



Turn to the experts

Product Data

Omnizone™

Remote Air-Cooled
Indoor Self-Contained Systems

5 to 20 Nominal Tons



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

The Omnizone™ 50XCR 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 50XCR single-package remote air-cooled units offer:

- Optional Staged Air Volume (SAV™) fan operation
- Compact, durable, and attractive cabinet fits any working environment
- Ducted or free return with rear return connections with vertical supply air discharge
- High-efficiency cooling for commercial and industrial projects
- 2-in. and 4-in. filtration options
- Optional coated evaporator coil
- Puron® refrigerant (R-410A)
- Accessory hot water or steam heat
- Accessory airside economizer

Design flexibility

The 50XCR 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.

These units can be installed in the equipment room or the conditioned space and used for either ducted or free return applications. Convenient rear connections allow easy access for outside air connections and airside economizer. Unit supply air discharge is vertical.

Easy installation and maintenance

The units are completely pre-piped and wired at the factory to ensure time and money saving 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, 50XCR 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 50XCR 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 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.
- 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.
- 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.
- Hot water or steam coil can be field-installed on the inlet side of the direct expansion cooling coils with field piping connections on the side of the unit. The hot water or steam coil requires separate in/out water connections.
- Staged Air Volume (SAV™) fan operation is available for all units and offers 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 50XCR units are covered by a standard limited 5-year part warranty on the compressor and a standard limited one-year warranty on all other parts.

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

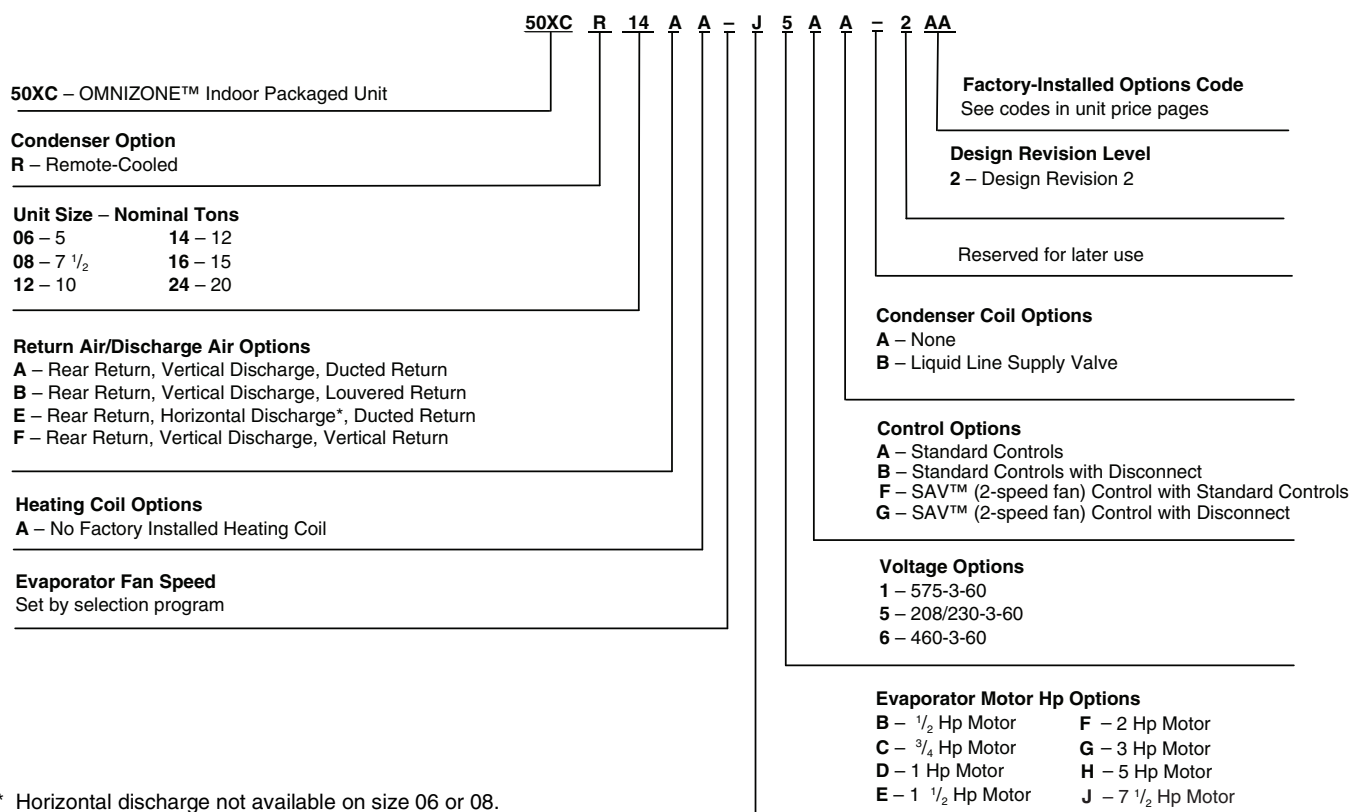
- The management system governing the manufacture of this product is ISO 9001:2015 certified.

Environmentally balanced

Carrier's Puron® refrigerant (R-410A) enables you to make an

environmentally responsible decision. Puron refrigerant (R-410A) is an HFC refrigerant that does not contain chlorine that is damaging to the ozone layer.

Model number nomenclature



* Horizontal discharge not available on size 06 or 08.

NOTE: Ratings subject to change without notice.
Please use carrier ECat SCU builder for latest ratings.

AHRI capacity ratings



UNIT 50XCR/09XC	NOMINAL TONS	50XCR EVAPORATOR CFM	09XC CONDENSER CFM	NET COOLING (Btuh)	TOTAL kW	EER	IEER
06	5	1875	3400	68,000	6.0	11.2	13.0
08	7½	2625	4000	80,000	7.1	11.2	13.1
12	10	3500	6400	120,000	10.7	11.2	13.1
14	12	4200	6700	140,000	12.7	11.0	14.0
16	15	5000	9000	180,000	16.4	11.0	12.6
24	20	7000	10300	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

NOTE: Units are certified in accordance with AHRI standard 340/360.



Physical data



UNIT 50XCR	06	08	12	14	16	24
TONS	5	7.5	10	12	15	20
UNIT OPERATING WEIGHT (lb)	600	799	1001	1079	1231	1629
COMPRESSOR	Scroll					
Compressor Model	ZPS60	ZPS67	ZP54/ZP49	ZP61/ZP57	ZP91/ZP67	ZP122/ZP91
Qty	1	1	2	2	2	2
Steps of Control	2	2	2	2	2	2
Operating Charge R-410A (lb)*	6.8	7.9	9.2	11.9	11.5	31.5
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	BX41	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
Hp Range	1 - 2	1 - 2	1 - 3	1.5 - 5	1.5 - 5	3 - 7.5
Fan Shaft Size (in.)	3/4	1	1	1	1 3/16	1 3/16
Motor Shaft Size (in.)	7/8	7/8	7/8	7/8	7/8	1 1/8
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 ... Fin/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	(8) 16 x 16 (2) 16 x 20	(4) 18 x 24 (4) 18 x 18
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					
CONDENSATE DRAIN LINE (in.)	1 at 3/4 MPT (Male Pipe Thread)					

LEGEND

MPT — Male Pipe Thread

*Refrigerant charge is for 50XCR only. Additional charge required for line sets and remote condenser unit.

ITEM	FACTORY-INSTALLED OPTION	FIELD-INSTALLED ACCESSORY
Airside Economizer		X
Hot Water Coil		X
Supply Air Plenum		X
Winter Start Operation	X	
Two-Speed Supply Fan	X	
Evaporator Coil Coating	X	
4-in. Filter	X	
Steam Heat		X

Factory-installed options

Winter start option

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

Two-speed supply fan

A factory installed and programmed VFD 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 coil coating

The 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. For the expansion valve inlet piping, if less than 6 inches in total length, expansion valve distributor and external equalizer line are not required to be coated.

4-in. filter

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

Field-installed accessories

Airside Economizer

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

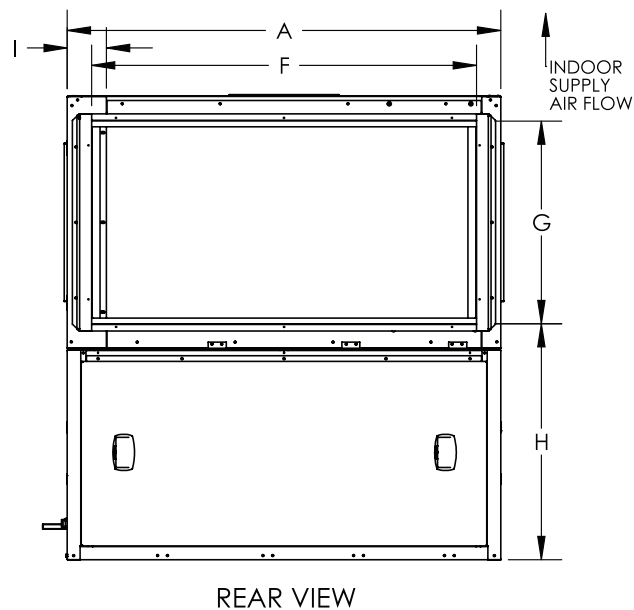
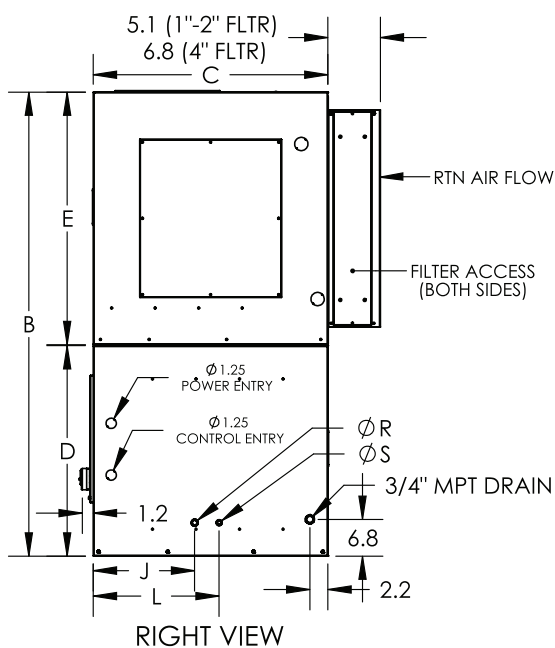
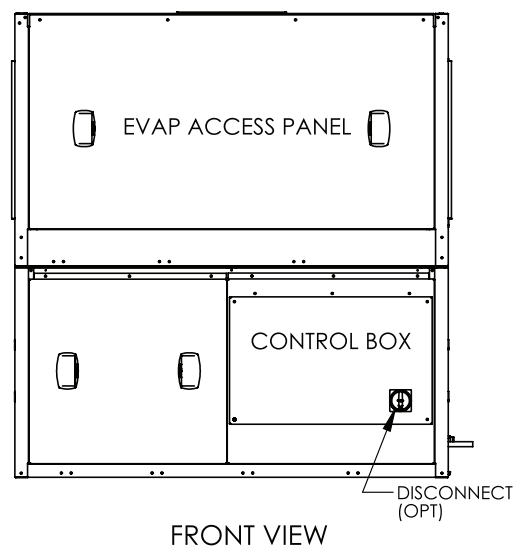
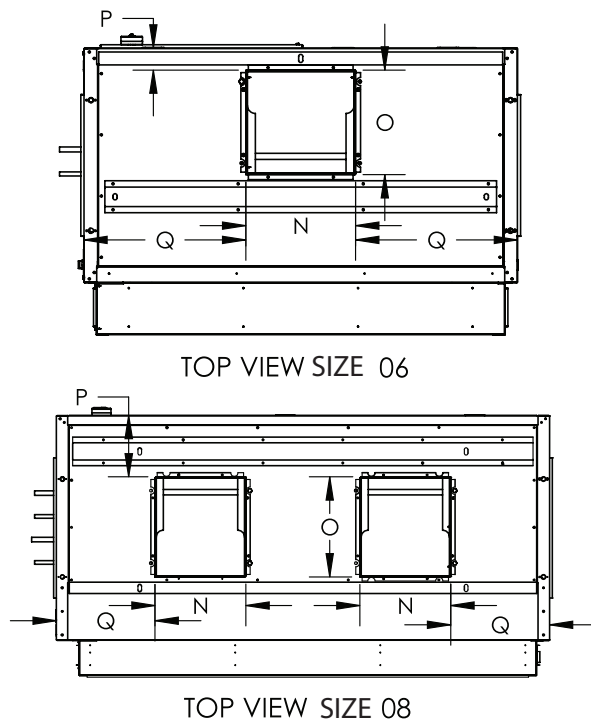
Supply air plenum

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.

Steam or hot water heat coil

A field installed hot water or steam coil shall be available for installation outside of the 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.

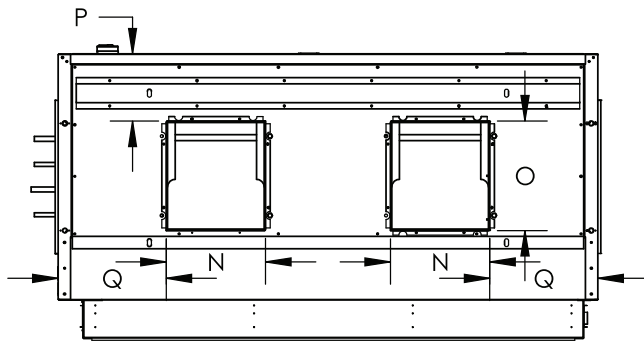
REAR RETURN, VERTICAL DISCHARGE



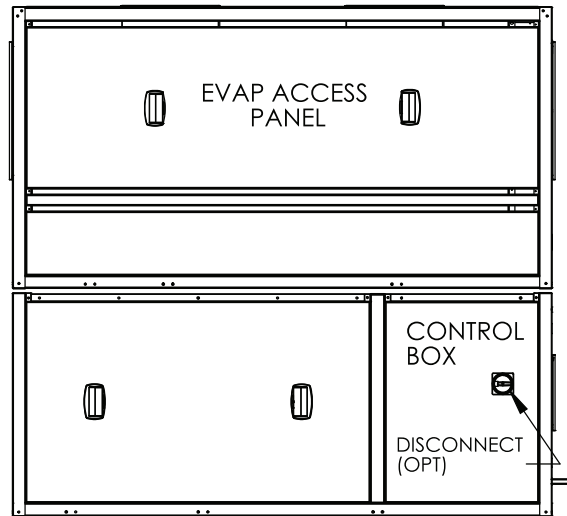
UNIT 50XCR	WIDTH	HEIGHT	DEPTH	COND SECTION	EVAP SECTION	EVAP RETURN DUCT				DISCH CONN	LIQUID CONN	EVAP SUPPLY DUCT (Blower Opening)				DISCH DIAMETER SWAGE (ID)	LIQUID DIAMETER SWAGE (ID)
	A	B	C	D	E	F	G	H	I	J	L	N	O	P	Q	R	S
06	53.1	57.0	29.0	25.8	31.0	47.2	24.8	28.9	4.8	12.4	15.4	13.4	12.8	2.7	19.8	0.625	0.5
08	53.1	57.0	29.0	25.8	31.0	47.2	24.8	28.9	4.8	12.4	15.4	13.4	12.8	2.7	7.6	0.625	0.5

NOTE: Dimensions are in inches.

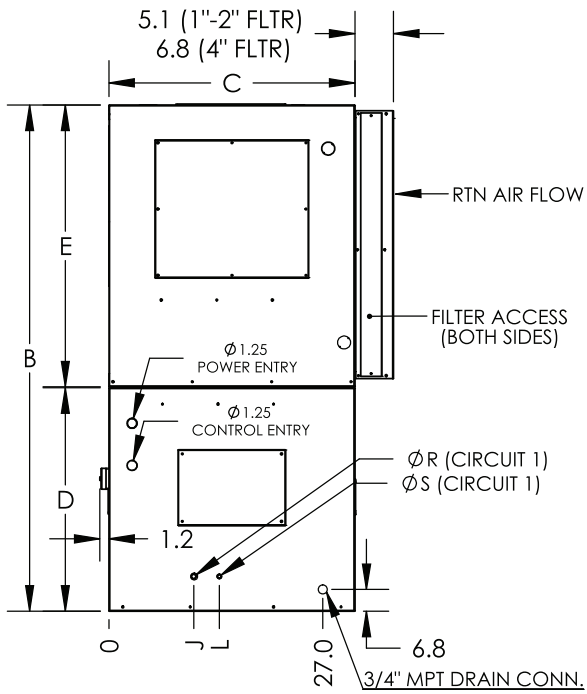
REAR RETURN, VERTICAL DISCHARGE



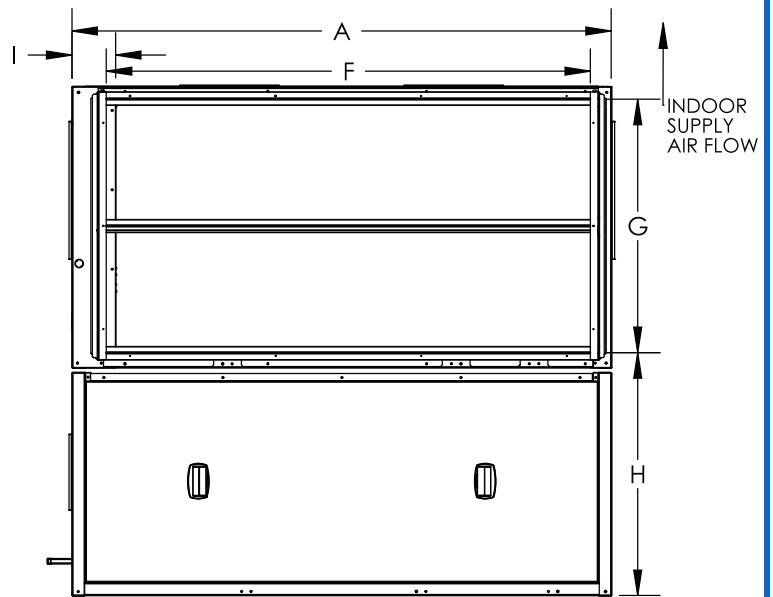
TOP VIEW



FRONT VIEW



RIGHT VIEW

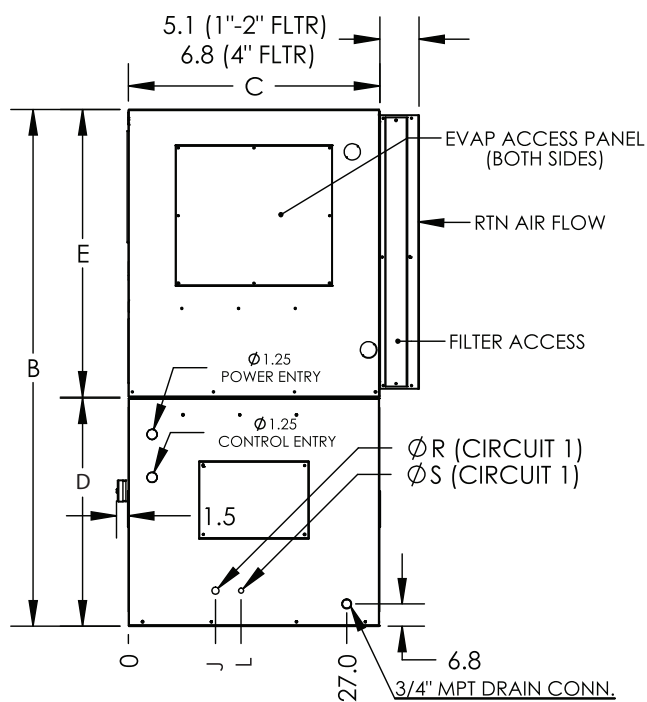


REAR VIEW

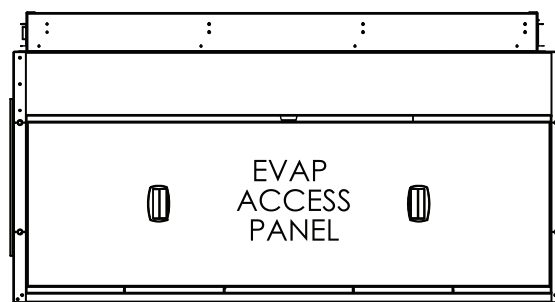
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	A	B	C	D	E	F	G	H	I	J	L	N	O	P	Q	R	S
12	68.0	64.0	31.2	28	35.5	61.1	31.8	29.4	5.5	11.1	13.9	12.5	13.8	8.5	13.6	0.875	0.625
14	68.0	64.0	31.2	28	35.5	61.1	31.8	29.4	5.5	11.1	13.9	12.5	13.8	8.5	13.6	0.875	0.625

NOTE: Dimensions are in inches.

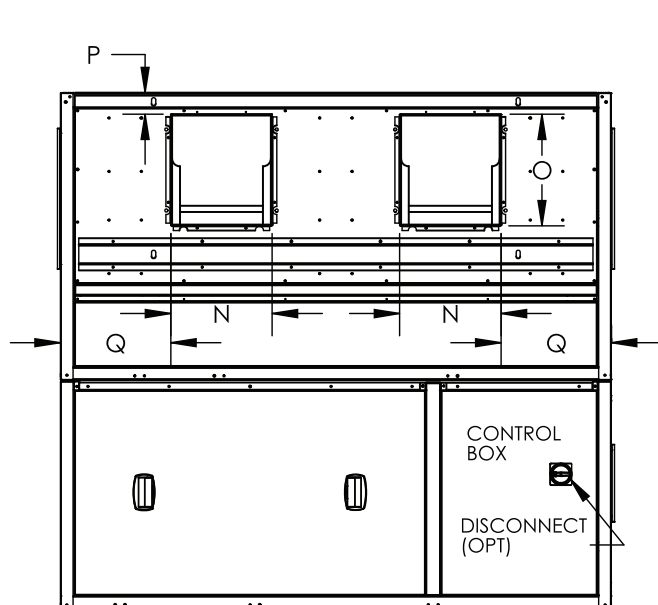
REAR RETURN, HORIZONTAL DISCHARGE



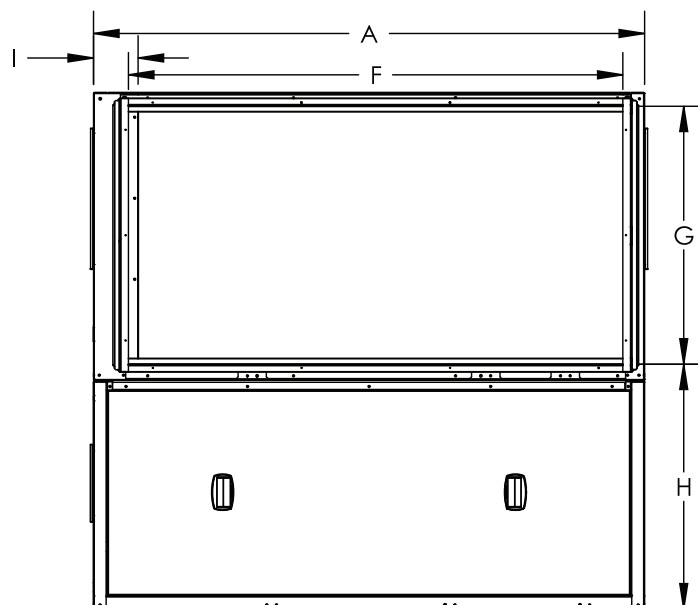
RIGHT VIEW



TOP VIEW



FRONT VIEW



REAR VIEW

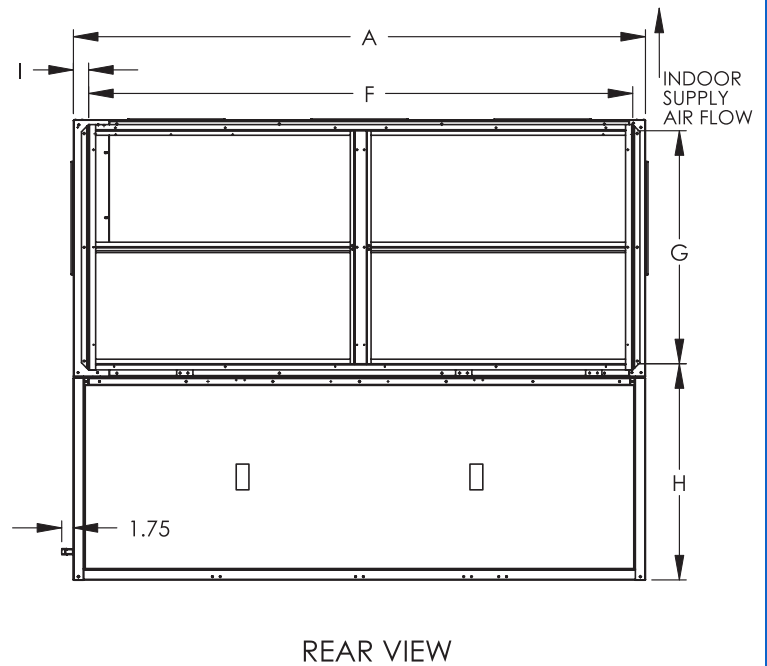
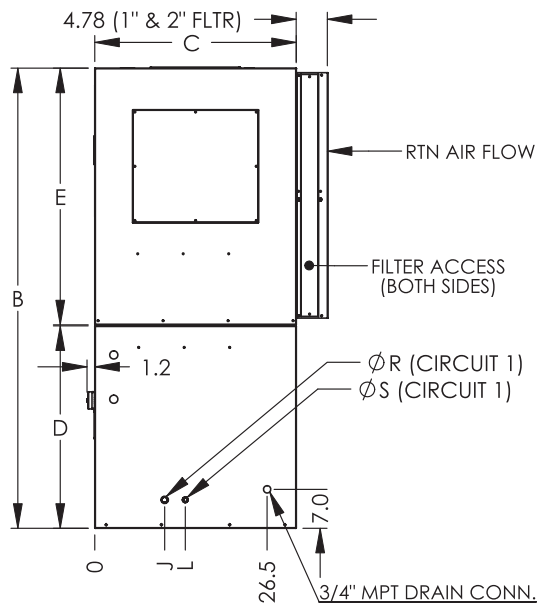
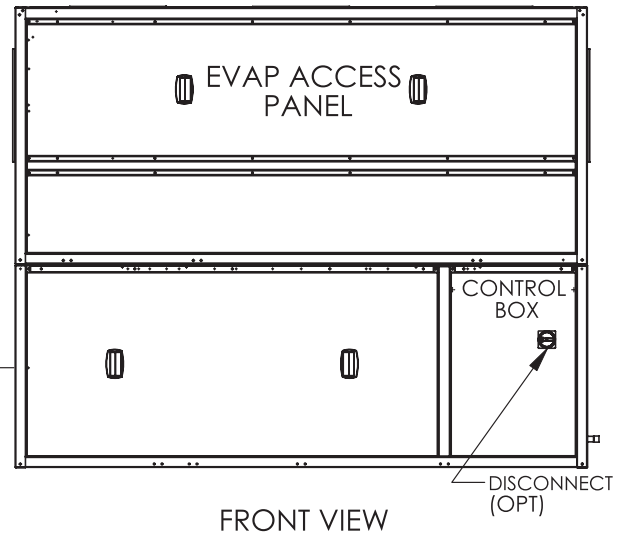
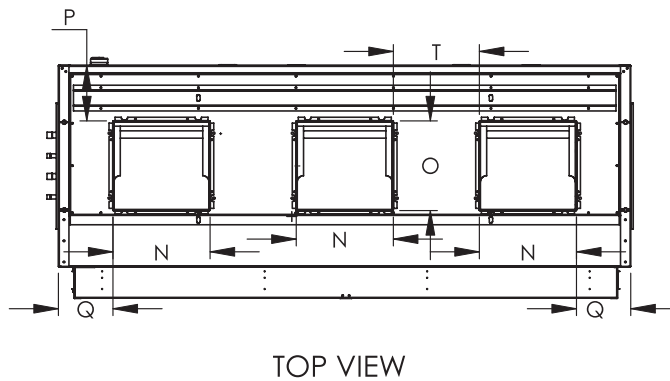
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	A	B	C	D	E	F	G	H	I	J	L	N	O	P	Q	R	S
12	68.0	64.0	31.2	54.5	35.5	61.1	31.8	29.4	5.5	11.1	13.9	12.5	13.8	2.7	13.6	0.875	0.625
14	68.0	64.0	31.2	54.5	35.5	61.1	31.8	29.4	5.5	11.1	13.9	12.5	13.8	2.7	13.6	0.875	0.625

NOTE: Dimensions are in inches.

Dimensions — 50XCR16, 24



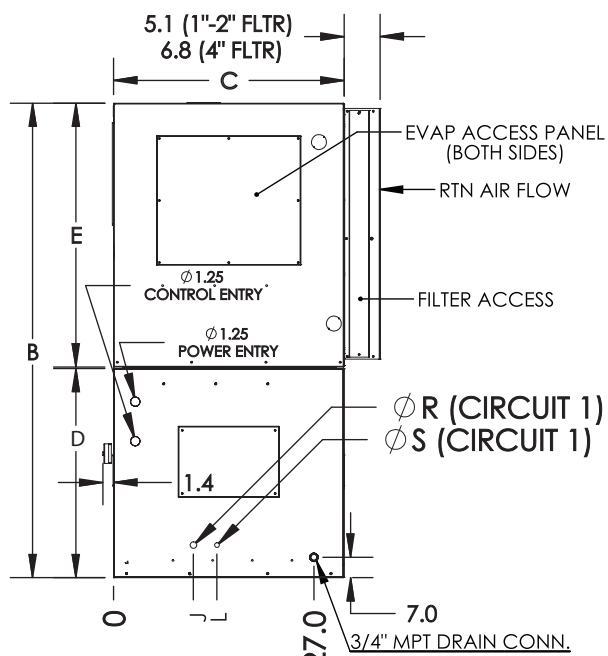
REAR RETURN, VERTICAL DISCHARGE



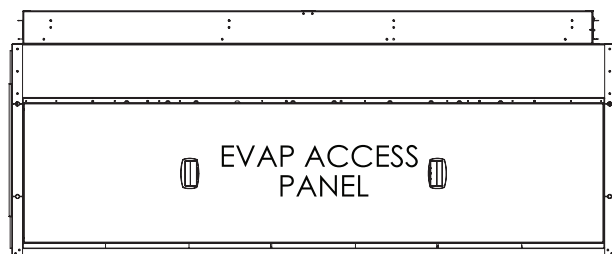
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	A	B	C	D	E	F	G	H	I	J	L	N	O	P	Q	T	R	S
16	88.0	66.7	31.2	31.2	35.5	83.7	33.8	32.3	3.1	10.8	13.9	12.5	13.8	8.5	13.5	11.7	1.125	0.625
24	88.0	70.8	31.2	31.2	39.5	83.7	37.8	32.3	2.3	10.8	13.9	14.9	13.8	8.6	8.3	13.2	1.125	0.625

NOTE: Dimensions are in inches.

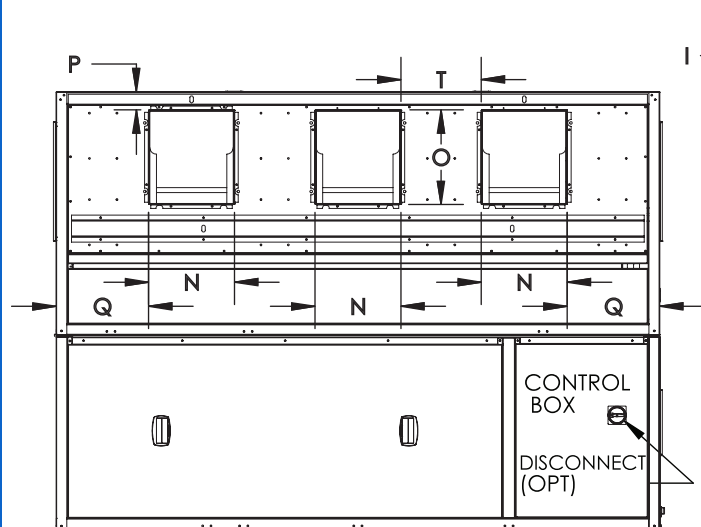
REAR RETURN, HORIZONTAL DISCHARGE



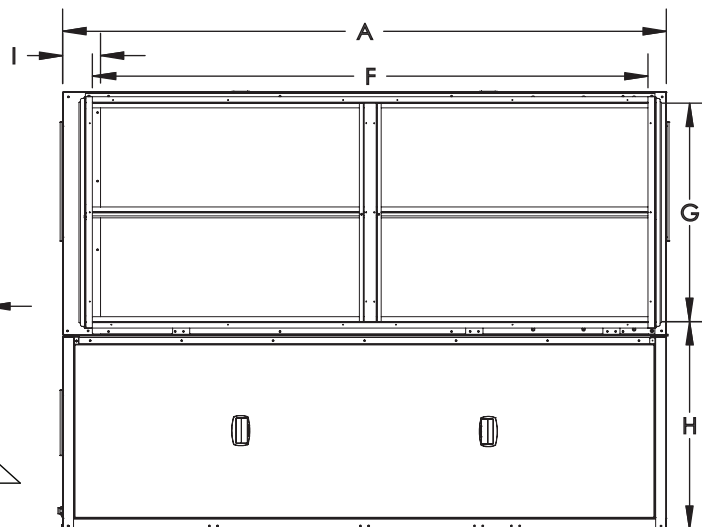
RIGHT VIEW



TOP VIEW



FRONT VIEW

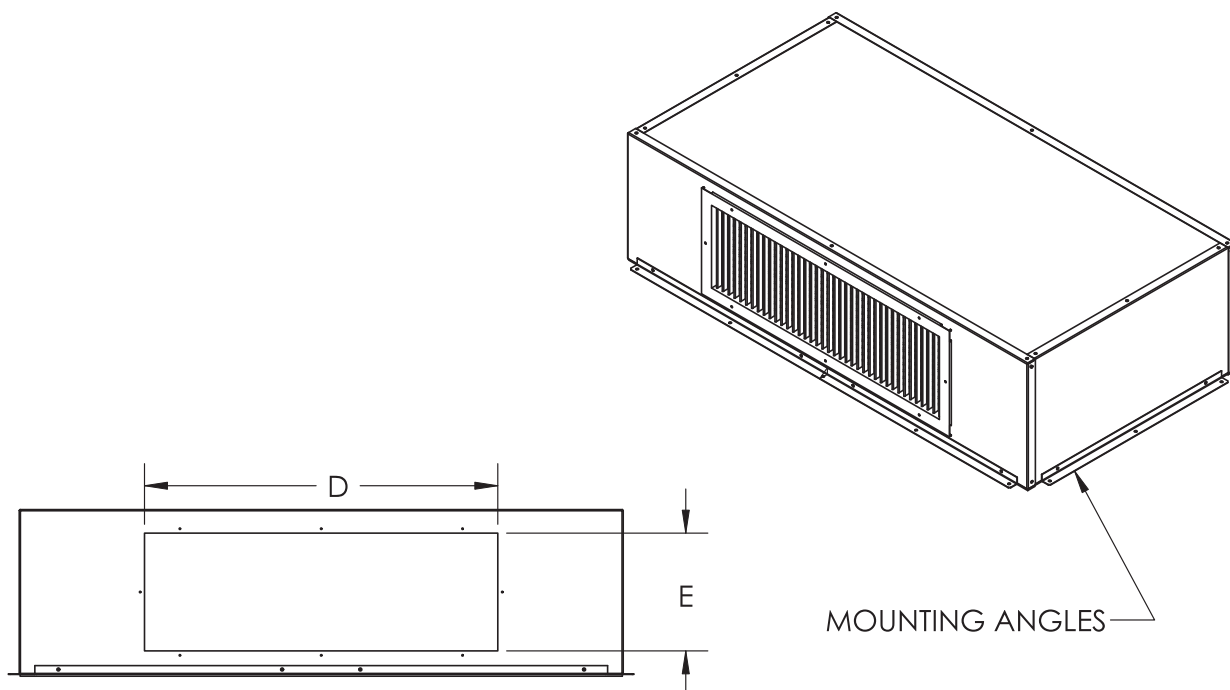


REAR VIEW

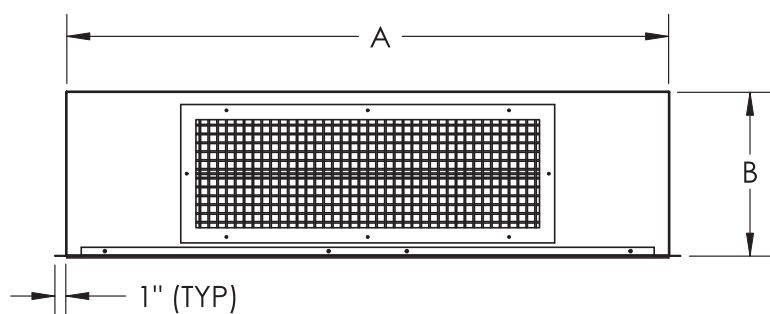
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	A	B	C	D	E	F	G	H	I	J	L	N	O	P	Q	T	R	S
16	88.0	66.7	31.2	31.2	35.5	83.7	33.8	32.3	3.1	10.8	13.9	12.5	13.8	2.6	13.5	11.7	1.125	0.625
24	88.0	70.8	31.2	31.2	39.5	83.7	37.8	32.3	2.3	10.8	13.9	14.9	13.8	2.6	8.3	13.2	1.125	0.625

NOTE: Dimensions are in inches.

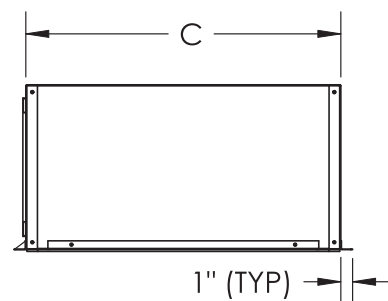
50XC PLENUM UNIT



**FRONT VIEW
LESS GRILLE**



FRONT VIEW

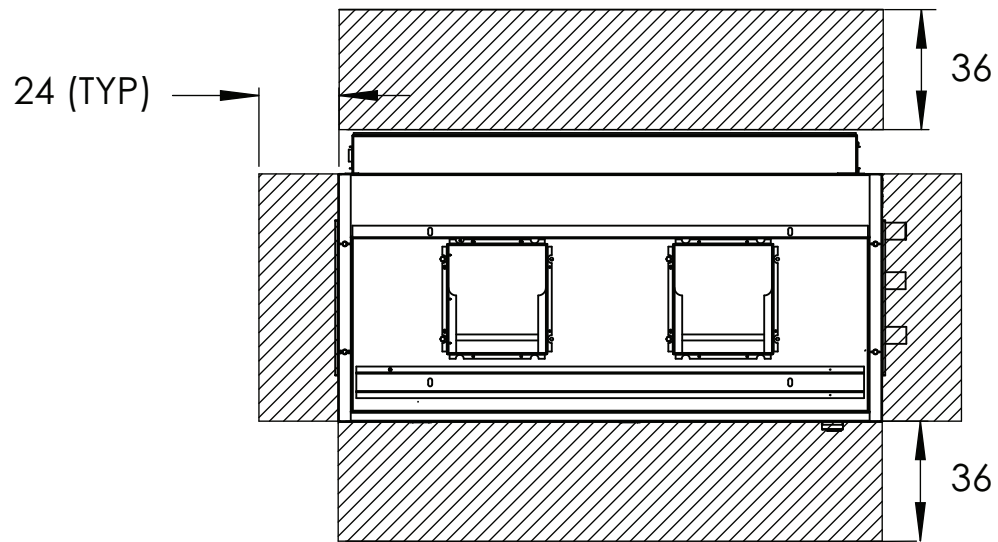


RIGHT VIEW

MODEL	UNIT SIZE	A	B	C	D	E	WGT (lb)
50XCR900-200A00	06	51.3	14.0	26.8	30.0	10.0	65
50XCR900-201A00	08	51.3	14.0	26.8	45.0	10.0	65
50XCR900-202A00	12	66.0	14.0	28.9	60.0	10.0	80
50XCR900-203A00	14	66.0	19.0	28.9	48.0	15.0	80
50XCR900-204A00	16	86.0	19.0	28.9	60.0	15.0	115
50XCR900-205A00	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 50XCR	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 — 50XCR06 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:

- 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.

EVAPORATOR FAN PERFORMANCE — 50XCR08 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 — 50XCR12 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 — 50XCR14 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 — 50XCR16 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:

- 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.

EVAPORATOR FAN PERFORMANCE — 50XCR24 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:

- 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 — 50XCR/09XC06 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:

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 — 50XCR/09XC08 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 — 50XCR/09XC12 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 — 50XCR/09XC14 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 — 50XCR/09XC16 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:

- 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 — 50XCR/09XC24 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 50XCR	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

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

NOTES:

1. 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.
2. Wire sizing amps are a sum of 125% of the compressor RLA plus 100% of indoor fan motor FLA.
3. Motors are protected against primary single phasing condition.
4. Indoor-fan motors are 3-phase motors of same voltage as unit.



FAN ELECTRICAL DATA

MOTOR CODE	HP	V-PH-Hz	VOLTAGE RANGE		FLA
			Min	Max	
B	0.50	208/230-3-60	187	253	1.8/2.2
		460-3-60	414	506	1.1
		575-3-60	518	632	0.9
C	0.75	208/230-3-60	187	253	2.5/2.6
		460-3-60	414	506	1.3
		575-3-60	518	632	1.0
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

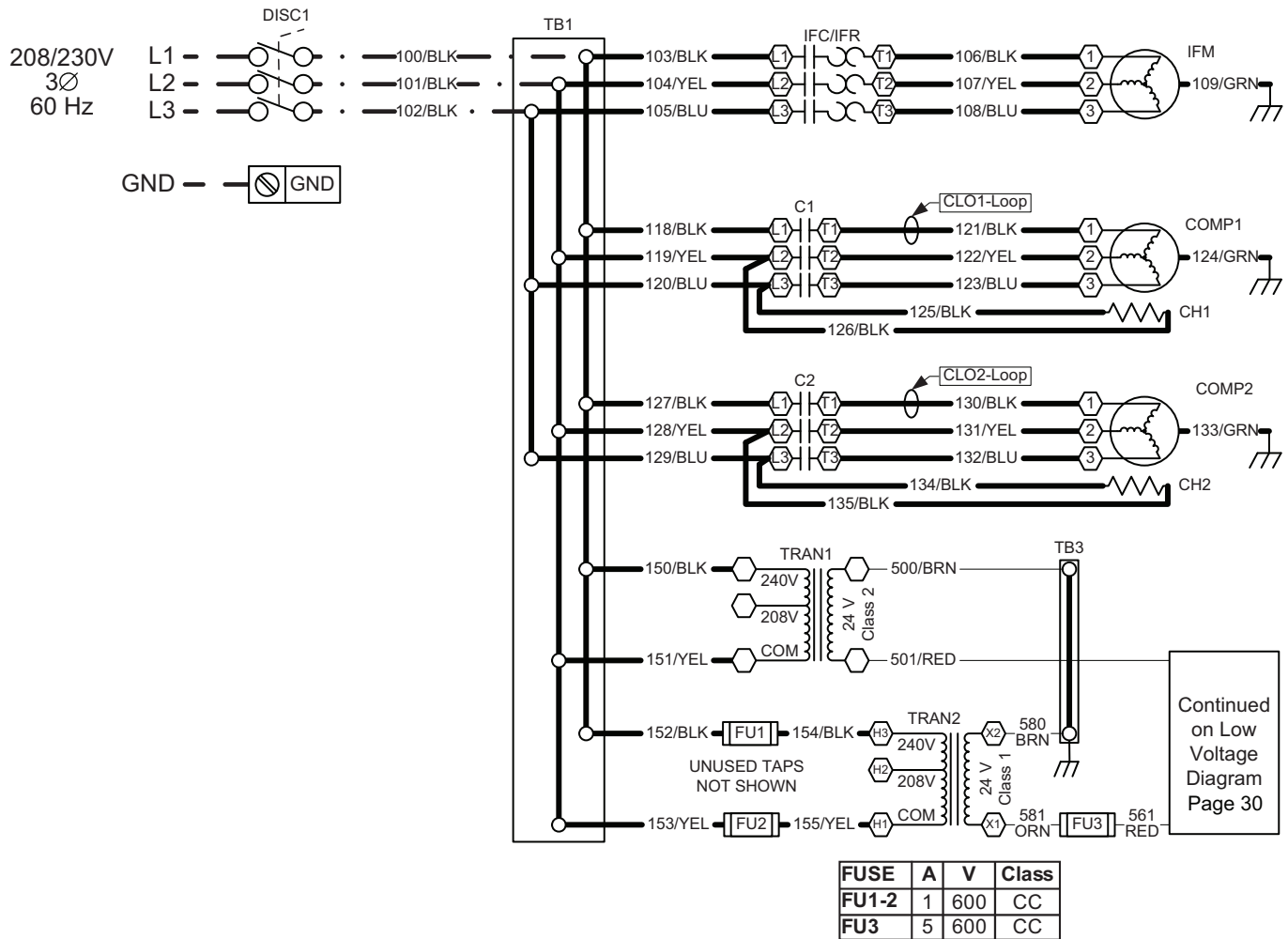
LEGEND

FLA — Full Load Amps



Typical wiring schematic

50XCR012-016 — 208/230-3-60 UNITS SHOWN



LEGEND AND NOTES FOR WIRING SCHEMATICS

LEGEND

C	— Compressor Contactor	IFR	— Indoor-Fan Relay
CH	— Crankcase Heater	LPS	— Low Pressure Switch
CLO	— Compressor Lockout	TB	— Terminal Block
COMP	— Compressor	TRAN	— Transformer
CR	— Control Relay	ULV	— Uploader Valve
DISC	— Disconnect	VFD	— Variable Frequency Drive
FRZ	— Freeze Protection		Terminal Block Connection
GND	— Ground		Marked Terminal
HPS	— High Pressure Switch		Unmarked Terminal
HR	— Heat Relay		Splice
IF VFD	— Indoor Fan Variable Frequency Drive		Factory Wiring
IFC	— Indoor-Fan Contactor		Field Power Wiring
IFM	— Indoor-Fan Motor		

*Disconnect can either be field or factory installed.

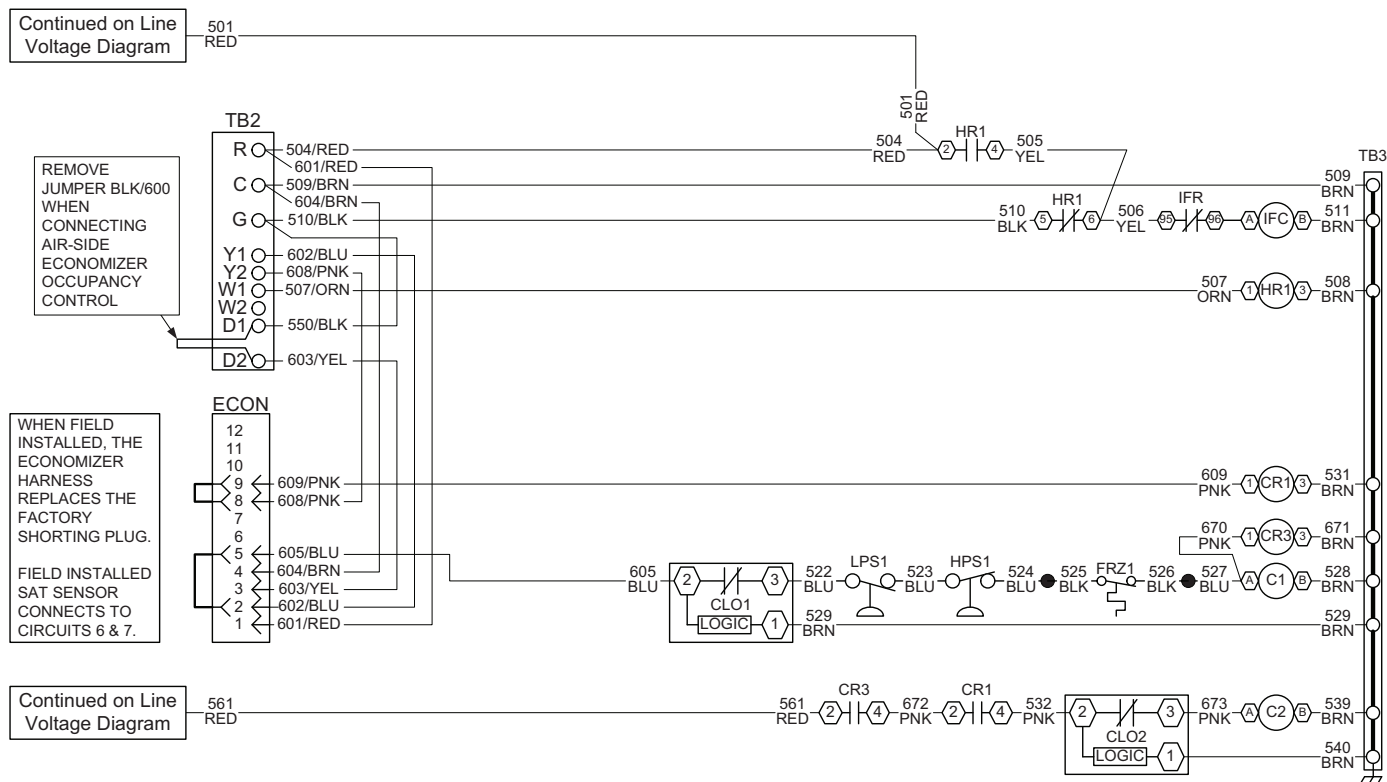
NOTES:

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. Wiring for field power supply must be rated at 165°F (75°C) minimum.

Typical wiring schematic (cont)

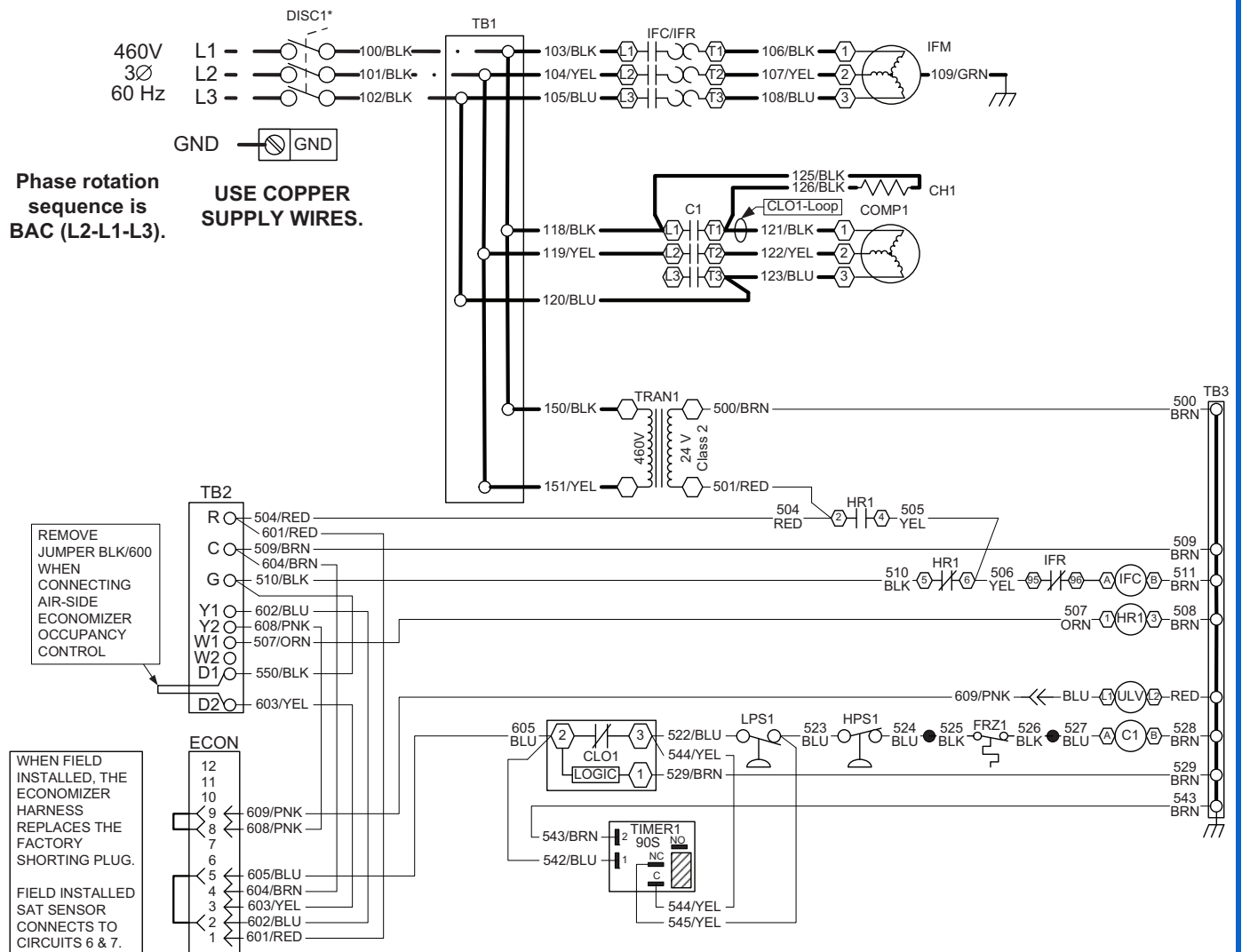


50XCR012-024 — 208/230-3-60 UNITS SHOWN



NOTE: Refer to legend and notes on page 29.

50XCR006-08 — 460V UNITS SHOWN

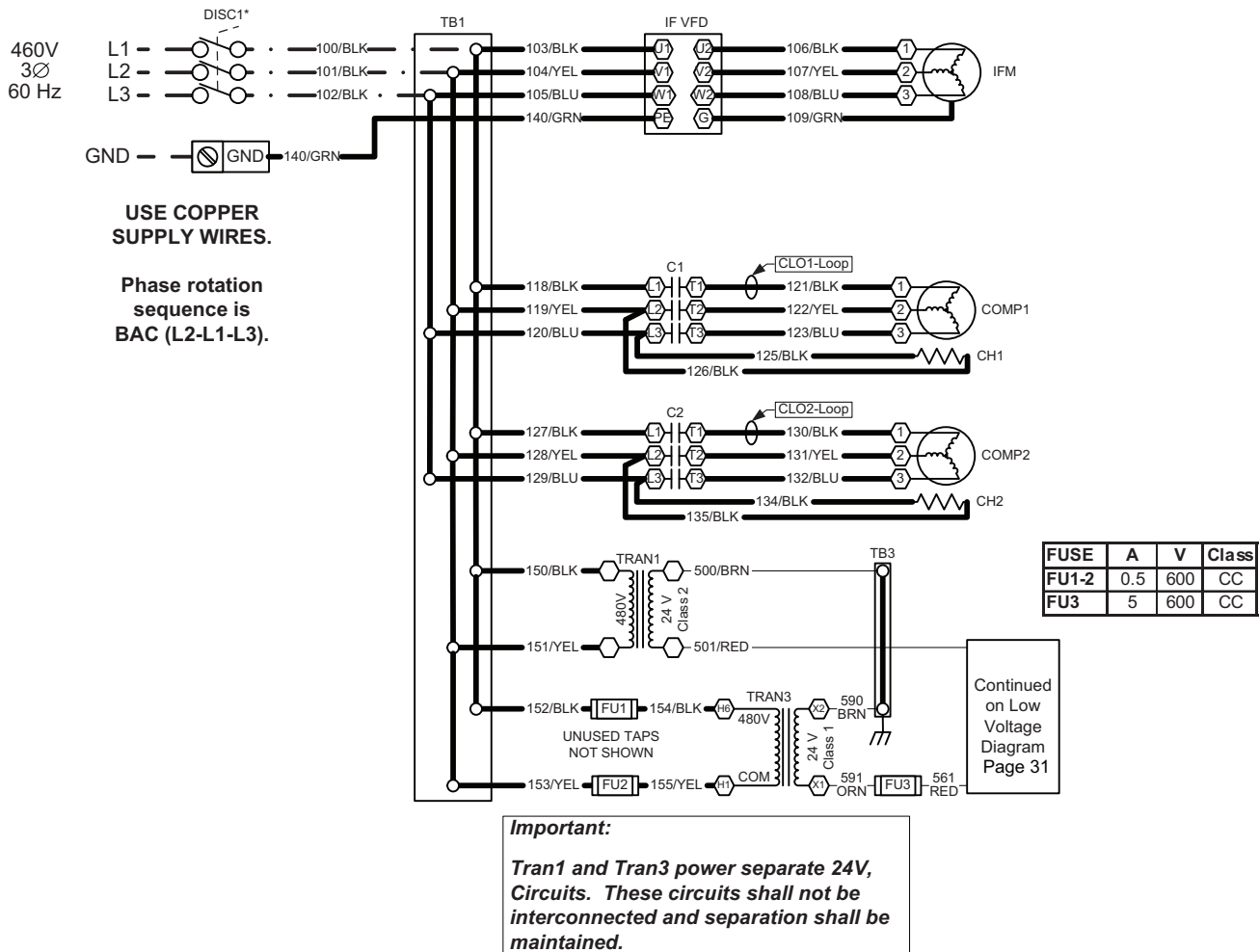


NOTE: Refer to legend and notes on page 29.

Typical wiring schematic (cont)



50XCR12-24 — 460V UNITS SHOWN



NOTE: Refer to legend and notes on page 29.

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, communicating electronic, or mechanical 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 or any heating operation.

2-speed fan operation

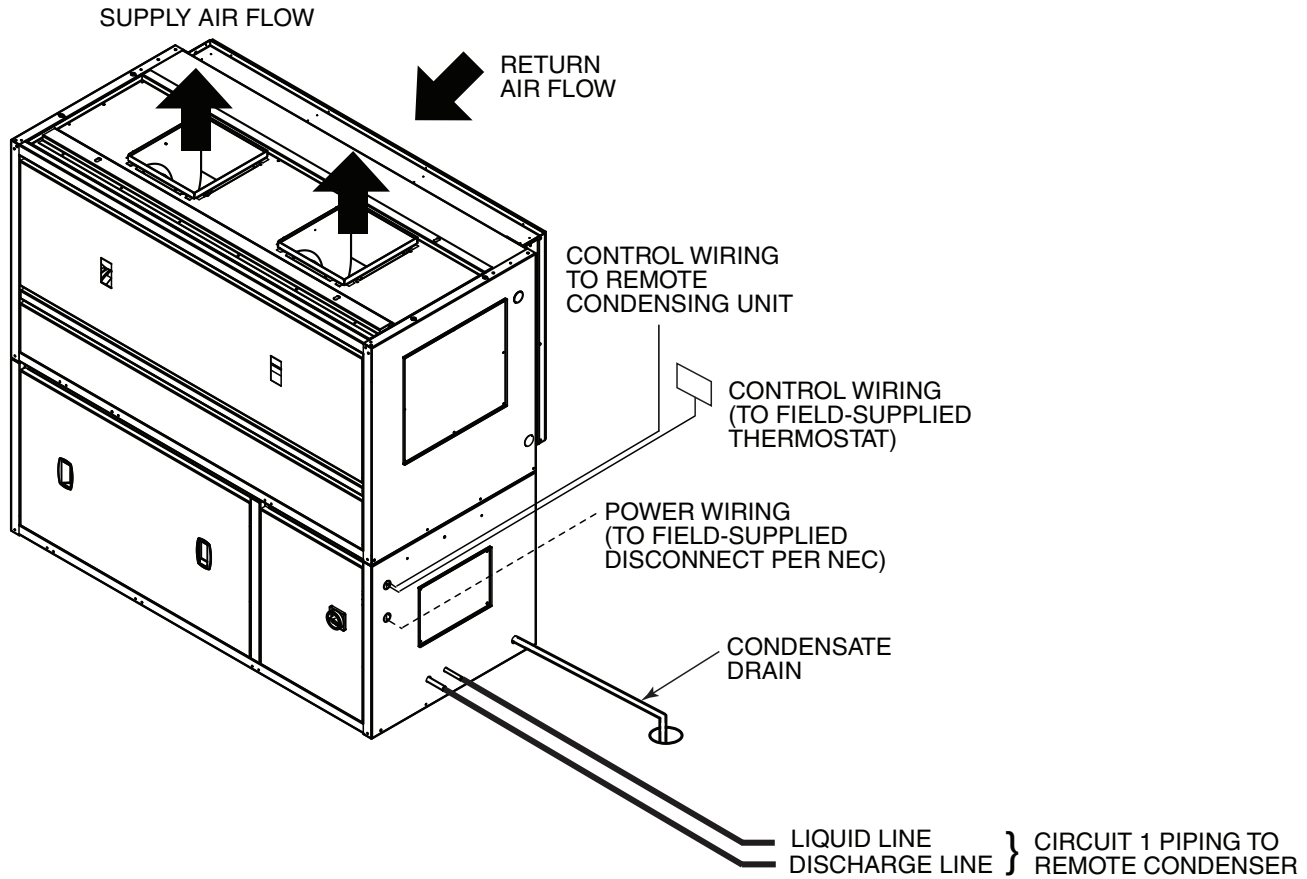
For dual-stage units, fan speed shall operate at 67% of full speed for first-stage cooling operation and 100% of full speed for second-stage cooling operation.

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
- Evaporator Airflow
- Power Wiring
- Control 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 drain 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.

Moving units into existing buildings

The 50XCR 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.

Piping traps

All 50XCR 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.

Refrigerant piping

For applications with condensers located above the cooling unit, hot gas loops above the condenser prevent liquid in condenser from draining at shutdown. Loops and check valves in the discharge line prevent oil and condenser refrigerant from draining to compressor at shutdown. If condenser is below the cooling unit, a loop at the condenser may be omitted. If piping runs prevent drainback, loops may be omitted.

Regardless of remote condenser location, a check valve must be installed in the discharge line in each refrigerant circuit, as close to compressor as possible. The check valve prevents migration of refrigerant back to the compressor.

Refrigerant piping OD should not be smaller than unit connection size.

Liquid lift

The amount of liquid lift available before refrigerant flashing occurs depends on the amount of liquid subcooling in the system.

All 09XC condensers have positive subcooling when applied with optimum charge. With subcooling, it is possible to overcome an appreciable friction drop and/or static head (due to elevation of the liquid metering device above the condenser).

When 09XC condensers are applied with minimum charge, no positive subcooling in condenser is realized; therefore, if subcooling is required it must be obtained by external means.

Winter start modifications

When starting 50XCR remote air-cooled units under low-ambient temperature conditions, the compressor may pull suction pressure down below low-pressure switch cutout setting, causing the compressor to shut off. At extremely low ambient temperatures, the low-pressure switch may be open during the off cycle, preventing the compressor from starting. In these cases, winter start control is required.

CONDENSER USAGE

UNIT 50XCR	CONDENSER QUANTITY					
	09XC SIZE					
	06	08	12	14	16	24
06	1					
08		1				
12			1			
14				1		
16					1	
24						1

NOTE: Where there are no quantities of condensers listed, the combination is not recommended. See Application Data literature for more information on condenser combinations.

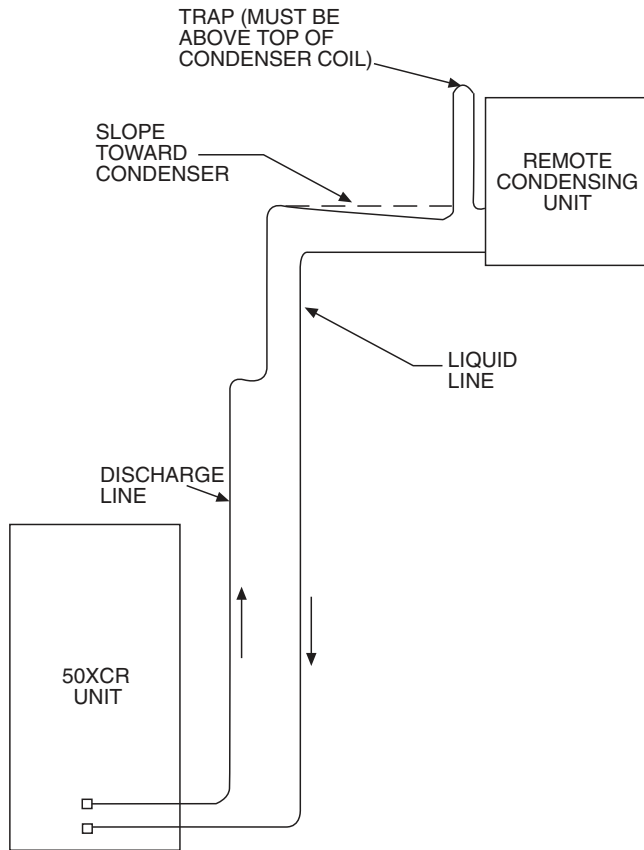
RECOMMENDED LINE SIZES (in.)

50XC UNIT SIZE	CIRCUIT	LENGTH OF RUN (ft)									
		0 to 15		16 to 25		26 to 50		51 to 75		76 to 100	
		DIS	LIQ	DIS	LIQ	DIS	LIQ	DIS	LIQ	DIS	LIQ
06	1	5/8	1/2	7/8	1/2	7/8	1/2	7/8	5/8	7/8	5/8
08	1	5/8	1/2	7/8	1/2	7/8	1/2	7/8	5/8	7/8	5/8
12	1	7/8	5/8	7/8	5/8	1 1/8	5/8	1 1/8	5/8	1 1/8	5/8
14	1	7/8	5/8	7/8	5/8	1 1/8	5/8	1 1/8	5/8	1 1/8	5/8
16	1	1 1/8	5/8	1 1/8	5/8	1 1/8	5/8	1 3/8	7/8	1 3/8	7/8
24	1	1 1/8	5/8	1 1/8	5/8	1 3/8	7/8	1 3/8	7/8	1 3/8	7/8

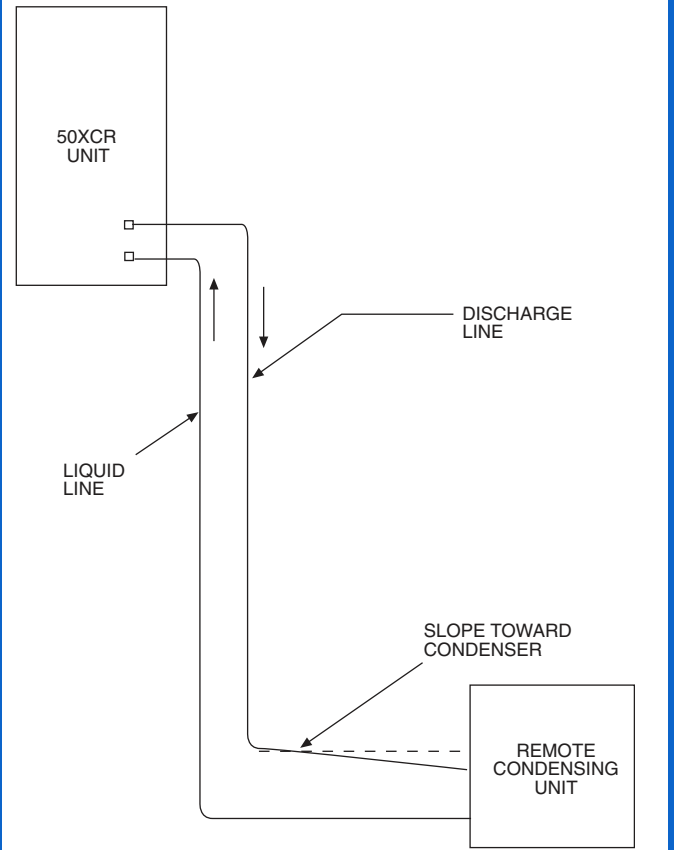
LEGEND

DIS — Discharge
LIQ — Liquid

SYSTEM WITH CONDENSER ABOVE EVAPORATOR



SYSTEM WITH EVAPORATOR ABOVE CONDENSER



Indoor Packaged Remote Air-Cooled Unit Constant Volume Application

HVAC Guide Specifications

Size Range: **5 to 20 Tons**

Carrier Model Number: **50XCR**

Part 1 — General

1.01 SYSTEM DESCRIPTION

Indoor packaged vertical air-cooled cooling unit using hermetic scroll compressors for cooling duty. Unit shall discharge supply air vertically or horizontally (sizes 12-24) as shown on contract drawings.

1.02 QUALITY ASSURANCE

- A. Units shall be rated in accordance with AHRI (Air-Conditioning, Heating and Refrigeration Institute) Standard 340/360, latest revision, 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.
- 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 2001:2015 certified.
- E. Insulation, adhesive, and liner system shall meet NFPA (National Fire Protection Association) 90A requirements for flame spread and smoke generation.
- F. Unit shall be ETL and ETL, Canada certified.

1.03 DELIVERY, STORAGE, AND HANDLING

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), evaporator fan section with belt drive centrifugal fans and motor, evaporator coil section with direct expansion coil and drain pan, 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 be stainless steel and 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. 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 (National Electrical Manufacturing Association) frame ODP (open drip proof) of the same voltage as the compressor(s). Motor shall have permanently lubricated ball bearings.
- 4. Units with Staged Air Volume (SAV™) may be equipped with a variable frequency drive to operate at 67% of full speed for first stage cooling and 100% of full speed for second stage cooling. Compressors shall be two-stage (size 06-08) or single circuit tandem (size 12-24) for two stage cooling operation.

D. Compressor:

Hermetic scroll compressors shall be internally protected with high pressure relief. Compressors shall be factory mounted with vibration isolators.

E. Coils:

- 1. Evaporator coil 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 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. 4-in. filter racks are available.

G. Operating Characteristics:

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 units. Sizes 06 and 08 have one compressor, with two stages. Sizes 12 through 24 have two compressors in tandem on a single circuit. Unit shall be capable of starting and operating at up to 115°F outdoor ambient.

H. Controls and Safeties:

1. Units shall be furnished with a control terminal block for connection of thermostats.
2. Unit shall require a room-mounted thermostat to be 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: high and low-pressure switches, motor and compressor overtemperature, current lockout, and inherent automatic fan motor overload.

I. Electrical Requirements:

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

J. Refrigerant Components:

Refrigerant circuit components shall 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.

K. Special Features:

1. Supply Air Discharge 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. Thermostats:

A complete line of thermostats shall be available to meet any application control requirements.

4. 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.

5. Evaporator 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-inches shall be masked on all coil connection points. For expansion valve inlet piping if less than 6-inches in total length, expansion valve distributor, and external equalizer line are not required to be coated.

6. Winter start kit:

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

