installation, start-up and service instructions

SINGLE PACKAGE ROOFTOP
ELECTRIC HEATING/ELECTRIC COOLING UNITS

558F
Dura*Pac* Series
Sizes 090-151
7 1/2 to 12 1/2 Tons

Cancels: II 558F-90-3

II 558F-90-4
9/15/05

IMPORTANT — READ BEFORE INSTALLING

Read and become familiar with these installation instructions before installing this unit.

Be sure the installation conforms to all applicable local and national codes.

These instructions contain important information for the proper maintenance and repair of this equipment. Retain these instructions for future use.

CONTENTS

SAFETY CONSIDERATIONS

Installation and servicing air-conditioning equipment can be hazardous due to system pressure and electrical components. Only trained and qualified service personnel should install, repair, or service air-conditioning equipment.

Untrained personnel can perform basic maintenance functions of cleaning coils and filters and replacing filters. All other operations should be performed by trained service personnel. When working on air-conditioning equipment, observe precautions in the literature, tags and labels attached to the unit, and other safety precautions that may apply.

Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloth for unbrazing operations. Have fire extinguishers available for all brazing operations.

⚠ **WARNING:** Before performing service or maintenance operations on unit, turn off main power switch to unit and install lockout tag. Electrical shock could cause personal injury.

⚠ **CAUTION:** Ensure voltage listed on unit data plate agrees with electrical supply provided for the unit.

INSTALLATION

Unit is shipped in the vertical discharge configuration. To convert to horizontal configuration, remove screws from horizontal duct opening covers and remove covers. Using the same screws, install covers on duct openings in basepan of unit with the insulation-side down. Seals around duct openings must be tight. See Fig. 1.

Confirm before installation of unit that voltage, amperage and circuit protection requirements listed on unit data plate agree with power supply provided.

I. STEP 1 — PROVIDE UNIT SUPPORT

A. Roof Curb

Assemble and install accessory roof curb in accordance with instructions shipped with curb. See Fig. 2. Install insulation, cant strips, roofing felt, and counter flashing as shown. *Ductwork must be attached to curb, not to unit.* If electric control power is to be routed through the basepan, attach the accessory thru-the-bottom service connections to the roof curb in accordance with the accessory installation instructions. Connection must be installed before unit is set on roof curb.

IMPORTANT: The gasketing of the unit to the roof curb is critical for a watertight seal. Install gasket supplied with the roof curb as shown in Fig. 2. Improperly applied gasket can also result in air leaks and poor unit performance.

Curb should be level. This is necessary for unit drain to function properly. Unit leveling tolerances are shown in Fig. 3. Refer to Accessory Roof Curb Installation Instructions for additional information as required.

B. Alternate Unit Support

When the curb or adapter cannot be used, support unit with sleeper rails using unit curb or adapter support area. If sleepers cannot be used, support long sides of unit with a minimum of three 4-in. x 4-in. pads, 2 at the unit's corners and one at the center of gravity. If more than 3 are used, equally space out pads along unit side.

C. Slab Mount (Horizontal Units Only)

Provide a level concrete slab that extends a minimum of 6 in. beyond unit cabinet. Install a 6-in. gravel apron in front of outdoor-coil air inlet to prevent grass and foliage from obstructing airflow.

NOTE: Horizontal units may be installed on a roof curb if required.

II. STEP 2 — FIELD FABRICATE DUCTWORK

On vertical discharge units, secure all ducts to roof curb and building structure. *Do not connect ductwork to unit.* For horizontal applications, field-supplied isolation flanges should be attached to horizontal discharge openings and all ductwork attached to the flanges. Insulate and weatherproof all external ductwork, joints, and roof openings with counter flashing and mastic in accordance with applicable codes.

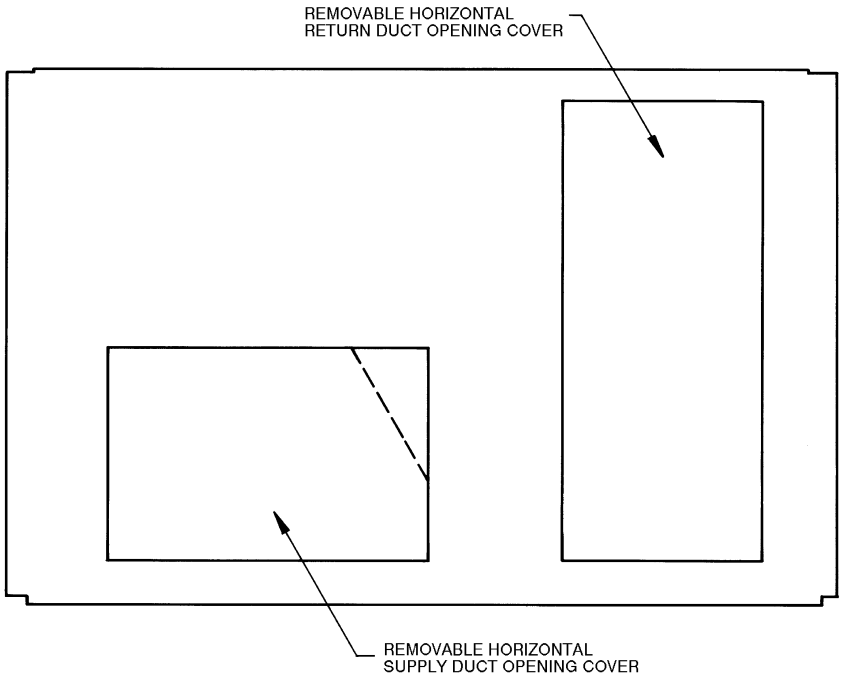


Fig. 1 — Horizontal Conversion Panels

Ducts passing through an unconditioned space must be insulated and covered with a vapor barrier.

If plenum return is used on a vertical unit, the return should be ducted through the roof deck to comply with applicable fire codes.

If electrical connections are to be routed through the bottom of the unit, attach accessory thru-the-bottom service connections to the basepan in accordance with installation instructions.

A minimum clearance is not required around ductwork. Cabinet return-air static pressure (a negative condition) should not exceed 0.30 in. wg with economizer or 0.45 in. wg without economizer.

III. STEP 3 — INSTALL EXTERNAL TRAP FOR CONDENSATE DRAIN

The unit's 3/4-in. condensate drain connections are located on the bottom and side of the unit. Unit discharge connections do not determine the use of drain connections; either drain connection can be used with vertical or horizontal applications.

When using the standard side drain connection, ensure the plug in the alternate bottom connection (in center of pan) is tight before installing the unit.

To use the bottom drain connection for a roof curb installation, relocate the factory-installed plug from the bottom connection to the side connection. See Fig. 4. The piping for the condensate drain and external trap can be completed after the unit is in place.

All units must have an external trap for condensate drainage. Install a trap at least 4 in. deep and protect against freeze-up. If a drain line is installed downstream from the external trap, pitch the line away from the unit at 1 in. per 10 ft of run. Do not use a pipe size smaller than the unit connection (3/4-in.). See Fig. 5.

The center drain plug looks like a star connection, however it can be removed with a 1/2 in. socket drive extension.

IV. STEP 4 — RIG AND PLACE UNIT

Inspect unit for transportation damage. File any claim with transportation agency. Keep unit upright and do not drop. Spreader bars are not required if top crating is left on unit. Rollers may be used to move unit across a roof. Level by using unit frame as a reference. See Tables 1A and 1B and Fig. 6 for additional information. Operating weight is shown in Tables 1A and 1B and Fig. 6.

Lifting holes are provided in base rails as shown in Fig. 6 and 7A and 7B. Refer to rigging instructions on unit.

⚠ **CAUTION:** All panels must be in place when rigging and lifting. Unit is not designed for handling by a fork truck. Damage to unit may result.

A. Positioning

Maintain clearance around and above unit to provide proper airflow and service access. See Fig. 7A and 7B.

Position unit on roof curb so that the following clearances are maintained: 1/4-in. clearance between roof curb and base rails on duct end, front and back of unit; 3 5/16-in. clearance between roof curb and condenser fan end of unit (see Fig. 2, sections A-A and C-C).

Do not install unit in an indoor location. Do not locate unit air inlet near exhaust vents or other sources of contaminated air.

Although unit is weatherproof, guard against water from higher level runoff and overhangs.

After unit is in position, remove shipping materials and rigging skid.

CONNECTOR PKG. ACCY.	B	C	D ALT DRAIN HOLE	GAS	POWER	CONTROL	ACCESSORY POWER
CRBTMPWR001A01	2′-8 7/16″ [827]	1′-10 15/16″ [583]	1 3/4″ [44.5]	3/4″ [19] NPT	3/4″ [19] NPT	1/2″ [12.7] NPT	1/2″ [12.7] NPT
CRBTMPWR002A01					1 1/4″ [31.7]		
CRBTMPWR003A01				1/2″ [12.7] NPT	3/4″ [19] NPT		
CRBTMPWR004A01				3/4″ [19] NPT	1 1/4″ [31.7]		

ROOF CURB ACCESSORY	"A"	UNIT SIZE
CRRFCURB003A01	1′-2″ [356]	558F 090-151
CRRFCURB004A01	2′-0″ [610]	

NOTES:
1. Roof curb accessory is shipped disassembled.
2. Insulated panels: 1-in. thick polyurethane foam, 1 3/4 lb density.
3. Dimensions in [ ] are in millimeters.
4. Roof curb: 16-gage steel.
5. Attach ductwork to curb (flanges of duct rest on curb).
6. Service clearance 4 ft on each side.
7. Direction of airflow.
8. Connector packages CRBTMPWR001A01 and 2A01 are for thru-the-curb gas type. Packages CRBTMPWR003A01 and 4A01 are for the thru-the-bottom type gas connections.

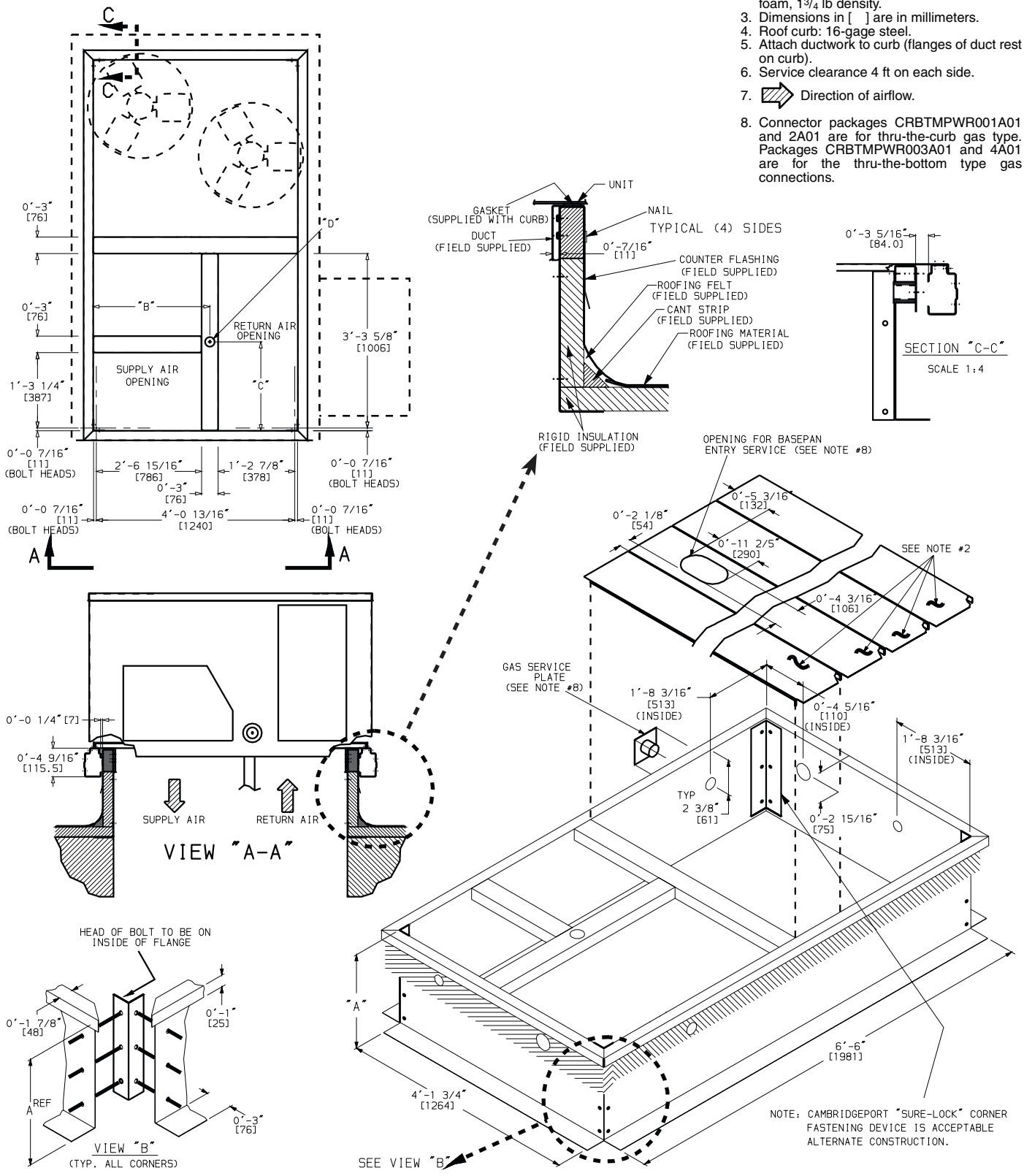
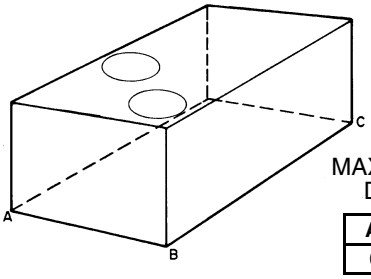


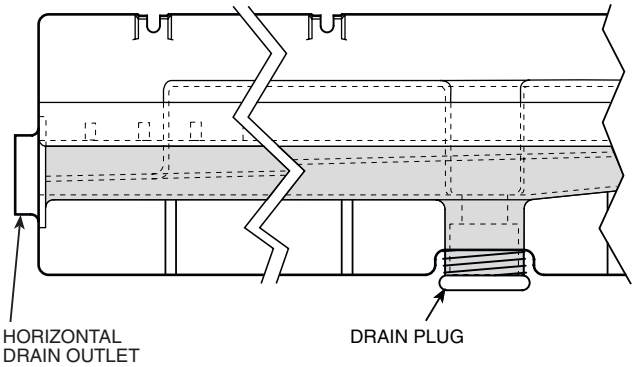
Fig. 2 — Roof Curb Details



MAXIMUM ALLOWABLE DIFFERENCE (in.)

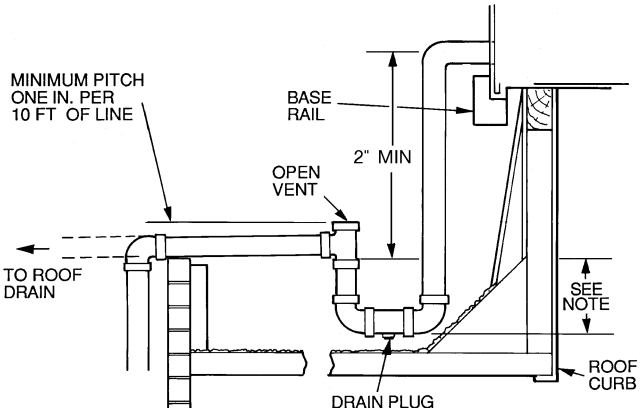
A-B	B-C	A-C
0.5	1.0	1.0

Fig. 3 — Unit Leveling Tolerance



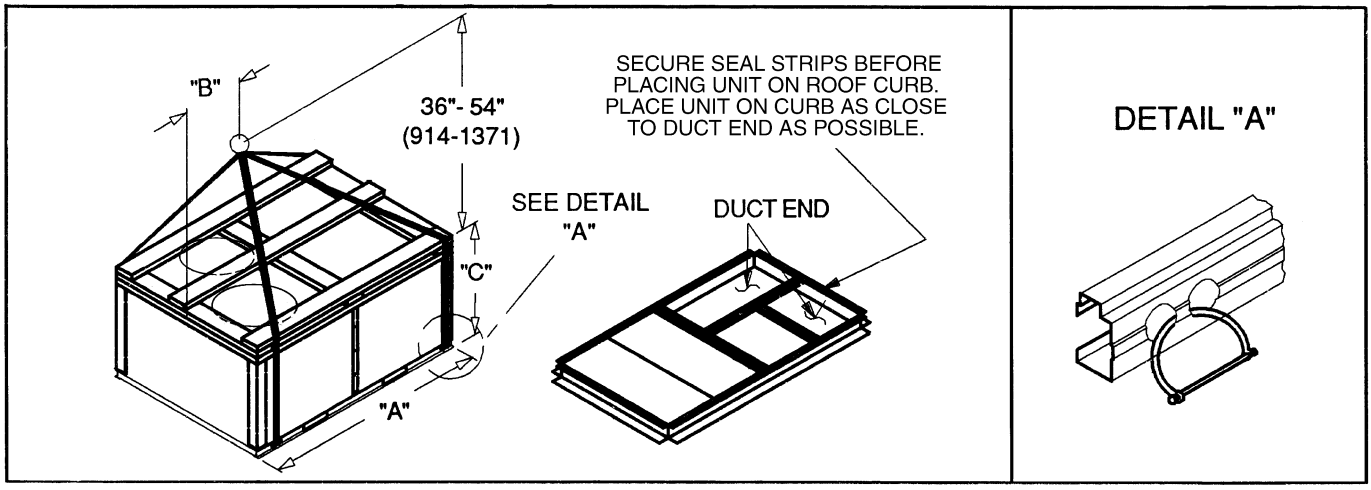
NOTE: Drain plug is shown in factory-installed position.

Fig. 4 — Condensate Drain Connection (Side View)



NOTE: Trap should be deep enough to offset maximum unit static difference. A 4-in. trap is recommended.

Fig. 5 — Condensate Drain Piping Details



NOTES:
1. Dimension in ( ) is in millimeters.
2. Hook rigging shackles through holes in base rail, as shown in detail "A." Holes in base rails are centered around the unit center of gravity. Use wooden top skid when rigging to prevent rigging straps from damaging unit.
3. Unit weights do not include economizer. See Tables 1A and 1B for unit weight of economizer.

⚠ **CAUTION:** All panels must be in place when rigging. Unit is not designed for handling by a fork truck. Damage to unit may result.

UNIT 558F	OPERATING WEIGHT		DIMENSIONS					
			"A"		"B"		"C"	
	lb	kg	in.	mm	in.	mm	in.	mm
090,091	755	342	77.42	1967	40.25	1022	41.31	1050
102,103	760	345	77.42	1967	40.25	1022	41.31	1050
120,121	915	415	77.42	1967	40.25	1022	49.31	1253
150,151	930	422	77.42	1967	40.25	1022	49.31	1253

Fig. 6 — Rigging Details

UNIT	STD. UNIT WEIGHT		ECONOMI$ER IV WEIGHT		VERT. ECON IV W/ P.E. WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		"H"		"J"		"K"	
	LB	KG	LB	KG	LB	KG	LB	KG	LB	KG	LB	KG	LB	KG	FT-IN.	MM	FT-IN.	MM	FT-IN.	MM
558F090	755	342	75	34.1	145	65.9	164	74	140	64	208	94	243	110	1′-2 7/8″	378	3′-5 5/16″	1050	2′-9 11/16″	856
558F102	760	345	↓	↓	↓	↓	165	75	141	64	209	94	245	111	3′-3 7/8″	1013	3′-5 5/16″	1050	2′-9 11/16″	856
558F120	915	415	↓	↓	↓	↓	199	90	170	77	252	114	294	134	2′-5 7/8″	759	4′-1 5/16″	1253	3′-0 3/8″	924
558F150	930	422	↓	↓	↓	↓	202	92	172	78	256	116	300	136	1′-2 7/8″	378	4′-1 5/16″	1253	3′-0 3/8″	924

NOTES:

1. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. ⊕ CENTER OF GRAVITY.
3. ⇨ DIRECTION OF AIR FLOW.
4. DUCTWORK TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY.
5. MINIMUM CLEARANCE (LOCAL CODES OR JURISDICTION MAY PREVAIL):
   a. BOTTOM TO COMBUSTIBLE SURFACES (WHEN NOT USING CURB) 0 INCHES, ON HORIZONTAL DISCHARGE UNITS WITH ELECTRIC HEAT 1 INCH CLEARANCE TO DUCTWORK FOR 1 FOOT.
   b. CONDENSER COIL, FOR PROPER AIR FLOW, 36 INCHES ONE SIDE, 12 INCHES THE OTHER. THE SIDE GETTING THE GREATER CLEARANCE IS OPTIONAL.
   c. OVERHEAD, 60 INCHES TO ASSURE PROPER CONDENSER FAN OPERATION.
   d. BETWEEN UNITS, CONTROL BOX SIDE, 42 IN. PER NEC.
   e. BETWEEN UNIT AND UNGROUNDED SURFACES, CONTROL BOX SIDE, 36 IN. PER NEC.
   f. BETWEEN UNIT AND BLOCK OR CONCRETE WALLS AND OTHER GROUNDED SURFACES, CONTROL BOX SIDE, 42 IN. PER NEC.
   g. HORIZONTAL SUPPLY AND RETURN END, 0 INCHES WHEN THE ALTERNATE CONDENSATE DRAIN IS USED.
6. WITH THE EXCEPTION OF THE CLEARANCE FOR THE CONDENSER COIL AS STATED IN NOTES 5a, b, AND c, A REMOVABLE FENCE OR BARRICADE REQUIRES NO CLEARANCE.
7. UNITS MAY BE INSTALLED ON COMBUSTIBLE FLOORS MADE FROM WOOD OR CLASS A, B, OR C ROOF COVERING MATERIAL.
8. THE VERTICAL CENTER OF GRAVITY IS 1′-7 1/2″ [495] FOR 090 AND 102, 2′-0″ [610] FOR 120 AND 150 UP FROM THE BOTTOM OF THE BASE RAIL.

	CONNECTION SIZES
A	1 3/8″ DIA. [35] FIELD POWER SUPPLY HOLE
B	2 1/2″DIA [64] POWER SUPPLY KNOCK-OUT
C	1 3/4″DIA [44] CHARGING PORT HOLE
D	7/8″ DIA. [22] FIELD CONTROL WIRING HOLE
E	3/4″-14 NPT CONDENSATE DRAIN
F	2″ DIA [51] POWER SUPPLY KNOCK-OUT

BOTTOM POWER CHART:
THESE HOLES REQ'D FOR USE WITH ACCESSORY PACKAGES - CRBTMPWR001A01, 2A01

THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
1/2″	ACC.	7/8″ [22.2]
1/2″	24V	7/8″ [22.2]
3/4″ (001)	POWER*	1 1/8″ [28.4]
1 1/4″ (002)	POWER*	1 3/4″ [44.4]

* - SELECT EITHER 3/4″ OR 1 1/4″ FOR POWER, DEPENDING ON WIRE SIZE.

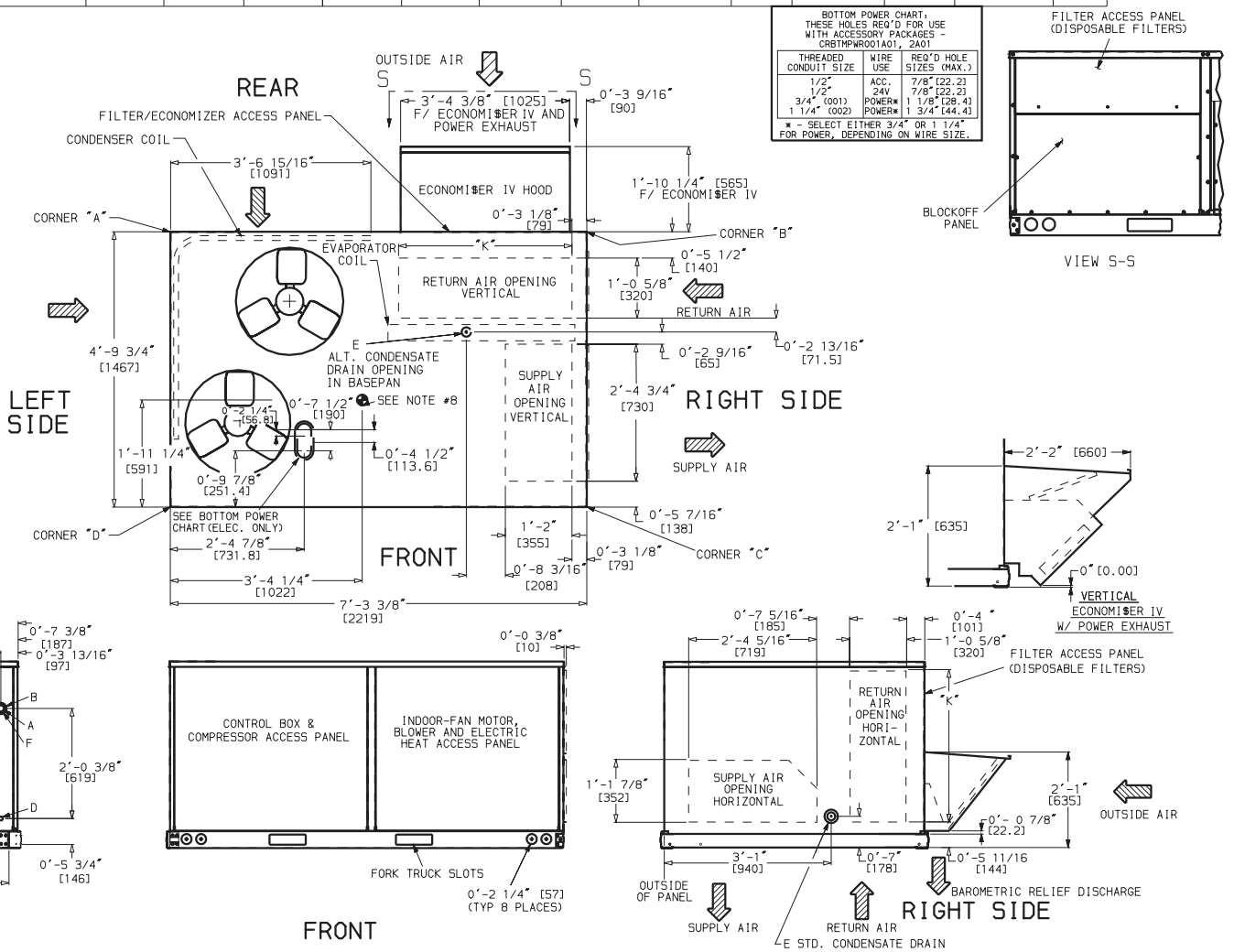


Fig.7A — Base Unit Dimensions — 558F090,102,120,150

UNIT	STD. UNIT WEIGHT		ECONOMI$ER IV WEIGHT		VERT. ECON IV W/ P.E. WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		"H"		"J"		"K"	
	LB	KG	LB	KG	LB	KG	LB	KG	LB	KG	LB	KG	LB	KG	FT-IN.	MM	FT-IN.	MM	FT-IN.	MM
558F091	755	342	75	34.1	145	65.9	164	74	140	64	208	94	243	110	2′-0 7/8″	632	3′-5 5/16″	1050	2′-9 11/16″	856
558F103	760	345	↓	↓	↓	↓	165	75	141	64	209	94	245	111	1′-2 7/8″	378	3′-5 5/16″	1050	2′-9 11/16″	856
558F121	915	415					199	90	170	77	252	114	294	134	2′-10 7/8″	885	4′-1 5/16″	1253	3′-0 3/8″	924
558F151	930	422					202	92	172	78	256	116	300	136	1′-2 7/8″	378	4′-1 5/16″	1253	3′-0 3/8″	924

NOTES:

1. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. ⊕ CENTER OF GRAVITY.
3. ⇒ DIRECTION OF AIR FLOW.
4. DUCTWORK TO BE ATTACHED TO ACCESSORY ROOF CURB ONLY.
5. MINIMUM CLEARANCE (LOCAL CODES OR JURISDICTION MAY PREVAIL):
   a. BOTTOM TO COMBUSTIBLE SURFACES (WHEN NOT USING CURB) 0 INCHES, ON HORIZONTAL DISCHARGE UNITS WITH ELECTRIC HEAT 1 INCH CLEARANCE TO DUCTWORK FOR 1 FOOT.
   b. CONDENSER COIL, FOR PROPER AIR FLOW, 36 INCHES ONE SIDE, 12 INCHES THE OTHER. THE SIDE GETTING THE GREATER CLEARANCE IS OPTIONAL.
   c. OVERHEAD, 60 INCHES TO ASSURE PROPER CONDENSER FAN OPERATION.
   d. BETWEEN UNITS, CONTROL BOX SIDE, 42 IN. PER NEC.
   e. BETWEEN UNIT AND UNGROUNDED SURFACES, CONTROL BOX SIDE, 36 IN. PER NEC.
   f. BETWEEN UNIT AND BLOCK OR CONCRETE WALLS AND OTHER GROUNDED SURFACES, CONTROL BOX SIDE, 42 IN. PER NEC.
   g. HORIZONTAL SUPPLY AND RETURN END, 0 INCHES WHEN THE ALTERNATE CONDENSATE DRAIN IS USED.
6. WITH THE EXCEPTION OF THE CLEARANCE FOR THE CONDENSER COIL AS STATED IN NOTES 5a, b, AND c, A REMOVABLE FENCE OR BARRICADE REQUIRES NO CLEARANCE.
7. UNITS MAY BE INSTALLED ON COMBUSTIBLE FLOORS MADE FROM WOOD OR CLASS A, B, OR C ROOF COVERING MATERIAL.
8. THE VERTICAL CENTER OF GRAVITY IS 1′-7 1/2″ [495] FOR 091 & 103, 2′-0″ [610] FOR 121 & 151 UP FROM THE BOTTOM OF THE BASE RAIL.

	CONNECTION SIZES
A	1 3/8″ DIA. [35] FIELD POWER SUPPLY HOLE
B	2 1/2″DIA [64] POWER SUPPLY KNOCK-OUT
C	1 3/4″DIA [44] CHARGING PORT HOLE
D	7/8″ DIA. [22] FIELD CONTROL WIRING HOLE
E	3/4″-14 NPT CONDENSATE DRAIN
F	2″ DIA [51] POWER SUPPLY KNOCK-OUT

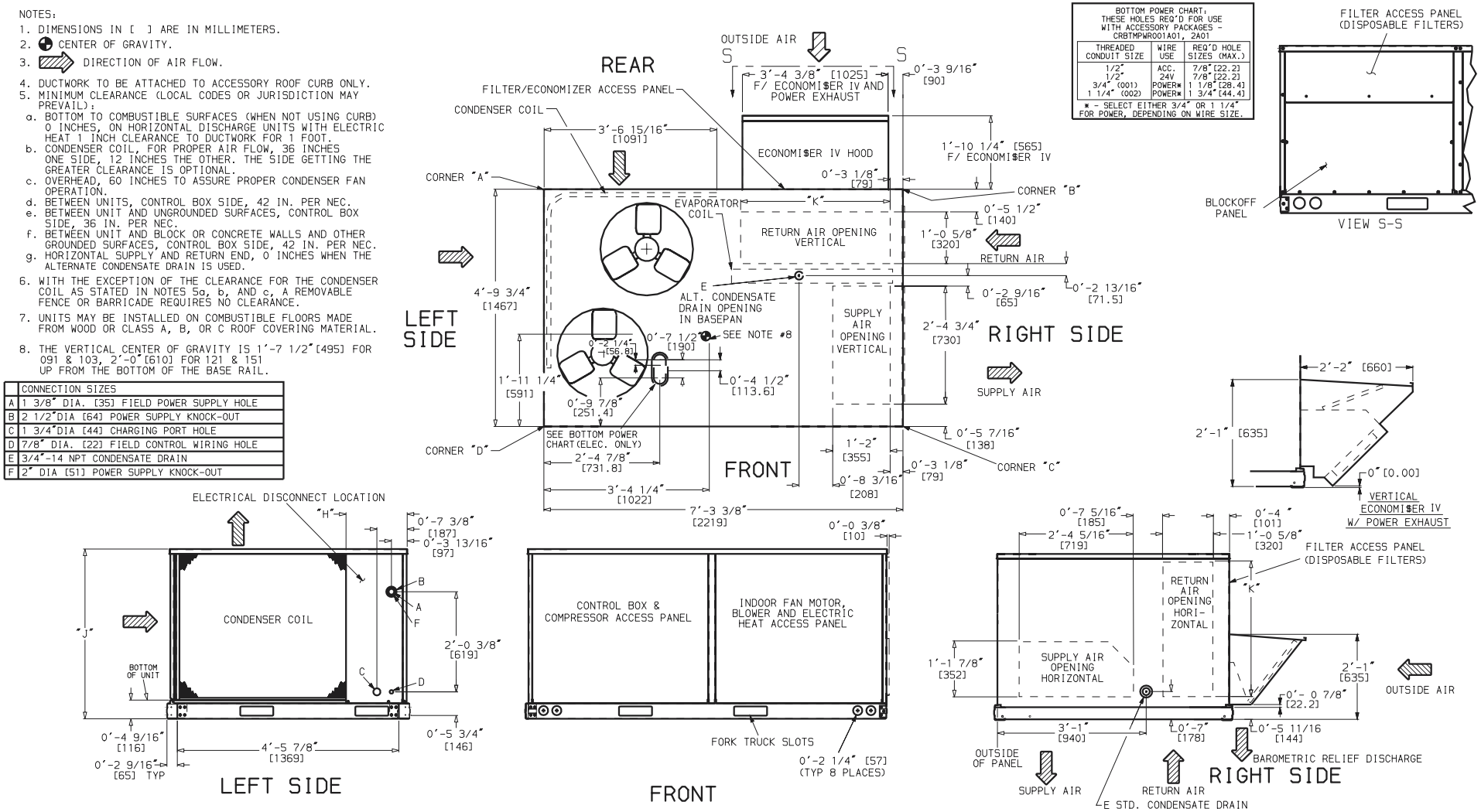


Fig. 7B — Base Unit Dimensions — 558F091,103,121,151

Table 1A — Physical Data — 558F090,102,120,150 Units

558F UNIT SIZE		090	102	120	150
NOMINAL CAPACITY (tons)		7 1/2	8 1/2	10	12 1/2
OPERATING WEIGHT (lb)					
Unit					
Al/Al*		755	760	915	930
Al/Cu*		766	776	937	957
Cu/Cu*		778	787	960	980
EconoMi$er IV		75	75	75	75
Roof Curb†		143	143	143	143
COMPRESSOR		Reciprocating	Reciprocating	Reciprocating	Scroll
Quantity		2	2	2	2
No. Cylinders (per circuit)		2	2	2	—
Oil (oz)		42 ea	65 ea	54 ea	54 ea
REFRIGERANT TYPE		R-22			
Operating Charge (lb-oz)					
Circuit 1		4-13	6-14	7- 3	8-10
Circuit 2		4-14	9- 2	7-13	8- 6
CONDENSER COIL		Enhanced Copper Tubes, Aluminum Lanced Fins			
Rows...Fins/in.		1...17	2...17	2...17	2...17
Total Face Area (sq ft)		20.50	18.00	20.47	25.00
CONDENSER FAN		Propeller Type			
Nominal Cfm		6400	6400	7000	7000
Quantity...Diameter (in.)		2...22	2...22	2...22	2...22
Motor Hp...Rpm		1/4...1100	1/4...1100	1/4...1100	1/4...1100
Watts Input (Total)		600	600	600	600
EVAPORATOR COIL		Enhanced Copper Tubes, Aluminum Double-Wavy Fins, Fixed Orifice Metering Device			
Rows...Fins/in.		3...15	3...15	3...15	4...15
Total Face Area (sq ft)		8.0	8.0	10.0	11.1
EVAPORATOR FAN		Centrifugal Type			
Quantity...Size (in.)	Std	1...15 x 15	1...15 x 15	1...15 x 15	1...15 x 15
	Alt	1...15 x 15	—	1...15 x 15	1...15 x 15
	High-Static	1...15 x 15	1...15 x 15	1...15 x 15	—
Type Drive	Std	Belt	Belt	Belt	Belt
	Alt	Belt	—	Belt	Belt
	High-Static	Belt	Belt	Belt	—
Nominal Cfm		3000	3100	4000	5000
Maximum Continuous Bhp	Std	2.40	2.40	2.40	3.70
	Alt	2.40	—	2.90	5.25
	High-Static	3.70	3.70	5.25	—
Motor Frame Size	Std	56	56	56	56
	Alt	56	—	56	56
	High-Static	56	56	56	—
Fan Rpm Range	Std	590- 840	685- 935	685- 935	860-1080
	Alt	685- 935	—	835-1085	830-1130
	High-Static	860-1080	860-1080	830-1130	—
Motor Bearing Type		Ball	Ball	Ball	Ball
Maximum Allowable Rpm		2100	2100	2100	2100
Motor Pulley Pitch Diameter Min/Max (in.)	Std	2.4/3.4	2.8/3.8	2.8/3.8	4.0/5.0
	Alt	2.8/3.8	—	3.4/4.4	3.1/4.1
	High-Static	4.0/5.0	4.0/5.0	2.8/3.8	—
Nominal Motor Shaft Diameter (in.)	Std	5/8	5/8	5/8	7/8
	Alt	5/8	—	7/8	7/8
	High-Static	7/8	7/8	7/8	—
Fan Pulley Pitch Diameter (in.)	Std	7.0	7.0	7.0	8.0
	Alt	7.0	—	7.0	5.9
	High-Static	8.0	8.0	5.8	—
Belt, Quantity...Type...Length (in.)	Std	1...A...49	1...A...49	1...A...49	1...A...52
	Alt	1...A...49	—	1...A...49	1...BX...46
	High-Static	1...A...55	1...A...55	1...BX...46	—
Pulley Center Line Distance (in.)	Std	16.75-19.25	16.75-19.25	15.85-17.50	15.85-17.50
	Alt	15.75-19.25	—	15.85-17.50	15.85-17.50
	High-Static	15.75-19.25	16.75-19.25	15.85-17.50	—
Speed Change per Full Turn of Movable Pulley Flange (rpm)	Std	50	50	50	44
	Alt	50	—	50	50
	High-Static	60	60	60	—
Movable Pulley Maximum Full Turns From Closed Position	Std	5	5	5	5
	Alt	5	—	5	6
	High-Static	5	5	6	—
Factory Setting	Std	5	5	5	5
	Alt	5	—	5	5
	High-Static	5	5	5	—
Factory Speed Setting (rpm)	Std	590	685	685	860
	Alt	685	—	835	887
	High-Static	860	860	887	—
Fan Shaft Diameter at Pulley (in.)		1	1	1	1
HIGH-PRESSURE SWITCH (psig)					
Standard Compressor Internal Relief (Differential)			450 ± 50		500 ± 50
Cutout			428		428
Reset (Auto.)			320		320
LOSS-OF-CHARGE/LOW-PRESSURE SWITCH (psig)					
Cutout			7 ± 3		
Reset (Auto.)			22 ± 7		
FREEZE-PROTECTION THERMOSTAT (F)					
Opens			30 ± 5		
Closes			45 ± 5		
OUTDOOR-AIR INLET SCREENS		Cleanable. Screen size and quantity varies by option selected.			
RETURN-AIR FILTERS		Throwaway			
Quantity...Size (in.)		4...16 x 20 x 2	4...16 x 20 x 2	4...20 x 20 x 2	4...20 x 20 x 2

LEGEND

Al — Aluminum
Bhp — Brake Horsepower
Cu — Copper

*Evaporator coil fin material/condenser coil fin material. Contact your local Bryant representative for details about coated fins.
†Weight of 14-in. roof curb.

NOTE: High-static motor not available on size 150 and 151 units.

Table 1B — Physical Data — 558F091,103,121,151 Units

(ASHRAE 90.1-1999 Compliant Units)

558F UNIT SIZE		091	103	121	151
NOMINAL CAPACITY (tons)		7 1/2	8 1/2	10	12 1/2
OPERATING WEIGHT (lb)					
Unit					
Al/Al*		755	760	915	930
Al/Cu*		766	776	937	957
Cu/Cu*		778	787	960	980
Economizer					
EconoMi$er IV		75	75	75	75
Roof Curb†		143	143	143	143
COMPRESSOR		Reciprocating	Scroll	Scroll	Scroll
Quantity		2	2	2	2
No. Cylinders (per Circuit)		2	2	2	2
Oil (oz) (each compressor)		42	53	50	60
REFRIGERANT TYPE		R-22			
Expansion Device		Fixed Orifice Metering Device			
Operating Charge (lb-oz)					
Circuit 1		7-10	7-14	8-10	9-8
Circuit 2		8-2	8-5	8-8	9-5
CONDENSER COIL		Enhanced Copper Tubes, Aluminum Lanced Fins			
Rows...Fins/in.		2...17	2...17	2...17	2...17
Total Face Area (sq ft)		20.50	20.50	25.00	25.00
CONDENSER FAN		Propeller Type			
Nominal Cfm		6500	6500	7000	7000
Quantity...Diameter (in.)		2...22	2...22	2...22	2...22
Motor Hp...Rpm		1/4...1100	1/4...1100	1/4...1100	1/4...1100
Watts Input (Total)		650	650	650	650
EVAPORATOR COIL		Enhanced Copper Tubes, Aluminum Double-Wavy Fins, Face Split			
Rows...Fins/in.		3...15	3...15	3...15	4...15
Total Face Area (sq ft)		8.9	8.9	10.0	11.1
EVAPORATOR FAN		Centrifugal Type			
Quantity...Size (in.)	Std	1...15 x 15	1...15 x 15	1...15 x 15	1...15 x 15
	Alt	1...15 x 15	—	1...15 x 15	1...15 x 15
	High-Static	1...15 x 15	1...15 x 15	1...15 x 15	—
Type Drive	Std	Belt	Belt	Belt	Belt
	Alt	Belt	—	Belt	Belt
	High-Static	Belt	Belt	Belt	—
Nominal Cfm		2900	3000	3200	5000
Maximum Continuous Bhp	Std	2.40	2.40	2.40	3.70
	Alt	2.40	—	2.90	5.25
	High-Static	3.70	3.70	5.25	—
Motor Frame Size	Std	56	56	56	56
	Alt	56	—	56	56
	High-Static	56	56	56	—
Fan Rpm Range	Std	590-840	685-935	685-935	860-1080
	Alt	685-935	—	835-1085	830-1130
	High-Static	860-1080	860-1080	830-1130	—
Motor Bearing Type		Ball	Ball	Ball	Ball
Maximum Allowable Rpm		2100	2100	2100	2100
Motor Pulley Pitch Diameter Min/Max (in.)	Std	2.4/3.4	2.8/3.8	2.8/3.8	4.0/5.0
	Alt	2.8/3.8	—	3.4/4.4	3.1/4.1
	High-Static	4.0/5.0	4.0/5.0	2.8/3.8	—
Nominal Motor Shaft Diameter (in.)	Std	5/8	5/8	5/8	7/8
	Alt	5/8	—	7/8	7/8
	High-Static	7/8	7/8	7/8	—
Fan Pulley Pitch Diameter (in.)	Std	7.0	7.0	7.0	8.0
	Alt	7.0	—	7.0	5.9
	High-Static	8.0	8.0	5.8	—
Belt, Quantity...Type...Length (in.)	Std	1...A...49	1...A...49	1...A...49	1...A...52
	Alt	1...A...49	—	1...A...49	1...BX...46
	High-Static	1...A...55	1...A...55	1...BX...46	—
Pulley Center Line Distance (in.)	Std	16.75-19.25	16.75-19.25	15.85-17.50	15.85-17.50
	Alt	16.75-19.25	—	15.85-17.50	15.85-17.50
	High-Static	16.75-19.25	16.75-19.25	15.85-17.50	—
Speed Change per Full Turn of Movable Pulley Flange (rpm)	Std	50	50	50	44
	Alt	50	—	50	50
	High-Static	60	60	60	—
Movable Pulley Maximum Full Turns From Closed Position	Std	5	5	5	5
	Alt	5	—	5	6
	High-Static	5	5	6	—
Factory Setting	Std	5	5	5	5
	Alt	5	—	5	5
	High-Static	5	5	5	—
Factory Speed Setting (rpm)	Std	590	685	685	860
	Alt	685	—	835	887
	High-Static	860	860	887	—
Fan Shaft Diameter at Pulley (in.)		1	1	1	1
HIGH-PRESSURE SWITCH (psig)					
Standard Compressor			450 ± 50		500 ± 50
Internal Relief (Differential)					
Cutout			428		428
Reset (Auto.)			320		320
LOW-PRESSURE SWITCH (psig)					
Cutout			7 ± 3		
Reset (Auto.)			22 ± 7		
FREEZE PROTECTION THERMOSTAT (F)					
Opens			30 ± 5		
Closes			45 ± 5		
OUTDOOR-AIR INLET SCREENS		Cleanable. Screen size and quantity varies by option selected.			
RETURN-AIR FILTERS		Throwaway			
Quantity...Size (in.)		4...16 x 20 x 2	4...16 x 20 x 2	4...20 x 20 x 2	4...20 x 20 x 2

LEGEND

Al — Aluminum
Bhp — Brake Horsepower
Cu — Copper

*Evaporator coil fin material/condenser coil fin material. Contact your local Bryant representative for details about coated fins.
†Weight of 14-in. roof curb.

NOTE: High-static motor not available on size 150 and 151 units.

V. STEP 5 — MAKE ELECTRICAL CONNECTIONS

⚠ **WARNING:** Unit cabinet must have an uninterrupted, unbroken electrical ground to minimize the possibility of personal injury if an electrical fault should occur. This ground may consist of electrical wire connected to unit ground lug in control compartment, or conduit approved for electrical ground when installed in accordance with NEC (National Electrical Code), ANSI/NFPA (American National Standards Institute/National Fire Protection Association), latest edition, and local electrical codes. Failure to follow this warning could result in the installer being liable for personal injury of others.

A. Field Power Supply

All units except 208/230-v units are factory wired for the voltage shown on the nameplate. If the 208/230-v unit is to be connected to a 208-v power supply, the transformer *must* be rewired by moving the black wire from the 230-v 1/4-in. male spade terminal on the transformer and connecting it to the 200-v 1/4-in. male spade terminal on the transformer.

Refer to unit label diagram for additional information. Pigtails are provided for field wire connections.

When installing units, provide a disconnect per NEC. Use copper conductors only when splice connectors are used.

NOTE: When accessory thru-the-bottom connections are used, refer to the accessory installation instructions for information on power wiring. Refer to Fig. 7A and 7B for drilling locations.

All field wiring must comply with NEC and local requirements. In Canada, electrical connections must be in accordance with CSA (Canadian Standards Association) C22.1 Canadian Electrical Code Part One.

Install field wiring as follows (see Fig. 8-10):

1. Install conduit through side panel openings between disconnect and single point box (see Fig. 9 and 10).
2. Install power wires to terminal connections as shown in Fig. 8.

Voltage to compressor terminals during operation must be within voltage range indicated on unit nameplate (see Tables 2A-2D). On 3-phase units, voltages between phases must be balanced within 2% and the current within 10%. Use the formula shown in the legend for Tables 2A and 2B, Note 2 to determine the percentage of voltage imbalance. Operation on improper line voltage or excessive phase imbalance constitutes abuse and may cause damage to electrical components. (Such operation would invalidate any applicable Bryant warranty.)

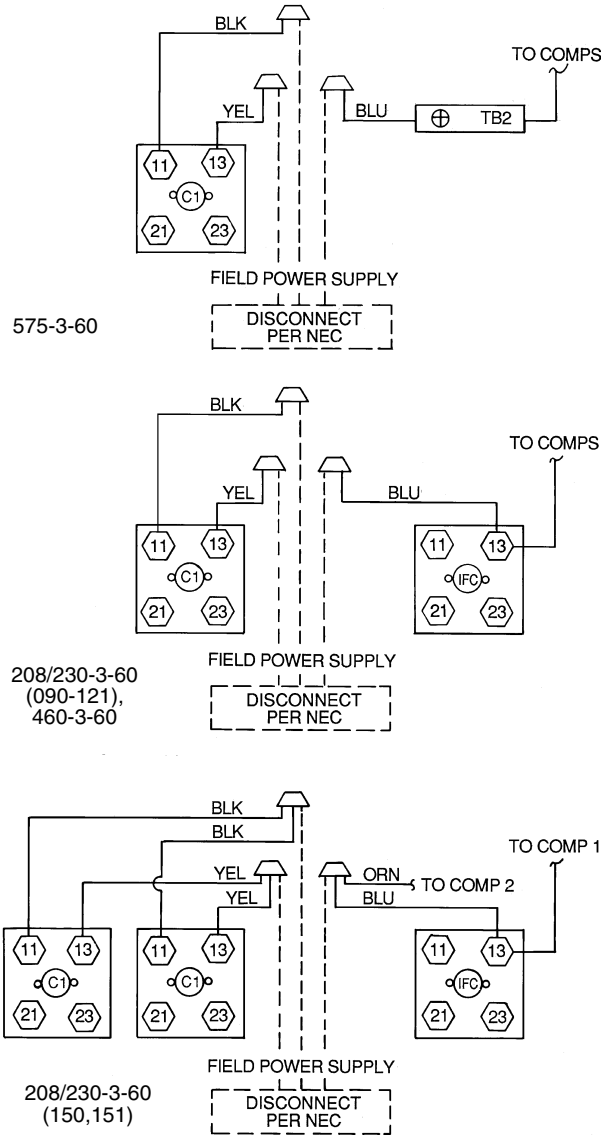
B. Field Control Wiring

Install a Bryant-approved accessory thermostat assembly according to installation instructions included with the accessory. Locate thermostat assembly on a solid wall in the conditioned space to sense average temperature in accordance with thermostat installation instructions.

Route thermostat cable or equivalent single leads of colored wire from subbase terminals to low-voltage connections on unit (shown in Fig. 11) as described in Steps 1-5 below.

NOTE: For wire runs up to 50 ft, use no. 18 AWG (American Wire Gage) insulated wire (35 C minimum). For 50 to 75 ft, use no. 16 AWG insulated wire (35 C minimum). For over 75 ft, use no. 14 AWG insulated wire (35 C minimum). All wire larger than no. 18 AWG cannot be directly connected to the thermostat and will require a junction box and splice at the thermostat.

1. If unit is mounted on roof curb and accessory thru-the-bottom connection is used, route wire through connector provided in accessory kit through the unit basepan.
2. Pass control wires through the hole provided on unit (see connection D, Connection Sizes Table, Fig. 7A and 7B).
3. Feed wire through the raceway built into the corner post to the 24-v barrier located on the left side of the control box. See Fig. 12. The raceway provides the UL-required (Underwriters' Laboratories) clearance between the high-and low-voltage wiring.
4. Connect thermostat wires to screw terminals of low-voltage terminal board.
5. If unit is to be equipped with electric resistance heat, ensure thermostat on a call for heat "W" energizes "G" output. This allows fan operation on a call for heat.



LEGEND

C	— Contactor	⊕	Terminal Block Connection
COMP(S)	— Compressor(s)		
IFC	— Indoor (Evaporator) Fan Contactor		Splice Connection
NEC	— National Electrical Code	- - - -	Field Wiring
TB	— Terminal Block	———	Factory Wiring

Fig. 8 — Power Wiring Connections

Table 2A — Electrical Data (Units Without Convenience Outlet) (558F090, 102, 120, 150)

558F UNIT SIZE	NOMINAL V-Ph-Hz	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (ea)		OFM (ea)			IFM FLA	ELECTRIC HEAT		POWER SUPPLY		DISCONNECT SIZE*	
			Min	Max	RLA	LRA	Qty	Hp	FLA		Nominal kW	FLA	MCA	MOCP†	FLA	LRA
090	208/230-3-60	Std and Alt	187	254	14.0	91.0	2	1/4	1.4	5.8	— 7.8/10.4 12.0/16.0 18.6/24.8 24.0/32.0 31.8/42.4	— 21.7/ 25.0 33.4/ 38.5 51.7/ 59.7 66.7/ 77.0 88.4/102.0	40.1/ 40.1 40.1/ 40.1 48.9/ 55.4 71.9/ 81.8 90.6/103.5 117.7/134.8	45/ 45 45/ 45 50/ 60 80/ 90** 100/110** 125/150**	42/ 42 42/ 42 45/ 51 66/ 75 83/ 95 108/124	229/229
		High								10.6	— 7.8/10.4 12.0/16.0 18.6/24.8 24.0/32.0 31.8/42.4	— 21.7/ 25.0 33.4/ 38.5 51.7/ 59.7 66.7/ 77.0 88.4/102.0	44.9/ 44.9 44.9/ 44.9 54.9/ 61.4 77.9/ 87.8 96.6/109.5 123.7/140.8	50/ 50 50/ 50 60/ 70** 80/ 90** 100/110** 125/150**	48/ 48 48/ 48 51/ 56 72/ 81 89/101 114/129	273/273
	460-3-60	Std and Alt	414	508	6.4	42.0	2	1/4	0.7	2.6	— 13.9 16.5 27.8 33.0 41.7	— 16.7 19.8 33.4 39.7 50.2	18.4 24.1 28.1 45.0 52.9 65.9	25 25 30 50 60 70**	19 22 26 41 49 61	108
		High								4.8	— 13.9 16.5 27.8 33.0 41.7	— 16.7 19.8 33.4 39.7 50.2	20.6 26.9 30.8 47.8 55.6 68.7	25 30 35 50 60 70**	22 25 28 44 51 63	130
	575-3-60	Std and Alt	518	632	5.2	39.0	2	1/4	0.7	2.6	— 17.0 34.0	— 17.1 34.1	14.9 23.9 45.3	20 25 50	16 22 42	97
		High								4.8	— 17.0 34.0	— 17.1 34.1	16.7 26.1 47.5	20 30 50	18 24 44	114
102	208/230-3-60	Std	187	254	16.0	137.0	2	1/4	1.4	5.8	— 7.8/10.4 12.0/16.0 18.6/24.8 24.0/32.0 31.8/42.4	— 21.7/ 25.0 33.4/ 38.5 51.7/ 59.7 66.7/ 77.0 88.4/102.0	44.6/ 44.6 44.6/ 44.6 48.9/ 55.4 71.9/ 81.8 90.6/103.5 117.7/134.8	50/ 50 50/ 50 50/ 60 80/ 90** 100/110** 125/150**	47/ 47 47/ 47 47/ 51 66/ 75 83/ 95 108/124	321/321
		High								10.6	— 7.8/10.4 12.0/16.0 18.6/24.8 24.0/32.0 31.8/42.4	— 21.7/ 25.0 33.4/ 38.5 51.7/ 59.7 66.7/ 77.0 88.4/102.0	49.4/ 49.4 49.4/ 49.4 54.9/ 61.4 77.9/ 87.8 96.6/109.5 123.7/140.8	60/ 60 60/ 60 60/ 70** 80/ 90** 100/110** 125/150**	52/ 52 52/ 52 52/ 56 72/ 81 89/101 114/129	365/365
	460-3-60	Std	414	508	8.3	69.0	2	1/4	0.7	2.6	— 13.9 16.5 27.8 33.0 41.7	— 16.7 19.8 33.4 39.7 50.2	22.7 24.1 28.1 45.0 52.9 65.9	25 25 30 50 60 70**	24 24 26 41 49 61	162
		High								4.8	— 13.9 16.5 27.8 33.0 41.7	— 16.7 19.8 33.4 39.7 50.2	24.9 26.9 30.8 47.8 55.6 68.7	30 30 35 50 60 70**	26 26 28 44 51 63	184
	575-3-60	Std	518	632	6.4	58.0	2	1/4	0.7	2.6	— 17.0 34.0	— 17.1 34.1	17.6 23.9 45.3	20 25 50	18 22 42	135
		High								4.8	— 17.0 34.0	— 17.1 34.1	19.4 26.1 47.5	25 30 50	20 24 44	152

Table 2A — Electrical Data (Units Without Convenience Outlet) (558F090, 102, 120, 150) (cont)

558F UNIT SIZE	NOMINAL V-Ph-Hz	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (ea)		OFM (ea)			IFM FLA	ELECTRIC HEAT		POWER SUPPLY		DISCONNECT SIZE*	
			Min	Max	RLA	LRA	Qty	Hp	FLA		Nominal kW	FLA	MCA	MOCP†	FLA	LRA
120	208/230-3-60	Std	187	254	15.8	130.0	2	1/4	1.4	5.8	— 7.8/10.4 12.0/16.0 24.0/32.0 31.8/42.4 37.6/50.0	— 21.7/ 25.0 33.4/ 38.5 66.7/ 77.0 88.4/102.0 104.2/120.3	43.1/ 43.1 43.1/ 43.1 48.9/ 55.4 90.6/103.5 117.7/134.8 137.5/127.5	50/ 50 50/ 50 60/ 60 100/110** 125/150** 150/150**	45/ 45 45/ 45 45/ 51 83/ 95 108/124 127/145	307/307
		Alt								7.5	— 7.8/10.4 12.0/16.0 24.0/32.0 31.8/42.4 37.6/50.0	— 21.7/ 25.0 33.4/ 38.5 66.7/ 77.0 88.4/102.0 104.2/120.3	44.8/ 44.8 44.8/ 44.8 51.1/ 57.5 92.8/105.6 119.9/136.9 139.7/129.7	50/ 50 50/ 50 60/ 60 100/110** 125/150** 150/150**	47/ 47 47/ 47 47/ 53 85/ 97 110/126 128/147	326/326
		High								15.0	— 7.8/10.4 12.0/16.0 24.0/32.0 31.8/42.4 37.6/50.0	— 21.7/ 25.0 33.4/ 38.5 66.7/ 77.0 88.4/102.0 104.2/120.3	52.3/ 52.3 52.3/ 52.3 60.4/ 66.9 102.1/115.0 129.2/146.3 149.0/139.0	60/ 60 60/ 60 60/ 80** 110/125** 150/150** 150/175**	56/ 56 56/ 56 56/ 62 94/106 119/135 137/156	374/374
	460-3-60	Std	414	508	7.9	64.0	2	1/4	0.7	2.6	— 16.5 27.8 33.0 41.7 50.0	— 19.8 33.4 39.7 50.2 60.1	21.0 28.1 45.0 52.9 65.9 63.4	25 30 50 60 70** 70**	22 26 41 49 61 72	152
		Alt								3.4	— 16.5 27.8 33.0 41.7 50.0	— 19.8 33.4 39.7 50.2 60.1	21.8 29.1 46.0 53.9 66.9 64.4	25 30 50 60 70** 70**	23 27 42 50 62 73	191
		High								7.4	— 16.5 27.8 33.0 41.7 50.0	— 19.8 33.4 39.7 50.2 60.1	25.8 34.1 51.0 58.9 71.9 69.4	30 35 60 60 80** 80**	27 31 47 54 66 78	185
	575-3-60	Std	518	632	6.6	52.0	2	1/4	0.7	2.6	— 17.0 34.0 51.0	— 17.1 34.1 51.2	17.9 23.9 45.3 53.8	20 25 50 60	19 22 42 61	107
		Alt								3.4	— 17.0 34.0 51.0	— 17.1 34.1 51.2	18.5 24.7 46.1 54.6	25 25 50 60	19 23 42 62	139
		High								7.4	— 17.0 34.0 51.0	— 17.1 34.1 51.2	21.7 28.7 50.1 58.6	25 35 60 70**	23 26 46 66	134

LEGEND

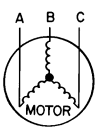
FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps

*Used to determine minimum disconnect per NEC.
†Fuse or HACR circuit breaker per NEC.
**Fuse only.
††Compressor no. 1 is shown in table.
208/230-3-60: Compressor no. 2 RLA is 14.1 amps and LRA is 105 amps.
460-3-60: Compressor no. 2 RLA is 7.1 amps and LRA is 55 amps.
575-3-60: Compressor no. 2 RLA is 6.4 amps and LRA is 40 amps.

NOTES:

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
2. **Unbalanced 3-Phase Supply Voltage**
   Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.
   % Voltage Imbalance

$$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$



Example: Supply voltage is 460-3-60.
AB = 452 v
BC = 464 v
AC = 455 v

$$\text{Average Voltage} = \frac{452 + 464 + 455}{3}$$

$$= \frac{1371}{3}$$

$$= 457$$

Determine maximum deviation from average voltage.
(AB) 457 – 452 = 5 v
(BC) 464 – 457 = 7 v
(AC) 457 – 455 = 2 v
Maximum deviation is 7 v.
Determine percent of voltage imbalance.

$$\text{\% Voltage Imbalance} = 100 \times \frac{7}{457}$$

$$= 1.53\%$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

3. For units with power exhaust: If a single power source is to be used, size wire to include power exhaust MCA and MOCP. Check MCA and MOCP when power exhaust is powered through the unit (must be in accordance with NEC and/or local codes). Determine the new MCA including the power exhaust using the following formula:

   MCA New = MCA unit only + MCA of Power Exhaust

   For example, using a 558FPX091000 unit with MCA = 40.1 and MOCP = 45, with CRPWREXH030A01 power exhaust.

   MCA New = 40.1 amps + 1.6 amps = 41.7 amps

   If the new MCA does not exceed the published MOCP, then MOCP would not change. The MOCP in this example is 45 amps, the MCA New is below 45, therefore the MOCP is acceptable. If "MCA New" is larger than the published MOCP, raise the MOCP to the next larger size. For separate power, the MOCP for the power exhaust will be 15 amps per NEC.

POWER EXHAUST PART NO.	MCA (230 v)	MCA (460 v)	MCA (575 v)	MOCP (for separate power source)
CRPWREXH021A01	N/A	0.9	N/A	15
CRPWREXH022A01	3.3	N/A	1.32	15
CRPWREXH023A01	N/A	1.8	N/A	15
CRPWREXH028A01	1.7	N/A	0.68	15
CRPWREXH029A01	N/A	1.0	N/A	15
CRPWREXH030A01	1.6	N/A	0.64	15

4. Determine heater capacity using multiplication factors table below:

HEATER RATING VOLTAGE	ACTUAL HEATER VOLTAGE										
	200	208	230	240	380	440	460	480	550	575	600
240	0.694	0.751	0.918	1.000	—	—	—	—	—	—	—
480	—	—	—	—	0.626	0.840	0.918	1.000	—	—	—
600	—	—	—	—	—	—	—	—	0.840	0.918	1.000

NOTE: The following equation converts kW of heat energy to Btuh: kW x 3.412 = Btuh.

EXAMPLE: 32.0 kW (at 240 v) heater on 208 v
= 32.0 (.751 mult factor)
= 24.0 kW capacity at 208 v

Table 2A — Electrical Data (Units Without Convenience Outlet) (558F090, 102, 120, 150) (cont)

558F UNIT SIZE	NOMINAL V-Ph-Hz	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (ea)		OFM (ea)			IFM FLA	ELECTRIC HEAT		POWER SUPPLY		DISCONNECT SIZE*	
			Min	Max	RLA	LRA	Qty	Hp	FLA		Nominal kW	FLA	MCA	MOCP†	FLA	LRA
150	208/230-3-60	Std	187	254	23.0	146.0	2	1/4	1.4	10.6	— 7.8/10.4 12.0/16.0 24.0/32.0 31.8/42.4 37.6/50.0	— 21.7/ 25.0 33.4/ 38.5 66.7/ 77.0 88.4/102.0 104.2/120.3	65.2/ 65.2 65.2/ 65.2 65.2/ 65.2 96.6/109.5 123.7/140.8 143.5/133.5	80/ 80** 80/ 80** 70/ 70** 100/110** 125/150** 150/150**	68/ 68 68/ 68 68/ 68 89/101 114/129 132/151	383/383
		Alt								15.0	— 7.8/10.4 12.0/16.0 24.0/32.0 31.8/42.4 37.6/50.0	— 21.7/ 25.0 33.4/ 38.5 66.7/ 77.0 88.4/102.0 104.2/120.3	69.6/ 69.6 69.6/ 69.6 69.6/ 69.6 102.1/115.0 129.2/146.3 149.0/139.0	80/ 80** 80/ 80** 80/ 80** 110/125** 150/150** 150/175**	73/ 73 73/ 73 73/ 73 94/106 119/135 137/156	406/406
	460-3-60	Std	414	508	10.4	73.0	2	1/4	0.7	4.8	— 16.5 27.8 33.0 41.7 50.0	— 19.8 33.4 39.7 50.2 60.1	29.6 30.8 47.8 55.6 68.7 66.1	40 40 50 60 70** 80**	31 31 44 51 63 75	192
		Alt								7.4	— 16.5 27.8 33.0 41.7 50.0	— 19.8 33.4 39.7 50.2 60.1	32.2 34.1 51.0 58.9 71.9 69.4	45 45 60 60 80** 80**	34 34 47 54 66 78	203
	575-3-60	Std	518	632	8.3	58.4	2	1/4	0.7	4.8	— 17.0 34.0 51.0	— 17.1 34.1 51.2	23.6 26.1 47.5 56.0	30 30 50 60	25 25 44 63	154
		Alt								7.4	— 17.0 34.0 51.0	— 17.1 34.1 51.2	25.7 28.7 50.1 58.6	30 35 60 70**	27 27 46 66	163

LEGEND

FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
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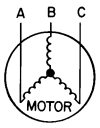
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps

*Used to determine minimum disconnect per NEC.
†Fuse or HACR circuit breaker per NEC.
**Fuse only.
††Compressor no. 1 is shown in table.
208/230-3-60: Compressor no. 2 RLA is 14.1 amps and LRA is 105 amps.
460-3-60: Compressor no. 2 RLA is 7.1 amps and LRA is 55 amps.
575-3-60: Compressor no. 2 RLA is 6.4 amps and LRA is 40 amps.

NOTES:

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
2. **Unbalanced 3-Phase Supply Voltage**
   Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.
   % Voltage Imbalance

$$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$



Example: Supply voltage is 460-3-60.
AB = 452 v
BC = 464 v
AC = 455 v

$$\text{Average Voltage} = \frac{452 + 464 + 455}{3}$$

$$= \frac{1371}{3}$$

$$= 457$$

Determine maximum deviation from average voltage.
(AB) 457 – 452 = 5 v
(BC) 464 – 457 = 7 v
(AC) 457 – 455 = 2 v
Maximum deviation is 7 v.
Determine percent of voltage imbalance.

$$\text{\% Voltage Imbalance} = 100 \times \frac{7}{457}$$

$$= 1.53\%$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

3. For units with power exhaust: If a single power source is to be used, size wire to include power exhaust MCA and MOCP. Check MCA and MOCP when power exhaust is powered through the unit (must be in accordance with NEC and/or local codes). Determine the new MCA including the power exhaust using the following formula:

   MCA New = MCA unit only + MCA of Power Exhaust

   For example, using a 558FPX091000 unit with MCA = 40.1 and MOCP = 45, with CRPWREXH030A01 power exhaust.

   MCA New = 40.1 amps + 1.6 amps = 41.7 amps

   If the new MCA does not exceed the published MOCP, then MOCP would not change. The MOCP in this example is 45 amps, the MCA New is below 45, therefore the MOCP is acceptable. If "MCA New" is larger than the published MOCP, raise the MOCP to the next larger size. For separate power, the MOCP for the power exhaust will be 15 amps per NEC.

POWER EXHAUST PART NO.	MCA (230 v)	MCA (460 v)	MCA (575 v)	MOCP (for separate power source)
CRPWREXH021A01	N/A	0.9	N/A	15
CRPWREXH022A01	3.3	N/A	1.32	15
CRPWREXH023A01	N/A	1.8	N/A	15
CRPWREXH028A01	1.7	N/A	0.68	15
CRPWREXH029A01	N/A	1.0	N/A	15
CRPWREXH030A01	1.6	N/A	0.64	15

4. Determine heater capacity using multiplication factors table below:

HEATER RATING VOLTAGE	ACTUAL HEATER VOLTAGE										
	200	208	230	240	380	440	460	480	550	575	600
240	0.694	0.751	0.918	1.000	—	—	—	—	—	—	—
480	—	—	—	—	0.626	0.840	0.918	1.000	—	—	—
600	—	—	—	—	—	—	—	—	0.840	0.918	1.000

NOTE: The following equation converts kW of heat energy to Btuh: kW x 3.412 = Btuh.

EXAMPLE: 32.0 kW (at 240 v) heater on 208 v
= 32.0 (.751 mult factor)
= 24.0 kW capacity at 208 v

Table 2B — Electrical Data (Units Without Convenience Outlet) (558F091, 103, 121, 151)

558F UNIT SIZE	NOMINAL V-PH-Hz	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (ea)			OFM (ea)			IFM FLA	HEATER MODEL NO. CRHEATER---A00	ELECTRIC HEAT		POWER SUPPLY		DISCONNECT SIZE*		SINGLE POINT BOX P/N CRSINGLE---A00
			Min	Max	Qty	RLA	LRA	Qty	Hp	FLA			Nominal kW	FLA	MCA	MOCP†	FLA	LRA	
091	208/230-3-60	STD	187	254	2	14	91	2	1/4	1.4	5.8	NONE	—/—	—/—	40.1/ 40.1	45/ 45	42/ 42	229/229	—
												017	7.8/10.4	21.7/ 25.0	40.1/ 40.1	45/ 45	42/ 42	229/229	006
												010	12.0/16.0	33.4/ 38.5	48.9/ 55.4	50/ 60	45/ 51	229/229	006
												011	18.4/24.8	51.7/ 59.7	71.9/ 81.8	80/ 90**	66/ 75	229/229	007
												012	24.0/32.0	66.7/ 77.0	90.6/103.5	100/110**	83/ 95	229/229	007
												012 and 017	31.8/42.4	88.4/102.0	117.7/134.8	125/150**	108/124	229/229	009
		ALT									5.8	NONE	—/—	—/—	40.1/ 40.1	45/ 45	42/ 42	229/229	—
												017	7.8/10.4	21.7/ 25.0	40.1/ 40.1	45/ 45	42/ 42	229/229	006
												010	12.0/16.0	33.4/ 38.5	48.9/ 55.4	50/ 60	45/ 51	229/229	006
												011	18.6/24.8	51.7/ 59.7	71.9/ 81.8	80/ 90**	66/ 75	229/229	006
												012	24.0/32.0	66.7/ 77.0	90.6/103.5	100/110**	83/ 95	229/229	007
												012 and 017	31.8/42.4	88.4/102.0	117.7/134.8	125/150**	108/124	229/229	009
		HIGH									10.6	NONE	—/—	—/—	44.9/ 44.9	50/ 50	48/ 48	273/273	—
												017	7.8/10.4	21.7/ 25.0	44.9/ 44.9	50/ 50	48/ 48	273/273	006
												010	12.0/16.0	33.4/ 38.5	54.9/ 61.4	60/ 70**	51/ 56	273/273	007
												011	18.6/24.8	51.7/ 59.7	77.9/ 87.8	80/ 90**	72/ 81	273/273	007
												012	24.0/32.0	66.7/ 77.0	96.6/109.5	100/110**	89/101	273/273	007
												012 and 017	32.3/42.4	88.4/102.0	123.7/140.8	125/150**	114/129	273/273	009
	460-3-60	STD	414	508	2	6.4	42	2	1/4	0.7	2.6	NONE	—	—	18.4	20	19	108	—
												016	13.9	16.7	24.1	25	22	108	006
												013	16.5	19.8	28.1	30	26	108	006
												014	27.8	33.4	45.0	50	41	108	006
												015	33.0	39.7	52.9	60	49	108	006
												014 and 016	41.7	50.2	65.9	70**	61	108	008
		ALT									2.6	NONE	—	—	18.4	20	19	108	—
												016	13.9	16.7	24.1	25	22	108	006
												013	16.5	19.8	28.1	30	26	108	006
												014	27.8	33.4	45.0	50	41	108	006
												015	33.0	39.7	52.9	60	49	108	006
												014 and 016	41.7	50.2	65.9	70**	61	108	008
		HIGH									4.8	NONE	—	—	20.6	25	22	130	—
												016	13.9	16.7	26.9	30	25	130	006
												013	16.5	19.8	30.8	35	28	130	006
												014	27.8	33.4	47.8	50	44	130	006
												015	33.0	39.7	55.6	60	51	130	006
												014 and 016	41.7	50.2	68.7	70**	63	110	008
	575-3-60	STD	518	632	2	5.2	39	2	1/4	0.7	2.6	NONE	—	—	14.9	20	16	97	—
												018	17.0	17.1	23.9	25	22	97	006
												019	34.0	34.1	45.3	40	42	97	006
		ALT									2.6	NONE	—	—	14.9	20	16	97	—
												018	17.0	17.1	23.9	25	22	97	006
												019	34.0	34.1	45.3	40	42	97	006
		HIGH									4.8	NONE	—	—	16.7	20	18	114	—
												018	17.0	17.1	26.1	30	24	114	006
												019	34.0	34.1	47.5	45	44	114	006

LEGEND

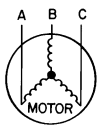
FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps

*Used to determine minimum disconnect per NEC.
†Fuse or HACR circuit breaker per NEC.
**Fuse only.
††Compressor no. 1 is shown in table.
208/230-3-60: Compressor no. 2 RLA is 14.1 amps and LRA is 105 amps.
460-3-60: Compressor no. 2 RLA is 7.1 amps and LRA is 55 amps.
575-3-60: Compressor no. 2 RLA is 6.4 amps and LRA is 40 amps.

NOTES:

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
2. **Unbalanced 3-Phase Supply Voltage**
   Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.
   % Voltage Imbalance

$$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$



Example: Supply voltage is 460-3-60.
AB = 452 v
BC = 464 v
AC = 455 v

$$\text{Average Voltage} = \frac{452 + 464 + 455}{3}$$

$$= \frac{1371}{3}$$

$$= 457$$

Determine maximum deviation from average voltage.
(AB) 457 – 452 = 5 v
(BC) 464 – 457 = 7 v
(AC) 457 – 455 = 2 v
Maximum deviation is 7 v.
Determine percent of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{7}{457}$$

$$= 1.53\%$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

3. For units with power exhaust: If a single power source is to be used, size wire to include power exhaust MCA and MOCP. Check MCA and MOCP when power exhaust is powered through the unit (must be in accordance with NEC and/or local codes). Determine the new MCA including the power exhaust using the following formula:
   MCA New = MCA unit only + MCA of Power Exhaust
   For example, using a 558FPX091000 unit with MCA = 40.1 and MOCP = 45, with CRPWREXH030A01 power exhaust.
   MCA New = 40.1 amps + 1.6 amps = 41.7 amps
   If the new MCA does not exceed the published MOCP, then MOCP would not change. The MOCP in this example is 45 amps, the MCA New is below 45, therefore the MOCP is acceptable. If "MCA New" is larger than the published MOCP, raise the MOCP to the next larger size. For separate power, the MOCP for the power exhaust will be 15 amps per NEC.

POWER EXHAUST PART NO.	MCA (230 v)	MCA (460 v)	MCA (575 v)	MOCP (for separate power source)
CRPWREXH021A01	N/A	0.9	N/A	15
CRPWREXH022A01	3.3	N/A	1.32	15
CRPWREXH023A01	N/A	1.8	N/A	15
CRPWREXH028A01	1.7	N/A	0.68	15
CRPWREXH029A01	N/A	1.0	N/A	15
CRPWREXH030A01	1.6	N/A	0.64	15

4. Determine heater capacity using multiplication factors table below:

HEATER RATING VOLTAGE	ACTUAL HEATER VOLTAGE										
	200	208	230	240	380	440	460	480	550	575	600
240	0.694	0.751	0.918	1.000	—	—	—	—	—	—	—
480	—	—	—	—	0.626	0.840	0.918	1.000	—	—	—
600	—	—	—	—	—	—	—	—	0.840	0.918	1.000

NOTE: The following equation converts kW of heat energy to Btuh: kW x 3.412 = Btuh.

EXAMPLE: 32.0 kW (at 240 v) heater on 208 v
= 32.0 (.751 mult factor)
= 24.0 kW capacity at 208 v

Table 2B — Electrical Data (Units Without Convenience Outlet) (558F091, 103, 121, 151) (cont)

558F UNIT SIZE	NOMINAL V-PH-Hz	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (ea)			OFM (ea)			IFM FLA	HEATER MODEL NO. CRHEATER---A00	ELECTRIC HEAT		POWER SUPPLY		DISCONNECT SIZE*		SINGLE POINT BOX P/N CRSINGLE---A00
			Min	Max	Qty	RLA	LRA	Qty	Hp	FLA			Nominal kW	FLA	MCA	MOCP†	FLA	LRA	
103	208/230-3-60	STD	187	254	2	17.3††	120††	2	1/4	1.4	5.8	NONE	—/—	—/—	44.3/ 44.3	50/ 50	46/ 46	272/272	—
												017	7.8/10.4	21.7/ 25.0	44.3/ 44.3	50/ 50	46/ 46	272/272	006
												010	12.0/16.0	33.4/ 38.5	48.9/ 55.4	50/ 60	46/ 51	272/272	006
												011	18.6/24.8	51.7/ 59.7	71.9/ 81.8	80/ 90**	66/ 75	272/272	007
												012	24.0/32.0	66.7/ 77.0	90.6/103.5	100/110**	83/ 95	272/272	007
												012 and 017	31.8/42.4	88.4/102.0	117.7/134.8	125/150**	108/124	272/272	009
		HIGH									10.6	NONE	—/—	—/—	49.1/ 49.1	60/ 60	52/ 52	316/316	—
												017	7.8/10.4	21.7/ 25.0	49.1/ 49.1	60/ 60	52/ 52	316/316	006
												010	12.0/16.0	33.4/ 38.5	54.9/ 61.4	60/ 70**	52/ 56	316/316	007
												011	18.6/24.8	51.7/ 59.7	77.9/ 87.8	80/ 90**	72/ 81	316/316	007
												012	24.0/32.0	66.7/ 77.0	96.6/109.5	100/110**	89/101	316/316	007
												012 and 017	31.8/42.4	88.4/102.0	123.7/140.8	125/150**	114/129	316/316	009
	460-3-60	STD	414	508	2	7.9††	70††	2	1/4	0.7	2.6	NONE	—	—	21.0	25	22	149	—
												016	13.9	16.7	24.1	25	22	149	006
												013	16.5	19.8	28.1	30	26	149	006
												014	27.8	33.4	45.0	50	41	149	006
												015	33.0	39.7	52.9	60	49	149	006
												014 and 016	41.7	50.2	65.9	70**	61	149	008
		HIGH									4.8	NONE	—	—	23.2	30	24	171	—
												016	13.9	16.7	26.9	30	25	171	006
												013	16.5	19.8	30.8	35	28	171	006
												014	27.8	33.4	47.8	50	44	171	006
												015	33.0	39.7	55.6	60	51	171	006
												014 and 016	41.7	50.2	68.7	70**	63	171	008
	575-3-60	STD	518	632	2	5.5††	50††	2	1/4	0.7	2.6	NONE	—	—	16.7	20	17	109	—
												018	17.0	17.1	23.9	25	22	109	006
												019	34.0	34.1	45.3	40	42	109	006
		HIGH									4.8	NONE	—	—	18.5	25	19	126	—
												018	17.0	17.1	26.1	30	24	126	006
												019	34.0	34.1	47.5	45	44	126	006
121	208/230-3-60	STD	187	254	2	16	125	2	1/4	1.4	5.8	NONE	—/—	—/—	44.6/ 44.6	50/ 50	47/ 47	297/297	—
												017	7.8/10.4	21.7/ 25.0	44.6/ 44.6	50/ 50	47/ 47	297/297	011
												010	12.0/16.0	33.4/ 38.5	48.9/ 55.4	50/ 60	47/ 51	297/297	011
												012	24.0/32.0	66.7/ 77.0	90.6/103.5	100/110**	83/ 95	297/297	012
												012 and 017	31.8/42.4	88.4/102.0	117.7/134.8	125/150**	108/124	297/297	015
												010 and 012	37.6/50.0	104.2/120.3	137.5/157.6	150/175**	127/145	297/297	015
		ALT									7.5	NONE	—/—	—/—	46.3/ 46.3	60/ 60	49/ 49	316/316	—
												017	7.8/10.4	21.7/ 25.0	46.3/ 46.3	60/ 60	49/ 49	316/316	011
												010	12.0/16.0	33.4/ 38.5	51.1/ 57.5	60/ 60	49/ 53	316/316	011
												012	24.0/32.0	66.7/ 77.0	92.8/105.6	100/110**	85/ 97	316/316	012
												012 and 017	31.8/42.4	88.4/102.0	119.9/136.9	125/150**	110/126	316/316	015
												010 and 012	37.6/50.0	104.2/120.3	139.7/159.7	150/175**	128/147	316/316	015
		HIGH									15	NONE	—/—	—/—	53.8/ 53.8	60/ 60	57/ 57	364/364	—
												017	7.8/10.4	21.7/ 25.0	53.8/ 53.8	60/ 60	57/ 57	364/364	011
												010	12.0/16.0	33.4/ 38.5	60.4/ 66.9	70/ 80**	57/ 62	364/364	012
												012	22.9/32.0	66.7/ 77.0	102.1/115.0	110/125**	94/106	364/364	012
												012 and 017	31.8/42.4	88.4/102.0	129.2/146.3	150/150**	119/135	364/364	015
												010 and 012	37.6/50.0	104.2/120.3	149.0/169.1	150/175**	137/156	364/364	015
	460-3-60	STD	414	508	2	8	62.5	2	1/4	0.7	2.6	NONE	—	—	22.0	25	23	149	—
												013	16.5	19.8	28.1	30	26	149	011
												014	27.8	33.4	45.0	40	41	149	011
												015	33.0	39.7	52.9	60	49	149	011
												014 and 016	41.7	50.2	65.9	70**	61	149	014
												013 and 015	50.0	60.1	78.4	80**	72	149	014
		ALT									3.4	NONE	—	—	22.8	25	24	188	—
												013	16.5	19.8	29.1	30	27	188	011
												014	27.8	33.4	46.0	45	42	188	011
												015	33.0	39.7	53.9	60	50	188	011
												014 and 016	41.7	50.2	66.9	70**	62	188	014
												013 and 015	50.0	60.1	79.4	80**	73	188	014
		HIGH									7.4	NONE	—	—	26.8	30	29	182	—
												013	16.5	19.8	34.1	40	31	182	011
												014	27.8	33.4	51.0	60	47	182	011
												015	33.0	39.7	58.9	60	54	182	011
												014 and 016	41.7	50.2	71.9	80**	66	182	014
												013 and 015	50.0	60.1	84.4	90**	78	182	014
	575-3-60	STD	518	632	2	6.3	50	2	1/4	0.7	2.6	NONE	—	—	17.4	20	18	119	—
												018	17.0	17.1	23.9	25	22	119	011
												019	34.0	34.1	45.3	40	42	119	011
												018 and 019	51.0	51.2	66.6	70**	61	119	014
		ALT									3.4	NONE	—	—	18.0	20	19	151	—
												018	17.0	17.1	24.7	25	23	151	011
												019	34.0	34.1	46.1	45	42	151	011
												018 and 019	51.0	51.2	67.4	70**	62	151	014
		HIGH									7.4	NONE	—	—	21.2	25	23	146	—
												018	17.0	17.1	28.7	35	26	146	011
												019	34.0	34.1	50.1	50	46	146	011
												018 and 019	51.0	51.2	71.4	80**	66	146	014

Table 2B — Electrical Data (Units Without Convenience Outlet) (558F091, 103, 121, 151) (cont)

558F UNIT SIZE	NOMINAL V-PH-Hz	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (ea)			OFM (ea)			IFM FLA	HEATER MODEL NO. CRHEATER---A00	ELECTRIC HEAT		POWER SUPPLY		DISCONNECT SIZE*		SINGLE POINT BOX P/N CRSINGLE---A00
			Min	Max	Qty	RLA	LRA	Qty	Hp	FLA			Nominal kW	FLA	MCA	MOCP†	FLA	LRA	
151	208/230-3-60	STD	187	254	2	19	156	2	1/4	1.4	10.6	NONE	—/—	—/—	56.2/ 56.2	70/ 70**	59/ 59	359/359	—
												017	7.8/10.4	21.7/ 25.0	56.2/ 56.2	70/ 70**	59/ 59	359/359	012
												010	12.0/16.0	33.4/ 38.5	56.2/ 61.4	70/ 70**	59/ 59	359/359	012
												012	24.0/32.0	66.7/ 77.0	96.6/109.5	100/110**	89/101	359/359	012
												012 and 017	31.8/42.4	88.4/102.0	123.7/140.8	125/150**	114/129	359/359	015
												010 and 012	37.6/50.0	104.2/120.3	143.5/163.6	150/175**	132/151	359/359	015
		ALT									15	NONE	—/—	—/—	60.6/ 60.6	70/ 70**	64/ 64	378/378	—
												017	7.8/10.4	21.7/ 25.0	60.6/ 60.6	70/ 70**	64/ 64	378/378	012
												010	12.0/16.0	33.4/ 38.5	60.6/ 66.9	70/ 80**	64/ 64	378/378	012
												012	24.0/32.0	66.7/ 77.0	102.1/115.0	110/125**	94/106	378/378	012
												012 and 017	31.8/42.4	88.4/102.0	129.2/146.3	150/150**	119/135	378/378	015
												010 and 012	37.6/50.0	104.2/120.3	149.0/169.1	150/175**	137/156	378/378	015
	460-3-60	STD	414	508	2	9	75	2	1/4	0.7	4.8	NONE	—	—	26.5	30	28	174	—
												013	16.5	19.8	30.8	35	28	174	011
												014	27.8	33.4	47.8	45	44	174	011
												015	33.0	39.7	55.6	60	51	174	011
												014 and 016	41.7	50.2	68.7	70**	63	174	014
												013 and 015	50.0	60.1	81.2	90**	75	174	014
		ALT									7.4	NONE	—	—	29.1	35	31	213	—
												013	16.5	19.8	34.1	40	31	213	011
												014	27.8	33.4	51.0	60	47	213	011
												015	33.0	39.7	58.9	60	54	213	011
												014 and 016	41.7	50.2	71.9	80**	66	213	014
												013 and 015	50.0	60.1	84.4	90**	78	213	014
	575-3-60	STD	518	632	2	7.4	54	2	1/4	0.7	4.8	NONE	—	—	21.6	25	23	127	—
												018	17.0	17.1	26.1	30	24	127	011
												019	34.0	34.1	47.5	45	44	127	011
												018 and 019	51.0	51.2	68.8	70**	63	127	014
		ALT									7.4	NONE	—	—	23.7	30	25	159	—
												018	17.0	17.1	28.7	35	26	159	011
												019	34.0	34.1	50.1	50	46	159	011
												018 and 019	51.0	51.2	71.4	80**	66	159	014

LEGEND

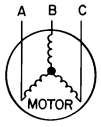
FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps

*Used to determine minimum disconnect per NEC.
†Fuse or HACR circuit breaker per NEC.
**Fuse only.
††Compressor no. 1 is shown in table.
208/230-3-60: Compressor no. 2 RLA is 14.1 amps and LRA is 105 amps.
460-3-60: Compressor no. 2 RLA is 7.1 amps and LRA is 55 amps.
575-3-60: Compressor no. 2 RLA is 6.4 amps and LRA is 40 amps.

NOTES:

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
2. **Unbalanced 3-Phase Supply Voltage**
Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$



Example: Supply voltage is 460-3-60.
AB = 452 v
BC = 464 v
AC = 455 v

$$\text{Average Voltage} = \frac{452 + 464 + 455}{3}$$

$$= \frac{1371}{3}$$

$$= 457$$

Determine maximum deviation from average voltage.
(AB) 457 – 452 = 5 v
(BC) 464 – 457 = 7 v
(AC) 457 – 455 = 2 v
Maximum deviation is 7 v.
Determine percent of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{7}{457}$$

$$= 1.53\%$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

3. For units with power exhaust: If a single power source is to be used, size wire to include power exhaust MCA and MOCP. Check MCA and MOCP when power exhaust is powered through the unit (must be in accordance with NEC and/or local codes). Determine the new MCA including the power exhaust using the following formula:
MCA New = MCA unit only + MCA of Power Exhaust
For example, using a 558FPX091000 unit with MCA = 40.1 and MOCP = 45, with CRPWREXH030A01 power exhaust.
MCA New = 40.1 amps + 1.6 amps = 41.7 amps
If the new MCA does not exceed the published MOCP, then MOCP would not change. The MOCP in this example is 45 amps, the MCA New is below 45, therefore the MOCP is acceptable. If "MCA New" is larger than the published MOCP, raise the MOCP to the next larger size. For separate power, the MOCP for the power exhaust will be 15 amps per NEC.

POWER EXHAUST PART NO.	MCA (230 v)	MCA (460 v)	MCA (575 v)	MOCP (for separate power source)
CRPWREXH021A01	N/A	0.9	N/A	15
CRPWREXH022A01	3.3	N/A	1.32	15
CRPWREXH023A01	N/A	1.8	N/A	15
CRPWREXH028A01	1.7	N/A	0.68	15
CRPWREXH029A01	N/A	1.0	N/A	15
CRPWREXH030A01	1.6	N/A	0.64	15

4. Determine heater capacity using multiplication factors table below:

HEATER RATING VOLTAGE	ACTUAL HEATER VOLTAGE										
	200	208	230	240	380	440	460	480	550	575	600
240	0.694	0.751	0.918	1.000	—	—	—	—	—	—	—
480	—	—	—	—	0.626	0.840	0.918	1.000	—	—	—
600	—	—	—	—	—	—	—	—	0.840	0.918	1.000

NOTE: The following equation converts kW of heat energy to Btuh: kW x 3.412 = Btuh.

EXAMPLE: 32.0 kW (at 240 v) heater on 208 v
= 32.0 (.751 mult factor)
= 24.0 kW capacity at 208 v

Table 2C — Electrical Data (Units With Convenience Outlet) (558F090, 102, 120, 150)

558F UNIT SIZE	NOMINAL V-Ph-Hz	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (ea)		OFM (ea)			IFM FLA	ELECTRIC HEAT		POWER SUPPLY		DISCONNECT SIZE*	
			Min	Max	RLA	LRA	Qty	Hp	FLA		Nominal kW	FLA	MCA	MOCP†	FLA	LRA
090	208/230-3-60	Std and Alt	187	254	14.0	91.0	2	1/4	1.4	5.8	— 7.8/10.4 12.0/16.0 18.6/24.8 24.0/32.0 31.8/42.4	— 21.7/ 25.0 33.4/ 38.5 51.7/ 59.7 66.7/ 77.0 88.4/102.0	46.1/ 46.1 46.1/ 46.1 53.9/ 60.4 76.9/ 86.8 95.6/108.5 122.7/139.8	50/ 50 50/ 50 60/ 70** 80/ 90** 100/110** 125/150**	48/ 48 48/ 48 51/ 56 72/ 81 89/101 114/130	233/233
		High								10.6	— 7.8/10.4 12.0/16.0 18.6/24.8 24.0/32.0 31.8/42.4	— 21.7/ 25.0 33.4/ 38.5 51.7/ 59.7 66.7/ 77.0 88.4/102.0	50.9/ 50.9 50.9/ 50.9 59.9/ 66.4 82.9/ 92.8 101.6/114.5 128.7/145.8	60/ 60 60/ 60 70/ 70** 90/100** 110/125** 150/150**	53/ 53 53/ 53 56/ 62 77/ 86 94/106 119/135	277/277
	460-3-60	Std and Alt	414	508	6.4	42.0	2	1/4	0.7	2.6	— 13.9 16.5 27.8 33.0 41.7	— 16.7 19.8 33.4 39.7 50.2	21.1 26.8 30.8 47.8 55.6 68.6	25 25 35 50 60 70**	22 25 28 44 51 63	110
		High								4.8	— 13.9 16.5 27.8 33.0 41.7	— 16.7 19.8 33.4 39.7 50.2	23.3 29.5 33.5 50.4 58.3 71.3	25 30 35 60 60 80**	24 27 31 46 54 66	132
	575-3-60	Std and Alt	518	632	5.2	39.0	2	1/4	0.7	2.6	— 17.0 34.0	— 17.1 34.1	17.6 26.6 48.0	20 25 50	18 24 44	100
		High								4.8	— 17.0 34.0	— 17.1 34.1	19.4 28.8 50.1	25 30 60	20 26 46	117
102	208/230-3-60	Std	187	254	16.0	137.0	2	1/4	1.4	5.8	— 7.8/10.4 12.0/16.0 18.6/24.8 24.0/32.0 31.8/42.4	— 21.7/ 25.0 33.4/ 38.5 51.7/ 59.7 66.7/ 77.0 88.4/102.0	50.6/ 50.6 50.6/ 50.6 53.9/ 60.4 76.9/ 86.8 95.6/108.5 122.7/139.8	60/ 60 60/ 60 60/ 70** 80/ 90** 100/110** 125/150**	52/ 52 52/ 52 52/ 56 72/ 81 89/101 114/130	325/325
		High								10.6	— 7.8/10.4 12.0/16.0 18.6/24.8 24.0/32.0 31.9/42.4	— 21.7/ 25.0 33.4/ 38.5 51.7/ 59.7 66.7/ 77.0 88.4/102.0	55.4/ 55.4 55.4/ 55.4 59.9/ 66.4 82.9/ 92.8 101.6/114.5 128.7/145.8	60/ 60 60/ 60 70/ 70** 90/100** 110/125** 150/150**	58/ 58 58/ 58 58/ 62 77/ 86 94/106 119/135	369/369
	460-3-60	Std	414	508	8.3	69.0	2	1/4	0.7	2.6	— 13.9 16.5 27.8 33.0 41.7	— 16.7 19.8 33.4 39.7 50.2	25.4 26.8 30.8 47.7 55.6 68.6	30 30 35 50 60 70**	26 26 28 44 51 63	164
		High								4.8	— 13.9 16.5 27.8 33.0 41.7	— 16.7 19.8 33.4 39.7 50.2	27.6 29.5 33.5 50.4 58.3 71.3	30 30 35 60 60 80**	26 29 31 46 54 66	186
	575-3-60	Std	518	632	6.4	58.0	2	1/4	0.7	2.6	— 17.0 34.0	— 17.1 34.1	20.3 26.6 49.9	25 25 50	20 24 44	138
		High								4.8	— 17.0 34.0	— 17.1 34.1	22.1 28.8 50.1	25 30 60	22 26 46	155

Table 2C — Electrical Data (Units With Convenience Outlet) (558F090, 102, 120, 150) (cont)

558F UNIT SIZE	NOMINAL V-Ph-Hz	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (ea)		OFM (ea)			IFM FLA	ELECTRIC HEAT		POWER SUPPLY		DISCONNECT SIZE*	
			Min	Max	RLA	LRA	Qty	Hp	FLA		Nominal kW	FLA	MCA	MOCP†	FLA	LRA
120	208/230-3-60	Std	187	254	15.8	130.0	2	1/4	1.4	5.8	— 7.8/10.4 12.0/16.0 24.0/32.0 31.8/42.4 37.6/50.0	— 21.7/ 25.0 33.4/ 38.5 66.7/ 77.0 88.4/102.0 104.2/120.3	49.1/ 49.1 49.1/ 49.1 53.9/ 60.4 95.6/108.5 122.7/139.8 142.5/132.5	60/ 60 60/ 60 60/ 70** 100/110** 125/150** 150/150**	50/ 50 50/ 50 51/ 56 89/101 114/130 132/151	311/311
		Alt								7.5	— 7.8/10.4 12.0/16.0 24.0/32.0 31.8/42.4 37.6/50.0	— 21.7/ 25.0 33.4/ 38.5 66.7/ 77.0 88.4/102.0 104.2/120.3	50.8/ 50.8 50.8/ 50.8 56.1/ 62.5 97.8/110.6 124.9/141.9 144.7/134.7	60/ 60 60/ 60 60/ 60 100/125** 125/150** 150/150**	52/ 52 52/ 52 53/ 58 91/103 116/131 134/152	330/330
		High								15.0	— 7.8/10.4 12.0/16.0 24.0/32.0 31.8/42.4 37.6/50.0	— 21.7/ 25.0 33.4/ 38.5 66.7/ 77.0 88.4/102.0 104.2/120.3	58.3/ 58.3 58.3/ 58.3 65.4/ 71.9 107.1/120.0 134.2/151.3 154.0/144.0	70/ 70** 70/ 70** 60/ 80** 110/125** 150/175** 175/175**	61/ 61 61/ 61 61/ 67 99/111 124/140 143/161	378/378
	460-3-60	Std	414	508	7.9	64.0	2	1/4	0.7	2.6	— 16.5 27.8 33.0 41.7 50.0	— 19.8 33.4 39.7 50.2 60.1	23.7 30.7 47.8 55.5 68.6 65.6	30 30 50 60 70** 70**	24 28 44 51 63 75	154
		Alt								3.4	— 16.5 27.8 33.0 41.7 50.0	— 19.8 33.4 39.7 50.2 60.1	24.5 31.7 48.8 56.6 69.7 66.6	30 30 50 60 70** 70**	25 29 45 52 64 76	194
		High								7.4	— 16.5 27.8 33.0 41.7 50.0	— 19.8 33.4 39.7 50.2 60.1	28.5 36.7 53.8 61.5 74.6 71.6	30 35 60 70** 80** 80**	30 34 49 57 69 80	188
	575-3-60	Std	518	632	6.6	52.0	2	1/4	0.7	2.6	— 17.0 34.0 51.0	— 17.1 34.1 51.2	20.6 26.6 47.9 56.0	25 25 50 60	21 24 44 63	110
		Alt								3.4	— 17.0 34.0 51.0	— 17.1 34.1 51.2	21.2 27.4 48.8 56.8	25 30 50 60	21 25 44 64	141
		High								7.4	— 17.0 34.0 51.0	— 17.1 34.1 51.2	24.4 31.4 52.7 60.8	30 35 60 70**	25 28 48 68	136

LEGEND

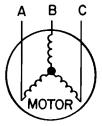
FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps

*Used to determine minimum disconnect per NEC.
†Fuse or HACR circuit breaker per NEC.
**Fuse only.
††Compressor no. 1 is shown in table.
208/230-3-60: Compressor no. 2 RLA is 14.1 amps and LRA is 105 amps.
460-3-60: Compressor no. 2 RLA is 7.1 amps and LRA is 55 amps.
575-3-60: Compressor no. 2 RLA is 6.4 amps and LRA is 40 amps.

NOTES:

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
2. **Unbalanced 3-Phase Supply Voltage**
   Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.
   % Voltage Imbalance

$$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$



Example: Supply voltage is 460-3-60.
AB = 452 v
BC = 464 v
AC = 455 v

$$\text{Average Voltage} = \frac{452 + 464 + 455}{3}$$

$$= \frac{1371}{3}$$

$$= 457$$

Determine maximum deviation from average voltage.
(AB) 457 – 452 = 5 v
(BC) 464 – 457 = 7 v
(AC) 457 – 455 = 2 v
Maximum deviation is 7 v.
Determine percent of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{7}{457}$$

$$= 1.53\%$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

3. For units with power exhaust: If a single power source is to be used, size wire to include power exhaust MCA and MOCP. Check MCA and MOCP when power exhaust is powered through the unit (must be in accordance with NEC and/or local codes). Determine the new MCA including the power exhaust using the following formula:

   MCA New = MCA unit only + MCA of Power Exhaust

   For example, using a 558FPX091000 unit with MCA = 40.1 and MOCP = 45, with CRPWREXH030A01 power exhaust.

   MCA New = 40.1 amps + 1.6 amps = 41.7 amps

   If the new MCA does not exceed the published MOCP, then MOCP would not change. The MOCP in this example is 45 amps, the MCA New is below 45, therefore the MOCP is acceptable. If "MCA New" is larger than the published MOCP, raise the MOCP to the next larger size. For separate power, the MOCP for the power exhaust will be 15 amps per NEC.

POWER EXHAUST PART NO.	MCA (230 v)	MCA (460 v)	MCA (575 v)	MOCP (for separate power source)
CRPWREXH021A01	N/A	0.9	N/A	15
CRPWREXH022A01	3.3	N/A	1.32	15
CRPWREXH023A01	N/A	1.8	N/A	15
CRPWREXH028A01	1.7	N/A	0.68	15
CRPWREXH029A01	N/A	1.0	N/A	15
CRPWREXH030A01	1.6	N/A	0.64	15

4. Determine heater capacity using multiplication factors table below:

HEATER RATING VOLTAGE	ACTUAL HEATER VOLTAGE										
	200	208	230	240	380	440	460	480	550	575	600
240	0.694	0.751	0.918	1.000	—	—	—	—	—	—	—
480	—	—	—	—	0.626	0.840	0.918	1.000	—	—	—
600	—	—	—	—	—	—	—	—	0.840	0.918	1.000

NOTE: The following equation converts kW of heat energy to Btuh: kW x 3.412 = Btuh.

EXAMPLE: 32.0 kW (at 240 v) heater on 208 v
= 32.0 (.751 mult factor)
= 24.0 kW capacity at 208 v

Table 2C — Electrical Data (Units With Convenience Outlet) (558F090, 102, 120, 150) (cont)

558F UNIT SIZE	NOMINAL V-Ph-Hz	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (ea)		OFM (ea)			IFM FLA	ELECTRIC HEAT		POWER SUPPLY		DISCONNECT SIZE*	
			Min	Max	RLA	LRA	Qty	Hp	FLA		Nominal kW	FLA	MCA	MOCP†	FLA	LRA
150	208/230-3-60	Std	187	254	23.0	146.0	2	1/4	1.4	10.6	— 7.8/10.4 12.0/16.0 24.0/32.0 31.8/42.4 37.6/50.0	— 21.7/ 25.0 33.4/ 38.5 66.7/ 77.0 88.4/102.0 104.2/120.3	71.2/ 71.2 71.2/ 71.2 71.2/ 71.2 101.6/114.5 128.7/145.8 148.5/138.5	80/ 80** 80/ 80** 80/ 80** 110/125** 150/150** 150/150**	74/ 74 74/ 74 74/ 74 94/106 119/135 138/156	387/387
		Alt								15.0	— 7.8/10.4 12.0/16.0 24.0/32.0 31.8/42.4 37.6/50.0	— 21.7/ 25.0 33.4/ 38.5 66.7/ 77.0 88.4/102.0 104.2/120.3	75.6/ 75.6 75.6/ 75.6 75.6/ 75.6 107.1/120.0 134.2/151.3 154.0/144.0	90/ 80** 90/ 80** 90/ 80** 110/125** 150/175** 175/175**	79/ 79 79/ 79 79/ 79 99/111 124/140 143/161	410/410
	460-3-60	Std	414	508	10.4	73.0	2	1/4	0.7	4.8	— 16.5 27.8 33.0 41.7 50.0	— 19.8 33.4 39.7 50.2 60.1	32.3 33.4 50.5 58.2 71.4 68.3	45 45 60 60 80** 80**	34 34 46 54 66 77	195
		Alt								7.4	— 16.5 27.8 33.0 41.7 50.0	— 19.8 33.4 39.7 50.2 60.1	34.9 36.7 53.8 61.6 74.7 71.6	45 45 60 70** 80** 80**	37 37 49 57 69 80	206
	575-3-60	Std	518	632	8.3	58.4	2	1/4	0.7	4.8	— 17.0 34.0 51.0	— 17.1 34.1 51.2	23.6 28.8 50.1 56.0	30 30 60 70**	27 27 46 65	156
		Alt								7.4	— 17.0 34.0 51.0	— 17.1 34.1 51.2	28.4 31.4 52.8 58.6	30 35 60 70**	29 29 48 68	165

LEGEND

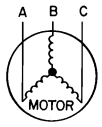
FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps

*Used to determine minimum disconnect per NEC.
†Fuse or HACR circuit breaker per NEC.
**Fuse only.
††Compressor no. 1 is shown in table.
208/230-3-60: Compressor no. 2 RLA is 14.1 amps and LRA is 105 amps.
460-3-60: Compressor no. 2 RLA is 7.1 amps and LRA is 55 amps.
575-3-60: Compressor no. 2 RLA is 6.4 amps and LRA is 40 amps.

NOTES:

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
2. **Unbalanced 3-Phase Supply Voltage**
   Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.
   % Voltage Imbalance

$$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$



Example: Supply voltage is 460-3-60.
AB = 452 v
BC = 464 v
AC = 455 v

$$\text{Average Voltage} = \frac{452 + 464 + 455}{3}$$

$$= \frac{1371}{3}$$

$$= 457$$

Determine maximum deviation from average voltage.
(AB) 457 – 452 = 5 v
(BC) 464 – 457 = 7 v
(AC) 457 – 455 = 2 v
Maximum deviation is 7 v.
Determine percent of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{7}{457}$$

$$= 1.53\%$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

3. For units with power exhaust: If a single power source is to be used, size wire to include power exhaust MCA and MOCP. Check MCA and MOCP when power exhaust is powered through the unit (must be in accordance with NEC and/or local codes). Determine the new MCA including the power exhaust using the following formula:

   MCA New = MCA unit only + MCA of Power Exhaust

   For example, using a 558FPX091000 unit with MCA = 40.1 and MOCP = 45, with CRPWREXH030A01 power exhaust.

   MCA New = 40.1 amps + 1.6 amps = 41.7 amps

   If the new MCA does not exceed the published MOCP, then MOCP would not change. The MOCP in this example is 45 amps, the MCA New is below 45, therefore the MOCP is acceptable. If "MCA New" is larger than the published MOCP, raise the MOCP to the next larger size. For separate power, the MOCP for the power exhaust will be 15 amps per NEC.

POWER EXHAUST PART NO.	MCA (230 v)	MCA (460 v)	MCA (575 v)	MOCP (for separate power source)
CRPWREXH021A01	N/A	0.9	N/A	15
CRPWREXH022A01	3.3	N/A	1.32	15
CRPWREXH023A01	N/A	1.8	N/A	15
CRPWREXH028A01	1.7	N/A	0.68	15
CRPWREXH029A01	N/A	1.0	N/A	15
CRPWREXH030A01	1.6	N/A	0.64	15

4. Determine heater capacity using multiplication factors table below:

HEATER RATING VOLTAGE	ACTUAL HEATER VOLTAGE										
	200	208	230	240	380	440	460	480	550	575	600
240	0.694	0.751	0.918	1.000	—	—	—	—	—	—	—
480	—	—	—	—	0.626	0.840	0.918	1.000	—	—	—
600	—	—	—	—	—	—	—	—	0.840	0.918	1.000

NOTE: The following equation converts kW of heat energy to Btuh: kW x 3.412 = Btuh.

EXAMPLE: 32.0 kW (at 240 v) heater on 208 v
= 32.0 (.751 mult factor)
= 24.0 kW capacity at 208 v

Table 2D — Electrical Data (Units With Convenience Outlet) (558F091, 103, 121, 151)

558F UNIT SIZE	NOMINAL V-PH-Hz	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (ea)			OFM (ea)			IFM FLA	HEATER MODEL NO. CRHEATER---A00	ELECTRIC HEAT		POWER SUPPLY		DISCONNECT SIZE*		SINGLE POINT BOX P/N CRSINGLE---A00
			Min	Max	Qty	RLA	LRA	Qty	Hp	FLA			Nominal kW	FLA	MCA	MOCP†	FLA	LRA	
091	208/230-3-60	STD	187	254	2	14	91	2	1/4	1.4	5.8	NONE	—/—	—/—	44.9/ 44.9	50/ 50	48/ 48	234/234	—
												017	7.8/10.4	21.7/ 25.0	44.9/ 44.9	50/ 50	48/ 48	234/234	006
												010	12.0/16.0	33.4/ 38.5	55.0/ 60.8	60/ 60	51/ 56	234/234	006
												011	18.4/24.8	51.7/ 59.7	77.9/ 87.3	80/ 90**	72/ 81	234/234	007
												012	24.0/32.0	66.7/ 77.0	96.6/108.9	100/110**	89/101	234/234	009
												012 and 017	31.8/42.4	88.4/102.0	123.7/140.2	125/150**	114/130	234/234	009
		ALT									5.8	NONE	—/—	—/—	44.9/ 44.9	50/ 50	48/ 48	234/234	—
												017	7.8/10.4	21.7/ 25.0	44.9/ 44.9	50/ 50	48/ 48	234/234	006
												010	12.0/16.0	33.4/ 38.5	55.0/ 60.8	60/ 60	51/ 56	234/234	006
												011	18.6/24.8	51.7/ 59.7	77.9/ 87.3	80/ 90**	72/ 81	234/234	007
												012	24.0/32.0	66.7/ 77.0	96.6/108.9	100/110**	89/101	234/234	007
												012 and 017	31.8/42.4	88.4/102.0	123.7/140.2	125/150**	114/130	234/234	009
		HIGH									10.6	NONE	—/—	—/—	49.7/ 49.7	60/ 60	53/ 53	277/277	—
												017	7.8/10.4	21.7/ 25.0	49.7/ 50.0	60/ 60	53/ 53	277/277	006
												010	12.0/16.0	33.4/ 38.5	61.0/ 66.8	70/ 70**	56/ 61	277/277	007
												011	18.6/24.8	51.7/ 59.7	83.9/ 93.3	90/100**	77/ 86	277/277	007
												012	24.0/32.0	66.7/ 77.0	102.6/114.9	110/125**	94/106	277/277	007
												012 and 017	32.3/42.4	88.4/102.0	129.7/146.2	150/150**	119/135	277/277	009
	460-3-60	STD	414	508	2	6.4	42	2	1/4	0.7	2.6	NONE	—	—	20.6	25	22	110	—
												016	13.9	16.7	26.9	25	25	110	006
												013	16.5	19.8	28.1	30	28	110	006
												014	27.8	33.4	47.8	50	44	110	006
												015	33.0	39.7	55.6	60	51	110	006
												014 and 016	41.7	50.2	68.7	70**	63	110	008
		ALT									2.6	NONE	—	—	20.6	25	22	110	—
												016	13.9	16.7	26.9	25	25	110	006
												013	16.5	19.8	28.1	30	28	110	006
												014	27.8	33.4	47.8	50	44	110	006
												015	33.0	39.7	55.6	60	51	110	006
												014 and 016	41.7	50.2	68.7	70**	63	110	008
		HIGH									4.8	NONE	—	—	22.8	25	24	132	—
												016	13.9	16.7	29.6	30	27	132	006
												013	16.5	19.8	30.8	35	31	132	006
												014	27.8	33.4	50.5	60	46	132	006
												015	33.0	39.7	58.3	60	54	132	006
												014 and 016	41.7	50.2	71.4	80**	66	132	008
	575-3-60	STD	518	632	2	5.2	39	2	1/4	0.7	2.6	NONE	—	—	16.6	20	18	99	—
												018	17.0	17.1	26.1	25	24	99	006
												019	34.0	34.1	47.4	45	44	99	006
		ALT									2.6	NONE	—	—	16.6	20	18	99	—
												018	17.0	17.1	26.1	25	24	99	006
												019	34.0	34.1	47.4	45	44	99	006
		HIGH									4.8	NONE	—	—	18.4	20	20	116	—
												018	17.0	17.1	28.3	30	26	116	006
												019	34.0	34.1	49.6	45	46	116	006

LEGEND

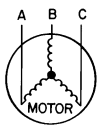
FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps

*Used to determine minimum disconnect per NEC.
†Fuse or HACR circuit breaker per NEC.
**Fuse only.
††Compressor no. 1 is shown in table.
208/230-3-60: Compressor no. 2 RLA is 14.1 amps and LRA is 105 amps.
460-3-60: Compressor no. 2 RLA is 7.1 amps and LRA is 55 amps.
575-3-60: Compressor no. 2 RLA is 6.4 amps and LRA is 40 amps.

NOTES:

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
2. **Unbalanced 3-Phase Supply Voltage**
   Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.
   % Voltage Imbalance

$$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$



Example: Supply voltage is 460-3-60.
AB = 452 v
BC = 464 v
AC = 455 v

$$\text{Average Voltage} = \frac{452 + 464 + 455}{3}$$

$$= \frac{1371}{3}$$

$$= 457$$

Determine maximum deviation from average voltage.
(AB) 457 – 452 = 5 v
(BC) 464 – 457 = 7 v
(AC) 457 – 455 = 2 v
Maximum deviation is 7 v.
Determine percent of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{7}{457}$$

$$= 1.53\%$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

3. For units with power exhaust: If a single power source is to be used, size wire to include power exhaust MCA and MOCP. Check MCA and MOCP when power exhaust is powered through the unit (must be in accordance with NEC and/or local codes). Determine the new MCA including the power exhaust using the following formula:
   MCA New = MCA unit only + MCA of Power Exhaust
   For example, using a 558FPX091000 unit with MCA = 40.1 and MOCP = 45, with CRPWREXH030A01 power exhaust.
   MCA New = 40.1 amps + 1.6 amps = 41.7 amps
   If the new MCA does not exceed the published MOCP, then MOCP would not change. The MOCP in this example is 45 amps, the MCA New is below 45, therefore the MOCP is acceptable. If "MCA New" is larger than the published MOCP, raise the MOCP to the next larger size. For separate power, the MOCP for the power exhaust will be 15 amps per NEC.

POWER EXHAUST PART NO.	MCA (230 v)	MCA (460 v)	MCA (575 v)	MOCP (for separate power source)
CRPWREXH021A01	N/A	0.9	N/A	15
CRPWREXH022A01	3.3	N/A	1.32	15
CRPWREXH023A01	N/A	1.8	N/A	15
CRPWREXH028A01	1.7	N/A	0.68	15
CRPWREXH029A01	N/A	1.0	N/A	15
CRPWREXH030A01	1.6	N/A	0.64	15

4. Determine heater capacity using multiplication factors table below:

HEATER RATING VOLTAGE	ACTUAL HEATER VOLTAGE										
	200	208	230	240	380	440	460	480	550	575	600
240	0.694	0.751	0.918	1.000	—	—	—	—	—	—	—
480	—	—	—	—	0.626	0.840	0.918	1.000	—	—	—
600	—	—	—	—	—	—	—	—	0.840	0.918	1.000

NOTE: The following equation converts kW of heat energy to Btuh: kW x 3.412 = Btuh.

EXAMPLE: 32.0 kW (at 240 v) heater on 208 v
= 32.0 (.751 mult factor)
= 24.0 kW capacity at 208 v

Table 2D — Electrical Data (Units With Convenience Outlet) (558F091, 103, 121, 151) (cont)

558F UNIT SIZE	NOMINAL V-PH-Hz	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (ea)			OFM (ea)			IFM FLA	HEATER MODEL NO. CRHEATER---A00	ELECTRIC HEAT		POWER SUPPLY		DISCONNECT SIZE*		SINGLE POINT BOX P/N CRSINGLE---A00
			Min	Max	Qty	RLA	LRA	Qty	Hp	FLA			Nominal kW	FLA	MCA	MOCP†	FLA	LRA	
103	208/230-3-60	STD	187	254	2	17.3††	120††	2	1/4	1.4	5.8	NONE	—/—	—/—	49.1/ 49.1	60/ 60	52/ 52	277/277	—
												017	7.8/10.4	21.7/ 25.0	49.1/ 49.1	60/ 60	52/ 52	277/277	006
												010	12.0/16.0	33.4/ 38.5	55.0/ 60.8	60/ 60	52/ 56	277/277	006
												011	18.6/24.8	51.7/ 59.7	77.9/ 87.3	80/ 90**	72/ 81	277/277	007
												012	24.0/32.0	66.7/ 77.0	96.6/108.9	100/110**	89/101	277/277	007
												012 and 017	31.8/42.4	88.4/102.0	123.7/140.2	125/150**	114/130	277/277	009
		HIGH									10.6	NONE	—/—	—/—	53.9/ 53.9	60/ 60	57/ 57	320/320	—
												017	7.8/10.4	21.7/ 25.0	53.9/ 53.9	60/ 60	57/ 57	320/320	006
												010	12.0/16.0	33.4/ 38.5	61.0/ 66.8	70/ 70**	57/ 61	320/320	007
												011	18.6/24.8	51.7/ 59.7	83.9/ 93.3	90/100**	77/ 86	320/320	007
												012	24.0/32.0	66.7/ 77.0	102.6/114.9	110/125**	94/106	320/320	007
												012 and 017	31.8/42.4	88.4/102.0	129.7/146.2	150/150**	119/135	320/320	009
	460-3-60	STD	414	508	2	7.9††	70††	2	1/4	0.7	2.6	NONE	—	—	23.2	30	24	151	—
												016	13.9	16.7	26.9	30	25	151	006
												013	16.5	19.8	28.1	30	28	151	006
												014	27.8	33.4	47.8	50	44	151	006
												015	33.0	39.7	55.6	60	51	151	006
												014 and 016	41.7	50.2	68.7	70**	63	151	008
		HIGH									4.8	NONE	—	—	25.4	30	27	173	—
												016	13.9	16.7	29.6	30	27	173	006
												013	16.5	19.8	30.8	35	31	173	006
												014	27.8	33.4	50.5	60	46	173	006
												015	33.0	39.7	58.3	60	54	173	006
												014 and 016	41.7	50.2	71.4	80**	66	173	008
	575-3-60	STD	518	632	2	5.5††	50††	2	1/4	0.7	2.6	NONE	—	—	18.4	25	19	111	—
												018	17.0	17.1	26.1	25	24	111	006
												019	34.0	34.1	47.4	45	44	111	006
		HIGH									4.8	NONE	—	—	20.2	25	21	128	—
												018	17.0	17.1	28.3	30	26	128	006
												019	34.0	34.1	49.6	45	46	128	006
121	208/230-3-60	STD	187	254	2	16	125	2	1/4	1.4	5.8	NONE	—/—	—/—	49.4/ 49.4	60/ 60	52/ 52	302/302	—
												017	7.8/10.4	21.7/ 25.0	49.4/ 49.4	60/ 60	52/ 52	302/302	011
												010	12.0/16.0	33.4/ 38.5	55.0/ 60.8	60/ 60	52/ 56	302/302	011
												012	24.0/32.0	66.7/ 77.0	96.6/108.9	100/110**	89/101	302/302	012
												012 and 017	31.8/42.4	88.4/102.0	123.7/140.2	125/150**	114/130	302/302	015
												010 and 012	37.6/50.0	104.2/120.3	143.6/163.0	150/175**	132/151	302/302	015
		ALT									7.5	NONE	—/—	—/—	51.1/ 51.1	60/ 60	54/ 54	321/321	—
												017	7.8/10.4	21.7/ 25.0	51.1/ 51.1	60/ 60	54/ 54	321/321	011
												010	12.0/16.0	33.4/ 38.5	57.1/ 62.9	60/ 60	54/ 58	321/321	011
												012	24.0/32.0	66.7/ 77.0	98.8/111.0	100/125**	91/103	321/321	012
												012 and 017	31.8/42.4	88.4/102.0	125.9/142.3	150/150**	116/131	321/321	015
												010 and 012	37.6/50.0	104.2/120.3	145.7/165.2	150/175**	134/152	321/321	015
		HIGH									15	NONE	—/—	—/—	58.6/ 68.6	70/ 70**	63/ 63	369/369	—
												017	7.8/10.4	21.7/ 25.0	58.6/ 58.6	70/ 70**	63/ 63	369/369	012
												010	12.0/16.0	33.4/ 38.5	66.5/ 72.3	80/ 80**	63/ 67	369/369	012
												012	22.9/32.0	66.7/ 77.0	108.1/120.4	110/125**	99/111	369/369	012
												012 and 017	31.8/42.4	88.4/102.0	135.2/151.7	150/175**	124/140	369/369	015
												010 and 012	37.6/50.0	104.2/120.3	155.1/174.5	175/175**	143/161	369/369	015
	460-3-60	STD	414	508	2	8	62.5	2	1/4	0.7	2.6	NONE	—	—	24.2	30	26	151	—
												013	16.5	19.8	30.8	30	28	151	011
												014	27.8	33.4	45.0	40	44	151	011
												015	33.0	39.7	55.6	60	51	151	011
												014 and 016	41.7	50.2	68.7	70**	63	151	014
												013 and 015	50.0	60.1	81.1	90**	75	151	014
		ALT									3.4	NONE	—	—	25.0	30	26	190	—
												013	16.5	19.8	31.8	30	29	190	011
												014	27.8	33.4	46.0	45	45	190	011
												015	33.0	39.7	56.6	60	52	190	011
												014 and 016	41.7	50.2	69.7	70**	64	190	014
												013 and 015	50.0	60.1	82.1	90**	76	190	014
		HIGH									7.4	NONE	—	—	29.0	35	31	184	—
												013	16.5	19.8	36.8	40	34	184	011
												014	27.8	33.4	51.0	60	49	184	011
												015	33.0	39.7	61.6	70**	57	184	014
												014 and 016	41.7	50.2	74.7	80**	69	184	014
												013 and 015	50.0	60.1	87.1	90**	80	184	014
	575-3-60	STD	518	632	2	6.3	50	2	1/4	0.7	2.6	NONE	—	—	19.1	25	20	121	—
												018	17.0	17.1	26.1	25	24	121	011
												019	34.0	34.1	47.4	45	44	121	011
												018 and 019	51.0	51.2	68.8	70**	63	121	014
		ALT									3,4	NONE	—	—	19.7	25	21	152	—
												018	17.0	17.1	26.9	25	25	152	011
												019	34.0	34.1	48.2	45	44	152	011
												018 and 019	51.0	51.2	69.6	70**	64	152	014
		HIGH									7.4	NONE	—	—	22.9	25	25	148	—
												018	17.0	17.1	30.9	35	28	148	011
												019	34.0	34.1	52.2	50	48	148	011
												018 and 019	51.0	51.2	73.6	80**	68	148	014

Table 2D — Electrical Data (Units With Convenience Outlet) (558F091, 103, 121, 151) (cont)

558F UNIT SIZE	NOMINAL V-PH-Hz	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (ea)			OFM (ea)			IFM FLA	HEATER MODEL NO. CRHEATER---A00	ELECTRIC HEAT		POWER SUPPLY		DISCONNECT SIZE*		SINGLE POINT BOX P/N CRSINGLE---A00
			Min	Max	Qty	RLA	LRA	Qty	Hp	FLA			Nominal kW	FLA	MCA	MOCP†	FLA	LRA	
151	208/230-3-60	STD	187	254	2	19	156	2	1/4	1.4	10.6	NONE	—/—	—/—	61.0/ 61.0	70/ 70**	65/ 65	364/364	—
												017	7.8/10.4	21.7/ 25.0	61.0/ 61.0	70/ 70**	65/ 65	364/364	012
												010	12.0/16.0	33.4/ 38.5	61.0/ 66.8	70/ 70**	65/ 65	364/364	012
												012	24.0/32.0	66.7/ 77.0	102.6/114.9	110/125**	94/106	364/364	012
												012 and 017	31.8/42.4	88.4/102.0	129.7/146.2	150/150**	119/135	364/364	015
												010 and 012	37.6/50.0	104.2/120.3	149.6/169.0	150/175**	138/156	364/364	015
		ALT									15	NONE	—/—	—/—	65.4/ 65.4	80/ 80**	70/ 70	383/383	—
												017	7.8/10.4	21.7/ 25.0	65.4/ 65.4	80/ 80**	70/ 70	383/383	012
												010	12.0/16.0	33.4/ 38.5	66.5/ 72.3	80/ 80**	70/ 70	383/383	012
												012	24.0/32.0	66.7/ 77.0	108.1/120.4	110/125**	99/111	383/383	012
												012 and 017	31.8/42.4	88.4/102.0	135.2/151.7	150/175**	124/140	383/383	015
												010 and 012	37.6/50.0	104.2/120.3	155.1/174.5	175/175**	143/161	383/383	015
	460-3-60	STD	414	508	2	9	75	2	1/4	0.7	4.8	NONE	—	—	28.7	35	30	176	—
												013	16.5	19.8	33.5	35	31	176	011
												014	27.8	33.4	47.8	45	46	176	011
												015	33.0	39.7	58.3	60	54	176	011
												014 and 016	41.7	50.2	71.4	80**	66	176	014
												013 and 015	50.0	60.1	83.9	90**	77	176	014
		ALT									7.4	NONE	—	—	31.3	35	33	215	—
												013	16.5	19.8	36.8	40	34	215	011
												014	27.8	33.4	51.0	60	49	215	011
												015	33.0	39.7	61.6	70**	57	215	014
												014 and 016	41.7	50.2	74.7	80**	69	215	014
												013 and 015	50.0	60.1	87.1	90**	80	215	014
	575-3-60	STD	518	632	2	7.4	54	2	1/4	0.7	4.8	NONE	—	—	23.3	30	25	129	—
												018	17.0	17.1	28.3	30	26	129	011
												019	34.0	34.1	49.6	45	46	129	011
												018 and 019	51.0	51.2	71.0	80**	65	129	014
		ALT									7.4	NONE	—	—	25.4	30	27	160	—
												018	17.0	17.1	30.9	35	28	160	011
												019	34.0	34.1	52.2	50	48	160	011
												018 and 019	51.0	51.2	73.6	80**	68	160	014

LEGEND

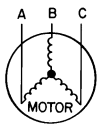
FLA — Full Load Amps
HACR — Heating, Air Conditioning and Refrigeration
IFM — Indoor (Evaporator) Fan Motor
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection
NEC — National Electrical Code
OFM — Outdoor (Condenser) Fan Motor
RLA — Rated Load Amps

*Used to determine minimum disconnect per NEC.
†Fuse or HACR circuit breaker per NEC.
**Fuse only.
††Compressor no. 1 is shown in table.
208/230-3-60: Compressor no. 2 RLA is 14.1 amps and LRA is 105 amps.
460-3-60: Compressor no. 2 RLA is 7.1 amps and LRA is 55 amps.
575-3-60: Compressor no. 2 RLA is 6.4 amps and LRA is 40 amps.

NOTES:

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
2. **Unbalanced 3-Phase Supply Voltage**
Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percent of voltage imbalance.
% Voltage Imbalance

$$= 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$



Example: Supply voltage is 460-3-60.
AB = 452 v
BC = 464 v
AC = 455 v

$$\text{Average Voltage} = \frac{452 + 464 + 455}{3}$$

$$= \frac{1371}{3}$$

$$= 457$$

Determine maximum deviation from average voltage.
(AB) 457 – 452 = 5 v
(BC) 464 – 457 = 7 v
(AC) 457 – 455 = 2 v
Maximum deviation is 7 v.
Determine percent of voltage imbalance.

$$\text{\% Voltage Imbalance} = 100 \times \frac{7}{457}$$

$$= 1.53\%$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

3. For units with power exhaust: If a single power source is to be used, size wire to include power exhaust MCA and MOCP. Check MCA and MOCP when power exhaust is powered through the unit (must be in accordance with NEC and/or local codes). Determine the new MCA including the power exhaust using the following formula:
MCA New = MCA unit only + MCA of Power Exhaust
For example, using a 558FPX091000 unit with MCA = 40.1 and MOCP = 45, with CRPWREXH030A01 power exhaust.
MCA New = 40.1 amps + 1.6 amps = 41.7 amps
If the new MCA does not exceed the published MOCP, then MOCP would not change. The MOCP in this example is 45 amps, the MCA New is below 45, therefore the MOCP is acceptable. If "MCA New" is larger than the published MOCP, raise the MOCP to the next larger size. For separate power, the MOCP for the power exhaust will be 15 amps per NEC.

POWER EXHAUST PART NO.	MCA (230 v)	MCA (460 v)	MCA (575 v)	MOCP (for separate power source)
CRPWREXH021A01	N/A	0.9	N/A	15
CRPWREXH022A01	3.3	N/A	1.32	15
CRPWREXH023A01	N/A	1.8	N/A	15
CRPWREXH028A01	1.7	N/A	0.68	15
CRPWREXH029A01	N/A	1.0	N/A	15
CRPWREXH030A01	1.6	N/A	0.64	15

4. Determine heater capacity using multiplication factors table below:

HEATER RATING VOLTAGE	ACTUAL HEATER VOLTAGE										
	200	208	230	240	380	440	460	480	550	575	600
240	0.694	0.751	0.918	1.000	—	—	—	—	—	—	—
480	—	—	—	—	0.626	0.840	0.918	1.000	—	—	—
600	—	—	—	—	—	—	—	—	0.840	0.918	1.000

NOTE: The following equation converts kW of heat energy to Btuh: kW x 3.412 = Btuh.

EXAMPLE: 32.0 kW (at 240 v) heater on 208 v
= 32.0 (.751 mult factor)
= 24.0 kW capacity at 208 v

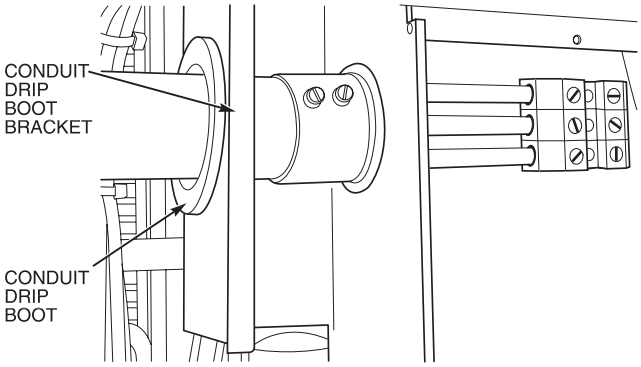
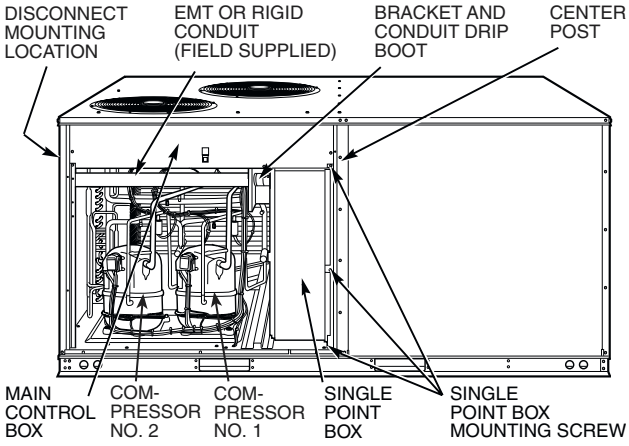


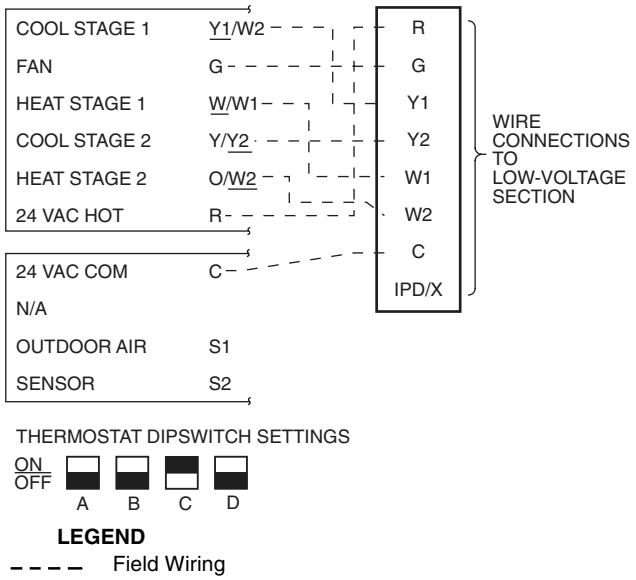
Fig. 9 — Conduit Installation



LEGEND

EMT — Electro-Metallic Tubing

Fig. 10 — Typical Component Location



LEGEND

– – – – Field Wiring

NOTE: Underlined letter indicates active thermostat output when configured for A/C operation.

Fig. 11 — Low-Voltage Connections With or Without Economizer or Two-Position Damper

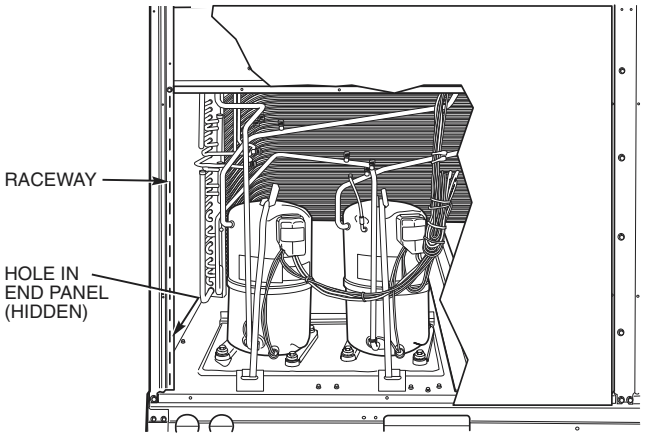


Fig. 12 — Field Control Wiring Raceway

VI. STEP 6 — ADJUST FACTORY-INSTALLED OPTIONS

A. Manual Outdoor-Air Damper

The outdoor-air hood and screen are attached to the basepan at the bottom of the unit for shipping.

Assembly:

1. Determine quantity of ventilation required for building. Record amount for use in Step 8.
2. Remove filter access panel by raising panel and swinging panel outward. Panel is now disengaged from track and can be removed. No tools are required to remove the filter access panel. Remove outdoor-air opening panel. Save panels and screws. See Fig. 13.
3. Separate hood and screen from basepan by removing the screws and brackets securing them. Save all screws and discard brackets.
4. Replace outdoor air opening panel.
5. Place hood on front of outdoor air opening panel. See Fig. 14 for hood details. Secure top of hood with the 6 screws removed in Step 3. See Fig. 15.
6. Remove and save 8 screws (4 on each side) from sides of the manual outdoor-air damper.
7. Align screw holes on hood with screw holes on side of manual outdoor-air damper. See Fig. 14 and 15. Secure hood with 8 screws from Step 6.
8. Adjust minimum position setting of the damper blade by adjusting the manual outdoor-air adjustment screws on the front of the damper blade. See Fig. 13. Slide blade vertically until it is in the appropriate position determined by Fig. 16. Tighten screws.
9. Remove and save screws currently on sides of hood. Insert screen. Secure screen to hood using the screws. See Fig. 15.
10. Replace filter access panel. Ensure filter access panel slides along the tracks and is securely engaged.

B. Convenience Outlet

An optional convenience outlet provides power for rooftop use. For maintenance personnel safety, the convenience outlet power is off when the unit disconnect is off. Adjacent unit outlets may be used for service tools. An optional “Hot Outlet” is available from the factory as a special order item.

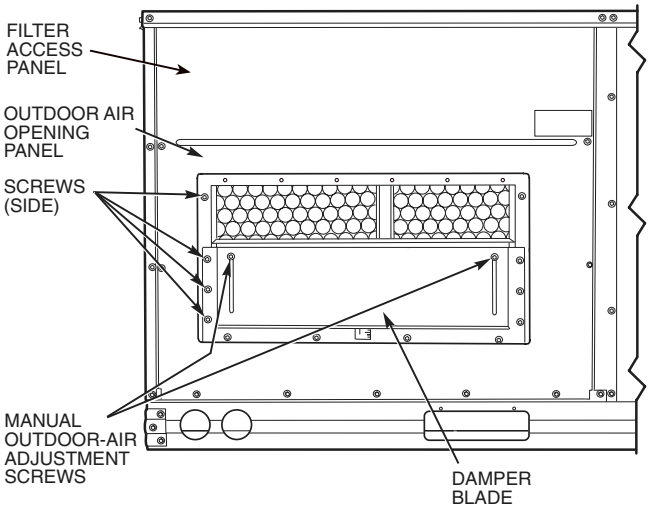


Fig. 13 — Damper Panel with Manual Outdoor-Air Damper Installed

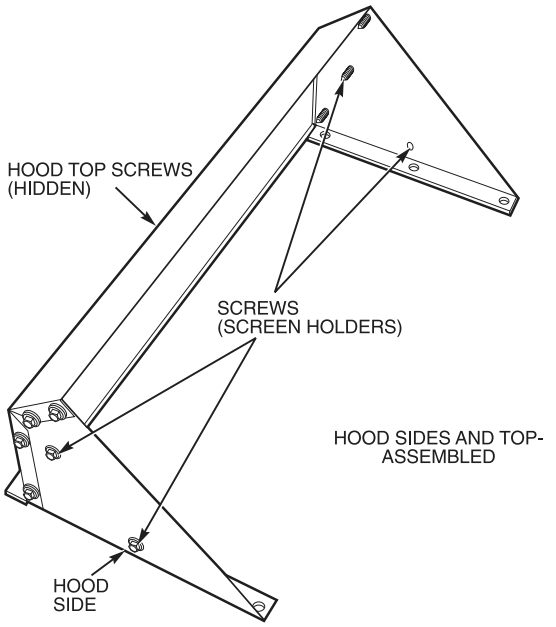


Fig. 14 — Outdoor-Air Hood Details

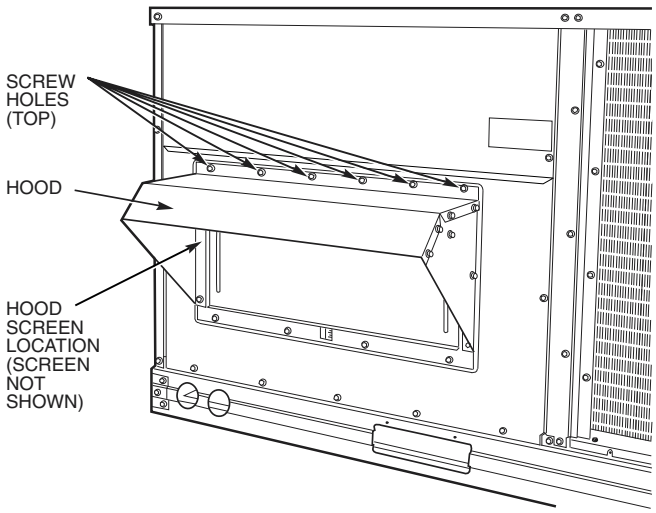


Fig. 15 — Optional Manual Outdoor-Air Damper with Hood Attached

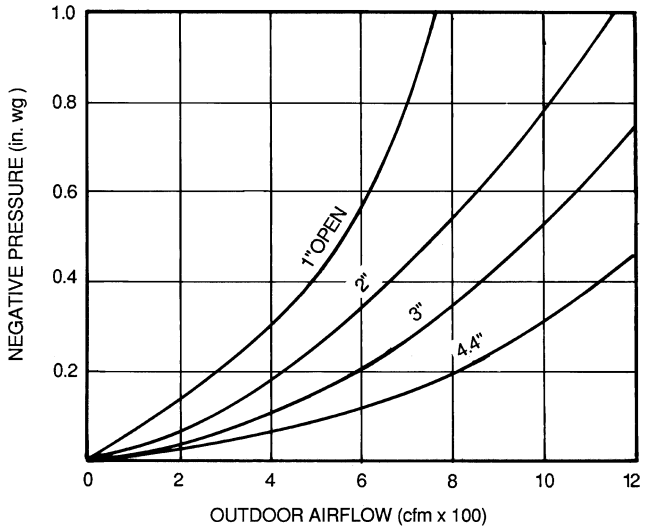


Fig. 16 — Outdoor-Air Damper Position Setting

C. Optional EconoMi$er IV

See Fig. 17 for EconoMi$er IV component locations.

NOTE: These instructions are for installing the optional EconoMi$er IV only. Refer to the accessory EconoMi$er IV installation instructions when field installing an EconoMi$er IV accessory.

1. To remove the existing unit filter access panel, raise the panel and swing the bottom outward. The panel is now disengaged from the track and can be removed. See Fig. 18.
2. The box with the economizer hood components is shipped in the compartment behind the economizer. The EconoMi$er IV controller is mounted on top of the EconoMi$er IV in the position shown in Fig. 17. To remove the component box from its shipping position, remove the screw holding the hood box bracket to the top of the economizer. Slide the hood box out of the unit. See Fig. 19.

IMPORTANT: If the power exhaust accessory is to be installed on the unit, the hood shipped with the unit will not be used and must be discarded. **Save the aluminum filter for use in the power exhaust hood assembly.**

3. The indoor coil access panel will be used as the top of the hood. Remove the screws along the sides and bottom of the indoor coil access panel. See Fig. 20.
4. Swing out indoor coil access panel and insert the hood sides under the panel (hood top). Use the screws provided to attach the hood sides to the hood top. Use screws provided to attach the hood sides to the unit. See Fig. 21.
5. Remove the shipping tape holding the economizer barometric relief damper in place.
6. Insert the hood divider between the hood sides. See Fig. 21 and 22. Secure hood divider with 2 screws on each hood side. The hood divider is also used as the bottom filter rack for the aluminum filter.
7. Open the filter clips which are located underneath the hood top. Insert the aluminum filter into the bottom filter rack (hood divider). Push the filter into position past the open filter clips. Close the filter clips to lock the filter into place. See Fig. 22.
8. Caulk the ends of the joint between the unit top panel and the hood top. See Fig. 20.

9. Replace the filter access panel.
10. Install all EconoMi$er IV accessories. EconoMi$er IV wiring is shown in Fig. 23.

Barometric flow capacity is shown in Fig. 24. Outdoor air leakage is shown in Fig. 25. Return air pressure drop is shown in Fig. 26.

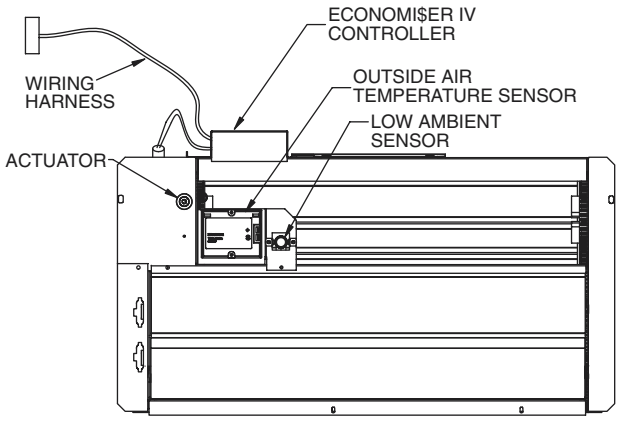


Fig. 17 — EconoMi$er IV Component Locations

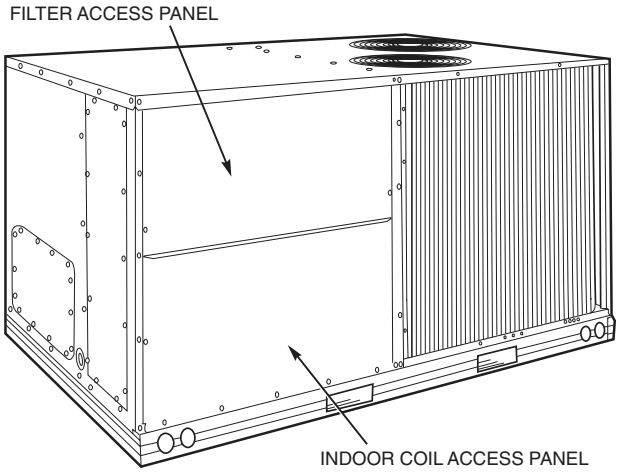


Fig. 18 — Typical Access Panel Locations

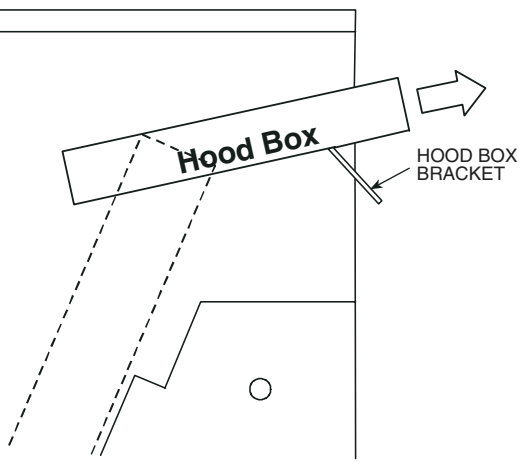


Fig. 19 — Hood Box Removal

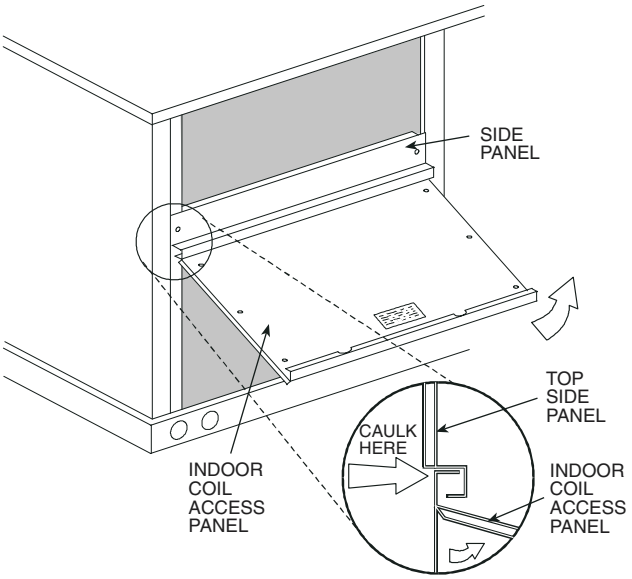


Fig. 20 — Indoor Coil Access Panel Relocation

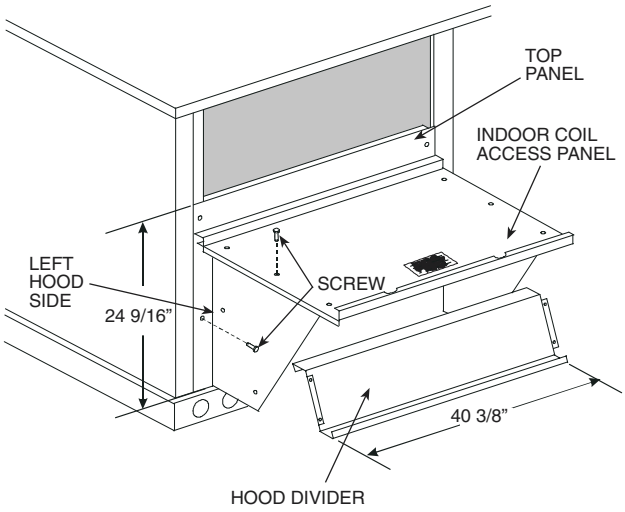


Fig. 21 — Outdoor-Air Hood Construction

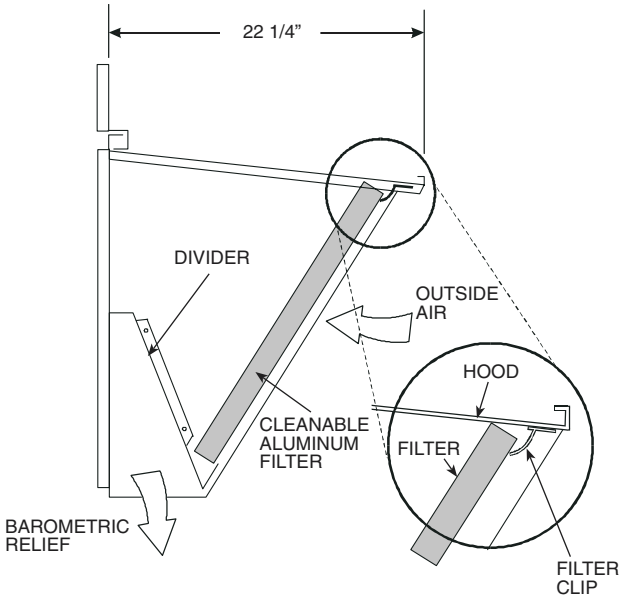
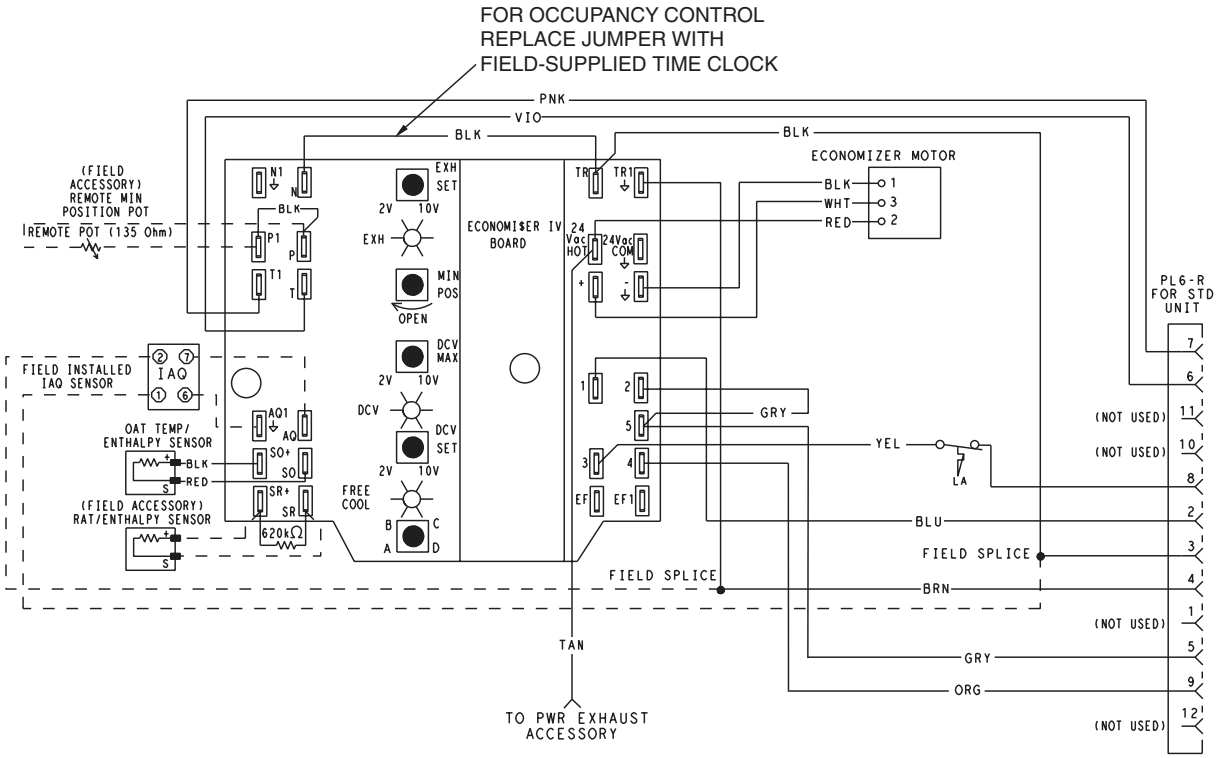


Fig. 22 — Filter Installation



LEGEND

DCV — Demand Controlled Ventilation
IAQ — Indoor Air Quality
LA — Low Ambient Lockout Device
OAT — Outdoor-Air Temperature
POT — Potentiometer
RAT — Return-Air Temperature

Potentiometer Defaults Settings:

Power Exhaust	Middle
Minimum Pos.	Fully Closed
DCV Max.	Middle
DCV Set	Middle
Enthalpy	C Setting

NOTES:
1. 620 ohm, 1 watt 5% resistor should be removed only when using differential enthalpy or dry bulb.
2. If a separate field-supplied 24 v transformer is used for the IAQ sensor power supply, it cannot have the secondary of the transformer grounded.
3. For field-installed remote minimum position POT, remove black wire jumper between P and P1 and set control minimum position POT to the minimum position.

Fig. 23 — EconoMi$er IV Wiring

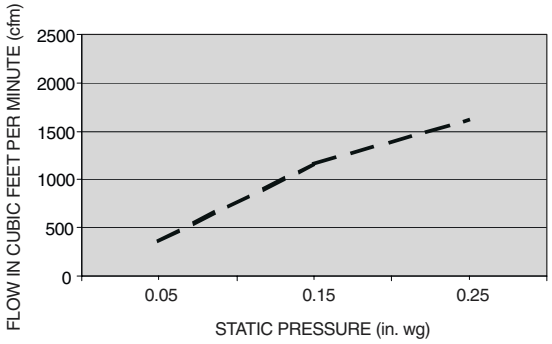


Fig. 24 — Barometric Flow Capacity

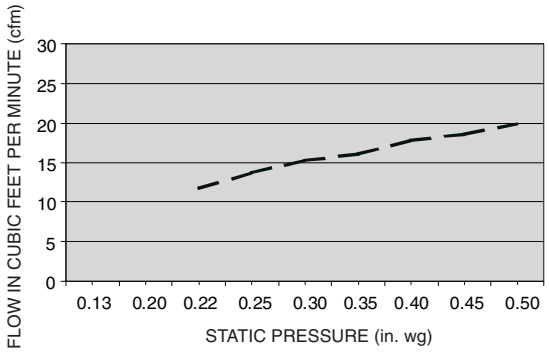


Fig. 25 — Outdoor-Air Damper Leakage

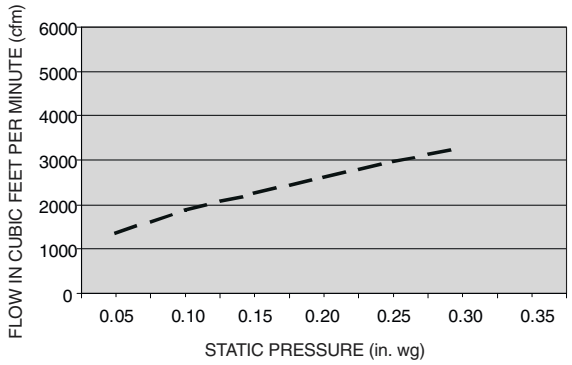


Fig. 26 — Return-Air Pressure Drop

D. EconoMi$er IV Standard Sensors

Outdoor Air Temperature (OAT) Sensor

The outdoor air temperature sensor (HH57AC074) is a 10 to 20 mA device used to measure the outdoor-air temperature. The outdoor-air temperature is used to determine when the EconoMi$er IV can be used for free cooling. The sensor is factory-installed on the EconoMi$er IV in the outdoor airstream. See Fig. 17. The operating range of temperature measurement is 40 to 100 F.

Supply Air Temperature (SAT) Sensor

The supply air temperature sensor is a 3 K thermistor located at the inlet of the indoor fan. See Fig. 27. This sensor is factory installed. The operating range of temperature measurement is 0° to 158 F. See Table 3 for sensor temperature/ resistance values.

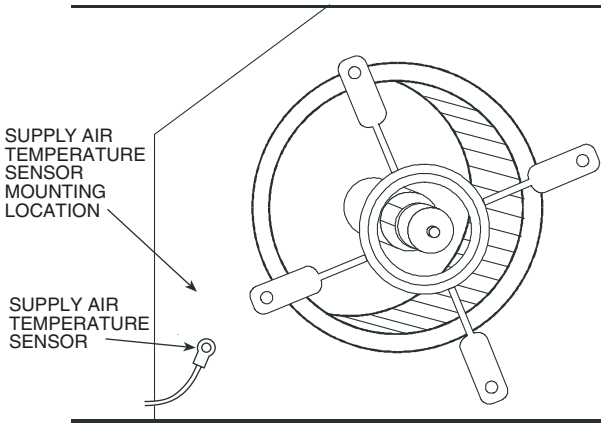


Fig. 27 — Supply Air Sensor Location

Table 3 — Supply Air Sensor Temperature/Resistance Values

TEMPERATURE (F)	RESISTANCE (ohms)
–58	200,250
–40	100,680
–22	53,010
–4	29,091
14	16,590
32	9,795
50	5,970
68	3,747
77	3,000
86	2,416
104	1,597
122	1,080
140	746
158	525
176	376
185	321
194	274
212	203
230	153
248	116
257	102
266	89
284	70
302	55

The temperature sensor looks like an eyelet terminal with wires running to it. The sensor is located in the "crimp end" and is sealed from moisture.

Outdoor Air Lockout Sensor

The EconoMi$er IV is equipped with an ambient temperature lockout switch located in the outdoor air stream which is used to lockout the compressors below a 42 F ambient temperature. See Fig. 17.

E. EconoMi$er IV Control Modes

Determine the EconoMi$er IV control mode before set up of the control. Some modes of operation may require different sensors. Refer to Table 4. The EconoMi$er IV is supplied from the factory with a supply air temperature sensor and an outdoor air temperature sensor. This allows for operation of the EconoMi$er IV with outdoor air dry bulb changeover control. Additional accessories can be added to allow for different types of changeover control and operation of the EconoMi$er IV and unit.

Outdoor Dry Bulb Changeover

The standard controller is shipped from the factory configured for outdoor dry bulb changeover control. The outdoor air and supply air temperature sensors are included as standard. For this control mode, the outdoor temperature is compared to an adjustable set point selected on the control. If the outdoor-air temperature is above the set point, the EconoMi$er IV will adjust the outdoor-air dampers to minimum position. If the outdoor-air temperature is below the set point, the position of the outdoor-air dampers will be controlled to provide free cooling using outdoor air. When in this mode, the LED next to the free cooling set point potentiometer will be on. The changeover temperature set point is controlled by the free cooling set point potentiometer located on the control. See Fig. 28. The scale on the potentiometer is A, B, C, and D. See Fig. 29 for the corresponding temperature changeover values.

Table 4 — EconoMi$er IV Sensor Usage

APPLICATION	ECONOMI$ER IV WITH OUTDOOR AIR DRY BULB SENSOR		
	Accessories Required		
Outdoor Air Dry Bulb	None. The outdoor air dry bulb sensor is factory installed.		
Differential Dry Bulb	CRTEMPSN002A00*		
Single Enthalpy	HH57AC078		
Differential Enthalpy	HH57AC078 and CRENTDIF004A00*		
CO_2 for DCV Control using a Wall-Mounted CO_2 Sensor	33ZCSENCO2		
CO_2 for DCV Control using a Duct-Mounted CO_2 Sensor	33ZCSENCO2† and 33ZCASPCO2**	OR	CRCBDIOX005A00††

*CRENTDIF004A00 and CRTEMPSN002A00 accessories are used on many different base units. As such, these kits may contain parts that will not be needed for installation.
†33ZCSENCO2 is an accessory CO_2 sensor.
**33ZCASPCO2 is an accessory aspirator box required for duct-mounted applications.
††CRCBDIOX005A00 is an accessory that contains both 33ZCSENCO2 and 33ZCASPCO2 accessories.

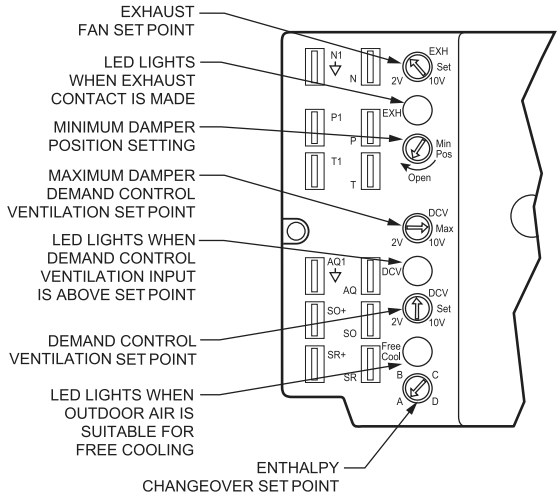


Fig. 28 — EconoMi$er IV Controller Potentiometer and LED Locations

Differential Dry Bulb Control

For differential dry bulb control the standard outdoor dry bulb sensor is used in conjunction with an additional accessory dry bulb sensor (part number CRTEMPSN002A00). The accessory sensor must be mounted in the return airstream. See Fig. 30. Wiring is provided in the EconoMi$er IV wiring harness. See Fig. 23.

In this mode of operation, the outdoor-air temperature is compared to the return-air temperature and the lower temperature airstream is used for cooling. When using this mode of changeover control, turn the enthalpy set point potentiometer fully clockwise to the D setting. See Fig. 28.

Outdoor Enthalpy Changeover

For enthalpy control, accessory enthalpy sensor (part number HH57AC078) is required. Replace the standard outdoor dry bulb temperature sensor with the accessory enthalpy sensor in the same mounting location. See Fig. 17. When the outdoor air enthalpy rises above the outdoor enthalpy changeover set point, the outdoor-air damper moves to its minimum position. The outdoor enthalpy changeover set point is set with the outdoor enthalpy set point potentiometer on the EconoMi$er IV controller. The set points are A, B, C, and D. See Fig. 31. The factory-installed 620-ohm jumper must be in place across terminals SR and SR+ on the EconoMi$er IV controller. See Fig. 17 and 32.

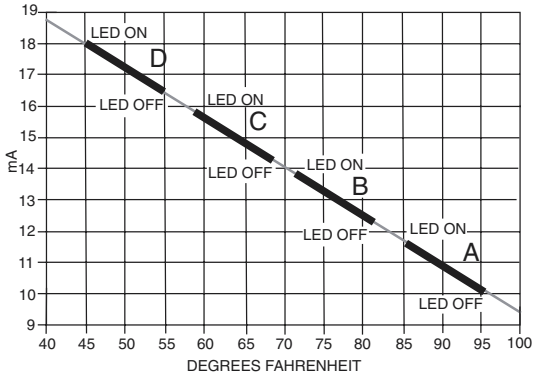


Fig. 29 — Outside Air Temperature Changeover Set Points

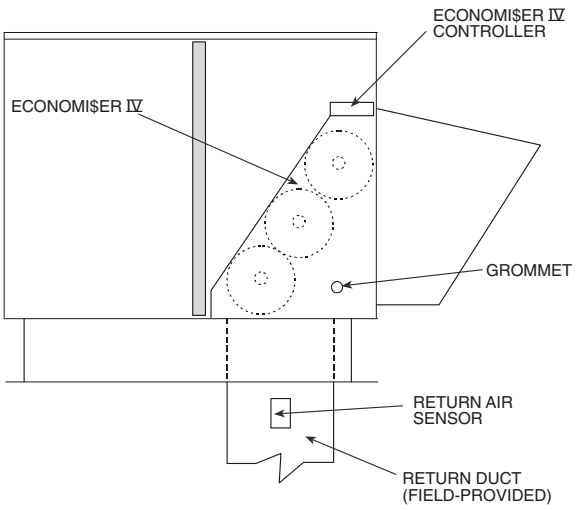


Fig. 30 — Return Air Temperature or Enthalpy Sensor Mounting Location

Differential Enthalpy Control

For differential enthalpy control, the EconoMi$er IV controller uses two enthalpy sensors (HH57AC078 and CRENTDIF004A00), one in the outside air and one in the return air duct. The EconoMi$er IV controller compares the outdoor air enthalpy to the return air enthalpy to determine EconoMi$er IV use. The controller selects the lower enthalpy air (return or outdoor) for cooling. For example, when the outdoor air has a lower enthalpy than the return air, the EconoMi$er IV opens to bring in outdoor air for free cooling.

Replace the standard outside air dry bulb temperature sensor with the accessory enthalpy sensor in the same mounting location. See Fig. 17. Mount the return air enthalpy sensor in the return air duct. See Fig. 30. Wiring is provided in the EconoMi$er IV wiring harness. See Fig. 23. The outdoor enthalpy changeover set point is set with the outdoor enthalpy set point potentiometer on the EconoMi$er IV controller. When using this mode of changeover control, turn the enthalpy set point potentiometer fully clockwise to the D setting.

Indoor Air Quality (IAQ) Sensor Input

The IAQ input can be used for demand control ventilation control based on the level of CO_2 measured in the space or return air duct.

Mount the accessory IAQ sensor according to manufacturer specifications. The IAQ sensor should be wired to the AQ and AQ1 terminals of the controller. Adjust the DCV potentiometers to correspond to the DCV voltage output of the indoor air quality sensor at the user-determined set point. See Fig. 33.

If a separate field-supplied transformer is used to power the IAQ sensor, the sensor must not be grounded or the EconoMi$er IV control board will be damaged.

Exhaust Set Point Adjustment

The exhaust set point will determine when the exhaust fan runs based on damper position (if accessory power exhaust is installed). The set point is modified with the Exhaust Fan Set Point (EXH SET) potentiometer. See Fig. 28. The set point represents the damper position above which the exhaust fans will be turned on. When there is a call for exhaust, the EconoMi$er IV controller provides a 45 ± 15 second delay before exhaust fan activation to allow the dampers to open. This delay allows the damper to reach the appropriate position to avoid unnecessary fan overload.

Minimum Position Control

There is a minimum damper position potentiometer on the EconoMi$er IV controller. See Fig. 28. The minimum damper position maintains the minimum airflow into the building during the occupied period.

When using demand ventilation, the minimum damper position represents the minimum ventilation position for VOC (volatile organic compound) ventilation requirements. The maximum demand ventilation position is used for fully occupied ventilation.

When demand ventilation control is not being used, the minimum position potentiometer should be used to set the occupied ventilation position. The maximum demand ventilation position should be turned fully clockwise.

Adjust the minimum position potentiometer to allow the minimum amount of outdoor air, as required by local codes, to enter the building. Make minimum position adjustments with at least 10 F temperature difference between the outdoor and return-air temperatures.

CONTROL CURVE	CONTROL POINT APPROX. °F (°C) AT 50% RH
A	73 (23)
B	70 (21)
C	67 (19)
D	63 (17)

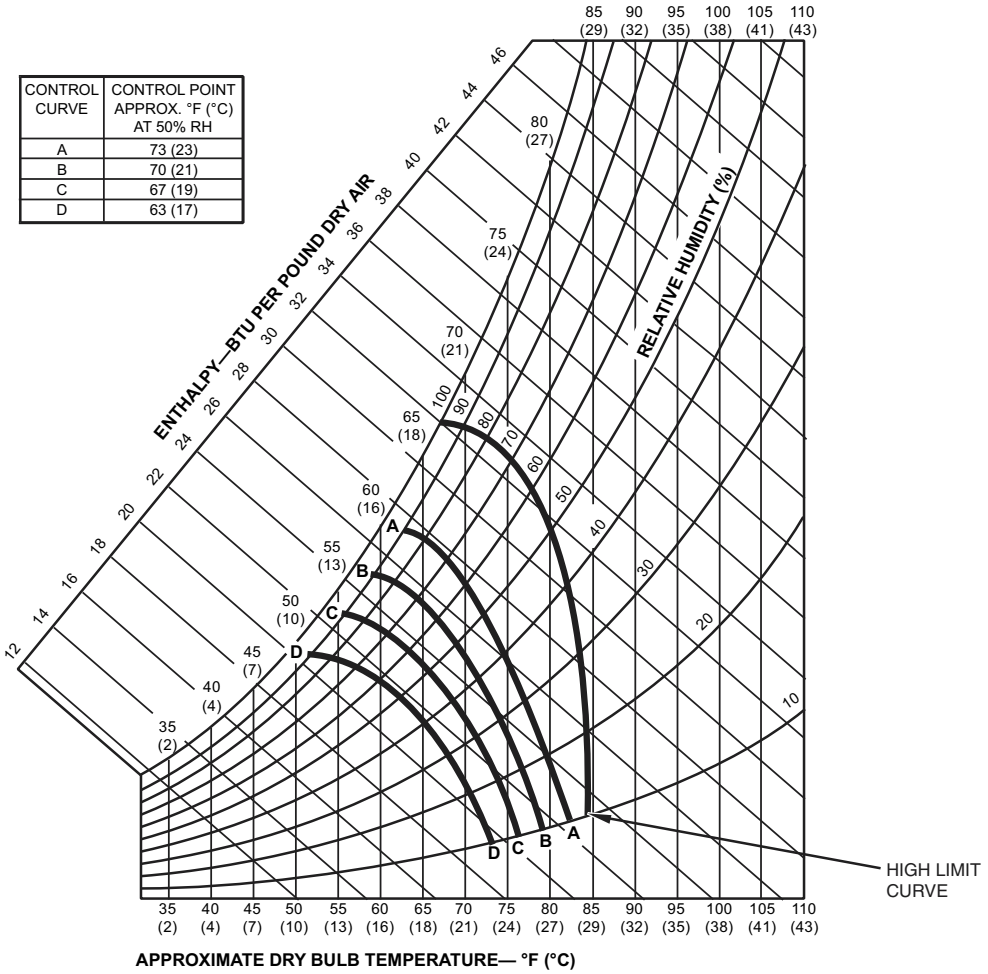


Fig. 31 — Enthalpy Changeover Set Points

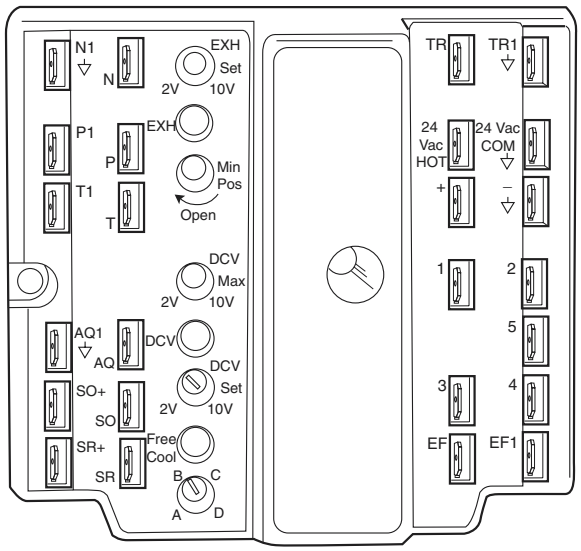


Fig. 32 — EconoMi$er IV Control

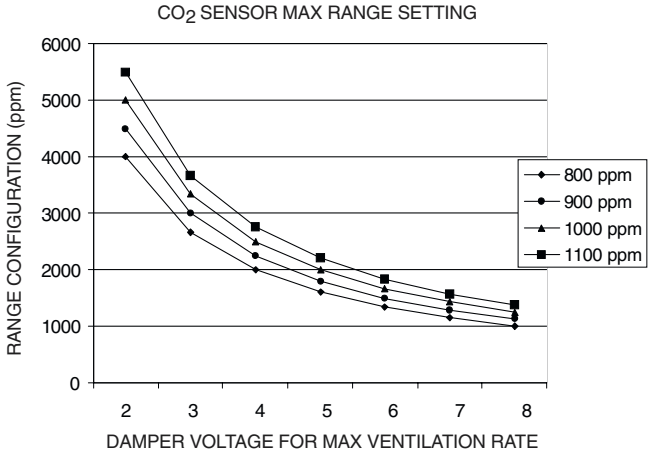


Fig. 33 — CO_2 Sensor Maximum Range Setting

To determine the minimum position setting, perform the following procedure:

1. Calculate the appropriate mixed air temperature using the following formula:

$$(T_O \times \frac{OA}{100}) + (T_R \times \frac{RA}{100}) = T_M$$

T_O = Outdoor-Air Temperature

OA = Percent of Outdoor Air

T_R = Return-Air Temperature

RA = Percent of Return Air

T_M = Mixed-Air Temperature

As an example, if local codes require 10% outdoor air during occupied conditions, outdoor-air temperature is 60 F, and return-air temperature is 75 F.

(60 x .10) + (75 x .90) = 73.5 F

2. Disconnect the supply air sensor from terminals T and T1.
3. Ensure that the factory-installed jumper is in place across terminals P and P1. If remote damper positioning is being used, make sure that the terminals are wired according to Fig. 23 and that the minimum position potentiometer is turned fully clockwise.
4. Connect 24 vac across terminals TR and TR1.
5. Carefully adjust the minimum position potentiometer until the measured mixed air temperature matches the calculated value.
6. Reconnect the supply air sensor to terminals T and T1.

Remote control of the EconoMi$er IV damper is desirable when requiring additional temporary ventilation. If a field-supplied remote potentiometer (Honeywell part number S963B1128) is wired to the EconoMi$er IV controller, the minimum position of the damper can be controlled from a remote location.

To control the minimum damper position remotely, remove the factory-installed jumper on the P and P1 terminals on the EconoMi$er IV controller. Wire the field-supplied potentiometer to the P and P1 terminals on the EconoMi$er IV controller. See Fig. 32.

Damper Movement

Damper movement from full open to full closed (or vice versa) takes $2^1/_2$ minutes.

Thermostats

The EconoMi$er IV control works with conventional thermostats that have a Y1 (cool stage 1), Y2 (cool stage 2), W1 (heat stage 1), W2 (heat stage 2), and G (fan). The EconoMi$er IV control does not support space temperature sensors. Connections are made at the thermostat terminal connection board located in the main control box.

Occupancy Control

The factory default configuration for the EconoMi$er IV control is occupied mode. Occupied status is provided by the black jumper from terminal TR to terminal N. When unoccupied mode is desired, install a field-supplied timeclock function in place of the jumper between TR and N. See Fig. 23. When the timeclock contacts are closed, the EconoMi$er IV control will be in occupied mode. When the timeclock contacts are open (removing the 24-v signal from terminal N), the EconoMi$er IV will be in unoccupied mode.

Demand Controlled Ventilation (DCV)

When using the EconoMi$er IV for demand controlled ventilation, there are some equipment selection criteria which should be considered. When selecting the heat capacity and cool capacity of the equipment, the maximum ventilation rate must be evaluated for design conditions. The maximum damper position must be calculated to provide the desired fresh air.

Typically the maximum ventilation rate will be about 5 to 10% more than the typical cfm required per person, using normal outside air design criteria.

A proportional anticipatory strategy should be taken with the following conditions: a zone with a large area, varied occupancy, and equipment that cannot exceed the required ventilation rate at design conditions. Exceeding the required ventilation rate means the equipment can condition air at a maximum ventilation rate that is greater than the required ventilation rate for maximum occupancy. A proportional-anticipatory strategy will cause the fresh air supplied to increase as the room CO_2 level increases even though the CO_2 set point has not been reached. By the time the CO_2 level reaches the set point, the damper will be at maximum ventilation and should maintain the set point.

In order to have the CO_2 sensor control the economizer damper in this manner, first determine the damper voltage output for minimum or base ventilation. Base ventilation is the ventilation required to remove contaminants during unoccupied periods. The following equation may be used to determine the percent of outside-air entering the building for a given damper position. For best results there should be at least a 10 degree difference in outside and return-air temperatures.

$$(T_O \times \frac{OA}{100}) + (T_R \times \frac{RA}{100}) = T_M$$

T_O = Outdoor-Air Temperature

OA = Percent of Outdoor Air

T_R = Return-Air Temperature

RA = Percent of Return Air

T_M = Mixed-Air Temperature

Once base ventilation has been determined, set the minimum damper position potentiometer to the correct position.

The same equation can be used to determine the occupied or maximum ventilation rate to the building. For example, an output of 3.6 volts to the actuator provides a base ventilation rate of 5% and an output of 6.7 volts provides the maximum ventilation rate of 20% (or base plus 15 cfm per person). Use Fig. 33 to determine the maximum setting of the CO_2 sensor. For example, a 1100 ppm set point relates to a 15 cfm per person design. Use the 1100 ppm curve on Fig. 33 to find the point when the CO_2 sensor output will be 6.7 volts. Line up the point on the graph with the left side of the chart to determine that the range configuration for the CO_2 sensor should be 1800 ppm. The EconoMi$er IV controller will output the 6.7 volts from the CO_2 sensor to the actuator when the CO_2 concentration in the space is at 1100 ppm. The DCV set point may be left at 2 volts since the CO_2 sensor voltage will be ignored by the EconoMi$er IV controller until it rises above the 3.6 volt setting of the minimum position potentiometer.

Once the fully occupied damper position has been determined, set the maximum damper demand control ventilation potentiometer to this position. Do not set to the maximum position as this can result in over-ventilation to the space and potential high-humidity levels.

CO_2 Sensor Configuration

The CO_2 sensor has preset standard voltage settings that can be selected anytime after the sensor is powered up. See Table 5.

Use setting 1 or 2 for Bryant equipment. See Table 5.

1. Press Clear and Mode buttons. Hold at least 5 seconds until the sensor enters the Edit mode.
2. Press Mode twice. The STDSET Menu will appear.
3. Use the Up/Down button to select the preset number. See Table 5.
4. Press Enter to lock in the selection.
5. Press Mode to exit and resume normal operation.

The custom settings of the CO_2 sensor can be changed anytime after the sensor is energized. Follow the steps below to change the non-standard settings:

1. Press Clear and Mode buttons. Hold at least 5 seconds until the sensor enters the Edit mode.
2. Press Mode twice. The STDSET Menu will appear.
3. Use the Up/Down button to toggle to the NONSTD menu and press Enter.
4. Use the Up/Down button to toggle through each of the nine variables, starting with Altitude, until the desired setting is reached.
5. Press Mode to move through the variables.
6. Press Enter to lock in the selection, then press Mode to continue to the next variable.

Dehumidification of Fresh Air with DCV Control

Information from ASHRAE indicates that the largest humidity load on any zone is the fresh air introduced. For some applications, a device such as an energy recovery unit is added to reduce the moisture content of the fresh air being brought into the building when the enthalpy is high. In most cases, the normal heating and cooling processes are more than adequate to remove the humidity loads for most commercial applications.

If normal rooftop heating and cooling operation is not adequate for the outdoor humidity level, an energy recovery unit and/or a dehumidification option should be considered.

Table 5 — CO_2 Sensor Standard Settings

SETTING	EQUIPMENT	OUTPUT	VENTILATION RATE (cfm/Person)	ANALOG OUTPUT	CO_2 CONTROL RANGE (ppm)	OPTIONAL RELAY SETPOINT (ppm)	RELAY HYSTERESIS (ppm)
1	Interface w/Standard Building Control System	Proportional	Any	0-10V 4-20 mA	0-2000	1000	50
2		Proportional	Any	2-10V 7-20 mA	0-2000	1000	50
3		Exponential	Any	0-10V 4-20 mA	0-2000	1100	50
4	Economizer	Proportional	15	0-10V 4-20 mA	0-1100	1100	50
5		Proportional	20	0-10V 4-20 mA	0- 900	900	50
6		Exponential	15	0-10V 4-20 mA	0-1100	1100	50
7		Exponential	20	0-10V 4-20 mA	0- 900	900	50
8	Health & Safety	Proportional	—	0-10V 4-20 mA	0-9999	5000	500
9	Parking/Air Intakes/ Loading Docks	Proportional	—	0-10V 4-20 mA	0-2000	700	50

LEGEND

ppm — Parts Per Million

VII. STEP 7 — ADJUST EVAPORATOR-FAN SPEED

Adjust evaporator-fan speed to meet jobsite requirements.

Table 6 shows fan rpm at motor pulley settings, Table 7 shows motor efficiencies and Table 8 gives accessory static pressure drop. Table 9 shows motor performance. Refer to Tables 10-29 to determine fan speed settings. Fan motor pulleys are factory set for speed shown in Tables 1A and 1B.

To change fan speed:

1. Shut off unit power supply and install lockout tag.
2. Loosen belt by loosening fan motor mounting plate nuts (see Fig. 34 and 35).
3. Loosen movable pulley flange setscrew (see Fig. 36).
4. Screw movable flange toward fixed flange to increase speed and away from fixed flange to decrease fan speed. Increasing fan speed increases load on motor. Do not exceed maximum speed specified in Tables 1A and 1B.
5. Set movable flange at nearest flat of pulley hub and tighten setscrew (see Tables 1A and 1B for speed change for each full turn of pulley flange).

To align fan and motor pulleys:

1. Loosen fan pulley setscrews.
2. Slide fan pulley along fan shaft.
3. Make angular alignment by loosening motor from mounting plate.

To adjust belt tension (see Fig. 34 and 35):

1. Loosen fan motor mounting plate nuts.
2. *Units 090,091,102,103* — Slide motor mounting plate away from fan scroll for proper belt tension ($^1/_2$-in. deflection with 8 to 10 lb of force) and tighten mounting nuts (see Fig. 34).

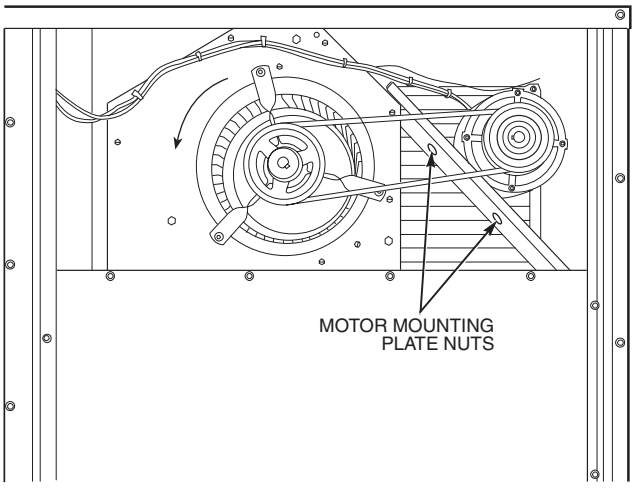


Fig. 34 — Typical Belt-Drive Motor Mounting for Sizes 090,091,102,103

Units 120,121,150,151 — Slide motor mounting plate downward to tighten belt tension ($^1/_2$-in. deflection with 5 to 10 lb of force). Secure motor mounting plate nuts. See Fig. 35.

3. Adjust bolt and nut on mounting plate to secure motor in fixed position.
4. Check pulley alignment and realign pulleys if necessary.

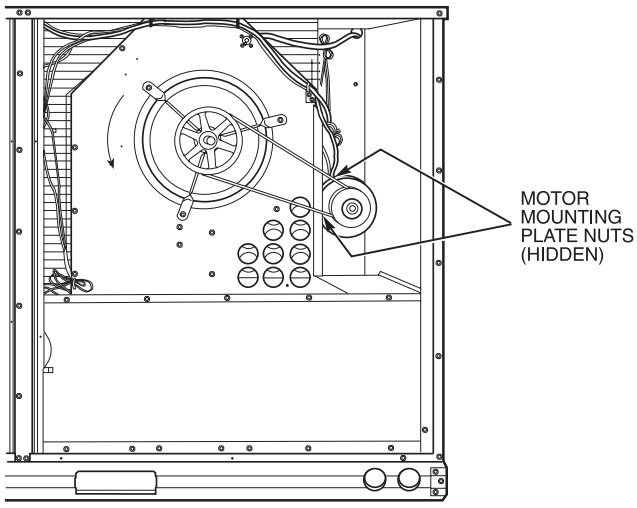


Fig. 35 — Typical Belt-Drive Motor Mounting for Sizes 120,121,150,151

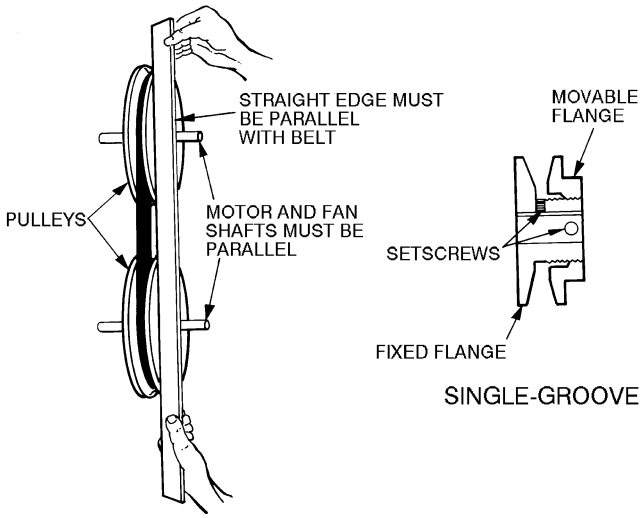


Fig. 36 — Evaporator-Fan Pulley Adjustment

Table 6 — Fan Rpm at Motor Pulley Settings*

UNIT 558F	MOTOR PULLEY TURNS OPEN												
	0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6
090,091†	840	815	790	765	740	715	690	665	635	615	590	—	—
090,091**	935	910	885	860	835	810	785	760	735	710	685	—	—
090,091††	1080	1025	1007	988	970	952	933	915	897	878	860	—	—
102,103†	935	910	885	860	835	810	785	760	735	710	685	—	—
102,103††	1080	1025	1007	988	970	952	933	915	897	878	860	—	—
120,121†	935	910	885	860	835	810	785	760	735	710	685	—	—
120,121***	1085	1060	1035	1010	985	960	935	910	885	860	835	—	—
120,121††	1130	1112	1087	1062	1037	1012	987	962	937	912	887	862	830
150,151†	1080	1060	1035	1015	990	970	950	925	905	880	860	—	—
150,151***	1130	1112	1087	1062	1037	1012	987	962	937	912	887	862	830

*Approximate fan rpm shown.
†Indicates standard motor and drive package.
** Indicates alternate drive package only.
††Indicates high-static motor and drive package.
***Indicates alternate motor and drive package.

Table 7 — Evaporator-Fan Motor Efficiency

MOTOR	EFFICIENCY (%)
558F090-121	80
558F150,151	87

NOTE: Convert bhp to watts using the following formula:

$$\text{watts} = \frac{\text{bhp (746)}}{\text{motor efficiency}}$$

Table 8 — Accessory/FIOP Static Pressure* (in. wg)

COMPONENT	CFM									
	2250	2500	3000	3500	4000	4500	5000	5500	6000	6250
1 Heater Module	0.02	0.03	0.05	0.07	0.08	0.10	0.12	0.14	0.16	0.17
2 Heater Modules	0.03	0.05	0.07	0.09	0.12	0.14	0.16	0.19	0.21	0.20
Vertical EconoMi$er IV	0.06	0.075	0.115	0.15	0.195	0.25	0.325	—	—	—
Horizontal EconoMi$er IV	—	0.10	0.15	0.21	0.275	0.34	—	—	—	—

LEGEND

FIOP — Factory-Installed Option

*The static pressure must be added to external static pressure. The sum and the evaporator entering-air cfm should then be used in conjunction with the Fan Performance tables to determine blower rpm and watts.

Table 9 — Evaporator Fan Motor Data

UNIT 558F	EVAPORATOR-FAN MOTOR	UNIT VOLTAGE	MAXIMUM ACCEPTABLE CONTINUOUS BHP*	MAXIMUM ACCEPTABLE OPERATING WATTS	MAXIMUM AMP DRAW
090,091	Standard, Alternate	208/230	2.40	2120	6.7
		460			3.0
		575			3.0
	High Static	208/230	3.70	3313	12.2
		460			5.5
		575			5.5
102,103	Standard	208/230	2.40	2120	6.7
		460			3.0
		575			3.0
	High Static	208/230	3.70	3313	12.2
		460			5.5
		575			5.5
120,121	Standard	208/230	2.40	2120	6.7
		460			3.0
		575			3.0
	Alternate	208/230	2.90	2615	8.6
		460			3.9
		575			3.9
	High Static	208/230	5.25	4400	17.3
		460			8.5
		575			8.5
150,151	Standard	208/230	3.70	3313	12.2
		460			5.5
		575			5.5
	Alternate	208/230	5.25	4400	17.3
		460			8.5
		575			8.5

LEGEND

BHP — Brake Horsepower

*Extensive motor and electrical testing on these units ensures that the full horsepower range of the motors can be utilized with confidence. Using fan motors up to the horsepower ratings shown in this table will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.

NOTE: All indoor-fan motors 5 hp and larger meet the minimum efficiency requirements as established by the Energy Policy Act of 1992 (EPACT) effective October 24, 1997.

GENERAL FAN PERFORMANCE NOTES

1. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected. For additional information on motor performance refer to Table 9.
2. Values include losses for filters, unit casing, and wet coils. See Table 8 for accessory/FIOP static pressure drop information.
3. Use of a field-supplied motor may affect wire sizing. Contact your Bryant representative for details.
4. Interpolation is permissible. Do not extrapolate.

Table 10 — Fan Performance 558F090,091 — Vertical Discharge Units; Standard Motor (Belt Drive)*

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**511**	**0.53**	**492**	591	0.73	680	660	0.95	885	722	1.19	1106	779	1.44	1342
2300	**519**	**0.56**	**518**	597	0.76	709	666	0.98	916	727	1.22	1140	784	1.48	1378
2400	**534**	**0.61**	**571**	611	0.82	768	678	1.05	982	739	1.30	1210	795	1.56	1453
2500	**550**	**0.67**	**629**	624	0.89	832	690	1.13	1051	750	1.38	1285	805	1.64	1533
2550	**558**	**0.71**	**660**	631	0.93	866	697	1.17	1088	756	1.42	1324	811	1.69	1574
2600	**565**	**0.74**	**691**	638	0.97	901	703	1.21	1125	762	1.46	1365	816	1.73	1617
2700	**581**	**0.81**	**758**	652	1.04	974	716	1.29	1204	774	1.55	1449	828	1.83	1707
2800	597	0.89	829	667	1.13	1051	729	1.38	1287	786	1.65	1538	839	1.93	1801
2900	613	0.97	905	681	1.22	1133	742	1.48	1376	799	1.75	1632	**851**	**2.04**	**1900**
3000	630	1.06	985	696	1.31	1220	756	1.58	1469	811	1.86	1731	**863**	**2.15**	**2004**
3100	646	1.15	1071	711	1.41	1313	770	1.68	1568	824	1.97	1835	**875**	**2.27**	**2114**
3200	663	1.25	1162	726	1.51	1411	784	1.79	1672	837	2.09	1944	**888**	**2.39**	**2229**
3300	679	1.35	1259	741	1.62	1514	798	1.91	1781	**851**	**2.21**	**2060**	—	—	—
3400	696	1.46	1361	756	1.74	1623	812	2.03	1896	**864**	**2.34**	**2181**	—	—	—
3500	713	1.58	1469	772	1.86	1737	827	2.16	2017	—	—	—	—	—	—
3600	729	1.70	1583	787	1.99	1857	**841**	**2.30**	**2144**	—	—	—	—	—	—
3700	746	1.83	1703	803	2.13	1985	—	—	—	—	—	—	—	—	—
3750	755	1.89	1766	811	2.20	2051	—	—	—	—	—	—	—	—	—

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	832	1.71	1592	**882**	**1.99**	**1855**	**928**	**2.29**	**2131**	—	—	—	—	—	—
2300	837	1.75	1630	**886**	**2.03**	**1896**	**933**	**2.33**	**2174**	—	—	—	—	—	—
2400	**847**	**1.83**	**1710**	**896**	**2.12**	**1980**	—	—	—	—	—	—	—	—	—
2500	**857**	**1.92**	**1794**	**905**	**2.22**	**2069**	—	—	—	—	—	—	—	—	—
2550	**862**	**1.97**	**1838**	**910**	**2.27**	**2114**	—	—	—	—	—	—	—	—	—
2600	**867**	**2.02**	**1884**	**915**	**2.32**	**2162**	—	—	—	—	—	—	—	—	—
2700	**878**	**2.12**	**1978**	—	—	—	—	—	—	—	—	—	—	—	—
2800	**889**	**2.23**	**2077**	—	—	—	—	—	—	—	—	—	—	—	—
2900	**900**	**2.34**	**2181**	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 590 to 840 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 33 for general fan performance notes.

Table 11 — Fan Performance 558F090,091 — Vertical Discharge Units; Alternate Motor (Belt Drive)*

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**511**	**0.53**	**492**	**591**	**0.73**	**680**	**660**	**0.95**	**885**	722	1.19	1106	779	1.44	1342
2300	**519**	**0.56**	**518**	**597**	**0.76**	**709**	**666**	**0.98**	**916**	727	1.22	1140	784	1.48	1378
2400	**534**	**0.61**	**571**	**611**	**0.82**	**768**	**678**	**1.05**	**982**	739	1.30	1210	795	1.56	1453
2500	**550**	**0.67**	**629**	**624**	**0.89**	**832**	690	1.13	1051	750	1.38	1285	805	1.64	1533
2550	**558**	**0.71**	**660**	**631**	**0.93**	**866**	697	1.17	1088	756	1.42	1324	811	1.69	1574
2600	**565**	**0.74**	**691**	**638**	**0.97**	**901**	703	1.21	1125	762	1.46	1365	816	1.73	1617
2700	**581**	**0.81**	**758**	**652**	**1.04**	**974**	716	1.29	1204	774	1.55	1449	828	1.83	1707
2800	**597**	**0.89**	**829**	**667**	**1.13**	**1051**	729	1.38	1287	786	1.65	1538	839	1.93	1801
2900	**613**	**0.97**	**905**	**681**	**1.22**	**1133**	742	1.48	1376	799	1.75	1632	851	2.04	1900
3000	**630**	**1.06**	**985**	696	1.31	1220	756	1.58	1469	811	1.86	1731	863	2.15	2004
3100	**646**	**1.15**	**1071**	711	1.41	1313	770	1.68	1568	824	1.97	1835	875	2.27	2114
3200	**663**	**1.25**	**1162**	726	1.51	1411	784	1.79	1672	837	2.09	1944	888	2.39	2229
3300	**679**	**1.35**	**1259**	741	1.62	1514	798	1.91	1781	851	2.21	2060	—	—	—
3400	696	1.46	1361	756	1.74	1623	812	2.03	1896	864	2.34	2181	—	—	—
3500	713	1.58	1469	772	1.86	1737	827	2.16	2017	—	—	—	—	—	—
3600	729	1.70	1583	787	1.99	1857	841	2.30	2144	—	—	—	—	—	—
3700	746	1.83	1703	803	2.13	1985	—	—	—	—	—	—	—	—	—
3750	755	1.89	1766	811	2.20	2051	—	—	—	—	—	—	—	—	—

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	832	1.71	1592	882	1.99	1855	928	2.29	2131	—	—	—	—	—	—
2300	837	1.75	1630	886	2.03	1896	933	2.33	2174	—	—	—	—	—	—
2400	847	1.83	1710	896	2.12	1980	—	—	—	—	—	—	—	—	—
2500	857	1.92	1794	905	2.22	2069	—	—	—	—	—	—	—	—	—
2550	862	1.97	1838	910	2.27	2114	—	—	—	—	—	—	—	—	—
2600	867	2.02	1884	915	2.32	2162	—	—	—	—	—	—	—	—	—
2700	878	2.12	1978	—	—	—	—	—	—	—	—	—	—	—	—
2800	889	2.23	2077	—	—	—	—	—	—	—	—	—	—	—	—
2900	900	2.34	2181	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 685 to 935 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 33 for general fan performance notes.

Table 12 — Fan Performance 558F090,091 — Vertical Discharge Units; High-Static Motor (Belt Drive)*

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**511**	**0.53**	**492**	**591**	**0.73**	**680**	**660**	**0.95**	**885**	**722**	**1.19**	**1106**	**779**	**1.44**	**1342**
2300	**519**	**0.56**	**518**	**597**	**0.76**	**709**	**666**	**0.98**	**916**	**727**	**1.22**	**1140**	**784**	**1.48**	**1378**
2400	**534**	**0.61**	**571**	**611**	**0.82**	**768**	**678**	**1.05**	**982**	**739**	**1.30**	**1210**	**795**	**1.56**	**1453**
2500	**550**	**0.67**	**629**	**624**	**0.89**	**832**	**690**	**1.13**	**1051**	**750**	**1.38**	**1285**	**805**	**1.64**	**1533**
2550	**558**	**0.71**	**660**	**631**	**0.93**	**866**	**697**	**1.17**	**1088**	**756**	**1.42**	**1324**	**811**	**1.69**	**1574**
2600	**565**	**0.74**	**691**	**638**	**0.97**	**901**	**703**	**1.21**	**1125**	**762**	**1.46**	**1365**	**816**	**1.73**	**1617**
2700	**581**	**0.81**	**758**	**652**	**1.04**	**974**	**716**	**1.29**	**1204**	**774**	**1.55**	**1449**	**828**	**1.83**	**1707**
2800	**597**	**0.89**	**829**	**667**	**1.13**	**1051**	**729**	**1.38**	**1287**	**786**	**1.65**	**1538**	**839**	**1.93**	**1801**
2900	**613**	**0.97**	**905**	**681**	**1.22**	**1133**	**742**	**1.48**	**1376**	**799**	**1.75**	**1632**	**851**	**2.04**	**1900**
3000	**630**	**1.06**	**985**	**696**	**1.31**	**1220**	**756**	**1.58**	**1469**	**811**	**1.86**	**1731**	863	2.15	2004
3100	**646**	**1.15**	**1071**	**711**	**1.41**	**1313**	**770**	**1.68**	**1568**	**824**	**1.97**	**1835**	875	2.27	2114
3200	**663**	**1.25**	**1162**	**726**	**1.51**	**1411**	**784**	**1.79**	**1672**	**837**	**2.09**	**1944**	888	2.39	2229
3300	**679**	**1.35**	**1259**	**741**	**1.62**	**1514**	**798**	**1.91**	**1781**	**851**	**2.21**	**2060**	900	2.52	2351
3400	**696**	**1.46**	**1361**	**756**	**1.74**	**1623**	**812**	**2.03**	**1896**	864	2.34	2181	913	2.66	2478
3500	**713**	**1.58**	**1469**	**772**	**1.86**	**1737**	**827**	**2.16**	**2017**	878	2.48	2308	926	2.80	2610
3600	**729**	**1.70**	**1583**	**787**	**1.99**	**1857**	**841**	**2.30**	**2144**	892	2.62	2441	939	2.95	2749
3700	**746**	**1.83**	**1703**	**803**	**2.13**	**1985**	**856**	**2.44**	**2277**	906	2.77	2580	953	3.10	2894
3750	**755**	**1.89**	**1766**	**811**	**2.20**	**2051**	864	2.52	2346	913	2.84	2653	959	3.18	2969

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**832**	**1.71**	**1592**	882	1.99	1855	928	2.29	2131	973	2.59	2420	1015	2.92	2720
2300	**837**	**1.75**	**1630**	886	2.03	1896	933	2.33	2174	977	2.64	2463	1020	2.97	2766
2400	**847**	**1.83**	**1710**	896	2.12	1980	942	2.43	2262	986	2.74	2556	1028	3.07	2861
2500	**857**	**1.92**	**1794**	905	2.22	2069	951	2.52	2355	995	2.84	2653	1037	3.18	2962
2550	862	1.97	1838	910	2.27	2114	956	2.58	2403	999	2.90	2704	1041	3.23	3014
2600	867	2.02	1884	915	2.32	2162	961	2.63	2453	1004	2.95	2755	1045	3.29	3068
2700	878	2.12	1978	926	2.42	2261	971	2.74	2556	1013	3.07	2862	1055	3.41	3180
2800	889	2.23	2077	936	2.54	2365	981	2.86	2664	1023	3.19	2975	1064	3.54	3297
2900	900	2.34	2181	947	2.65	2474	991	2.98	2778	1033	3.32	3094	1073	3.67	3419
3000	912	2.46	2290	958	2.78	2588	1001	3.11	2897	1043	3.45	3217	—	—	—
3100	923	2.58	2406	969	2.90	2708	1012	3.24	3022	1053	3.59	3347	—	—	—
3200	935	2.71	2526	980	3.04	2834	1023	3.38	3152	—	—	—	—	—	—
3300	947	2.84	2652	992	3.18	2966	1034	3.53	3289	—	—	—	—	—	—
3400	959	2.99	2785	1003	3.33	3103	1045	3.68	3432	—	—	—	—	—	—
3500	972	3.13	2923	1015	3.48	3246	—	—	—	—	—	—	—	—	—
3600	984	3.29	3068	1027	3.64	3396	—	—	—	—	—	—	—	—	—
3700	997	3.45	3218	—	—	—	—	—	—	—	—	—	—	—	—
3750	1004	3.54	3296	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 3.70.
3. See page 33 for general fan performance notes.

Table 13 — Fan Performance 558F102,103 — Vertical Discharge Units; Standard Motor (Belt Drive)*

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2200	**504**	**0.50**	**468**	**584**	**0.70**	**653**	**654**	**0.92**	**855**	716	1.15	1074	774	1.40	1307
2250	**511**	**0.53**	**492**	**591**	**0.73**	**680**	**660**	**0.95**	**885**	722	1.19	1106	779	1.44	1342
2300	**519**	**0.56**	**518**	**597**	**0.76**	**709**	**666**	**0.98**	**916**	727	1.22	1140	784	1.48	1378
2400	**534**	**0.61**	**571**	**611**	**0.82**	**768**	**678**	**1.05**	**982**	739	1.30	1210	795	1.56	1453
2500	**550**	**0.67**	**629**	**624**	**0.89**	**832**	690	1.13	1051	750	1.38	1285	805	1.64	1533
2550	**558**	**0.71**	**660**	**631**	**0.93**	**866**	697	1.17	1088	756	1.42	1324	811	1.69	1574
2600	**565**	**0.74**	**691**	**638**	**0.97**	**901**	703	1.21	1125	762	1.46	1365	816	1.73	1617
2700	**581**	**0.81**	**758**	**652**	**1.04**	**974**	716	1.29	1204	774	1.55	1449	828	1.83	1707
2800	**597**	**0.89**	**829**	**667**	**1.13**	**1051**	729	1.38	1287	786	1.65	1538	839	1.93	1801
2900	**613**	**0.97**	**905**	**681**	**1.22**	**1133**	742	1.48	1376	799	1.75	1632	851	2.04	1900
3000	**630**	**1.06**	**985**	696	1.31	1220	756	1.58	1469	811	1.86	1731	863	2.15	2004
3100	**646**	**1.15**	**1071**	711	1.41	1313	770	1.68	1568	824	1.97	1835	875	2.27	2114
3200	**663**	**1.25**	**1162**	726	1.51	1411	784	1.79	1672	837	2.09	1944	888	2.39	2229
3300	**679**	**1.35**	**1259**	741	1.62	1514	798	1.91	1781	851	2.21	2060	—	—	—
3400	696	1.46	1361	756	1.74	1623	812	2.03	1896	864	2.34	2181	—	—	—
3500	713	1.58	1469	772	1.86	1737	827	2.16	2017	—	—	—	—	—	—
3600	729	1.70	1583	787	1.99	1857	841	2.30	2144	—	—	—	—	—	—
3700	746	1.83	1703	803	2.13	1985	—	—	—	—	—	—	—	—	—
3750	755	1.89	1766	811	2.20	2051	—	—	—	—	—	—	—	—	—
3800	763	1.96	1830	819	2.27	2118	—	—	—	—	—	—	—	—	—
3900	780	2.10	1963	—	—	—	—	—	—	—	—	—	—	—	—
4000	798	2.25	2102	—	—	—	—	—	—	—	—	—	—	—	—
4100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2200	827	1.67	1555	877	1.95	1816	924	2.24	2090	—	—	—	—	—	—
2250	832	1.71	1592	882	1.99	1855	928	2.29	2131	—	—	—	—	—	—
2300	837	1.75	1630	886	2.03	1896	933	2.33	2174	—	—	—	—	—	—
2400	847	1.83	1710	896	2.12	1980	—	—	—	—	—	—	—	—	—
2500	857	1.92	1794	905	2.22	2069	—	—	—	—	—	—	—	—	—
2550	862	1.97	1838	910	2.27	2114	—	—	—	—	—	—	—	—	—
2600	867	2.02	1884	915	2.32	2162	—	—	—	—	—	—	—	—	—
2700	878	2.12	1978	—	—	—	—	—	—	—	—	—	—	—	—
2800	889	2.23	2077	—	—	—	—	—	—	—	—	—	—	—	—
2900	900	2.34	2181	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 685 to 935 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 33 for general fan performance notes.

Table 14 — Fan Performance 558F102,103 — Vertical Discharge Units; High-Static Motor (Belt Drive)*

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2200	**504**	**0.50**	**468**	**584**	**0.70**	**653**	**654**	**0.92**	**855**	**716**	**1.15**	**1074**	**774**	**1.40**	**1307**
2250	**511**	**0.53**	**492**	**591**	**0.73**	**680**	**660**	**0.95**	**885**	**722**	**1.19**	**1106**	**779**	**1.44**	**1342**
2300	**519**	**0.56**	**518**	**597**	**0.76**	**709**	**666**	**0.98**	**916**	**727**	**1.22**	**1140**	**784**	**1.48**	**1378**
2400	**534**	**0.61**	**571**	**611**	**0.82**	**768**	**678**	**1.05**	**982**	**739**	**1.30**	**1210**	**795**	**1.56**	**1453**
2500	**550**	**0.67**	**629**	**624**	**0.89**	**832**	**690**	**1.13**	**1051**	**750**	**1.38**	**1285**	**805**	**1.64**	**1533**
2550	**558**	**0.71**	**660**	**631**	**0.93**	**866**	**697**	**1.17**	**1088**	**756**	**1.42**	**1324**	**811**	**1.69**	**1574**
2600	**565**	**0.74**	**691**	**638**	**0.97**	**901**	**703**	**1.21**	**1125**	**762**	**1.46**	**1365**	**816**	**1.73**	**1617**
2700	**581**	**0.81**	**758**	**652**	**1.04**	**974**	**716**	**1.29**	**1204**	**774**	**1.55**	**1449**	**828**	**1.83**	**1707**
2800	**597**	**0.89**	**829**	**667**	**1.13**	**1051**	**729**	**1.38**	**1287**	**786**	**1.65**	**1538**	**839**	**1.93**	**1801**
2900	**613**	**0.97**	**905**	**681**	**1.22**	**1133**	**742**	**1.48**	**1376**	**799**	**1.75**	**1632**	**851**	**2.04**	**1900**
3000	**630**	**1.06**	**985**	**696**	**1.31**	**1220**	**756**	**1.58**	**1469**	**811**	**1.86**	**1731**	863	2.15	2004
3100	**646**	**1.15**	**1071**	**711**	**1.41**	**1313**	**770**	**1.68**	**1568**	**824**	**1.97**	**1835**	875	2.27	2114
3200	**663**	**1.25**	**1162**	**726**	**1.51**	**1411**	**784**	**1.79**	**1672**	**837**	**2.09**	**1944**	888	2.39	2229
3300	**679**	**1.35**	**1259**	**741**	**1.62**	**1514**	**798**	**1.91**	**1781**	**851**	**2.21**	**2060**	900	2.52	2351
3400	**696**	**1.46**	**1361**	**756**	**1.74**	**1623**	**812**	**2.03**	**1896**	864	2.34	2181	913	2.66	2478
3500	**713**	**1.58**	**1469**	**772**	**1.86**	**1737**	**827**	**2.16**	**2017**	878	2.48	2308	926	2.80	2610
3600	**729**	**1.70**	**1583**	**787**	**1.99**	**1857**	**841**	**2.30**	**2144**	892	2.62	2441	939	2.95	2749
3700	**746**	**1.83**	**1703**	**803**	**2.13**	**1985**	**856**	**2.44**	**2277**	906	2.77	2580	953	3.10	2894
3750	**755**	**1.89**	**1766**	**811**	**2.20**	**2051**	864	2.52	2346	913	2.84	2653	959	3.18	2969
3800	**763**	**1.96**	**1830**	**819**	**2.27**	**2118**	871	2.59	2417	920	2.92	2726	966	3.27	3046
3900	**780**	**2.10**	**1963**	**835**	**2.42**	**2257**	886	2.75	2563	934	3.09	2879	980	3.44	3204
4000	**798**	**2.25**	**2102**	**851**	**2.58**	**2404**	901	2.91	2716	949	3.26	3037	994	3.61	3369
4100	**815**	**2.41**	**2248**	867	2.74	2556	917	3.08	2875	963	3.44	3203	—	—	—
4200	**832**	**2.57**	**2401**	884	2.91	2717	932	3.26	3042	978	3.62	3376	—	—	—
4250	**841**	**2.66**	**2481**	892	3.00	2799	940	3.35	3127	—	—	—	—	—	—

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2200	**827**	**1.67**	**1555**	877	1.95	1816	924	2.24	2090	969	2.55	2377	1011	2.87	2674
2250	**832**	**1.71**	**1592**	882	1.99	1855	928	2.29	2131	973	2.59	2420	1015	2.92	2720
2300	**837**	**1.75**	**1630**	886	2.03	1896	933	2.33	2174	977	2.64	2463	1020	2.97	2766
2400	**847**	**1.83**	**1710**	896	2.12	1980	942	2.43	2262	986	2.74	2556	1028	3.07	2861
2500	**857**	**1.92**	**1794**	905	2.22	2069	951	2.52	2355	995	2.84	2653	1037	3.18	2962
2550	862	1.97	1838	910	2.27	2114	956	2.58	2403	999	2.90	2704	1041	3.23	3014
2600	867	2.02	1884	915	2.32	2162	961	2.63	2453	1004	2.95	2755	1045	3.29	3068
2700	878	2.12	1978	926	2.42	2261	971	2.74	2556	1013	3.07	2862	1055	3.41	3180
2800	889	2.23	2077	936	2.54	2365	981	2.86	2664	1023	3.19	2975	1064	3.54	3297
2900	900	2.34	2181	947	2.65	2474	991	2.98	2778	1033	3.32	3094	1073	3.67	3419
3000	912	2.46	2290	958	2.78	2588	1001	3.11	2897	1043	3.45	3217	—	—	—
3100	923	2.58	2406	969	2.90	2708	1012	3.24	3022	1053	3.59	3347	—	—	—
3200	935	2.71	2526	980	3.04	2834	1023	3.38	3152	—	—	—	—	—	—
3300	947	2.84	2652	992	3.18	2966	1034	3.53	3289	—	—	—	—	—	—
3400	959	2.99	2785	1003	3.33	3103	1045	3.68	3432	—	—	—	—	—	—
3500	972	3.13	2923	1015	3.48	3246	—	—	—	—	—	—	—	—	—
3600	984	3.29	3068	1027	3.64	3396	—	—	—	—	—	—	—	—	—
3700	997	3.45	3218	—	—	—	—	—	—	—	—	—	—	—	—
3750	1004	3.54	3296	—	—	—	—	—	—	—	—	—	—	—	—
3800	1010	3.62	3376	—	—	—	—	—	—	—	—	—	—	—	—
3900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 3.70.
3. See page 33 for general fan performance notes.

Table 15 — Fan Performance 558F120,121 — Vertical Discharge Units; Standard Motor (Belt Drive)*

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**532**	**0.64**	**559**	**604**	**0.80**	**702**	**668**	**0.96**	**846**	726	1.13	990	779	1.29	1136
3100	**545**	**0.69**	**607**	**615**	**0.86**	**755**	**678**	**1.03**	**903**	735	1.20	1052	788	1.37	1202
3200	**557**	**0.75**	**658**	**627**	**0.92**	**810**	689	1.10	963	745	1.27	1117	797	1.45	1271
3300	**570**	**0.81**	**712**	**638**	**0.99**	**869**	699	1.17	1026	755	1.35	1184	806	1.53	1343
3400	**583**	**0.88**	**768**	**650**	**1.06**	**930**	710	1.24	1092	765	1.43	1255	816	1.62	1418
3500	**596**	**0.94**	**828**	**662**	**1.13**	**995**	721	1.32	1162	775	1.51	1329	825	1.71	1497
3600	**609**	**1.02**	**891**	**673**	**1.21**	**1063**	732	1.41	1234	785	1.60	1406	835	1.80	1579
3700	**623**	**1.09**	**958**	685	1.29	1134	743	1.49	1310	796	1.69	1487	845	1.90	1664
3800	**636**	**1.17**	**1028**	698	1.38	1209	754	1.58	1390	806	1.79	1571	855	2.00	1753
3900	**649**	**1.25**	**1101**	710	1.47	1287	765	1.68	1472	817	1.89	1658	865	2.10	1845
4000	**663**	**1.34**	**1178**	722	1.56	1369	777	1.78	1559	828	1.99	1749	875	2.21	1941
4100	**676**	**1.43**	**1258**	735	1.66	1454	788	1.88	1649	838	2.10	1844	886	2.32	2040
4200	690	1.53	1343	747	1.76	1543	800	1.99	1743	850	2.21	1943	—	—	—
4300	703	1.63	1431	760	1.86	1636	812	2.10	1841	861	2.33	2046	—	—	—
4400	717	1.74	1523	772	1.98	1734	824	2.21	1943	—	—	—	—	—	—
4500	731	1.85	1620	785	2.09	1835	836	2.33	2049	—	—	—	—	—	—
4600	744	1.96	1720	798	2.21	1940	—	—	—	—	—	—	—	—	—
4700	758	2.08	1825	811	2.34	2049	—	—	—	—	—	—	—	—	—
4800	772	2.20	1934	—	—	—	—	—	—	—	—	—	—	—	—
4900	786	2.33	2047	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	829	1.46	1283	876	1.63	1432	920	1.80	1582	**963**	**1.98**	**1734**	**1003**	**2.15**	**1889**
3100	838	1.54	1353	884	1.72	1506	928	1.89	1661	**970**	**2.07**	**1818**	**1010**	**2.25**	**1976**
3200	846	1.63	1427	892	1.81	1584	**936**	**1.99**	**1743**	**978**	**2.17**	**1904**	**1018**	**2.35**	**2066**
3300	855	1.71	1503	901	1.90	1665	**944**	**2.08**	**1828**	**985**	**2.27**	**1993**	—	—	—
3400	864	1.80	1583	909	1.99	1749	**952**	**2.18**	**1917**	**993**	**2.38**	**2085**	—	—	—
3500	873	1.90	1666	918	2.09	1837	**960**	**2.29**	**2008**	—	—	—	—	—	—
3600	882	2.00	1752	927	2.20	1927	**969**	**2.40**	**2103**	—	—	—	—	—	—
3700	891	2.10	1842	935	2.30	2021	—	—	—	—	—	—	—	—	—
3800	901	2.21	1935	—	—	—	—	—	—	—	—	—	—	—	—
3900	911	2.32	2032	—	—	—	—	—	—	—	—	—	—	—	—
4000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 685 to 935 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 33 for general fan performance notes.

Table 16 — Fan Performance 558F120,121 — Vertical Discharge Units; Alternate Motor (Belt Drive)*

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**532**	**0.64**	**559**	**604**	**0.80**	**702**	**668**	**0.96**	**846**	**726**	**1.13**	**990**	**779**	**1.29**	**1136**
3100	**545**	**0.69**	**607**	**615**	**0.86**	**755**	**678**	**1.03**	**903**	**735**	**1.20**	**1052**	**788**	**1.37**	**1202**
3200	**557**	**0.75**	**658**	**627**	**0.92**	**810**	**689**	**1.10**	**963**	**745**	**1.27**	**1117**	**797**	**1.45**	**1271**
3300	**570**	**0.81**	**712**	**638**	**0.99**	**869**	**699**	**1.17**	**1026**	**755**	**1.35**	**1184**	**806**	**1.53**	**1343**
3400	**583**	**0.88**	**768**	**650**	**1.06**	**930**	**710**	**1.24**	**1092**	**765**	**1.43**	**1255**	**816**	**1.62**	**1418**
3500	**596**	**0.94**	**828**	**662**	**1.13**	**995**	**721**	**1.32**	**1162**	**775**	**1.51**	**1329**	**825**	**1.71**	**1497**
3600	**609**	**1.02**	**891**	**673**	**1.21**	**1063**	**732**	**1.41**	**1234**	**785**	**1.60**	**1406**	835	1.80	1579
3700	**623**	**1.09**	**958**	**685**	**1.29**	**1134**	**743**	**1.49**	**1310**	**796**	**1.69**	**1487**	845	1.90	1664
3800	**636**	**1.17**	**1028**	**698**	**1.38**	**1209**	**754**	**1.58**	**1390**	**806**	**1.79**	**1571**	855	2.00	1753
3900	**649**	**1.25**	**1101**	**710**	**1.47**	**1287**	**765**	**1.68**	**1472**	**817**	**1.89**	**1658**	865	2.10	1845
4000	**663**	**1.34**	**1178**	**722**	**1.56**	**1369**	**777**	**1.78**	**1559**	**828**	**1.99**	**1749**	875	2.21	1941
4100	**676**	**1.43**	**1258**	**735**	**1.66**	**1454**	**788**	**1.88**	**1649**	838	2.10	1844	886	2.32	2040
4200	**690**	**1.53**	**1343**	**747**	**1.76**	**1543**	**800**	**1.99**	**1743**	850	2.21	1943	896	2.44	2143
4300	**703**	**1.63**	**1431**	**760**	**1.86**	**1636**	**812**	**2.10**	**1841**	861	2.33	2046	907	2.56	2251
4400	**717**	**1.74**	**1523**	**772**	**1.98**	**1734**	**824**	**2.21**	**1943**	872	2.45	2153	917	2.69	2362
4500	**731**	**1.85**	**1620**	**785**	**2.09**	**1835**	836	2.33	2049	883	2.58	2263	928	2.82	2478
4600	**744**	**1.96**	**1720**	**798**	**2.21**	**1940**	848	2.46	2159	895	2.71	2378	—	—	—
4700	**758**	**2.08**	**1825**	**811**	**2.34**	**2049**	860	2.59	2273	906	2.85	2497	—	—	—
4800	**772**	**2.20**	**1934**	**824**	**2.47**	**2163**	872	2.73	2392	—	—	—	—	—	—
4900	**786**	**2.33**	**2047**	837	2.60	2282	885	2.87	2515	—	—	—	—	—	—
5000	**800**	**2.47**	**2165**	850	2.74	2405	—	—	—	—	—	—	—	—	—

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**829**	**1.46**	**1283**	876	1.63	1432	920	1.80	1582	963	1.98	1734	1003	2.15	1889
3100	838	1.54	1353	884	1.72	1506	928	1.89	1661	970	2.07	1818	1010	2.25	1976
3200	846	1.63	1427	892	1.81	1584	936	1.99	1743	978	2.17	1904	1018	2.35	2066
3300	855	1.71	1503	901	1.90	1665	944	2.08	1828	985	2.27	1993	1025	2.46	2159
3400	864	1.80	1583	909	1.99	1749	952	2.18	1917	993	2.38	2085	1033	2.57	2256
3500	873	1.90	1666	918	2.09	1837	960	2.29	2008	1001	2.49	2181	1040	2.68	2356
3600	882	2.00	1752	927	2.20	1927	969	2.40	2103	1009	2.60	2281	1048	2.80	2459
3700	891	2.10	1842	935	2.30	2021	977	2.51	2202	1018	2.72	2384	—	—	—
3800	901	2.21	1935	945	2.41	2119	986	2.63	2304	1026	2.84	2490	—	—	—
3900	911	2.32	2032	954	2.53	2220	995	2.74	2409	—	—	—	—	—	—
4000	920	2.43	2132	963	2.65	2325	1004	2.87	2518	—	—	—	—	—	—
4100	930	2.55	2237	973	2.77	2433	—	—	—	—	—	—	—	—	—
4200	940	2.67	2345	982	2.90	2546	—	—	—	—	—	—	—	—	—
4300	950	2.80	2456	—	—	—	—	—	—	—	—	—	—	—	—
4400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 835 to 1085 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.
3. See page 33 for general fan performance notes.

Table 17 — Fan Performance 558F120,121 — Vertical Discharge Units; High-Static Motor (Belt Drive)*

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**532**	**0.64**	**559**	**604**	**0.80**	**702**	**668**	**0.96**	**846**	**726**	**1.13**	**990**	**779**	**1.29**	**1136**
3100	**545**	**0.69**	**607**	**615**	**0.86**	**755**	**678**	**1.03**	**903**	**735**	**1.20**	**1052**	**788**	**1.37**	**1202**
3200	**557**	**0.75**	**658**	**627**	**0.92**	**810**	**689**	**1.10**	**963**	**745**	**1.27**	**1117**	**797**	**1.45**	**1271**
3300	**570**	**0.81**	**712**	**638**	**0.99**	**869**	**699**	**1.17**	**1026**	**755**	**1.35**	**1184**	**806**	**1.53**	**1343**
3400	**583**	**0.88**	**768**	**650**	**1.06**	**930**	**710**	**1.24**	**1092**	**765**	**1.43**	**1255**	**816**	**1.62**	**1418**
3500	**596**	**0.94**	**828**	**662**	**1.13**	**995**	**721**	**1.32**	**1162**	**775**	**1.51**	**1329**	**825**	**1.71**	**1497**
3600	**609**	**1.02**	**891**	**673**	**1.21**	**1063**	**732**	**1.41**	**1234**	**785**	**1.60**	**1406**	835	1.80	1579
3700	**623**	**1.09**	**958**	**685**	**1.29**	**1134**	**743**	**1.49**	**1310**	**796**	**1.69**	**1487**	845	1.90	1664
3800	**636**	**1.17**	**1028**	**698**	**1.38**	**1209**	**754**	**1.58**	**1390**	**806**	**1.79**	**1571**	855	2.00	1753
3900	**649**	**1.25**	**1101**	**710**	**1.47**	**1287**	**765**	**1.68**	**1472**	**817**	**1.89**	**1658**	865	2.10	1845
4000	**663**	**1.34**	**1178**	**722**	**1.56**	**1369**	**777**	**1.78**	**1559**	**828**	**1.99**	**1749**	875	2.21	1941
4100	**676**	**1.43**	**1258**	**735**	**1.66**	**1454**	**788**	**1.88**	**1649**	838	2.10	1844	886	2.32	2040
4200	**690**	**1.53**	**1343**	**747**	**1.76**	**1543**	**800**	**1.99**	**1743**	850	2.21	1943	896	2.44	2143
4300	**703**	**1.63**	**1431**	**760**	**1.86**	**1636**	**812**	**2.10**	**1841**	861	2.33	2046	907	2.56	2251
4400	**717**	**1.74**	**1523**	**772**	**1.98**	**1734**	**824**	**2.21**	**1943**	872	2.45	2153	917	2.69	2362
4500	**731**	**1.85**	**1620**	**785**	**2.09**	**1835**	836	2.33	2049	883	2.58	2263	928	2.82	2478
4600	**744**	**1.96**	**1720**	**798**	**2.21**	**1940**	848	2.46	2159	895	2.71	2378	939	2.96	2597
4700	**758**	**2.08**	**1825**	**811**	**2.34**	**2049**	860	2.59	2273	906	2.85	2497	950	3.10	2721
4800	**772**	**2.20**	**1934**	**824**	**2.47**	**2163**	872	2.73	2392	918	2.99	2621	961	3.25	2850
4900	**786**	**2.33**	**2047**	837	2.60	2282	885	2.87	2515	930	3.13	2749	973	3.40	2982
5000	**800**	**2.47**	**2165**	850	2.74	2405	897	3.01	2643	942	3.28	2881	984	3.55	3119

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**829**	**1.46**	**1283**	876	1.63	1432	920	1.80	1582	963	1.98	1734	1003	2.15	1889
3100	838	1.54	1353	884	1.72	1506	928	1.89	1661	970	2.07	1818	1010	2.25	1976
3200	846	1.63	1427	892	1.81	1584	936	1.99	1743	978	2.17	1904	1018	2.35	2066
3300	855	1.71	1503	901	1.90	1665	944	2.08	1828	985	2.27	1993	1025	2.46	2159
3400	864	1.80	1583	909	1.99	1749	952	2.18	1917	993	2.38	2085	1033	2.57	2256
3500	873	1.90	1666	918	2.09	1837	960	2.29	2008	1001	2.49	2181	1040	2.68	2356
3600	882	2.00	1752	927	2.20	1927	969	2.40	2103	1009	2.60	2281	1048	2.80	2459
3700	891	2.10	1842	935	2.30	2021	977	2.51	2202	1018	2.72	2384	1056	2.92	2567
3800	901	2.21	1935	945	2.41	2119	986	2.63	2304	1026	2.84	2490	1064	3.05	2677
3900	911	2.32	2032	954	2.53	2220	995	2.74	2409	1035	2.96	2600	1073	3.18	2791
4000	920	2.43	2132	963	2.65	2325	1004	2.87	2518	1043	3.09	2713	1081	3.31	2909
4100	930	2.55	2237	973	2.77	2433	1013	3.00	2632	1052	3.23	2831	1090	3.45	3031
4200	940	2.67	2345	982	2.90	2546	1023	3.13	2749	1061	3.36	2952	1098	3.60	3157
4300	950	2.80	2456	992	3.03	2663	1032	3.27	2870	1070	3.51	3078	1107	3.74	3287
4400	961	2.93	2572	1002	3.17	2783	1041	3.41	2995	1079	3.65	3207	1116	3.90	3420
4500	971	3.07	2692	1012	3.31	2908	1051	3.56	3124	1089	3.81	3341	1125	4.05	3559
4600	982	3.21	2817	1022	3.46	3036	1061	3.71	3257	1098	3.96	3479	**1134**	**4.22**	**3701**
4700	992	3.36	2945	1032	3.61	3170	1071	3.87	3395	1108	4.13	3621	**1144**	**4.38**	**3847**
4800	1003	3.51	3078	1043	3.77	3307	1081	4.03	3537	1117	4.29	3768	**1153**	**4.56**	**3999**
4900	1014	3.66	3216	1053	3.93	3449	1091	4.20	3684	1127	4.47	3919	**1162**	**4.73**	**4154**
5000	1025	3.83	3357	1063	4.10	3596	1101	4.37	3835	**1137**	**4.64**	**4075**	**1172**	**4.92**	**4315**

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 830 to 1130 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 5.25.
3. See page 33 for general fan performance notes.

Table 18 — Fan Performance 558F150,151 — Vertical Discharge Units; Standard Motor (Belt Drive)*

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3800	**668**	**1.20**	**1116**	**726**	**1.39**	**1299**	**779**	**1.59**	**1481**	**828**	**1.78**	**1662**	874	1.98	1844
3900	**683**	**1.28**	**1197**	**739**	**1.48**	**1385**	**792**	**1.69**	**1572**	**840**	**1.88**	**1758**	886	2.08	1943
4000	**697**	**1.37**	**1281**	**753**	**1.58**	**1474**	**804**	**1.79**	**1666**	**852**	**1.99**	**1857**	897	2.20	2048
4100	**712**	**1.47**	**1370**	**766**	**1.68**	**1567**	**817**	**1.89**	**1764**	864	2.10	1960	909	2.31	2155
4200	**726**	**1.57**	**1462**	**780**	**1.79**	**1665**	**830**	**2.00**	**1866**	876	2.22	2067	920	2.43	2268
4300	**741**	**1.67**	**1559**	**794**	**1.89**	**1767**	**843**	**2.12**	**1973**	889	2.34	2179	932	2.56	2384
4400	**755**	**1.78**	**1660**	**807**	**2.01**	**1873**	**856**	**2.23**	**2084**	901	2.46	2295	944	2.69	2505
4500	**770**	**1.89**	**1766**	**821**	**2.13**	**1984**	869	2.36	2200	914	2.59	2415	956	2.82	2630
4600	**785**	**2.01**	**1876**	**835**	**2.25**	**2099**	882	2.49	2320	926	2.72	2541	968	2.96	2760
4700	**800**	**2.14**	**1991**	**849**	**2.38**	**2219**	895	2.62	2445	939	2.86	2670	980	3.10	2895
4800	**815**	**2.26**	**2111**	863	2.51	2344	909	2.76	2575	952	3.01	2805	993	3.25	3034
4900	**829**	**2.40**	**2235**	877	2.65	2473	922	2.91	2709	965	3.16	2944	1005	3.41	3178
5000	**844**	**2.54**	**2365**	891	2.80	2608	936	3.06	2849	978	3.31	3089	1018	3.57	3328
5100	**859**	**2.68**	**2499**	906	2.95	2747	949	3.21	2994	991	3.47	3238	—	—	—
5200	874	2.83	2640	920	3.10	2892	963	3.37	3143	1004	3.64	3393	—	—	—
5300	889	2.99	2784	934	3.26	3042	977	3.54	3298	—	—	—	—	—	—
5400	904	3.15	2936	949	3.43	3198	—	—	—	—	—	—	—	—	—
5500	920	3.32	3092	963	3.60	3359	—	—	—	—	—	—	—	—	—
5600	935	3.49	3253	—	—	—	—	—	—	—	—	—	—	—	—
5700	950	3.67	3421	—	—	—	—	—	—	—	—	—	—	—	—
5800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3800	918	2.17	2025	959	2.37	2207	999	2.56	2389	1036	2.76	2571	1073	2.95	2755
3900	929	2.28	2130	970	2.48	2316	1009	2.68	2502	1046	2.88	2690	**1082**	**3.09**	**2877**
4000	940	2.40	2238	980	2.61	2429	1019	2.81	2620	1056	3.02	2812	**1092**	**3.22**	**3004**
4100	951	2.52	2351	991	2.73	2547	1029	2.94	2743	1066	3.15	2939	**1102**	**3.36**	**3136**
4200	962	2.65	2468	1002	2.86	2668	1040	3.08	2869	1076	3.29	3070	**1112**	**3.51**	**3271**
4300	973	2.78	2589	1013	3.00	2794	1050	3.22	2999	**1087**	**3.44**	**3205**	**1122**	**3.66**	**3411**
4400	985	2.91	2715	1024	3.14	2924	1061	3.36	3134	**1097**	**3.59**	**3345**	—	—	—
4500	996	3.05	2845	1035	3.28	3059	1072	3.51	3274	—	—	—	—	—	—
4600	1008	3.20	2979	1046	3.43	3199	**1083**	**3.67**	**3418**	—	—	—	—	—	—
4700	1020	3.34	3119	1058	3.58	3343	—	—	—	—	—	—	—	—	—
4800	1032	3.50	3263	—	—	—	—	—	—	—	—	—	—	—	—
4900	1044	3.66	3413	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 3.70.
3. See page 33 for general fan performance notes.

Table 19 — Fan Performance 558F150,151 — Vertical Discharge Units; Alternate Motor (Belt Drive)*

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3800	**668**	**1.20**	**1116**	**726**	**1.39**	**1299**	**779**	**1.59**	**1481**	**828**	**1.78**	**1662**	874	1.98	1844
3900	**683**	**1.28**	**1197**	**739**	**1.48**	**1385**	**792**	**1.69**	**1572**	840	1.88	1758	886	2.08	1943
4000	**697**	**1.37**	**1281**	**753**	**1.58**	**1474**	**804**	**1.79**	**1666**	852	1.99	1857	897	2.20	2048
4100	**712**	**1.47**	**1370**	**766**	**1.68**	**1567**	**817**	**1.89**	**1764**	864	2.10	1960	909	2.31	2155
4200	**726**	**1.57**	**1462**	**780**	**1.79**	**1665**	830	2.00	1866	876	2.22	2067	920	2.43	2268
4300	**741**	**1.67**	**1559**	**794**	**1.89**	**1767**	843	2.12	1973	889	2.34	2179	932	2.56	2384
4400	**755**	**1.78**	**1660**	**807**	**2.01**	**1873**	856	2.23	2084	901	2.46	2295	944	2.69	2505
4500	**770**	**1.89**	**1766**	**821**	**2.13**	**1984**	869	2.36	2200	914	2.59	2415	956	2.82	2630
4600	**785**	**2.01**	**1876**	835	2.25	2099	882	2.49	2320	926	2.72	2541	968	2.96	2760
4700	**800**	**2.14**	**1991**	849	2.38	2219	895	2.62	2445	939	2.86	2670	980	3.10	2895
4800	**815**	**2.26**	**2111**	863	2.51	2344	909	2.76	2575	952	3.01	2805	993	3.25	3034
4900	**829**	**2.40**	**2235**	877	2.65	2473	922	2.91	2709	965	3.16	2944	1005	3.41	3178
5000	844	2.54	2365	891	2.80	2608	936	3.06	2849	978	3.31	3089	1018	3.57	3328
5100	859	2.68	2499	906	2.95	2747	949	3.21	2994	991	3.47	3238	1030	3.73	3483
5200	874	2.83	2640	920	3.10	2892	963	3.37	3143	1004	3.64	3393	1043	3.91	3642
5300	889	2.99	2784	934	3.26	3042	977	3.54	3298	1017	3.81	3553	1056	4.08	3807
5400	904	3.15	2936	949	3.43	3198	990	3.71	3459	1030	3.99	3719	1068	4.27	3977
5500	920	3.32	3092	963	3.60	3359	1004	3.89	3625	1044	4.17	3890	1081	4.45	4153
5600	935	3.49	3253	977	3.78	3525	1018	4.07	3796	1057	4.36	4066	1094	4.65	4335
5700	950	3.67	3421	992	3.97	3698	1032	4.26	3974	1070	4.56	4249	1107	4.85	4522
5800	965	3.85	3594	1006	4.16	3876	1046	4.46	4157	1084	4.76	4436	1120	5.06	4715
5900	980	4.05	3773	1021	4.35	4060	1060	4.66	4346	1098	4.97	4630	—	—	—
6000	995	4.24	3958	1036	4.56	4250	1074	4.87	4541	1111	5.18	4831	—	—	—
6100	1011	4.45	4149	1050	4.77	4446	1088	5.09	4742	—	—	—	—	—	—
6200	1026	4.66	4347	1065	4.99	4649	—	—	—	—	—	—	—	—	—
6300	1041	4.88	4550	1080	5.21	4857	—	—	—	—	—	—	—	—	—

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3800	918	2.17	2025	959	2.37	2207	999	2.56	2389	1036	2.76	2571	1073	2.95	2755
3900	929	2.28	2130	970	2.48	2316	1009	2.68	2502	1046	2.88	2690	1082	3.09	2877
4000	940	2.40	2238	980	2.61	2429	1019	2.81	2620	1056	3.02	2812	1092	3.22	3004
4100	951	2.52	2351	991	2.73	2547	1029	2.94	2743	1066	3.15	2939	1102	3.36	3136
4200	962	2.65	2468	1002	2.86	2668	1040	3.08	2869	1076	3.29	3070	1112	3.51	3271
4300	973	2.78	2589	1013	3.00	2794	1050	3.22	2999	1087	3.44	3205	1122	3.66	3411
4400	985	2.91	2715	1024	3.14	2924	1061	3.36	3134	1097	3.59	3345	**1132**	**3.81**	**3555**
4500	996	3.05	2845	1035	3.28	3059	1072	3.51	3274	1108	3.74	3489	**1142**	**3.97**	**3704**
4600	1008	3.20	2979	1046	3.43	3199	1083	3.67	3418	1118	3.90	3638	**1152**	**4.14**	**3857**
4700	1020	3.34	3119	1058	3.58	3343	1094	3.83	3567	1129	4.07	3792	**1163**	**4.31**	**4016**
4800	1032	3.50	3263	1069	3.74	3492	1105	3.99	3721	**1140**	**4.24**	**3950**	**1174**	**4.48**	**4179**
4900	1044	3.66	3413	1081	3.91	3646	1117	4.16	3880	**1151**	**4.41**	**4113**	**1184**	**4.66**	**4347**
5000	1056	3.82	3566	1093	4.08	3805	1128	4.34	4044	**1162**	**4.59**	**4282**	**1195**	**4.85**	**4520**
5100	1068	4.00	3726	1104	4.26	3969	**1139**	**4.52**	**4212**	**1173**	**4.78**	**4456**	**1206**	**5.04**	**4699**
5200	1080	4.17	3891	1116	4.44	4139	**1151**	**4.70**	**4386**	**1185**	**4.97**	**4634**	**1217**	**5.24**	**4882**
5300	1093	4.35	4060	1128	4.63	4314	**1163**	**4.90**	**4566**	**1196**	**5.17**	**4819**	—	—	—
5400	1105	4.54	4236	**1140**	**4.82**	**4494**	**1174**	**5.10**	**4751**	—	—	—	—	—	—
5500	1118	4.74	4417	**1152**	**5.02**	**4679**	—	—	—	—	—	—	—	—	—
5600	1130	4.94	4603	**1165**	**5.22**	**4870**	—	—	—	—	—	—	—	—	—
5700	**1143**	**5.14**	**4795**	—	—	—	—	—	—	—	—	—	—	—	—
5800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 830 to 1130 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 5.25.
3. See page 33 for general fan performance notes.

Table 20 — Fan Performance 558F090,091 — Horizontal Discharge Units; Standard Motor (Belt Drive)*

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**465**	**0.43**	**402**	**555**	**0.64**	**596**	629	0.86	802	694	1.10	1021	753	1.34	1252
2300	**471**	**0.45**	**421**	**560**	**0.66**	**618**	634	0.89	828	699	1.13	1050	757	1.38	1283
2400	**483**	**0.49**	**461**	**571**	**0.71**	**665**	644	0.94	881	708	1.19	1109	766	1.45	1348
2500	**495**	**0.54**	**503**	**581**	**0.77**	**715**	654	1.01	937	717	1.26	1171	775	1.52	1416
2550	**501**	**0.56**	**526**	**587**	**0.79**	**740**	659	1.04	967	722	1.29	1204	779	1.56	1452
2600	**507**	**0.59**	**549**	592	0.82	767	664	1.07	996	727	1.33	1237	784	1.60	1488
2700	**519**	**0.64**	**597**	603	0.88	823	674	1.14	1059	737	1.40	1306	793	1.68	1563
2800	**532**	**0.70**	**649**	614	0.95	882	684	1.21	1125	746	1.48	1378	803	1.76	1641
2900	**544**	**0.75**	**703**	625	1.01	944	695	1.28	1194	756	1.56	1453	812	1.85	1723
3000	**557**	**0.82**	**761**	637	1.08	1009	705	1.36	1266	766	1.64	1533	822	1.94	1808
3100	**570**	**0.88**	**823**	648	1.16	1079	716	1.44	1342	776	1.73	1615	831	2.03	1897
3200	**583**	**0.95**	**888**	660	1.23	1151	727	1.53	1422	787	1.82	1702	**841**	**2.13**	**1991**
3300	596	1.03	957	672	1.32	1228	738	1.61	1506	797	1.92	1792	**851**	**2.24**	**2088**
3400	609	1.10	1030	684	1.40	1308	749	1.71	1593	808	2.02	1887	**861**	**2.35**	**2188**
3500	622	1.19	1106	696	1.49	1392	760	1.81	1685	818	2.13	1985	—	—	—
3600	635	1.27	1187	708	1.59	1481	771	1.91	1781	829	2.24	2088	—	—	—
3700	649	1.36	1272	720	1.69	1573	783	2.02	1881	840	2.35	2195	—	—	—
3750	655	1.41	1316	726	1.74	1621	789	2.07	1932	—	—	—	—	—	—

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	806	1.60	1494	**856**	**1.87**	**1747**	**903**	**2.15**	**2009**	—	—	—	—	—	—
2300	811	1.64	1528	**860**	**1.91**	**1784**	**907**	**2.20**	**2048**	—	—	—	—	—	—
2400	819	1.71	1599	**868**	**1.99**	**1859**	**915**	**2.28**	**2129**	—	—	—	—	—	—
2500	828	1.79	1672	**877**	**2.08**	**1938**	**923**	**2.37**	**2214**	—	—	—	—	—	—
2550	832	1.83	1710	**881**	**2.12**	**1979**	—	—	—	—	—	—	—	—	—
2600	836	1.88	1749	**885**	**2.17**	**2021**	—	—	—	—	—	—	—	—	—
2700	**845**	**1.96**	**1830**	**894**	**2.26**	**2107**	—	—	—	—	—	—	—	—	—
2800	**854**	**2.05**	**1914**	**903**	**2.36**	**2197**	—	—	—	—	—	—	—	—	—
2900	**864**	**2.15**	**2002**	—	—	—	—	—	—	—	—	—	—	—	—
3000	**873**	**2.24**	**2093**	—	—	—	—	—	—	—	—	—	—	—	—
3100	**882**	**2.35**	**2189**	—	—	—	—	—	—	—	—	—	—	—	—
3200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 590 to 840 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 33 for general fan performance notes.

Table 21 — Fan Performance 558F090,091 — Horizontal Discharge Units; Alternate Motor (Belt Drive)*

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**465**	**0.43**	**402**	**555**	**0.64**	**596**	**629**	**0.86**	**802**	694	1.10	1021	753	1.34	1252
2300	**471**	**0.45**	**421**	**560**	**0.66**	**618**	**634**	**0.89**	**828**	699	1.13	1050	757	1.38	1283
2400	**483**	**0.49**	**461**	**571**	**0.71**	**665**	**644**	**0.94**	**881**	708	1.19	1109	766	1.45	1348
2500	**495**	**0.54**	**503**	**581**	**0.77**	**715**	**654**	**1.01**	**937**	717	1.26	1171	775	1.52	1416
2550	**501**	**0.56**	**526**	**587**	**0.79**	**740**	**659**	**1.04**	**967**	722	1.29	1204	779	1.56	1452
2600	**507**	**0.59**	**549**	**592**	**0.82**	**767**	**664**	**1.07**	**996**	727	1.33	1237	784	1.60	1488
2700	**519**	**0.64**	**597**	**603**	**0.88**	**823**	**674**	**1.14**	**1059**	737	1.40	1306	793	1.68	1563
2800	**532**	**0.70**	**649**	**614**	**0.95**	**882**	**684**	**1.21**	**1125**	746	1.48	1378	803	1.76	1641
2900	**544**	**0.75**	**703**	**625**	**1.01**	**944**	695	1.28	1194	756	1.56	1453	812	1.85	1723
3000	**557**	**0.82**	**761**	**637**	**1.08**	**1009**	705	1.36	1266	766	1.64	1533	822	1.94	1808
3100	**570**	**0.88**	**823**	**648**	**1.16**	**1079**	716	1.44	1342	776	1.73	1615	831	2.03	1897
3200	**583**	**0.95**	**888**	**660**	**1.23**	**1151**	727	1.53	1422	787	1.82	1702	841	2.13	1991
3300	**596**	**1.03**	**957**	**672**	**1.32**	**1228**	738	1.61	1506	797	1.92	1792	851	2.24	2088
3400	**609**	**1.10**	**1030**	**684**	**1.40**	**1308**	749	1.71	1593	808	2.02	1887	861	2.35	2188
3500	**622**	**1.19**	**1106**	696	1.49	1392	760	1.81	1685	818	2.13	1985	—	—	—
3600	**635**	**1.27**	**1187**	708	1.59	1481	771	1.91	1781	829	2.24	2088	—	—	—
3700	**649**	**1.36**	**1272**	720	1.69	1573	783	2.02	1881	840	2.35	2195	—	—	—
3750	**655**	**1.41**	**1316**	726	1.74	1621	789	2.07	1932	—	—	—	—	—	—

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	806	1.60	1494	856	1.87	1747	903	2.15	2009	—	—	—	—	—	—
2300	811	1.64	1528	860	1.91	1784	907	2.20	2048	—	—	—	—	—	—
2400	819	1.71	1599	868	1.99	1859	915	2.28	2129	—	—	—	—	—	—
2500	828	1.79	1672	877	2.08	1938	923	2.37	2214	—	—	—	—	—	—
2550	832	1.83	1710	881	2.12	1979	—	—	—	—	—	—	—	—	—
2600	836	1.88	1749	885	2.17	2021	—	—	—	—	—	—	—	—	—
2700	845	1.96	1830	894	2.26	2107	—	—	—	—	—	—	—	—	—
2800	854	2.05	1914	903	2.36	2197	—	—	—	—	—	—	—	—	—
2900	864	2.15	2002	—	—	—	—	—	—	—	—	—	—	—	—
3000	873	2.24	2093	—	—	—	—	—	—	—	—	—	—	—	—
3100	882	2.35	2189	—	—	—	—	—	—	—	—	—	—	—	—
3200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 685 to 935 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 33 for general fan performance notes.

Table 22 — Fan Performance 558F090,091 — Horizontal Discharge Units; High-Static Motor (Belt Drive)*

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**465**	**0.43**	**402**	**555**	**0.64**	**596**	**629**	**0.86**	**802**	**694**	**1.10**	**1021**	**753**	**1.34**	**1252**
2300	**471**	**0.45**	**421**	**560**	**0.66**	**618**	**634**	**0.89**	**828**	**699**	**1.13**	**1050**	**757**	**1.38**	**1283**
2400	**483**	**0.49**	**461**	**571**	**0.71**	**665**	**644**	**0.94**	**881**	**708**	**1.19**	**1109**	**766**	**1.45**	**1348**
2500	**495**	**0.54**	**503**	**581**	**0.77**	**715**	**654**	**1.01**	**937**	**717**	**1.26**	**1171**	**775**	**1.52**	**1416**
2550	**501**	**0.56**	**526**	**587**	**0.79**	**740**	**659**	**1.04**	**967**	**722**	**1.29**	**1204**	**779**	**1.56**	**1452**
2600	**507**	**0.59**	**549**	**592**	**0.82**	**767**	**664**	**1.07**	**996**	**727**	**1.33**	**1237**	**784**	**1.60**	**1488**
2700	**519**	**0.64**	**597**	**603**	**0.88**	**823**	**674**	**1.14**	**1059**	**737**	**1.40**	**1306**	**793**	**1.68**	**1563**
2800	**532**	**0.70**	**649**	**614**	**0.95**	**882**	**684**	**1.21**	**1125**	**746**	**1.48**	**1378**	**803**	**1.76**	**1641**
2900	**544**	**0.75**	**703**	**625**	**1.01**	**944**	**695**	**1.28**	**1194**	**756**	**1.56**	**1453**	**812**	**1.85**	**1723**
3000	**557**	**0.82**	**761**	**637**	**1.08**	**1009**	**705**	**1.36**	**1266**	**766**	**1.64**	**1533**	**822**	**1.94**	**1808**
3100	**570**	**0.88**	**823**	**648**	**1.16**	**1079**	**716**	**1.44**	**1342**	**776**	**1.73**	**1615**	**831**	**2.03**	**1897**
3200	**583**	**0.95**	**888**	**660**	**1.23**	**1151**	**727**	**1.53**	**1422**	**787**	**1.82**	**1702**	**841**	**2.13**	**1991**
3300	**596**	**1.03**	**957**	**672**	**1.32**	**1228**	**738**	**1.61**	**1506**	**797**	**1.92**	**1792**	**851**	**2.24**	**2088**
3400	**609**	**1.10**	**1030**	**684**	**1.40**	**1308**	**749**	**1.71**	**1593**	**808**	**2.02**	**1887**	861	2.35	2188
3500	**622**	**1.19**	**1106**	**696**	**1.49**	**1392**	**760**	**1.81**	**1685**	**818**	**2.13**	**1985**	872	2.46	2294
3600	**635**	**1.27**	**1187**	**708**	**1.59**	**1481**	**771**	**1.91**	**1781**	**829**	**2.24**	**2088**	882	2.58	2403
3700	**649**	**1.36**	**1272**	**720**	**1.69**	**1573**	**783**	**2.02**	**1881**	**840**	**2.35**	**2195**	892	2.70	2517
3750	**655**	**1.41**	**1316**	**726**	**1.74**	**1621**	**789**	**2.07**	**1932**	**845**	**2.41**	**2250**	897	2.76	2575

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	**806**	**1.60**	**1494**	**856**	**1.87**	**1747**	903	2.15	2009	947	2.45	2282	988	2.75	2564
2300	**811**	**1.64**	**1528**	860	1.91	1784	907	2.20	2048	950	2.49	2323	992	2.80	2607
2400	**819**	**1.71**	**1599**	868	1.99	1859	915	2.28	2129	958	2.58	2410	1000	2.89	2698
2500	**828**	**1.79**	**1672**	877	2.08	1938	923	2.37	2214	966	2.68	2499	1008	3.00	2793
2550	**832**	**1.83**	**1710**	881	2.12	1979	927	2.42	2258	971	2.73	2545	1012	3.05	2842
2600	**836**	**1.88**	**1749**	885	2.17	2021	931	2.47	2302	975	2.78	2592	1016	3.10	2891
2700	**845**	**1.96**	**1830**	894	2.26	2107	940	2.57	2394	983	2.88	2689	1024	3.21	2993
2800	**854**	**2.05**	**1914**	903	2.36	2197	948	2.67	2488	991	2.99	2790	1032	3.32	3099
2900	864	2.15	2002	912	2.46	2290	957	2.77	2587	1000	3.10	2894	1041	3.44	3209
3000	873	2.24	2093	921	2.56	2388	966	2.89	2691	1008	3.22	3003	1049	3.56	3323
3100	882	2.35	2189	930	2.67	2489	975	3.00	2798	1017	3.34	3115	1057	3.69	3441
3200	892	2.45	2288	939	2.78	2595	984	3.12	2909	1026	3.47	3233	—	—	—
3300	901	2.56	2391	948	2.90	2704	993	3.24	3024	1035	3.60	3353	—	—	—
3400	911	2.68	2499	958	3.02	2817	1002	3.37	3144	—	—	—	—	—	—
3500	921	2.80	2610	967	3.15	2935	1011	3.50	3268	—	—	—	—	—	—
3600	931	2.92	2726	977	3.28	3057	1021	3.64	3396	—	—	—	—	—	—
3700	941	3.05	2847	987	3.41	3184	—	—	—	—	—	—	—	—	—
3750	946	3.12	2908	992	3.48	3249	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

NOTES:
1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 3.70.
3. See page 33 for general fan performance notes.

Table 23 — Fan Performance 558F102,103 — Horizontal Discharge Units; Standard Motor (Belt Drive)*

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2200	**459**	**0.41**	**384**	**550**	**0.62**	**575**	**625**	**0.83**	**778**	690	1.07	994	748	1.31	1221
2250	**465**	**0.43**	**402**	**555**	**0.64**	**596**	**629**	**0.86**	**802**	694	1.10	1021	753	1.34	1252
2300	**471**	**0.45**	**421**	**560**	**0.66**	**618**	**634**	**0.89**	**828**	699	1.13	1050	757	1.38	1283
2400	**483**	**0.49**	**461**	**571**	**0.71**	**665**	**644**	**0.94**	**881**	708	1.19	1109	766	1.45	1348
2500	**495**	**0.54**	**503**	**581**	**0.77**	**715**	**654**	**1.01**	**937**	717	1.26	1171	775	1.52	1416
2550	**501**	**0.56**	**526**	**587**	**0.79**	**740**	**659**	**1.04**	**967**	722	1.29	1204	779	1.56	1452
2600	**507**	**0.59**	**549**	**592**	**0.82**	**767**	**664**	**1.07**	**996**	727	1.33	1237	784	1.60	1488
2700	**519**	**0.64**	**597**	**603**	**0.88**	**823**	**674**	**1.14**	**1059**	737	1.40	1306	793	1.68	1563
2800	**532**	**0.70**	**649**	**614**	**0.95**	**882**	**684**	**1.21**	**1125**	746	1.48	1378	803	1.76	1641
2900	**544**	**0.75**	**703**	**625**	**1.01**	**944**	695	1.28	1194	756	1.56	1453	812	1.85	1723
3000	**557**	**0.82**	**761**	**637**	**1.08**	**1009**	705	1.36	1266	766	1.64	1533	822	1.94	1808
3100	**570**	**0.88**	**823**	**648**	**1.16**	**1079**	716	1.44	1342	776	1.73	1615	831	2.03	1897
3200	**583**	**0.95**	**888**	**660**	**1.23**	**1151**	727	1.53	1422	787	1.82	1702	841	2.13	1991
3300	**596**	**1.03**	**957**	**672**	**1.32**	**1228**	738	1.61	1506	797	1.92	1792	851	2.24	2088
3400	**609**	**1.10**	**1030**	**684**	**1.40**	**1308**	749	1.71	1593	808	2.02	1887	861	2.35	2188
3500	**622**	**1.19**	**1106**	696	1.49	1392	760	1.81	1685	818	2.13	1985	—	—	—
3600	**635**	**1.27**	**1187**	708	1.59	1481	771	1.91	1781	829	2.24	2088	—	—	—
3700	**649**	**1.36**	**1272**	720	1.69	1573	783	2.02	1881	840	2.35	2195	—	—	—
3750	**655**	**1.41**	**1316**	726	1.74	1621	789	2.07	1932	—	—	—	—	—	—
3800	**662**	**1.46**	**1361**	732	1.79	1670	794	2.13	1985	—	—	—	—	—	—
3900	**675**	**1.56**	**1454**	745	1.90	1771	806	2.25	2093	—	—	—	—	—	—
4000	689	1.66	1553	757	2.01	1877	818	2.37	2207	—	—	—	—	—	—
4100	703	1.77	1655	770	2.13	1988	—	—	—	—	—	—	—	—	—
4200	716	1.89	1762	782	2.25	2103	—	—	—	—	—	—	—	—	—
4250	723	1.95	1818	789	2.32	2162	—	—	—	—	—	—	—	—	—

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2200	802	1.57	1461	852	1.83	1711	899	2.11	1971	**943**	**2.40**	**2241**	—	—	—
2250	806	1.60	1494	856	1.87	1747	903	2.15	2009	—	—	—	—	—	—
2300	811	1.64	1528	860	1.91	1784	907	2.20	2048	—	—	—	—	—	—
2400	819	1.71	1599	868	1.99	1859	915	2.28	2129	—	—	—	—	—	—
2500	828	1.79	1672	877	2.08	1938	923	2.37	2214	—	—	—	—	—	—
2550	832	1.83	1710	881	2.12	1979	—	—	—	—	—	—	—	—	—
2600	836	1.88	1749	885	2.17	2021	—	—	—	—	—	—	—	—	—
2700	845	1.96	1830	894	2.26	2107	—	—	—	—	—	—	—	—	—
2800	854	2.05	1914	903	2.36	2197	—	—	—	—	—	—	—	—	—
2900	864	2.15	2002	—	—	—	—	—	—	—	—	—	—	—	—
3000	873	2.24	2093	—	—	—	—	—	—	—	—	—	—	—	—
3100	882	2.35	2189	—	—	—	—	—	—	—	—	—	—	—	—
3200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3750	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 685 to 935 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 33 for general fan performance notes.

Table 24 — Fan Performance 558F102,103 — Horizontal Discharge Units; High-Static Motor (Belt Drive)*

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2200	**459**	**0.41**	**384**	**550**	**0.62**	**575**	**625**	**0.83**	**778**	**690**	**1.07**	**994**	**748**	**1.31**	**1221**
2250	**465**	**0.43**	**402**	**555**	**0.64**	**596**	**629**	**0.86**	**802**	**694**	**1.10**	**1021**	**753**	**1.34**	**1252**
2300	**471**	**0.45**	**421**	**560**	**0.66**	**618**	**634**	**0.89**	**828**	**699**	**1.13**	**1050**	**757**	**1.38**	**1283**
2400	**483**	**0.49**	**461**	**571**	**0.71**	**665**	**644**	**0.94**	**881**	**708**	**1.19**	**1109**	**766**	**1.45**	**1348**
2500	**495**	**0.54**	**503**	**581**	**0.77**	**715**	**654**	**1.01**	**937**	**717**	**1.26**	**1171**	**775**	**1.52**	**1416**
2550	**501**	**0.56**	**526**	**587**	**0.79**	**740**	**659**	**1.04**	**967**	**722**	**1.29**	**1204**	**779**	**1.56**	**1452**
2600	**507**	**0.59**	**549**	**592**	**0.82**	**767**	**664**	**1.07**	**996**	**727**	**1.33**	**1237**	**784**	**1.60**	**1488**
2700	**519**	**0.64**	**597**	**603**	**0.88**	**823**	**674**	**1.14**	**1059**	**737**	**1.40**	**1306**	**793**	**1.68**	**1563**
2800	**532**	**0.70**	**649**	**614**	**0.95**	**882**	**684**	**1.21**	**1125**	**746**	**1.48**	**1378**	**803**	**1.76**	**1641**
2900	**544**	**0.75**	**703**	**625**	**1.01**	**944**	**695**	**1.28**	**1194**	**756**	**1.56**	**1453**	**812**	**1.85**	**1723**
3000	**557**	**0.82**	**761**	**637**	**1.08**	**1009**	**705**	**1.36**	**1266**	**766**	**1.64**	**1533**	**822**	**1.94**	**1808**
3100	**570**	**0.88**	**823**	**648**	**1.16**	**1079**	**716**	**1.44**	**1342**	**776**	**1.73**	**1615**	**831**	**2.03**	**1897**
3200	**583**	**0.95**	**888**	**660**	**1.23**	**1151**	**727**	**1.53**	**1422**	**787**	**1.82**	**1702**	**841**	**2.13**	**1991**
3300	**596**	**1.03**	**957**	**672**	**1.32**	**1228**	**738**	**1.61**	**1506**	**797**	**1.92**	**1792**	**851**	**2.24**	**2088**
3400	**609**	**1.10**	**1030**	**684**	**1.40**	**1308**	**749**	**1.71**	**1593**	**808**	**2.02**	**1887**	861	2.35	2188
3500	**622**	**1.19**	**1106**	**696**	**1.49**	**1392**	**760**	**1.81**	**1685**	**818**	**2.13**	**1985**	872	2.46	2294
3600	**635**	**1.27**	**1187**	**708**	**1.59**	**1481**	**771**	**1.91**	**1781**	**829**	**2.24**	**2088**	882	2.58	2403
3700	**649**	**1.36**	**1272**	**720**	**1.69**	**1573**	**783**	**2.02**	**1881**	**840**	**2.35**	**2195**	892	2.70	2517
3750	**655**	**1.41**	**1316**	**726**	**1.74**	**1621**	**789**	**2.07**	**1932**	**845**	**2.41**	**2250**	897	2.76	2575
3800	**662**	**1.46**	**1361**	**732**	**1.79**	**1670**	**794**	**2.13**	**1985**	**851**	**2.47**	**2307**	903	2.83	2635
3900	**675**	**1.56**	**1454**	**745**	**1.90**	**1771**	**806**	**2.25**	**2093**	862	2.60	2422	913	2.96	2758
4000	**689**	**1.66**	**1553**	**757**	**2.01**	**1877**	**818**	**2.37**	**2207**	873	2.73	2543	924	3.09	2886
4100	**703**	**1.77**	**1655**	**770**	**2.13**	**1988**	**830**	**2.49**	**2325**	884	2.86	2668	935	3.24	3018
4200	**716**	**1.89**	**1762**	**782**	**2.25**	**2103**	**842**	**2.62**	**2447**	896	3.00	2798	946	3.38	3155
4250	**723**	**1.95**	**1818**	**789**	**2.32**	**2162**	**848**	**2.69**	**2511**	901	3.07	2865	951	3.46	3226

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2200	**802**	**1.57**	**1461**	**852**	**1.83**	**1711**	899	2.11	1971	943	2.40	2241	985	2.70	2521
2250	**806**	**1.60**	**1494**	**856**	**1.87**	**1747**	903	2.15	2009	947	2.45	2282	988	2.75	2564
2300	**811**	**1.64**	**1528**	860	1.91	1784	907	2.20	2048	950	2.49	2323	992	2.80	2607
2400	**819**	**1.71**	**1599**	868	1.99	1859	915	2.28	2129	958	2.58	2410	1000	2.89	2698
2500	**828**	**1.79**	**1672**	877	2.08	1938	923	2.37	2214	966	2.68	2499	1008	3.00	2793
2550	**832**	**1.83**	**1710**	881	2.12	1979	927	2.42	2258	971	2.73	2545	1012	3.05	2842
2600	**836**	**1.88**	**1749**	885	2.17	2021	931	2.47	2302	975	2.78	2592	1016	3.10	2891
2700	**845**	**1.96**	**1830**	894	2.26	2107	940	2.57	2394	983	2.88	2689	1024	3.21	2993
2800	**854**	**2.05**	**1914**	903	2.36	2197	948	2.67	2488	991	2.99	2790	1032	3.32	3099
2900	864	2.15	2002	912	2.46	2290	957	2.77	2587	1000	3.10	2894	1041	3.44	3209
3000	873	2.24	2093	921	2.56	2388	966	2.89	2691	1008	3.22	3003	1049	3.56	3323
3100	882	2.35	2189	930	2.67	2489	975	3.00	2798	1017	3.34	3115	1057	3.69	3441
3200	892	2.45	2288	939	2.78	2595	984	3.12	2909	1026	3.47	3233	—	—	—
3300	901	2.56	2391	948	2.90	2704	993	3.24	3024	1035	3.60	3353	—	—	—
3400	911	2.68	2499	958	3.02	2817	1002	3.37	3144	—	—	—	—	—	—
3500	921	2.80	2610	967	3.15	2935	1011	3.50	3268	—	—	—	—	—	—
3600	931	2.92	2726	977	3.28	3057	1021	3.64	3396	—	—	—	—	—	—
3700	941	3.05	2847	987	3.41	3184	—	—	—	—	—	—	—	—	—
3750	946	3.12	2908	992	3.48	3249	—	—	—	—	—	—	—	—	—
3800	951	3.19	2971	997	3.56	3316	—	—	—	—	—	—	—	—	—
3900	961	3.33	3101	1007	3.70	3451	—	—	—	—	—	—	—	—	—
4000	972	3.47	3235	—	—	—	—	—	—	—	—	—	—	—	—
4100	982	3.62	3375	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 3.70.
3. See page 33 for general fan performance notes.

Table 25 — Fan Performance 558F120,121 — Horizontal Discharge Units; Standard Motor (Belt Drive)*

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**484**	**0.58**	**506**	**562**	**0.71**	**625**	**630**	**0.86**	**752**	691	1.01	888	747	1.18	1035
3100	**494**	**0.63**	**550**	**571**	**0.77**	**672**	**638**	**0.91**	**802**	699	1.07	941	754	1.24	1089
3200	**505**	**0.68**	**597**	**581**	**0.82**	**723**	**647**	**0.97**	**855**	706	1.13	996	761	1.31	1146
3300	**516**	**0.74**	**647**	**590**	**0.88**	**776**	**655**	**1.04**	**911**	714	1.20	1055	768	1.38	1207
3400	**526**	**0.80**	**699**	**600**	**0.95**	**832**	**664**	**1.11**	**970**	722	1.27	1116	776	1.45	1271
3500	**537**	**0.86**	**755**	**609**	**1.01**	**891**	**673**	**1.18**	**1032**	731	1.35	1181	784	1.52	1338
3600	**548**	**0.93**	**813**	**619**	**1.09**	**953**	**682**	**1.25**	**1097**	739	1.42	1249	792	1.60	1408
3700	**559**	**1.00**	**875**	**629**	**1.16**	**1018**	691	1.33	1166	747	1.50	1320	799	1.69	1482
3800	**571**	**1.07**	**940**	**639**	**1.24**	**1087**	700	1.41	1237	756	1.59	1395	808	1.78	1559
3900	**582**	**1.15**	**1008**	**649**	**1.32**	**1158**	709	1.50	1313	765	1.68	1473	816	1.87	1640
4000	**593**	**1.23**	**1080**	**659**	**1.41**	**1234**	719	1.59	1391	773	1.77	1554	824	1.96	1724
4100	**604**	**1.32**	**1155**	**669**	**1.50**	**1312**	728	1.68	1473	782	1.87	1639	832	2.06	1811
4200	**616**	**1.41**	**1233**	**680**	**1.59**	**1395**	738	1.78	1559	791	1.97	1728	841	2.17	1903
4300	**627**	**1.50**	**1316**	690	1.69	1481	747	1.88	1648	800	2.07	1821	850	2.28	1999
4400	**639**	**1.60**	**1402**	701	1.79	1570	757	1.98	1741	809	2.18	1917	858	2.39	2098
4500	**650**	**1.70**	**1492**	711	1.90	1664	767	2.10	1839	819	2.30	2017	—	—	—
4600	**662**	**1.81**	**1585**	722	2.01	1762	777	2.21	1940	—	—	—	—	—	—
4700	**674**	**1.92**	**1683**	733	2.12	1863	787	2.33	2045	—	—	—	—	—	—
4800	685	2.03	1785	744	2.24	1969	—	—	—	—	—	—	—	—	—
4900	697	2.15	1891	754	2.37	2078	—	—	—	—	—	—	—	—	—
5000	709	2.28	2001	—	—	—	—	—	—	—	—	—	—	—	—

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	798	1.36	1191	846	1.55	1357	892	1.75	1534	935	1.96	1719	**976**	**2.18**	**1915**
3100	805	1.42	1247	853	1.61	1415	898	1.81	1592	**941**	**2.03**	**1779**	**982**	**2.25**	**1974**
3200	812	1.49	1306	859	1.68	1476	904	1.88	1654	**947**	**2.10**	**1842**	**987**	**2.32**	**2038**
3300	819	1.56	1369	866	1.75	1539	911	1.96	1719	**953**	**2.17**	**1908**	**994**	**2.40**	**2106**
3400	826	1.63	1434	873	1.83	1606	917	2.04	1788	**959**	**2.25**	**1978**	—	—	—
3500	833	1.71	1503	880	1.91	1677	924	2.12	1860	**966**	**2.34**	**2051**	—	—	—
3600	841	1.80	1576	887	2.00	1751	931	2.21	1936	—	—	—	—	—	—
3700	848	1.88	1651	894	2.08	1829	**938**	**2.30**	**2015**	—	—	—	—	—	—
3800	856	1.97	1731	901	2.18	1911	**945**	**2.39**	**2098**	—	—	—	—	—	—
3900	864	2.07	1814	909	2.27	1995	—	—	—	—	—	—	—	—	—
4000	872	2.17	1900	916	2.37	2084	—	—	—	—	—	—	—	—	—
4100	880	2.27	1991	—	—	—	—	—	—	—	—	—	—	—	—
4200	888	2.38	2085	—	—	—	—	—	—	—	—	—	—	—	—
4300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 685 to 935 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.40.
3. See page 33 for general fan performance notes.

Table 26 — Fan Performance 558F120,121 — Horizontal Discharge Units; Alternate Motor (Belt Drive)*

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**484**	**0.58**	**506**	**562**	**0.71**	**625**	**630**	**0.86**	**752**	**691**	**1.01**	**888**	**747**	**1.18**	**1035**
3100	**494**	**0.63**	**550**	**571**	**0.77**	**672**	**638**	**0.91**	**802**	**699**	**1.07**	**941**	**754**	**1.24**	**1089**
3200	**505**	**0.68**	**597**	**581**	**0.82**	**723**	**647**	**0.97**	**855**	**706**	**1.13**	**996**	**761**	**1.31**	**1146**
3300	**516**	**0.74**	**647**	**590**	**0.88**	**776**	**655**	**1.04**	**911**	**714**	**1.20**	**1055**	**768**	**1.38**	**1207**
3400	**526**	**0.80**	**699**	**600**	**0.95**	**832**	**664**	**1.11**	**970**	**722**	**1.27**	**1116**	**776**	**1.45**	**1271**
3500	**537**	**0.86**	**755**	**609**	**1.01**	**891**	**673**	**1.18**	**1032**	**731**	**1.35**	**1181**	**784**	**1.52**	**1338**
3600	**548**	**0.93**	**813**	**619**	**1.09**	**953**	**682**	**1.25**	**1097**	**739**	**1.42**	**1249**	**792**	**1.60**	**1408**
3700	**559**	**1.00**	**875**	**629**	**1.16**	**1018**	**691**	**1.33**	**1166**	**747**	**1.50**	**1320**	**799**	**1.69**	**1482**
3800	**571**	**1.07**	**940**	**639**	**1.24**	**1087**	**700**	**1.41**	**1237**	**756**	**1.59**	**1395**	**808**	**1.78**	**1559**
3900	**582**	**1.15**	**1008**	**649**	**1.32**	**1158**	**709**	**1.50**	**1313**	**765**	**1.68**	**1473**	**816**	**1.87**	**1640**
4000	**593**	**1.23**	**1080**	**659**	**1.41**	**1234**	**719**	**1.59**	**1391**	**773**	**1.77**	**1554**	**824**	**1.96**	**1724**
4100	**604**	**1.32**	**1155**	**669**	**1.50**	**1312**	**728**	**1.68**	**1473**	**782**	**1.87**	**1639**	**832**	**2.06**	**1811**
4200	**616**	**1.41**	**1233**	**680**	**1.59**	**1395**	**738**	**1.78**	**1559**	**791**	**1.97**	**1728**	841	2.17	1903
4300	**627**	**1.50**	**1316**	**690**	**1.69**	**1481**	**747**	**1.88**	**1648**	**800**	**2.07**	**1821**	850	2.28	1999
4400	**639**	**1.60**	**1402**	**701**	**1.79**	**1570**	**757**	**1.98**	**1741**	**809**	**2.18**	**1917**	858	2.39	2098
4500	**650**	**1.70**	**1492**	**711**	**1.90**	**1664**	**767**	**2.10**	**1839**	**819**	**2.30**	**2017**	867	2.51	2201
4600	**662**	**1.81**	**1585**	**722**	**2.01**	**1762**	**777**	**2.21**	**1940**	**828**	**2.42**	**2122**	876	2.63	2308
4700	**674**	**1.92**	**1683**	**733**	**2.12**	**1863**	**787**	**2.33**	**2045**	838	2.54	2230	885	2.76	2420
4800	**685**	**2.03**	**1785**	**744**	**2.24**	**1969**	**797**	**2.45**	**2154**	847	2.67	2343	894	2.89	2536
4900	**697**	**2.15**	**1891**	**754**	**2.37**	**2078**	**807**	**2.58**	**2268**	857	2.80	2459	—	—	—
5000	**709**	**2.28**	**2001**	**765**	**2.50**	**2193**	**818**	**2.72**	**2385**	—	—	—	—	—	—

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**798**	**1.36**	**1191**	846	1.55	1357	892	1.75	1534	935	1.96	1719	976	2.18	1915
3100	**805**	**1.42**	**1247**	853	1.61	1415	898	1.81	1592	941	2.03	1779	982	2.25	1974
3200	**812**	**1.49**	**1306**	859	1.68	1476	904	1.88	1654	947	2.10	1842	987	2.32	2038
3300	**819**	**1.56**	**1369**	866	1.75	1539	911	1.96	1719	953	2.17	1908	994	2.40	2106
3400	**826**	**1.63**	**1434**	873	1.83	1606	917	2.04	1788	959	2.25	1978	1000	2.48	2176
3500	**833**	**1.71**	**1503**	880	1.91	1677	924	2.12	1860	966	2.34	2051	1006	2.56	2251
3600	841	1.80	1576	887	2.00	1751	931	2.21	1936	972	2.42	2128	1012	2.65	2329
3700	848	1.88	1651	894	2.08	1829	938	2.30	2015	979	2.52	2209	1019	2.75	2411
3800	856	1.97	1731	901	2.18	1911	945	2.39	2098	986	2.61	2294	1025	2.85	2498
3900	864	2.07	1814	909	2.27	1995	952	2.49	2185	993	2.71	2382	—	—	—
4000	872	2.17	1900	916	2.37	2084	959	2.59	2276	1000	2.82	2475	—	—	—
4100	880	2.27	1991	924	2.48	2177	966	2.70	2370	—	—	—	—	—	—
4200	888	2.38	2085	932	2.59	2273	974	2.81	2469	—	—	—	—	—	—
4300	896	2.49	2183	940	2.70	2374	—	—	—	—	—	—	—	—	—
4400	904	2.60	2285	948	2.82	2478	—	—	—	—	—	—	—	—	—
4500	913	2.72	2391	—	—	—	—	—	—	—	—	—	—	—	—
4600	921	2.85	2501	—	—	—	—	—	—	—	—	—	—	—	—
4700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 835 to 1085 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 2.90.
3. See page 33 for general fan performance notes.

Table 27 — Fan Performance 558F120,121 — Horizontal Discharge Units; High-Static Motor (Belt Drive)*

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**484**	**0.58**	**506**	**562**	**0.71**	**625**	**630**	**0.86**	**752**	**691**	**1.01**	**888**	**747**	**1.18**	**1035**
3100	**494**	**0.63**	**550**	**571**	**0.77**	**672**	**638**	**0.91**	**802**	**699**	**1.07**	**941**	**754**	**1.24**	**1089**
3200	**505**	**0.68**	**597**	**581**	**0.82**	**723**	**647**	**0.97**	**855**	**706**	**1.13**	**996**	**761**	**1.31**	**1146**
3300	**516**	**0.74**	**647**	**590**	**0.88**	**776**	**655**	**1.04**	**911**	**714**	**1.20**	**1055**	**768**	**1.38**	**1207**
3400	**526**	**0.80**	**699**	**600**	**0.95**	**832**	**664**	**1.11**	**970**	**722**	**1.27**	**1116**	**776**	**1.45**	**1271**
3500	**537**	**0.86**	**755**	**609**	**1.01**	**891**	**673**	**1.18**	**1032**	**731**	**1.35**	**1181**	**784**	**1.52**	**1338**
3600	**548**	**0.93**	**813**	**619**	**1.09**	**953**	**682**	**1.25**	**1097**	**739**	**1.42**	**1249**	**792**	**1.60**	**1408**
3700	**559**	**1.00**	**875**	**629**	**1.16**	**1018**	**691**	**1.33**	**1166**	**747**	**1.50**	**1320**	**799**	**1.69**	**1482**
3800	**571**	**1.07**	**940**	**639**	**1.24**	**1087**	**700**	**1.41**	**1237**	**756**	**1.59**	**1395**	**808**	**1.78**	**1559**
3900	**582**	**1.15**	**1008**	**649**	**1.32**	**1158**	**709**	**1.50**	**1313**	**765**	**1.68**	**1473**	**816**	**1.87**	**1640**
4000	**593**	**1.23**	**1080**	**659**	**1.41**	**1234**	**719**	**1.59**	**1391**	**773**	**1.77**	**1554**	**824**	**1.96**	**1724**
4100	**604**	**1.32**	**1155**	**669**	**1.50**	**1312**	**728**	**1.68**	**1473**	**782**	**1.87**	**1639**	832	2.06	1811
4200	**616**	**1.41**	**1233**	**680**	**1.59**	**1395**	**738**	**1.78**	**1559**	**791**	**1.97**	**1728**	841	2.17	1903
4300	**627**	**1.50**	**1316**	**690**	**1.69**	**1481**	**747**	**1.88**	**1648**	**800**	**2.07**	**1821**	850	2.28	1999
4400	**639**	**1.60**	**1402**	**701**	**1.79**	**1570**	**757**	**1.98**	**1741**	**809**	**2.18**	**1917**	858	2.39	2098
4500	**650**	**1.70**	**1492**	**711**	**1.90**	**1664**	**767**	**2.10**	**1839**	**819**	**2.30**	**2017**	867	2.51	2201
4600	**662**	**1.81**	**1585**	**722**	**2.01**	**1762**	**777**	**2.21**	**1940**	**828**	**2.42**	**2122**	876	2.63	2308
4700	**674**	**1.92**	**1683**	**733**	**2.12**	**1863**	**787**	**2.33**	**2045**	838	2.54	2230	885	2.76	2420
4800	**685**	**2.03**	**1785**	**744**	**2.24**	**1969**	**797**	**2.45**	**2154**	847	2.67	2343	894	2.89	2536
4900	**697**	**2.15**	**1891**	**754**	**2.37**	**2078**	**807**	**2.58**	**2268**	857	2.80	2459	903	3.03	2656
5000	**709**	**2.28**	**2001**	**765**	**2.50**	**2193**	**818**	**2.72**	**2385**	866	2.94	2580	912	3.17	2780

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	**798**	**1.36**	**1191**	846	1.55	1357	892	1.75	1534	935	1.96	1719	976	2.18	1915
3100	**805**	**1.42**	**1247**	853	1.61	1415	898	1.81	1592	941	2.03	1779	982	2.25	1974
3200	**812**	**1.49**	**1306**	859	1.68	1476	904	1.88	1654	947	2.10	1842	987	2.32	2038
3300	**819**	**1.56**	**1369**	866	1.75	1539	911	1.96	1719	953	2.17	1908	994	2.40	2106
3400	**826**	**1.63**	**1434**	873	1.83	1606	917	2.04	1788	959	2.25	1978	1000	2.48	2176
3500	833	1.71	1503	880	1.91	1677	924	2.12	1860	966	2.34	2051	1006	2.56	2251
3600	841	1.80	1576	887	2.00	1751	931	2.21	1936	972	2.42	2128	1012	2.65	2329
3700	848	1.88	1651	894	2.08	1829	938	2.30	2015	979	2.52	2209	1019	2.75	2411
3800	856	1.97	1731	901	2.18	1911	945	2.39	2098	986	2.61	2294	1025	2.85	2498
3900	864	2.07	1814	909	2.27	1995	952	2.49	2185	993	2.71	2382	1032	2.95	2587
4000	872	2.17	1900	916	2.37	2084	959	2.59	2276	1000	2.82	2475	1039	3.05	2681
4100	880	2.27	1991	924	2.48	2177	966	2.70	2370	1007	2.93	2571	1046	3.17	2779
4200	888	2.38	2085	932	2.59	2273	974	2.81	2469	1014	3.04	2672	1053	3.28	2881
4300	896	2.49	2183	940	2.70	2374	981	2.93	2571	1021	3.16	2776	1060	3.40	2987
4400	904	2.60	2285	948	2.82	2478	989	3.05	2678	1029	3.29	2884	1067	3.53	3098
4500	913	2.72	2391	956	2.95	2586	997	3.18	2788	1036	3.41	2997	1074	3.66	3212
4600	921	2.85	2501	964	3.08	2699	1005	3.31	2904	1044	3.55	3115	1082	3.80	3332
4700	930	2.98	2615	972	3.21	2816	1013	3.44	3023	1052	3.69	3236	1089	3.94	3455
4800	938	3.11	2733	981	3.35	2937	1021	3.58	3146	1060	3.83	3362	1097	4.08	3583
4900	947	3.25	2856	989	3.49	3063	1029	3.73	3275	1067	3.98	3492	1104	4.23	3716
5000	956	3.40	2984	998	3.64	3193	1037	3.88	3407	1075	4.13	3627	1112	4.39	3853

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 830 to 1130 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 5.25.
3. See page 33 for general fan performance notes.

Table 28 — Fan Performance 558F150,151 — Horizontal Discharge Units; Standard Motor (Belt Drive)*

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3800	**628**	**1.07**	**997**	**685**	**1.25**	**1167**	**739**	**1.44**	**1343**	**791**	**1.64**	**1525**	**841**	**1.84**	**1712**
3900	**641**	**1.15**	**1069**	**697**	**1.33**	**1243**	**750**	**1.53**	**1423**	**801**	**1.72**	**1608**	**850**	**1.93**	**1799**
4000	**655**	**1.23**	**1144**	**709**	**1.42**	**1322**	**761**	**1.61**	**1506**	**812**	**1.82**	**1695**	860	2.03	1890
4100	**668**	**1.31**	**1223**	**722**	**1.51**	**1405**	**773**	**1.71**	**1593**	**822**	**1.92**	**1786**	870	2.13	1984
4200	**682**	**1.40**	**1305**	**734**	**1.60**	**1492**	**784**	**1.80**	**1683**	**833**	**2.02**	**1880**	880	2.23	2082
4300	**696**	**1.49**	**1392**	**747**	**1.70**	**1582**	**796**	**1.91**	**1777**	**844**	**2.12**	**1979**	890	2.34	2184
4400	**710**	**1.59**	**1482**	**760**	**1.80**	**1677**	**808**	**2.01**	**1876**	**855**	**2.23**	**2081**	900	2.46	2290
4500	**723**	**1.69**	**1577**	**773**	**1.90**	**1775**	**820**	**2.12**	**1978**	866	2.35	2187	910	2.57	2400
4600	**737**	**1.80**	**1675**	**785**	**2.01**	**1877**	**832**	**2.24**	**2085**	877	2.46	2297	921	2.70	2514
4700	**751**	**1.91**	**1778**	**798**	**2.13**	**1984**	**844**	**2.35**	**2195**	889	2.59	2412	932	2.82	2633
4800	**765**	**2.02**	**1885**	**812**	**2.25**	**2095**	**856**	**2.48**	**2310**	900	2.71	2531	942	2.95	2756
4900	**779**	**2.14**	**1996**	**825**	**2.37**	**2210**	869	2.61	2430	912	2.85	2654	953	3.09	2883
5000	**793**	**2.26**	**2112**	**838**	**2.50**	**2330**	881	2.74	2554	923	2.98	2782	965	3.23	3014
5100	**807**	**2.39**	**2232**	**851**	**2.63**	**2455**	894	2.88	2682	935	3.13	2914	976	3.38	3150
5200	**821**	**2.53**	**2357**	864	2.77	2584	906	3.02	2815	947	3.27	3050	987	3.53	3292
5300	**835**	**2.67**	**2487**	878	2.91	2718	919	3.17	2953	959	3.42	3193	999	3.69	3437
5400	**850**	**2.81**	**2622**	891	3.06	2856	932	3.32	3096	971	3.58	3339	—	—	—
5500	864	2.96	2762	905	3.22	3000	945	3.48	3242	—	—	—	—	—	—
5600	878	3.12	2906	918	3.38	3148	958	3.64	3396	—	—	—	—	—	—
5700	892	3.28	3055	932	3.54	3302	—	—	—	—	—	—	—	—	—
5800	907	3.44	3211	—	—	—	—	—	—	—	—	—	—	—	—
5900	921	3.61	3370	—	—	—	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3800	889	2.04	1904	936	2.25	2100	981	2.47	2302	1025	2.69	2507	1068	2.91	2716
3900	898	2.14	1995	944	2.35	2195	988	2.57	2399	1032	2.80	2608	1074	3.03	2821
4000	907	2.24	2089	952	2.46	2293	996	2.68	2501	1038	2.91	2713	1080	3.14	2930
4100	916	2.35	2187	960	2.57	2395	1004	2.80	2607	1046	3.03	2822	**1087**	**3.26**	**3042**
4200	925	2.45	2289	969	2.68	2500	1011	2.91	2716	1053	3.15	2935	**1094**	**3.39**	**3159**
4300	934	2.57	2395	978	2.80	2610	1020	3.03	2828	1061	3.27	3052	**1101**	**3.52**	**3279**
4400	944	2.69	2504	986	2.92	2723	1028	3.16	2946	1068	3.40	3173	**1108**	**3.65**	**3403**
4500	954	2.81	2618	996	3.05	2840	1037	3.29	3067	1076	3.54	3297	—	—	—
4600	963	2.93	2736	1005	3.18	2962	1045	3.42	3192	**1085**	**3.67**	**3426**	—	—	—
4700	974	3.07	2858	1014	3.31	3088	1054	3.56	3322	—	—	—	—	—	—
4800	984	3.20	2985	1024	3.45	3219	—	—	—	—	—	—	—	—	—
4900	994	3.34	3116	1034	3.60	3353	—	—	—	—	—	—	—	—	—
5000	1005	3.49	3251	—	—	—	—	—	—	—	—	—	—	—	—
5100	1015	3.64	3391	—	—	—	—	—	—	—	—	—	—	—	—
5200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 860 to 1080 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 3.70.
3. See page 33 for general fan performance notes.

Table 29 — Fan Performance 558F150,151 — Horizontal Discharge Units; Alternate Motor (Belt Drive)*

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3800	**628**	**1.07**	**997**	**685**	**1.25**	**1167**	**739**	**1.44**	**1343**	**791**	**1.64**	**1525**	841	1.84	1712
3900	**641**	**1.15**	**1069**	**697**	**1.33**	**1243**	**750**	**1.53**	**1423**	**801**	**1.72**	**1608**	850	1.93	1799
4000	**655**	**1.23**	**1144**	**709**	**1.42**	**1322**	**761**	**1.61**	**1506**	**812**	**1.82**	**1695**	860	2.03	1890
4100	**668**	**1.31**	**1223**	**722**	**1.51**	**1405**	**773**	**1.71**	**1593**	**822**	**1.92**	**1786**	870	2.13	1984
4200	**682**	**1.40**	**1305**	**734**	**1.60**	**1492**	**784**	**1.80**	**1683**	833	2.02	1880	880	2.23	2082
4300	**696**	**1.49**	**1392**	**747**	**1.70**	**1582**	**796**	**1.91**	**1777**	844	2.12	1979	890	2.34	2184
4400	**710**	**1.59**	**1482**	**760**	**1.80**	**1677**	**808**	**2.01**	**1876**	855	2.23	2081	900	2.46	2290
4500	**723**	**1.69**	**1577**	**773**	**1.90**	**1775**	**820**	**2.12**	**1978**	866	2.35	2187	910	2.57	2400
4600	**737**	**1.80**	**1675**	**785**	**2.01**	**1877**	832	2.24	2085	877	2.46	2297	921	2.70	2514
4700	**751**	**1.91**	**1778**	**798**	**2.13**	**1984**	844	2.35	2195	889	2.59	2412	932	2.82	2633
4800	**765**	**2.02**	**1885**	**812**	**2.25**	**2095**	856	2.48	2310	900	2.71	2531	942	2.95	2756
4900	**779**	**2.14**	**1996**	**825**	**2.37**	**2210**	869	2.61	2430	912	2.85	2654	953	3.09	2883
5000	**793**	**2.26**	**2112**	838	2.50	2330	881	2.74	2554	923	2.98	2782	965	3.23	3014
5100	**807**	**2.39**	**2232**	851	2.63	2455	894	2.88	2682	935	3.13	2914	976	3.38	3150
5200	**821**	**2.53**	**2357**	864	2.77	2584	906	3.02	2815	947	3.27	3050	987	3.53	3292
5300	835	2.67	2487	878	2.91	2718	919	3.17	2953	959	3.42	3193	999	3.69	3437
5400	850	2.81	2622	891	3.06	2856	932	3.32	3096	971	3.58	3339	1010	3.85	3588
5500	864	2.96	2762	905	3.22	3000	945	3.48	3242	984	3.74	3491	1022	4.01	3743
5600	878	3.12	2906	918	3.38	3148	958	3.64	3396	996	3.91	3648	1034	4.19	3903
5700	892	3.28	3055	932	3.54	3302	971	3.81	3554	1008	4.09	3810	1045	4.36	4069
5800	907	3.44	3211	945	3.71	3461	984	3.99	3716	1021	4.26	3976	1057	4.55	4240
5900	921	3.61	3370	959	3.89	3626	997	4.17	3885	1033	4.45	4149	1069	4.74	4416
6000	935	3.79	3536	973	4.07	3795	1010	4.35	4059	1046	4.64	4326	1082	4.93	4598
6100	949	3.98	3707	987	4.26	3970	1023	4.54	4238	1059	4.84	4510	1094	5.13	4785
6200	964	4.16	3883	1000	4.45	4151	1036	4.74	4422	1071	5.04	4698	—	—	—
6300	978	4.36	4066	1014	4.65	4337	1050	4.95	4613	1084	5.25	4892	—	—	—

AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3800	889	2.04	1904	936	2.25	2100	981	2.47	2302	1025	2.69	2507	1068	2.91	2716
3900	898	2.14	1995	944	2.35	2195	988	2.57	2399	1032	2.80	2608	1074	3.03	2821
4000	907	2.24	2089	952	2.46	2293	996	2.68	2501	1038	2.91	2713	1080	3.14	2930
4100	916	2.35	2187	960	2.57	2395	1004	2.80	2607	1046	3.03	2822	1087	3.26	3042
4200	925	2.45	2289	969	2.68	2500	1011	2.91	2716	1053	3.15	2935	1094	3.39	3159
4300	934	2.57	2395	978	2.80	2610	1020	3.03	2828	1061	3.27	3052	1101	3.52	3279
4400	944	2.69	2504	986	2.92	2723	1028	3.16	2946	1068	3.40	3173	1108	3.65	3403
4500	954	2.81	2618	996	3.05	2840	1037	3.29	3067	1076	3.54	3297	1115	3.79	3531
4600	963	2.93	2736	1005	3.18	2962	1045	3.42	3192	1085	3.67	3426	1123	3.93	3664
4700	974	3.07	2858	1014	3.31	3088	1054	3.56	3322	1093	3.82	3560	**1131**	**4.08**	**3801**
4800	984	3.20	2985	1024	3.45	3219	1063	3.71	3456	1102	3.96	3697	**1139**	**4.23**	**3943**
4900	994	3.34	3116	1034	3.60	3353	1073	3.85	3594	1111	4.12	3839	**1148**	**4.38**	**4088**
5000	1005	3.49	3251	1044	3.74	3492	1082	4.01	3737	1119	4.27	3986	**1156**	**4.55**	**4238**
5100	1015	3.64	3391	1054	3.90	3636	1092	4.17	3885	1129	4.44	4137	**1165**	**4.71**	**4393**
5200	1026	3.79	3536	1064	4.06	3784	1101	4.33	4037	**1138**	**4.60**	**4293**	**1174**	**4.88**	**4553**
5300	1037	3.95	3685	1075	4.22	3938	1111	4.50	4194	**1147**	**4.78**	**4454**	**1183**	**5.06**	**4718**
5400	1048	4.12	3840	1085	4.39	4096	1121	4.67	4356	**1157**	**4.95**	**4619**	**1192**	**5.24**	**4886**
5500	1059	4.29	3999	1096	4.57	4259	**1132**	**4.85**	**4523**	**1167**	**5.14**	**4790**	—	—	—
5600	1070	4.46	4163	1106	4.75	4427	**1142**	**5.03**	**4695**	—	—	—	—	—	—
5700	1082	4.65	4333	1117	4.93	4601	**1152**	**5.22**	**4872**	—	—	—	—	—	—
5800	1093	4.83	4508	1128	5.13	4779	—	—	—	—	—	—	—	—	—
5900	1105	5.03	4688	—	—	—	—	—	—	—	—	—	—	—	—
6000	1116	5.23	4873	—	—	—	—	—	—	—	—	—	—	—	—
6100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
Watts — Input Watts to Motor

*Motor drive range: 830 to 1130 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Maximum continuous bhp is 5.25.
3. See page 33 for general fan performance notes.

PRE-START-UP

⚠ **WARNING:** Failure to observe the following warnings could result in serious personal injury:

1. Follow recognized safety practices and wear protective goggles when checking or the servicing refrigerant system.
2. Do not operate the compressor or provide any electric power to the unit unless the compressor terminal cover is in place and secured.
3. Do not remove compressor terminal cover until all electrical sources are disconnected.
4. Relieve all pressure from system before touching or disturbing anything inside terminal box if refrigerant leak is suspected around compressor terminals. Use accepted methods to recover refrigerant.
5. Never attempt to repair soldered connection while refrigerant system is under pressure.
6. Do not use torch to remove any component. The system contains oil and refrigerant under pressure. To remove a component, wear protective goggles and proceed as follows:
   a. Shut off electrical power to unit.
   b. Recover refrigerant to relieve all pressure from system using both high-pressure and low-pressure ports.
   c. Cut component-connecting tubing with tubing cutter and remove component from unit.
   d. Carefully unsweat remaining tubing stubs when necessary. Oil can ignite when exposed to torch flame.

Proceed as follows to inspect and prepare the unit for initial start-up:

1. Remove all access panels.
2. Read and follow instructions on all WARNING, CAUTION, and INFORMATION labels attached to, or shipped with, unit.
3. Make the following inspections:
   a. Inspect for shipping and handling damages such as broken lines, loose parts, disconnected wires, etc.
   b. Inspect for oil at all refrigerant tubing connections and on unit base. Detecting oil generally indicates a refrigerant leak. Leak-test all refrigerant tubing connections using electronic leak detector, halide torch, or liquid-soap solution.
   c. Inspect all field-wiring and factory-wiring connections. Be sure that connections are completed and tight. Ensure electrical wires do not come in contact with refrigerant lines or sharp edges.
   d. Inspect coil fins. If damaged during shipping and handling, carefully straighten fins with a fin comb.
4. Verify the following conditions:
   a. Make sure that condenser-fan blade is positioned correctly in fan orifice. *Blades should clear fan motor and fan orifice ring.*
   b. Make sure that air filters are in place. (See Tables 1A and 1B.) Do not operate unit without return-air filters.
   c. Make sure that the condensate drain pan and trap are filled with water to ensure proper drainage.
   d. Make sure that all tools and miscellaneous loose parts have been removed.
   e. Make sure outdoor-air inlet screens are in place.
5. Compressors are internally spring mounted. Do not loosen or remove compressor holddown bolts.
6. Each unit system has 3 Schrader-type service ports: one on the suction line, one on the liquid line and one on the compressor discharge line. Be sure that caps on the ports are tight.
7. Ensure electrical wires do not make contact with refrigerant lines.

START-UP

I. UNIT PREPARATION

Make sure that unit has been installed in accordance with these installation instructions and applicable codes. Ensure Start-Up Checklist on back page of booklet is completely filled out.

II. RETURN-AIR FILTERS

Make sure correct air filters are installed in unit (see Tables 1A and 1B). Do not operate unit without return-air filters.

III. OUTDOOR-AIR INLET SCREENS

Outdoor-air inlet screen(s) must be in place before operating unit.

IV. COMPRESSOR MOUNTING

Compressors are internally spring mounted. Do not loosen or remove compressor holddown bolts. Remove the tiedown bands that hold the compressors together on 558F103,121,150,151 units.

V. INTERNAL WIRING

Check all electrical connections in unit control boxes; tighten as required. Verify and correct if necessary. Ensure that electrical component wiring does not come in contact with refrigerant tubing or sharp edges.

VI. REFRIGERANT SERVICE PORTS

To service refrigerant service ports, remove compressor access panel. Each unit system has 3 Schrader-type service gage ports: one on the suction line, one on the liquid line, and one on the compressor discharge line. Be sure that caps on the ports are tight. The Schrader-type valve on the discharge line is located under the low-pressure switch. Another valve is located on the discharge line underneath the high-pressure switch. It is screwed on a Schrader fitting but there is no Schrader core.

A. High Flow Refrigerant Valves

Two high flow valves are located on the hot gas tube coming out of the compressor and the suction tube going into the compressor. Large black plastic caps identify these valves. These valves have O-rings inside which screw the cap onto a brass body to prevent leaks. No field access to these valves is available at this time. Ensure the plastic caps remain on the valves and are tight or the possibility of refrigerant leakage could occur.

VII. COMPRESSOR ROTATION

On 3-phase scroll compressor units (103,121,150,151), it is important to be certain compressor is rotating in the proper direction. To determine whether or not compressor is rotating in the proper direction:

1. Connect service gages to suction and discharge pressure fittings.

2. Energize the compressor.
3. The suction pressure should drop and the discharge pressure should rise, as is normal on any start-up.

If the suction pressure does not drop and the discharge pressure does not rise to normal levels:

1. Note that the evaporator fan is probably also rotating in the wrong direction.
2. Turn off power to the unit, tag disconnect.
3. Reverse any two of the unit power leads.
4. Turn on power to the unit.

The suction and discharge pressure levels should now move to their normal start-up levels.

NOTE: When the compressor is rotating in the wrong direction, the unit makes an elevated level of noise and does not provide cooling.

VIII. COOLING

To start unit, turn on main power supply. Set system selector switch at COOL position and fan switch at AUTO. position. Adjust thermostat to a setting below room temperature. Compressor starts on closure of contactor.

Check unit charge. Refer to Refrigerant Charge section on page 57. Unit must operate a minimum of 10 minutes before adjusting charge.

Reset thermostat at a position above room temperature. Compressor will shut off.

A. To Shut Off Unit

Set system selector switch at OFF position. Resetting thermostat at a position above room temperature shuts unit off temporarily until space temperature exceeds thermostat setting.

IX. HEATING (If Accessory Electric Heater is Installed)

To start unit, turn on main power supply.

Set thermostat at HEAT position and a setting above room temperature, and set fan at AUTO. position.

First stage of thermostat energizes the first-stage electric heater; second stage energizes second-stage electric heater elements, if installed. Check air supply grille(s) to ensure proper heat supply.

If unit does not energize, reset limit switch (located on evaporator-fan scroll) by pressing button located between terminals on the switch.

A. To Shut Off Unit

Set system selector switch at OFF position. Resetting heating selector lever below room temperature will shut unit off temporarily until space temperature falls below thermostat setting.

X. SAFETY RELIEF

A soft solder joint in the suction line at the low-pressure service port provides pressure relief under abnormal temperature and pressure conditions.

XI. VENTILATION (Continuous Fan)

Set fan and system selector switches at ON and OFF positions, respectively. Evaporator fan operates continuously to provide air circulation.

XII. OPERATING SEQUENCE

A. Cooling, Units Without EconoMi$er IV

When thermostat calls for cooling, terminals G and Y1 are energized. The indoor (evaporator) fan contactor (IFC) and compressor contactor no. 1 (C1) are energized, and evaporator-fan motors, compressor no. 1, and condenser fans start. The condenser-fan motor runs continuously while unit is cooling. For units with 2 stages of cooling, if the thermostat calls for a second stage of cooling by energizing Y2, compressor contactor no. 2 (C2) is energized and compressor no. 2 starts.

When the thermostat is satisfied, C1 and C2 are deenergized and the compressors and outdoor (condenser) fan motors (OFM) shut off. After a 30-second delay, the indoor (evaporator) fan motor (IFM) shuts off. If the thermostat fan selector switch is in the ON position, the evaporator motor will run continuously.

B. Heating, Units Without EconoMi$er IV (If Optional or Accessory Heater is Installed)

Upon a call for heating through terminal W1, IFC and heater contactor no. 1 (HC1) are energized. On units equipped for 2 stages of heat, when additional heat is needed HC2 is energized through W2.

C. Cooling, Units With EconoMi$er IV

When free cooling is not available, the compressors will be controlled by the zone thermostat. When free cooling is available, the outdoor-air damper is modulated by the EconoMi$er IV control to provide a 50 to 55 F supply-air temperature into the zone. As the supply-air temperature fluctuates above 55 or below 50 F, the dampers will be modulated (open or close) to bring the supply-air temperature back within set points limits.

For EconoMi$er IV operation, there must be a thermostat call for the fan (G). This will move the damper to its minimum position during the occupied mode.

Above 50 F supply-air temperature, the dampers will modulate from 100% open to the minimum open position. From 50 F to 45 F supply-air temperature, the dampers will maintain at the minimum open position. Below 45 F the dampers will be completely shut. As the supply-air temperature rises, the dampers will come back open to the minimum open position once the supply-air temperature rises to 48 F.

If optional power exhaust is installed, as the outdoor-air damper opens and closes, the power exhaust fans will be energized and deenergized.

If field-installed accessory CO_2 sensors are connected to the EconoMi$er IV control, a demand controlled ventilation strategy will begin to operate. As the CO_2 level in the zone increases above the CO_2 set point, the minimum position of the damper will be increased proportionally. As the CO_2 level decreases because of the increase in fresh air, the outdoor-air damper will be proportionally closed. Damper position will follow the higher demand condition from DCV mode or free cooling mode.

Damper movement from full closed to full open (or vice versa) will take between $1^1/_2$ and $2^1/_2$ minutes.

If free cooling can be used as determined from the appropriate changeover command (switch, dry bulb, enthalpy curve, differential dry bulb, or differential enthalpy), a call for cooling (Y1 closes at the thermostat) will cause the control to modulate the dampers open to maintain the supply air temperature set point at 50 to 55 F.

As the supply-air temperature drops below the set point range of 50 to 55 F, the control will modulate the outdoor-air dampers closed to maintain the proper supply-air temperature.

D. Heating, Units With EconoMi$er IV

When the room temperature calls for heat, the heating controls are energized as described in the Heating, Units Without EconoMi$er IV section. When the thermostat is satisfied, the economizer damper moves to the minimum position.

⚠ **CAUTION:** When servicing unit, shut off all electrical power to unit to avoid shock hazard or injury from rotating parts.

I. CLEANING

Inspect unit interior and exterior at the beginning of each heating and cooling season or more frequently as operating conditions require.

A. Evaporator Coil

1. Turn off unit power, lockout and tag the disconnect. Remove evaporator coil access panel.
2. If EconoMi$er IV is installed, remove economizer by disconnecting Molex plug and removing economizer mounting screws.
3. Slide filters out of unit.
4. Clean coil using a commercial coil cleaner or dishwasher detergent in a pressurized spray canister. Wash both sides of coil and flush with clean water. For best results, backflush toward return-air section to remove foreign material.
5. Flush condensate pan after completion.
6. Reinstall EconoMi$er IV and filters.
7. Reconnect economizer wiring.
8. Replace access panels.

B. Condenser Coil

Inspect coil monthly. Clean condenser coil annually, or as required by location and outdoor-air conditions.

One-Row Coil

Wash coil with commercial coil cleaner. Clean the outer surfaces with a stiff brush in the normal manner. It is not necessary to remove top panel.

Two-Row Coils

Clean coils as follows:

1. Turn off unit power, lock out and tag the disconnect.
2. Remove top panel screws on condenser end of unit.
3. Remove condenser coil corner post. See Fig. 37. To hold top panel open, place coil corner post between top panel and center post. See Fig. 38.
4. Remove screws securing coil to center post.
5. Remove fastener holding coil sections together at return end of condenser coil. Carefully separate the outer coil section 3 to 4 in. from the inner coil section. See Fig. 39.
6. Use a water hose or other suitable equipment to flush down between the 2 coil sections to remove dirt and debris. Clean the outer surfaces with a stiff brush in the normal manner.
7. Secure inner and outer coil rows together with fastener removed in Step 5.
8. Reposition the outer coil section and remove the coil corner post between the top panel and center post. Reinstall the coil corner post and replace all screws.

C. Condensate Drain

Check and clean each year at start of cooling season. In winter, protect against freeze-up.

D. Filters

Clean or replace at start of each heating and cooling season, or more often if operating conditions require it. Replacement filters must be same dimensions as original filters.

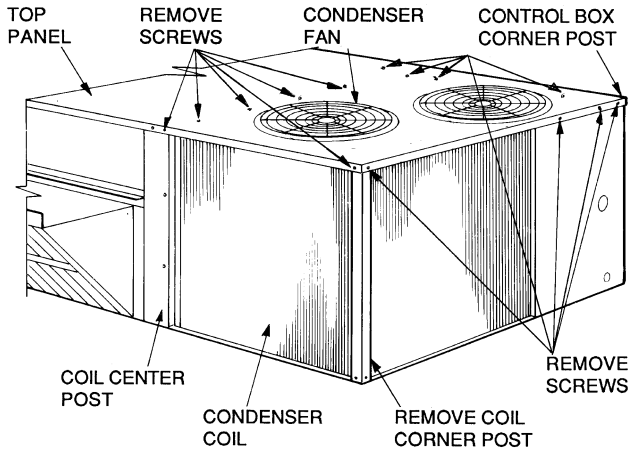


Fig. 37 — Cleaning Condenser Coil

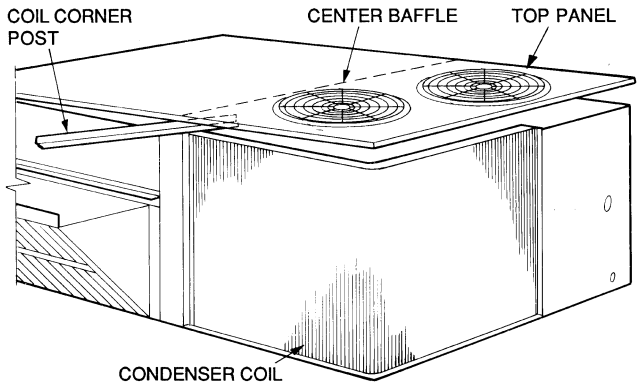


Fig. 38 — Propping Up Top Panel

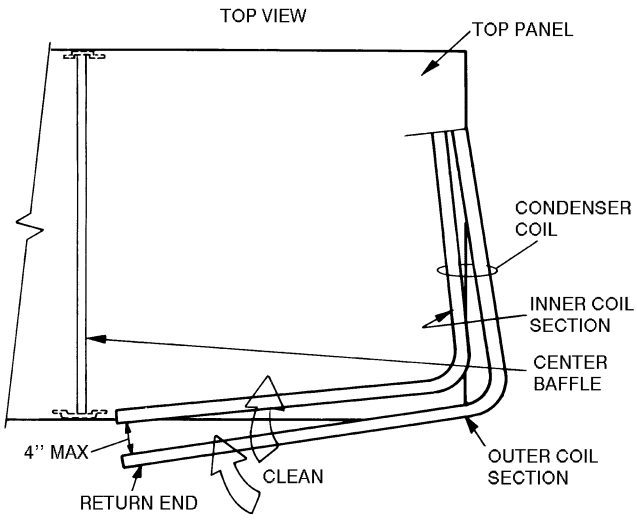


Fig. 39 — Separating Coil Sections

II. LUBRICATION

A. Compressors

Each compressor is charged with correct amount of oil at the factory.

B. Fan-Motor Bearings

Fan-motor bearings are of the permanently lubricated type. No further lubrication is required. No lubrication of condenser-fan or evaporator-fan motors is required.

III. EVAPORATOR FAN BELT INSPECTION

Check condition of evaporator belt or tension during heating and cooling inspections or as conditions require. Replace belt or adjust as necessary. Refer to Step 7 — Adjust Evaporator-Fan Speed on page 31 for proper adjustment procedures and belt tension.

IV. CONDENSER-FAN ADJUSTMENT (Fig. 40)

1. Shut off unit power supply, lockout and tag the disconnect.
2. Remove condenser-fan assembly (grille, motor, motor cover, and fan) and loosen fan hub setscrews.
3. Adjust fan height as shown in Fig. 40.
4. Tighten setscrews.
5. Replace condenser-fan assembly.

V. MANUAL OUTDOOR-AIR DAMPER

If outdoor-air damper blade adjustment is required, see Manual Outdoor-Air Damper section on page 22.

VI. ECONOMIZER ADJUSTMENT

Refer to Optional EconoMi$er IV section on page 23.

VII. REFRIGERANT CHARGE

A. Checking and Adjusting Refrigerant Charge

The refrigerant system is fully charged with R-22 refrigerant, tested, and factory-sealed. Unit must operate in Cooling mode a minimum of 10 minutes before checking charge.

NOTE: Adjustment of the refrigerant charge is not required unless the unit is suspected of not having the proper R-22 charge.

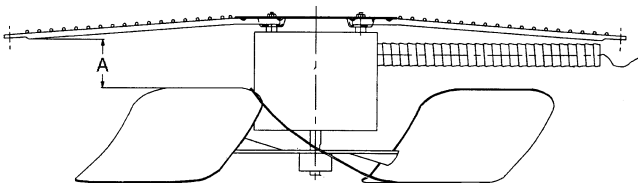
A superheat charging chart is attached to the outside of the service access panel. The chart includes the required suction line temperature at given suction line pressures and outdoor ambient temperatures.

An accurate superheat, thermocouple-type or thermistor-type thermometer, and a gage manifold are required when using the superheat charging method for evaluating the unit charge. *Do not use mercury or small dial-type thermometers because they are not adequate for this type of measurement.*

⚠ **CAUTION:** When evaluating the refrigerant charge, an indicated adjustment to the specified factory charge must always be very minimal. If a substantial adjustment is indicated, an abnormal condition exists somewhere in the cooling system, such as insufficient airflow across either coil or both coils.

Proceed as follows:

1. Remove caps from low-pressure and high-pressure service fittings.
2. Using hoses with valve core depressors, attach low-pressure and high-pressure gage hoses to low-pressure and high-pressure service fittings, respectively.
3. Start unit in Cooling Mode and let unit run until system pressures stabilize.
4. Measure and record the following:
   a. Outdoor ambient-air temperature (F db).
   b. Evaporator inlet-air temperature (F wb).
   c. Suction-tube temperature (F) at low-side service fitting.
   d. Suction (low-side) pressure (psig).
5. Using "Cooling Charging Charts" compare outdoor-air temperature (F db) with the suction line pressure (psig) to determine desired system operating suction line temperature. See Fig. 41-48.
6. Compare actual suction-tube temperature with desired suction-tube temperature. Using a tolerance of ± 3° F, add refrigerant if actual temperature is more than 3° F higher than proper suction-tube temperature, or remove refrigerant if actual temperature is more than 3° F lower than required suction-tube temperature.



558F	FAN HEIGHT "A", in.
208/230 V	2.75
460 and 575 V	3.50

Fig. 40 — Condenser Fan Adjustment

B. To Use Cooling Charging Charts

This method is to be used in Cooling mode only. Take the outdoor ambient temperature and read the suction pressure gage. Refer to appropriate chart to determine what suction temperature should be. If suction temperature is high, add refrigerant. If suction temperature is low, carefully recover some of the charge. Recheck the suction pressure as charge is adjusted.

EXAMPLE: (Fig. 44; Circuit 1)

Outdoor Temperature .....85 F

Suction Pressure .....74 psig

Suction Temperature should be .....54 F
(Suction Temperature may vary ± 3 F.)

VIII. HIGH-PRESSURE SWITCH

Located on the compressor hot gas line is a high-pressure switch. This switch opens at 428 psig and closes at 320 psig. No adjustment is necessary. Refer to Tables 1A and 1B.

IX. LOSS-OF-CHARGE SWITCH

Located on the condenser liquid line is a low-pressure switch which functions as a loss-of-charge switch. This switch contains a Schrader core depressor. This switch opens at 7 psig and closes at 22 psig. No adjustment is necessary. Refer to Tables 1A and 1B.

X. FREEZESTAT

Located on the "hair pin" end of the evaporator coil is a bimetal temperature sensing switch. This switch protects the evaporator coil from freeze-up due to lack of airflow. The switch opens at 30 F and closes at 45 F. No adjustment is necessary. Refer to Tables 1A and 1B.

XI. REPLACEMENT PARTS

A complete list of replacement parts may be obtained from any Bryant distributor upon request.

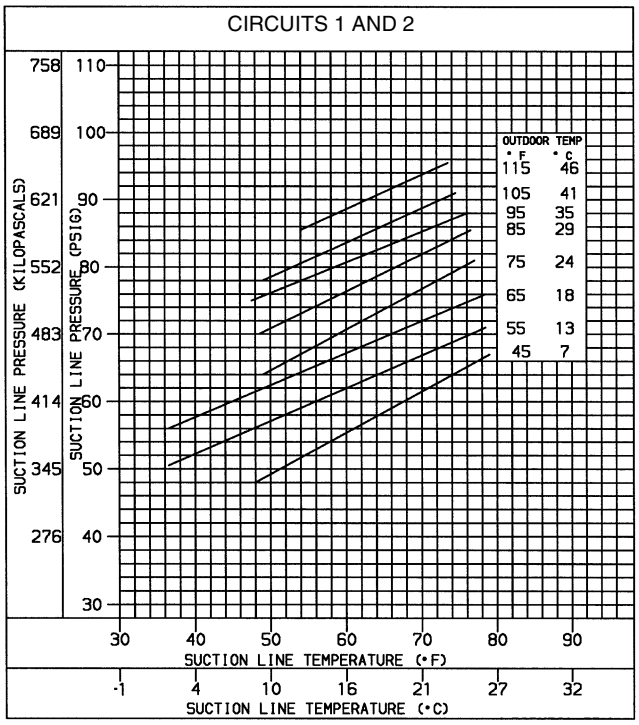


Fig. 41 — Cooling Charging Chart; 558F090

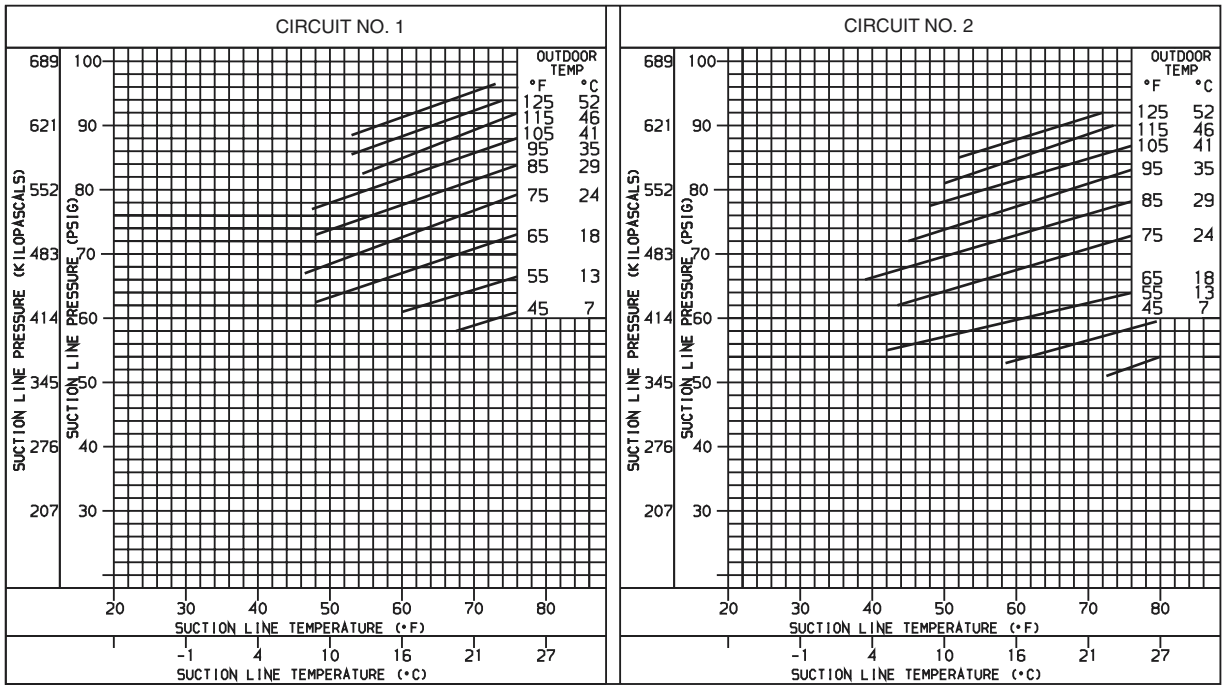


Fig. 42 — Cooling Charging Chart; 558F102

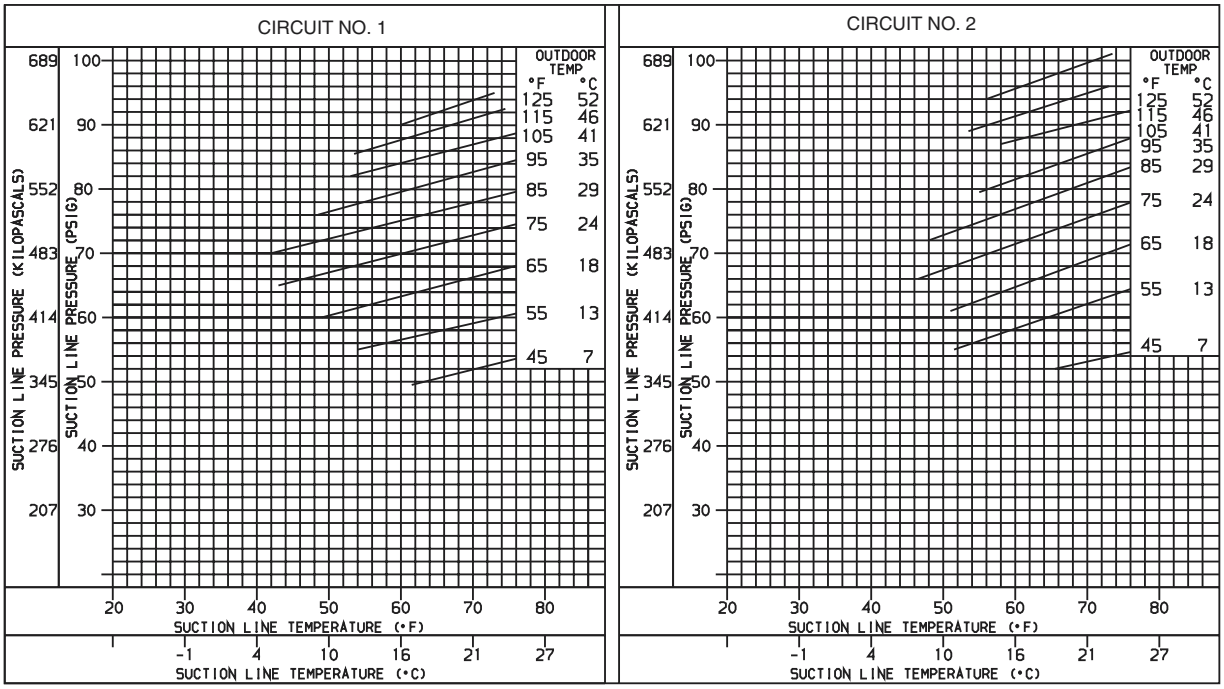


Fig. 43 — Cooling Charging Chart; 558F120

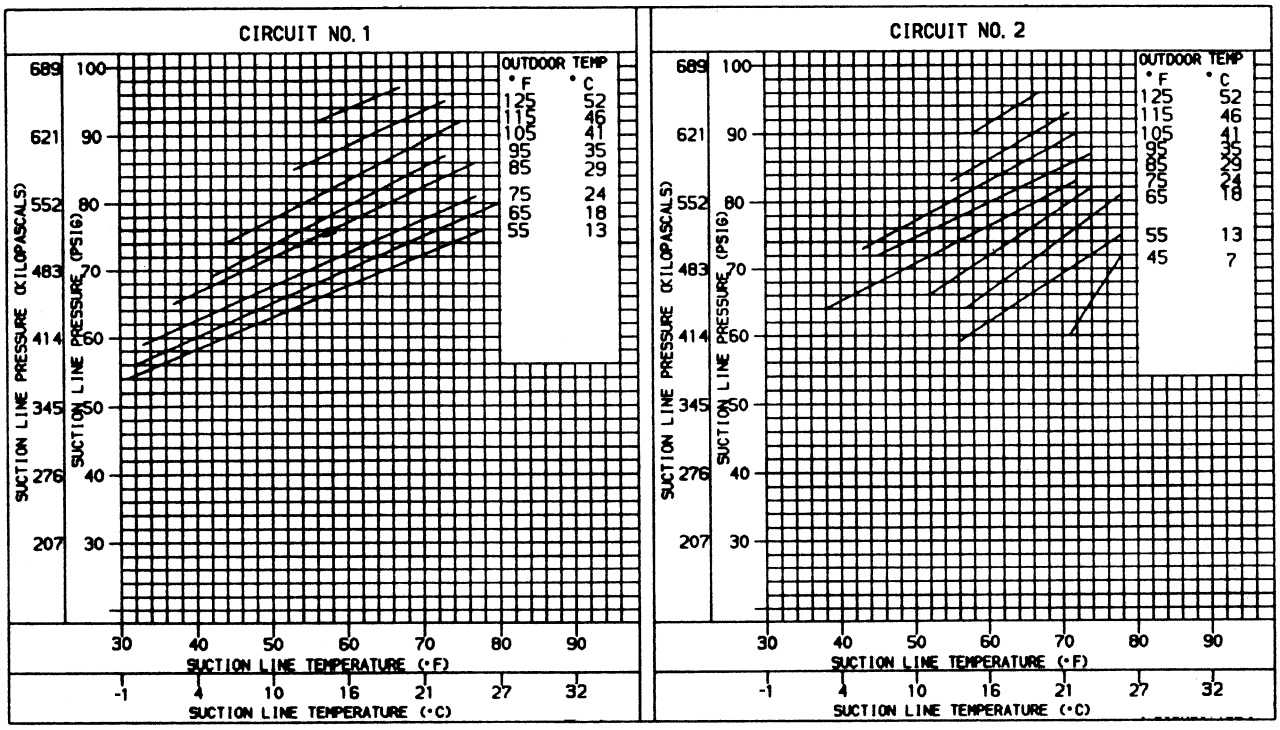


Fig. 44 — Cooling Charging Chart; 558F150

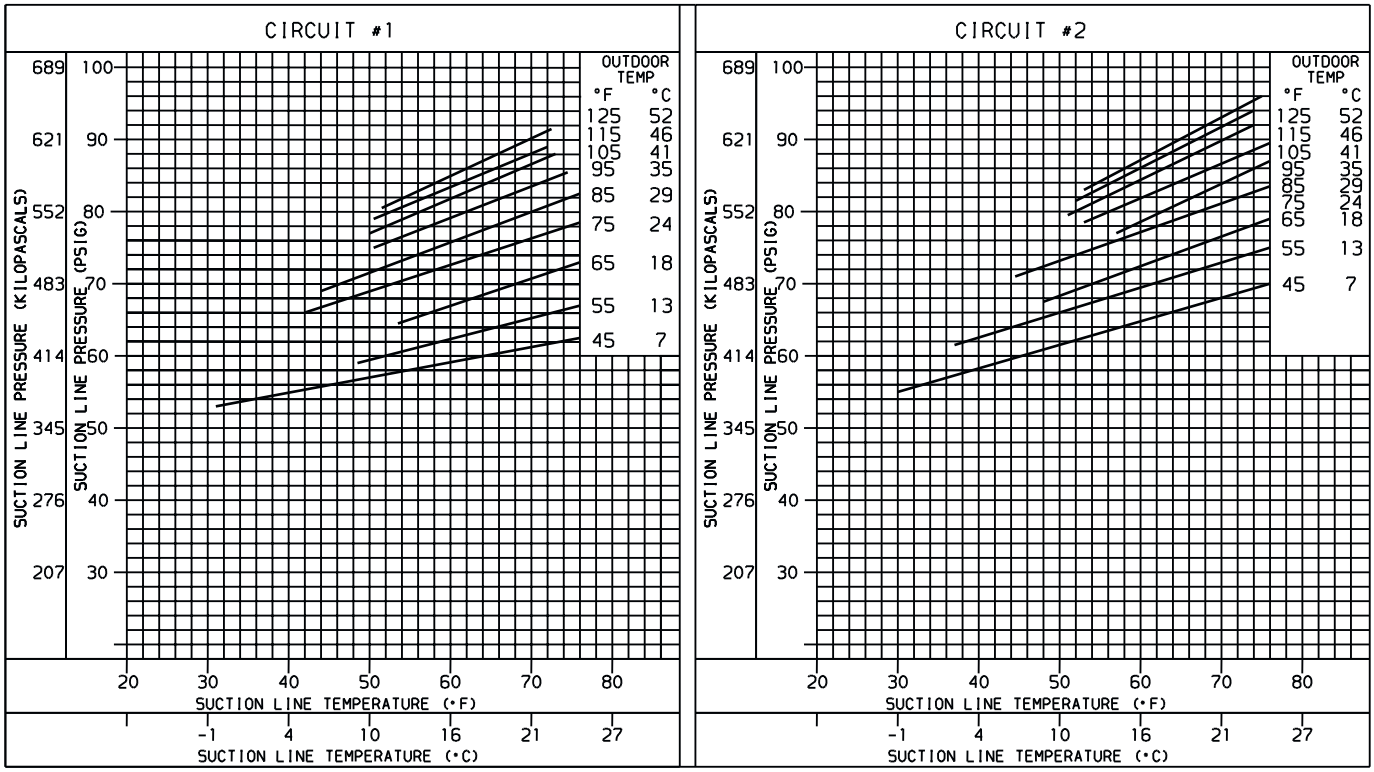


Fig. 45 — Cooling Charging Chart; 558F091

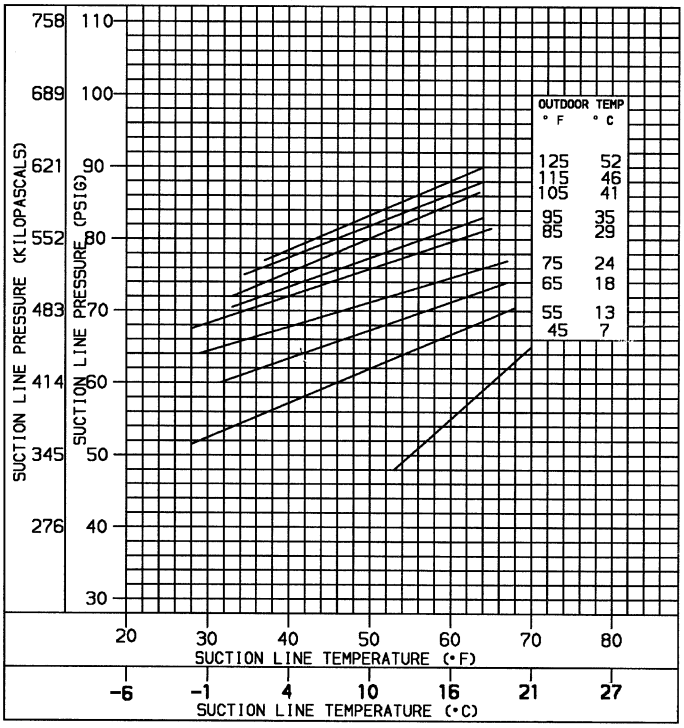


Fig. 46 — Cooling Charging Chart; 558F103 (Circuits 1 and 2)

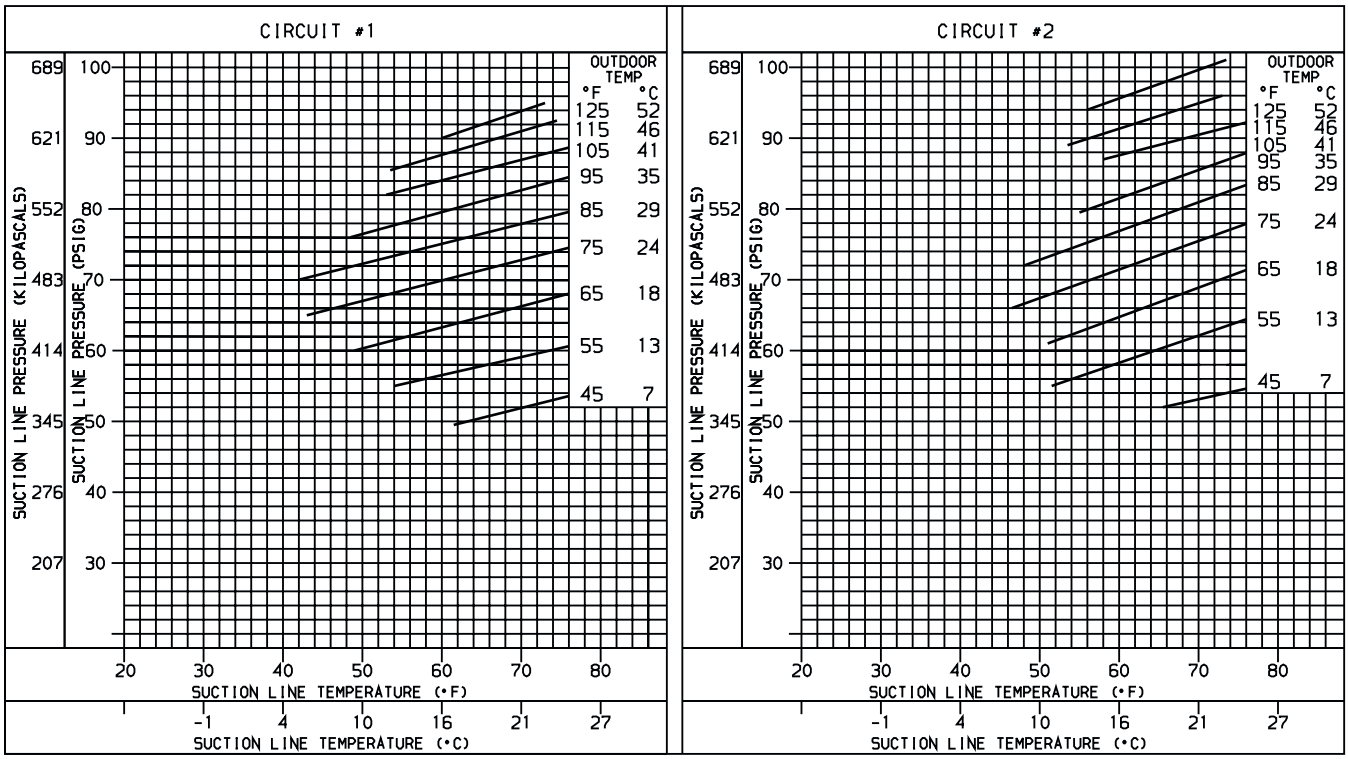


Fig. 47 — Cooling Charging Chart; 558F121

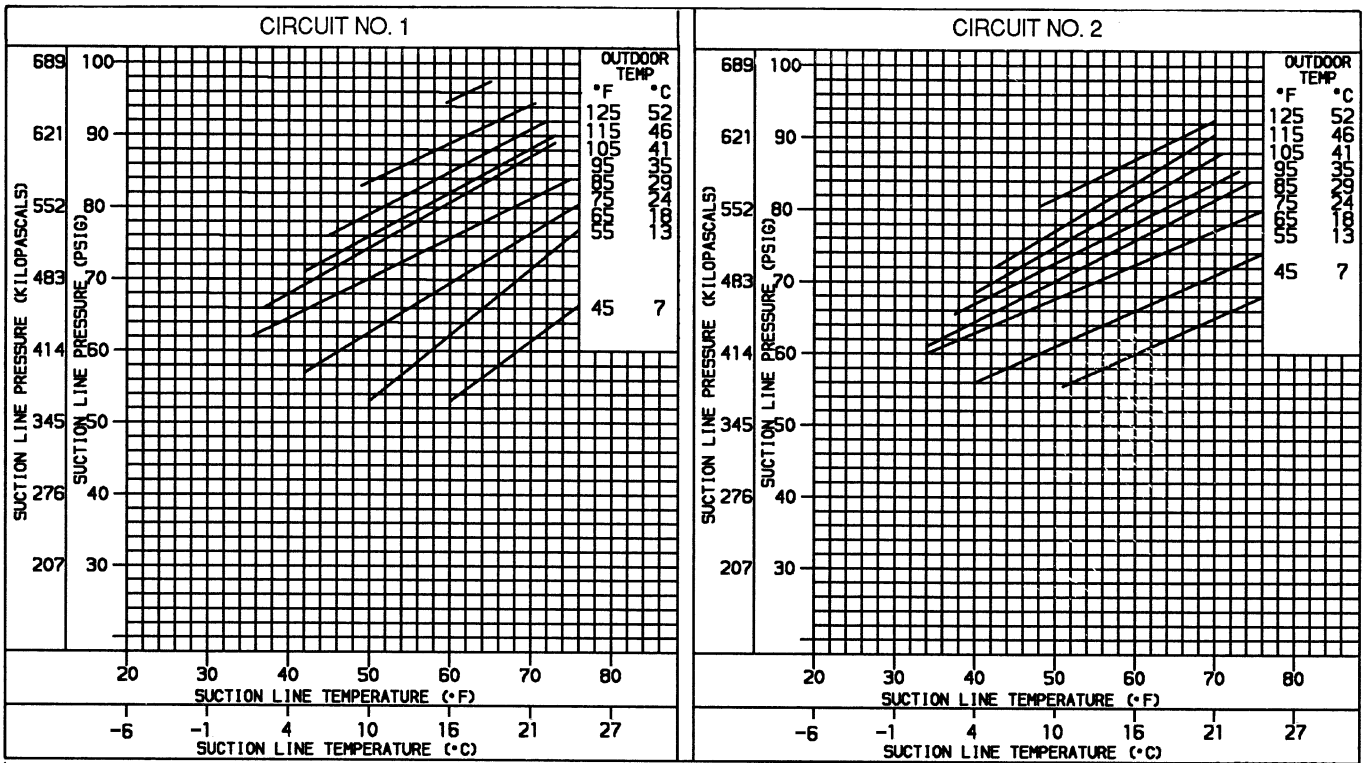


Fig. 48 — Cooling Charging Chart; 558F151

TROUBLESHOOTING

I. UNIT TROUBLESHOOTING

Refer to Table 30 and Fig. 49 for unit troubleshooting information.

II. ECONOMI$ER IV TROUBLESHOOTING

See Table 31 for EconoMi$er IV logic.

A functional view of the EconoMi$er is shown in Fig. 50. Typical settings, sensor ranges, and jumper positions are also shown. An EconoMi$er IV simulator program is available from Bryant to help with EconoMi$er IV training and troubleshooting.

A. EconoMi$er IV Preparation

This procedure is used to prepare the EconoMi$er IV for troubleshooting. No troubleshooting or testing is done by performing the following procedure.

NOTE: This procedure requires a 9-v battery, 1.2 kilo-ohm resistor, and a 5.6 kilo-ohm resistor which are not supplied with the EconoMi$er IV.

IMPORTANT: Be sure to record the positions of all potentiometers before starting troubleshooting.

1. Disconnect power at TR and TR1. All LEDs should be off. Exhaust fan contacts should be open.
2. Disconnect device at P and P1.
3. Jumper P to P1.
4. Disconnect wires at T and T1. Place 5.6 kilo-ohm resistor across T and T1.
5. Jumper TR to 1.
6. Jumper TR to N.
7. If connected, remove sensor from terminals S_O and +. Connect 1.2 kilo-ohm 4074EJM checkout resistor across terminals S_O and +.
8. Put 620-ohm resistor across terminals S_R and +.
9. Set minimum position, DCV set point, and exhaust potentiometers fully CCW (counterclockwise).
10. Set DCV maximum position potentiometer fully CW (clockwise).
11. Set enthalpy potentiometer to D.
12. Apply power (24 vac) to terminals TR and TR1.

B. Differential Enthalpy

To check differential enthalpy:

1. Make sure EconoMi$er IV preparation procedure has been performed.
2. Place 620-ohm resistor across S_O and +.
3. Place 1.2 kilo-ohm resistor across S_R and +. The Free Cool LED should be lit.
4. Remove 620-ohm resistor across S_O and +. The Free Cool LED should turn off.
5. Return EconoMi$er IV settings and wiring to normal after completing troubleshooting.

C. Single Enthalpy

To check single enthalpy:

1. Make sure EconoMi$er IV preparation procedure has been performed.
2. Set the enthalpy potentiometer to A (fully CCW). The Free Cool LED should be lit.
3. Set the enthalpy potentiometer to D (fully CW). The Free Cool LED should turn off.
4. Return EconoMi$er IV settings and wiring to normal after completing troubleshooting.

D. DCV (Demand Controlled Ventilation) and Power Exhaust

To check DCV and Power Exhaust:

1. Make sure EconoMi$er IV preparation procedure has been performed.
2. Ensure terminals AQ and AQ1 are open. The LED for both DCV and Exhaust should be off. The actuator should be fully closed.
3. Connect a 9-v battery to AQ (positive node) and AQ1 (negative node). The LED for both DCV and Exhaust should turn on. The actuator should drive to between 90 and 95% open.
4. Turn the Exhaust potentiometer CW until the Exhaust LED turns off. The LED should turn off when the potentiometer is approximately 90%. The actuator should remain in position.
5. Turn the DCV set point potentiometer CW until the DCV LED turns off. The DCV LED should turn off when the potentiometer is approximately 9 v. The actuator should drive fully closed.
6. Turn the DCV and Exhaust potentiometers CCW until the Exhaust LED turns on. The exhaust contacts will close 30 to 120 seconds after the Exhaust LED turns on.
7. Return EconoMi$er IV settings and wiring to normal after completing troubleshooting.

E. DCV Minimum and Maximum Position

To check the DCV minimum and maximum position:

1. Make sure EconoMi$er IV preparation procedure has been performed.
2. Connect a 9-v battery to AQ (positive node) and AQ1 (negative node). The DCV LED should turn on. The actuator should drive to between 90 and 95% open.
3. Turn the DCV Maximum Position potentiometer to midpoint. The actuator should drive to between 20 and 80% open.
4. Turn the DCV Maximum Position potentiometer to fully CCW. The actuator should drive fully closed.
5. Turn the Minimum Position potentiometer to midpoint. The actuator should drive to between 20 and 80% open.
6. Turn the Minimum Position Potentiometer fully CW. The actuator should drive fully open.
7. Remove the jumper from TR and N. The actuator should drive fully closed.
8. Return EconoMi$er IV settings and wiring to normal after completing troubleshooting.

F. Supply-Air Input

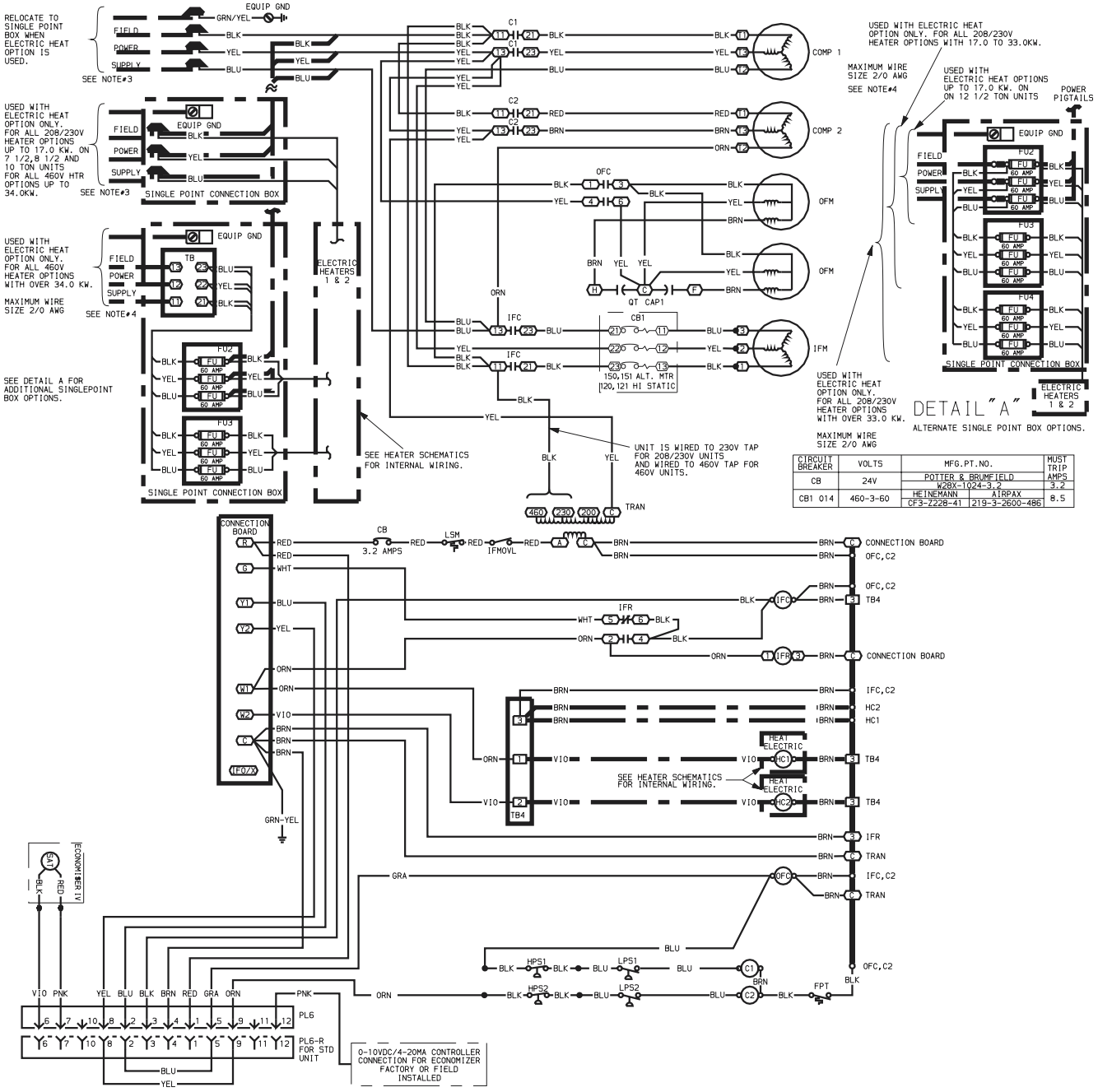
To check supply-air input:

1. Make sure EconoMi$er IV preparation procedure has been performed.
2. Set the Enthalpy potentiometer to A. The Free Cool LED turns on. The actuator should drive to between 20 and 80% open.
3. Remove the 5.6 kilo-ohm resistor and jumper T to T1. The actuator should drive fully open.
4. Remove the jumper across T and T1. The actuator should drive fully closed.
5. Return EconoMi$er IV settings and wiring to normal after completing troubleshooting.

G. EconoMi$er IV Troubleshooting Completion

This procedure is used to return the EconoMi$er IV to operation. No troubleshooting or testing is done by performing the following procedure.

1. Disconnect power at TR and TR1.
2. Set enthalpy potentiometer to previous setting.
3. Set DCV maximum position potentiometer to previous setting.
4. Set minimum position, DCV set point, and exhaust potentiometers to previous settings.
5. Remove 620-ohm resistor from terminals S_R and +.
6. Remove 1.2 kilo-ohm checkout resistor from terminals S_O and +. If used, reconnect sensor from terminals S_O and +.
7. Remove jumper from TR to N.
8. Remove jumper from TR to 1.
9. Remove 5.6 kilo-ohm resistor from T and T1. Reconnect wires at T and T1.
10. Remove jumper from P to P1. Reconnect device at P and P1.
11. Apply power (24 vac) to terminals TR and TR1.



CIRCUIT BREAKER	VOLTS	MFG.PT.NO.		MUST TRIP AMPS
CB	24V	POTTER & BRUMFIELD W28X-1024-3.2		3.2
CB1 014	460-3-60	HEINEMANN CF3-Z228-41	AIRPAX 219-3-2600-486	8.5

NOTES:
1. If any of the original wire furnished must be replaced, it must be replaced with type 90 C wire or its equivalent.
2. Three phase motors are protected under primary single phasing conditions.
3. Use copper conductors only.
4. Use copper, copper clad aluminum or aluminum conductors.
5. For 208/230-3-60 v units TRAN is wired for 230-v unit. If unit is to be run with 208-v power supply disconnect BLK wire from 230-v tap (RED) and connect to 208-v tap (BLU). Insulate end of 230-v tap.

LEGEND

C	—	Contactor, Compressor
CAP	—	Capacitor
CB	—	Circuit Breaker
COMP	—	Compressor Motor
EQUIP	—	Equipment
FPT	—	Freeze Up Protection Thermostat
GND	—	Ground
HC	—	Heater Contactor
HPS	—	High-Pressure Switch
IFC	—	Indoor Fan Contactor
IFM	—	Indoor Fan Motor
IFMOVL	—	Indoor Fan Motor Overload Switch
IFR	—	Indoor Fan Relay
LPS	—	Low-Pressure Switch
LSM	—	Limit Switch (Motor)
OFC	—	Outdoor Fan Contactor
OFM	—	Outdoor Fan Motor
P	—	Plug
PL	—	Plug Assembly
QT	—	Quadruple Terminal
SAT	—	Supply Air Temperature Sensor
TRAN	—	Transformer

Field Splice
Marked Wire
Terminal (Marked)
Terminal (Unmarked)
Terminal Block
Splice
Splice (Marked)
Factory Wiring
Field Control Wiring
Field Power Wiring
Accessory or Optional Wiring
To indicate common potential only; not to represent wiring.

Fig. 49 — Typical Unit Wiring Schematic

Table 30 — Cooling Service Analysis

PROBLEM	CAUSE	REMEDY
Compressor and Condenser Fans Will Not start.	Power failure.	Call power company.
	Fuse blown or circuit breaker tripped.	Replace fuse or reset circuit breaker.
	Defective thermostat, contactor, transformer, or control relay.	Replace component.
	Insufficient line voltage.	Determine cause and correct.
	Incorrect or faulty wiring.	Check wiring diagram and rewire correctly.
	Thermostat setting too high.	Lower thermostat setting below room temperature.
Compressor Will Not Start But Condenser Fans Run.	Faulty wiring or loose connections in compressor circuit.	Check wiring and repair or replace.
	Compressor motor burned out, seized, or internal overload open.	Determine cause. Replace compressor.
	Defective run/start capacitor, overload, or start relay.	Determine cause and replace.
	One leg of 3-phase power dead.	Replace fuse or reset circuit breaker. Determine cause.
Compressor Cycles (Other Than Normally Satisfying Thermostat).	Refrigerant overcharge or undercharge.	Recover refrigerant, evacuate system, and recharge to nameplate.
	Defective compressor.	Replace and determine cause.
	Insufficient line voltage.	Determine cause and correct.
	Blocked condenser.	Determine cause and correct.
	Defective run/start capacitor, overload, or start relay.	Determine cause and replace.
	Defective thermostat.	Replace thermostat.
	Faulty condenser-fan motor or capacitor.	Replace.
	Restriction in refrigerant system.	Locate restriction and remove.
Compressor Operates Continuously.	Dirty air filter.	Replace filter.
	Unit undersized for load.	Decrease load or increase unit size.
	Thermostat set too low.	Reset thermostat.
	Low refrigerant charge.	Locate leak, repair, and recharge.
	Leaking valves in compressor.	Replace compressor.
	Air in system.	Recover refrigerant, evacuate system, and recharge.
	Condenser coil dirty or restricted.	Clean coil or remove restriction.
Compressor Makes Excessive Noise (558F103,121, 150,151 Scroll Only).	Compressor rotating in wrong direction	Reverse the 3-phase power leads as described in Start-Up section, page 54.
Excessive Head Pressure.	Dirty air filter.	Replace filter.
	Dirty condenser coil.	Clean coil.
	Refrigerant overcharged.	Remove excess refrigerant.
	Air in system.	Recover refrigerant, evacuate system, and recharge.
	Condenser air restricted or air short-cycling.	Determine cause and correct.
	Outdoor fan contactor not energized.	Verify outdoor fan coil receiving 24 vac and high voltage contacts close.
Head Pressure Too Low.	Low refrigerant charge.	Check for leaks, repair, and recharge.
	Compressor valves leaking.	Replace compressor.
	Restriction in liquid tube.	Remove restriction.
Excessive Suction Pressure.	High heat load.	Check for source and eliminate.
	Compressor valves leaking.	Replace compressor.
	Refrigerant overcharged.	Recover excess refrigerant.
Suction Pressure Too Low.	Dirty air filter.	Replace filter.
	Low refrigerant charge.	Check for leaks, repair, and recharge.
	Metering device or low side restricted.	Remove source of restriction.
	Insufficient evaporator airflow.	Increase air quantity. Check filter and replace if necessary.
	Temperature too low in conditioned area.	Reset thermostat.
	Field-installed filter drier restricted.	Replace.
Compressor No. 2 Will Not Run.	Unit in economizer mode.	Proper operation; no remedy necessary.

Table 31 — EconoMi$er IV Input/Output Logic

INPUTS					OUTPUTS			
Demand Control Ventilation (DCV)	Enthalpy*		Y1	Y2	Compressor		N Terminal†	
	Outdoor	Return			Stage 1	Stage 2	Occupied	Unoccupied
							Damper	
Below set (DCV LED Off)	High (Free Cooling LED Off)	Low	On	On	On	On	Minimum position	Closed
			On	Off	On	Off		
			Off	Off	Off	Off		
	Low (Free Cooling LED On)	High	On	On	On	Off	Modulating** (between min. position and full-open)	Modulating** (between closed and full-open)
			On	Off	Off	Off		
			Off	Off	Off	Off	Minimum position	Closed
Above set (DCV LED On)	High (Free Cooling LED Off)	Low	On	On	On	On	Modulating†† (between min. position and DCV maximum)	Modulating†† (between closed and DCV maximum)
			On	Off	On	Off		
			Off	Off	Off	Off		
	Low (Free Cooling LED On)	High	On	On	On	Off	Modulating***	Modulating†††
			On	Off	Off	Off		
			Off	Off	Off	Off		

*For single enthalpy control, the module compares outdoor enthalpy to the ABCD set point.
†Power at N terminal determines Occupied/Unoccupied setting: 24 vac (Occupied), no power (Unoccupied).
**Modulation is based on the supply air sensor signal.
††Modulation is based on the DCV signal.
***Modulation is based on the greater of DCV and supply air sensor signals, between minimum position and either maximum position (DCV) or fully open (supply air signal).
†††Modulation is based on the greater of DCV and supply air sensor signals, between closed and either maximum position (DCV) or fully open (supply air signal).

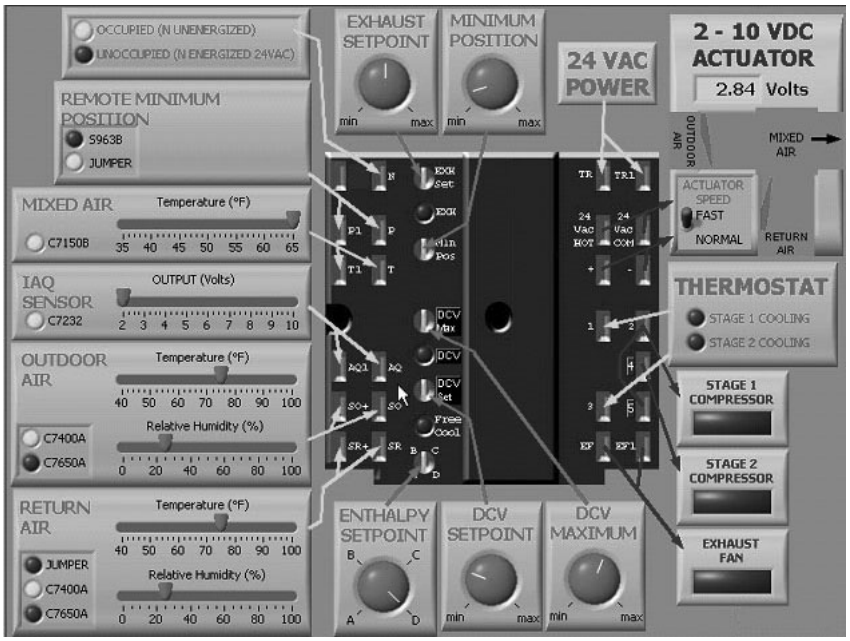


Fig. 50 — EconoMi$er IV Functional View

INDEX

Packaged Service Training programs are an excellent way to increase your knowledge of the equipment discussed in this manual, including:

- Unit Familiarization
- Maintenance
- Installation Overview
- Operating Sequence

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START-UP CHECKLIST
(Remove and Store in Job File)

I. PRELIMINARY INFORMATION

MODEL NO.: _____ TECHNICIAN: _____

DATE: _____ BUILDING LOCATION: _____

SERIAL NO. _____

II. PRE-START-UP (insert checkmark in box as each item is completed)

- ☐ REMOVE COMPRESSOR TIEDOWN BANDS (SIZES 103,121,150,151 ONLY) PER INSTALLATION INSTRUCTIONS
- ☐ VERIFY THAT CONDENSATE CONNECTION IS INSTALLED AS SHOWN IN THE INSTALLATION INSTRUCTIONS
- ☐ CHECK ALL ELECTRICAL CONNECTIONS AND TERMINALS FOR TIGHTNESS
- ☐ CHECK THAT INDOOR AIR FILTERS ARE CLEAN AND IN PLACE
- ☐ VERIFY THAT UNIT INSTALLATION IS LEVEL WITHIN TOLERANCES LISTED IN THE INSTALLATION INSTRUCTIONS
- ☐ CHECK FAN WHEEL AND PROPELLER FOR LOCATION IN HOUSING/ORIFICE AND SETSCREW TIGHTNESS
- ☐ CHECK PULLEY ALIGNMENT AND BELT TENSION; REFER TO INSTALLATION INSTRUCTIONS
- ☐ VERIFY INSTALLATION OF ECONOMI$ER IV HOOD (IF EQUIPPED)

III. START-UP

ELECTRICAL

SUPPLY VOLTAGE	L1-L2	_____	L2-L3	_____	L3-L1	_____
CIRCUIT NO. 1 COMPRESSOR AMPS	L1	_____	L2	_____	L3	_____
CIRCUIT NO. 2 COMPRESSOR AMPS	L1	_____	L2	_____	L3	_____
INDOOR FAN AMPS	L1	_____	L2	_____	L3	_____

TEMPERATURES

	BOTH CIRCUITS OPERATING			
OUTDOOR-AIR TEMPERATURE	_____	DB		
RETURN-AIR TEMPERATURE	_____	DB	_____	WB
COOLING SUPPLY AIR	_____	DB	_____	WB

REFRIGERANT

	CIRCUIT NO. 1		CIRCUIT NO. 2	
REFRIGERANT SUCTION	_____	PSIG	_____	PSIG
REFRIGERANT TEMPERATURE SUCTION	_____	F	_____	F
REFRIGERANT LIQUID LINE	_____	PSIG	_____	PSIG
REFRIGERANT TEMPERATURE LIQUID LINE	_____	F	_____	F

- ☐ VERIFY REFRIGERANT CHARGE USING COOLING CHARGING CHARTS ON PAGES 58-61 (COOLING MODE ONLY)
- ☐ VERIFY 3-PHASE SCROLL COMPRESSOR IS ROTATING IN THE CORRECT DIRECTION

GENERAL

- ☐ VERIFY ECONOMI$ER IV MINIMUM VENT POSITION AND CHANGEOVER SETTINGS ARE CONFIGURED TO JOB REQUIREMENTS (IF EQUIPPED)

CUT ALONG DOTTED LINE

CUT ALONG DOTTED LINE