



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)
- 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.

Special features for outstanding performance

- Efficient 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.
- 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.

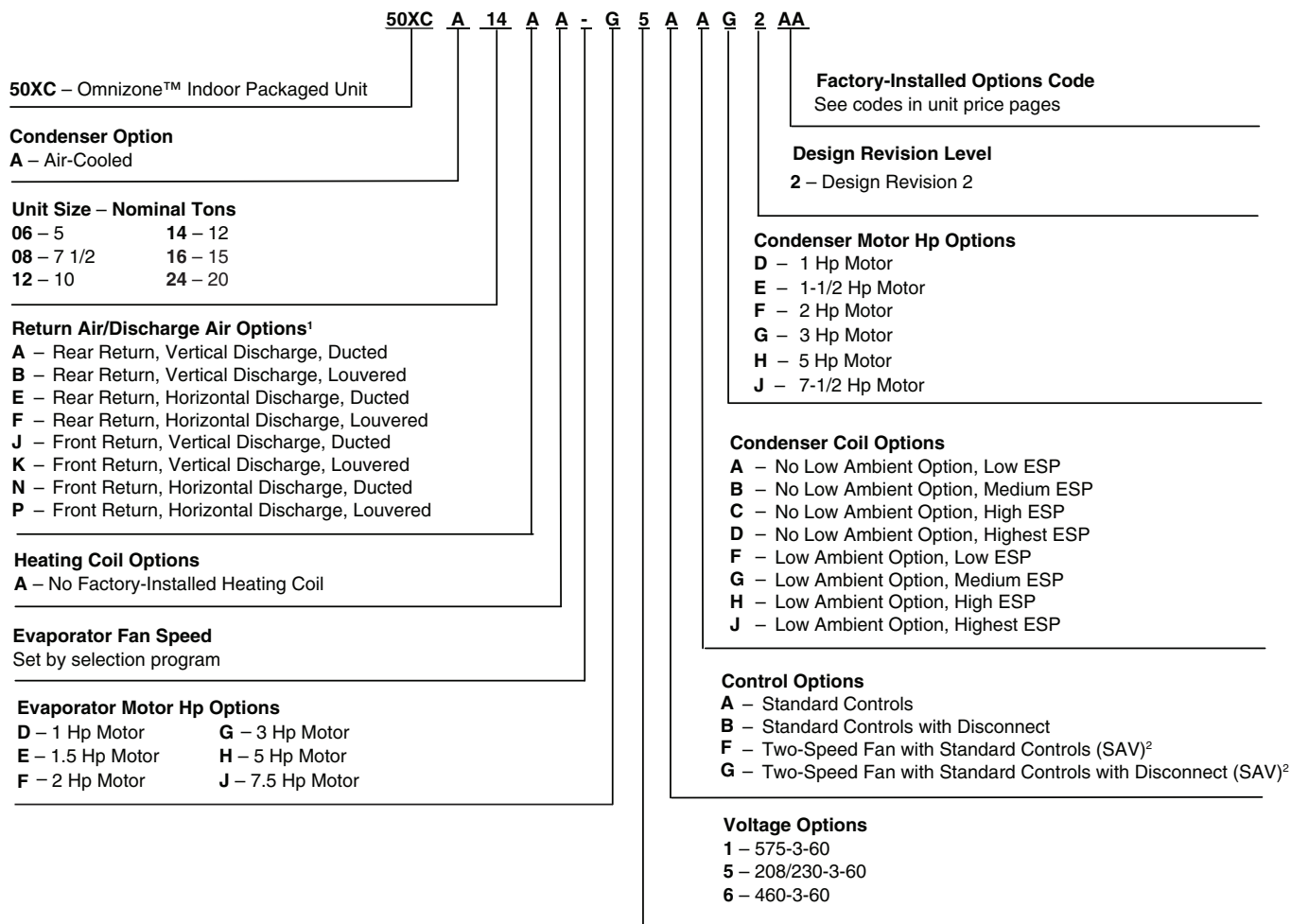
Environmentally balanced

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.

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Model number nomenclature



LEGEND

ESP — External Static Pressure

¹ Horizontal discharge not available on size 06 or 08.

² Staged Air Volume (SAV) option is not available for 575V units.

AHRI Capacity Ratings^{a,b}

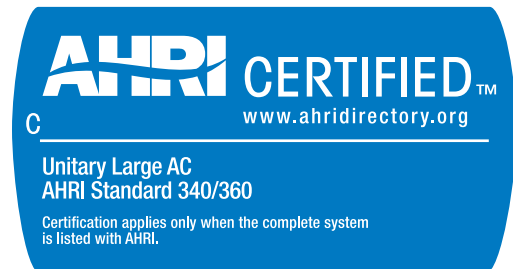
UNIT 50XCA	NOMINAL TONS	EVAPORATOR cfm	CONDENSER cfm	NET COOLING (Btuh)	TOTAL kW	EER	IEER	
06	5	1,875	3,400	68,000	6.1	11.2	CV	13.0
							SAV	14.8
08	7-1/2	2,625	4,000	81,000	7.2	11.2	CV	13.1
							SAV	14.8
12	10	3,500	6,400	121,000	10.8	11.2	CV	13.1
							SAV	14.3
14	12	4,200	6,700	138,000	12.7	11.0	CV	14.0
							SAV	15.4
16	15	5,000	9,000	180,000	16.4	11.0	CV	12.6
							SAV	13.9
24	20	7,000	10,300	240,000	24.0	10.0	CV	11.8
							SAV	13.2

NOTE(S):

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

LEGEND

- AHRI** — Air-Conditioning, Heating, and Refrigeration Institute
CV — Constant Volume Units
EER — Energy Efficiency Ratio
IEER — Integrated Energy Efficiency Ratio
SAV — Staged Air Volume Units



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	ZPS60 ^a / ZPS67 ^b	ZP54/ZP49	ZP61/ZP57	ZP91/ZP67	ZP122/ZP91
Quantity	1	1	2	2	2	2
Steps of Control (Stages)	2	2	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	1875	2625	3500	4200	5000	7000
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
Max. Allowable rpm	1600	1700	2000	2000	2000	2000
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	3,400	4,000	6,400	6,700	9,000	10,300
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
Max. Allowable rpm	1700	1700	1700	1600	1700	1700
Hp Range	1 - 1.5	1.5 - 2	2 - 3	2 - 3	3 - 5	5 - 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)					

NOTE(S):

- a. With no low ambient option selected.
- b. With low ambient option selected.

ITEM	FACTORY-INSTALLED OPTION	FIELD-INSTALLED ACCESSORY
Low Ambient Operation	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

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.

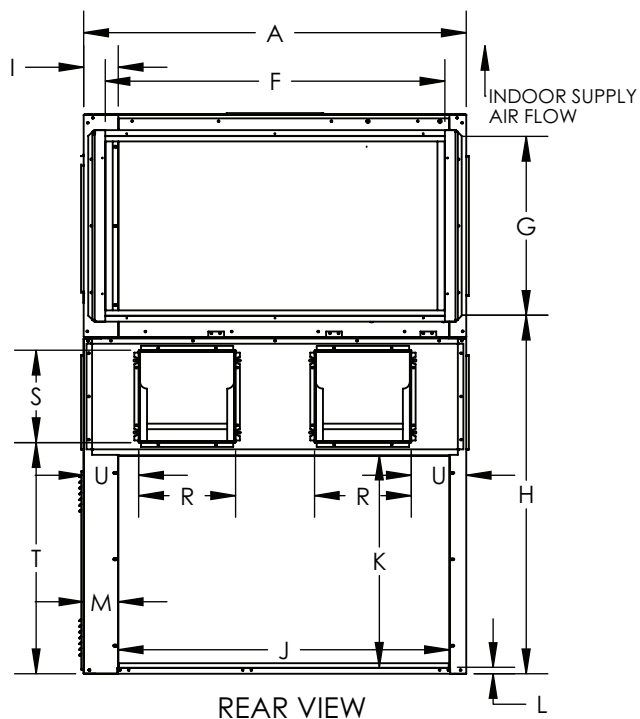
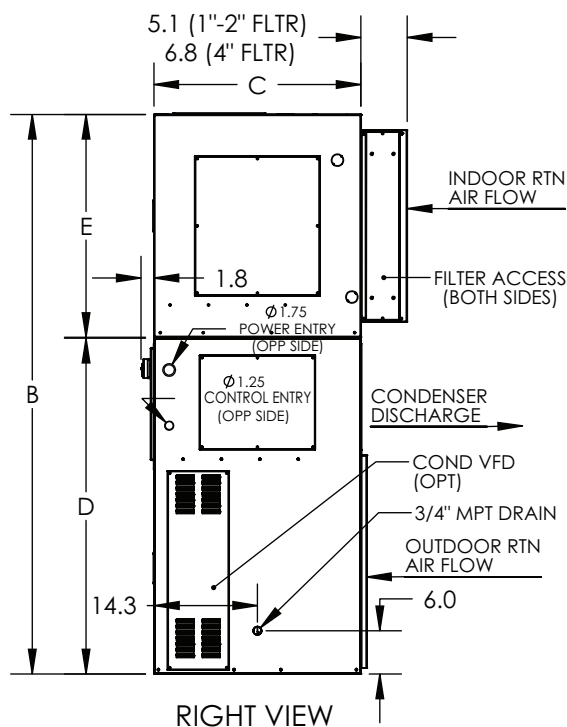
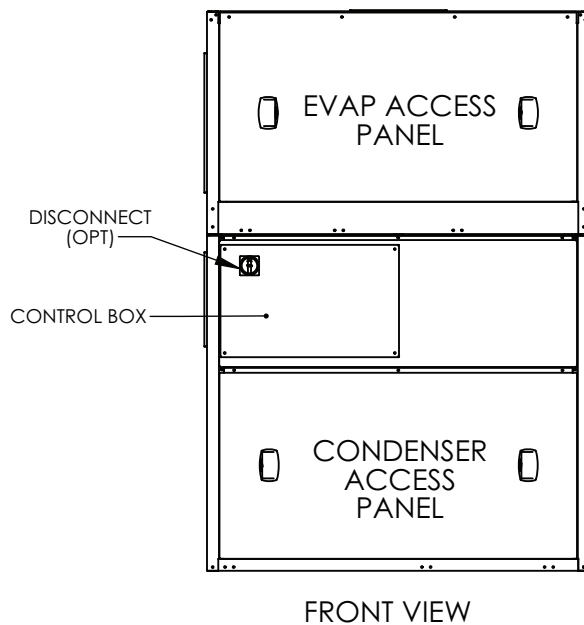
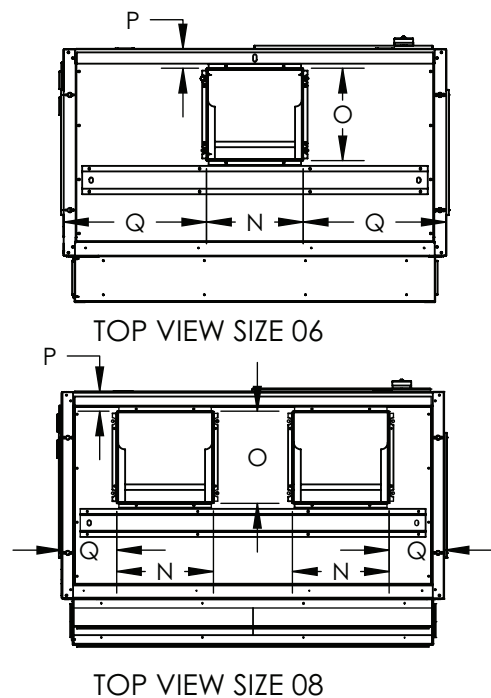
High-static motor upgrade may be required for higher external static pressure (ESP) needed for factory or field-installed accessories (dampers, heating coils, etc.) to achieve the required performance.

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

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

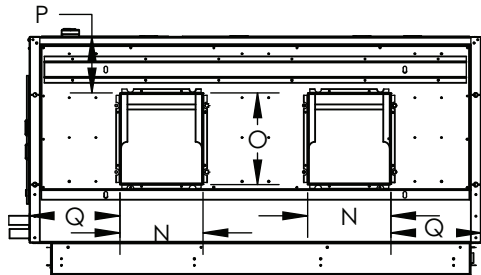
Rear Return, Vertical Discharge



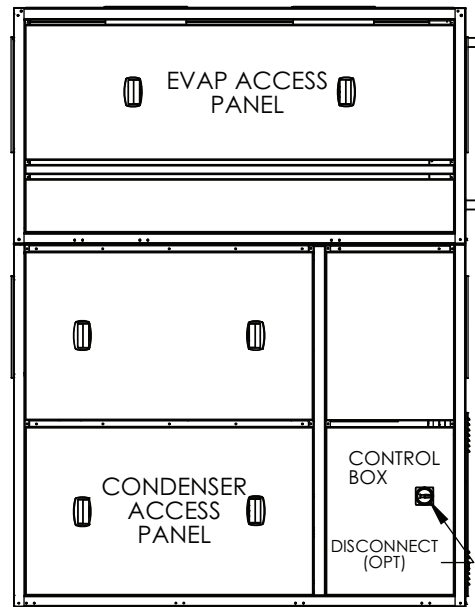
UNIT 50XCA	WIDTH	HEIGHT	DEPTH	COND SECTION	EVAP SECTION	EVAP RETURN DUCT				COND RETURN DUCT				EVAP SUPPLY DUCT (Blower Opening)				COND DISCHARGE DUCT (Blower Opening)			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
06	53.1	77.1	29.0	46.6	31.0	47.2	24.8	49.8	4.8	46	29.4	0.9	4.8	13.4	12.8	2.7	19.8	13.4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

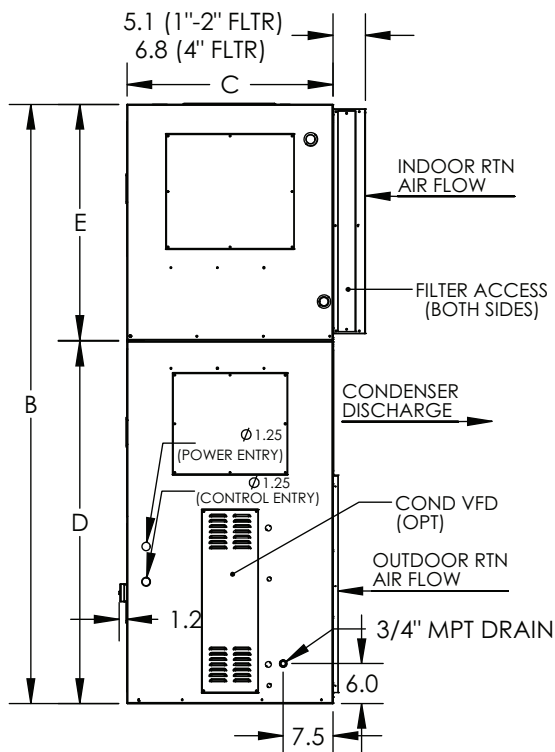
Rear Return, Vertical Discharge



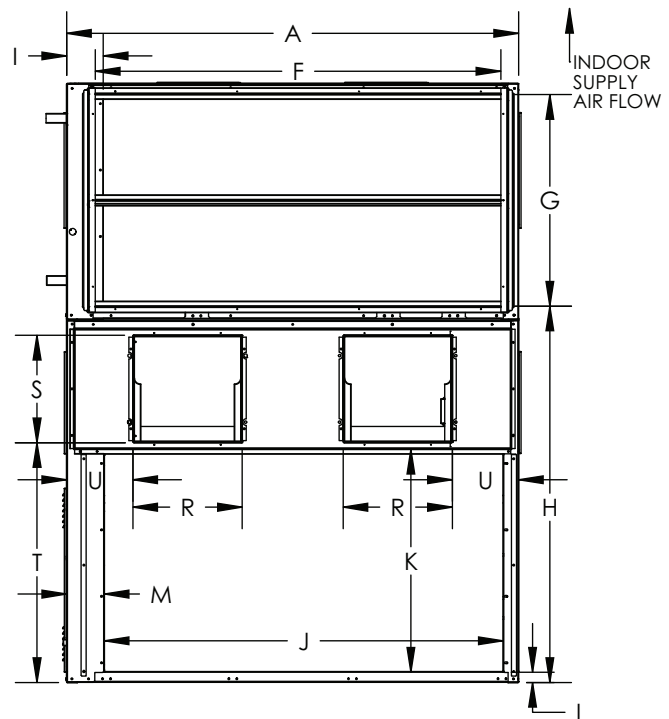
TOP VIEW



FRONT VIEW



RIGHT VIEW



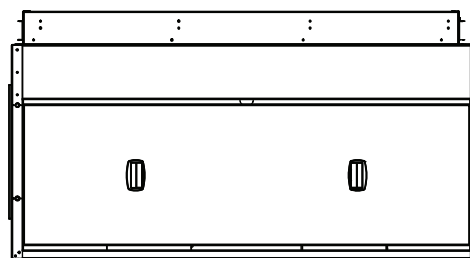
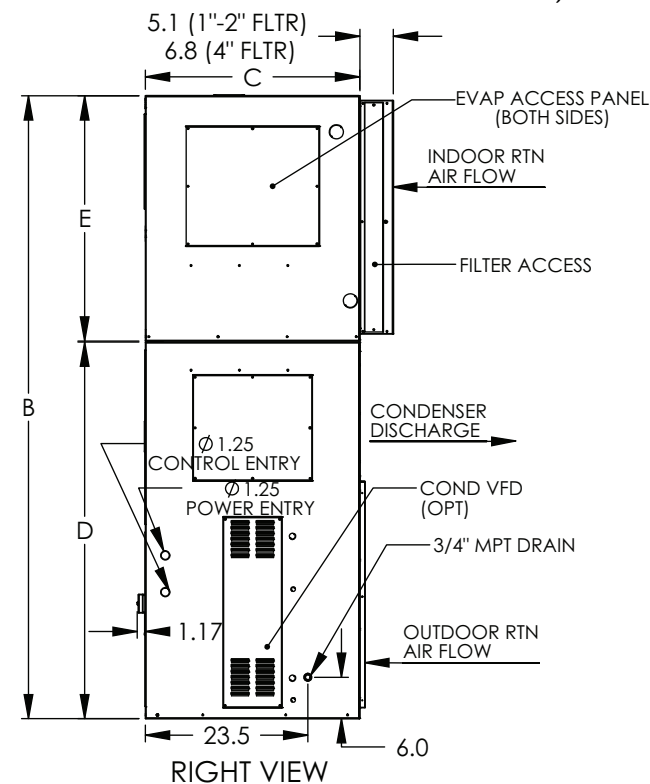
REAR VIEW

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

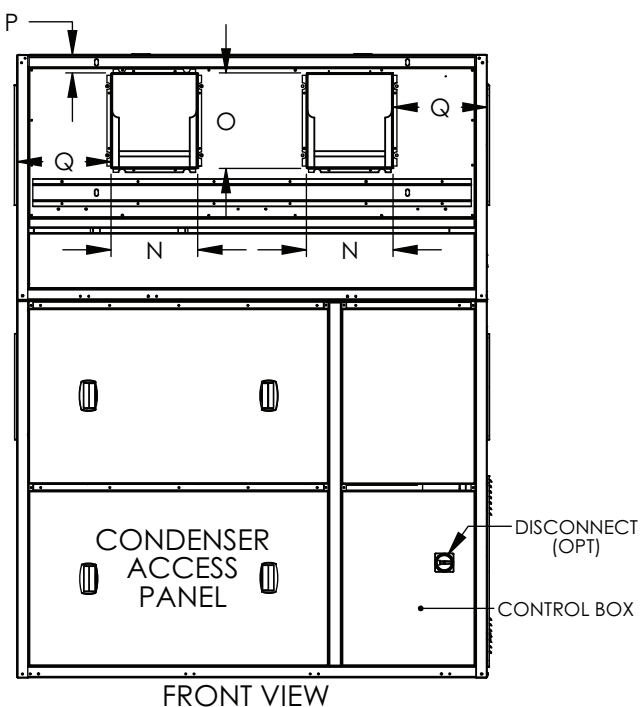
NOTE: Dimensions are in inches.

Dimensions – 50XCA12,14 (cont)

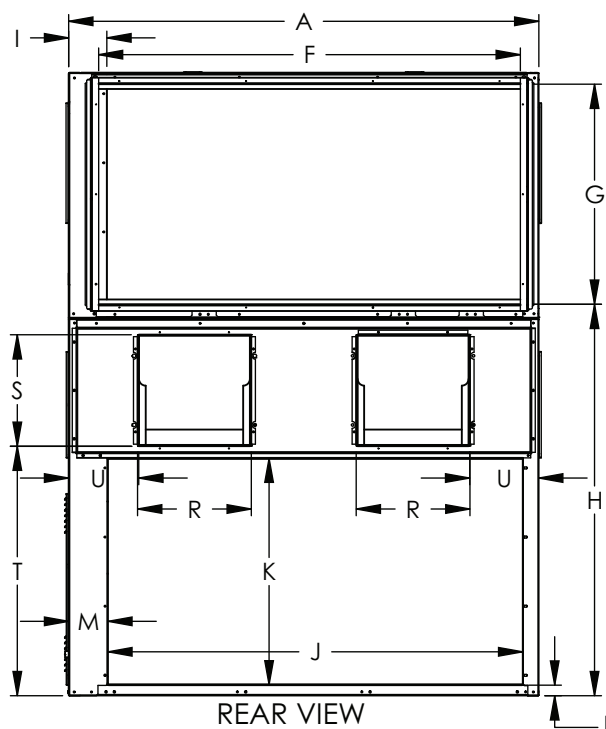
Rear Return, Horizontal Discharge



TOP VIEW



FRONT VIEW



REAR VIEW

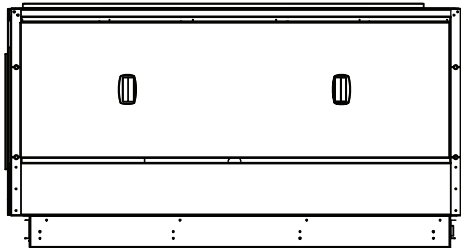
UNIT 50XCA	WIDTH	HEIGHT	DEPTH	COND SECTION	EVAP SECTION	EVAP RETURN DUCT				COND RETURN DUCT				EVAP SUPPLY DUCT (Blower Opening)				COND DISCHARGE DUCT (Blower Opening)			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
12	68.0	90.1	31.2	54.5	35.5	61.1	31.8	56.7	5.5	60	32.8	1.5	5.7	12.5	13.8	2.7	13.6	16.4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

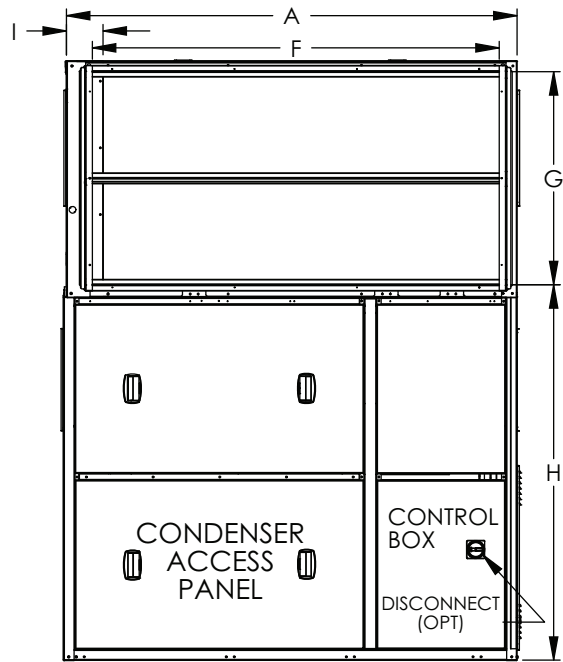
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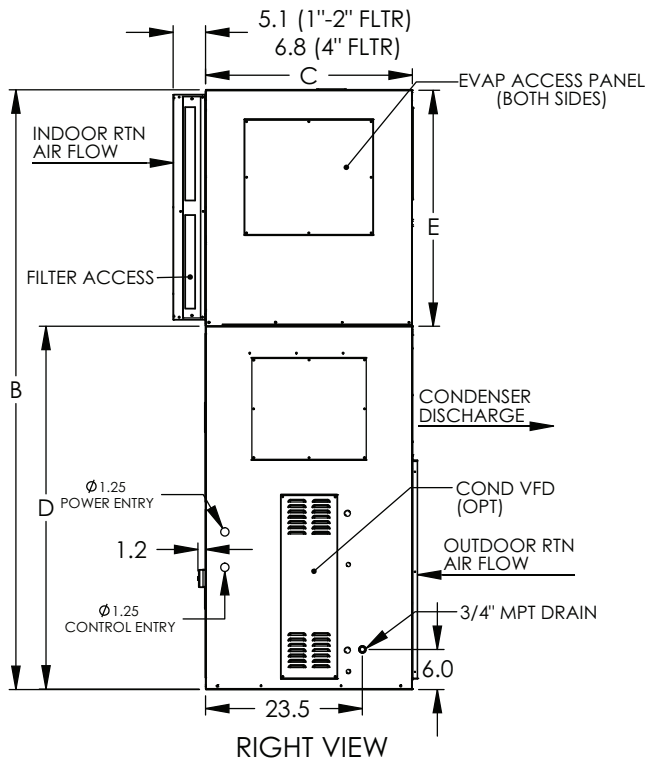
Front Return, Horizontal Discharge



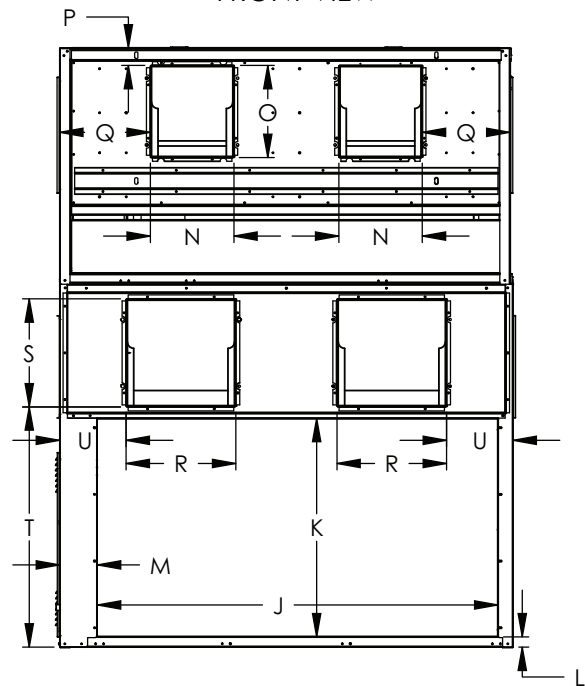
TOP VIEW



FRONT VIEW



RIGHT VIEW



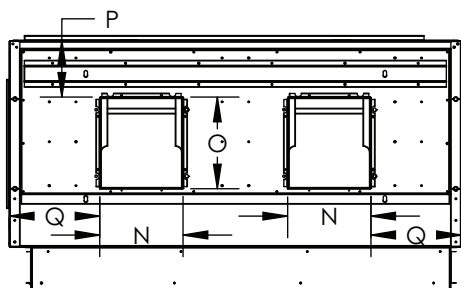
REAR VIEW

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

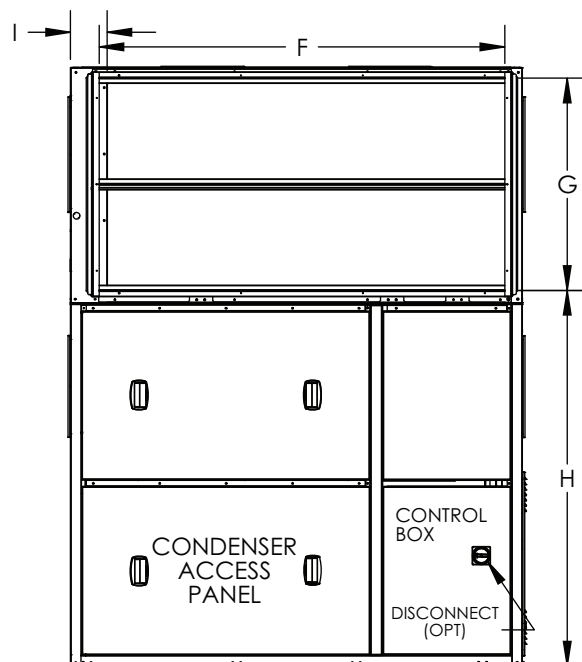
NOTE: Dimensions are in inches.

Dimensions – 50XCA12,14 (cont)

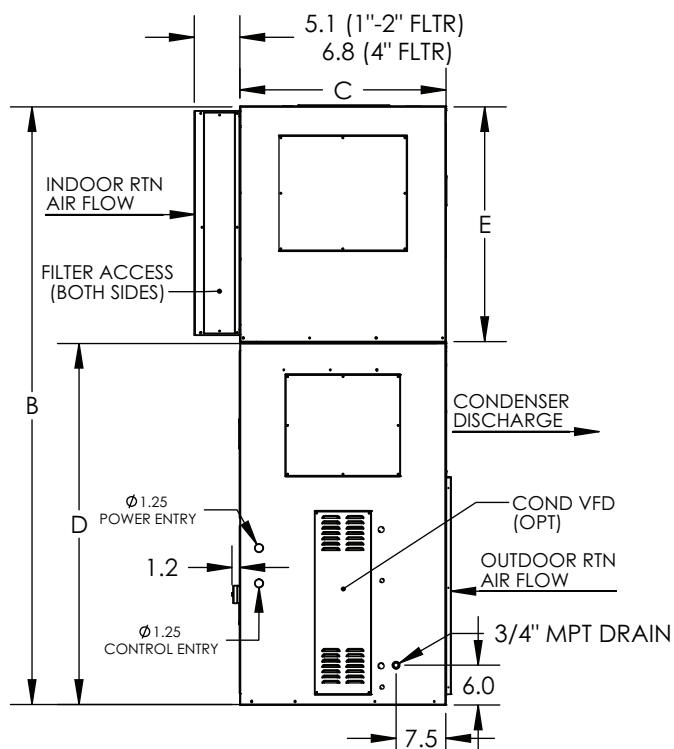
Front Return, Vertical Discharge



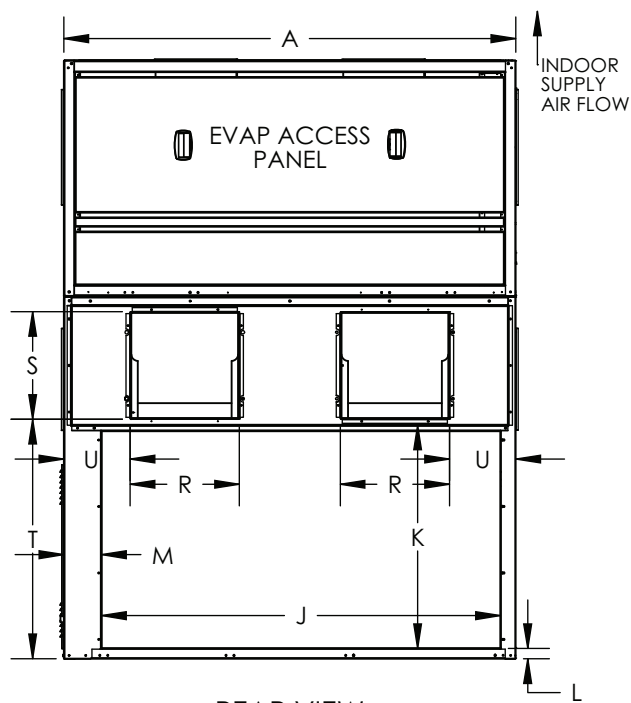
TOP VIEW



FRONT VIEW



RIGHT VIEW

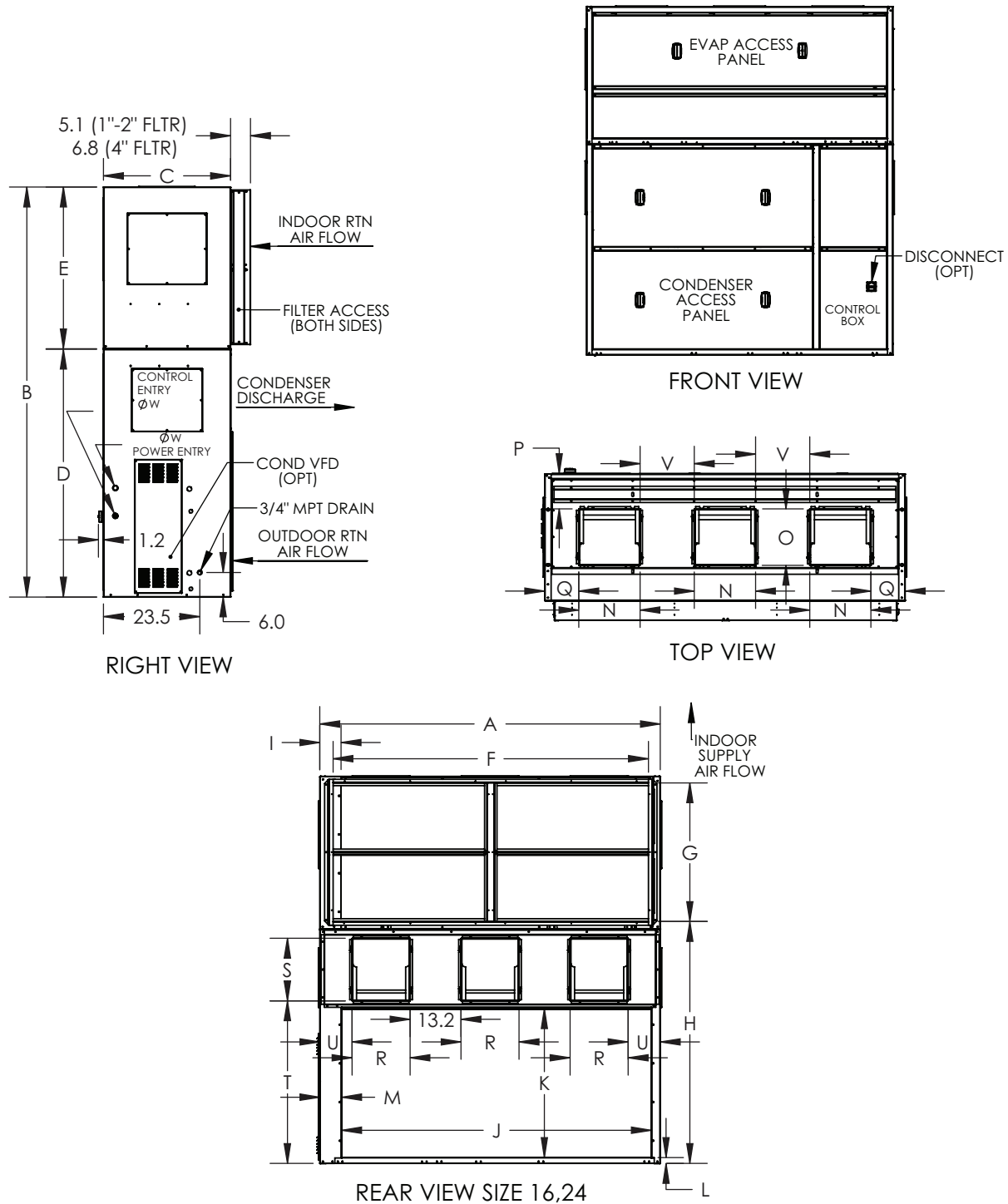


REAR VIEW

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

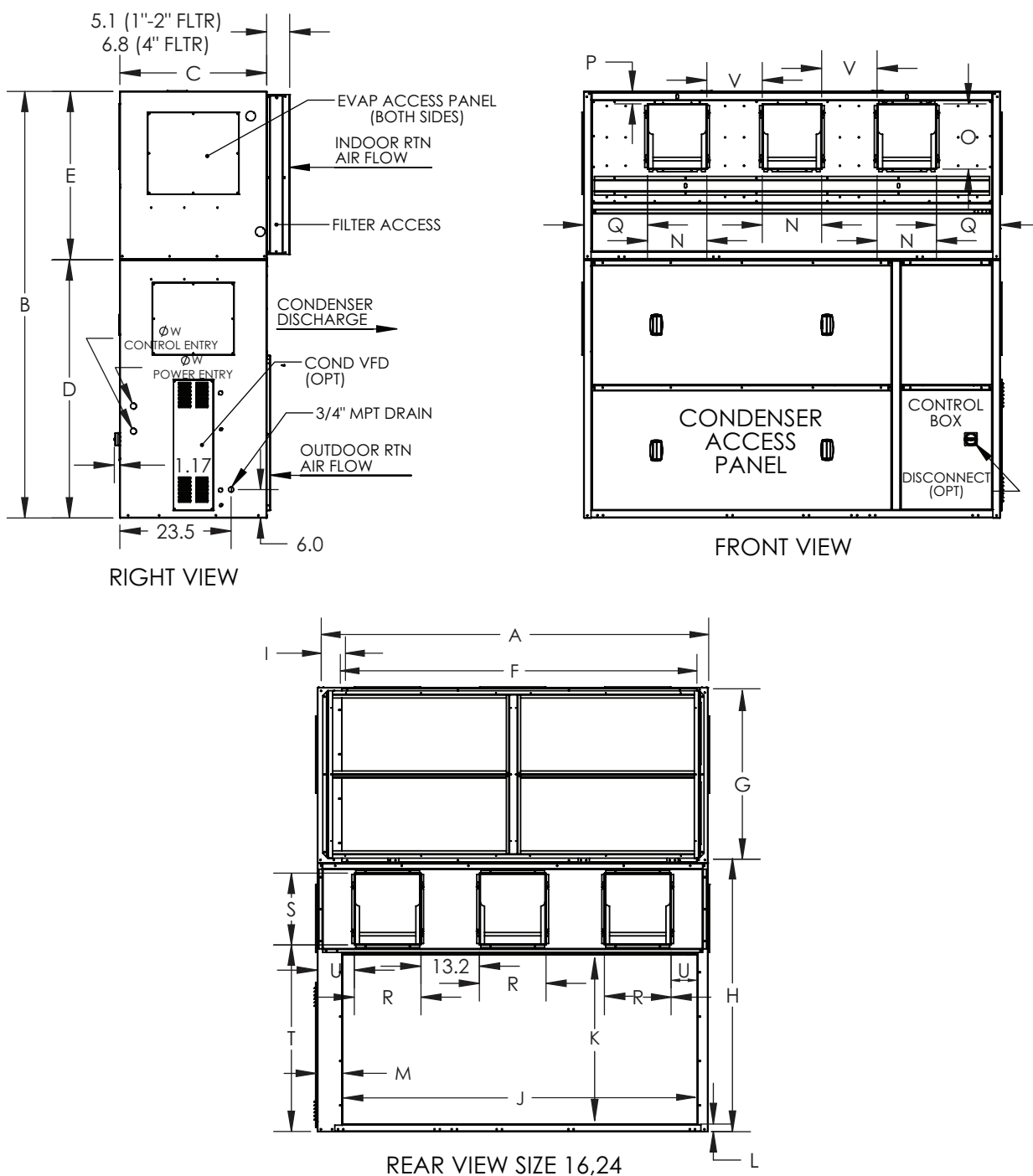


UNIT 50XCA	WIDTH	HEIGHT	DEPTH	COND SECT	EVAP SECT	EVAP RETURN DUCT				COND RETURN DUCT				EVAP SUPPLY DUCT (Blower Opening)					COND DISCHARGE DUCT (Blower Opening)				P/C
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	V	R	S	T	U	W
16	88.0	90.1	31.2	54.5	35.5	81.0	31.8	56.7	5.5	80	32.8	1.5	5.7	12.5	13.8	8.5	13.5	11.7	15.0	16.2	36.5	8.3	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.

Dimensions – 50XCA16,24 (cont)

Rear Return, Horizontal Discharge



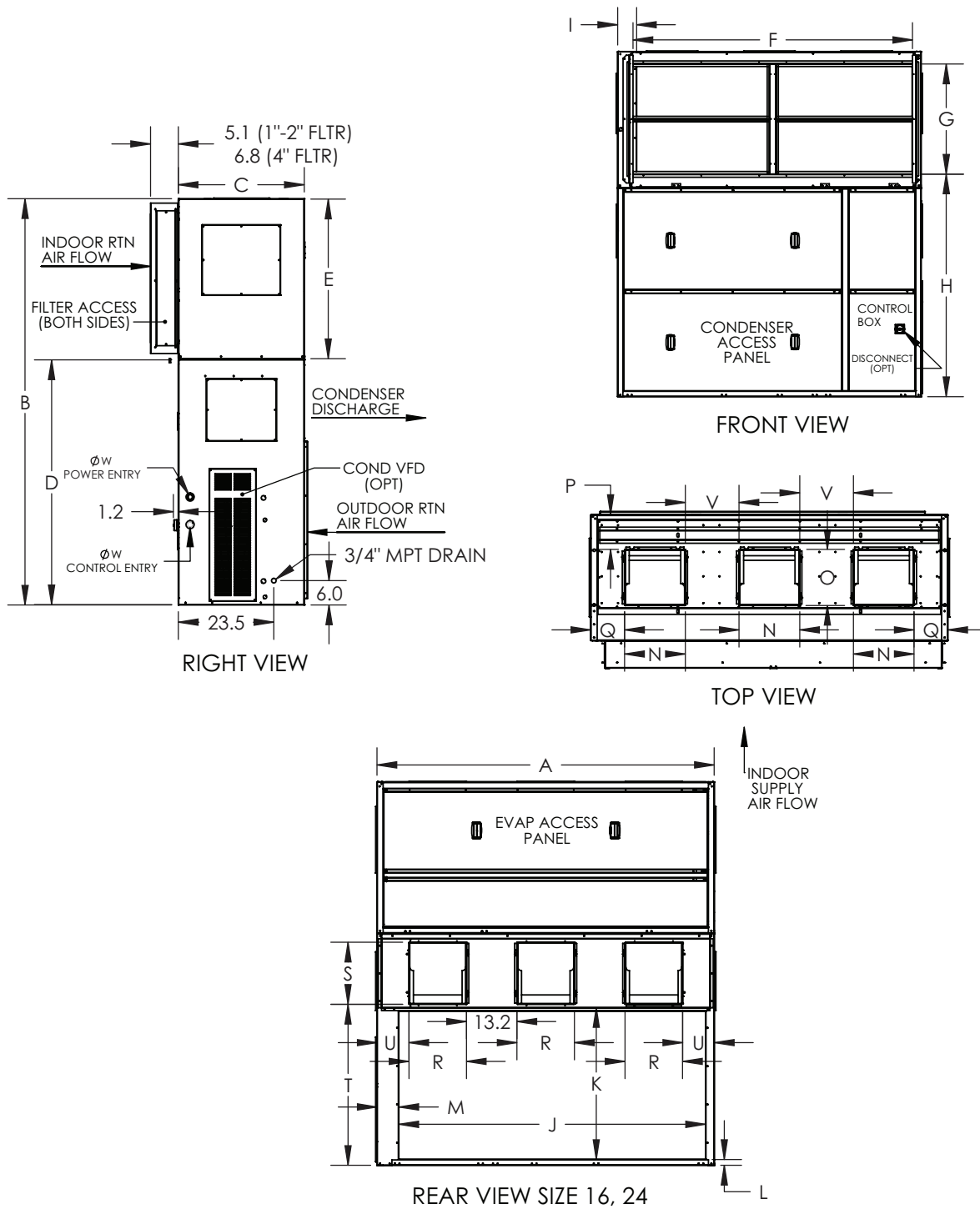
UNIT 50XCA	WIDTH	HEIGHT	DEPTH	COND SECT	EVAP SECT	EVAP RETURN DUCT				COND RETURN DUCT				EVAP SUPPLY DUCT (Blower Opening)					COND DISCHARGE DUCT (Blower Opening)					P/C
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	V	R	S	T	U	W	
16	88.0	90.1	31.2	54.5	35.5	81.0	31.8	56.7	5.5	80	32.8	1.5	5.7	12.5	13.8	2.6	13.5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

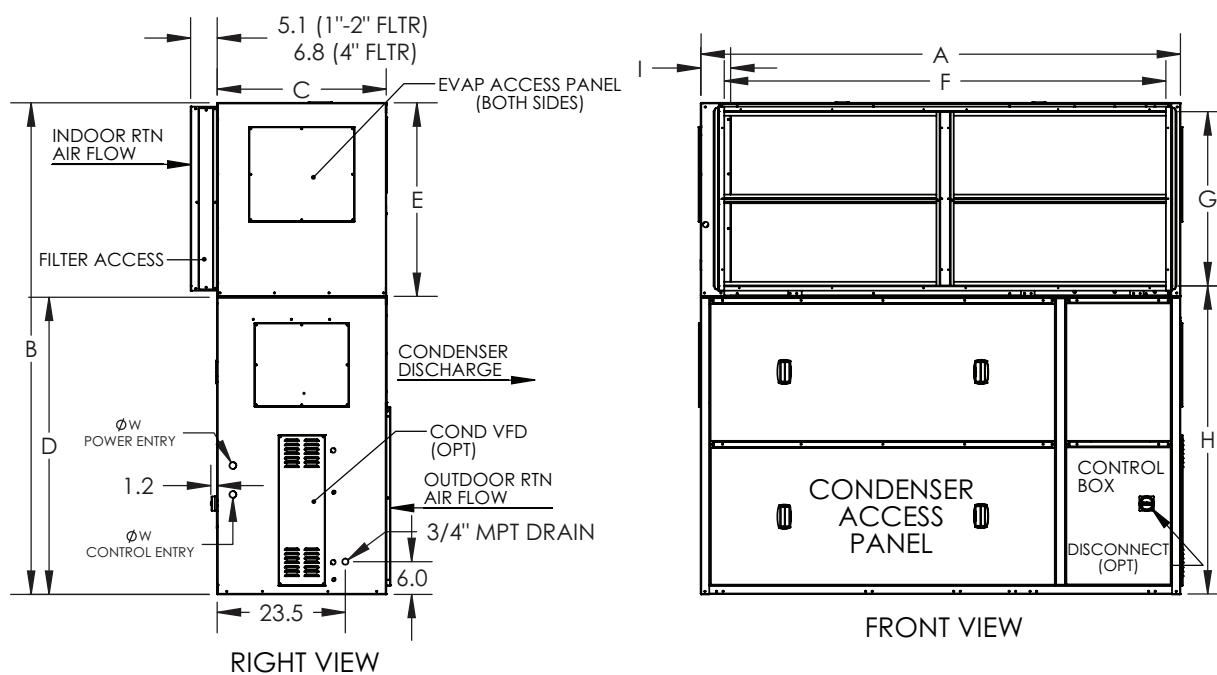


UNIT 50XCA	WIDTH	HEIGHT	DEPTH	COND SECT	EVAP SECT	EVAP RETURN DUCT				COND RETURN DUCT				EVAP SUPPLY DUCT (Blower Opening)					COND DISCHARGE DUCT (Blower Opening)					P/C
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	V	R	S	T	U	W	
16	88.0	90.1	31.2	54.5	35.5	81.0	31.8	56.7	5.5	80	32.8	1.5	5.7	12.5	13.8	8.5	13.5	11.7	15.0	16.2	36.5	8.3	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.

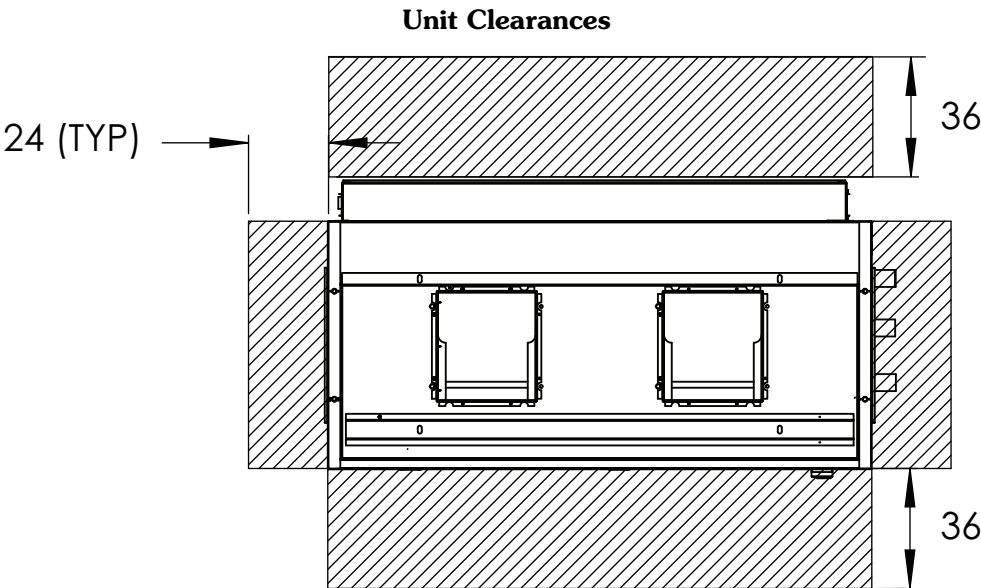
Dimensions – 50XCA16,24 (cont)

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	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	15.0	16.2	36.5	8.3	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.



NOTE: Dimensions are in inches.

Evaporator Fan Performance — 50XCW06, 50XCA06, 50XCR06 Units^{a,b,c,d,e}

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	—	—	—	—
2800	890	1.21	926	1.31	961	1.41	995	1.51	1029	1.61	1062	1.72	1094	1.83	—	—	—	—	—	—
2900	922	1.35	956	1.45	990	1.55	1023	1.65	1056	1.76	1088	1.87	—	—	—	—	—	—	—	—

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	—	—
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	—	—
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	—	—	—	—
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	—	—	—	—	—	—
2000	1063	1.30	1100	1.40	1136	1.51	1171	1.62	1205	1.73	1239	1.85	—	—	—	—	—	—	—	—
2100	1080	1.39	1116	1.50	1151	1.61	1185	1.72	1219	1.84	—	—	—	—	—	—	—	—	—	—
2200	1098	1.50	1132	1.61	1166	1.72	1200	1.83	—	—	—	—	—	—	—	—	—	—	—	—
2300	1116	1.61	1150	1.72	1183	1.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2400	1135	1.73	1168	1.84	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2500	1155	1.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTE(S):

- Units are available with several motor hp and drive package combinations.
- Bold italics indicate field-supplied drive required.
- 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.

LEGEND

bhp — Brake Horsepower
ESP — External Static Pressure

Evaporator Fan Performance — 50XCW08, 50XCA08, 50XCR08 Units^{a,b,c,d,e}

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	—	—
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	—	—	—	—
3000	677	0.69	742	0.85	801	1.02	856	1.19	908	1.37	957	1.56	1003	1.75	—	—	—	—	—	—
3200	723	0.84	783	1.01	839	1.19	892	1.37	942	1.56	989	1.76	—	—	—	—	—	—	—	—
3400	768	1.01	825	1.19	879	1.37	929	1.57	977	1.77	—	—	—	—	—	—	—	—	—	—
3600	813	1.19	867	1.39	918	1.58	967	1.79	—	—	—	—	—	—	—	—	—	—	—	—

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	—	—	—	—	—	—	—	—
2400	—	—	—	—	—	—	—	—	—	—
2600	—	—	—	—	—	—	—	—	—	—
2800	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—
3200	—	—	—	—	—	—	—	—	—	—
3400	—	—	—	—	—	—	—	—	—	—
3600	—	—	—	—	—	—	—	—	—	—

NOTE(S):

- Units are available with several motor hp and drive package combinations.
- Bold italics indicate field-supplied drive required.
- 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.

LEGEND

bhp — Brake Horsepower
ESP — External Static Pressure

Evaporator Fan Performance — 50XCW12, 50XCA12, 50XCR12 Units^{a,b,c,d,e}

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3200	925	1.74	965	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3400	931	1.82	972	2.03	1010	2.24	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—	—	—	—	—	—
4000	946	2.06	987	2.28	1027	2.51	1064	2.75	—	—	—	—	—	—	—	—	—	—	—	—
4200	951	2.16	992	2.38	1031	2.61	1069	2.85	—	—	—	—	—	—	—	—	—	—	—	—
4400	958	2.27	998	2.49	1037	2.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4600	965	2.39	1004	2.61	1042	2.83	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800	974	2.53	1011	2.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000	983	2.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTE(S):

- Units are available with several motor hp and drive package combinations.
- Bold italics indicate field-supplied drive required.
- 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.

LEGEND

bhp — Brake Horsepower
ESP — External Static Pressure

Evaporator Fan Performance — 50XCW14, 50XCA14, 50XCR14 Units^{a,b,c,d,e}

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	—	—	—	—	—	—	—	—	—	—
3700	933	1.88	971	2.07	1007	2.27	1041	2.46	1072	2.65	1103	2.83	—	—	—	—	—	—	—	—
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	—	—
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	—	—	—	—
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	—	—	—	—
5700	1012	3.15	1044	3.34	1077	3.55	1110	3.77	1144	4.02	1178	4.28	1211	4.55	—	—	—	—	—	—
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	—	—	—	—	—	—	—	—

NOTE(S):

- Units are available with several motor hp and drive package combinations.
- Bold italics indicate field-supplied drive required.
- 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.

LEGEND

bhp — Brake Horsepower
ESP — External Static Pressure

Evaporator Fan Performance — 50XCW16, 50XCA16, 50XCR16 Units^{a,b,c,d,e}

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	—	—
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	—	—	—	—
7750	713	2.79	754	3.07	794	3.35	832	3.63	869	3.92	904	4.22	939	4.52	—	—	—	—	—	—
8000	736	3.07	776	3.36	814	3.65	852	3.94	887	4.24	922	4.55	—	—	—	—	—	—	—	—

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4750	919	2.59	955	2.82	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000	929	2.77	965	3.01	999	3.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5250	939	2.97	974	3.21	1008	3.46	1042	3.71	—	—	—	—	—	—	—	—	—	—	—	—
5500	950	3.18	984	3.43	1018	3.68	1051	3.94	1083	4.21	1114	4.47	—	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTE(S):

- Units are available with several motor hp and drive package combinations.
- Bold italics indicate field-supplied drive required.
- 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.

LEGEND

bhp — Brake Horsepower
ESP — External Static Pressure

Evaporator Fan Performance — 50XCW24, 50XCA24, 50XCR24 Units^{a,b,c,d,e}

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	—	—
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	—	—	—	—
9,500	883	4.35	923	4.78	961	5.21	998	5.64	1034	6.08	1069	6.53	1103	6.98	—	—	—	—	—	—
9,800	911	4.78	949	5.22	987	5.66	1023	6.11	1058	6.56	1092	7.02	—	—	—	—	—	—	—	—
10,000	929	5.08	967	5.52	1004	5.97	1039	6.43	1074	6.89	—	—	—	—	—	—	—	—	—	—

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	—	—	—	—	—	—	—	—
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	—	—	—	—
6,600	1059	4.73	1095	5.09	1129	5.45	1163	5.82	1196	6.19	1228	6.57	1259	6.95	—	—	—	—	—	—
6,900	1075	5.06	1110	5.43	1144	5.81	1177	6.18	1209	6.57	1241	6.96	—	—	—	—	—	—	—	—
7,200	1091	5.41	1125	5.79	1159	6.18	1191	6.57	1223	6.97	—	—	—	—	—	—	—	—	—	—
7,500	1108	5.78	1141	6.18	1174	6.57	1206	6.98	—	—	—	—	—	—	—	—	—	—	—	—
7,800	1125	6.17	1158	6.58	1190	6.99	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,000	1137	6.45	1169	6.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,300	1154	6.88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8,900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9,800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTE(S):

- Units are available with several motor hp and drive package combinations.
- Bold italics indicate field-supplied drive required.
- 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.

LEGEND

- bhp** — Brake Horsepower
ESP — External Static Pressure

Condenser Fan Performance — 50XCA06 Units^{a,b,c,d,e}

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	—	—
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	—	—
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	—	—	—	—
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	—	—	—	—
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	—	—	—	—
2800	621	0.50	684	0.61	744	0.74	800	0.87	854	1.01	906	1.16	956	1.32	—	—	—	—	—	—
2900	644	0.56	704	0.67	762	0.80	817	0.94	870	1.08	920	1.23	969	1.39	—	—	—	—	—	—
3000	666	0.61	725	0.74	781	0.87	834	1.01	886	1.15	935	1.31	—	—	—	—	—	—	—	—
3100	688	0.68	745	0.80	799	0.94	852	1.08	902	1.23	950	1.39	—	—	—	—	—	—	—	—
3200	710	0.75	766	0.88	818	1.01	869	1.16	918	1.31	—	—	—	—	—	—	—	—	—	—
3300	732	0.82	786	0.95	838	1.09	887	1.24	935	1.40	—	—	—	—	—	—	—	—	—	—
3400	755	0.89	807	1.03	857	1.18	905	1.33	—	—	—	—	—	—	—	—	—	—	—	—
3500	777	0.98	828	1.12	876	1.27	924	1.42	—	—	—	—	—	—	—	—	—	—	—	—

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	555	0.36	625	0.46	690	0.57	751	0.70	810	0.83	865	0.97	918	1.12	969	1.27	—	—	—	—
2200	588	0.42	654	0.53	716	0.65	775	0.78	831	0.92	885	1.06	936	1.21	986	1.37	—	—	—	—
2300	621	0.50	684	0.61	744	0.74	800	0.87	854	1.01	906	1.16	956	1.32	1004	1.48	—	—	—	—
2400	655	0.58	714	0.71	771	0.83	826	0.97	878	1.12	928	1.27	976	1.43	1023	1.60	—	—	—	—
2500	688	0.68	745	0.80	799	0.94	852	1.08	902	1.23	950	1.39	997	1.55	1042	1.72	—	—	—	—
2600	721	0.78	776	0.91	828	1.05	878	1.20	927	1.36	973	1.52	1019	1.69	1063	1.86	—	—	—	—
2700	755	0.89	807	1.03	857	1.18	905	1.33	952	1.49	997	1.66	1041	1.83	—	—	—	—	—	—
2800	788	1.02	838	1.16	886	1.31	933	1.47	978	1.64	1022	1.81	—	—	—	—	—	—	—	—
2900	821	1.15	869	1.30	916	1.46	961	1.62	1005	1.79	—	—	—	—	—	—	—	—	—	—
3000	855	1.30	901	1.45	946	1.62	989	1.78	—	—	—	—	—	—	—	—	—	—	—	—
3100	888	1.46	932	1.62	976	1.79	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3200	921	1.63	964	1.79	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3300	954	1.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTE(S):

- Units are available with several motor hp and drive package combinations.
- Bold italics indicates field-supplied drive required.
- 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.

LEGEND

bhp — Brake Horsepower
ESP — External Static Pressure

Condenser Fan Performance — 50XCA08 Units^{a,b,c,d,e}

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	—	—	—	—
3700	821	1.15	869	1.30	916	1.46	961	1.62	1005	1.79	—	—	—	—	—	—
3850	855	1.30	901	1.45	946	1.62	989	1.78	—	—	—	—	—	—	—	—
4000	888	1.46	932	1.62	976	1.79	—	—	—	—	—	—	—	—	—	—
4150	921	1.63	964	1.79	—	—	—	—	—	—	—	—	—	—	—	—
4300	954	1.81	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—	—
2650	1034	1.54	1080	1.71	1125	1.89	—	—	—	—	—	—	—	—
2800	1050	1.65	1095	1.83	—	—	—	—	—	—	—	—	—	—
2950	1068	1.77	—	—	—	—	—	—	—	—	—	—	—	—
3100	1086	1.90	—	—	—	—	—	—	—	—	—	—	—	—
3250	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3400	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3550	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3700	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3850	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4000	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4150	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4300	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4450	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4600	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTE(S):

- Units are available with several motor hp and drive package combinations.
- Bold italics indicates field-supplied drive required.
- 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.

LEGEND

bhp — Brake Horsepower
ESP — External Static Pressure

Condenser Fan Performance — 50XCA12 Units^{a,b,c,d,e}

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	—	—
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	—	—
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
2500	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2650	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2800	793	1.81	—	—	—	—	—	—	—	—	—	—	—	—
2950	801	1.92	838	2.12	—	—	—	—	—	—	—	—	—	—
3100	810	2.04	846	2.24	—	—	—	—	—	—	—	—	—	—
3250	819	2.16	855	2.37	889	2.58	—	—	—	—	—	—	—	—
3400	829	2.30	864	2.51	898	2.72	—	—	—	—	—	—	—	—
3550	839	2.44	874	2.65	—	—	—	—	—	—	—	—	—	—
3700	850	2.59	884	2.80	—	—	—	—	—	—	—	—	—	—
3850	861	2.74	894	2.96	—	—	—	—	—	—	—	—	—	—
4000	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4150	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4300	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4450	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4600	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTE(S):

- Units are available with several motor hp and drive package combinations.
- Bold italics indicates field-supplied drive required.
- 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.

LEGEND

bhp — Brake Horsepower
ESP — External Static Pressure

Condenser Fan Performance — 50XCA14 Units^{a,b,c,d,e}

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	—	—
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	—	—	—	—	—	—
7500	620	2.02	649	2.18	679	2.38	709	2.62	—	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—	—	—	—
6500	—	—	—	—	—	—	—	—	—	—
6750	—	—	—	—	—	—	—	—	—	—
7000	—	—	—	—	—	—	—	—	—	—
7250	—	—	—	—	—	—	—	—	—	—
7500	—	—	—	—	—	—	—	—	—	—
7750	—	—	—	—	—	—	—	—	—	—
8000	—	—	—	—	—	—	—	—	—	—
8250	—	—	—	—	—	—	—	—	—	—
8500	—	—	—	—	—	—	—	—	—	—
8750	—	—	—	—	—	—	—	—	—	—
9000	—	—	—	—	—	—	—	—	—	—
9250	—	—	—	—	—	—	—	—	—	—
9500	—	—	—	—	—	—	—	—	—	—

NOTE(S):

- Units are available with several motor hp and drive package combinations.
- Bold italics indicates field-supplied drive required.
- 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.

LEGEND

bhp — Brake Horsepower
ESP — External Static Pressure

Condenser Fan Performance — 50XCA16 Units^{a,b,c,d,e}

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	—	—
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	—	—	—	—
9250	702	3.09	736	3.34	769	3.59	801	3.85	832	4.10	861	4.36	890	4.62	—	—	—	—	—	—
9500	721	3.30	754	3.56	787	3.81	818	4.07	848	4.33	877	4.59	—	—	—	—	—	—	—	—
9750	740	3.52	772	3.78	804	4.04	834	4.30	864	4.56	—	—	—	—	—	—	—	—	—	—

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6500	868	3.52	898	3.76	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6750	879	3.68	908	3.92	936	4.16	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7000	889	3.84	918	4.09	946	4.33	973	4.58	—	—	—	—	—	—	—	—	—	—	—	—
7250	900	4.02	929	4.26	956	4.51	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7500	912	4.20	940	4.45	967	4.70	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7750	923	4.39	951	4.64	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8000	935	4.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTE(S):

- Units are available with several motor hp and drive package combinations.
- Bold *italics* indicates field-supplied drive required.
- 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.

LEGEND

bhp — Brake Horsepower
ESP — External Static Pressure

Condenser Fan Performance — 50XCA24 Units^{a,b,c,d,e}

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	—	—
10,900	786	4.65	821	5.07	854	5.50	886	5.93	917	6.37	946	6.81	—	—	—	—
11,200	807	5.04	841	5.48	874	5.92	905	6.36	935	6.81	—	—	—	—	—	—
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	—	—
8,800	919	5.33	948	5.71	976	6.10	1004	6.49	1030	6.89	—	—	—	—
9,100	934	5.68	963	6.07	991	6.47	1018	6.87	—	—	—	—	—	—
9,400	949	6.04	978	6.44	1005	6.85	—	—	—	—	—	—	—	—
9,700	965	6.42	993	6.84	—	—	—	—	—	—	—	—	—	—
10,000	981	6.83	—	—	—	—	—	—	—	—	—	—	—	—
10,300	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,600	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10,900	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11,200	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11,500	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11,800	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,100	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,400	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12,700	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTE(S):

- Units are available with several motor hp and drive package combinations.
- Bold italics indicates field-supplied drive required.
- 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.

LEGEND

bhp — Brake Horsepower
ESP — External Static Pressure

Electrical Data^{a,b,c,d}

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

NOTE(S):

- 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.
- 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.

LEGEND

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



Fan Electrical Data^a

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

NOTE(S):

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

LEGEND

FLA — Full Load Amps



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

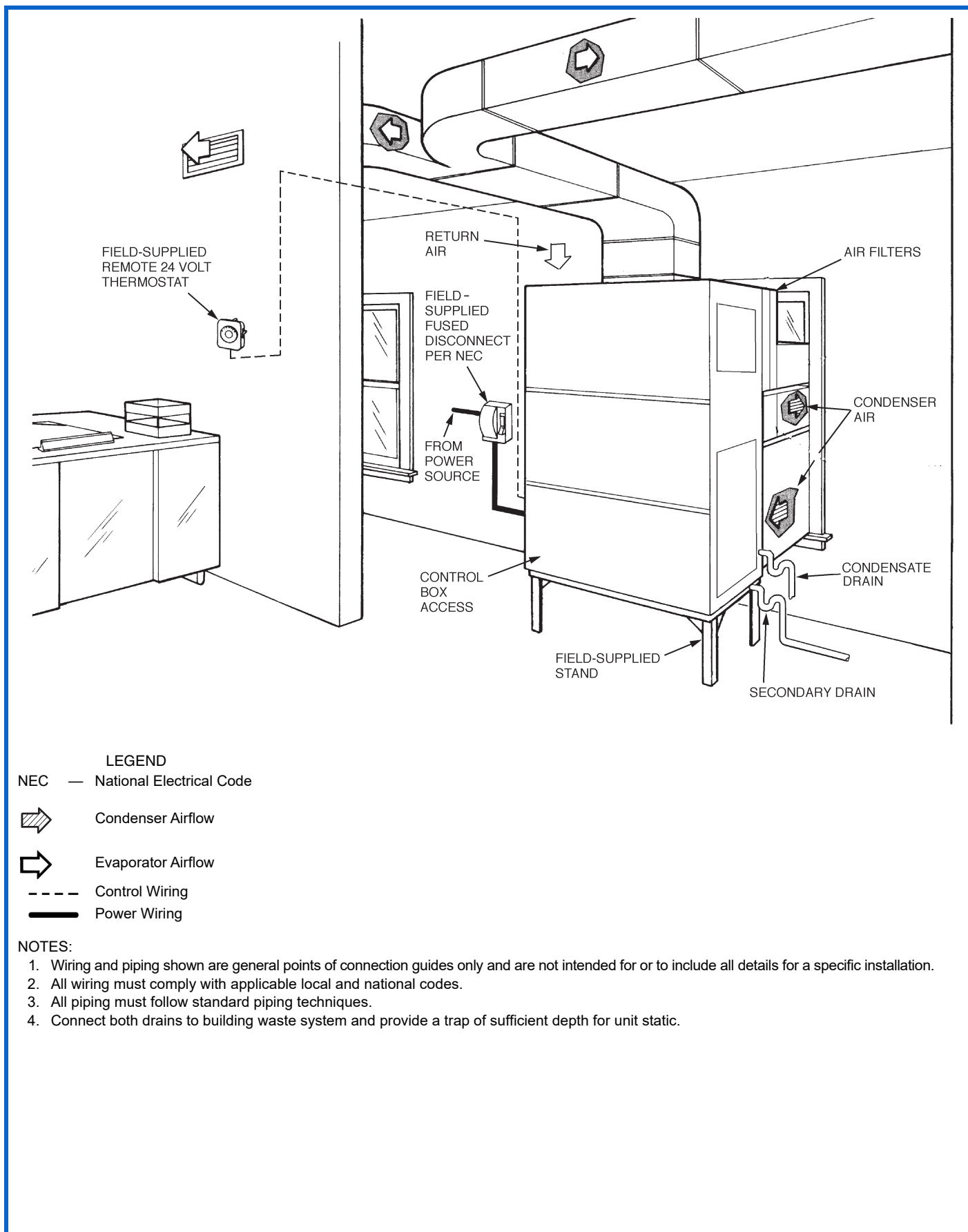
when cooling demand is satisfied. The condenser will also stop as soon as both cooling stages are satisfied.

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 hot water coil, heat source control, and control valve shall be field provided.



Location

For best results, unit must be properly located and installed. Do not locate 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 34 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 gauge, 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

Evaporator entering air temperature cooling (db):

Maximum 95°F

Minimum 65°F

Condenser

Nominal airflow 350 cfm per ton,

Range: 300 to 500 cfm per ton

Condenser air temperature (db):

Maximum 115°F

Minimum without low ambient 55°F

Minimum with low ambient 0°F

Sound considerations

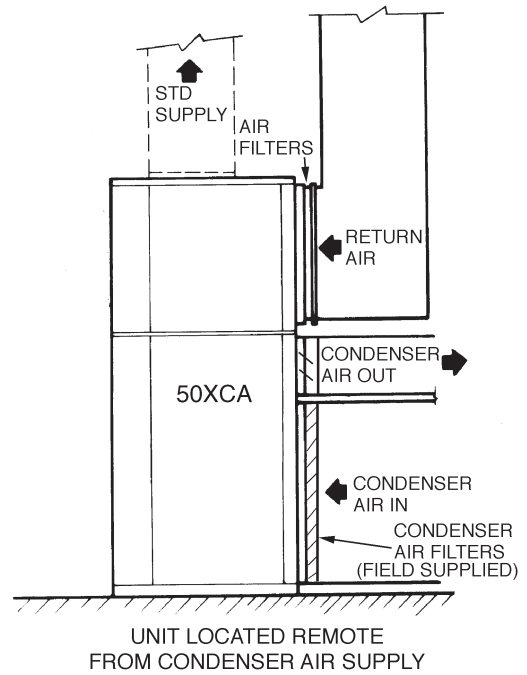
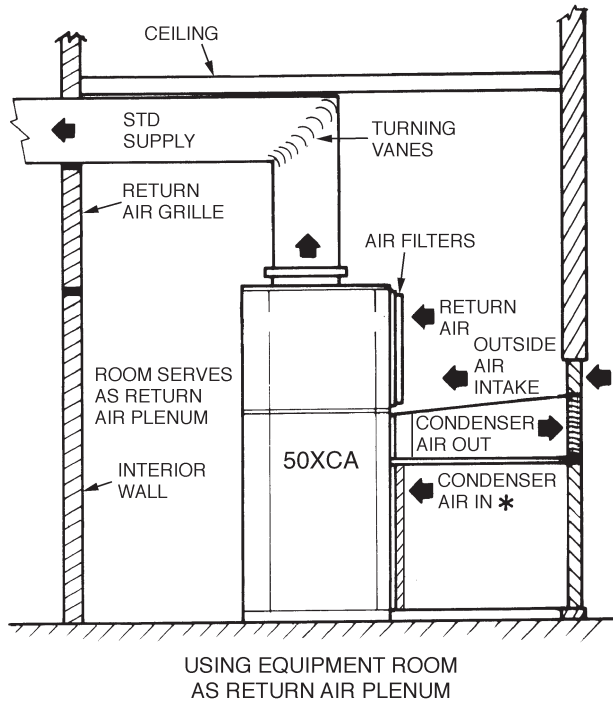
All units are acoustically insulated. When installed in or near areas requiring additional sound attenuation:

- 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 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



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

Guide specifications (cont)

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:

Units shall have a short circuit current rating (SCCR) of no less than 5 kA. 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. 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 in. in total length, expansion valve distributor, and external equalizer line are not required to be coated.
2. 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).
3. Winter Start Option:
Shall provide a bypass of low-pressure switch on start-up for initial 90 seconds.
4. 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.
5. 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.
6. 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.