



Turn to the experts

Product Data

Omnizone™ Air-Cooled Indoor Self-Contained Systems

5 to 20 Nominal Tons



50XCA Sizes 06-24
Air-Cooled Indoor Self-Contained Systems with Puron®
Refrigerant (R-410A)

The Omnizone™ 50XCA units provide a practical and economical approach to comfort conditioning requirements for offices, factories, and other applications in existing buildings when indoor air-cooled condensers are required.

The 50XCA single-package cooling units with integral air-cooled condensers offer:

- Compact, durable, and attractive cabinet that fits any working environment
- Ducted or free return with rear return connections and vertical or horizontal supply air discharge
- High-efficiency cooling for commercial and industrial projects
- 2-in. and 4-in. filtration options
- Optional coated evaporator coil
- Rear condenser inlet and discharge and belt drive condenser fan permit condenser air connections to be ducted through window or wall louver
- Uses Puron® refrigerant (R-410A)
- Available hot water or steam heat
- Optional airside economizer

Design flexibility

The 50XCA indoor packaged units are designed to provide the flexibility required in replacement, renovation, and new construction. Units are available in 6 sizes, from 5 tons to 20 tons, which meet the needs for cooling restaurants, retail stores, warehouses, offices, and building additions.

The compact footprint and ability to service from the front of the units save valuable floor space in equipment rooms. Belt drive condensers provide adequate static to overcome ducting and louver static losses. This allows units to be positioned against an existing window or wall louver, or ducted to the outside, as required. These units can be installed in the equipment room or the conditioned space and used for either ducted or free return applications. Unit supply air discharge is vertical.

Easy installation and maintenance

The units are completely pre-piped and wired at the factory to ensure saving time and money for installation and service. Exterior access panels are easily removed to provide speedy inspection, and service work may be done from the front of the unit. Precision engineered parts translate to a quality built, reliable design that will operate efficiently, minimize service calls, and provide years of reliable operation.

Designed for customer satisfaction

Where space and styling are important considerations, 50XCA units are designed to exceed expectations. The high quality, baked enamel finish will fit any environment attractively. These packaged systems provide the user with economy and product satisfaction in cooling, dehumidification, filtering, and air circulation.

Efficient design to increase savings

In order to provide an energy efficient HVAC solution, all 50XCA units have been designed to exceed the ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) 90.1-2016 guidelines.

Special features for outstanding performance

- High efficiency two-stage or tandem scroll compressors provide quiet, reliable two stage cooling on all units.
- Space-saver slab type evaporator and condenser coils use advanced heat transfer technology and provide peak heat transfer efficiency with large coil face area. Fins are mechanically bonded to nonferrous, seamless tubing for efficient leak-free operation.
- Quiet fan performance moves large volumes of indoor air. Compact housing and specially designed discharge air section provide superior air-handling capacity. Vertical and horizontal supply air discharge is available for both ducted or free blow (louvered) applications.
- Convenient front access electrical control center contains all factory pre-wired control devices.
- A stainless steel, sloped, condensate pan is standard. As a result of this new design, the coil is easily accessed for cleaning.
- The cabinets are constructed of galvanized steel, bonderized, and coated on all external surfaces with a baked enamel finish. The paint finish is nonchalking and is capable of withstanding ASTM (American Society for Testing and Materials) Standard No. B117 500-hour salt spray test.
- Choose from a full line of room-mounted thermostats.
- Compressor head pressure control is available to ensure proper unit operation during low ambient conditions.

Table of contents

	Page
Features/Benefits.	2
Model Number Nomenclature	3
AHRI Capacity Ratings.	4
Physical Data.	5
Options and Accessories.	6
Dimensions	7
Performance Data	18
Electrical Data	31
Typical Wiring Schematics	33
Controls	40
Typical Piping and Wiring.	41
Application Data	42
Guide Specifications.	44

- Optional Staged Air Volume (SAV™) fan operation is available for all units and offers a larger fan speed that operates at 67% of full speed for first stage cooling operation and 100% of full speed for second stage cooling operation.
- The compressor is protected by several devices, including current-sensing lockout relay(s), anti-short cycle control, and high and low-pressure

stats. These devices lock out the compressor(s) under abnormal operating conditions to prevent compressor damage and ensure long life.

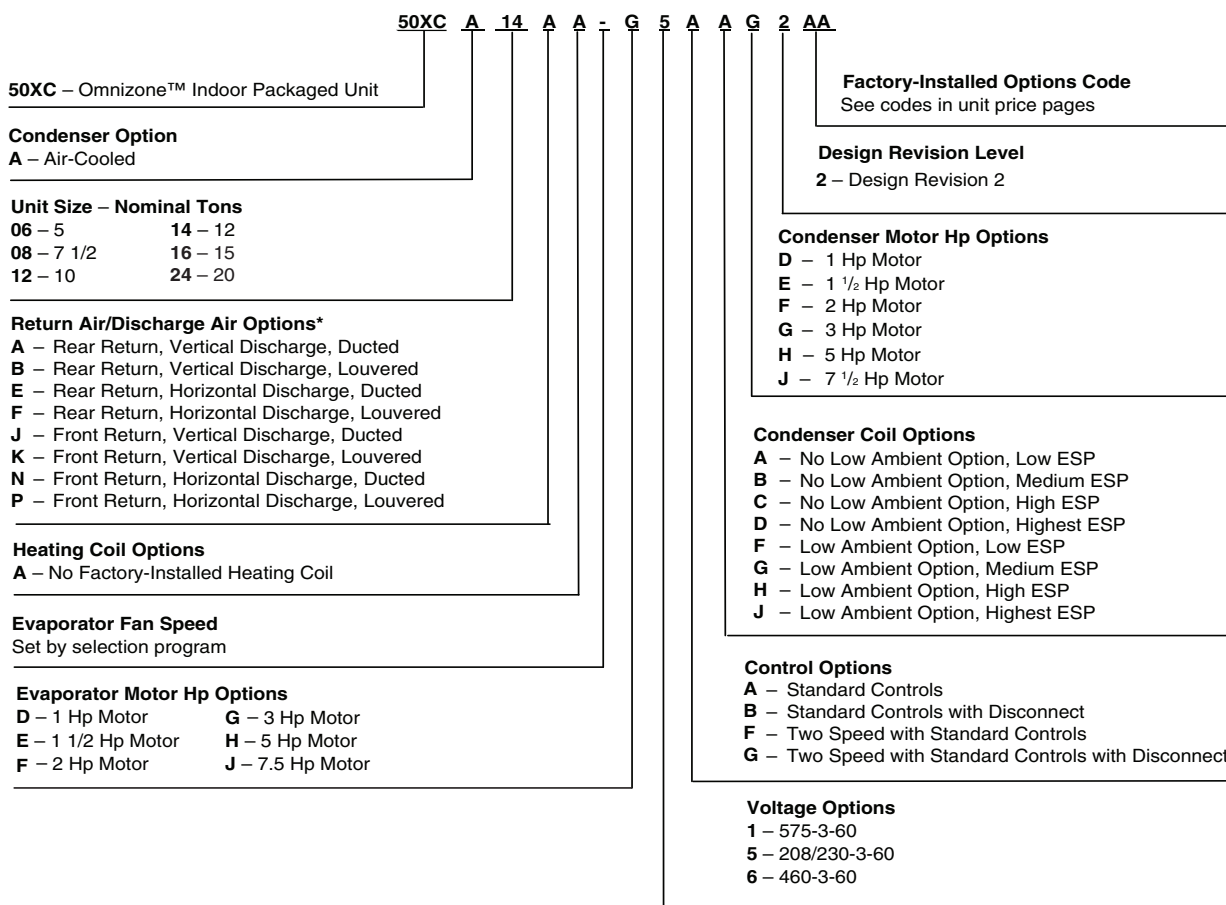
- Easy to understand and operate controls provide a virtually mistake-proof control operation.
- All motors are protected against single-phasing conditions.

- The management system governing the manufacture of this product is ISO 9001:2015 certified.

Environmentally balanced

Making an environmentally responsible decision is possible when using Carrier's Puron® refrigerant (R-410A). Puron refrigerant (R-410A) is an HFC refrigerant that does not contain chlorine that is damaging to the ozone layer.

Model number nomenclature



LEGEND

ESP — External Static Pressure

* Horizontal discharge not available on size 06 or 08.

AHRI capacity ratings



UNIT 50XCA	NOMINAL TONS	EVAPORATOR CFM	CONDENSER CFM	NET COOLING (Btuh)	TOTAL kW	EER	IEER
06	5	1,875	3,400	65,000	6.0	11.2	13.0
08	7½	2,625	4,000	80,000	7.1	11.2	13.1
12	10	3,500	6,400	138,000	10.7	11.2	13.1
14	12	4,200	6,700	140,000	12.7	11.0	14.0
16	15	5,000	9,000	180,000	16.4	11.0	12.6
24	20	7,000	10,300	240,000	24.2	10.0	11.8

LEGEND

- AHRI** — Air-Conditioning, Heating, and Refrigeration Institute
- EER** — Energy Efficiency Ratio
- IEER** — Integrated Energy Efficiency Ratio

NOTES:

1. Units are certified in accordance with AHRI standard 340/360.
2. Ratings subject to change without notice.
Please use Carrier ECat SCU builder for latest ratings.



Physical data



UNIT 50XCA	06	08	12	14	16	24
NOMINAL CAPACITY (tons)	5	7.5	10	12	15	20
BASE UNIT OPERATING WEIGHT (lb)	883	1153	1352	1380	1645	2041
COMPRESSOR	Scroll					
Compressor Model	ZPS60	ZPS67	ZP54/ZP49	ZP61/ZP57	ZP91/ZP67	ZP122/ZP91
Quantity	1	1	2	2	2	2
Steps of Control	1	1	2	2	2	2
Operating Charge R-410A (lb)	19.1	19.2	32.8	42.4	34.1	50.4
EVAPORATOR FAN	Adjustable, Belt Drive, Centrifugal Type					
Nominal Cfm	1750	2600	3500	4375	5000	7000
Cfm Range	1500 to 2500	2250 to 3750	3000 to 5000	3600 to 6000	4500 to 5500	6500 to 8000
Available Static (in. wg)	0 - 1.6	0 - 1.6	0 - 1.6	0 - 1.6	0 - 1.6	0 - 1.6
Evaporator Fan Size	110-10R	110-10R	120-9R	120-9R	120-9R	120-11R
Number of Evaporator Fans	1	2	2	2	3	3
Standard Speed Range (rpm)	576-782	712-949	656-875	712-949	564-836	664-936
Max. Allowable rpm	1600	1700	2000	2000	2000	2000
Belt Type	A41	BX42	BX51	BX51	BX51	BX66
Fan Pulley (Type)	AK89	BK65	BK70	BK65	BK67	BK95
Motor Pulley (Type)	1VL44	1VP34	1VP34	1VP34	1VP34	1VP50
Std Hp	1.0	1.0	1.0	1.5	1.5	3.0
Hp Range	1 - 2	1 - 2	1 - 3	1.5 - 5	1.5 - 5	3 - 7.5
Fan Shaft Size (in.)	0.75	1	1	1	1.875	1.875
Motor Shaft Size (in.)	0.875	0.875	0.875	0.875	0.875	1.125
Center Distance (in.) - Vertical	15.3	15.3	18.1	18.1	18.1	21.3
Center Distance (in.) - Horizontal	N/A	N/A	15.5	13	15.7	18.1
EVAPORATOR COIL	³ / ₈ -in. OD, Enhanced Copper Tube, Aluminum Fins					
Quantity Rows/Fins/in.	3/15	4/15	3/15	4/15	4/15	4/15
Fin Block Size (H x L) (in.)	28x35	28x46	32x60	32x60	32x80	36x80
Face Area (sq ft)	6.8	8.9	13.3	13.3	17.7	20
RETURN AIR FILTERS						
Std 1 in., Throwaway	(2) 25 x 25	(2) 25 x 25	(8) 16 x 16	(8) 16 x 16 (2) 16 x 20	(8) 16 x 16 (2) 16 x 20	(4) 18 x 24 (4) 18 x 18
CONDENSER FAN	Adjustable, Belt Drive, Centrifugal Type					
Nominal Cfm	3400	4000	6000	8000	8000	10300
Cfm Range	2625 - 4300	2625 - 4300	4625 - 7375	6000 - 9500	6000-9500	9000 to 11300
Available Static (in. wg)	0 - 1.0	0 - 1.0	0 - 1.0	0 - 1.0	0 - 1.0	0 - 1.0
Condenser Fan Size	110-10R	110-10R	150-12R	150-15R	150-11R	150-11R
Number of Condenser Fans	2	2	2	2	3	3
Standard Speed Range (Rpm)	656-875	656-875	712-949	764-1011	614-886	664-936
Max. Allowable Rpm	1700	1700	1700	1600	1700	1700
Belt Type	BX66	BX66	BX75	BX77	BX82	BX87
Fan Pulley (Type)	BK70	BK65	BK90	BK100	BK130	BK85
Motor Pulley (Type)	1VL44	1VP34	1VP34	1VP34	1VL34	1VP50
Std Hp	1	1	1	1	3	3
Hp Range	1 - 2	1 - 2	1 - 3	1 - 3	3 - 5	3 - 7.5
Fan Shaft Size (in.)	1	1	1	1 ³ / ₁₆	1 ⁷ / ₁₆	1 ⁷ / ₁₆
Motor Shaft Size (in.)	⁷ / ₈	⁷ / ₈	⁷ / ₈	⁷ / ₈	1 ¹ / ₈	1 ¹ / ₈
Center Distance (in.)	27.1	27.1	29.8	29.8	29.8	35.1
CONDENSER COIL	³ / ₈ -in. OD, Enhanced Copper Tube, Aluminum Fins					
Quantity Rows/Fins/in.	6/16	6/16	6/16	6/16	5/16	5/16
Fin Block Size (H x L) (in.)	30 x 46	30 x 46	32 x 60	32 x 80	34 x 80	40 x 80
Face Area (sq ft)	9.6	9.6	13.3	17.8	18.8	22.22
HIGH-PRESSURE SWITCH	Opens at 595 ± 10 psig; Closes at 443 ± 15 psig				Opens at 650± 10 psig; Closes at 500 ± 15 psig	
LOW-PRESSURE SWITCH	Opens at 53 ± 5 psig; Closes at 80 ± 7 psig					
CONDENSER DRAIN LINE (in.)	1 at ³ / ₄ MPT (Male Pipe Thread)					

ITEM	FACTORY-INSTALLED OPTION	FIELD-INSTALLED ACCESSORY
Hot Water Coil		X
Low Ambient Operation	X	
Supply Air Plenum		X
Winter Start Operation	X	
Two-Speed Supply Fan	X	
Evaporator and Condenser Coil Coating	X	
Non-Fused Disconnect	X	
High-Static Motor Upgrade	X	
4-in. Filter	X	
Airside Economizer		X
Steam Heat		X

Factory-installed options

Low ambient option allows a refrigerant pressure controlled VFD (variable frequency drive) to adjust condenser fan speed to control head pressure. This fan speed control permits the unit to operate in cooling, even in winter - when outdoor air temperature is down to 0°F.

Winter start option provides a bypass of low-pressure switch on start-up for initial 90 seconds.

Two-speed supply fan includes a factory installed and programmed VFD, which is used to operate the supply fan at 67% during first stage cooling and 100% fan speed during second stage cooling or any heating call.

Evaporator and condenser coil coating is continuous and covers the whole fin surface, tubing, manifolds, and feeder lines if applicable. For evaporator coils with thermostatic expansion valve assemblies, valve body, head, and bulb shall be masked. A minimum of 2-in. shall be masked on all coil connection points. Expansion valve inlet piping if less than 6-in. in total length, expansion valve distributor, and external equalizer line are not required to be coated.

4-in. filter supplied with the unit has 4-in. deep pleated, 30% high-efficiency filters. The filters shall have side access capability through an access panel.

Non-fused disconnect is located by the unit control panel to disconnect all unit power. The lockable switch is accessible without opening any control panels.

High-static motor upgrade may be required for higher external static pressure (ESP) needed for factory or field-installed accessories (dampers, heating coils, etc.) to achieve the required performance.

Units are designed with a fixed pulley on the blower and an adjustable sheave on the motor. The sheave turns open or the components themselves may need to be changed to provide the desired performance.

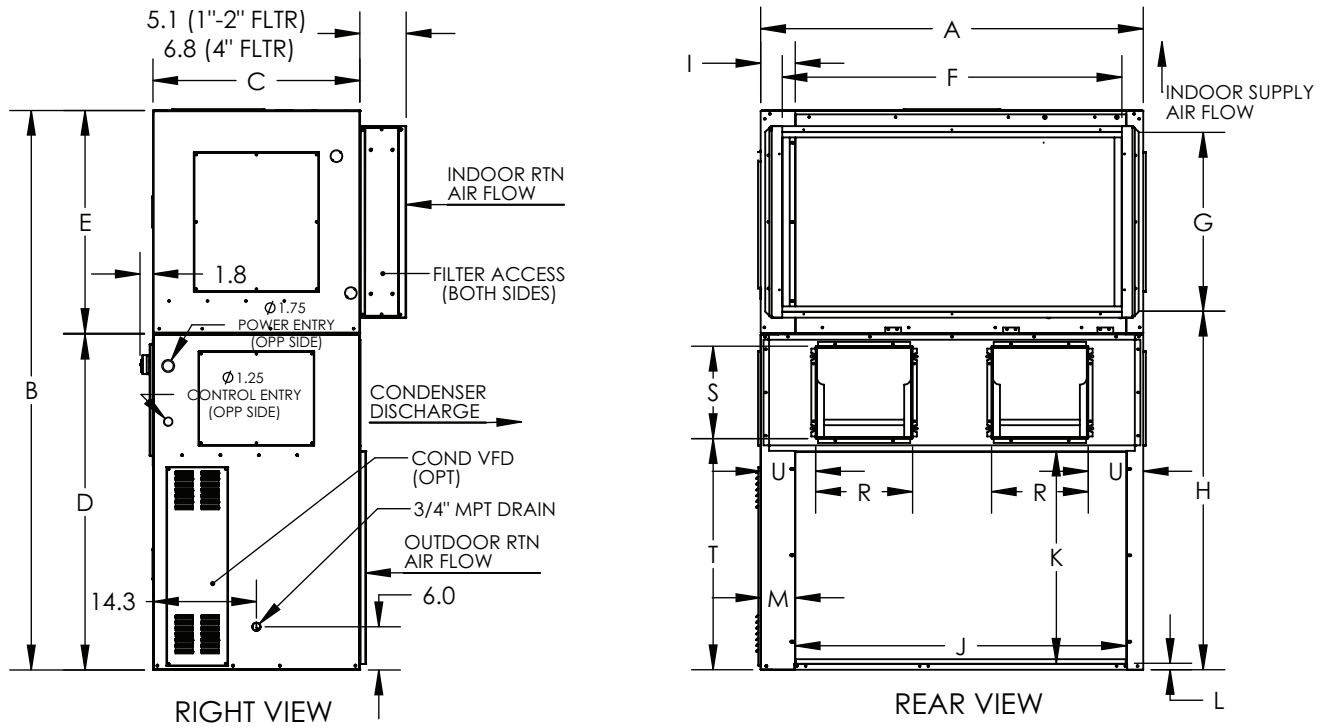
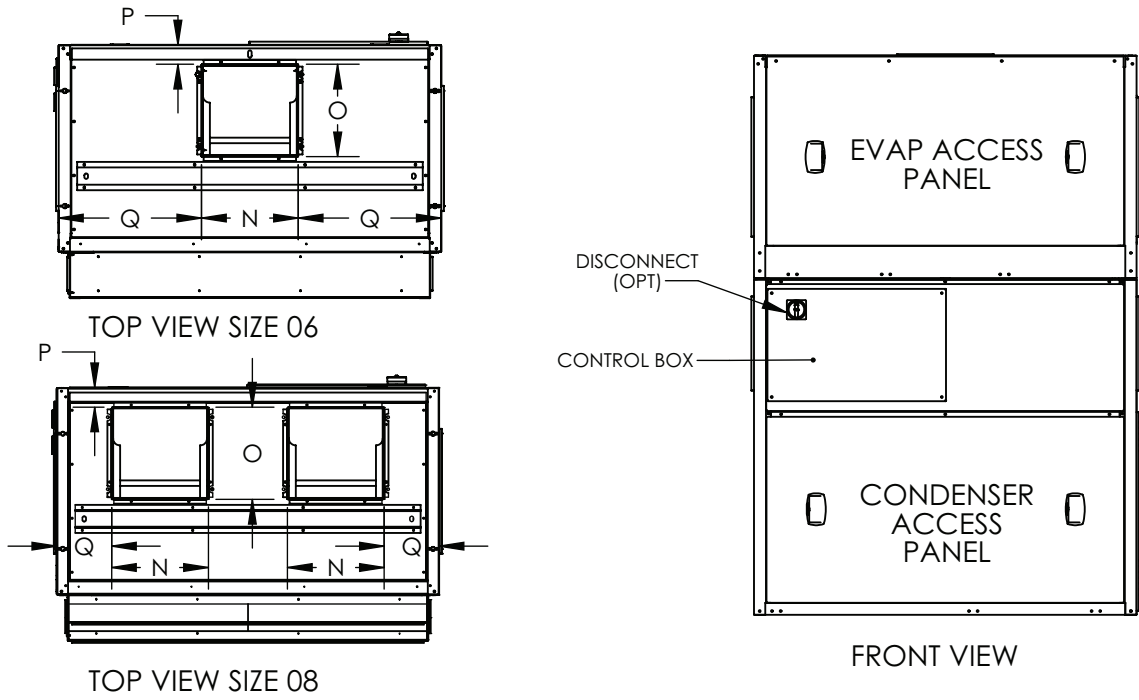
Field-installed accessories

Supply air plenum provides adjustable horizontal and vertical louvers for controlled free blow into conditioned space. The plenum mounts easily on top of base unit and matches unit styling.

Hot water or steam coil is factory installed and shall be available inside the unit cabinet in the pre-heat position. Steam coil shall be 1 row, steam distributing type. Hot water coil shall be 2 row. Control valves and freeze protection shall be field provided.

Airside economizer shall have a low leak damper assembly with Honeywell W7220 economizer controller for fault detection and diagnostics (FDD).

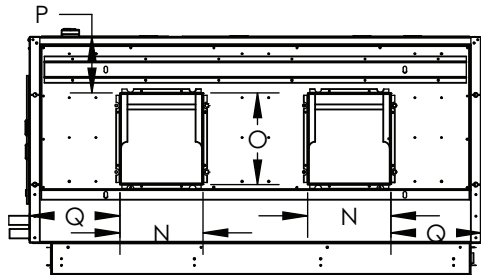
REAR RETURN, VERTICAL DISCHARGE



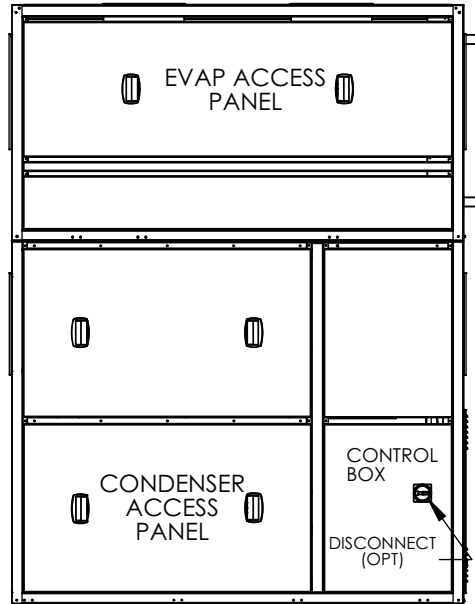
UNIT 50XCA	WIDTH	HEIGHT	DEPTH	COND SECTION	EVAP SECTION	EVAP RETURN DUCT				COND RETURN DUCT				EVAP SUPPLY DUCT (Blower Opening)				COND DISCHARGE DUCT (Blower Opening)			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
06	53.1	77.1	29.0	46.6	31.0	47.2	24.8	49.8	4.8	46	29.4	0.9	4.8	13.4	12.8	2.7	19.8	13.4	12.8	32.1	7.6
08	53.1	77.1	29.0	46.6	31.0	47.2	24.8	49.8	4.8	46	29.4	0.9	4.8	13.4	12.8	2.7	7.6	13.4	12.8	32.1	7.6

NOTE: Dimensions are in inches.

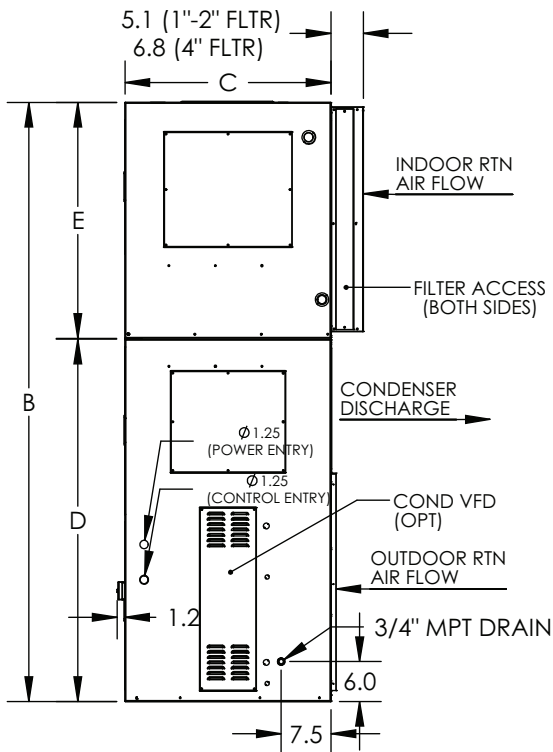
REAR RETURN, VERTICAL DISCHARGE



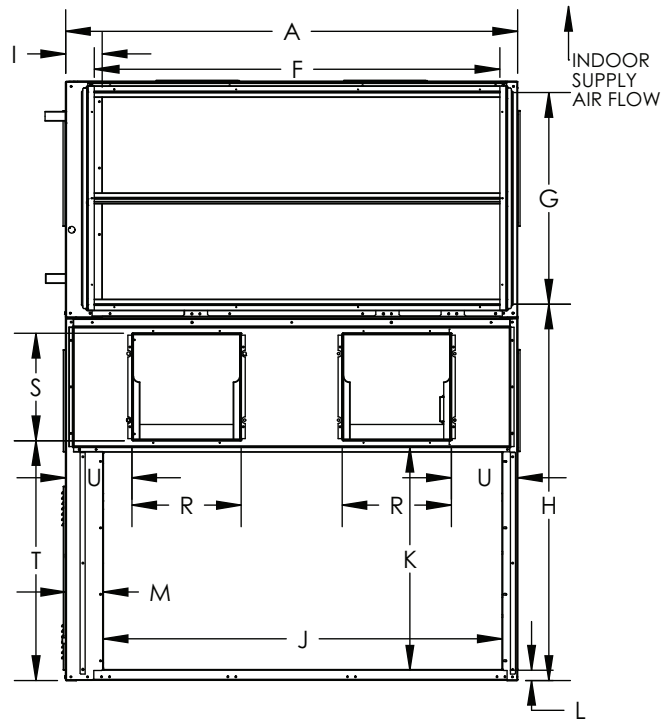
TOP VIEW



FRONT VIEW



RIGHT VIEW

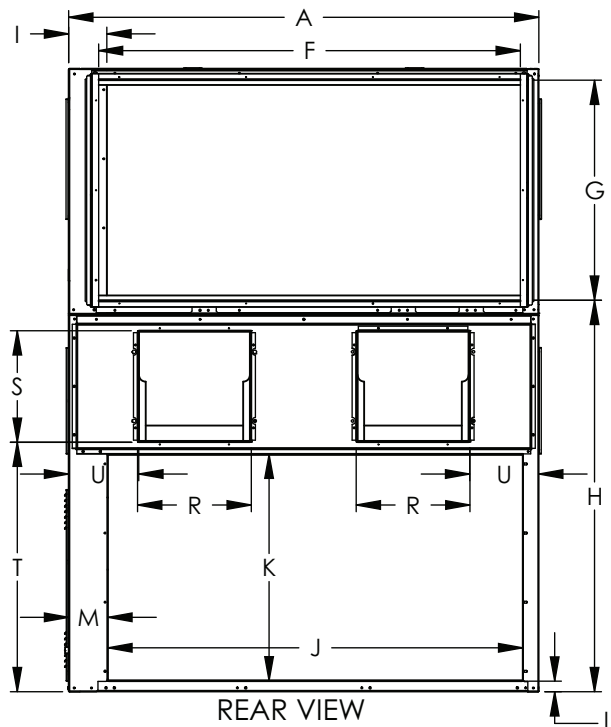
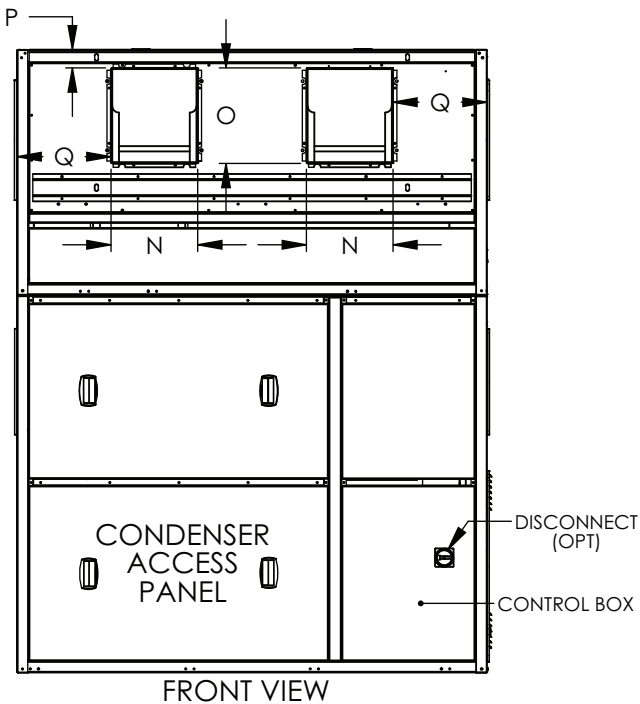
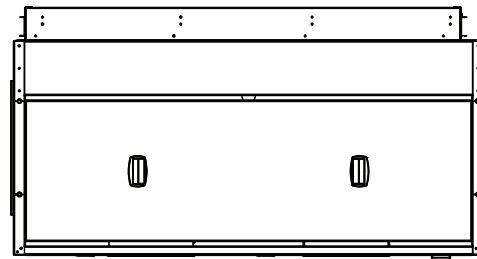
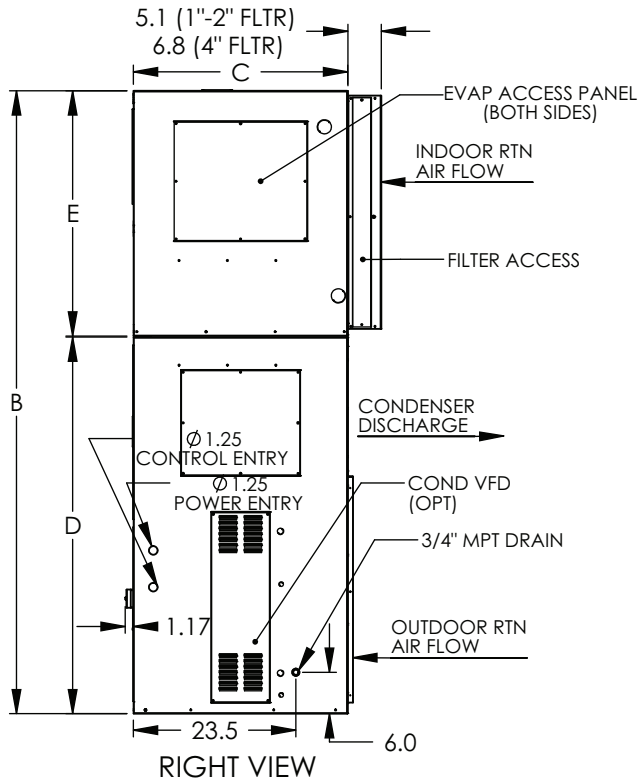


REAR VIEW

UNIT 50XCA	WIDTH	HEIGHT	DEPTH	COND SECTION	EVAP SECTION	EVAP RETURN DUCT				COND RETURN DUCT				EVAP SUPPLY DUCT (Blower Opening)				COND DISCHARGE DUCT (Blower Opening)			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
12	68.0	90.1	31.2	54.5	35.5	61.1	31.8	56.7	5.5	60	32.8	1.5	5.7	12.5	13.8	8.5	13.6	16.4	16.2	36.5	11.5
14	88.0	90.1	31.2	54.5	35.5	81.0	31.8	56.7	2.5	80	32.8	1.5	5.7	12.5	13.8	8.5	23.6	18.9	16.2	36.6	17.2

NOTE: Dimensions are in inches.

REAR RETURN, HORIZONTAL DISCHARGE



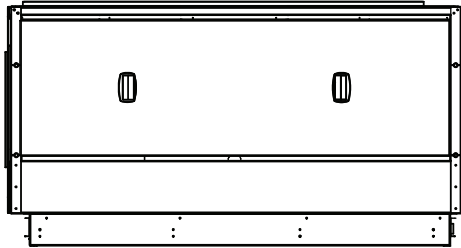
UNIT 50XCA	WIDTH		HEIGHT B	DEPTH C	COND SECTION D	EVAP SECTION E	EVAP RETURN DUCT			COND RETURN DUCT				EVAP SUPPLY DUCT (Blower Opening)			COND DISCHARGE DUCT (Blower Opening)					
	A						F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
12	68.0		90.1	31.2	54.5	35.5	61.1	31.8	56.7	5.5	60	32.8	1.5	5.7	12.5	13.8	2.7	13.6	16.4	16.2	36.5	11.5
14	88.0		90.1	31.2	54.5	35.5	81.0	31.8	56.7	2.5	80	32.8	1.5	5.7	12.5	13.8	2.7	23.6	18.9	16.2	36.6	17.2

NOTE: Dimensions are in inches.

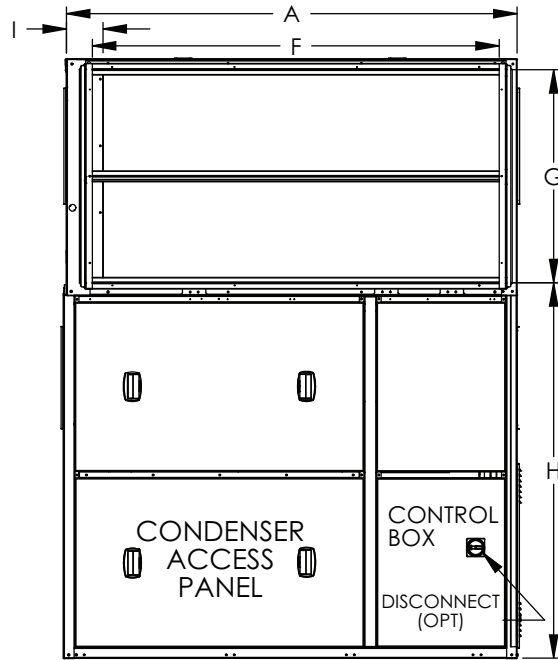
Dimensions – 50XCA12,14 (cont)



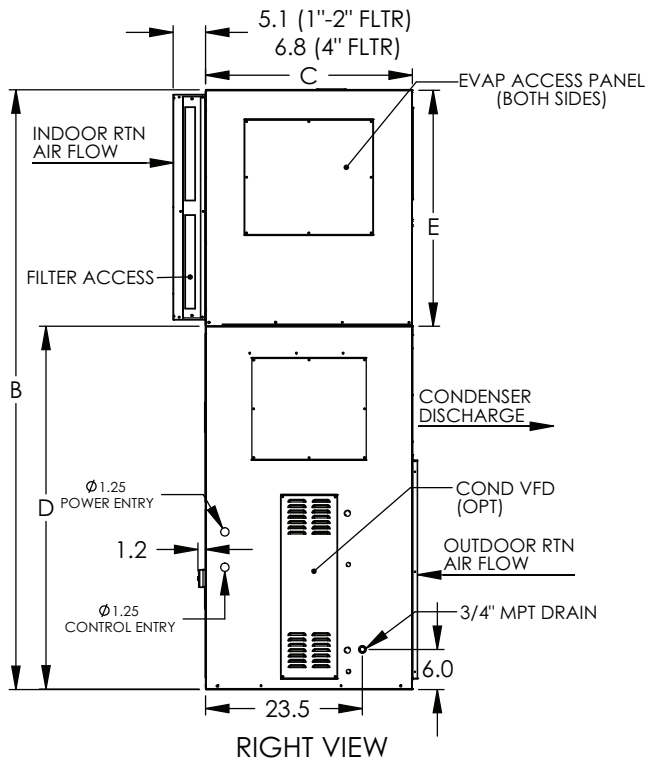
FRONT RETURN, HORIZONTAL DISCHARGE



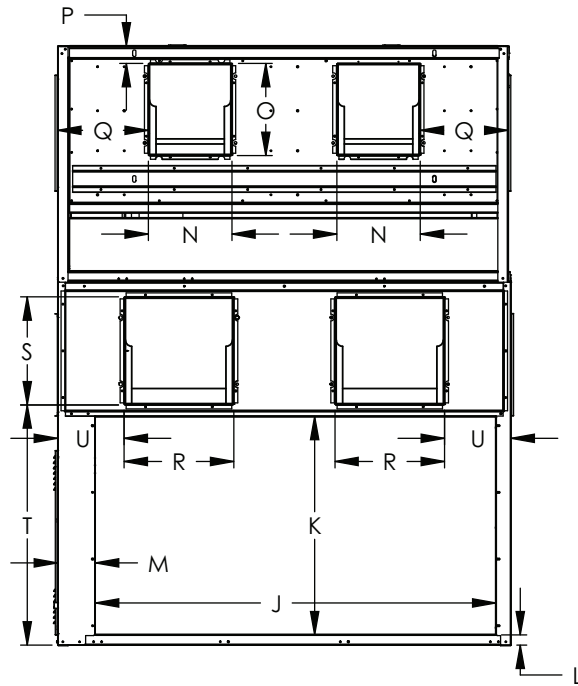
TOP VIEW



FRONT VIEW



RIGHT VIEW

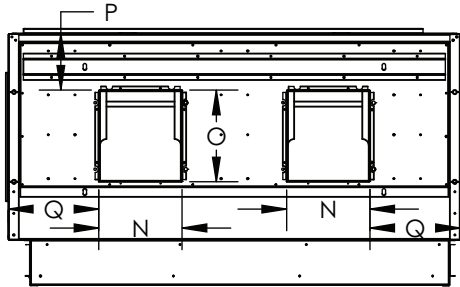


REAR VIEW

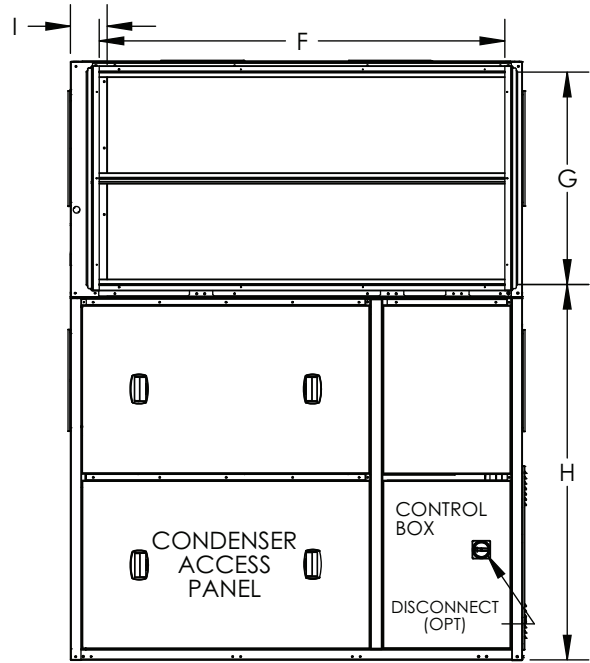
UNIT 50XCA	WIDTH	HEIGHT	DEPTH	COND SECTION	EVAP SECTION	EVAP RETURN DUCT				COND RETURN DUCT				EVAP SUPPLY DUCT (Blower Opening)				COND DISCHARGE DUCT (Blower Opening)			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
12	68.0	90.1	31.2	54.5	35.5	61.1	31.8	56.7	5.5	60	32.8	1.5	5.7	12.5	13.8	2.6	13.6	16.4	16.2	36.5	11.5
14	88.0	90.1	31.2	54.5	35.5	81.0	31.8	56.7	2.5	80	32.8	1.5	5.7	12.5	13.8	2.6	23.6	18.9	16.2	36.6	17.2

NOTE: Dimensions are in inches.

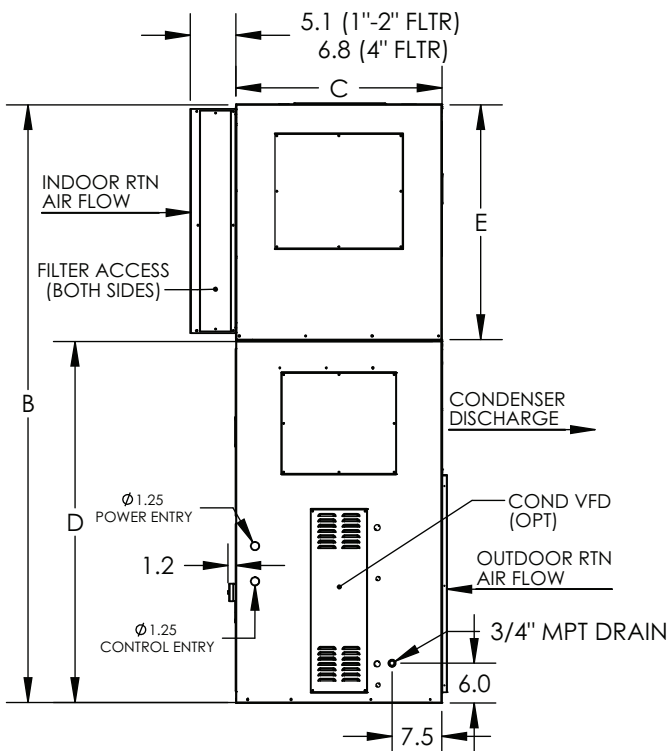
FRONT RETURN, VERTICAL DISCHARGE



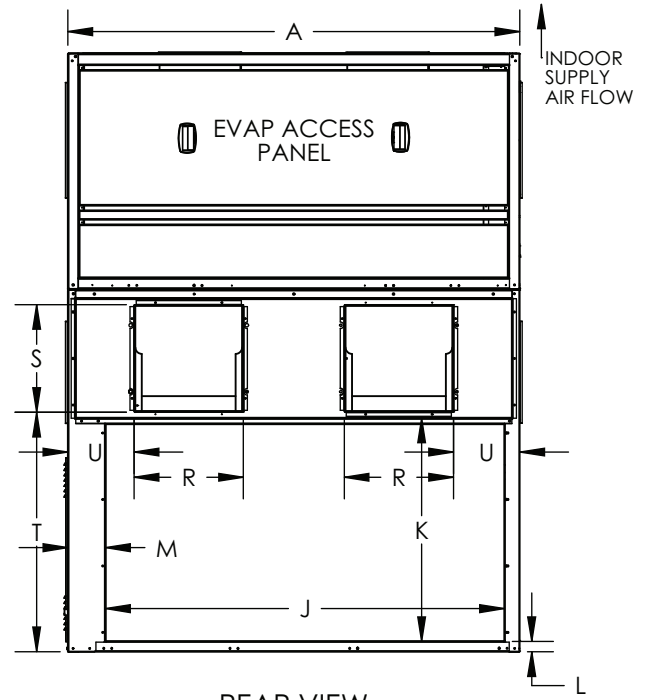
TOP VIEW



FRONT VIEW



RIGHT VIEW

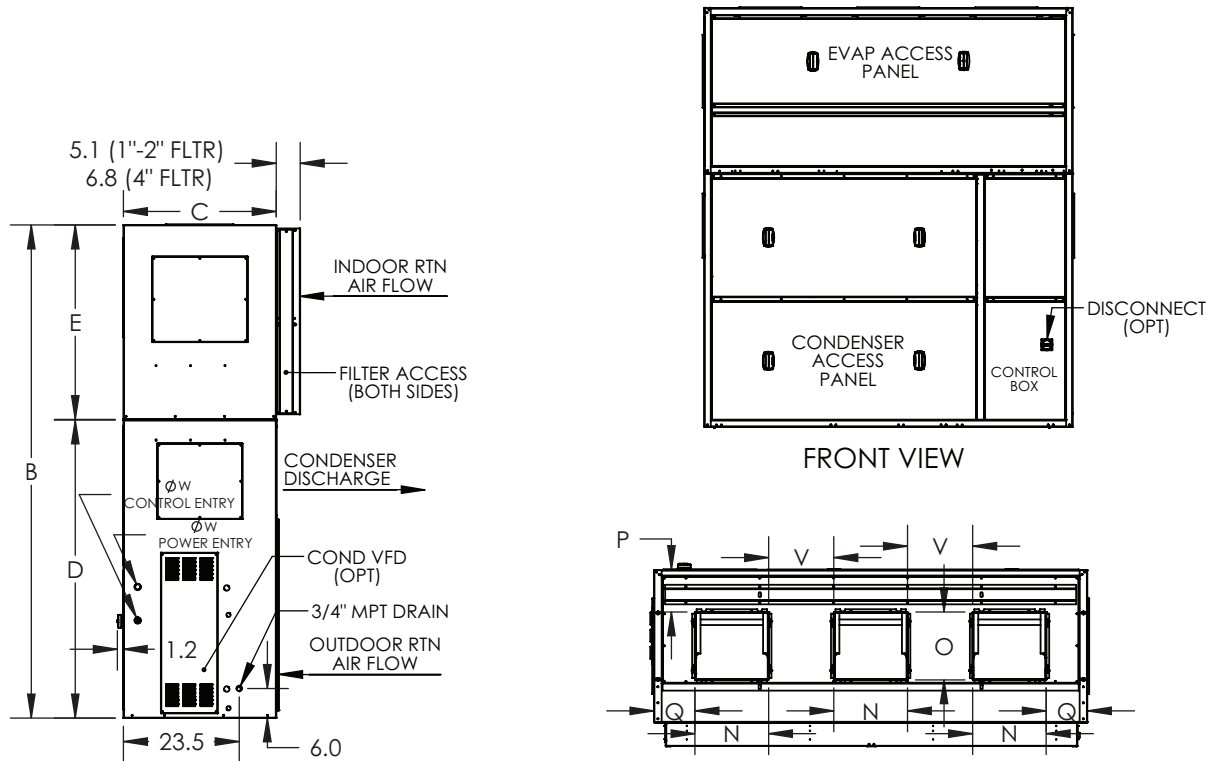


REAR VIEW

UNIT 50XCA	WIDTH	HEIGHT	DEPTH	COND SECTION	EVAP SECTION	EVAP RETURN DUCT				COND RETURN DUCT			EVAP SUPPLY DUCT (Blower Opening)				COND DISCHARGE DUCT (Blower Opening)				
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
12	68.0	90.1	31.2	54.5	35.5	61.1	31.8	56.7	5.5	60	32.8	1.5	5.7	12.5	13.8	8.5	13.6	16.4	16.2	36.5	11.5
14	88.0	90.1	31.2	54.5	35.5	81.0	31.8	56.7	2.5	80	32.8	1.5	5.7	12.5	13.8	8.9	23.6	18.9	16.2	36.6	17.2

NOTE: Dimensions are in inches.

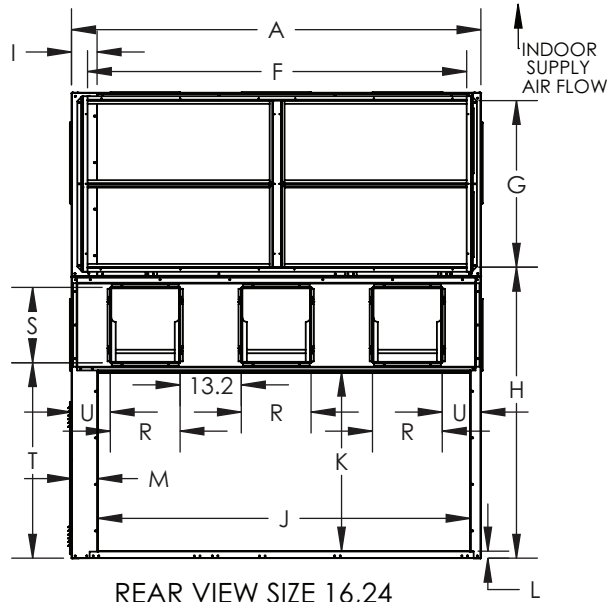
REAR RETURN, VERTICAL DISCHARGE



RIGHT VIEW

FRONT VIEW

TOP VIEW

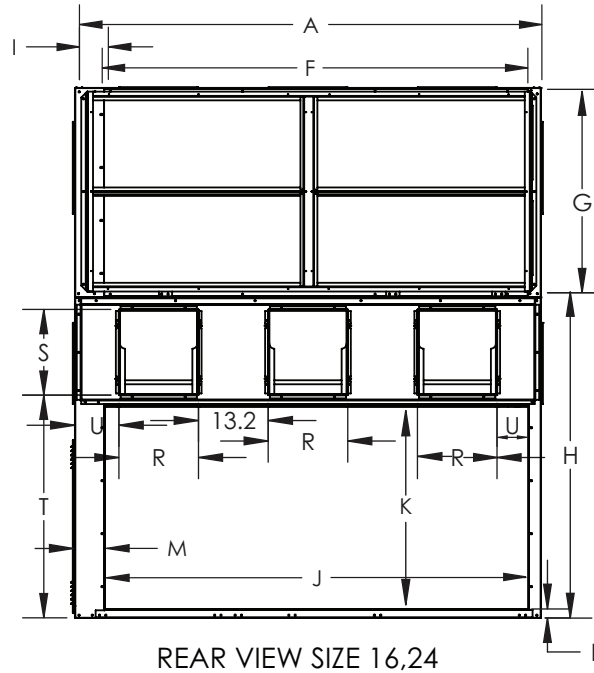
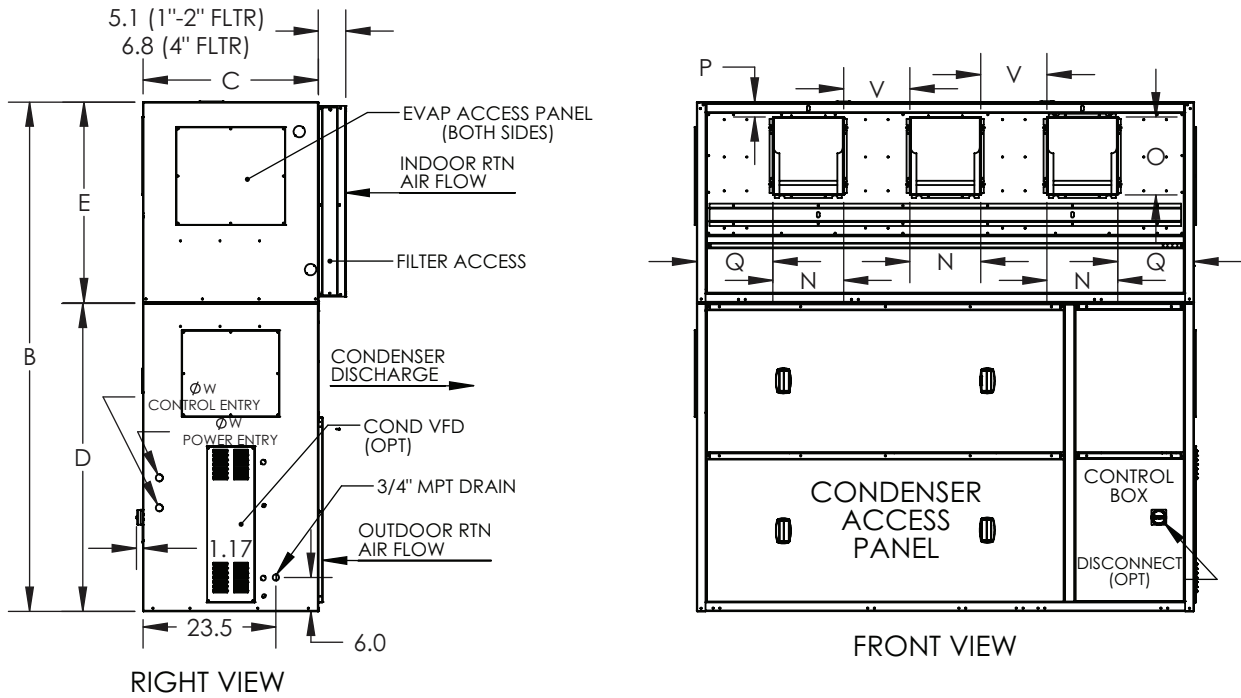


REAR VIEW SIZE 16,24

UNIT 50XCA	WIDTH		DEPTH	COND SECT	EVAP SECT	EVAP RETURN DUCT				COND RETURN DUCT				EVAP SUPPLY DUCT (Blower Opening)					COND DISCHARGE DUCT (Blower Opening)				P/C
	A	B				F	G	H	I	J	K	L	M	N	O	P	Q	V	R	S	T	U	
16	88.0	90.1	31.2	54.5	35.5	81.0	31.8	56.7	5.5	80	32.8	1.5	5.7	12.5	13.8	8.5	13.5	11.7	18.9	16.2	36.5	16.2	1.25
24	88.0	100.1	31.2	60.5	39.5	81.5	35.8	62.6	5.5	80	38.5	1.5	5.7	14.9	13.8	8.6	8.3	13.2	15.0	16.2	42.0	8.3	2.00

NOTE: Dimensions are in inches.

REAR RETURN, HORIZONTAL DISCHARGE



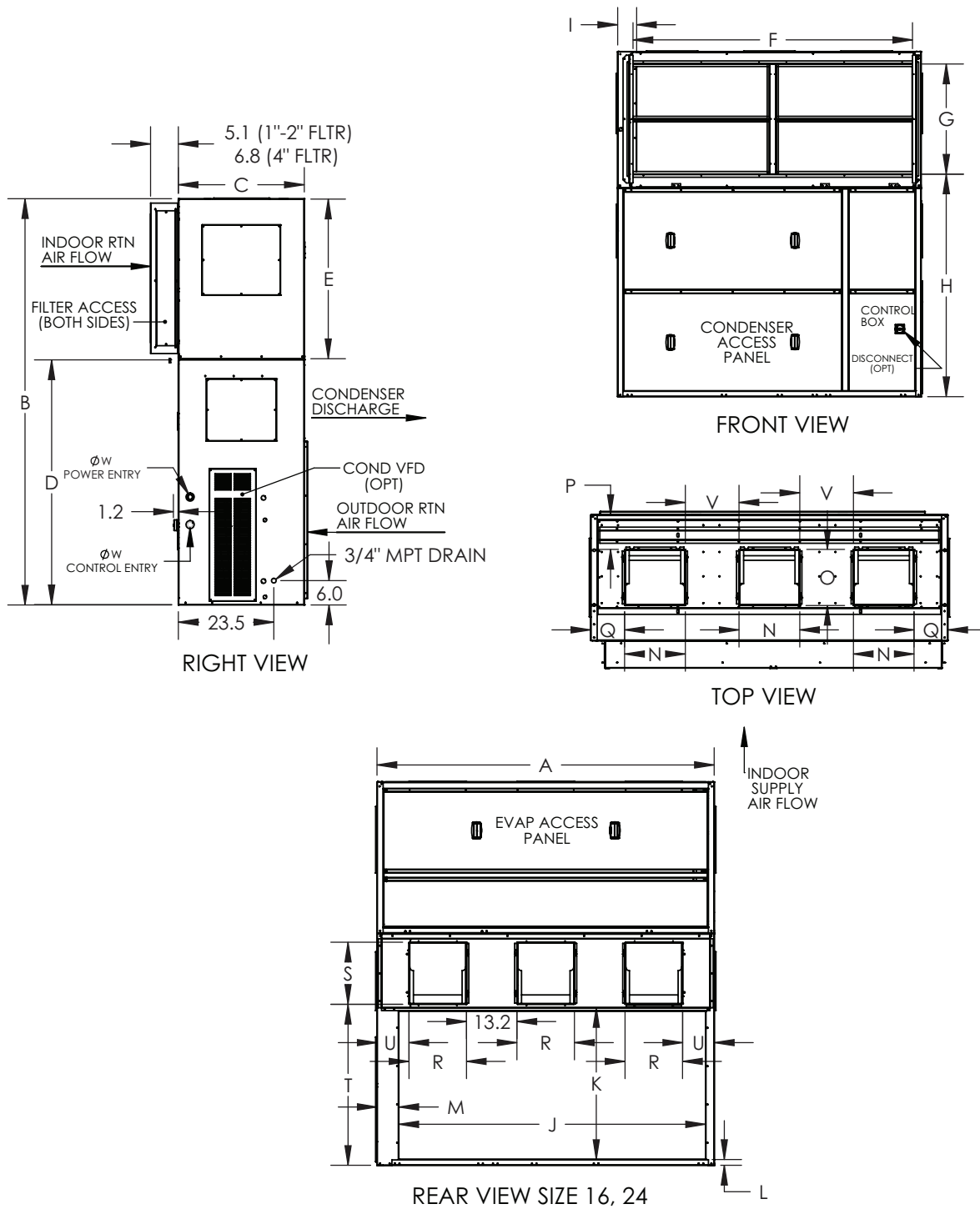
UNIT 50XCA	WIDTH	HEIGHT	DEPTH	COND SECT	EVAP SECT	EVAP RETURN DUCT				COND RETURN DUCT				EVAP SUPPLY DUCT (Blower Opening)					COND DISCHARGE DUCT (Blower Opening)					P/C
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	V	R	S	T	U	W	
16	88.0	90.1	31.2	54.5	35.5	81.0	31.8	56.7	5.5	80	32.8	1.5	5.7	12.5	13.8	2.6	13.5	11.7	18.9	16.2	36.5	16.2	1.25	
24	88.0	100.1	31.2	60.5	39.5	81.5	35.8	62.6	5.5	80	38.5	1.5	5.7	14.9	13.8	2.6	8.3	13.2	15.0	16.2	42.0	8.3	2.00	

NOTE: Dimensions are in inches.

Dimensions – 50XCA16,24 (cont)



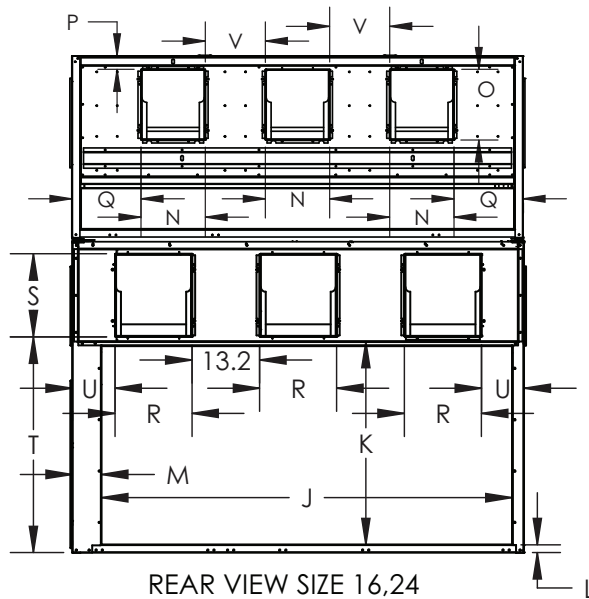
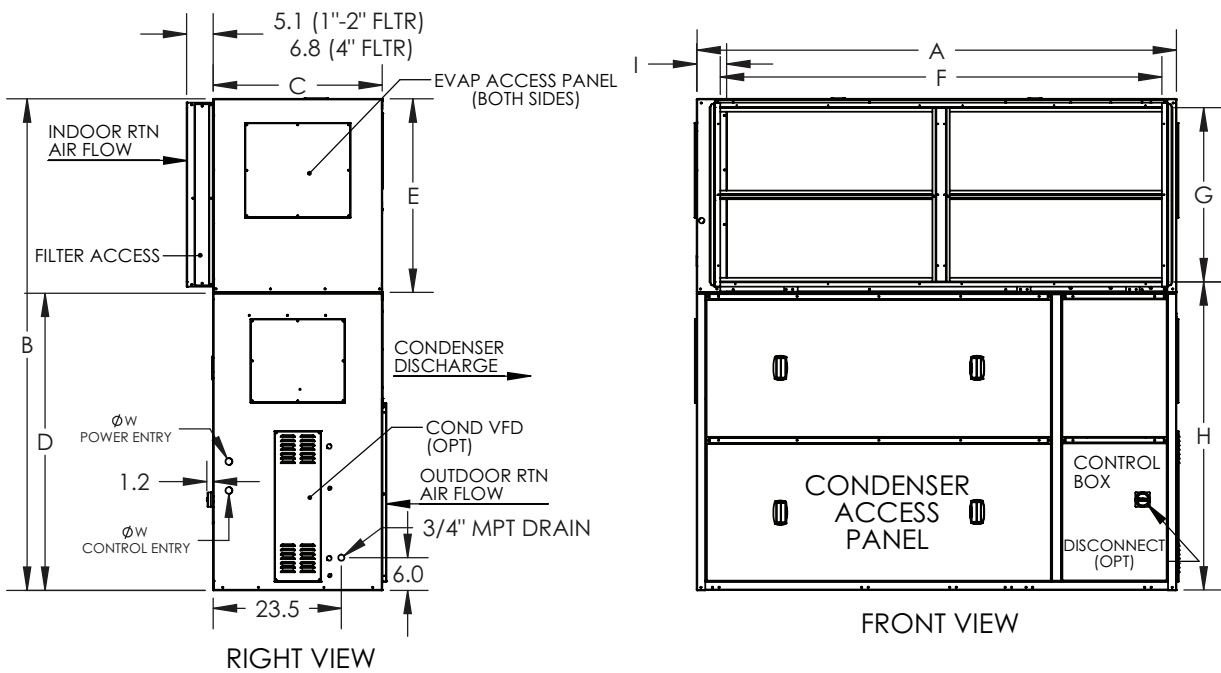
FRONT RETURN, VERTICAL DISCHARGE



UNIT 50XCA	WIDTH		DEPTH	COND SECT	EVAP SECT	EVAP RETURN DUCT				COND RETURN DUCT				EVAP SUPPLY DUCT (Blower Opening)					COND DISCHARGE DUCT (Blower Opening)					P/C
	A	B				F	G	H	I	J	K	L	M	N	O	P	Q	V	R	S	T	U	W	
16	88.0	90.1	31.2	54.5	35.5	81.0	31.8	56.7	5.5	80	32.8	1.5	5.7	12.5	13.8	8.5	13.5	11.7	18.9	16.2	36.5	16.2	1.25	
24	88.0	100.1	31.2	60.5	39.5	81.5	35.8	62.6	5.5	80	38.5	1.5	5.7	14.9	13.8	8.6	8.3	13.2	15.0	16.2	42.0	8.3	2.00	

NOTE: Dimensions are in inches.

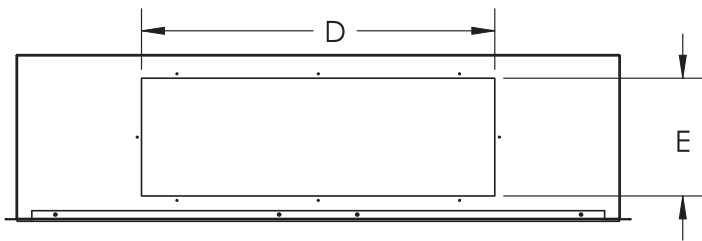
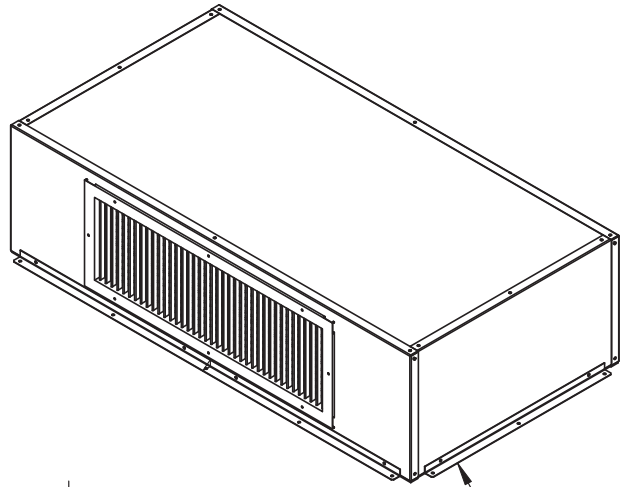
FRONT RETURN, HORIZONTAL DISCHARGE



UNIT 50XCA	WIDTH	HEIGHT	DEPTH	COND SECT	EVAP SECT	EVAP RETURN DUCT				COND RETURN DUCT				EVAP SUPPLY DUCT (Blower Opening)					COND DISCHARGE DUCT (Blower Opening)				P/C
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	V	R	S	T	U	
16	88.0	90.1	31.2	54.5	35.5	81.0	31.8	56.7	5.5	80	32.8	1.5	5.7	12.5	13.8	2.6	13.5	11.7	18.9	16.2	36.5	16.2	1.25
24	88.0	100.1	31.2	60.5	39.5	81.5	35.8	62.6	5.5	80	38.5	1.5	5.7	14.9	13.8	2.6	8.3	13.2	15.0	16.2	42.0	8.3	2.00

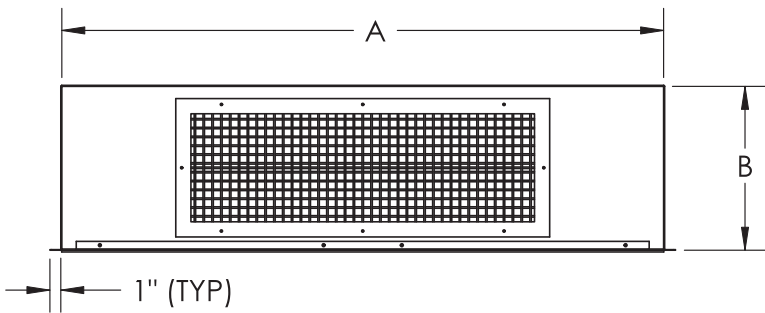
NOTE: Dimensions are in inches.

50XC PLENUM UNIT

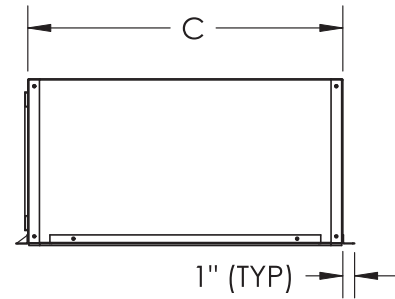


**FRONT VIEW
LESS GRILLE**

MOUNTING ANGLES



FRONT VIEW

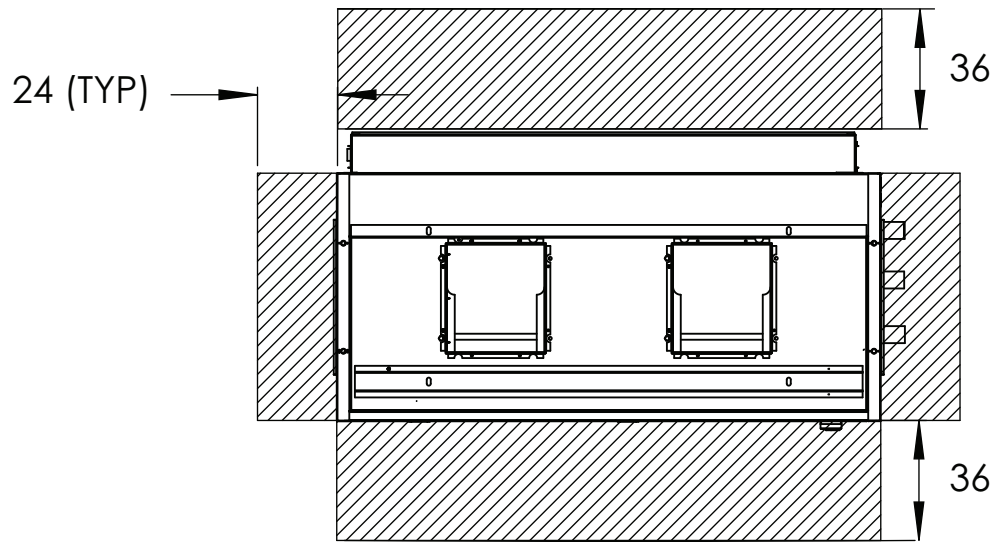


RIGHT VIEW

MODEL	UNIT SIZE	A	B	C	D	E	WEIGHT (lb)
50XCA900-200A00	06	51.3	14.0	26.8	30.0	10.0	65
50XCA900-201A00	08	51.3	14.0	26.8	45.0	10.0	65
50XCA900-202A00	12	66.0	14.0	28.9	60.0	10.0	80
50XCA900-203A00	14	86.0	19.0	28.9	48.0	15.0	115
50XCA900-204A00	16	86.0	19.0	28.9	60.0	15.0	115
50XCA900-205A00	24	86.0	19.0	28.9	80.0	15.0	115

NOTE: Dimensions are in inches.

UNIT CLEARANCES



NOTE: Dimensions are in inches.

STEAM CAPACITIES

UNIT SIZE 50XCA	STEAM PRESSURE (psig)	CFM	40 F EAT		50 F EAT		60 F EAT		70 F EAT	
			TC	LDB	TC	LDB	TC	LDB	TC	LDB
06	2	1500	86	92.1	81	99.2	76	106.3	72	113.4
		2000	103	86.7	97	94.1	91	101.5	86	108.9
		2500	118	82.8	111	90.4	104	98.0	98	105.6
	5	1500	90	94.5	85	101.6	80	108.7	76	115.8
		2000	108	88.9	102	96.3	96	103.6	90	111.0
		2500	123	84.7	116	92.3	110	99.9	103	107.5
	10	1500	96	97.9	91	105.0	86	112.1	81	119.2
		2000	114	92.0	109	99.3	103	106.7	97	114.1
		2500	131	87.5	124	95.1	118	102.8	111	110.4
08	2	2250	124	90.1	117	97.3	110	104.5	103	111.7
		3000	148	84.8	140	92.3	132	99.8	123	107.3
		3750	169	80.9	159	88.6	150	96.4	141	104.1
	5	2250	130	92.4	123	99.6	116	106.8	109	114.0
		3000	155	86.9	147	94.4	138	101.9	130	109.4
		3750	177	82.8	167	90.5	158	98.2	148	105.9
	10	2250	138	95.7	131	102.9	124	110.1	117	117.3
		3000	165	89.8	156	97.4	148	104.8	140	112.4
		3750	188	85.5	178	93.2	169	100.9	159	108.7
12	2	3000	174	92.8	164	99.8	155	106.9	145	113.9
		4000	209	87.4	197	94.8	185	102.1	174	109.5
		5000	238	83.4	225	90.9	212	98.5	199	106.1
	5	3000	182	95.2	173	102.3	163	109.3	153	116.4
		4000	218	89.6	207	96.9	195	104.3	183	111.6
		5000	249	85.3	236	92.9	223	100.5	209	108.1
	10	3000	194	98.7	184	105.7	174	112.8	164	119.8
		4000	232	92.7	220	100.0	209	107.4	197	114.8
		5000	265	88.2	252	95.8	239	103.4	225	110.9
14	2	3750	200	88.6	189	95.9	178	103.2	167	110.4
		5000	239	83.4	225	91.0	212	98.5	199	106.1
		6250	272	79.5	257	87.3	241	95.1	226	102.9
	5	3750	210	90.8	198	98.1	187	105.4	176	112.7
		5000	250	85.4	236	92.9	223	100.5	210	108.1
		6250	284	81.4	269	89.1	254	96.9	239	104.7
	10	3750	223	94.0	212	101.3	200	108.6	189	115.6
		5000	265	88.2	252	95.8	239	103.4	225	111.0
		6250	302	84.0	287	91.8	272	99.5	257	107.3
16	2	4500	250	90.6	236	97.7	222	104.9	208	112.1
		6000	299	85.3	282	92.7	265	100.2	249	107.7
		7500	341	81.3	322	89.0	303	96.7	284	104.4
	5	4500	262	92.9	248	100.1	234	107.2	220	114.4
		6000	312	87.3	296	94.8	279	102.3	262	109.8
		7500	357	83.2	338	90.9	319	98.6	300	106.3
	10	4500	278	96.2	264	103.4	250	110.6	236	117.8
		6000	332	90.3	315	97.8	299	105.3	282	112.7
		7500	379	86.0	360	93.6	341	101.4	322	109.0
24	2	6000	310	87.0	293	94.4	276	101.7	258	109.1
		8000	368	81.9	348	89.5	327	97.2	307	104.9
		10000	419	78.1	395	85.9	372	93.8	349	101.7
	5	6000	324	89.2	307	96.5	290	103.9	272	111.3
		8000	385	83.8	365	91.4	344	99.1	324	106.8
		10000	438	79.8	415	87.7	391	95.6	368	103.4
	10	6000	345	92.2	328	99.6	310	107.0	293	114.4
		8000	410	86.5	389	94.2	368	101.9	348	109.5
		10000	466	82.3	442	90.2	419	98.1	396	106.0

LEGEND

CFM — Cubic Feet per Minute
EAT — Entering Air Temperature
LDB — Leaving Dry-Bulb (F)
TC — Total Capacity (thousands of Btu per hour)

NOTES:

- Elevation is sea level.
- Operating at discharge temperatures above 104°F (40°C) is not recommended due to the shortened service life of the electrical components.



EVAPORATOR FAN PERFORMANCE — 50XCA06 UNITS

CFM	ESP (in. wg)																			
	0.00		0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
1500	477	0.19	542	0.24	603	0.30	660	0.36	714	0.43	766	0.50	816	0.58	864	0.66	910	0.74	954	0.83
1600	509	0.23	570	0.28	627	0.34	682	0.41	734	0.48	784	0.55	832	0.63	878	0.71	923	0.80	966	0.89
1700	540	0.27	598	0.33	653	0.40	705	0.46	755	0.54	803	0.61	849	0.69	894	0.78	937	0.87	979	0.96
1800	572	0.32	627	0.39	679	0.45	729	0.52	777	0.60	823	0.68	868	0.76	911	0.85	953	0.94	994	1.03
1900	604	0.38	656	0.45	706	0.52	754	0.59	800	0.67	844	0.75	887	0.83	929	0.92	970	1.01	1009	1.11
2000	636	0.44	685	0.51	733	0.58	779	0.66	823	0.74	866	0.83	908	0.91	948	1.01	988	1.10	1026	1.20
2100	668	0.51	715	0.58	760	0.66	804	0.74	847	0.82	888	0.91	929	1.00	968	1.09	1006	1.19	1044	1.29
2200	699	0.59	744	0.66	788	0.74	831	0.83	872	0.91	912	1.00	951	1.09	989	1.19	1026	1.29	1062	1.39
2300	731	0.67	774	0.75	816	0.83	857	0.92	897	1.01	935	1.10	973	1.20	1010	1.30	1046	1.40	1081	1.50
2400	763	0.76	804	0.85	845	0.93	884	1.02	922	1.11	960	1.21	996	1.31	1032	1.41	1067	1.51	1101	1.62
2500	795	0.86	835	0.95	873	1.04	911	1.13	948	1.22	985	1.32	1020	1.42	1055	1.53	1089	1.63	1122	1.74
2600	826	0.97	865	1.06	902	1.15	939	1.25	975	1.35	1010	1.45	1044	1.55	1078	1.66	1111	1.77	1144	1.88
2700	858	1.09	895	1.18	931	1.28	967	1.37	1002	1.47	1036	1.58	1069	1.68	1102	1.79	1134	1.91	—	—
2800	890	1.21	926	1.31	961	1.41	995	1.51	1029	1.61	1062	1.72	1094	1.83	1126	1.94	—	—	—	—
2900	922	1.35	956	1.45	990	1.55	1023	1.65	1056	1.76	1088	1.87	1119	1.98	—	—	—	—	—	—

CFM	ESP (in. wg)																			
	1.00		1.10		1.20		1.30		1.40		1.50		1.60		1.70		1.80		1.90	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
1500	997	0.92	1039	1.02	1080	1.12	1119	1.22	1158	1.33	1195	1.44	1232	1.55	1268	1.67	1303	1.79	1338	1.92
1600	1008	0.99	1049	1.08	1088	1.18	1127	1.29	1165	1.40	1201	1.51	1237	1.62	1273	1.74	1307	1.86	1341	1.99
1700	1020	1.05	1060	1.15	1098	1.26	1136	1.36	1173	1.47	1209	1.58	1244	1.70	1279	1.82	1313	1.94	—	—
1800	1033	1.13	1072	1.23	1110	1.33	1147	1.44	1183	1.55	1218	1.66	1252	1.78	1286	1.90	—	—	—	—
1900	1048	1.21	1086	1.31	1122	1.42	1158	1.53	1193	1.64	1228	1.75	1262	1.87	1295	1.99	—	—	—	—
2000	1063	1.30	1100	1.40	1136	1.51	1171	1.62	1205	1.73	1239	1.85	1272	1.97	—	—	—	—	—	—
2100	1080	1.39	1116	1.50	1151	1.61	1185	1.72	1219	1.84	1252	1.95	—	—	—	—	—	—	—	—
2200	1098	1.50	1132	1.61	1166	1.72	1200	1.83	1233	1.95	—	—	—	—	—	—	—	—	—	—
2300	1116	1.61	1150	1.72	1183	1.83	1216	1.95	—	—	—	—	—	—	—	—	—	—	—	—
2400	1135	1.73	1168	1.84	1201	1.96	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500	1155	1.86	1187	1.97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2600	1175	1.99	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

BHP — Brake Horsepower
ESP — External Static Pressure

NOTES:

1. Units are available with several motor hp options.
2. Static pressure losses for any options or accessories must be applied to external static pressure before entering the fan performance table.
3. Interpolation is permitted; extrapolation is not.
4. Fan performance is based on 1 in. standard throwaway filter, unit casing, and wet DX (direct expansion) coil losses at sea level.

EVAPORATOR FAN PERFORMANCE — 50XCA08 UNITS

CFM	ESP (in. wg)																			
	0.00		0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
2200	497	0.27	581	0.39	655	0.52	722	0.66	782	0.80	839	0.95	892	1.11	941	1.28	989	1.45	1034	1.62
2400	542	0.35	621	0.48	690	0.62	753	0.77	812	0.92	866	1.08	917	1.25	966	1.42	1012	1.60	1056	1.78
2600	587	0.45	660	0.59	726	0.74	787	0.89	843	1.06	895	1.22	945	1.40	992	1.58	1037	1.76	1080	1.95
2800	632	0.56	701	0.71	763	0.87	821	1.04	875	1.21	925	1.38	974	1.57	1019	1.75	1063	1.95	—	—
3000	677	0.69	742	0.85	801	1.02	856	1.19	908	1.37	957	1.56	1003	1.75	1048	1.95	—	—	—	—
3200	723	0.84	783	1.01	839	1.19	892	1.37	942	1.56	989	1.76	1034	1.96	—	—	—	—	—	—
3400	768	1.01	825	1.19	879	1.37	929	1.57	977	1.77	1023	1.97	—	—	—	—	—	—	—	—
3600	813	1.19	867	1.39	918	1.58	967	1.79	1013	2.00	—	—	—	—	—	—	—	—	—	—

CFM	ESP (in. wg)									
	1.00		1.10		1.20		1.30		1.40	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
2200	1077	1.80	1119	1.98	—	—	—	—	—	—
2400	1099	1.97	—	—	—	—	—	—	—	—
2600	—	—	—	—	—	—	—	—	—	—
2800	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—
3200	—	—	—	—	—	—	—	—	—	—
3400	—	—	—	—	—	—	—	—	—	—
3600	—	—	—	—	—	—	—	—	—	—

LEGEND

BHP — Brake Horsepower
ESP — External Static Pressure

NOTES:

1. Units are available with several motor hp options.
2. Static pressure losses for any options or accessories must be applied to external static pressure before entering the fan performance table.
3. Interpolation is permitted; extrapolation is not.
4. Fan performance is based on 1 in. standard throwaway filter, unit casing, and wet DX (direct expansion) coil losses at sea level.



EVAPORATOR FAN PERFORMANCE — 50XCA12 UNITS

CFM	ESP (in. wg)																			
	0.00		0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
3000	381	0.26	434	0.33	492	0.41	553	0.51	614	0.63	674	0.77	730	0.93	783	1.10	831	1.29	877	1.47
3200	406	0.32	456	0.39	510	0.48	566	0.58	624	0.69	681	0.83	735	0.99	788	1.16	837	1.35	882	1.54
3400	432	0.39	478	0.46	528	0.55	581	0.65	635	0.76	689	0.90	742	1.05	793	1.22	841	1.41	887	1.61
3600	457	0.46	501	0.54	548	0.63	597	0.73	647	0.84	699	0.98	749	1.13	799	1.30	847	1.48	892	1.68
3800	483	0.54	524	0.62	568	0.72	614	0.82	661	0.93	710	1.06	758	1.21	806	1.38	852	1.56	897	1.76
4000	508	0.63	547	0.71	588	0.81	632	0.92	677	1.04	722	1.17	768	1.31	814	1.47	859	1.65	903	1.85
4200	533	0.73	570	0.82	609	0.92	650	1.03	693	1.15	736	1.28	780	1.42	823	1.58	867	1.76	910	1.95
4400	559	0.83	594	0.93	631	1.03	670	1.15	710	1.27	751	1.40	792	1.54	834	1.70	876	1.87	917	2.06
4600	584	0.95	618	1.05	653	1.16	690	1.28	728	1.40	767	1.53	806	1.68	846	1.83	886	2.01	926	2.19
4800	610	1.08	641	1.19	675	1.30	710	1.42	746	1.54	783	1.68	821	1.82	859	1.98	897	2.15	936	2.33
5000	635	1.22	666	1.33	698	1.45	731	1.57	766	1.70	801	1.84	837	1.98	873	2.14	910	2.31	946	2.49

CFM	ESP (in. wg)																			
	1.00		1.10		1.20		1.30		1.40		1.50		1.60		1.70		1.80		1.90	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
3000	919	1.66	958	1.85	994	2.04	1029	2.22	1061	2.40	1092	2.57	1122	2.74	1149	2.91	—	—	—	—
3200	925	1.74	965	1.94	1003	2.14	1039	2.34	1072	2.54	1104	2.73	1134	2.92	—	—	—	—	—	—
3400	931	1.82	972	2.03	1010	2.24	1047	2.45	1081	2.67	1114	2.88	—	—	—	—	—	—	—	—
3600	936	1.89	977	2.11	1016	2.33	1053	2.56	1089	2.78	—	—	—	—	—	—	—	—	—	—
3800	941	1.97	982	2.19	1022	2.42	1059	2.65	1095	2.89	—	—	—	—	—	—	—	—	—	—
4000	946	2.06	987	2.28	1027	2.51	1064	2.75	1101	3.00	—	—	—	—	—	—	—	—	—	—
4200	951	2.16	992	2.38	1031	2.61	1069	2.85	—	—	—	—	—	—	—	—	—	—	—	—
4400	958	2.27	998	2.49	1037	2.72	1074	2.96	—	—	—	—	—	—	—	—	—	—	—	—
4600	965	2.39	1004	2.61	1042	2.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800	974	2.53	1011	2.74	1049	2.97	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000	983	2.68	1020	2.89	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

BHP — Brake Horsepower
ESP — External Static Pressure

NOTES:

1. Units are available with several motor hp options.
2. Static pressure losses for any options or accessories must be applied to external static pressure before entering the fan performance table.
3. Interpolation is permitted; extrapolation is not.
4. Fan performance is based on 1 in. standard throwaway filter, unit casing, and wet DX (direct expansion) coil losses at sea level.

EVAPORATOR FAN PERFORMANCE — 50XCA14 UNITS

CFM	ESP (in. wg)																			
	0.00		0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
3500	450	0.30	495	0.46	537	0.56	583	0.65	633	0.76	687	0.89	742	1.05	793	1.23	841	1.41	885	1.60
3700	476	0.35	519	0.53	558	0.64	600	0.73	646	0.84	696	0.96	748	1.12	799	1.29	847	1.48	892	1.68
3900	502	0.41	543	0.60	580	0.72	619	0.83	661	0.93	707	1.05	756	1.19	805	1.37	852	1.56	898	1.76
4100	527	0.48	566	0.68	602	0.82	639	0.93	678	1.03	720	1.15	765	1.29	811	1.45	858	1.64	903	1.84
4300	553	0.55	591	0.77	625	0.92	659	1.04	696	1.15	735	1.26	776	1.40	820	1.55	865	1.73	909	1.93
4500	579	0.63	615	0.87	648	1.03	681	1.15	715	1.27	751	1.39	789	1.52	830	1.67	872	1.84	915	2.03
4700	604	0.72	639	0.97	671	1.14	702	1.28	734	1.40	768	1.52	804	1.65	842	1.80	882	1.96	922	2.15
4900	630	0.81	664	1.08	694	1.27	724	1.41	755	1.55	786	1.67	820	1.80	855	1.94	892	2.10	931	2.28
5100	656	0.92	688	1.20	718	1.40	746	1.56	776	1.70	806	1.83	837	1.96	870	2.10	905	2.26	941	2.43
5300	682	1.03	713	1.33	741	1.54	769	1.71	797	1.86	826	2.00	855	2.14	886	2.28	919	2.43	953	2.59
5500	707	1.15	738	1.47	765	1.69	792	1.88	819	2.03	846	2.18	874	2.32	903	2.46	934	2.62	966	2.78
5700	733	1.28	763	1.61	789	1.85	815	2.05	841	2.22	867	2.37	894	2.52	921	2.67	950	2.82	980	2.98
5900	759	1.42	787	1.77	813	2.02	838	2.23	863	2.41	888	2.57	914	2.73	940	2.88	968	3.03	996	3.19
6100	784	1.57	812	1.93	838	2.20	862	2.42	886	2.62	910	2.79	934	2.95	960	3.11	986	3.27	1013	3.43

CFM	ESP (in. wg)																			
	1.00		1.10		1.20		1.30		1.40		1.50		1.60		1.70		1.80		1.90	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
3500	925	1.78	962	1.97	997	2.15	1030	2.32	1061	2.50	1090	2.67	1119	2.83	1146	3.00	1172	3.16	1198	3.32
3700	933	1.88	971	2.07	1007	2.27	1041	2.46	1072	2.65	1103	2.83	1131	3.01	1159	3.19	1186	3.37	1211	3.54
3900	940	1.97	979	2.17	1016	2.38	1051	2.59	1083	2.79	1114	2.99	1143	3.19	1172	3.38	1199	3.57	1225	3.76
4100	946	2.05	986	2.27	1024	2.49	1059	2.71	1093	2.93	1124	3.14	1154	3.35	1183	3.56	1211	3.77	1237	3.97
4300	951	2.15	992	2.37	1030	2.60	1067	2.83	1101	3.06	1133	3.29	1164	3.51	1194	3.73	1222	3.95	1249	4.17
4500	957	2.24	998	2.47	1036	2.71	1073	2.94	1108	3.18	1141	3.43	1173	3.66	1203	3.90	1232	4.14	1260	4.37
4700	963	2.35	1003	2.58	1042	2.81	1079	3.06	1115	3.31	1149	3.56	1181	3.81	1212	4.06	1241	4.31	1269	4.56
4900	970	2.48	1009	2.70	1047	2.93	1085	3.18	1121	3.43	1155	3.69	1188	3.95	1219	4.22	1249	4.48	1278	4.74
5100	978	2.62	1016	2.83	1053	3.06	1090	3.31	1126	3.56	1161	3.83	1194	4.10	1226	4.37	1257	4.64	1286	4.91
5300	988	2.78	1024	2.98	1060	3.20	1096	3.44	1132	3.70	1166	3.97	1200	4.24	1232	4.52	1263	4.80	—	—
5500	999	2.95	1033	3.15	1068	3.37	1103	3.60	1137	3.85	1172	4.11	1205	4.39	1238	4.67	1269	4.96	—	—
5700	1012	3.15	1044	3.34	1077	3.55	1110	3.77	1144	4.02	1178	4.28	1211	4.55	1243	4.83	—	—	—	—
5900	1025	3.36	1056	3.55	1087	3.75	1119	3.97	1152	4.20	1184	4.45	1217	4.72	—	—	—	—	—	—
6100	1040	3.60	1069	3.78	1099	3.97	1129	4.18	1160	4.41	1192	4.65	1223	4.91	—	—	—	—	—	—

LEGEND

BHP — Brake Horsepower
ESP — External Static Pressure

NOTES:

1. Units are available with several motor hp options.
2. Static pressure losses for any options or accessories must be applied to external static pressure before entering the fan performance table.
3. Interpolation is permitted; extrapolation is not.
4. Fan performance is based on 1 in. standard throwaway filter, unit casing, and wet DX (direct expansion) coil losses at sea level.



EVAPORATOR FAN PERFORMANCE — 50XCA16 UNITS

CFM	ESP (in. wg)																			
	0.00		0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
4500	414	0.53	482	0.69	544	0.86	600	1.03	652	1.21	701	1.40	747	1.59	790	1.79	832	1.99	872	2.20
4750	437	0.63	502	0.79	561	0.97	615	1.15	666	1.34	714	1.53	758	1.73	801	1.94	842	2.15	881	2.37
5000	460	0.73	522	0.91	579	1.09	632	1.28	681	1.48	727	1.68	771	1.89	813	2.10	853	2.32	892	2.54
5250	483	0.85	542	1.04	597	1.23	648	1.43	696	1.63	741	1.84	784	2.06	825	2.28	865	2.50	902	2.73
5500	506	0.98	563	1.17	616	1.38	665	1.58	712	1.79	756	2.01	798	2.24	838	2.46	877	2.70	914	2.94
5750	529	1.12	584	1.33	635	1.54	682	1.75	728	1.97	771	2.20	812	2.43	851	2.67	889	2.91	926	3.15
6000	552	1.28	604	1.49	654	1.71	700	1.93	744	2.16	786	2.40	826	2.64	865	2.88	902	3.13	938	3.38
6250	575	1.45	625	1.67	673	1.90	718	2.13	761	2.37	802	2.61	841	2.86	879	3.11	916	3.37	951	3.63
6500	598	1.63	647	1.86	693	2.10	737	2.34	778	2.59	818	2.84	857	3.09	894	3.35	929	3.62	964	3.89
6750	621	1.83	668	2.07	713	2.32	755	2.57	796	2.82	835	3.08	872	3.34	909	3.61	944	3.89	978	4.16
7000	644	2.04	689	2.29	733	2.55	774	2.81	814	3.07	852	3.34	888	3.61	924	3.89	958	4.17	992	4.46
7250	667	2.27	711	2.53	753	2.80	793	3.07	832	3.34	869	3.62	905	3.90	940	4.18	973	4.47	1006	4.77
7500	690	2.52	732	2.79	773	3.06	812	3.34	850	3.62	886	3.91	922	4.20	956	4.49	989	4.79	—	—
7750	713	2.79	754	3.07	794	3.35	832	3.63	869	3.92	904	4.22	939	4.52	972	4.82	—	—	—	—
8000	736	3.07	776	3.36	814	3.65	852	3.94	887	4.24	922	4.55	956	4.85	—	—	—	—	—	—

CFM	ESP (in. wg)																			
	1.00		1.10		1.20		1.30		1.40		1.50		1.60		1.70		1.80		1.90	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
4500	910	2.42	947	2.64	983	2.86	1017	3.10	1051	3.33	1083	3.57	1115	3.82	1146	4.07	1176	4.33	1206	4.59
4750	919	2.59	955	2.82	991	3.05	1025	3.29	1058	3.53	1090	3.78	1121	4.03	1152	4.29	1182	4.55	1211	4.82
5000	929	2.77	965	3.01	999	3.25	1033	3.49	1066	3.74	1098	4.00	1129	4.26	1159	4.52	1188	4.79	—	—
5250	939	2.97	974	3.21	1008	3.46	1042	3.71	1074	3.97	1106	4.23	1136	4.49	1166	4.76	—	—	—	—
5500	950	3.18	984	3.43	1018	3.68	1051	3.94	1083	4.21	1114	4.47	1144	4.74	—	—	—	—	—	—
5750	961	3.40	995	3.66	1028	3.92	1061	4.19	1092	4.46	1123	4.73	—	—	—	—	—	—	—	—
6000	973	3.64	1006	3.91	1039	4.17	1071	4.45	1102	4.72	—	—	—	—	—	—	—	—	—	—
6250	985	3.90	1018	4.17	1050	4.44	1082	4.72	—	—	—	—	—	—	—	—	—	—	—	—
6500	998	4.16	1030	4.44	1062	4.73	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6750	1011	4.45	1043	4.73	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7000	1024	4.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

BHP — Brake Horsepower
ESP — External Static Pressure

NOTES:

1. Units are available with several motor hp options.
2. Static pressure losses for any options or accessories must be applied to external static pressure before entering the fan performance table.
3. Interpolation is permitted; extrapolation is not.
4. Fan performance is based on 1 in. standard throwaway filter, unit casing, and wet DX (direct expansion) coil losses at sea level.

EVAPORATOR FAN PERFORMANCE — 50XCA24 UNITS

CFM	ESP (in. wg)																			
	0.00		0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
6,000	558	1.10	619	1.37	675	1.65	728	1.93	777	2.23	824	2.53	869	2.84	912	3.15	952	3.47	992	3.79
6,300	585	1.27	644	1.55	698	1.84	749	2.14	797	2.45	843	2.76	887	3.08	928	3.41	968	3.74	1007	4.08
6,600	613	1.46	669	1.76	722	2.06	771	2.37	818	2.69	862	3.02	905	3.35	945	3.69	985	4.03	1023	4.38
6,900	641	1.67	695	1.98	746	2.29	793	2.62	839	2.95	882	3.29	923	3.63	963	3.98	1002	4.34	1039	4.70
7,200	669	1.90	721	2.22	770	2.55	816	2.88	860	3.23	902	3.58	943	3.93	982	4.30	1019	4.66	1056	5.03
7,500	697	2.14	747	2.48	794	2.82	839	3.17	882	3.53	923	3.89	962	4.26	1000	4.63	1037	5.01	1073	5.39
7,800	725	2.41	773	2.76	818	3.11	862	3.48	904	3.85	944	4.22	982	4.60	1020	4.99	1056	5.38	1091	5.77
8,000	743	2.60	790	2.96	835	3.32	878	3.69	918	4.07	958	4.45	996	4.84	1033	5.23	1068	5.63	1103	6.04
8,300	771	2.90	817	3.27	860	3.65	901	4.03	941	4.42	979	4.82	1017	5.22	1053	5.63	1087	6.04	1121	6.45
8,600	799	3.23	843	3.61	885	4.00	925	4.40	964	4.80	1001	5.21	1038	5.62	1073	6.04	1107	6.47	1140	6.89
8,900	827	3.58	869	3.98	910	4.38	949	4.79	987	5.20	1024	5.62	1059	6.05	1093	6.48	1127	6.92	1160	7.36
9,200	855	3.96	896	4.36	935	4.78	973	5.20	1010	5.63	1046	6.06	1081	6.50	1114	6.94	1147	7.39	—	—
9,500	883	4.35	923	4.78	961	5.21	998	5.64	1034	6.08	1069	6.53	1103	6.98	1136	7.43	—	—	—	—
9,800	911	4.78	949	5.22	987	5.66	1023	6.11	1058	6.56	1092	7.02	1125	7.48	—	—	—	—	—	—
10,000	929	5.08	967	5.52	1004	5.97	1039	6.43	1074	6.89	1107	7.36	—	—	—	—	—	—	—	—

CFM	ESP (in. wg)																			
	1.00		1.10		1.20		1.30		1.40		1.50		1.60		1.70		1.80		1.90	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
6,000	1030	4.12	1067	4.46	1102	4.80	1137	5.14	1171	5.49	1203	5.84	1235	6.20	1267	6.56	1297	6.92	1327	7.29
6,300	1044	4.42	1080	4.76	1116	5.12	1150	5.47	1183	5.83	1215	6.20	1247	6.56	1278	6.94	1308	7.31	—	—
6,600	1059	4.73	1095	5.09	1129	5.45	1163	5.82	1196	6.19	1228	6.57	1259	6.95	1289	7.33	—	—	—	—
6,900	1075	5.06	1110	5.43	1144	5.81	1177	6.18	1209	6.57	1241	6.96	1272	7.35	—	—	—	—	—	—
7,200	1091	5.41	1125	5.79	1159	6.18	1191	6.57	1223	6.97	1254	7.36	—	—	—	—	—	—	—	—
7,500	1108	5.78	1141	6.18	1174	6.57	1206	6.98	1238	7.38	—	—	—	—	—	—	—	—	—	—
7,800	1125	6.17	1158	6.58	1190	6.99	1222	7.40	—	—	—	—	—	—	—	—	—	—	—	—
8,000	1137	6.45	1169	6.86	1201	7.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,300	1154	6.88	1187	7.30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,600	1173	7.33	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

BHP — Brake Horsepower
ESP — External Static Pressure

NOTES:

1. Units are available with several motor hp options.
2. Static pressure losses for any options or accessories must be applied to external static pressure before entering the fan performance table.
3. Interpolation is permitted; extrapolation is not.
4. Fan performance is based on 1 in. standard throwaway filter, unit casing, and wet DX (direct expansion) coil losses at sea level.



CONDENSER FAN PERFORMANCE — 50XCA06 UNITS

CFM	ESP (in. wg)																			
	0.00		0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
2100	466	0.21	548	0.30	623	0.40	692	0.51	757	0.63	818	0.76	876	0.90	931	1.05	984	1.20	1035	1.37
2200	488	0.24	567	0.34	639	0.44	706	0.55	769	0.68	829	0.81	885	0.95	940	1.10	992	1.26	1042	1.42
2300	511	0.28	586	0.37	656	0.48	721	0.60	782	0.72	840	0.86	896	1.00	949	1.15	1000	1.31	1049	1.48
2400	533	0.31	605	0.41	673	0.53	736	0.64	796	0.77	852	0.91	907	1.06	959	1.21	1009	1.37	1057	1.54
2500	555	0.36	625	0.46	690	0.57	751	0.70	810	0.83	865	0.97	918	1.12	969	1.27	1018	1.43	1066	1.60
2600	577	0.40	644	0.51	708	0.62	767	0.75	824	0.89	878	1.03	930	1.18	980	1.34	1029	1.50	1075	1.67
2700	599	0.45	664	0.56	725	0.68	783	0.81	839	0.95	892	1.09	943	1.25	992	1.41	1039	1.57	1085	1.75
2800	621	0.50	684	0.61	744	0.74	800	0.87	854	1.01	906	1.16	956	1.32	1004	1.48	1050	1.65	1095	1.83
2900	644	0.56	704	0.67	762	0.80	817	0.94	870	1.08	920	1.23	969	1.39	1016	1.56	1062	1.73	1106	1.91
3000	666	0.61	725	0.74	781	0.87	834	1.01	886	1.15	935	1.31	983	1.47	1029	1.64	1074	1.81	1117	1.99
3100	688	0.68	745	0.80	799	0.94	852	1.08	902	1.23	950	1.39	997	1.55	1042	1.72	1086	1.90	—	—
3200	710	0.75	766	0.88	818	1.01	869	1.16	918	1.31	966	1.47	1011	1.64	1056	1.81	1099	1.99	—	—
3300	732	0.82	786	0.95	838	1.09	887	1.24	935	1.40	981	1.56	1026	1.73	1070	1.91	—	—	—	—
3400	755	0.89	807	1.03	857	1.18	905	1.33	952	1.49	997	1.66	1041	1.83	—	—	—	—	—	—
3500	777	0.98	828	1.12	876	1.27	924	1.42	969	1.59	1014	1.76	1057	1.93	—	—	—	—	—	—

CFM	ESP (in. wg)																			
	1.00		1.10		1.20		1.30		1.40		1.50		1.60		1.70		1.80		1.90	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
2100	1084	1.54	1131	1.71	1177	1.90	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2200	1090	1.59	1136	1.77	1182	1.96	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2300	1097	1.65	1142	1.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2400	1104	1.71	1149	1.90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500	1112	1.78	1156	1.97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2600	1120	1.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2700	1130	1.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

BHP — Brake Horsepower
ESP — External Static Pressure

NOTES:

- Units are available with several motor hp options.
- Static pressure losses for any options or accessories must be applied to external static pressure before entering the fan performance table.
- Interpolation is permitted; extrapolation is not.
- Fan performance is based on 1 in. standard throwaway filter, unit casing, and wet DX (direct expansion) coil losses at sea level.

CONDENSER FAN PERFORMANCE — 50XCA08 UNITS

CFM	ESP (in. wg)															
	0.00		0.10		0.20		0.30		0.40		0.50		0.60		0.70	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
2500	555	0.36	625	0.46	690	0.57	751	0.70	810	0.83	865	0.97	918	1.12	969	1.27
2650	588	0.42	654	0.53	716	0.65	775	0.78	831	0.92	885	1.06	936	1.21	986	1.37
2800	621	0.50	684	0.61	744	0.74	800	0.87	854	1.01	906	1.16	956	1.32	1004	1.48
2950	655	0.58	714	0.71	771	0.83	826	0.97	878	1.12	928	1.27	976	1.43	1023	1.60
3100	688	0.68	745	0.80	799	0.94	852	1.08	902	1.23	950	1.39	997	1.55	1042	1.72
3250	721	0.78	776	0.91	828	1.05	878	1.20	927	1.36	973	1.52	1019	1.69	1063	1.86
3400	755	0.89	807	1.03	857	1.18	905	1.33	952	1.49	997	1.66	1041	1.83	—	—
3550	788	1.02	838	1.16	886	1.31	933	1.47	978	1.64	1022	1.81	1065	1.98	—	—
3700	821	1.15	869	1.30	916	1.46	961	1.62	1005	1.79	1047	1.97	—	—	—	—
3850	855	1.30	901	1.45	946	1.62	989	1.78	1032	1.96	—	—	—	—	—	—
4000	888	1.46	932	1.62	976	1.79	1018	1.96	—	—	—	—	—	—	—	—
4150	921	1.63	964	1.79	1006	1.97	—	—	—	—	—	—	—	—	—	—
4300	954	1.81	996	1.98	—	—	—	—	—	—	—	—	—	—	—	—
4450	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

CFM	ESP (in. wg)													
	0.80		0.90		1.00		1.10		1.20		1.30		1.40	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
2500	1018	1.43	1066	1.60	1112	1.78	1156	1.97	—	—	—	—	—	—
2650	1034	1.54	1080	1.71	1125	1.89	—	—	—	—	—	—	—	—
2800	1050	1.65	1095	1.83	—	—	—	—	—	—	—	—	—	—
2950	1068	1.77	1112	1.95	—	—	—	—	—	—	—	—	—	—
3100	1086	1.90	—	—	—	—	—	—	—	—	—	—	—	—
3250	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3400	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3550	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3700	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3850	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4000	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4150	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4300	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4450	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4600	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

BHP — Brake Horsepower
ESP — External Static Pressure

NOTES:

- Units are available with several motor hp options.
- Static pressure losses for any options or accessories must be applied to external static pressure before entering the fan performance table.
- Interpolation is permitted; extrapolation is not.
- Fan performance is based on 1 in. standard throwaway filter, unit casing, and wet DX (direct expansion) coil losses at sea level.



CONDENSER FAN PERFORMANCE — 50XCA12 UNITS

CFM	ESP (in. wg)															
	0.00		0.10		0.20		0.30		0.40		0.50		0.60		0.70	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
4100	389	0.41	451	0.53	506	0.66	557	0.80	605	0.94	651	1.10	695	1.26	737	1.43
4300	408	0.47	467	0.60	520	0.73	569	0.87	616	1.02	661	1.18	704	1.35	745	1.53
4500	427	0.54	484	0.67	535	0.81	583	0.96	628	1.11	672	1.28	714	1.45	754	1.63
4700	446	0.62	501	0.76	550	0.90	596	1.05	641	1.21	683	1.37	724	1.55	763	1.73
4900	465	0.70	518	0.84	566	0.99	611	1.15	653	1.31	694	1.48	734	1.66	773	1.85
5100	484	0.79	535	0.94	581	1.09	625	1.25	666	1.42	706	1.59	745	1.78	783	1.97
5300	503	0.88	552	1.04	597	1.20	640	1.37	680	1.54	719	1.72	757	1.90	793	2.10
5500	522	0.99	569	1.15	613	1.32	654	1.49	694	1.66	732	1.85	769	2.04	804	2.23
5700	541	1.10	587	1.27	629	1.44	670	1.62	708	1.80	745	1.98	781	2.18	816	2.38
5900	560	1.22	604	1.39	646	1.57	685	1.75	722	1.94	758	2.13	794	2.33	828	2.53
6100	578	1.35	622	1.53	662	1.71	700	1.90	737	2.09	772	2.29	807	2.49	840	2.70
6300	597	1.48	639	1.67	679	1.86	716	2.05	752	2.25	786	2.45	820	2.66	852	2.87
6500	616	1.63	657	1.82	696	2.02	732	2.21	767	2.42	801	2.62	833	2.83	—	—
6700	635	1.78	675	1.98	712	2.18	748	2.39	782	2.59	815	2.81	—	—	—	—
6900	654	1.95	693	2.15	729	2.36	764	2.57	798	2.78	830	3.00	—	—	—	—

CFM	ESP (in. wg)													
	0.80		0.90		1.00		1.10		1.20		1.30		1.40	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
4100	777	1.61	815	1.79	851	1.98	885	2.17	917	2.36	948	2.55	977	2.75
4300	785	1.71	822	1.90	858	2.09	892	2.28	925	2.48	956	2.68	985	2.89
4500	793	1.81	830	2.01	866	2.20	900	2.40	932	2.61	964	2.82	—	—
4700	801	1.92	838	2.12	873	2.32	907	2.53	940	2.74	971	2.95	—	—
4900	810	2.04	846	2.24	881	2.45	915	2.66	947	2.87	—	—	—	—
5100	819	2.16	855	2.37	889	2.58	923	2.80	—	—	—	—	—	—
5300	829	2.30	864	2.51	898	2.72	931	2.94	—	—	—	—	—	—
5500	839	2.44	874	2.65	907	2.87	—	—	—	—	—	—	—	—
5700	850	2.59	884	2.80	—	—	—	—	—	—	—	—	—	—
5900	861	2.74	894	2.96	—	—	—	—	—	—	—	—	—	—
6100	873	2.91	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6500	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6700	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6900	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

BHP — Brake Horsepower
ESP — External Static Pressure

NOTES:

1. Units are available with several motor hp options.
2. Static pressure losses for any options or accessories must be applied to external static pressure before entering the fan performance table.
3. Interpolation is permitted; extrapolation is not.
4. Fan performance is based on 1 in. standard throwaway filter, unit casing, and wet DX (direct expansion) coil losses at sea level.

CONDENSER FAN PERFORMANCE — 50XCA14 UNITS

CFM	ESP (in. wg)															
	0.00		0.10		0.20		0.30		0.40		0.50		0.60		0.70	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
6000	496	1.03	533	1.17	570	1.36	608	1.58	646	1.82	683	2.06	719	2.31	755	2.56
6250	517	1.17	552	1.31	588	1.50	624	1.72	660	1.97	696	2.22	732	2.48	766	2.74
6500	537	1.31	571	1.46	605	1.65	640	1.88	675	2.13	710	2.39	744	2.66	778	2.93
6750	558	1.47	590	1.62	623	1.81	657	2.05	691	2.30	724	2.57	757	2.85	—	—
7000	579	1.64	610	1.79	642	1.99	674	2.23	707	2.49	739	2.76	—	—	—	—
7250	599	1.82	629	1.98	660	2.18	691	2.42	723	2.68	754	2.96	—	—	—	—
7500	620	2.02	649	2.18	679	2.38	709	2.62	739	2.89	—	—	—	—	—	—
7750	641	2.23	669	2.39	697	2.59	726	2.84	—	—	—	—	—	—	—	—
8000	661	2.45	688	2.61	716	2.82	—	—	—	—	—	—	—	—	—	—
8250	682	2.69	708	2.85	—	—	—	—	—	—	—	—	—	—	—	—
8500	703	2.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

CFM	ESP (in. wg)									
	0.80		0.90		1.00		1.10		1.20	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
6000	789	2.81	—	—	—	—	—	—	—	—
6250	800	3.00	—	—	—	—	—	—	—	—
6500	—	—	—	—	—	—	—	—	—	—
6750	—	—	—	—	—	—	—	—	—	—
7000	—	—	—	—	—	—	—	—	—	—
7250	—	—	—	—	—	—	—	—	—	—
7500	—	—	—	—	—	—	—	—	—	—
7750	—	—	—	—	—	—	—	—	—	—
8000	—	—	—	—	—	—	—	—	—	—
8250	—	—	—	—	—	—	—	—	—	—
8500	—	—	—	—	—	—	—	—	—	—
8750	—	—	—	—	—	—	—	—	—	—
9000	—	—	—	—	—	—	—	—	—	—
9250	—	—	—	—	—	—	—	—	—	—
9500	—	—	—	—	—	—	—	—	—	—

LEGEND

BHP — Brake Horsepower
ESP — External Static Pressure

NOTES:

1. Units are available with several motor hp options.
2. Static pressure losses for any options or accessories must be applied to external static pressure before entering the fan performance table.
3. Interpolation is permitted; extrapolation is not.
4. Fan performance is based on 1 in. standard throwaway filter, unit casing, and wet DX (direct expansion) coil losses at sea level.



CONDENSER FAN PERFORMANCE — 50XCA16 UNITS

CFM	ESP (in. wg)																			
	0.00		0.10		0.20		0.30		0.40		0.50		0.60		0.70		0.80		0.90	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
6250	474	1.16	524	1.37	570	1.58	612	1.79	653	2.01	691	2.23	727	2.45	762	2.67	795	2.90	827	3.13
6500	493	1.28	541	1.49	585	1.70	627	1.92	666	2.14	704	2.37	739	2.59	773	2.82	806	3.05	838	3.28
6750	512	1.41	558	1.62	601	1.84	642	2.06	680	2.28	717	2.51	752	2.74	785	2.97	817	3.20	849	3.44
7000	531	1.54	576	1.76	618	1.98	657	2.20	695	2.43	730	2.66	764	2.89	797	3.13	829	3.36	860	3.60
7250	550	1.68	593	1.90	634	2.13	672	2.36	709	2.59	744	2.82	778	3.06	810	3.29	841	3.53	871	3.77
7500	569	1.83	611	2.06	650	2.28	688	2.52	724	2.75	758	2.99	791	3.22	823	3.46	853	3.71	883	3.95
7750	588	1.99	629	2.22	667	2.45	704	2.68	739	2.92	772	3.16	804	3.40	836	3.64	866	3.89	895	4.14
8000	607	2.15	646	2.38	684	2.62	720	2.86	754	3.10	787	3.34	818	3.59	849	3.83	878	4.08	907	4.33
8250	626	2.32	664	2.56	701	2.80	736	3.04	769	3.28	801	3.53	832	3.78	862	4.03	891	4.28	920	4.53
8500	645	2.50	682	2.74	718	2.98	752	3.23	784	3.48	816	3.73	846	3.98	876	4.23	905	4.48	933	4.74
8750	664	2.69	700	2.93	735	3.18	768	3.43	800	3.68	831	3.93	861	4.18	890	4.44	918	4.70	945	4.96
9000	683	2.88	718	3.13	752	3.38	784	3.63	816	3.89	846	4.14	875	4.40	904	4.66	932	4.92	—	—
9250	702	3.09	736	3.34	769	3.59	801	3.85	832	4.10	861	4.36	890	4.62	918	4.88	—	—	—	—
9500	721	3.30	754	3.56	787	3.81	818	4.07	848	4.33	877	4.59	905	4.85	—	—	—	—	—	—
9750	740	3.52	772	3.78	804	4.04	834	4.30	864	4.56	892	4.83	—	—	—	—	—	—	—	—

CFM	ESP (in. wg)																			
	1.00		1.10		1.20		1.30		1.40		1.50		1.60		1.70		1.80		1.90	
	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
6250	858	3.37	888	3.60	917	3.84	945	4.08	973	4.32	1000	4.56	1026	4.81	—	—	—	—	—	—
6500	868	3.52	898	3.76	926	4.00	954	4.24	982	4.48	1008	4.73	1034	4.98	—	—	—	—	—	—
6750	879	3.68	908	3.92	936	4.16	964	4.41	991	4.65	1017	4.90	—	—	—	—	—	—	—	—
7000	889	3.84	918	4.09	946	4.33	973	4.58	1000	4.83	—	—	—	—	—	—	—	—	—	—
7250	900	4.02	929	4.26	956	4.51	983	4.76	—	—	—	—	—	—	—	—	—	—	—	—
7500	912	4.20	940	4.45	967	4.70	994	4.95	—	—	—	—	—	—	—	—	—	—	—	—
7750	923	4.39	951	4.64	978	4.89	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8000	935	4.58	962	4.84	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8250	947	4.79	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8500	960	5.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

BHP — Brake Horsepower
ESP — External Static Pressure

NOTES:

1. Units are available with several motor hp options.
2. Static pressure losses for any options or accessories must be applied to external static pressure before entering the fan performance table.
3. Interpolation is permitted; extrapolation is not.
4. Fan performance is based on 1 in. standard throwaway filter, unit casing, and wet DX (direct expansion) coil losses at sea level.

CONDENSER FAN PERFORMANCE — 50XCA24 UNITS

CFM	ESP (in. wg)															
	0.00		0.10		0.20		0.30		0.40		0.50		0.60		0.70	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8,500	613	2.20	657	2.54	698	2.87	737	3.22	773	3.56	808	3.91	841	4.27	873	4.63
8,800	634	2.45	677	2.79	717	3.14	755	3.49	790	3.85	824	4.21	857	4.58	889	4.95
9,100	656	2.70	697	3.06	736	3.42	773	3.78	808	4.15	841	4.53	873	4.91	904	5.29
9,400	678	2.98	718	3.35	756	3.72	791	4.09	826	4.47	858	4.86	890	5.25	920	5.64
9,700	699	3.28	738	3.65	775	4.04	810	4.42	844	4.81	876	5.21	907	5.61	936	6.02
10,000	721	3.59	759	3.98	795	4.37	829	4.77	862	5.17	893	5.58	923	5.99	953	6.41
10,300	742	3.92	779	4.32	814	4.73	848	5.14	880	5.55	911	5.97	940	6.39	969	6.82
10,600	764	4.27	800	4.69	834	5.10	867	5.53	898	5.95	928	6.38	958	6.81	986	7.25
10,900	786	4.65	821	5.07	854	5.50	886	5.93	917	6.37	946	6.81	975	7.25	—	—
11,200	807	5.04	841	5.48	874	5.92	905	6.36	935	6.81	964	7.26	—	—	—	—
11,500	829	5.46	862	5.91	894	6.36	925	6.81	954	7.27	—	—	—	—	—	—
11,800	850	5.90	883	6.36	914	6.82	944	7.29	—	—	—	—	—	—	—	—
12,100	872	6.36	904	6.83	934	7.30	—	—	—	—	—	—	—	—	—	—
12,400	894	6.84	925	7.32	—	—	—	—	—	—	—	—	—	—	—	—
12,700	915	7.35	—	—	—	—	—	—	—	—	—	—	—	—	—	—

CFM	ESP (in. wg)													
	0.80		0.90		1.00		1.10		1.20		1.30		1.40	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
8,500	904	5.00	933	5.37	962	5.75	990	6.13	1017	6.52	1043	6.91	1069	7.30
8,800	919	5.33	948	5.71	976	6.10	1004	6.49	1030	6.89	1056	7.29	—	—
9,100	934	5.68	963	6.07	991	6.47	1018	6.87	1044	7.27	—	—	—	—
9,400	949	6.04	978	6.44	1005	6.85	1032	7.26	—	—	—	—	—	—
9,700	965	6.42	993	6.84	1020	7.26	—	—	—	—	—	—	—	—
10,000	981	6.83	1009	7.25	—	—	—	—	—	—	—	—	—	—
10,300	997	7.25	—	—	—	—	—	—	—	—	—	—	—	—
10,600	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,900	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11,200	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11,800	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,100	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,400	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,700	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

BHP — Brake Horsepower
ESP — External Static Pressure

NOTES:

- Units are available with several motor hp options.
- Static pressure losses for any options or accessories must be applied to external static pressure before entering the fan performance table.
- Interpolation is permitted; extrapolation is not.
- Fan performance is based on 1 in. standard throwaway filter, unit casing, and wet DX (direct expansion) coil losses at sea level.

ELECTRICAL DATA

UNIT 50XCA	V-PH-Hz	VOLTAGE RANGE		COMPRESSOR NO. 1		COMPRESSOR NO. 2	
		Min	Max	RLA	LRA	RLA	LRA
06	208/230-3-60	187	253	18.3	136	—	—
	460-3-60	414	506	8.8	66	—	—
	575-3-60	518	632	6.6	55	—	—
08	208/230-3-60	187	253	23.0	149	—	—
	460-3-60	414	506	11.0	75	—	—
	575-3-60	518	632	8.0	54	—	—
12	208/230-3-60	187	253	15.6	110	15.9	110
	460-3-60	414	506	7.8	52	7.1	52
	575-3-60	518	632	5.8	39	5.1	39
14	208/230-3-60	187	253	19.6	136	19.2	136
	460-3-60	414	506	8.2	66	8.7	66
	575-3-60	518	632	6.6	55	6.9	55
16	208/230-3-60	187	253	28.7	191	23.0	149
	460-3-60	414	506	13.3	100	11.0	75
	575-3-60	518	632	10.0	78	8.0	54
24	208/230-3-60	187	253	40.7	240	28.7	191
	460-3-60	414	506	19.3	140	13.3	100
	575-3-60	518	632	15.6	107	10.0	78

LEGEND

LRA — Locked Rotor Amps
NEC — National Electrical Code
RLA — Rated Load Amps

- Wire sizing amps are a sum of 125% of the compressor RLA plus 100% of indoor fan motor FLA.
- Motors are protected against primary single phasing condition.
- Indoor-fan motors are 3-phase motors of same voltage as unit.

NOTES:

- In compliance with NEC requirements for multimotor and combination load equipment (NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR circuit breaker. Canadian units may be fuse or circuit breaker.



FAN ELECTRICAL DATA

MOTOR CODE	MOTOR HP	V-PH-Hz	VOLTAGE RANGE		FLA
			Min	Max	
D	1.00	208/230-3-60	187	253	3.2/3.2
		460-3-60	414	506	1.6
		575-3-60	518	632	1.1
E	1.50	208/230-3-60	187	253	4.6/4.8
		460-3-60	414	506	2.4
		575-3-60	518	632	1.6
F	2.00	208/230-3-60	187	253	6.0/5.8
		460-3-60	414	506	2.9
		575-3-60	518	632	2.1
G	3.00	208/230-3-60	187	253	9.2/8.6
		460-3-60	414	506	4.3
		575-3-60	518	632	3.4
H	5.00	208/230-3-60	187	253	14.5/13.6
		460-3-60	414	506	6.8
		575-3-60	518	632	5.4
J	7.50	208/230-3-60	187	253	21.5/19.4
		460-3-60	414	506	9.7
		575-3-60	518	632	7.5

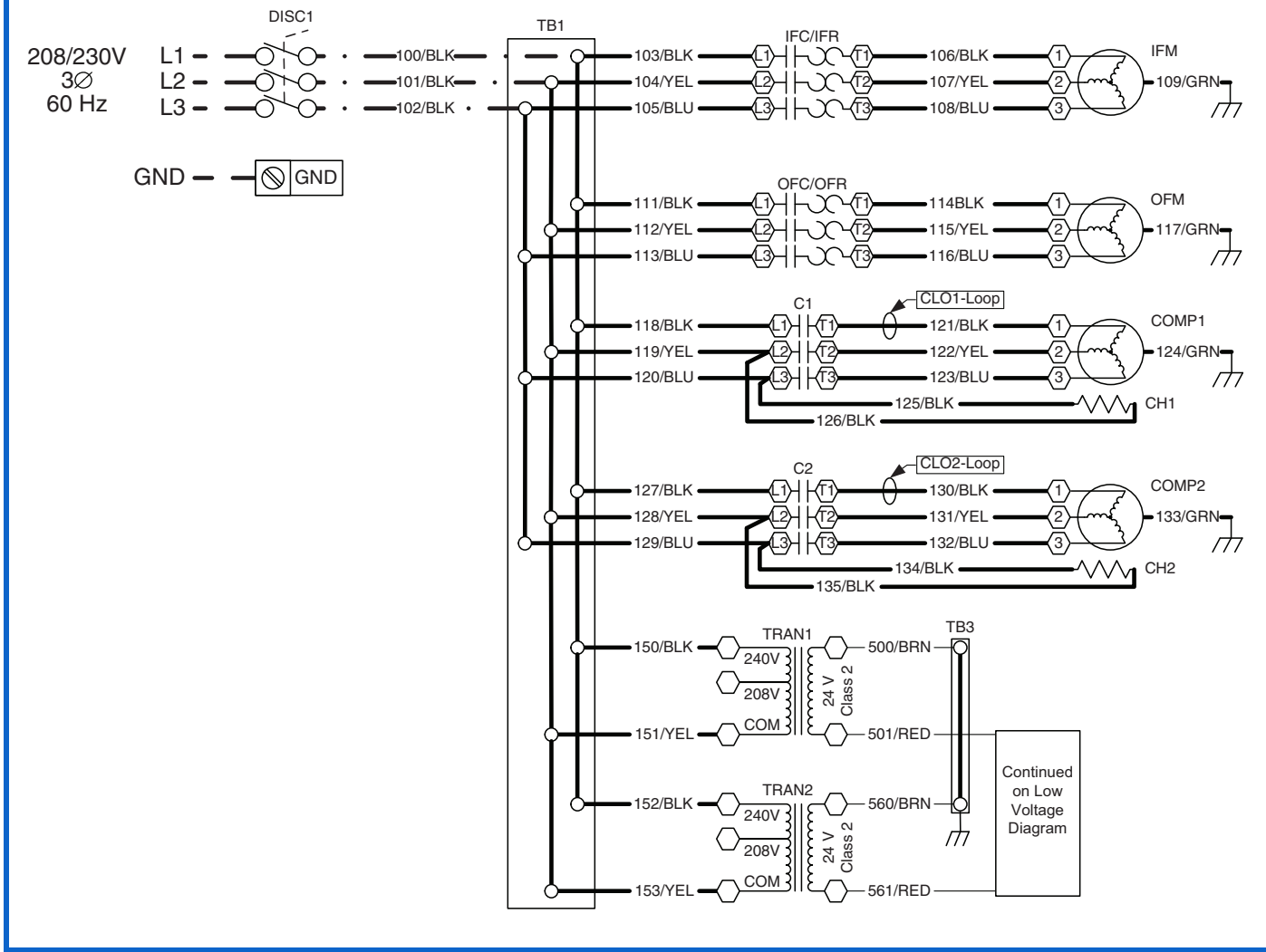
LEGEND

FLA — Full Load Amps

NOTE: The FLA data listed in this table is for one fan only. When calculating system FLA, evaporator fan and condenser fan must be included.



LINE VOLTAGE DIAGRAM — 50XCA012-24, 208/230-3-60 UNITS SHOWN



LEGEND AND NOTES FOR WIRING SCHEMATICS

LEGEND

- C** — Compressor Contactor
- CH** — Crankcase Heater
- CLO** — Compressor Lockout
- COMP** — Compressor
- CR** — Control Relay
- DISC** — Disconnect
- FRZ** — Freeze Protection
- GND** — Ground
- HPS** — High Pressure Switch
- HR** — Heat Relay
- IFC** — Indoor-Fan Contactor
- IFM** — Indoor-Fan Motor
- IFR** — Indoor-Fan Relay
- LPS** — Low Pressure Switch
- LLT** — Liquid Line Temperature
- OFC** — Outdoor-Fan Contactor
- OFM** — Outdoor-Fan Motor

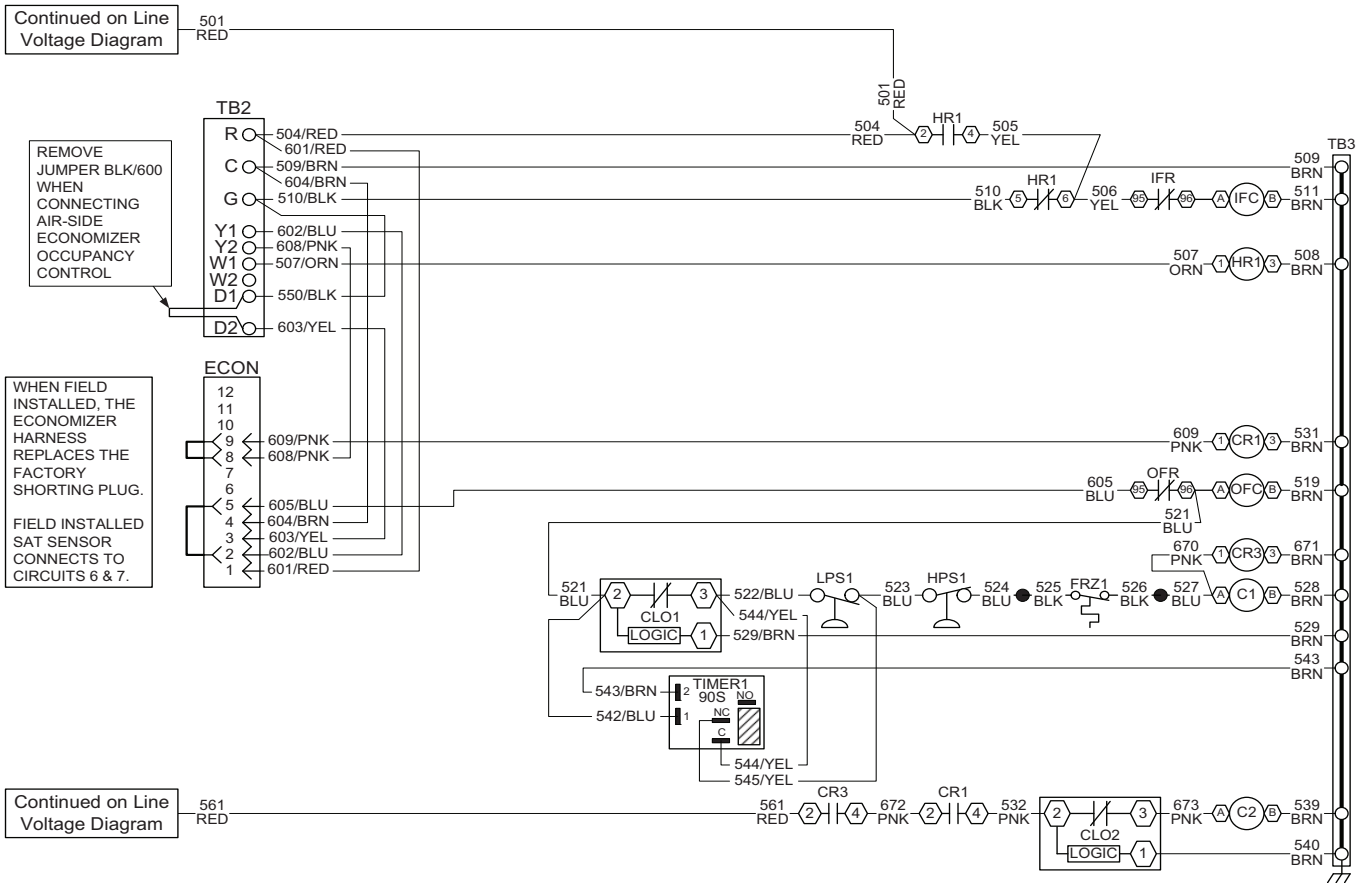
- OFR** — Outdoor-Fan Relay
- PRES** — Pressure Transducer
- SAT** — Supply Air Thermistor
- TB** — Terminal Block
- TRAN** — Transformer
- VFD** — Variable Frequency Drive
- Terminal Block Connection
- Marked Terminal
- Unmarked Terminal
- Splice
- Factory Wiring
- Field Power Wiring

* Disconnect can either be field or factory installed.

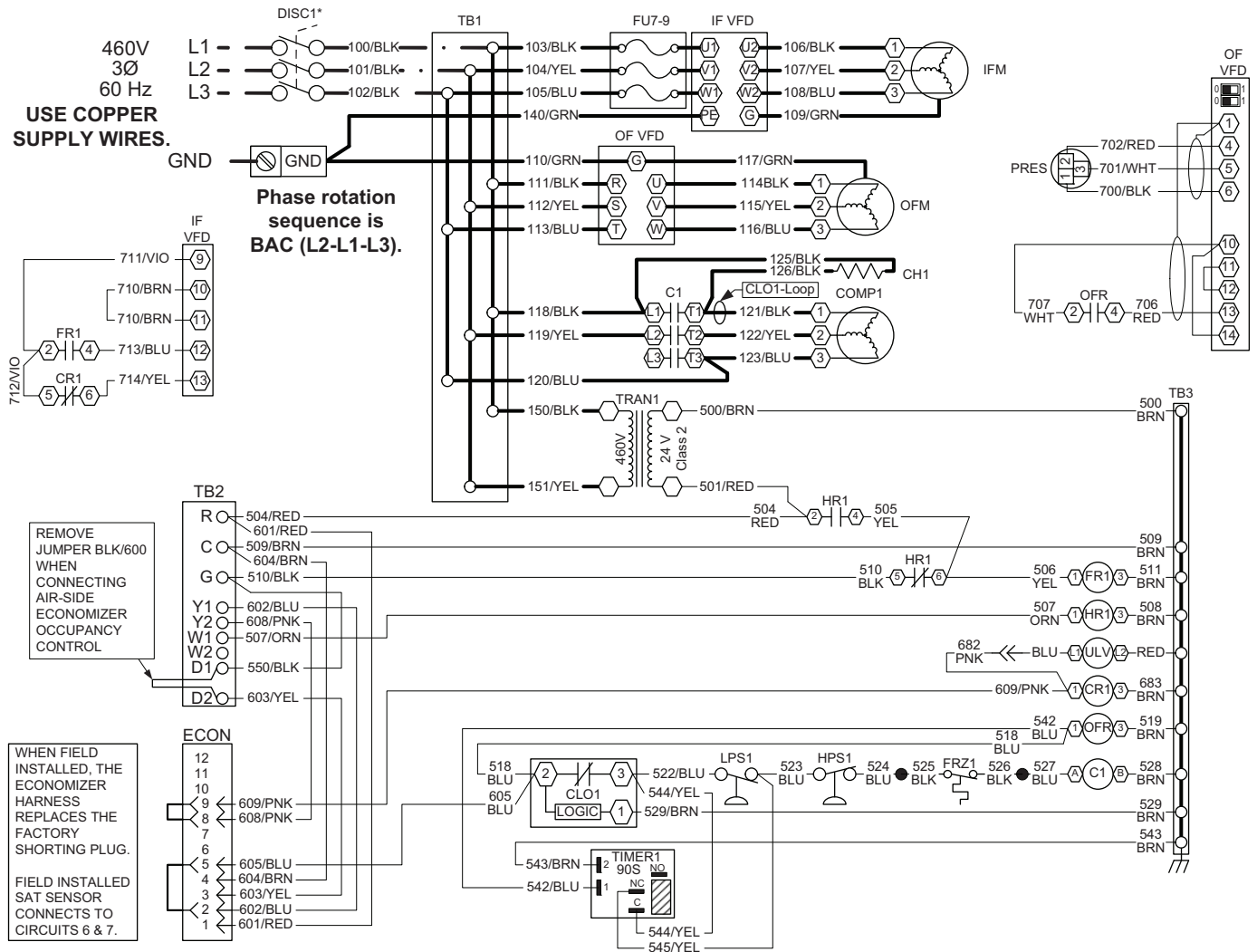
NOTES:

1. Fan motors are inherently thermally protected.
2. Three-phase motors are protected under primary single phase conditions.
3. Use conductors suitable for at least 194°F (90°C) when replacing factory wiring.
4. Use copper conductors only.
5. Wiring for field power supply must be rated at 165°F (75°C) minimum.

LOW VOLTAGE DIAGRAM — 50XCA012-24, 208/230-3-60 UNITS SHOWN

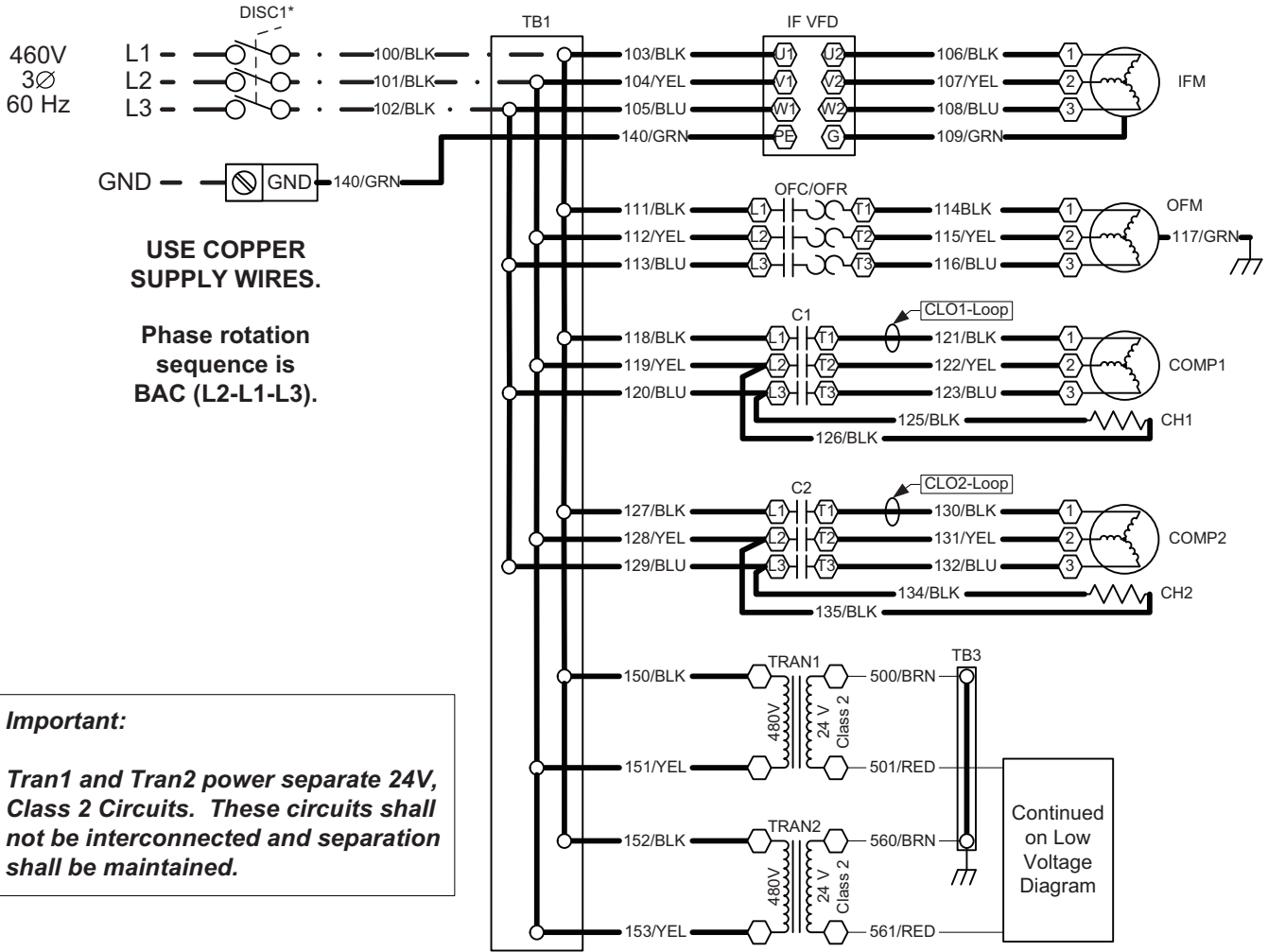


CONTROL AND LINE VOLTAGE DIAGRAM — 460V UNITS (50XCA06,08 UNITS) WITH WINTER START KIT



NOTE: Refer to legend and notes on page 33.

LINE VOLTAGE DIAGRAM — 460V UNITS (50XCA12-24 UNITS)



**USE COPPER
SUPPLY WIRES.**

**Phase rotation
sequence is
BAC (L2-L1-L3).**

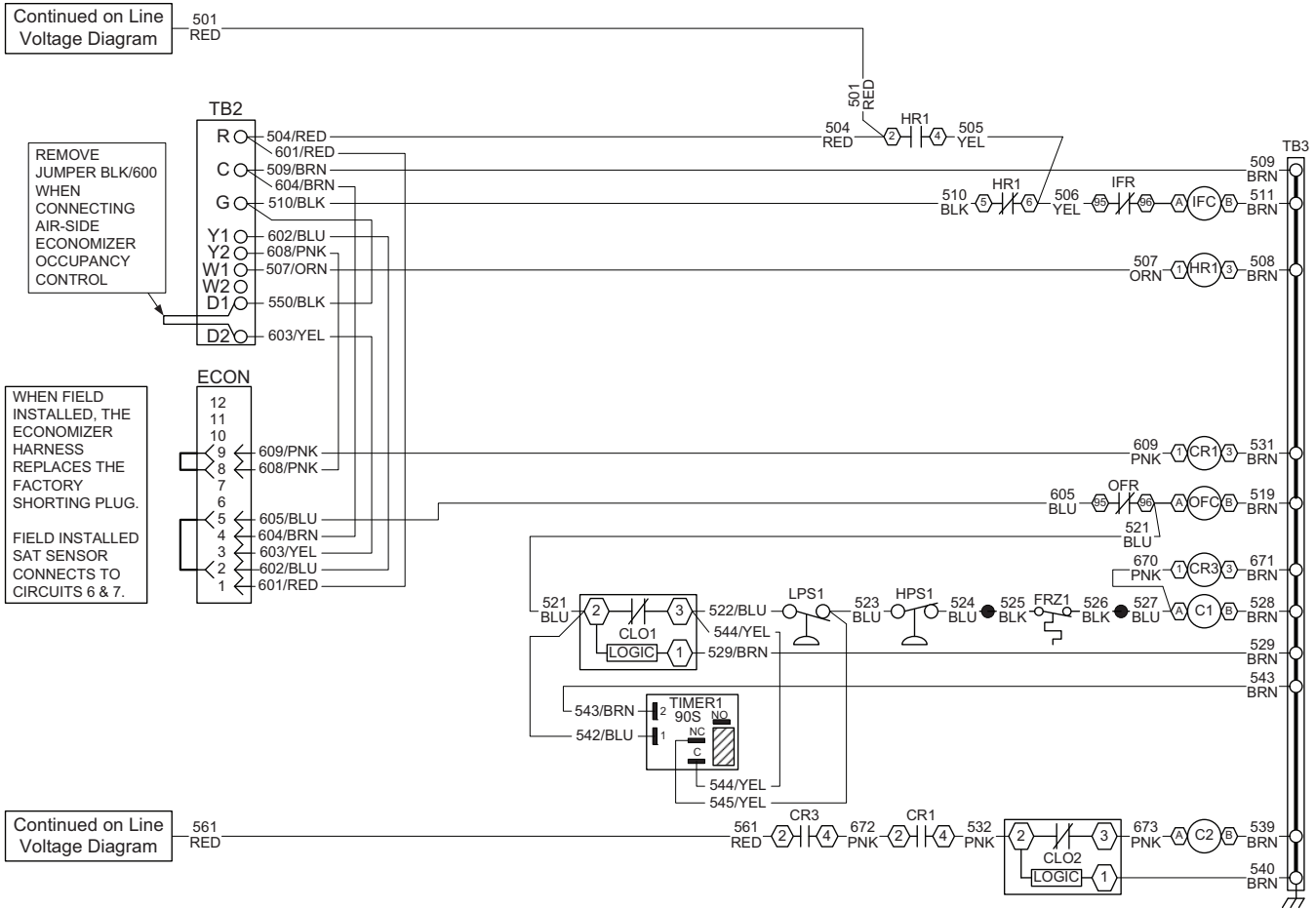
Important:

Tran1 and Tran2 power separate 24V, Class 2 Circuits. These circuits shall not be interconnected and separation shall be maintained.

Continued on Low Voltage Diagram

NOTE: Refer to legend and notes on page 33.

TYPICAL WIRING SCHEMATIC FOR WINTER START KIT (50XCA12-24 UNITS)

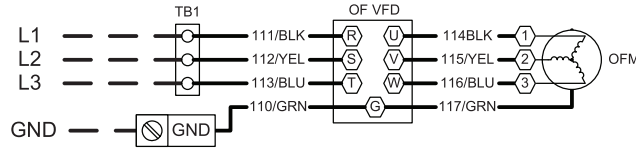


NOTE: Refer to legend and notes on page 33.

TYPICAL WIRING SCHEMATIC FOR LOW AMBIENT OPTION (50XCA06,08 UNITS)

LINE VOLTAGE
SEE UNIT NAMEPLATE
3Ø
60 Hz

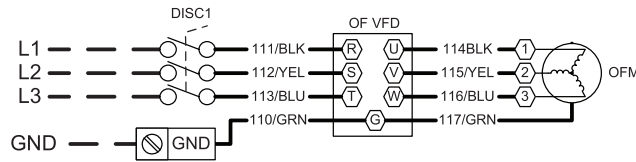
USE COPPER
SUPPLY WIRES.



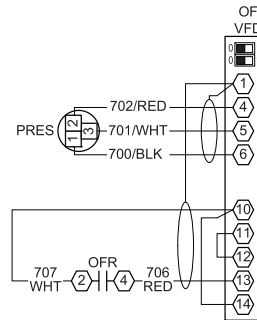
WITHOUT FACTORY INSTALLED DISCONNECT SWITCH

LINE VOLTAGE
SEE UNIT NAMEPLATE
3Ø
60 Hz

USE COPPER
SUPPLY WIRES.



FACTORY INSTALLED DISCONNECT SWITCH OPTION



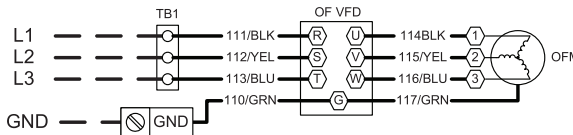
LOW VOLTAGE CONTROLS

NOTE: Refer to legend and notes on page 33.

TYPICAL WIRING SCHEMATIC FOR LOW AMBIENT OPTION (50XCA12-24 UNITS)

LINE VOLTAGE
SEE UNIT NAMEPLATE
3Ø
60 Hz

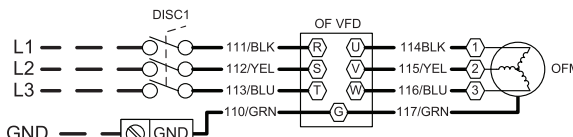
USE COPPER
SUPPLY WIRES.



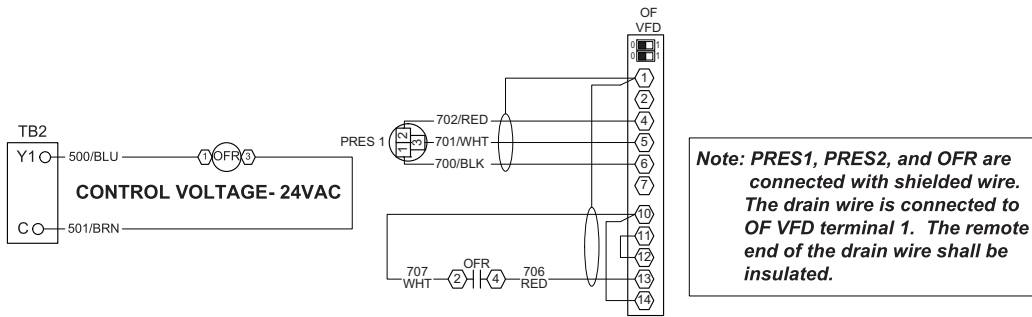
WITHOUT FACTORY INSTALLED DISCONNECT SWITCH

LINE VOLTAGE
SEE UNIT NAMEPLATE
3Ø
60 Hz

USE COPPER
SUPPLY WIRES.



FACTORY INSTALLED DISCONNECT SWITCH OPTION



LOW VOLTAGE CONTROLS

NOTE: Refer to legend and notes on page 33.

Operating sequence

All units require the addition of a thermostat or DDC control package to complete the control circuit. The sequence of operation may vary depending on which package is selected.

Room-mounted thermostat — The unit uses an electronic thermostat mounted in the conditioned space.

Fan circulation — When the thermostat selector switch is set to the FAN position, the evaporator-fan motor will operate to provide air circulation.

Cooling — The supply fan will operate continuously or when the compressor runs, depending on the setting of the thermostat fan selector switch. When the thermostat closes (on a call for cooling), the control relay condenser-fan contactor and compressor contactor(s) close. The control relay will start the indoor fan if it is not already running. The condenser-fan contactor will start the condenser-fan and the compressor contactor(s) will immediately start the compressor(s).

A second stage will close if additional cooling demand is required, and will start the second-stage compressor. When the thermostat is satisfied, the second-stage compressor will stop first, and then the first-stage compressor will stop

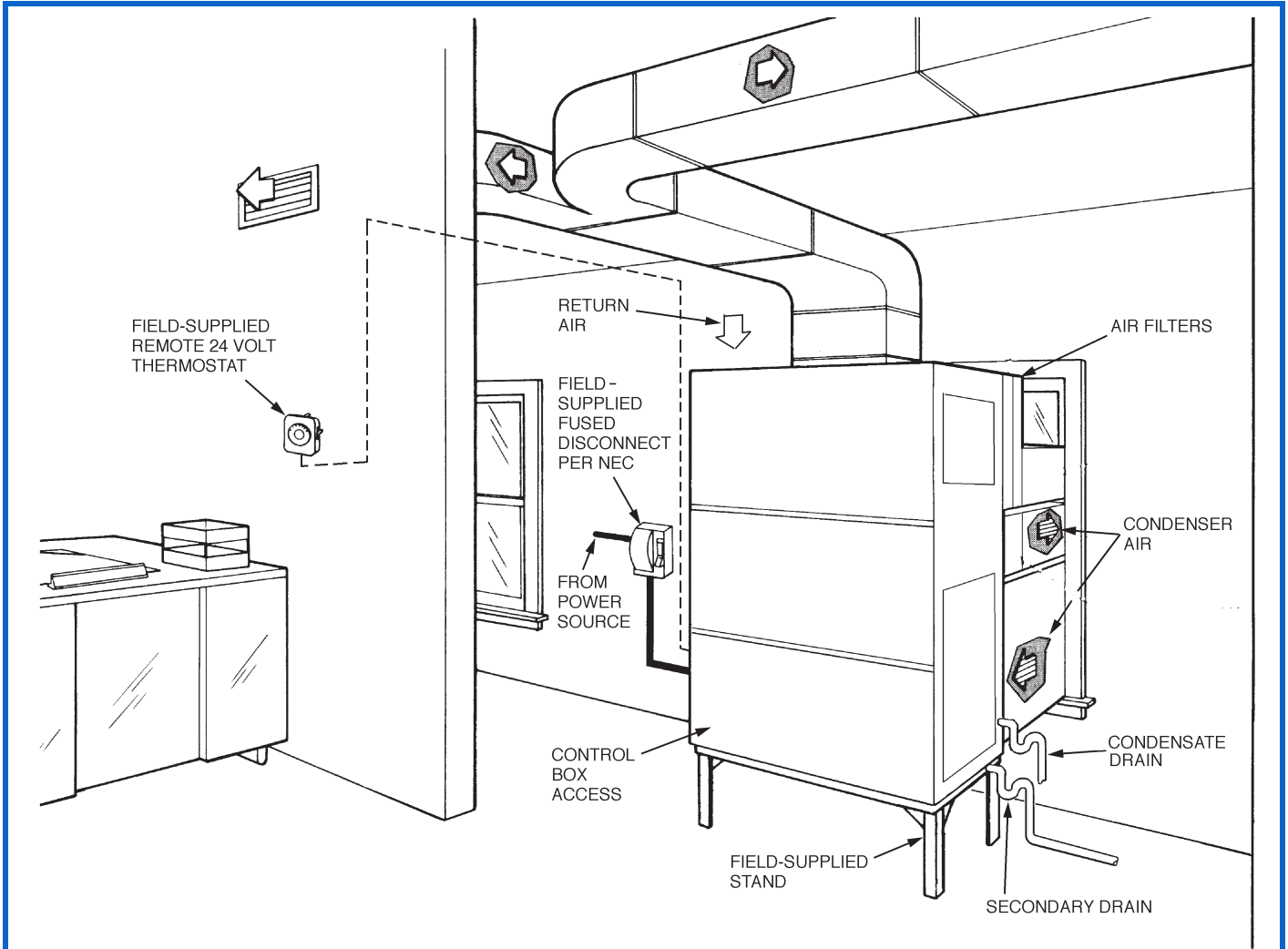
when cooling demand is satisfied. The condenser will also stop as soon as both cooling stages are satisfied.

A 5-minute timer, TDR (time-delay relay), will prevent the compressor(s) from restarting for 5 minutes after any compressor has stopped.

2-speed fan operation — For dual-stage units, fan speed shall operate at 67% of full speed for first-stage cooling operation and 100% of full speed for second-stage cooling operation or any heating operation.

All units — The control circuit incorporates a current sensing lockout relay (Cycle-LOC™ device) that locks off the compressor(s) when any safety device is activated (low or high-pressure switches, or compressor internal overload). If any compressor safety device opens, the compressor will stop. High and low-pressure switches and compressor motor overload protectors will reset automatically when the condition which caused the device to trip has dropped below the reset condition. To reset the Cycle-LOC control device, manually turn the control power OFF, then back ON.

Heating — The supply fan will operate continuously or when heat source (steam or hot water) is enabled, The heat source control and control valve shall be field provided.



LEGEND

NEC — National Electrical Code

Condenser Airflow

Evaporator Airflow

----- Control Wiring

———— Power Wiring

NOTES:

1. Wiring and piping shown are general points of connection guides only and are not intended for or to include all details for a specific installation.
2. All wiring must comply with applicable local and national codes.
3. All piping must follow standard piping techniques. Refer to Carrier System Design Manual Part 3 for details.
4. Connect both drains to building waste system and provide a trap of sufficient depth for unit static.

Location

For best results, unit must be properly located and installed. Selected location should not be adjacent to an acoustically sensitive space; for example, a conference room or executive office. The best location is in mechanical rooms near areas like elevators, restrooms, stairways, or similar spaces. The mechanical room should use construction methods which will help isolate the transmission of acoustical energy.

Since these units typically use large quantities of ducted condenser air, select a location with the best access to an outside window or wall to accommodate condenser air louver. Locate the unit as close to the wall opening as possible, but allow space for return air inlet and access to the evaporator and condenser coil for cleaning. Units on the same floor should have a minimum of 6 ft between units to prevent recirculation of condenser air. Units floor-to-floor should have a minimum of 10 ft between units to prevent recirculation. Units should not be located with several units pulling condenser air from a small space between buildings, where air may be recirculated. Recirculation of condenser air will result in increased head pressure which may cause units to trip on high pressure.

There are several methods for applying 50XCA units in different space applications. See page 43 for recommended equipment room applications and locations of key components.

Moving units into existing buildings

The 50XCA06-14 units are designed to pass through most 36-in. door openings. The filter rack may also be removed.

Unit isolation

Unit compressors are internally isolated and the compressor compartment is lined with acoustical insulation. If additional vibration isolation is desired, rubber in-shear pads are recommended under the four corners of the unit. Spring isolation is not recommended. All duct connections to the unit should be made with flexible connections to prevent any transmission of vibration to the ductwork.

Evaporator ductwork

Supply duct should be properly supported and the aspect ratio as close to square as possible. Duct should be sized for a maximum of 2000 fpm velocity in areas outside the equipment room. The duct should be lined with acoustical insulation for a minimum of 10 ft beyond the equipment room. A flexible duct connection should be used on the connection to the unit to prevent transmission of any unit vibrations into the duct. Units with two or more supply fans require a “pair of pants” duct connection. Refer to the installation instructions for more details.

Return duct may be attached to the unit, but is not necessary. The return to the unit should prevent line of sight visibility to the space. Insulated return duct is also recommended for acoustically sensitive spaces. Maximum velocity should not exceed 1000 fpm over occupied spaces. Adequate return area is essential for proper operation.

Condenser ductwork

Condenser supply and discharge air ducts should be as short and straight as possible. Cross-sectional area of the inlet and discharge should never be less than the face area of the unit openings. When bends must be made, they should be as gradual as space limitations will allow. If the unit will be operated in cold outdoor weather, or if dampers are not provided at the louver, then the condenser ducts should be insulated to prevent condensation.

Design of the louver used for the inlet and discharge of the condenser airflow is critical to preventing recirculation of air and high pressure tips. The louver blades must be heavy enough to prevent unit airflow from drawing them together. Louver blades should be a minimum of 18 gage, and widths over 30 in. should have stiffeners. The inlet louver should not have a flange and the discharge louver should have a flange which directs the air away from the inlet. The use of a deflector, in conjunction with the condenser air discharge, is also recommended.

Piping traps

All 50XCA units have a drain for the condensate from the evaporator coil. The condensate trap should have a depth adequate to allow 2 in. of water in the trap with the unit running. Provide a clean-out on the trap and vent and pitch the trap for proper drainage.

Controls

All units require a room-mounted 24-v thermostat to complete the control system. Carrier has several versions of thermostats to meet a wide range of job conditions, including fully programmable and light-activated versions.

Operational limits

Airflow — 300 to 500 cfm per ton

Air temperature to evaporator:

Cooling

Maximum 90°F

Minimum 67°F

Condenser

Nominal airflow 350 cfm per ton,

Range: 300 to 500 cfm per ton

Condenser air temperature

Maximum 115°F

Minimum without low ambient 55°F

Minimum with low ambient 0°F

Sound considerations

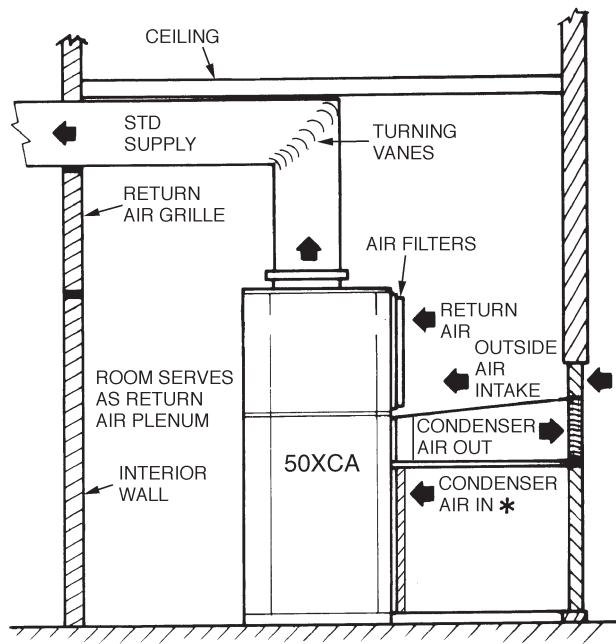
All units are acoustically insulated. When installed in or near areas requiring additional sound attenuation:

- Locate unit in equipment room or closet
- Use acoustic lining in ductwork
- Provide square duct elbows with acoustic lining and turning vanes
- Locate the first supply outlet no less than 10 ft from a lined elbow
- If unit is located in the conditioned space, return air opening from the space should be a lined elbow or equivalent
- For critical applications, use packaged sound attenuators or duct silencers. Sound attenuation may be used on both evaporator air and condenser air.

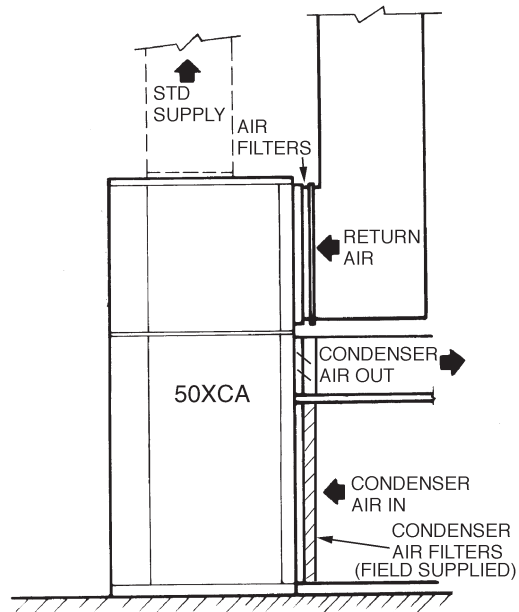
Setting condenser fan speed

The 50XCA condenser has a centrifugal blower and a variable pitch drive which allow adjusting the condenser airflow to match the static from the louvers, ductwork, filters, and sound traps (if used). It is best to adjust the fan to the nominal airflow and the rpm which will achieve this performance. Excess airflow and rpm will make units noisier.

TYPICAL UNIT LOCATION



USING EQUIPMENT ROOM
AS RETURN AIR PLENUM



UNIT LOCATED REMOTE
FROM CONDENSER AIR SUPPLY

* Provide access to clean condenser coil.

NOTE: Refer to Installation Instructions for detailed louver information.

Indoor Self-Contained Air-Cooled Unit Constant Volume Application HVAC Guide Specifications

Size Range: **5 to 20 Tons**

Carrier Model Number: **50XCA**

Part 1 — General

1.01 SYSTEM DESCRIPTION

- A. Indoor packaged vertical air-cooled cooling unit using hermetic scroll compressors and built-in condenser fan for cooling duty. Unit shall discharge supply air vertically or horizontally and condenser air horizontally as shown on contract drawings.

1.02 QUALITY ASSURANCE

- A. Units shall be rated in accordance with AHRI (Air-Conditioning, Heating, and Refrigeration Unit) Standard 340/360, latest edition, as appropriate.
- B. Unit shall be designed to conform to ANSI/ASHRAE (American National Standards Institute/American Society of Heating, Refrigerating, and Air-Conditioning Engineers) 15, latest revision safety code, and UL (Underwriters Laboratories) Standard 1995, and shall be UL listed under both American and Canadian Standards.
- C. Units 06-24 (5-20 tons) shall be designed to meet or exceed ASHRAE 90.1-2016 (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) and DOE-2018 (Department of Energy) minimum efficiency ratios.
- D. The management system governing the manufacture of this product is ISO 9001:2015 certified.
- E. Insulation, adhesive, and liner system shall meet NFPA (National Fire Protection Association) 90A requirements for flame spread and smoke generation.

1.03 DELIVERY, STORAGE, AND HANDLING

- A. Units shall be stored and handled according to manufacturer's recommendations.

Part 2 — Products

2.01 EQUIPMENT

- A. General:
Factory-assembled, single-piece, air-cooled cooling unit. Unit shall consist of scroll refrigerant compressor(s), indoor fan section with belt drive centrifugal fans and motor, evaporator coil section with direct expansion coil and drain pan, air-cooled condenser fan section with belt drive centrifugal fans and motor, factory wiring, piping and controls, and a system charge of refrigerant (R-410A). Unit may be used with or without return ductwork.
- B. Unit Cabinet:
 - 1. Cabinet shall be constructed of minimum 18 gage zinc surface alloyed steel with a baked enamel finish. Unit shall be capable of withstanding ASTM (American Society for Testing and Materials) B117 500-hour salt spray test.

- 2. Cabinet shall be fully insulated.
- 3. Configurations include vertical or horizontal discharge with a ducted or louvered return.
- 4. Unit drain pan shall have positive double slope to the drain to prevent standing water in pan.
- 5. Panels for servicing shall be easily removable.

C. Evaporator Fan Section:

- 1. Fans shall be double inlet, centrifugal wheel with forward curved blades designed for continuous operation. Fan wheel and scroll shall be constructed of steel with corrosion resistant finish, and statically and dynamically balanced.
- 2. Motor shall be 3-phase high-efficiency NEMA (National Electrical Manufacturers Association) frame ODP (open drip proof) of the same voltage as the compressor(s). Motor shall have permanently lubricated ball bearings.

D. Compressor:

- Hermetic scroll compressors shall be internally protected with high pressure relief. Compressors shall be factory mounted with vibration isolators. Compressors shall be two-stage (size 06-08) or single circuit tandem (size 12-24) for two stage cooling operation.

E. Coils:

- 1. Evaporator and condenser coils shall have aluminum plate fins mechanically bonded to seamless copper tubes with all joints brazed. Tube sheet openings shall be swaged to prevent tube wear. Coils shall be full face.
- 2. Direct expansion coil shall be designed and tested in accordance with ANSI/ASHRAE 15, latest revision safety code.
- 3. Coil and drain pan shall be accessible through service access panels for cleaning.

F. Filter:

- Filter frame shall be installed upstream of the cooling coil, designed to take a 1-in. or 2-in. thick cleanable or disposable type commercially available filter. Filters shall be accessible from either side of the unit and filter rack shall be usable with ducted or free return. Disposable filters will be supplied with the unit. Four-in. filter racks are available.

G. Condenser:

- 1. Fans shall be double inlet, centrifugal wheel with forward curved blades designed for continuous operation. Fan wheel and scroll shall be constructed of steel with corrosion resistant finish, and statically and dynamically balanced.
- 2. Fan shall be belt drive with an adjustable pitch motor pulley and fixed pitch fan pulley, with permanently lubricated, ball-bearing type bearings.
- 3. Motor shall be 3-phase high-efficiency NEMA frame ODP (open drip proof) of the same voltage as the compressor(s). Motor shall have permanently lubricated ball bearings.

H. Operating Characteristics:

1. Unit shall be capable of providing a constant volume of conditioned air at a specified static pressure within the unit's normal operating range. Unit shall have dual-stage cooling capacity control on all unit sizes. All units have a single, common refrigeration circuit. Unit shall be capable of starting and operating at up to 115°F outdoor ambient. Sizes 06 and 08 have a single compressor, with two stages. Sizes 12-24 have two compressors in tandem.
2. Units shall be able to operate down to 0°F when equipped with low ambient option.

I. Controls and Safeties:

1. Units shall be furnished with a control terminal block for connection of low voltage controls and thermostats.
2. Unit shall require a room-mounted thermostat mounted in the conditioned space. Thermostat shall be digital type. Thermostat shall control fan operation and be capable of turning unit on and off.
3. Units shall have the following factory-installed safeties:
 - a. High and low-pressure switches.
 - b. Motor and compressor overtemperature.
 - c. Current lockout.
 - d. Inherent automatic fan motor overload.

J. Electrical Requirements:

All electrical power wiring shall enter the unit cabinet at a single location. Control circuit is 24-v, suitable for a field-supplied 24-v thermostat.

K. Refrigerant Components:

Refrigerant circuit components include thermal expansion valves, distributor with nozzle, filter driers, and charging service valves on each circuit. Suction line shall have a refrigerant loop to prevent refrigerant drain back to the compressor. Suction piping shall be insulated with closed cell piping insulation.

L. Special Features:

1. Supply Air Plenum:

Plenum shall be provided to permit free-blow horizontal air distribution with movable vanes to adjust airflow in horizontal and vertical direction. Plenum is field installed and shall be fully insulated.

2. Heating Coil:

Field-installed hot water coil shall be two rows with copper tube aluminum fins and a powder coated steel casing. Fins shall be bonded to tubes by mechanical expansion. Coil to be leak tested at 400 psig air pressure submerged in water and charged with dry air.

3. Steam Coil:

Field-installed steam heating coil shall be of a steam distributing tube type, aluminum fin coil to be mounted external to the unit.

4. Evaporator and Condenser Coil Coating:

The coating shall be continuous and cover the whole fin surface, tubing, manifolds, and feeder lines if applicable. For evaporator coils with thermostatic expansion valve assemblies, valve body, head, and bulb shall be masked. A minimum of 2-in. shall be masked on all coil connection points. Expansion valve inlet piping less than 6-inches in total length, expansion valve distributor, and external equalizer line are not required to be coated.

5. Airside Economizer:

A field-installed airside economizer shall have a low leak damper assembly with Honeywell W7220 economizer controller for fault detection and diagnostics (FDD).

6. Winter Start Option:

Shall provide a bypass of low-pressure switch on start-up for initial 90 seconds.

7. SAV™ (Two-Speed Fan):

Fan speed shall operate at 67% of full speed for first stage cooling operation and 100% of full speed for second stage cooling operation or heating operation.

8. High-Static Motor Upgrade:

- a. May be required for higher external static pressure (ESP) needed for factory or field-installed accessories (dampers, heating coils, etc.) to achieve the required performance.
- b. Units shall be designed with a fixed pulley on the blower and an adjustable sheave on the motor. The sheave turns open or the components themselves may need to be changed to provide the desired performance.

9. Non-Fused Disconnect:

Shall be located by the unit control panel to disconnect all unit power. The lockable switch shall be accessible without opening any control panels.

