.97	18.97	1.06		
75 (23.3)	23.94	21.78	1.76			16.04	16.04	1.02		18.56	18.56	1.16		

Operation in this area is restricted to maintain reliable system operation and customer comfort. The system will default to the next available stage
Stage 5 – Compressor speed limited to stage four at 7 and stage three at 57 outdoor; **Stage 1** – Compressor speed limited to stage three at 7 and 17 and to stage two at 27 and 37 outdoor.
See additional notes on page 45

CVH860

HEAT PUMP HEATING PERFORMANCE – COMFORT MODE

CVH860 / FCMA4X60***L Heating Efficiency Mode Outdoor Coil Entering Air Temperature °F (°C)										
7 (–13.9)			17 (–8.3)			27 (–2.8)				
EDB °F (°C)	ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Total Sys. KW†
		Total	Integ†			Total	Integ†			
STAGE 5										
65 (18.3)	840	29.44	27.05	3.99	1600	48.43	44.16	6.49	1600	55.69
70 (21.1)		29.47	27.09	4.22		49.06	44.73	7.02		49.46
75 (23.3)		29.57	27.17	4.47		49.80	45.40	7.61		50.28
STAGE 3										
65 (18.3)	700	20.47	18.81	2.46	900	24.06	21.94	2.39	1275	28.38
70 (21.1)		20.30	18.66	2.58		23.86	21.75	2.51		28.08
75 (23.3)		20.25	18.60	2.73		23.67	21.58	2.64		27.78
STAGE 1										
65 (18.3)	700	20.47	18.81	2.46	900	24.06	21.93	2.39	1275	21.17
70 (21.1)		20.31	18.66	2.58		23.85	21.75	2.51		20.88
75 (23.3)		20.27	18.62	2.73		23.66	21.57	2.64		20.60
CVH860 / FCMA4X60***L Heating Efficiency Mode Outdoor Coil Entering Air Temperature °F (°C)										
37 (2.8)			47 (8.3)			57 (13.9)				
EDB °F (°C)	ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Capacity MBtuh		Total Sys. KW†	ID SCFM	Total Sys. KW†
		Total	Integ†			Total	Integ†			
STAGE 5										
65 (18.3)	1600	64.63	58.81	6.84	1600	73.25	73.25	7.06	1400	43.82
70 (21.1)		64.85	59.01	7.31		73.27	73.27	7.50		43.06
75 (23.3)		65.13	59.27	7.81		73.33	73.33	7.98		42.35
STAGE 3										
65 (18.3)	1275	33.13	30.14	2.42	1275	38.00	38.00	2.52	1400	43.82
70 (21.1)		32.71	29.76	2.53		37.45	37.45	2.63		43.06
75 (23.3)		32.29	29.38	2.65		36.91	36.91	2.75		42.35
STAGE 1										
65 (18.3)	1275	24.69	22.46	1.57	900	16.76	16.76	0.84	900	19.39
70 (21.1)		24.31	22.12	1.66		16.40	16.40	0.93		18.97
75 (23.3)		23.94	21.78	1.76		16.04	16.04	1.02		18.56

Operation in this area is restricted to maintain reliable system operation and customer comfort. The system will default to the next available stage
Stage 5 — Compressor speed limited to stage four at 7 and stage three at 57 outdoor; **Stage 1** — Compressor speed limited to stage three at 7 and 17 and to stage two at 27 and 37 outdoor.

NOTES:

- * Tested combination.
- † The kW values include the compressor, outdoor fan motor, and indoor blower motor. The kW from supplement heaters should be added to these values to obtain total system kilowatts.
- ‡ The Btuh heating capacity values shown are net integrated values from which the defrost effect has been subtracted. The Btuh heating from supplement heaters should be added to those values to obtain total system capacity.

NOTE: When the required data falls between the published data, interpolation may be performed. Extrapolation is not an acceptable practice.

EDB — Entering Dry Bulb

DETAILED HEATING CAPACITIES# – EFFICIENCY MODE & COMFORT MODE CONTINUED

CVH860

2-STAGE (Hi-Stage 5, Lo-Stage 2)					
HEATING INDOOR MODEL	HIGH SPEED CAP.	POWER	LOW SPEED CAP.	POWER	FURNACE MODEL
FVMA4X60***L	1.00	1.00	1.00	1.00	OLV154F20A
EN(A,D)W4X60L24**	1.00	1.04	1.04	1.10	

HEATING INDOOR MODEL	CAPACITY	POWER	FURNACE MODEL
FCM4X60***L	1.00	1.00	
EA*4X60L21A*	0.97	1.02	*8MV*1102120**
EA*4X60L21A*	0.96	1.07	*9MA*0602120A**
EA*4X60L21A*	0.97	1.02	*9MA*0802120A**
EA*4X60L21A*	0.97	1.02	*9MA*1002122A**
EA*4X60L24A*	0.97	1.02	*8MV*1102120**
EA*4X60L24A*	0.97	1.02	*8MV*1352422**
EA*4X60L24A*	0.96	1.07	*9MA*0602120A**
EA*4X60L24A*	0.97	1.02	*9MA*0802120A**
EA*4X60L24A*	0.97	1.02	*9MA*1002122A**
EA*4X60L24A*	0.97	1.02	*9MA*1202422A**
EHD4X60AAL	0.98	1.03	*8MV*1102120**
EHD4X60AAL	0.98	1.03	*8MV*1352422**
EHD4X60AAL	0.96	1.07	*9MA*0602120A**
EHD4X60AAL	0.97	1.02	*9MA*0802120A**
EHD4X60AAL	0.98	1.03	*9MA*1002122A**
EHD4X60AAL	0.97	1.02	*9MA*1202422A**
EN(A,D)W4X60L24**	0.97	0.97	*8MV*1102120**
EN(A,D)W4X60L24**	0.97	0.97	*8MV*1352422**
EN(A,D)W4X60L24**	0.96	1.02	*9MA*0602120A**
EN(A,D)W4X60L24**	0.97	1.02	*9MA*0802120A**
EN(A,D)W4X60L24**	0.97	1.02	*9MA*1002122A**
EN(A,D)W4X60L24**	0.97	1.02	*9MA*1202422A**

GUIDE SPECIFICATIONS

GENERAL

System Description

Outdoor-mounted, air-cooled, split-system heat pump unit suitable for ground or rooftop installation. Unit consists of a hermetic compressor, an air-cooled coil, forward-swept blade propeller-type condenser fan, and a control box. Unit will discharge supply air upward as shown on contract drawings. Unit will be used in a refrigeration circuit to match up to a packaged fan coil or coil unit.

Quality Assurance

- Unit will be rated in accordance with the latest edition of AHRI Standard 240.
- Unit will be certified for capacity and efficiency, and listed in the latest AHRI directory.
- Unit construction will comply with latest edition of ASHRAE and with NEC.

Equipment

- Factory-assembled, single-piece, air-cooled heat pump unit. Contained within the unit enclosure is all factory wiring, piping, controls, compressor, refrigerant charge R-410A refrigerant, and special features required prior to field start-up.

Unit Cabinet

- Unit cabinet will be constructed of galvanized steel, bonderized, and coated with a powder coat paint.

Fans

- Condenser fan will be direct-drive propeller type, forward swept blade, discharging air upward.
- Condenser fan motors will be totally enclosed, 1-phase type with class B insulation and permanently lubricated.
- Shafts will be corrosion resistant.
- Fan blades will be statically and dynamically balanced.
- Condenser fan openings will be equipped with coated steel wire safety guards.

Compressor

- Compressor will be hermetically sealed.
- Compressor will be mounted on rubber vibration isolators.
- Compressor will be covered with a sound absorbing blanket.

Condenser Coil

- Condenser coil will be air cooled.
- Coil will be constructed of aluminum fins mechanically bonded to copper tubes which are then cleaned, dehydrated, and sealed.

Refrigeration Components

- Refrigeration circuit components will include liquid-line front-seating shutoff valve with sweat connections, vapor-line front-seating shutoff valve with sweat connections, system charge of R-410A refrigerant, POE compressor oil, accumulator, charge compensator, electronic expansion valve, and reversing valve.

AIR-COOLED, SPLIT-SYSTEM HEAT PUMP (C,H,T)VH8

- Unit will be constructed in accordance with UL standards and will carry the UL label of approval. Unit will have C-UL approval.
- Unit cabinet will be capable of withstanding Federal Test Method Standard No. 141 (Method 6061) 500-hr salt spray test.
- Air-cooled condenser coils are pressure tested and the outdoor units are leak tested.
- Unit constructed in ISO9001 approved facility.

Delivery, Storage, and Handling

- Unit will be shipped as single package only and is stored and handled per unit manufacturer's recommendations.

Warranty (for inclusion by specifying engineer)

- U.S. and Canada only.

PRODUCTS

- Unit will be equipped with high-pressure switch, suction pressure transducer, and filter drier for R-410A refrigerant.

Operating Characteristics

- The capacity of the unit will meet or exceed _____ Btuh at a suction temperature of _____ °F (°C). The power consumption at full load will not exceed _____ kW.
- Combination of the unit and the evaporator or fan coil unit will have a total net cooling capacity of _____ Btuh or greater at conditions of _____ CFM entering air temperature at the evaporator at _____ °F (°C) wet bulb and _____ °F (°C) dry bulb, and air entering the unit at _____ °F (°C).
- The system will have a SEER of _____ Btuh/watt or greater at DOE conditions.

Electrical Requirements

- Nominal unit electrical characteristics will be _____ v, single phase, 60 hz. The unit will be capable of satisfactory operation within voltage limits of _____ v to _____ v.
- Unit electrical power will be single point connection.
- Control circuit will be 24v.
- Compliant with IEC 61000-4-5 Transient Surge Requirement.

Special Features

- Refer to section of this literature identifying accessories and descriptions for specific features and available enhancements.
- Observer® control with appropriate software version is required for full featured operation.

SYSTEM DESIGN SUMMARY

1. Intended for outdoor installation with free air inlet and outlet. Outdoor fan external static pressure available is less than 0.01-in. wc.
2. This product is not qualified for low ambient cooling operation.
Minimum cooling outdoor operating temperatures:
 - Communicating systems: 40°F (4.44°C)
 - Non-communicating systems: 55°F (12.8°C)
3. The maximum outdoor operating ambient in cooling mode is 115°F (46.11°C).
4. Minimum outdoor operating air temperature for heating mode is 10°F (–12.2°C).
5. Maximum outdoor operating air temperature for heating mode is 66°F (18.9°C).
6. For reliable operation, unit should be level in all horizontal planes.
7. This unit is qualified for up to 100 ft (30.5 m) equivalent length of line set without additional accessories.
8. If any refrigerant tubing is buried, provide a 6 in. (152.4 mm) vertical rise to the valve connections at the unit. Refrigerant tubing lengths up to 36 in. (914.4 mm) may be buried without further consideration. Do not bury refrigerant lines longer than 36 in. (914.4 mm).
9. Use only copper wire for electric connection at unit. Aluminum and clad aluminum are not acceptable for the type of connector provided.
10. Do not apply capillary tube indoor coils to these units.
11. R-410A refrigerant TXV required on indoor coil.

Accessory Description and Usage

Support Feet

Raises unit above base pad. 2 and 3 ton kit contains 5 feet for stable installation with small base. 4 and 5 ton kit contains 4 feet.

Usage Guideline:

Recommended in cold climates where snow can accumulate around unit. Allows improved base pan drainage.

Recommended for rooftop applications.

Thermostatic Expansion Valve (TXV)

A modulating flow-control valve which meters refrigerant liquid flow rate into the evaporator in response to the superheat of the refrigerant gas leaving the evaporator.

Usage Guideline:

Required if indoor unit does not already contain R-410A refrigerant TXV

Vapor Line Muffler

An external muffler installed in the vapor line to minimize vibration transmitted through refrigerant lines

Usage Guideline:

Recommended if vapor line is not installed per recommendations in the installation instructions and vibration may be transmitted into the structure.

WALL CONTROL

TSTAT0201CW	Observer® Self Configuring Communicating Wall Control	ALL
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ACCESSORY USAGE GUIDELINES

KIT NUMBER	KIT NAME	Unit Size (Voltage/Series)					
		24	25	36	37	48	60
NASA00201SF	Support Feet, 4" (102mm) tall	X	X	X	X	X	X
NAEA40501TX	TXV Kit, R-410A 2010 and later Piston Coils	X	X				
NAEA40601TX				X	X		
NAEA40701TX						X	X
NAEB40501TX			X				
NAEB40601TX	TXV Kit, R-410A 2010 and later Piston Coils			X	X		
NAEB40701TX						X	
1187979	Vapor Line Muffler	X	X	X	X	X	X

X = Accessory