



Advance Product Data

50TJQ004-014 Single-Package Standard Efficiency Rooftop Heat Pump Units

3 to 12½ Nominal Tons

Quality Assurance



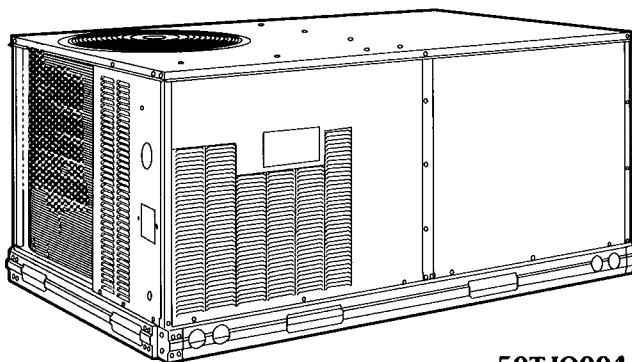
Approvals:

ISO 9002

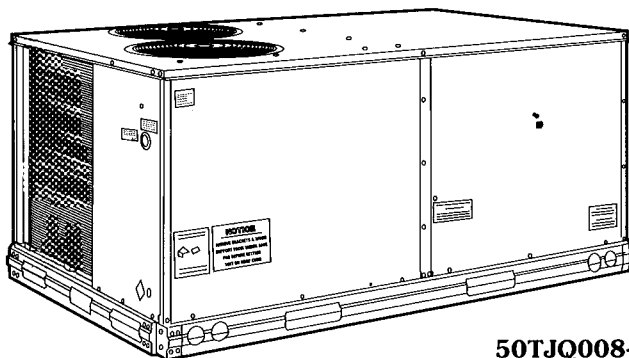
EN 29002

BS5750 PART 2

ANSI/ASQC Q92



50TJQ004-007



50TJQ008-014

Single package standard efficiency rooftop heat pumps with:

- State-of-the-art defrost system
- Dependable 4-way valve operation
- Refrigerant filter drier and accumulator
- Field-installed electric heaters available
- Advanced hermetic compressors mounted on vibration isolators
- Factory-installed Apollo communicating controls, non-fused disconnect switch, and convenience outlet available

Features/Benefits

The 50TJQ standard efficiency rooftop product line combines advanced technology with serviceability, performance, and flexibility.

State-of-the-art defrost system uses time and temperature to keep the outdoor coil frost-free for economical, dependable operation.

Dependable 4-way valve operation safely and efficiently accomplishes cycle reversals, defrost, and normal operation.

Refrigerant filter drier and accumulator ensure performance dependability and circuit protection.

Field-installed electric heaters available in a wide range of capacities. Single-point wiring kit makes installation simple.

NOTE: Some electric heater applications not available for use with factory-installed disconnect switch.

Easy conversion from vertical to horizontal discharge to make retrofit and add-on jobs easier. To convert from vertical to horizontal discharge, simply interchange 2 panels. The same basic unit can be used for a variety of applications and can be quickly modified at the jobsite. All units are factory shipped in the vertical discharge configuration for fit-up to standard roof curbs. (One accessory curb fits sizes 004-007; another accessory curb fits sizes 008-014.) The contractor can order and install the roof curbs early in the construction stage, before decisions on exact size requirements have been made.

Prepainted galvanized steel cabinet with baked enamel finish is capable of withstanding Federal Test Method Standard No. 141 (Method 6061) 500-hour salt spray test. Paint finish is non-chalking type. All internal cabinet panels are primed, allowing the entire unit to have a longer life and a more attractive appearance.

Single continuous top panel eliminates any possibility of leaking at the seams or gaskets, which tend to deteriorate over time and shift during rigging procedures.

Heavy gage roll-formed base rails with forklift and rigging holes are integral to the unit and provide easier maneuvering and installation. Forklift slots are on 3 sides of the unit. Stretch-wrap packaging protects the unit during shipment and storage.

Exclusive tool-less removal for the filter access panel allows the replacement of filters without the need for any tools.

Two-in. return-air filters are the standard throwaway type, easily accessed and replaced through the filter access panel located directly above the air intake hood.

Thru-the-bottom electrical connection capability allows power and control wiring to be routed through the unit basepan, thereby minimizing roof penetrations.

Color-coded electrical wiring permits easy tracing and diagnostics.

Advanced hermetic compressors mounted on vibration isolators for additional sound integrity and structural support.

Enhanced copper tube, aluminum plate fin coils are thoroughly leak and pressure tested at the factory. Outdoor coils have louvered, aluminum lanced fins to provide maximum

heat transfer for optimum efficiency and easy cleaning.

Acutrol™ refrigerant metering system precisely controls refrigerant flow, preventing slugging and floodback, while maintaining optimum unit performance.

Corrosion-resistant sloped condensate pan reduces possibility of biological growth and is in conformance of ASHRAE (American Society of Heating, Refrigeration, and Air Conditioning Engineers) Standard 62 to meet many Indoor-Air Quality (IAQ) specifications. The condensate drain pan offers both bottom and end drain capability to minimize roof penetrations. The bottom drain can be used in conjunction with the thru-the-bottom connections. An external trap must be field supplied.

Commercial duty motors with permanently lubricated bearings provide additional dependability.

Standard low ambient operation to 25 F; optional head pressure control kit available for outdoor ambient conditions to -20 F.

Factory run test printout included with each unit, providing certification of the unit's status at the time of manufacture. Printout includes test pressures, amperages, dates, and inspectors. Every unit is thoroughly run tested at the factory in each operating mode and evacuated prior to

final charging. Every coil is then leak-tested with helium. Automated run testing allows accurate, undisputed tests and measurements which are second to none in the industry.

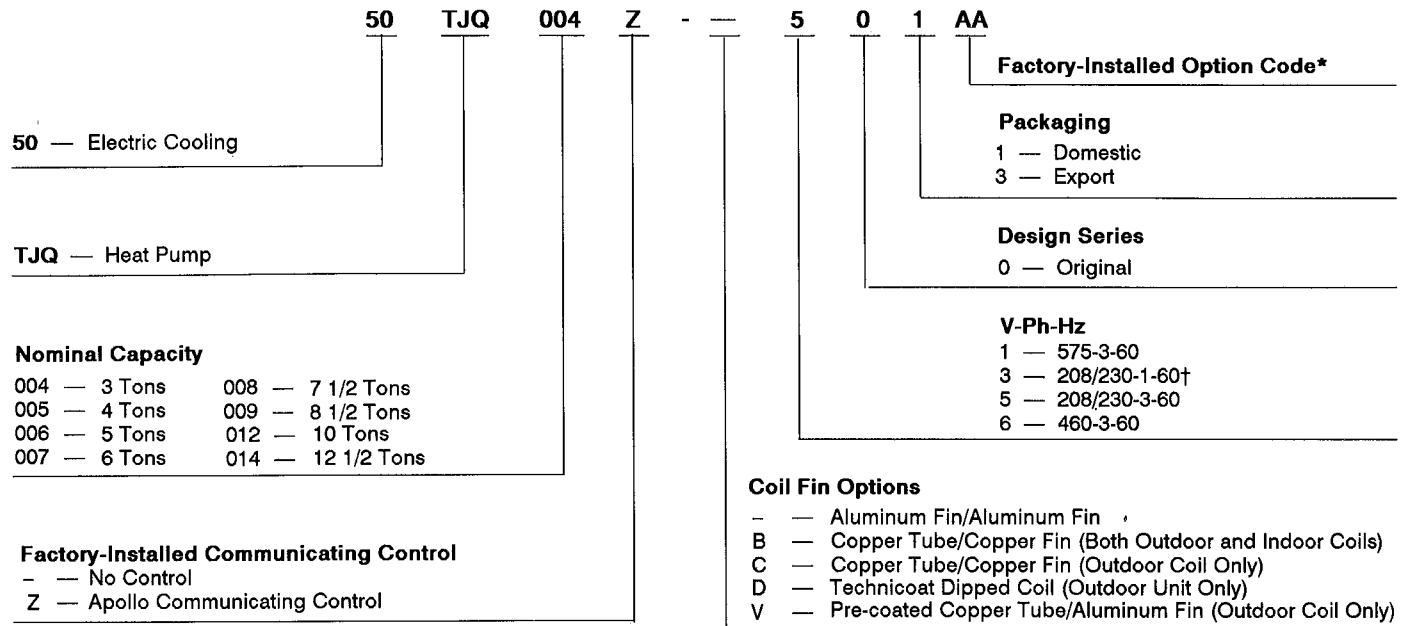
Ease of serviceability on all refrigerant access ports allow for quick and accurate measurements to take place. Single-side utility connections provide easy access to perform necessary service. Indoor motors are accessible through a single access door to facilitate servicing and adjustments after installation. Compressors are easily accessible for troubleshooting and system analysis.

Factory-installed Apollo communicating control (available as an option), designed exclusively by Carrier, actively monitors all modes of operation as well as indoor fan status, filter status, indoor-air quality, supply-air temperature, and outdoor-air temperature. The Apollo control board is installed in the rooftop unit control box and comes equipped with built-in diagnostic capabilities. Light-emitting diodes (LEDs) simplify troubleshooting by indicating thermostat commands for both stages of heating and cooling, indoor (evaporator) fan operation, and economizer operation. The Apollo communicating control is designed to work specifically with Carrier TEMP and VVT® thermostats.

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Model number nomenclature



LEGEND

Al — Aluminum
Cu — Copper
FIOP — Factory-Installed Option

*Refer to 50TJQ Price Pages or contact your local Carrier representative for 50TJQ FIOP code table

†Single phase is available on 5-ton and smaller units.

ARI* capacity ratings

UNIT 50TJQ	NOMINAL TONS	STANDARD CFM	COOLING		HEATING (High Temp)		SOUND RATING (Bels)
			Capacity	SEER†	Capacity (Btuh)	HSPF	
004	3	1200	34,200	10.0	34,200	6.8	8.0
005	4	1600	45,600	10.0	45,600	6.8	8.0
006	5	2000	57,000	10.0	57,000	6.8	8.0

UNIT 50TJQ	NOMINAL TONS	STANDARD CFM	COOLING		HEATING (High)		HEATING (Low)		IPLV	SOUND RATING (Bels)
			Capacity	EER	Capacity	COP	Capacity	COP		
007	6	2100	68,400	9.0	68,400	3.0	36,200	2.0	—	8.2
008	7½	3000	85,500	9.0	85,500	3.0	45,000	2.0	10.58	8.4
009	8½	3000	97,000	9.0	97,000	3.0	50,000	2.0	10.76	8.4
012	10	4000	114,000	9.0	114,000	3.0	60,000	2.0	10.69	8.4
014	12½	5000	140,000	8.8	140,000	3.0	75,000	2.0	10.51	8.6

LEGEND

Bels — Sound Level (1 bel = 10 decibels)
COP — Coefficient of Performance
db — dry bulb
EER — Energy Efficiency Ratio
HSPF — Heating Seasonal Performance Factor
IPLV — Integrated Part-Load Values
SEER — Seasonal Energy Efficiency Ratio
wb — wet bulb

*Air Conditioning and Refrigeration Institute.

†Applies only to units with capacity of 60,000 Btuh or less.

**The IPLV only applies to 2-stage heat pump units.

NOTES:

1. Rated in accordance with ARI Standards 210/240-95 or 360-95 (for 014) and 270-95
2. Ratings are net values, reflecting the effects of circulating fan heat
3. Ratings are based on



Cooling Standard: 80 F db, 67 F wb indoor entering-air temperature and 95 F db air entering outdoor unit

IPLV Standard: 80 F db, 67 F wb indoor entering-air temperature and 80 F db outdoor entering-air temperature

High-Temp Heating Standard: 70 F db indoor entering-air temperature and 47 F db, 43 F wb outdoor entering-air temperature.

Low-Temp Heating Standard: 70 F db indoor entering-air temperature and 17 F db, 15 F wb outdoor entering-air temperature

Physical data — 50TJQ004-007

UNIT SIZE	004	005	006	007
NOMINAL CAPACITY (tons)	3	4	5	6
OPERATING WEIGHT (lb)				
Unit				
Al/Al*	500	550	590	610
Al/Cu*	—	—	—	—
Economizer				
Durablade	34	34	34	34
Parablade	42	42	42	42
Roof Curb†	115	115	115	115
COMPRESSOR				
Quantity	1	1	1	1
Oil (oz)	45	54	54	54
REFRIGERANT TYPE				
Operating Charge (lb-oz)				
Circuit 1	3-0	4-10	6-14	8-14
Circuit 2	—	—	—	—
OUTDOOR COIL				
Rows...Fins/in.	1.. 17	1.. 17	2...17	2.. 17
Total Face Area (sq ft)	10.31	14.58	12.25	16.53
OUTDOOR FAN				
Nominal Cfm	4000	4000	4000	4000
Quantity...Diameter (in.)	1 22.0	1 22.0	1 22.0	1 22.0
Motor Hp...Rpm	¼ . 1100	¼ . 1100	¼ . 1100	¼ . 1100
Watts Input (Total)	325	325	325	325
INDOOR COIL				
Rows...Fins/in.	2.. 15	2.. 15	3.. 15	3.. 15
Total Face Area (sq ft)	4.2	4.2	5.5	5.5
INDOOR FAN				
Quantity...Size (in.)				
Std	1 10 x 10	1 10 x 10	1 10 x 10	1. 10 x 10
Alt	1..10 x 10	1..10 x 10	1..10 x 10	—
Type Drive				
Std	Direct	Direct	Direct	Belt
Alt	Belt	Belt	Belt	—
Nominal Cfm	1200	1600	2000	2100
Maximum Continuous Bhp	Std			
Alt	34	75	1.20	2.40
Motor Frame Size	Std			
Alt	1.00	1.00	1.80	—
Nominal Rpm High/Low	Std			
Alt	48	48	48	56
Fan Rpm Range	Std			
Alt	48	48	56	—
Motor Bearing Type	Std			
Alt	860/800	1075/970	1075/970	—
Maximum Allowable Rpm	—	—	—	—
Motor Pulley Pitch Diameter	Std			
Alt	760-1000	835-1185	900-1300	1070-1460
Min/Max (in.)	Ball	Ball	Ball	Ball
Nominal Motor Shaft Diameter (in.)	Std			
Alt	2100	2100	2100	2100
Fan Pulley Pitch Diameter (in.)	Std			
Alt	—	—	—	2 8/3.8
Belt, Quantity...Type...Length (in.)	Std			
Alt	1.9/2 9	1 9/2 9	2 4/3 4	—
Pulley Center Line Distance (in.)	Std			
Alt	½	½	½	5/8
Speed Change per Full Turn of Movable Pulley Flange (rpm)	Std			
Alt	½	½	½	4 5
Movable Pulley Maximum Full Turns From Closed Position	Std			
Alt	4 5	4.0	4 5	—
Factory Setting	Std			
Alt	1 A. 34	1. A .34	1..A 39	1..A .40
Factory Speed Setting (rpm)	Std			
Alt	10 0-12 4	10 0-12 4	14.7-15 5	14 7-15 5
Fan Shaft Diameter at Pulley (in.)	Std			
Alt	—	—	—	80
HIGH-PRESSURE SWITCH (psig)**	Std			
Alt	48	70	80	—
Standard Compressor Internal Relief (Differential)	Std			
Cutout	Alt			
Reset (Auto.)	Std			
Alt	5	5	5	5
LOW-PRESSURE SWITCH (psig)**	Std			
Alt	3	3	3	3
FREEZE PROTECTION THERMOSTAT (F)**	Std			
Alt	856	975	1060	1225
OUTDOOR-AIR INLET SCREENS	Std			
Alt	½	½	½	½
RETURN-AIR FILTERS	Std			
Alt	—	—	—	—
Quantity...Size (in.)	—	—	—	—
Std	—	—	—	—
Alt	—	—	—	—
Quantity...Size (in.)	—	—	—	—
Std	—	—	—	—
Alt	—	—	—	—

LEGEND
 Al — Aluminum
 Bhp — Brake Horsepower
 Cu — Copper

*Indoor coil fin material/outdoor coil fin material.

†Weight of 14-in. roof curb

**Requires an accessory or optional controls upgrade kit.

NOTE: The 50TJQ units have a loss-of-charge/low-pressure switch located in the liquid line available as an option or an accessory

Physical data — 50TJQ008-014

UNIT SIZE	008	009	012	014
NOMINAL CAPACITY (tons)	7½	8½	10	12½
OPERATING WEIGHT (lb)				
Unit				
Al/Al*	870	875	1000	1015
Al/Cu*	—	—	—	—
Economizer				
Durablade	44	44	44	44
Parablade	62	62	62	62
Roof Curb†	143	143	143	143
COMPRESSOR				
Quantity	2	2	2	2
Oil (oz)	45 ea	54 ea	54 ea	54 ea
REFRIGERANT TYPE				
Operating Charge (lb-oz)				
Circuit 1	3-14	4-13	6-10	7-6
Circuit 2	3-14	4-13	6-10	7-6
OUTDOOR COIL				
Rows...Fins/in.	1.. 17	2..17	2.. 17	2..17
Total Face Area (sq ft)	20 50	14.25	20.47	25.06
OUTDOOR FAN				
Nominal Cfm	6500	6500	6500	7000
Quantity...Diameter (in.)	2 22	2 22	2 22	2 22
Motor Hp...Rpm	¼ . 1100	¼ .1100	¼...1100	¼ . 1100
Watts Input (Total)	600	600	600	600
INDOOR COIL				
Rows...Fins/in.	3.. 15	3.. 15	3.. 15	3.. 15
Total Face Area (sq ft)	8 0	8.0	11.1	11 1
INDOOR FAN				
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
Type Drive				
Std	Belt	Belt	Belt	Belt
Alt	Belt	—	Belt	Belt
Nominal Cfm	3000	3400	4000	5000
Maximum Continuous Bhp	Std	2 40	2.40	4 20
Alt	—	—	2.90	5.25
Motor Frame Size	Std	56	56	56
Alt	—	—	56	56
Nominal Rpm High/Low	Std	—	—	—
Alt	—	—	—	—
Fan Rpm Range	Std	590-840	685-935	860-1080
Alt	685-935	—	835-1085	900-1260
Motor Bearing Type	Ball	Ball	Ball	Ball
Maximum Allowable Rpm	2100	2100	2100	2100
Motor Pulley Pitch Diameter	Std	2 4/3 4	2 8/3 8	2 8/3 8
Alt	2.8/3 8	—	3 4/4.4	3.1/4 1
Min/Max (in.)	Std	¾	¾	¾
Nominal Motor Shaft Diameter (in.)	Alt	—	¾	¾
Std	—	—	7.0	5 4
Fan Pulley Pitch Diameter (in.)	Alt	7.0	7.0	5 9
Alt	—	—	7.0	—
Belt, Quantity...Type...Length (in.)	Std	1. A...49	1 A 49	1 .A. 52
Alt	1..A. 49	—	1..A..49	1..BX...46
Pulley Center Line Distance (in.)	Std	16.75-19.25	16 75-19 25	15.85-17.50
Alt	16.75-19 25	—	15 85-17 50	15.85-17.50
Speed Change per Full Turn of	Std	50	50	44
Movable Pulley Flange (rpm)	Alt	50	50	50
Movable Pulley Maximum Full Turns	Std	5	5	5
From Closed Position	Alt	5	5	6
Factory Setting	Std	5	5	5
Alt	5	5	5	5
Factory Speed Setting (rpm)	Std	590	685	860
Alt	685	—	835	960
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
LOW-PRESSURE SWITCH (psig)**				
Cutout			7 ± 3	
Reset (Auto.)			22 ± 5	
FREEZE PROTECTION THERMOSTAT (F)**				
Opens			30 ± 5	
Closes			45 ± 5	
OUTDOOR-AIR INLET SCREENS				
Quantity...Size (in.)			Cleanable	
			1...20 x 25 x 1	
RETURN-AIR FILTERS				
Quantity...Size (in.)			1...16 x 25 x 1	
			Throwaway	
	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

*Indoor coil fin material/outdoor coil fin material

†Weight of 14-in. roof curb

**Requires an accessory or optional controls upgrade kit.

NOTE: The 50TJQ units have a loss-of-charge/low-pressure switch located in the liquid line available as an option or an accessory.

Options and accessories

ITEM	OPTION*	ACCESSORY†
Apollo Communicating Controls	X	
Non-Fused Disconnect Switch	X	
Electrical Convenience Outlet	X	
Durablade Integrated Economizer	X	X
Parablade Economizer	X	
Parablade Economizer with Power Exhaust		X
Electric Heat**		X
Manual Outdoor-Air Damper (25% or 50% open)	X	X
Controls Upgrade Kit††	X	X
Outdoor Coil Grille	X	X
Alternate Drive (008)	X	
Alternate Motor and Drive (004-006, 012, 014)	X	
25% Open Two-Position Damper		X
100% Open Two-Position Damper		X
Roof Curbs (Vertical and Horizontal Discharge)		X
Remote Control Panel		X
Thermostats and Subbases		X
Emergency Heat Package		X
Motormaster® I Head Pressure Control (Speed Control)		X
Motormaster II Head Pressure Control		X
Logo Kit		X
Time Guard® II Control Circuit		X
Thru-The-Bottom Service Connections		X
Electronic Programmable Thermostat		X
Accusensor™ II Enthalpy Control		X
Accusensor III Enthalpy Sensor		X
Outdoor Coil Hail Guard Assembly		X
Fan/Filter Status		X
Salt Spray Protection Grille		X

*Factory installed

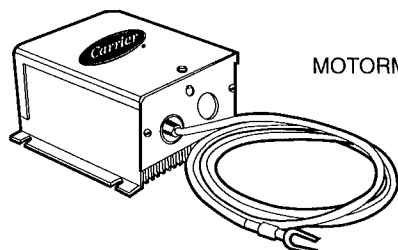
†Field installed

**Electric heat for 575-v units is only offered on 50TJ008-014 units. Accessory single-point kit is required for 004-014 units using electric heat.

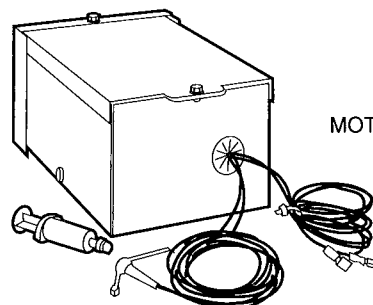
††Only available as part of a package which contains high-pressure, loss-of-charge/low pressure, and freeze protection switches.

HEAD PRESSURE CONTROL

The 50TJQ standard units are designed to operate in cooling at outdoor temperatures down to 25 F. With accessory Motor-master control (outdoor-fan speed modulation), units can operate at outdoor temperatures down to -20 F. The head pressure controls, which mount in the outdoor section, modulate the outdoor-fan motor to maintain correct condensing temperature. Refer to price pages or contact your local Carrier representative for appropriate accessory combinations necessary for desired outdoor ambient temperature operation.

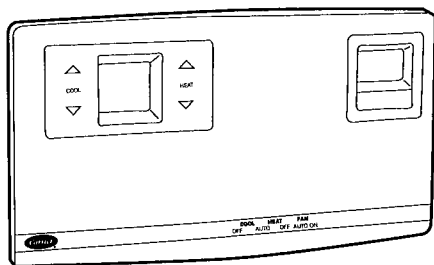


MOTORMASTER



MOTORMASTER II

ELECTRONIC PROGRAMMABLE THERMOSTAT

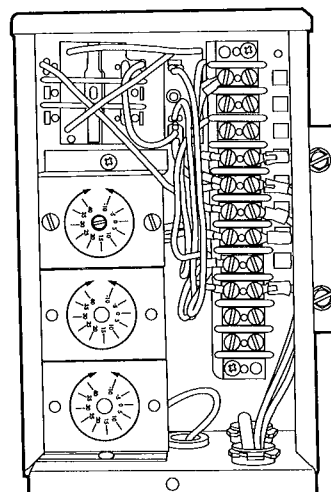


Carrier's electronic programmable thermostat provides efficient temperature control by allowing you to program heating and cooling setbacks and set ups with provisions for weekends and holidays. Accessory remote sensing package is also available to provide tamperproof control in high traffic spaces. Used in conjunction with factory-installed Apollo control, this thermostat provides a 5-minute recycle timer between modes of operation for short-cycle protection.

TIME GUARD II CONTROL

Time Guard II Control automatically prevents compressor from restarting for at least 5 minutes after a shutdown. Accessory prevents short cycling of compressor if thermostat is rapidly changed. Time Guard II device mounts in the control compartment of unit.

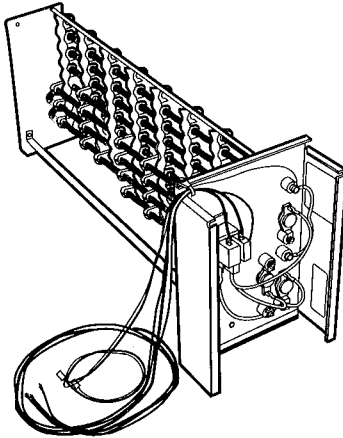
EMERGENCY HEAT CONTROL PACKAGE



Emergency heat control package allows emergency operation of electric heat and fans by bypassing compressor circuits and outdoor thermostats.

Options and accessories (cont)

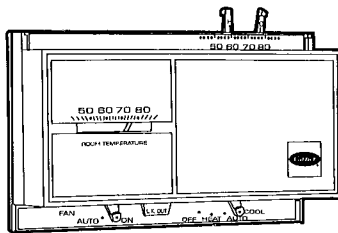
ELECTRIC HEATER



Electric heaters are available in a wide range of capacities for factory or field installation

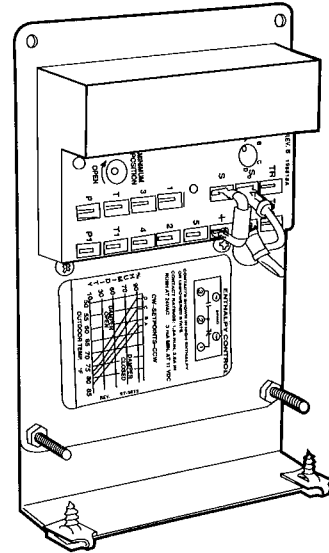
NOTE: Heaters are field-installed only.

THERMOSTAT

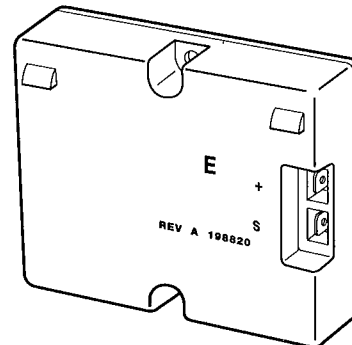


Zone thermostat (24 v) provides one- or 2-stage cooling for control of unit. Matching subbases are available with or without tamper-proof switches and automatic changeover.

ACCUSENSOR™ II

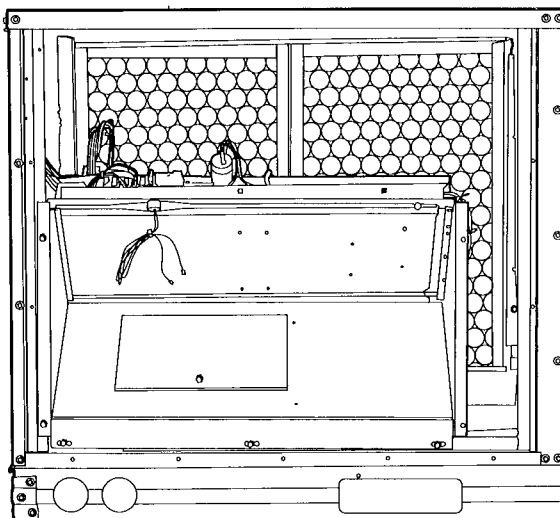


ACCUSENSOR III



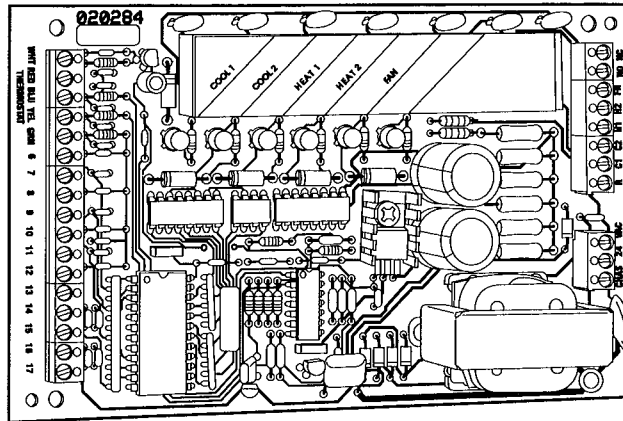
Accusensor economizer controls help provide efficient, economical economizer operation. The Accusensor I dry-bulb sensor measures outdoor temperature and is standard with the Durablade economizer (not required with Parablade economizer). The accessory Accusensor II solid-state enthalpy control senses both dry and wet bulb of the outdoor air to provide an accurate enthalpy reading. Accusensor II is standard with the Parablade economizer and available as a field-installed accessory for the Durablade economizer. The accessory Accusensor III differential enthalpy control compares outdoor temperature and humidity to return-air temperature and humidity and determines the most economical mixture of air. Accusensor III is available for both Durablade and Parablade economizers.

DURABLADE ECONOMIZER



Exclusive Durablade economizer damper design saves energy while providing economical and reliable cooling. A sliding plate on the face of the economizer controls the amount of outdoor air entering the system. Closed, it provides a leakproof seal which prevents ambient air from seeping in or conditioned air from seeping out. It can be easily adjusted for 100% outdoor air or any proportions of mixed air. Like the base unit, the economizer is easily converted for horizontal discharge applications.

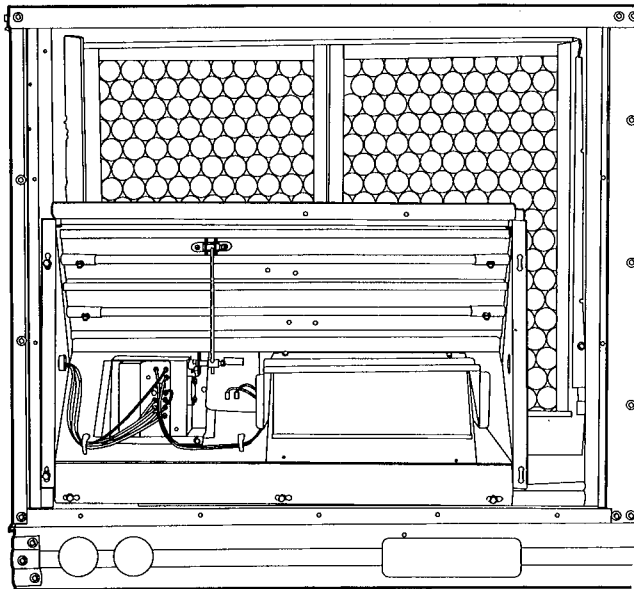
FACTORY-INSTALLED APOLLO COMMUNICATING CONTROLS



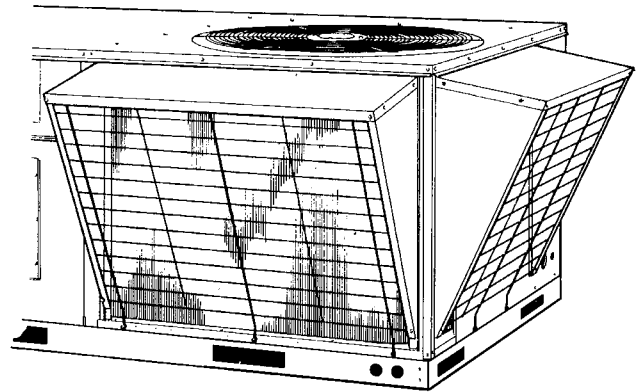
The Apollo direct digital controls are designed exclusively by Carrier, and are used to actively monitor and control all modes of operation as well as to monitor indoor-fan status, filter status, supply-air temperature, outdoor-air temperature, and indoor-air quality. They are designed to work in conjunction with Carrier TEMP and VVT® system thermostats.

HAIL GUARD, OUTDOOR COIL SALT SPRAY PROTECTION

PARABLADE ECONOMIZER

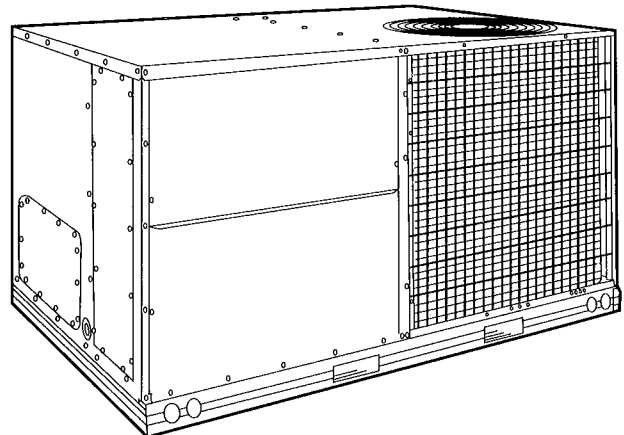


The unique design of the Parablade economizer saves energy while providing economical and reliable cooling. The new design uses a parallel-opposed blade damper. The economizer also has built-in spring return for reliable close-on-power-loss. The Parablade design incorporates standard enthalpy controls and up to 45% barometric relief capability for additional flexibility in high outdoor airflow applications.



Hail guard accessory protects coils against damage from hail and other flying debris (field installed). Coil guard accessory (field installed) protects coils from salt spray induced corrosion in coastal areas. Utilizes a replaceable filter.

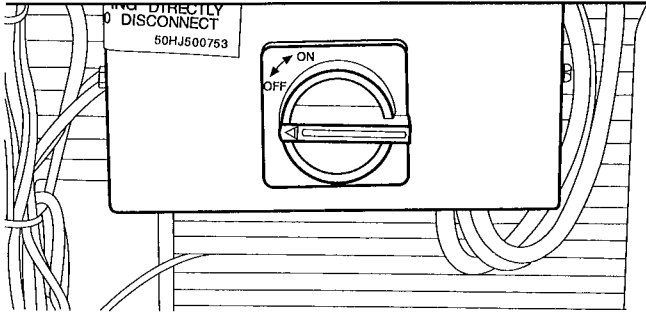
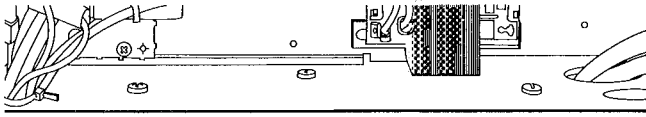
COIL GRILLE



Coil Grille protects coils against large objects and vandalism.

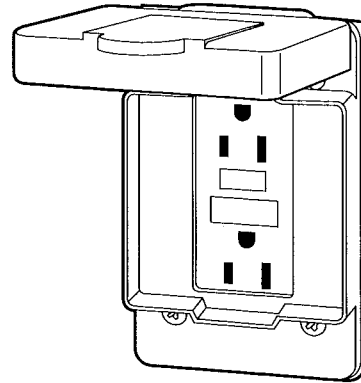
Options and accessories (cont)

UNIT MOUNTED DISCONNECT



Factory-installed, internally-mounted, NEC and UL approved non-fused switch provides unit power shutoff. May not be used with certain electric heat sizes.

CONVENIENCE OUTLET



Factory-installed, internally mounted and externally accessible 115-v female receptacle. Includes 15-amp GFI receptacle with independent fuse protection. Voltage required to operate convenience outlet is provided by a factory-installed step down transformer.

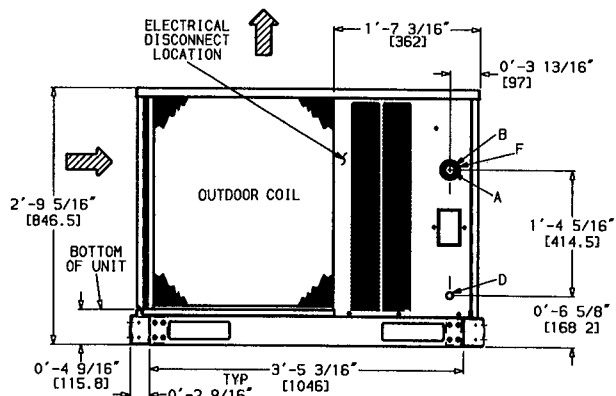
Base unit dimensions (50TJQ004-007)

UNIT	STD UNIT WEIGHT		ECONOMIZER WEIGHT (Durablade)		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)	
	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg
50TJQ004	500	227	34	15.4	123	56	127	58	127	58	124	56
50TJQ005	550	249	34	15.4	135	61	140	64	139	63	136	62
50TJQ006	590	268	34	15.4	145	66	150	68	150	68	145	66
50TJQ007	610	277	34	15.4	150	68	155	70	154	70	151	68

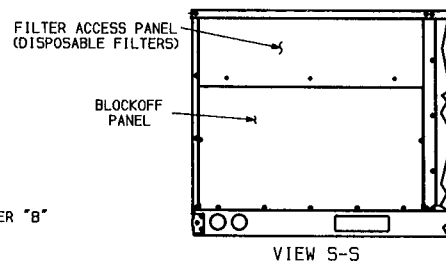
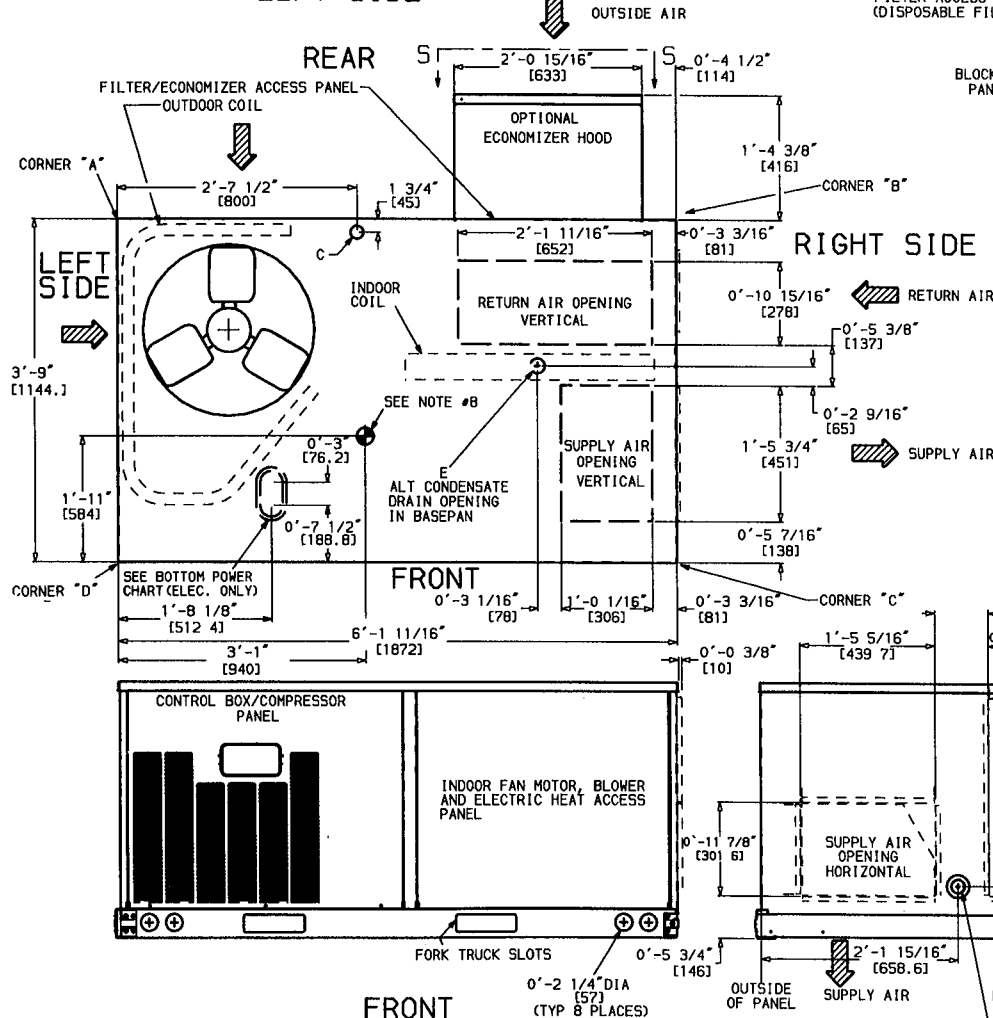
**BOTTOM POWER CHART, THESE HOLES REQ'D FOR USE
WITH ACCESSORY PACKAGES — CRBTMPWR001A00
(1/2", 3/4") OR CRBTMPWR002A00 (1/2", 1 1/4")**

THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
1/2"	24V	7/8" [22 2]
3/4"	POWER*	1 1/8" [28 4]
1 1/4"	POWER*	1 3/4" [44 4]

*Select either 3/4" or 1 1/4" for power, depending on wire size



LEFT SIDE



VIEW S-S



1 Dimensions in [] are in millimeters

2 Center of gravity

3. Direction of airflow

4. Ductwork to be attached to roof curb only.

5 Minimum clearance (local codes or jurisdiction may prevail):

a. Bottom to combustible surfaces (when not using curb) 0 in., on horizontal discharge units with electric heat 1 in. clearance to ductwork for 1 ft

b Outdoor coil, for proper airflow, 36 in. one side, 12 in. the other. The side getting the greater clearance is optional.

c. Overhead, 60 in. to assure proper outdoor fan operation

d Between units, control box side, 42 in per NEC (National Electrical Code).

e. Between unit and ungrounded surfaces, control box side, 36 in per

f Between unit and block or concrete walls and other grounded surfaces, central box shall be 12 inches NESC.

g Horizontal supply and return end, 0 inches.

6 With the exception of the clearance for the outdoor coil and combustible surfaces 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'-6½" [470] up from the bottom of the base rail

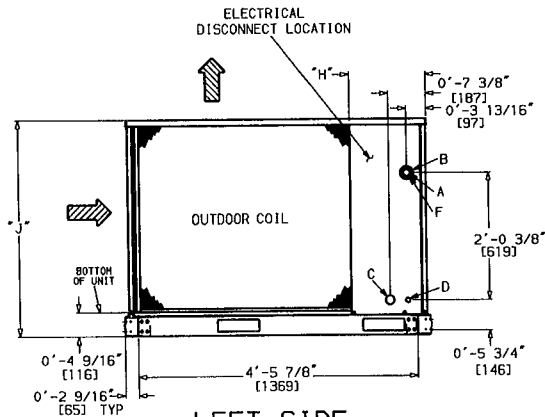
Base unit dimensions (50TJQ008-014)

UNIT	STD UNIT WEIGHT		ECONOMIZER WEIGHT (Durablade)		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	Ft.-in.	mm	Ft.-in.	mm	Ft.-in.	mm
50TJQ008	870	395	44	20	198	90	183	83	237	108	252	114	2'-0 7/8"	632	3'-5 1/16"	1050	2'-9 1/16"	856
50TJQ009	875	398	44	20	199	90	184	83	238	108	254	115	2'-0 7/8"	632	3'-5 1/16"	1050	2'-9 1/16"	856
50TJQ012	1000	454	44	20	231	105	214	97	269	122	286	130	2'-10 7/8"	885	4'-1 5/16"	1253	3'-0 9/16"	924
50TJQ014	1015	461	44	20	234	106	216	98	273	124	292	132	2'-10 7/8"	885	4'-1 5/16"	1253	3'-0 9/16"	924

CONNECTION SIZES	
A	1 3/8" dia [35] field power supply hole
B	2 1/2" dia [64] power supply knockout
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 knockout

NOTES:

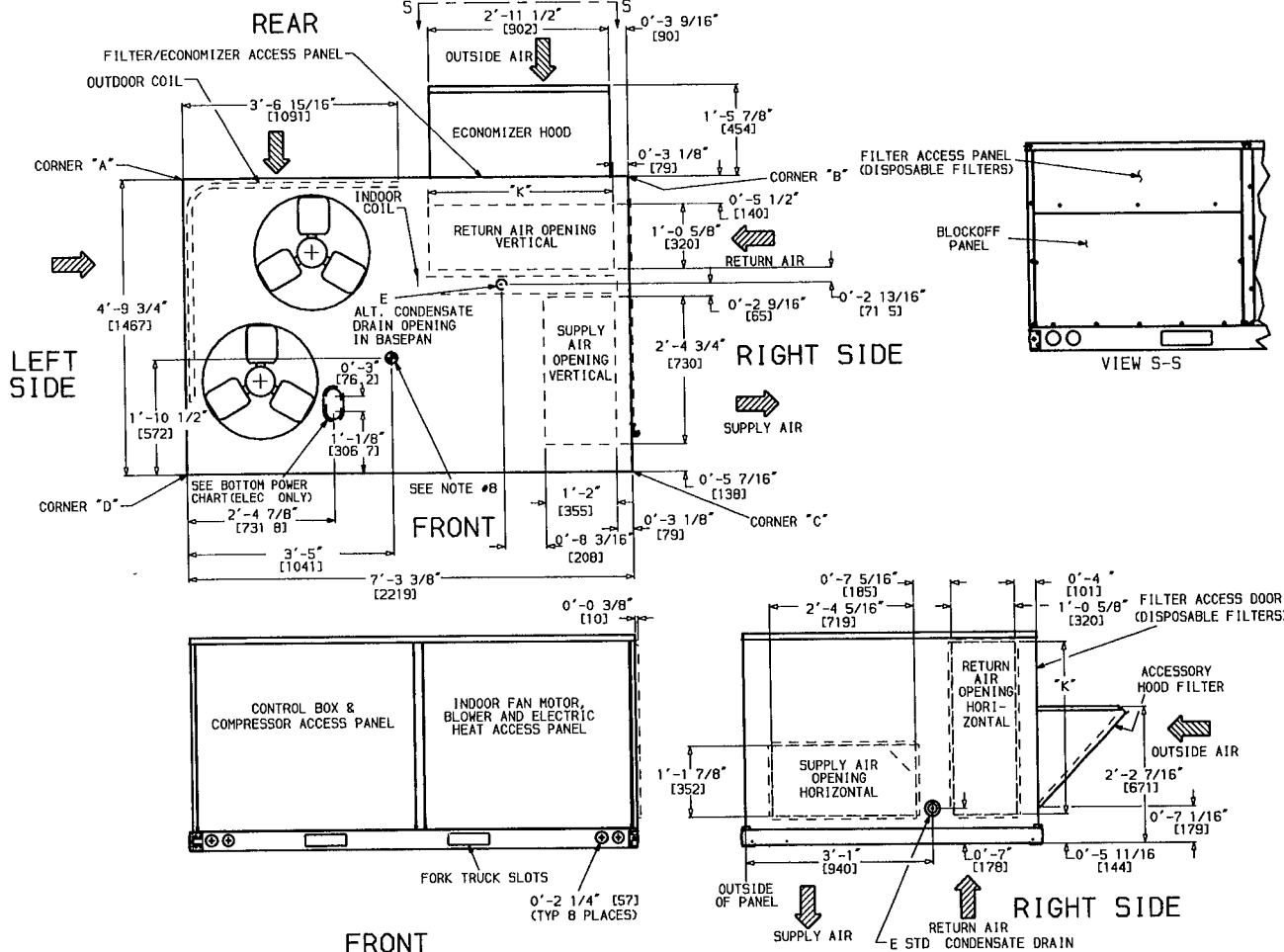
- Dimensions in [] are in millimeters
-  Center of gravity
-  Direction of airflow
- Ductwork to be attached to accessory roof curb only
- Minimum clearance (local codes or jurisdiction may prevail):
 - Bottom to combustible surfaces (when not using curb) 0 in., on horizontal discharge units with electric heat 1 in. clearance to ductwork for 1 ft
 - Outdoor coil, for proper airflow, 36 in. one side, 12 in. the other. The side getting the greater clearance is optional
 - Overhead, 60 in. to assure proper outdoor fan operation.
 - Between units, control box side, 42 in. per NEC (National Electrical Code)
 - Between unit and ungrounded surfaces, control box side, 36 in. per NEC
 - Between unit and block or concrete walls and other grounded surfaces, control box side, 42 in. per NEC
 - Horizontal supply and return end, 0 inches
- With the exception of the clearance for the outdoor coil or combustible surfaces as stated in Notes 5a, b, and c, a removable fence or barricade requires no clearance
- Units may be installed on combustible floors made from wood or class A, B, or C roof covering material
- The vertical center of gravity is 1'-7 1/2" for 008 and 009, 2'-0" for 012 and 014 up from the bottom of the base rail



BOTTOM POWER CHART, THESE HOLES REQ'D FOR USE WITH ACCESSORY PACKAGES — CRBTMPWR001A00 (1/2", 3/4") OR CRBTMPWR002A00 (1/2", 1 1/4")

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

*Select either 3/4" or 1 1/4" for power, depending on wire size



Accessory dimensions — 50TJQ004-007

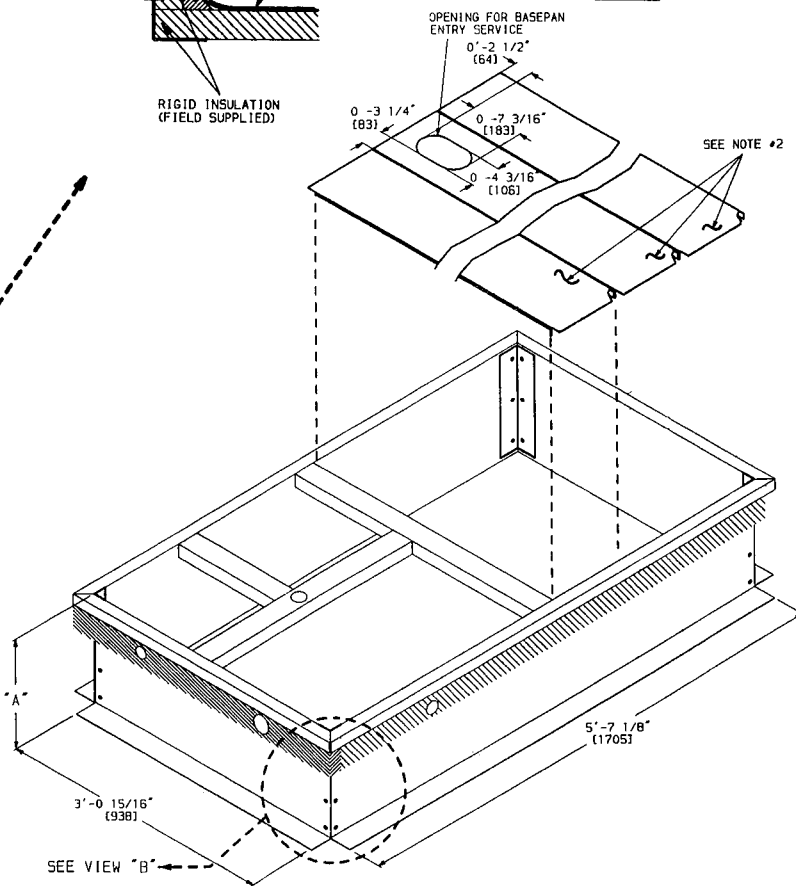
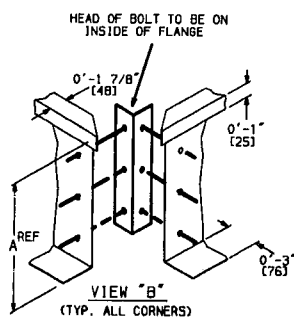
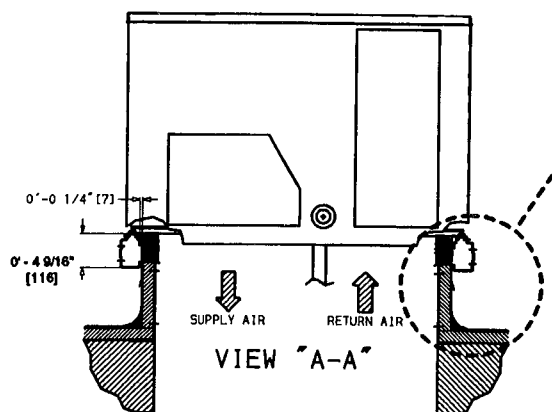
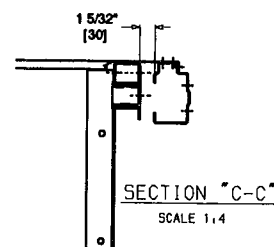
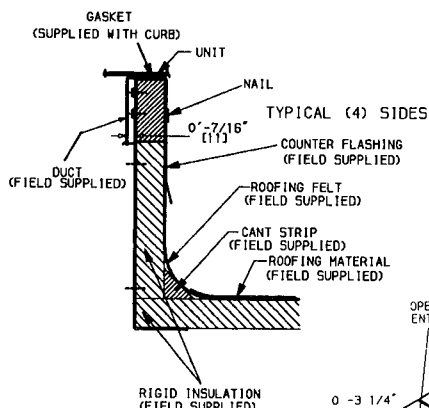
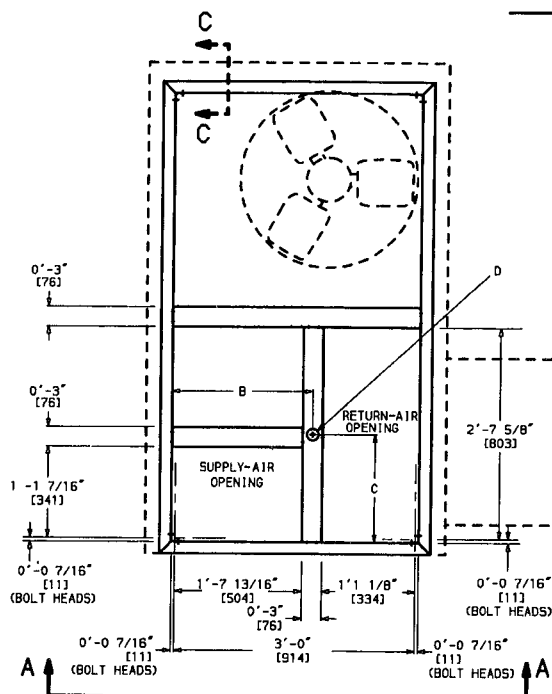
ROOF CURB 50TJQ004-007

ROOF CURB ACCESSORY	"A"	UNIT SIZE
CRRFCURB001A00	1'-2" [356]	50TJQ004-007
CRRFCURB002A00	2'-0" [610]	

UNIT SIZE	"B"	"C"	"D" ALT DRAIN HOLE	POWER	CONTROL	CONNECTOR PKG ACY
50TJQ004-007	1'-9 1/16" [551]	1'-4" [406]	1 3/4" [45]	3/4" NPT	1/2" NPT	CRBTMPWR001A00 (Thru-the-Bottom)
				1 1/4" NPT	1/2" NPT	CRBTMPWR002A00 (Thru-the-Bottom)

NOTES:

- 1 Roof curb accessory is shipped unassembled
- 2 Insulated panels.
- 3 Dimensions in [] are in millimeters.
- 4 Roof curb: galvanized steel
- 5 Attach ductwork to curb (flanges of duct rest on curb)
- 6 Service clearance 4 ft on each side
- 7  Direction of airflow



Accessory dimensions — 50TJQ008-014

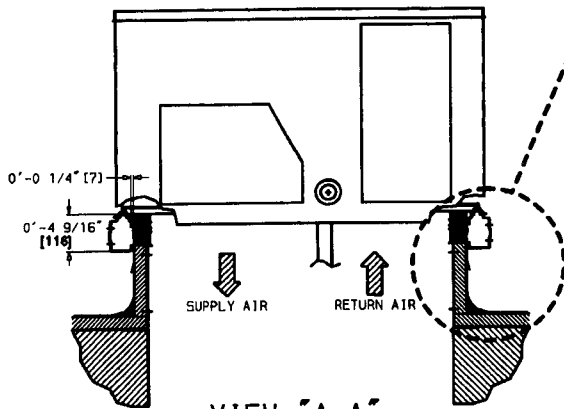
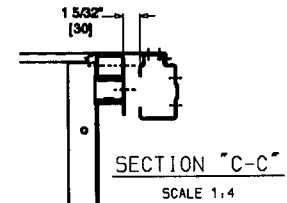
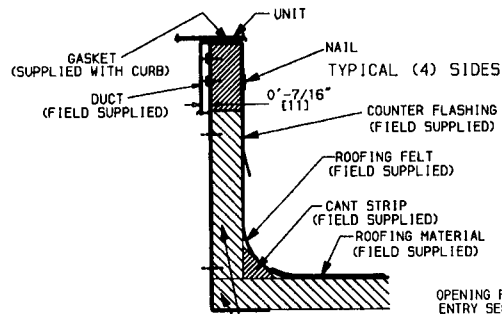
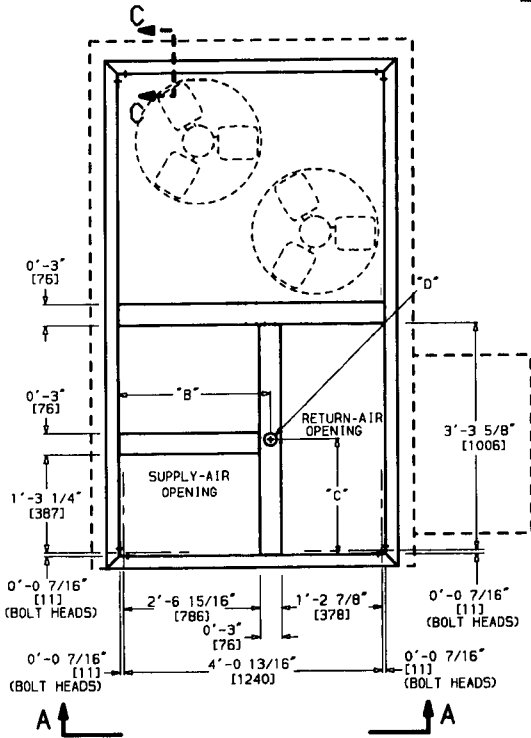
ROOF CURB 50TJQ008-014

ROOF CURB ACCESSORY	"A"	UNIT SIZE
CRRFCURB003A00	1'-2" [356]	50TJQ008-014
CRRFCURB004A00	2'-0" [610]	

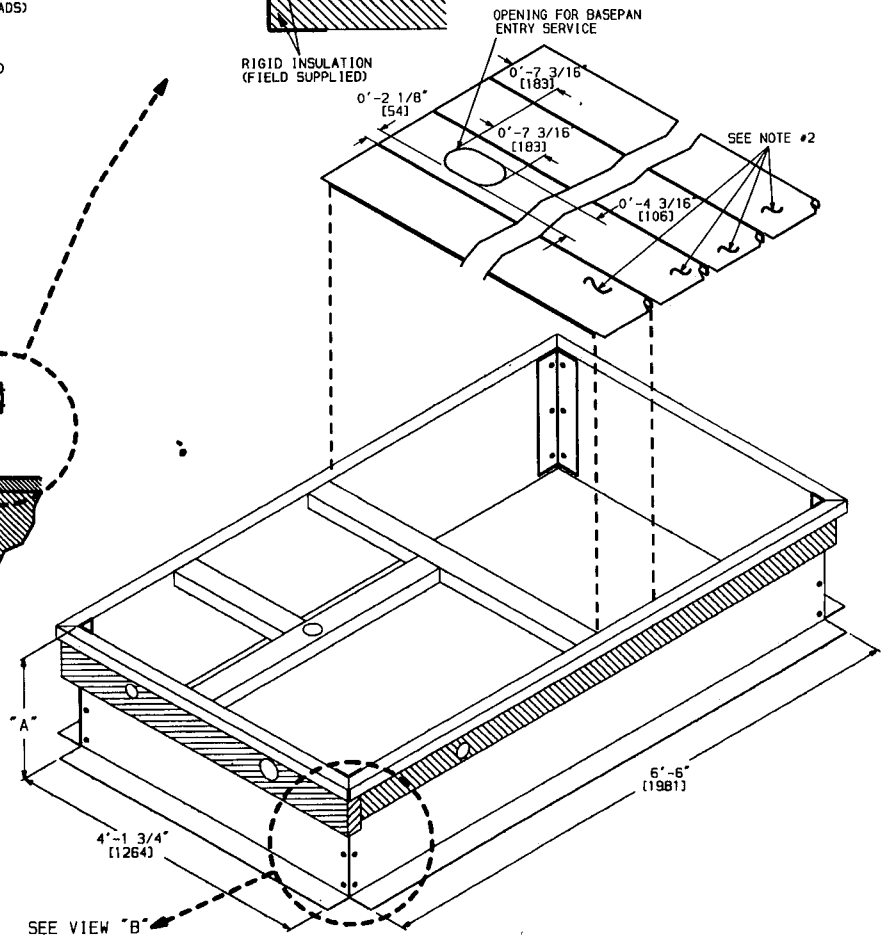
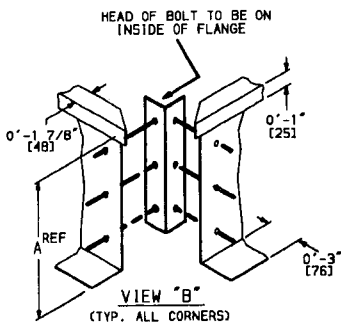
UNIT SIZE	"B"	"C"	"D" ALT DRAIN HOLE	POWER	CONTROL	CONNECTOR PKG ACY
50TJQ008-014	2'-8 ⁷ / ₁₆ " [827]	1'-10 ¹⁵ / ₁₆ " [583]	1 ³ / ₄ " [45]	3/4" NPT	1/2" NPT	CRBTMPWR001A00 (Thru-the-Bottom)
				1 1/4" NPT	1/2" NPT	CRBTMPWR002A00 (Thru-the-Bottom)

NOTES:

- 1 Roof curb accessory is shipped unassembled.
- 2 Insulated panels.
- 3 Dimensions in [] are in millimeters
- 4 Roof curb: galvanized steel
- 5 Attach ductwork to curb (flanges of duct rest on curb).
- 6 Service clearance 4 ft on each side.
- 7  Direction of airflow.



VIEW "A-A"



Selection procedure (with 50TJQ005 example)

I Determine cooling and heating requirements at design conditions:

Given:

Required Cooling Capacity (TC) 38,000 Btuh
Sensible Heat Capacity (SHC) 24,000 Btuh
Required Heating Capacity 35,000 Btuh
Outdoor Entering-Air Temperature 95 F
Outdoor-Air Winter Design Temperature 0° F
Indoor-Air Winter Design Temperature 70 F
Indoor Entering-Air
Temperature 80 F edb (entering air, dry bulb),
67 F ewb (entering air, wet bulb)
Indoor-Air Quantity 1600 cfm
External Static Pressure 0.45 in. wg
Electrical Characteristics (V-Ph-Hz) 230-3-60

II Select unit based on required cooling capacity.

Enter Cooling Capacities table at outdoor entering temperature of 95 F, indoor air entering at 1600 cfm and 67 F ewb. The 50TJQ005 unit will provide a total cooling capacity of 48,100 Btuh and a sensible heat capacity of 34,300 Btuh.

For indoor-air temperature other than 80 F edb, calculate sensible heat capacity correction, as required, using the formula found in Note 2 following the cooling capacities tables.

NOTE: Unit ratings are gross capacities and do not include the effect of indoor-fan motor heat. To calculate net capacities, see Step V.

III Select electric heat.

Enter the Instantaneous and Integrated Heating Ratings table at 1600 cfm. At 70 F return indoor air and 0° F air entering outdoor coil, the integrated heating capacity is 16,800 Btuh. (Select integrated heating capacity value since deductions for outdoor-coil frost and defrosting have already been made. No correction is required.)

The required heating capacity is 35,000 Btuh. Therefore, 18,200 Btuh (35,000 – 16,800) additional electric heat is required.

Determine additional electric heat capacity in kW.

$$\frac{18,200 \text{ Btuh}}{3413 \text{ Btuh/kW}} = 5.3 \text{ kW of heat required.}$$

Enter the Electric Heating Capacities table for 50TJQ005 at 208/230, 3 phase. The 6.5-kW heater at 240 v most closely satisfies the heating required. To calculate kW at 230 v, use the Multiplication Factors table.

$$6.5 \text{ kW} \times .92 = 5.98 \text{ kW}$$

$$6.5 \text{ kW} \times .92 \times 3413 = 20,410 \text{ Btuh}$$

Total unit heating capacity is 37,210 Btuh (16,800 + 20,410).

IV Determine fan speed and power requirements at design conditions.

Before entering Fan Performance tables, calculate the total static pressure required based on unit components. From the given and the Pressure Drop tables, find:

External static pressure	.45 in. wg
Durablade economizer	.05 in. wg
Electric heat	.09 in. wg
Total static pressure	.59 in. wg

Enter the Fan Performance table for 50TJQ005 vertical discharge. At 1600 cfm and 230-v high speed, the standard motor will deliver 0.76 in. wg static pressure, 723 watts, and 0.64 brake horsepower (bhp). This will adequately handle job requirements.

V Determine net capacities.

Capacities are gross and do not include the effect of indoor-fan motor (IFM) heat.

Determine net cooling capacity as follows:

$$\begin{aligned}\text{Net capacity} &= \text{Total capacity} - \text{IFM heat} \\ &= 48,100 \text{ Btuh} - (723 \text{ Watts} \times 3.413 \\ &\quad \text{Btuh/Watts}) \\ &= 48,100 \text{ Btuh} - 2468 \text{ Btuh} \\ &= 45,632\end{aligned}$$

$$\begin{aligned}\text{Net sensible capacity} &= 34,300 \text{ Btuh} - 2468 \text{ Btuh} \\ &= 31,832 \text{ Btuh}\end{aligned}$$

Integrated heating capacity is maximum (instantaneous) capacity less the effect of frost on the outdoor coil and the heat required to defrost it. Therefore, net capacity is equal to 37,210 Btuh, the total heating capacity determined in Step III

Performance data

COOLING CAPACITIES

50TJQ004 (3 Tons)										
Temp (F) Air Ent Outdoor Coil		Indoor Air — Cfm/BF								
		900/0.17			1200/0.21			1500/0.24		
		Indoor Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	42.3	38.9	35.5	44.2	41.0	37.6	45.5	42.5	39.0
	SHC	20.3	25.0	29.3	22.1	28.0	33.2	23.4	30.6	36.3
	KW	2.74	2.65	2.56	2.79	2.71	2.62	2.83	2.75	2.66
85	TC	40.6	37.3	33.5	42.4	39.1	36.0	43.4	40.4	37.2
	SHC	19.8	24.3	28.3	21.6	27.2	32.5	22.8	29.9	35.4
	KW	2.94	2.84	2.73	3.00	2.89	2.80	3.02	2.94	2.84
95	TC	38.8	35.5	31.2	40.7	37.4	33.7	41.6	38.4	35.5
	SHC	19.1	23.5	27.1	20.9	26.7	31.4	22.4	29.2	34.7
	KW	3.14	3.02	2.92	3.20	3.10	2.98	3.23	3.12	3.03
105	TC	36.9	33.6	29.5	38.7	35.4	31.6	39.5	36.5	33.5
	SHC	18.4	22.8	26.2	20.3	25.9	30.2	21.8	28.6	33.5
	KW	3.33	3.20	3.08	3.40	3.28	3.15	3.43	3.32	3.21
115	TC	34.9	31.6	27.8	36.4	33.2	29.6	37.3	34.2	31.8
	SHC	17.6	21.9	25.3	19.5	25.1	29.1	21.1	27.7	31.8
	KW	3.51	3.36	3.23	3.58	3.45	3.32	3.62	3.50	3.39
125	TC	32.8	29.7	26.3	34.2	31.1	27.9	34.8	32.0	30.1
	SHC	16.9	21.2	24.5	18.8	24.2	27.8	20.1	26.8	30.1
	KW	3.69	3.53	3.37	3.76	3.61	3.48	3.79	3.66	3.57

50TJQ005 (4 Tons)													
Temp (F) Air Ent Outdoor Coil		Indoor Air — Cfm/BF											
		1200/0.15			1450/0.18			1600/0.19			2000/0.22		
		Indoor Air — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	55.1	50.1	45.1	56.5	51.9	46.9	57.2	52.8	47.8	59.1	54.5	49.6
	SHC	26.0	31.9	37.3	27.3	34.4	40.9	28.1	35.9	42.6	30.0	39.2	46.8
	kW	3.57	3.45	3.32	3.61	3.49	3.39	3.63	3.52	3.41	3.69	3.58	3.46
85	TC	53.0	48.1	42.4	54.5	49.7	44.7	55.2	50.6	45.6	56.7	52.2	47.3
	SHC	25.4	31.1	36.0	26.7	33.6	39.8	27.5	35.2	41.5	29.5	38.9	45.6
	kW	3.85	3.73	3.59	3.90	3.77	3.64	3.92	3.80	3.67	3.97	3.86	3.72
95	TC	50.9	45.8	39.9	52.5	47.4	42.3	53.2	48.1	43.2	54.4	49.8	45.0
	SHC	24.5	30.1	34.7	26.2	32.8	38.4	26.9	34.3	40.4	28.9	38.0	44.5
	kW	4.14	3.98	3.86	4.20	4.06	3.91	4.23	4.09	3.94	4.27	4.14	4.00
105	TC	48.5	43.6	37.8	49.9	45.0	39.6	50.5	45.7	40.5	51.7	47.2	42.8
	SHC	23.7	29.2	33.6	25.3	31.9	37.1	26.0	33.4	39.0	28.0	37.1	42.8
	kW	4.43	4.26	4.12	4.49	4.33	4.18	4.51	4.36	4.21	4.56	4.42	4.27
115	TC	46.1	41.1	35.5	47.3	42.6	36.8	48.0	43.2	37.7	48.9	44.5	40.9
	SHC	22.8	28.3	32.5	24.4	30.9	35.7	25.2	32.4	37.5	27.2	35.9	40.9
	kW	4.72	4.56	4.40	4.78	4.61	4.47	4.81	4.64	4.50	4.85	4.70	4.58
125	TC	43.5	38.1	33.7	44.8	39.9	33.9	45.4	40.6	35.2	46.6	41.8	38.8
	SHC	21.9	27.2	31.6	23.5	30.0	33.9	24.4	31.5	35.2	26.6	35.0	38.8
	kW	5.03	4.86	4.65	5.10	4.91	4.77	5.12	4.95	4.82	5.19	5.01	4.88

 Standard Ratings

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
Ldb — Leaving Dry-Bulb
Lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

- 1 Direct interpolation is permissible. Do not extrapolate.
- 2 The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

$$t_{lwb} = \text{Wet-bulb temperature corresponding to enthalpy of air leaving indoor coil } (h_{lwb})$$

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering indoor coil

- 3 The SHC is based on 80 F edb temperature of air entering indoor coil

Below 80 F edb, subtract (corr factor x cfm) from SHC

Above 80 F edb, add (corr factor x cfm) to SHC

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	82	83	84	85	over 85
.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below
.10	.98	1.96	2.94	3.92	4.90	
.20	.87	1.74	2.62	3.49	4.36	
.30	.76	1.53	2.29	3.05	3.82	

Interpolation is permissible.

$$\text{Correction Factor} = 1.10 \times (1 - \text{BF}) \times (\text{edb} - 80).$$

COOLING CAPACITIES (cont)

50TJQ006 (5 Tons)										
Temp (F) Air Ent Outdoor Coil		Indoor Air — Cfm/BF								
		1500/0.22			2000/0.29			2500/0.33		
		Indoor Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	69.7	65.0	61.8	71.1	66.8	65.0	71.8	69.1	67.8
	SHC	34.5	43.2	47.2	36.9	47.7	52.2	39.2	53.1	57.1
	kW	4.33	4.24	4.16	4.37	4.25	4.22	4.39	4.32	4.30
85	TC	67.9	61.9	58.9	69.3	65.0	62.8	70.1	67.0	65.5
	SHC	33.9	41.9	45.7	36.6	47.9	51.4	38.9	53.4	56.4
	kW	4.77	4.62	4.53	4.80	4.70	4.65	4.83	4.76	4.73
95	TC	64.7	58.4	55.9	67.5	61.5	59.6	68.2	63.6	62.3
	SHC	32.8	40.6	44.0	36.4	46.9	49.8	39.0	52.6	55.0
	kW	5.19	5.01	4.91	5.27	5.19	5.04	5.28	5.19	5.14
105	TC	61.3	55.1	52.9	63.5	57.9	56.3	65.4	59.9	58.8
	SHC	31.5	39.2	42.3	34.9	45.4	48.0	38.6	51.2	53.0
	kW	5.59	5.38	5.28	5.64	5.46	5.41	5.73	5.55	5.52
115	TC	57.7	51.6	49.7	60.1	54.0	52.8	60.8	55.9	55.1
	SHC	30.2	37.8	40.5	34.0	44.0	46.1	36.7	49.5	50.8
	kW	5.97	5.73	5.64	6.08	5.85	5.80	6.06	5.91	5.89
125	TC	53.7	47.7	46.1	56.0	50.2	49.2	57.5	51.8	51.3
	SHC	28.8	36.3	38.5	32.7	42.5	44.0	36.4	47.8	48.6
	kW	6.33	6.07	5.99	6.46	6.20	6.15	6.54	6.29	6.27

50TJQ007 (6 Tons)													
Temp (F) Air Ent Outdoor Coil		Indoor Air — Cfm/BF											
		1800/0.10			2100/0.11			2400/0.13			3000/0.16		
		Indoor Air — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC SHC kW	86.1	80.6	74.3	87.0	82.4	76.6	88.5	84.2	78.4	91.0	85.3	80.4
		41.9	52.4	62.2	43.3	55.6	67.0	45.0	58.8	71.4	48.3	63.2	77.7
		5.03	4.95	4.87	5.04	4.97	4.91	5.08	5.01	4.93	5.13	5.01	4.94
85	TC SHC kW	84.1	78.2	70.6	85.9	80.4	73.9	86.8	82.1	76.0	89.1	84.0	78.2
		41.3	51.5	60.5	43.1	55.1	65.9	44.5	58.4	70.4	47.9	64.1	76.7
		5.61	5.51	5.43	5.65	5.56	5.47	5.66	5.59	5.51	5.72	5.62	5.51
95	TC SHC kW	81.9	75.5	67.3	83.7	77.7	69.7	84.8	79.4	72.6	85.8	81.3	75.7
		40.5	50.5	58.9	42.5	54.7	64.0	44.1	57.6	68.9	46.8	63.4	75.3
		6.24	6.11	6.01	6.28	6.18	6.06	6.30	6.20	6.10	6.31	6.23	6.13
105	TC SHC kW	78.8	72.8	64.7	80.5	74.7	66.7	81.7	76.3	69.7	84.1	78.1	73.1
		39.4	49.3	57.7	41.3	52.9	62.4	43.0	56.4	67.2	46.9	62.2	73.0
		6.88	6.74	6.62	6.92	6.79	6.68	6.95	6.83	6.72	7.02	6.86	6.77
115	TC SHC kW	75.7	69.7	61.9	77.3	71.6	64.0	78.4	73.1	66.1	79.4	74.7	70.3
		38.2	48.0	56.3	40.2	51.7	60.9	42.0	55.1	65.1	44.8	60.9	70.3
		7.56	7.40	7.26	7.61	7.46	7.33	7.63	7.51	7.39	7.65	7.54	7.45
125	TC SHC kW	72.3	66.6	59.8	74.0	68.4	61.1	75.0	69.7	62.9	75.9	71.4	67.6
		37.0	46.8	55.2	39.1	50.4	59.4	40.8	53.9	62.8	43.6	59.9	67.6
		8.28	8.14	7.95	8.33	8.20	8.03	8.36	8.25	8.10	8.38	8.28	8.20

Standard Ratings

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
Ldb — Leaving Dry-Bulb
Lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

- 1 Direct interpolation is permissible. Do not extrapolate.
- 2 The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

$$t_{lwb} = \text{Wet-bulb temperature corresponding to enthalpy of air leaving indoor coil } (h_{lwb})$$

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

$$\text{Where: } h_{ewb} = \text{Enthalpy of air entering indoor coil}$$

- 3 The SHC is based on 80 F edb temperature of air entering indoor coil

Below 80 F edb, subtract (corr factor x cfm) from SHC

Above 80 F edb, add (corr factor x cfm) to SHC

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	82	83	84	85	over 85
Correction Factor						
.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below
.10	.98	1.96	2.94	3.92	4.90	
.20	.87	1.74	2.62	3.49	4.36	
.30	.76	1.53	2.29	3.05	3.82	

Interpolation is permissible

$$\text{Correction Factor} = 1.10 \times (1 - \text{BF}) \times (\text{edb} - 80)$$

Performance data (cont)

COOLING CAPACITIES (cont)

50TJQ008										
Temp (F) Air Ent Outdoor Coil		Indoor Air — Cfm/BF								
		2250/0.21			3000/0.27			3750/0.3		
		Indoor Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	107.8	99.4	94.6	112.8	104.2	100.6	112.8	107.8	105.2
	SHC	48.0	61.0	67.6	53.0	69.4	76.0	56.0	77.8	83.4
	kW	6.88	6.62	6.46	7.06	6.78	6.66	7.04	6.92	6.82
85	TC	104.0	95.0	90.4	108.0	99.8	96.6	108.8	102.8	100.4
	SHC	46.8	59.6	65.6	51.8	68.4	74.2	55.2	76.6	81.4
	kW	7.44	7.14	6.98	7.60	7.30	7.20	7.60	7.42	7.34
95	TC	98.8	89.8	85.8	103.6	94.2	91.6	106.0	97.6	95.6
	SHC	45.2	57.6	63.0	50.6	67.8	71.8	55.4	75.6	79.4
	kW	7.94	7.60	7.44	8.16	7.82	7.70	8.26	7.94	7.86
105	TC	93.6	84.4	80.8	98.2	88.8	86.4	100.0	91.6	90.0
	SHC	43.6	55.8	60.6	49.4	65.2	69.2	54.0	73.8	76.8
	kW	8.46	8.08	7.90	8.70	8.28	8.18	8.76	8.42	8.34
115	TC	88.0	78.8	75.8	91.8	82.8	80.8	94.6	85.4	84.2
	SHC	41.8	53.8	58.0	47.6	63.4	66.6	53.2	72.2	74.2
	kW	8.96	8.50	8.34	9.14	8.74	8.62	9.30	8.88	8.82
125	TC	82.4	73.2	70.8	85.8	76.8	75.2	88.2	79.0	78.4
	SHC	40.2	52.0	55.6	45.8	61.4	63.8	51.2	69.8	71.0
	kW	9.42	8.90	8.74	9.60	9.14	9.04	9.74	9.28	9.24

50TJQ009										
Temp (F) Air Ent Outdoor Coil		Indoor Air — Cfm/BF								
		2150/0.19			3000/0.26			3850/0.31		
		Indoor Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	114.0	105.8	99.8	118.0	112.0	107.8	122.0	116.2	112.8
	SHC	49.6	62.6	69.6	54.2	72.0	79.6	59.6	81.0	87.8
	kW	7.20	6.98	6.82	7.34	7.16	7.06	7.48	7.30	7.20
85	TC	109.8	101.2	95.8	113.4	108.2	103.8	115.8	111.8	109.0
	SHC	48.2	61.0	67.6	52.6	71.4	77.8	57.2	80.2	86.2
	kW	7.76	7.56	7.38	7.88	7.76	7.64	7.98	7.88	7.82
95	TC	106.6	96.2	91.2	113.0	103.2	99.2	115.6	107.2	104.4
	SHC	47.4	59.2	65.2	53.6	70.8	75.8	58.8	80.0	84.6
	kW	8.50	8.14	7.94	8.72	8.28	8.26	8.80	8.54	8.44
105	TC	101.2	91.2	86.6	107.2	97.4	94.2	111.0	101.4	99.0
	SHC	45.6	57.2	62.8	52.0	68.2	73.2	58.0	78.2	82.2
	kW	9.08	8.70	8.50	9.30	8.98	8.84	9.48	9.12	9.04
115	TC	95.8	86.0	82.0	101.8	91.8	88.8	105.4	95.4	93.4
	SHC	43.8	55.4	60.4	50.6	66.4	70.6	56.8	76.4	79.4
	kW	9.66	9.28	9.08	9.98	9.56	9.44	10.18	9.70	9.62
125	TC	90.2	80.4	77.0	95.6	85.8	83.4	99.0	88.8	87.4
	SHC	42.0	53.4	57.8	48.8	64.4	68.0	55.0	74.6	76.6
	kW	10.36	9.84	9.66	10.58	10.16	10.02	10.78	10.34	10.26

 Standard Ratings

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
Ldb — Leaving Dry-Bulb
Lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1 Direct interpolation is permissible. Do not extrapolate

2 The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

$$t_{lwb} = \text{Wet-bulb temperature corresponding to enthalpy of air leaving indoor coil } (h_{lwb})$$

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering indoor coil

3 The SHC is based on 80 F edb temperature of air entering indoor coil.

Below 80 F edb, subtract (corr factor x cfm) from SHC

Above 80 F edb, add (corr factor x cfm) to SHC

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	82	83	84	85	over 85
Correction Factor						
.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below
.10	.98	1.96	2.94	3.92	4.90	
.20	.87	1.74	2.62	3.49	4.36	
.30	.76	1.53	2.29	3.05	3.82	

Interpolation is permissible.

$$\text{Correction Factor} = 1.10 \times (1 - \text{BF}) \times (\text{edb} - 80).$$

COOLING CAPACITIES (cont)

50TJQ012													
Temp (F) Air Ent Outdoor Coil		Indoor Air — Cfm/BF											
		3000/0.23			3200/0.25			4000/0.29			5000/0.35		
		Indoor Air — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC SHC kW	138.6	130.8	124.0	139.6	132.2	126.0	142.4	136.8	132.0	144.4	138.8	135.8
		64.2	82.2	90.6	65.2	84.2	93.0	69.0	92.8	101.6	73.0	100.6	109.2
		8.66	8.50	8.34	8.70	8.52	8.38	8.78	8.66	8.54	8.84	8.70	8.62
85	TC SHC kW	135.6	125.2	119.0	135.6	127.0	121.0	139.4	131.4	126.8	142.2	134.6	131.6
		63.4	80.4	88.2	64.0	83.0	90.6	68.8	91.4	99.0	74.2	100.8	108.0
		9.50	9.30	9.10	9.48	9.36	9.18	9.62	9.42	9.30	9.72	9.50	9.44
95	TC SHC kW	130.8	118.8	113.2	132.2	120.4	115.0	134.4	125.2	120.8	139.2	129.4	126.2
		62.0	77.8	85.0	63.4	80.4	87.4	67.4	94.4	96.4	74.6	101.0	106.2
		10.36	9.98	9.80	10.40	10.06	9.88	10.44	10.24	10.12	10.64	10.36	10.26
105	TC SHC kW	124.4	112.0	107.2	126.0	113.4	108.8	129.8	118.0	114.4	132.2	121.8	119.2
		60.0	75.4	81.8	61.4	78.0	84.2	66.8	87.4	92.8	72.6	98.8	102.8
		11.20	10.76	10.54	11.26	10.82	10.62	11.36	10.96	10.84	11.42	11.14	11.04
115	TC SHC kW	117.2	105.0	100.8	118.6	106.2	102.2	122.8	110.4	107.4	125.8	114.2	112.2
		57.4	72.8	78.4	59.0	75.4	80.8	65.0	85.0	89.4	71.4	96.0	99.0
		11.94	11.48	11.26	12.00	11.54	11.34	12.20	11.72	11.60	12.30	11.84	11.78
125	TC SHC kW	109.6	97.6	94.0	110.8	98.8	95.4	114.6	102.4	100.0	117.2	105.4	104.2
		55.0	70.2	74.8	56.6	72.6	77.2	62.4	82.2	85.6	68.8	92.8	94.8
		12.74	12.16	11.98	12.80	12.24	12.06	12.94	12.44	12.32	13.02	12.62	12.54

50TJQ014										
Temp (F) Air Ent Outdoor Coil		Indoor Air — Cfm/BF								
		3750/0.25			5000/0.31			6250/0.36		
		Indoor Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC SHC kW	168 0	156 8	150 0	172 6	162.8	158 2	177.6	166 4	163.0
		83.0	103.4	114.6	90.0	116.0	127.0	97.2	126.8	136.6
		10 38	10.14	10.00	10 48	10 26	10 18	10 64	10.34	10 28
85	TC SHC kW	164 6	153 2	146 4	169 0	159.4	154 8	170 6	163 2	159 8
		81.8	102 6	112.6	89.0	116.0	125 8	94.2	128.0	136.4
		11.62	11.38	11.20	11.70	11.50	11 42	11.70	11.58	11.52
95	TC SHC kW	159 6	147 2	141 0	166 0	154.2	150 0	168 8	158 2	154 8
		80.2	100.2	109.6	88 4	115.2	123.6	95 6	127.2	134.0
		12.92	12 56	12.40	13.10	12.96	12.74	13 18	12 90	12 80
105	TC SHC kW	154.8	142.2	136.0	158 2	148 2	144 0	163 6	152.8	149 2
		78.6	98.4	107.0	85.6	112 6	120.2	94.6	126.4	131.8
		14.36	13.98	13.76	14.36	14.14	14.02	14.60	14 34	14 20
115	TC SHC kW	148.0	135 8	130 2	152 6	141 2	137.6	154 2	145 4	142 8
		76.0	96.0	103.6	83.8	109.8	116.6	90.6	123.8	128.4
		15 76	15.40	15.16	15 84	15 50	15 38	15.86	15 70	15.62
125	TC SHC kW	140.8	129 0	124 0	146 8	134 6	131.2	148 0	137 6	135 6
		73.4	93.2	100.0	82.6	108 0	113.6	89.0	120 6	124.4
		17 20	16.84	16 60	17 56	17 10	16 94	17 44	17 12	17 08



Standard Ratings

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
Ldb — Leaving Dry-Bulb
Lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. The following formulas may be used:

$$t_{ldb} = t_{edb} - \frac{\text{sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

$$t_{lwb} = \text{Wet-bulb temperature corresponding to enthalpy of air leaving indoor coil } (h_{lwb})$$

$$h_{lwb} = h_{ewb} - \frac{\text{total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: h_{ewb} = Enthalpy of air entering indoor coil

3. The SHC is based on 80 F edb temperature of air entering indoor coil.

Below 80 F edb, subtract (corr factor x cfm) from SHC.

Above 80 F edb, add (corr factor x cfm) to SHC.

BYPASS FACTOR (BF)	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	82	83	84	85	over 85
	Correction Factor					
.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below
.10	.98	1.96	2.94	3.92	4.90	
.20	.87	1.74	2.62	3.49	4.36	
.30	.76	1.53	2.29	3.05	3.82	

Interpolation is permissible.

$$\text{Correction Factor} = 1.10 \times (1 - \text{BF}) \times (\text{edb} - 80).$$

Performance data (cont)

INSTANTANEOUS AND INTEGRATED HEATING RATINGS

50TJQ004													
Temp (F) Air Ent Indoor Coil	Indoor Air Cfm		Air Temp Entering Outdoor Coil (F db at 70% rh)										
			0	10	17	30	40	47	50	60			
55	900	Cap.	14.8	12.5	18.5	17.0	21.4	19.5	27.1	23.7	31.7	31.3	35.3
		kW	2.10	2.28	2.41	2.68	2.90	3.08	3.17	3.45			
	1200	Cap.	15.3	13.0	19.0	17.5	21.9	20.0	27.8	24.4	32.7	32.7	36.3
		kW	2.10	2.26	2.38	2.63	2.84	3.00	3.08	3.31			
	1500	Cap.	15.5	13.2	19.3	17.8	22.3	20.3	28.3	24.8	33.2	33.2	37.0
		kW	2.09	2.25	2.37	2.60	2.79	2.95	2.98	3.14			
70	900	Cap.	13.1	11.1	16.7	15.3	19.4	17.4	25.2	22.1	29.7	29.7	33.2
		kW	2.15	2.33	2.48	2.78	3.03	3.22	3.32	3.66			
	1200	Cap.	13.5	11.5	17.1	15.7	20.0	18.3	26.0	23.7	30.7	30.7	34.3
		kW	2.14	2.32	2.46	2.74	2.97	3.15	3.23	3.49			
	1500	Cap.	13.8	11.7	17.4	16.0	20.4	18.6	26.4	24.2	31.3	31.3	34.9
		kW	2.14	2.31	2.45	2.72	2.93	3.10	3.18	3.42			
80	900	Cap.	11.5	9.2	15.5	14.2	17.9	16.4	23.8	20.8	28.3	28.3	31.8
		kW	2.16	2.37	2.51	2.84	3.11	3.31	3.41	3.77			
	1200	Cap.	11.9	10.1	16.0	14.7	18.5	16.8	24.6	22.6	29.3	29.3	32.9
		kW	2.16	2.36	2.49	2.81	3.05	3.24	3.33	3.66			
	1500	Cap.	12.2	10.4	16.4	15.1	19.0	17.4	25.1	23.0	29.9	29.9	33.6
		kW	2.15	2.36	2.49	2.78	3.02	3.20	3.28	3.55			

50TJQ005													
Temp (F) Air Ent Indoor Coil	Indoor Air Cfm		Air Temp Entering Outdoor Coil (F db at 70% rh)										
			0	10	17	30	40	47	50	60			
55	1200	Cap.	21.4	18.2	25.8	23.7	29.2	25.5	36.1	31.5	41.8	41.8	46.3
		kW	2.70	2.92	3.10	3.45	3.75	3.99	4.10	4.52			
	1600	Cap.	21.9	18.6	26.3	24.1	29.7	27.1	36.8	32.3	42.8	42.8	47.4
		kW	2.67	2.87	3.03	3.35	3.62	3.83	3.93	4.30			
	2000	Cap.	22.1	18.9	26.5	24.3	30.0	27.3	37.3	32.7	43.4	43.4	48.1
		kW	2.65	2.84	2.99	3.29	3.54	3.73	3.82	4.16			
70	1200	Cap.	19.2	16.1	24.2	22.2	27.5	25.1	34.4	30.2	40.0	40.0	44.2
		kW	2.80	3.09	3.28	3.68	4.02	4.28	4.40	4.86			
	1600	Cap.	19.8	16.8	24.7	22.7	28.1	25.6	35.1	30.8	40.9	40.9	45.3
		kW	2.78	3.05	3.22	3.59	3.89	4.12	4.24	4.64			
	2000	Cap.	20.2	17.1	25.1	23.0	28.4	25.9	35.6	31.2	41.4	41.4	46.1
		kW	2.77	3.02	3.18	3.53	3.80	4.03	4.13	4.50			
80	1200	Cap.	17.3	14.7	22.5	20.7	26.2	23.9	33.1	29.0	38.7	38.7	42.9
		kW	2.82	3.16	3.40	3.83	4.19	4.47	4.60	5.08			
	1600	Cap.	17.9	15.2	23.2	21.3	26.8	24.4	33.9	29.7	39.6	39.6	43.9
		kW	2.82	3.14	3.34	3.74	4.07	4.32	4.43	4.86			
	2000	Cap.	18.3	15.6	23.7	21.7	27.2	24.8	34.4	30.1	40.2	40.2	44.6
		kW	2.82	3.12	3.31	3.68	3.99	4.22	4.33	4.73			

LEGEND

Cap. — Heating Capacity (1000 Btuh) (includes indoor-fan motor heat)
kW — Total Power input (includes compressor motor power input, outdoor-fan motor input, and indoor-fan motor input)
rh — Relative Humidity

1  indicates integrated ratings

2 Integrated capacity is maximum (instantaneous) capacity less the effect of frost on the outdoor coil and the heat required to defrost it

INSTANTANEOUS AND INTEGRATED HEATING RATINGS (cont)

50TJQ006																	
Temp (F) Air Ent Indoor Coil	Indoor Air Cfm		Air Temp Entering Outdoor Coil (F db at 70% rh)														
			0		10		17		30		40		47		50		60
55	1500	Cap.	28.7	34.4	34.7	31.3	39.4	35.0	48.8	42.7	56.5	56.3	62.4	62.4	65.2	55.3	75.0
		kW	3.57		3.84		4.05		4.47		4.82		5.08		5.21		5.67
	2000	Cap.	29.3	34.3	35.4	32.5	40.1	36.6	49.8	43.6	57.8	57.6	63.8	63.8	66.7	56.7	76.9
		kW	3.52		3.77		3.96		4.34		4.64		4.87		4.98		5.38
	2500	Cap.	29.6	35.2	35.8	32.8	40.6	37.0	50.4	44.2	58.5	58.3	64.5	64.5	67.4	57.4	77.9
		kW	3.49		3.73		3.90		4.25		4.52		4.73		4.83		5.19
70	1500	Cap.	26.1	32.3	32.0	29.4	36.6	33.4	46.1	40.4	53.6	53.6	59.2	59.2	61.9	51.9	71.4
		kW	3.76		4.06		4.30		4.78		5.17		5.47		5.61		6.11
	2000	Cap.	26.8	32.9	32.9	30.2	37.5	34.2	47.2	41.4	54.9	54.9	60.8	60.8	63.6	53.6	73.6
		kW	3.72		4.01		4.22		4.66		5.00		5.26		5.38		5.83
	2500	Cap.	27.0	33.2	33.2	30.5	38.0	34.7	47.8	41.9	55.7	55.7	61.7	61.7	64.6	54.6	74.6
		kW	3.69		3.96		4.17		4.58		4.89		5.13		5.24		5.65
80	1500	Cap.	23.9	29.3	29.9	27.3	34.6	31.5	43.9	38.5	51.4	51.4	57.1	57.1	59.7	49.7	68.9
		kW	3.87		4.20		4.46		4.98		5.39		5.72		5.87		6.40
	2000	Cap.	24.6	30.9	30.8	28.2	35.4	32.3	45.2	39.6	52.9	52.9	58.7	58.7	61.4	51.4	71.2
		kW	3.84		4.15		4.38		4.86		5.23		5.52		5.65		6.13
	2500	Cap.	25.0	31.3	31.3	28.7	36.1	32.9	45.9	40.3	53.8	53.8	59.7	59.7	62.4	52.4	72.4
		kW	3.82		4.11		4.34		4.79		5.13		5.39		5.51		5.95

50TJQ007																	
Temp (F) Air Ent Indoor Coil	Indoor Air Cfm		Air Temp Entering Outdoor Coil (F db at 70% rh)														
			0		10		17		30		40		47		50		60
55	1800	Cap	40.0	39.0	46.4	42.5	51.5	46.9	62.0	54.4	71.0	71.0	77.7	77.7	81.0	81.0	92.9
		kW	4.60		4.83		5.03		5.46		5.84		6.13		6.28		6.85
	2400	Cap	40.1	39.1	46.5	42.7	51.7	47.1	62.6	54.9	71.6	71.6	78.5	78.5	81.8	81.8	94.1
		kW	4.44		4.64		4.81		5.17		5.48		5.72		5.84		6.31
	3000	Cap.	40.2	39.2	46.7	42.8	51.8	47.2	62.8	55.0	72.0	72.0	79.1	79.1	82.3	82.3	94.9
		kW	4.35		4.53		4.68		5.00		5.27		5.48		5.59		6.01
70	1800	Cap.	39.2	38.3	45.7	42.0	50.7	46.2	61.1	53.6	69.7	69.7	76.3	76.3	79.4	79.4	91.0
		kW	5.17		5.45		5.67		6.18		6.60		6.95		7.12		7.77
	2400	Cap.	39.4	38.5	45.9	42.2	51.0	46.5	61.5	53.9	70.3	70.3	77.1	77.1	80.4	80.4	92.1
		kW	5.00		5.24		5.43		5.84		6.20		6.49		6.63		7.16
	3000	Cap.	39.6	38.7	46.1	42.3	51.2	46.7	61.7	54.1	70.8	70.8	77.6	77.6	80.8	80.8	92.9
		kW	4.90		5.11		5.28		5.64		5.97		6.22		6.34		6.81
80	1800	Cap.	38.4	37.7	45.2	41.5	50.1	45.7	60.6	53.1	68.8	68.8	75.3	75.3	78.4	78.4	89.6
		kW	5.57		5.91		6.15		6.70		7.16		7.54		7.72		8.42
	2400	Cap.	38.8	38.0	45.5	41.8	50.4	46.0	60.9	53.4	69.4	69.4	76.1	76.1	79.2	79.2	90.9
		kW	5.40		5.67		5.88		6.34		6.73		7.04		7.19		7.78
	3000	Cap	39.0	38.1	45.6	41.9	50.7	46.3	61.2	53.6	69.8	69.8	76.5	76.5	79.9	79.9	91.6
		kW	5.29		5.53		5.72		6.13		6.47		6.74		6.89		7.40

LEGEND

Cap. — Heating Capacity (1000 Btuh) (includes indoor-fan motor heat)
kW — Total Power input (includes compressor motor power input, outdoor-fan motor input, and indoor-fan motor input)
rh — Relative Humidity

1. [Shaded box] indicates integrated ratings

2. Integrated capacity is maximum (instantaneous) capacity less the effect of frost on the outdoor coil and the heat required to defrost it

Performance data (cont)

INSTANTANEOUS AND INTEGRATED HEATING RATINGS (cont)

50TJQ008												
Temp (F) Air Ent Indoor Coil	Indoor Air Cfm		Air Temp Entering Outdoor Coil (F db at 70% rh)									
			0	10	17	30	40	47	50	60		
55	2250	Cap.	38.4	46.4	52.8	65.4	75.8	83.6	87.0	98.8		
		kW	4.92	5.32	5.60	6.22	6.72	7.10	7.24	7.80		
	3000	Cap.	39.2	47.4	53.6	66.8	77.4	85.2	88.6	97.0		
		kW	4.88	5.24	5.52	6.08	6.52	6.82	6.94	7.26		
	3750	Cap.	39.6	48.0	54.2	67.6	78.0	84.8	87.0	91.4		
		kW	4.86	5.20	5.46	5.98	6.36	6.60	6.66	6.82		
70	2250	Cap.	34.4	42.8	49.0	61.6	71.6	79.4	83.0	95.6		
		kW	5.10	5.54	5.88	6.54	7.10	7.54	7.74	8.42		
	3000	Cap.	35.4	43.8	50.2	63.2	73.6	81.6	84.8	96.4		
		kW	5.08	5.48	5.80	6.42	6.94	7.34	7.48	8.00		
	3750	Cap.	36.0	44.4	50.8	64.0	74.6	82.2	84.2	94.4		
		kW	5.06	5.44	5.74	6.34	6.82	7.16	7.22	7.64		
80	2250	Cap.	31.2	40.0	46.0	58.8	68.8	76.4	80.0	92.0		
		kW	5.20	5.68	6.02	6.74	7.34	7.82	8.02	8.74		
	3000	Cap.	32.2	41.2	47.4	60.4	70.8	78.6	82.2	94.2		
		kW	5.18	5.64	5.96	6.64	7.20	7.62	7.80	8.40		
	3750	Cap.	32.8	41.8	48.0	61.4	71.8	79.8	83.2	94.0		
		kW	5.16	5.60	5.92	6.56	7.10	7.48	7.62	8.12		

50TJQ009												
Temp (F) Air Ent Indoor Coil	Indoor Air Cfm		Air Temp Entering Outdoor Coil (F db at 70% rh)									
			0	10	17	30	40	47	50	60		
55	2250	Cap.	44.0	53.0	59.8	73.8	85.6	94.6	98.8	113.8		
		kW	5.50	5.94	6.28	6.98	7.60	8.06	8.28	9.04		
	3400	Cap.	44.8	54.0	61.0	75.6	87.8	97.2	101.6	116.2		
		kW	5.42	5.82	6.12	6.76	7.26	7.66	7.84	8.44		
	4250	Cap.	45.2	54.6	61.4	76.4	88.8	97.8	102.4	112.6		
		kW	5.38	5.76	6.04	6.64	7.12	7.44	7.62	7.98		
70	2250	Cap.	39.8	49.4	56.6	70.6	81.8	90.4	94.4	109.6		
		kW	5.72	6.26	6.66	7.44	8.10	8.62	8.86	9.80		
	3400	Cap.	41.2	50.8	58.0	72.2	84.0	93.2	97.4	112.2		
		kW	5.66	6.16	6.50	7.20	7.78	8.24	8.46	9.14		
	4250	Cap.	41.8	51.4	58.6	73.0	85.2	94.4	98.8	112.6		
		kW	5.64	6.10	6.42	7.10	7.66	8.06	8.26	8.82		
80	2250	Cap.	36.0	46.4	53.6	68.2	79.2	87.8	91.8	106.0		
		kW	5.78	6.42	6.88	7.74	8.46	9.02	9.28	10.22		
	3400	Cap.	37.4	48.2	55.4	70.0	81.6	90.4	94.6	109.8		
		kW	5.76	6.34	6.74	7.52	8.14	8.62	8.86	9.68		
	4250	Cap.	38.2	48.8	56.2	70.8	82.6	91.6	96.0	110.6		
		kW	5.74	6.30	6.68	7.40	8.00	8.46	8.68	9.36		

LEGEND

Cap. — Heating Capacity (1000 Btu/h) (includes indoor-fan motor heat)
kW — Total Power input (includes compressor motor power input, outdoor-fan motor input, and indoor-fan motor input)
rh — Relative Humidity

1  indicates integrated ratings

2 Integrated capacity is maximum (instantaneous) capacity less the effect of frost on the outdoor coil and the heat required to defrost it

INSTANTANEOUS AND INTEGRATED HEATING RATINGS (cont)

50TJQ012										
Temp (F) Air Ent Indoor Coil	Indoor Air Cfm		Air Temp Entering Outdoor Coil (F db at 70% rh)							
			0	10	17	30	40	47	50	60
55	3000	Cap.	58.2	70.0	78.8	96.8	111.8	123.2	128.6	148.0
		kW	7.18	7.74	8.18	9.06	9.80	10.36	10.64	11.64
	4000	Cap.	59.4	71.2	80.0	98.8	114.4	126.2	131.8	151.4
		kW	7.08	7.60	7.98	8.78	9.44	9.92	10.16	10.96
	5000	Cap.	60.0	72.0	80.8	99.8	115.8	128.0	133.6	147.2
		kW	7.02	7.50	7.86	8.60	9.20	9.66	9.88	10.32
70	3000	Cap.	53.6	65.2	74.4	92.0	106.4	117.4	122.6	141.4
		kW	7.52	8.16	8.66	9.66	10.48	11.12	11.42	12.54
	4000	Cap.	55.0	66.6	76.0	94.0	109.0	120.6	126.0	145.6
		kW	7.46	8.04	8.50	9.42	10.14	10.72	10.98	11.96
	5000	Cap.	55.4	67.6	77.0	95.2	110.6	122.4	128.0	147.0
		kW	7.40	7.96	8.40	9.24	9.94	10.46	10.70	11.50
80	3000	Cap.	49.8	61.6	70.6	88.8	102.8	113.6	118.4	136.6
		kW	7.74	8.42	8.96	10.04	10.94	11.62	11.92	13.10
	4000	Cap.	51.2	63.2	72.4	90.8	105.4	116.6	121.8	141.0
		kW	7.66	8.32	8.82	9.80	10.62	11.22	11.50	12.54
	5000	Cap.	52.0	64.2	73.6	92.0	107.0	118.4	124.0	143.4
		kW	7.62	8.26	8.72	9.66	10.40	10.98	11.24	12.16

50TJQ014										
Temp (F) Air Ent Indoor Coil	Indoor Air Cfm		Air Temp Entering Outdoor Coil (F db at 70% rh)							
			0	10	17	30	40	47	50	60
55	3600	Cap.	81.8	95.0	105.2	126.6	144.4	158.0	164.4	188.2
		kW	9.80	10.30	10.70	11.58	12.34	12.94	13.24	14.38
	4800	Cap.	82.2	95.2	105.4	127.2	145.4	159.4	166.0	190.6
		kW	9.48	9.90	10.24	10.98	11.60	12.10	12.34	13.28
	6000	Cap.	82.4	95.4	105.6	127.6	146.0	160.2	166.8	191.8
		kW	9.30	9.68	9.98	10.64	11.18	11.62	11.84	12.68
70	3600	Cap.	80.4	93.6	104.0	124.6	141.8	155.0	161.4	184.6
		kW	10.94	11.52	11.98	12.98	13.86	14.54	14.88	16.20
	4800	Cap.	80.8	94.2	104.4	125.2	143.0	156.8	163.2	186.8
		kW	10.60	11.08	11.48	12.30	13.04	13.64	13.90	14.96
	6000	Cap.	81.0	94.4	104.6	125.6	143.8	157.4	164.0	188.0
		kW	10.40	10.82	11.18	11.92	12.58	13.08	13.32	14.26
80	3600	Cap.	79.4	92.4	102.8	123.6	140.4	153.4	159.6	182.2
		kW	11.78	12.42	12.92	14.02	14.96	15.72	16.10	17.48
	4800	Cap.	79.6	93.0	103.4	124.2	141.4	154.8	161.0	184.6
		kW	11.40	11.94	12.36	13.30	14.08	14.70	15.02	16.18
	6000	Cap.	80.0	93.4	103.8	124.6	142.2	155.8	162.2	185.8
		kW	11.20	11.68	12.04	12.86	13.56	14.16	14.42	15.42

LEGEND

Cap. — Heating Capacity (1000 Btuh) (includes indoor-fan motor heat)
kW — Total Power input (includes compressor motor power input, outdoor-fan motor input, and indoor-fan motor input)
rh — Relative Humidity

1  indicates integrated ratings

2 Integrated capacity is maximum (instantaneous) capacity less the effect of frost on the outdoor coil and the heat required to defrost it

Performance data (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS

50TJQ004 (3 TONS) — STANDARD MOTOR (DIRECT DRIVE)

Airflow (Cfm)	Low Speed						High Speed					
	208 v			230, 460, 575 v			208 v			230, 460, 575 v		
	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts
900	0.67	0.21	253	0.68	0.23	277	0.69	0.26	307	0.69	0.31	363
1000	0.60	0.23	270	0.61	0.25	292	0.61	0.27	321	0.63	0.32	374
1100	0.55	0.24	287	0.56	0.26	307	0.57	0.28	335	0.58	0.33	385
1200	0.51	0.26	304	0.51	0.27	323	0.52	0.29	349	0.53	0.34	397
1300	0.45	0.27	321	0.46	0.29	338	0.46	0.31	364	0.47	0.34	408
1400	0.38	0.29	338	0.41	0.30	354	0.43	0.32	378	—	—	—
1500	0.34	0.30	355	0.36	0.31	369	0.38	0.33	392	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
ESP — External Static Pressure (in wg)
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

1. Values include losses for filters, unit casing, and wet coils. See page 40 for accessory/FIOP static pressure information.

- Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your 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 Indoor-Fan Motor Performance table on page 43.
- Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative to verify.

50TJQ004 (3 TONS) — ALTERNATE MOTOR (BELT DRIVE)

Airflow (Cfm)	External Static Pressure (in. wg)																	
	0.1			0.2			0.3			0.4			0.5			0.6		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	581	0.12	119	673	0.18	179	736	0.22	219	805	0.25	249	865	0.29	288	911	0.34	338
1000	644	0.19	189	709	0.22	219	782	0.28	279	835	0.30	298	900	0.35	348	937	0.38	378
1100	687	0.22	219	746	0.26	259	806	0.30	298	867	0.35	348	929	0.40	398	964	0.40	398
1200	733	0.26	259	785	0.32	318	843	0.35	348	903	0.41	408	960	0.47	467	994	0.50	497
1300	754	0.29	288	826	0.38	378	891	0.43	428	942	0.48	477	991	0.53	527	1047	0.60	597
1400	810	0.35	348	868	0.45	448	937	0.51	507	984	0.57	567	1032	0.62	617	1067	0.67	666
1500	841	0.42	418	911	0.53	527	985	0.61	607	1029	0.66	656	1073	0.72	716	1109	0.77	766

50TJQ004 (3 TONS) — ALTERNATE MOTOR (BELT DRIVE) (cont)

Airflow (Cfm)	External Static Pressure (in. wg)																	
	0.7			0.8			0.9			1.0			1.1			1.2		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	957	0.39	388	988	0.43	428	1039	0.45	448	1061	0.47	487	1083	0.53	527	1105	0.57	567
1000	992	0.44	438	1039	0.49	487	1061	0.51	507	1086	0.55	547	1111	0.59	587	1136	0.63	627
1100	1013	0.49	487	1068	0.55	547	1090	0.58	577	1109	0.61	607	1127	0.64	637	1145	0.67	666
1200	1045	0.56	557	1090	0.64	637	1109	0.64	647	1156	0.68	676	1203	0.71	706	1250	0.74	736
1300	1075	0.64	637	1122	0.70	696	1152	0.72	716	1190	0.76	756	1228	0.80	796	1266	0.84	836
1400	1110	0.73	726	1160	0.84	766	1181	0.81	806	1237	0.85	845	1293	0.89	885	1349	0.93	925
1500	1150	0.82	816	1190	1.00	855	1225	0.90	895	1271	0.95	945	1317	1.00	995			

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

- 1. Boldface** indicates a field-supplied drive is required. (See Note 6.)
- 2. [Pattern]** indicates field-supplied motor and drive are required.
- Maximum usable watts input is 1000 and maximum continuous bhp is 1.00. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using

your 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 Indoor-Fan Motor Performance table on page 43.

- Values include losses for filters, unit casing, and wet coils. See page 40 for accessory/FIOP static pressure information.
- Use of a field-supplied motor may affect wire sizing. Contact Carrier representative to verify.
- Alternate motor drive range 760 to 1000 rpm. All other rpms require field-supplied drive.
- Interpolation is permissible. Do not extrapolate.

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TJQ005 (4 TONS) — STANDARD MOTOR (DIRECT DRIVE)												
Airflow (Cfm)	Low Speed						High Speed					
	208 v			230, 460, 575 v			208 v			230, 460, 575 v		
	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts
1200	0.93	0.41	458	0.94	0.45	506	0.94	0.51	572	0.99	0.56	632
1300	0.86	0.42	471	0.87	0.46	521	0.87	0.52	589	0.92	0.58	651
1400	0.78	0.45	503	0.79	0.49	556	0.79	0.54	616	0.87	0.60	681
1500	0.70	0.47	536	0.73	0.52	593	0.73	0.56	631	0.80	0.62	698
1600	0.61	0.49	557	0.64	0.54	616	0.66	0.58	654	0.76	0.64	723
1700	0.51	0.52	584	0.54	0.57	646	0.58	0.60	678	0.68	0.66	750
1800	0.40	0.54	610	0.44	0.60	674	0.51	0.62	698	0.63	0.68	772
1900	0.29	0.56	629	0.37	0.62	696	0.46	0.64	720	0.56	0.70	796
2000	0.25	0.58	651	0.30	0.64	720	0.39	0.66	744	0.50	0.73	823

LEGEND

Bhp — Brake Horsepower Input to Fan
ESP — External Static Pressure (in. wg)
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

1. Values include losses for filters, unit casing, and wet coils. See page 40 for accessory/FIOP static pressure information.

- Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your 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 Indoor-Fan Motor Performance table on page 43.
- Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative to verify.

50TJQ005 (4 TONS) — ALTERNATE MOTOR (BELT DRIVE)

Airflow (Cfm)	External Static Pressure (in. wg)																				
	0.1			0.2			0.3			0.4			0.6			0.7			0.8		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	542	0.16	168	616	0.21	221	678	0.27	278	739	0.32	336	842	0.44	462	886	0.50	525	929	0.56	588
1300	576	0.20	210	644	0.25	263	704	0.31	326	764	0.37	389	867	0.50	525	910	0.56	588	952	0.62	651
1400	610	0.24	252	673	0.30	315	732	0.36	378	791	0.42	441	889	0.55	578	933	0.62	651	976	0.69	725
1500	646	0.28	294	704	0.35	368	761	0.42	436	818	0.48	504	912	0.61	641	957	0.69	720	1001	0.76	777
1600	681	0.33	347	735	0.40	420	790	0.47	494	845	0.54	567	920	0.68	695	931	0.76	772	1023	0.83	848
1700	718	0.39	410	768	0.46	483	836	0.54	562	873	0.61	641	965	0.76	777	1005	0.84	853	1045	0.91	930
1800	754	0.45	473	801	0.53	557	851	0.61	641	900	0.69	725	992	0.84	858	1032	0.92	940			
1900	791	0.52	546	836	0.60	630	882	0.69	720	828	0.77	809	1019	0.93	950						
2000	828	0.60	630	870	0.68	714	864	0.77	809	858	0.86	904									

50TJQ005 (4 TONS) — ALTERNATE MOTOR (BELT DRIVE) (cont)

Airflow (Cfm)	External Static Pressure (In. wg)																	
	1.0			1.1			1.2			1.4			1.6			1.8		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	1008	0.67	704	1052	0.73	762	1096	0.78	820	1134	0.89	835	1203	1.00	885	—	—	—
1300	1029	0.75	788	1065	0.81	846	1101	0.86	904									
1400	1052	0.83	826	1087	0.90	890	1121	0.96	918									
1500	1076	0.91	905	1111	0.99	980												
1600	1100	1.00	995															
1700																		
1800																		
1900																		
2000																		

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

- Boldface** indicates a field-supplied drive is required. (See Note 6.)
- Shaded** indicates field-supplied motor and drive are required
- Maximum usable watts input is 1000 and maximum continuous bhp is 1.00. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using

your 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 Indoor-Fan Motor Performance table on page 43.

- Values include losses for filters, unit casing, and wet coils. See page 40 for accessory/FIOP static pressure information.
- Use of a field-supplied motor may affect wire sizing. Contact Carrier representative to verify.
- Alternate motor drive range: 835 to 1185 rpm. All other rpms require field-supplied drive
- Interpolation is permissible. Do not extrapolate.

Performance data (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TJQ006 (5 TONS) — STANDARD MOTOR (DIRECT DRIVE)

Airflow (Cfm)	Low Speed						Medium Speed						High Speed					
	208 v			230, 460, 575 v			208 v			230, 460, 575 v			208 v			230, 460, 575 v		
	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts
1500	0.88	0.67	750	1.20	0.71	791	1.19	0.70	782	1.36	0.76	845	1.38	0.79	875	1.44	0.85	949
1600	0.68	0.70	780	1.04	0.74	824	1.04	0.74	821	1.22	0.79	883	1.25	0.82	913	1.33	0.89	988
1700	0.51	0.73	810	0.89	0.77	857	0.89	0.77	861	1.09	0.83	921	1.13	0.85	950	1.22	0.92	1027
1800	0.35	0.75	839	0.73	0.80	891	0.74	0.81	900	0.96	0.86	959	1.00	0.89	988	1.11	0.96	1066
1900	0.26	0.78	873	0.58	0.83	924	0.59	0.84	940	0.86	0.90	997	0.88	0.92	1025	1.00	0.99	1105
2000	0.18	0.81	905	0.42	0.86	957	0.44	0.88	979	0.73	0.93	1035	0.78	0.95	1063	0.92	1.03	1144
2100	0.08	0.84	940	0.27	0.89	990	0.29	0.91	1018	0.59	0.96	1073	0.63	0.99	1101	0.81	1.06	1183
2200	—	—	—	0.19	0.92	1023	0.19	0.93	1035	0.46	1.00	1111	0.49	1.02	1138	0.69	1.10	1222
2300	—	—	—	0.11	0.95	1056	0.11	0.97	1076	0.34	1.03	1149	0.41	1.06	1176	0.59	1.13	1261
2400	—	—	—	0.03	0.98	1096	0.04	1.00	1113	0.19	1.07	1187	0.22	1.09	1213	0.43	1.17	1300
2500	—	—	—	—	—	—	—	—	—	0.09	1.10	1225	0.12	1.12	1251	0.34	1.20	1340

LEGEND

Bhp — Brake Horsepower Input to Fan
ESP — External Static Pressure (in wg)
FIOF — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

1. Values include losses for filters, unit casing, and wet coils. See page 40 for accessory/FIOF static pressure information.

- Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your 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 Indoor-Fan Motor Performance table on page 43.
- Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative to verify.

50TJQ006 (5 TONS) — ALTERNATE MOTOR (BELT DRIVE)

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.1			0.2			0.4			0.6			0.8		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	730	0.34	347	789	0.40	409	896	0.53	542	990	0.67	685	1072	0.83	848
1600	770	0.40	409	826	0.46	470	931	0.61	623	1020	0.75	766	1101	0.91	930
1700	811	0.47	480	865	0.54	552	966	0.69	705	1051	0.84	858	1133	1.01	1032
1800	852	0.55	562	905	0.62	634	1002	0.78	797	1084	0.93	950	1163	1.10	1124
1900	894	0.54	552	945	0.72	736	1037	0.88	899	1119	1.04	1063	1194	1.21	1237
2000	936	0.74	756	984	0.82	838	1072	0.98	1001	1154	1.16	1185	1226	1.33	1359
2100	978	0.85	869	1024	0.93	950	1108	1.10	1124	1192	1.29	1318	1259	1.47	1502
2200	1021	0.97	991	1064	1.05	1073	1145	1.22	1247	1225	1.43	1461	1294	1.62	1656
2300	1064	1.10	1124	1104	1.18	1206	1183	1.36	1390	1260	1.57	1604	1330	1.78	1819
2400	1107	1.24	1267	1145	1.32	1349	1222	1.45	1482	1296	1.73	1768			
2500	1150	1.39	1420	1186	1.48	1512	1262	1.68	1717	1331	1.80	1921			

50TJQ006 (5 TONS) — ALTERNATE MOTOR (BELT DRIVE) (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.0			1.2			1.4			1.6			1.8		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	1153	1.00	1022	1221	1.17	1196	1256	1.30	1328	1280	1.32	1349	1320	1.22	1400
1600	1178	1.09	1114	1252	1.27	1298	1311	1.45	1482	1340	1.58	1615	1380	1.61	1645
1700	1205	1.18	1206	1278	1.37	1400	1345	1.57	1604	1397	1.76	1799			
1800	1235	1.29	1318	1303	1.48	1512	1371	1.69	1727						
1900	1266	1.40	1431	1330	1.59	1625	1396	1.80	1850						
2000	1297	1.53	1564	1362	1.73	1768									
2100	1327	1.66	1696	1393	1.80	1911									
2200	1359	1.80	1850												
2300															
2400															
2500															

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOF — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

- Boldface** indicates a field-supplied drive is required. (See Note 6.)
-  indicates field-supplied motor and drive are required.
- Maximum usable watts input is 1921 and maximum continuous bhp is 1.80. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using

your 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 Indoor-Fan Motor Performance table on page 43.

- Values include losses for filters, unit casing, and wet coils. See page 40 for accessory/FIOF static pressure information.
- Use of a field-supplied motor may affect wire sizing. Contact Carrier representative to verify.
- Alternate motor drive range: 900 to 1300 rpm. All other rpms require field-supplied drive.
- Interpolation is permissible. Do not extrapolate.

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TJQ007 (6 TONS) — STANDARD MOTOR (BELT DRIVE)

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.1			0.2			0.4			0.6			0.8		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	852	0.55	562	905	0.62	615	1002	0.78	739	1084	0.93	859	1163	1.10	998
1900	894	0.64	630	945	0.72	692	1037	0.88	818	1119	1.04	948	1194	1.21	1089
2000	936	0.74	708	984	0.82	771	1072	0.98	899	1154	1.16	1047	1226	1.33	1190
2100	978	0.85	795	1024	0.93	859	1108	1.10	998	1190	1.29	1156	1259	1.47	1310
2200	1021	0.97	891	1064	1.05	956	1145	1.22	1097	1225	1.43	1275	1294	1.62	1439
2300	1064	1.10	998	1104	1.18	1064	1183	1.36	1216	1260	1.57	1396	1330	1.78	1578
2400	1107	1.24	1114	1145	1.32	1182	1222	1.52	1353	1296	1.73	1534	1365	1.94	1718
2500	1150	1.39	1241	1186	1.48	1318	1262	1.68	1491	1331	1.89	1674	1400	2.12	1875
2600	1193	1.56	1387	1228	1.65	1465	1301	1.86	1648	1367	2.07	1831	1435	2.31	2041
2700	1237	1.74	1543	1269	1.83	1621	1341	2.05	1814	1404	2.26	1997			
2800	1280	1.94	1718	1311	2.03	1796	1381	2.25	1989						
2900	1324	2.15	1901	1354	2.24	1980									
3000	1368	2.37	2093												

50TJQ007 (6 TONS) — STANDARD MOTOR (BELT DRIVE) (cont)

Airflow (Cfm)	External Static Pressure (in. wg)											
	1.0			1.2			1.4			1.6		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	1235	1.29	1156	1303	1.48	1318	1371	1.69	1499	1433	1.90	1638
1900	1266	1.40	1250	1330	1.59	1413	1396	1.81	1604	1460	2.03	1796
2000	1297	1.53	1361	1362	1.73	1534	1422	1.94	1718	1485	2.16	1910
2100	1327	1.66	1473	1393	1.87	1656	1452	2.08	1840	1510	2.31	2041
2200	1359	1.81	1604	1423	2.02	1779	1483	2.24	1980			
2300	1392	1.97	1744	1454	2.18	1927						
2400	1426	2.15	1901	1485	2.36	2084						
2500	1461	2.34	2067									
2600												
2700												
2800												
2900												
3000												

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

NOTES

- 1. Boldface** indicates a field-supplied drive is required (See Note 6.)
-  indicates field-supplied motor and drive are required.
- Maximum usable watts input is 2120 and maximum continuous bhp is 2.40. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using

your 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 Indoor-Fan Motor Performance table on page 43.

- Values include losses for filters, unit casing, and wet coils. See page 40 for accessory/FIOP static pressure information.
- Use of a field-supplied motor may affect wire sizing. Contact Carrier representative to verify.
- Standard motor drive range: 1070 to 1460 rpm. All other rpms require field-supplied drive.
- Interpolation is permissible. Do not extrapolate.

Performance data (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TJQ008 (7½ TONS) — STANDARD MOTOR (BELT DRIVE)

Airflow (Cfm)	External Static Pressure (in. wg)																	
	0.2			0.4			0.6			0.8			1.0			1.2		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	511	0.52	539	592	0.74	708	659	0.95	875	722	1.19	1072	778	1.43	1275	829	1.68	1491
2300	518	0.55	562	599	0.77	731	665	0.98	899	727	1.22	1097	783	1.47	1310	834	1.72	1526
2400	534	0.61	607	613	0.84	787	677	1.06	965	738	1.30	1165	794	1.55	1378	844	1.81	1604
2500	549	0.67	653	627	0.90	835	690	1.14	1031	750	1.38	1233	805	1.64	1456	855	1.91	1691
2550	557	0.71	684	633	0.94	867	697	1.18	1064	756	1.42	1267	811	1.69	1499	861	1.96	1735
2600	565	0.74	708	639	0.97	891	703	1.22	1097	761	1.46	1301	816	1.74	1543	866	2.01	1779
2700	581	0.81	763	652	1.04	948	717	1.31	1173	773	1.55	1378	827	1.83	1621	878	2.12	1875
2800	597	0.89	827	665	1.12	1014	733	1.40	1250	786	1.66	1473	839	1.93	1709	889	2.23	1971
2900	613	0.97	891	679	1.20	1081	745	1.50	1335	799	1.76	1560	850	2.04	1805	900	2.34	2067
3000	629	1.06	965	694	1.29	1156	759	1.59	1413	812	1.88	1665	862	2.15	1901			
3100	646	1.15	1039	709	1.39	1241	772	1.70	1508	825	1.99	1761	875	2.28	2015			
3200	662	1.25	1123	724	1.50	1335	785	1.80	1595	840	2.11	1866						
3300	679	1.35	1207	740	1.61	1430	798	1.91	1691	854	2.24	1980						
3400	696	1.46	1301	756	1.73	1534	811	2.02	1788	868	2.37	2093						
3500	712	1.57	1396	771	1.85	1639	824	2.14	1892									
3600	729	1.69	1499	787	1.98	1753	839	2.21	2006									
3700	746	1.85	1613	803	2.12	1875												
3750	755	1.89	1674	811	2.20	1945												

50TJQ008 (7½ TONS) — STANDARD MOTOR (BELT DRIVE) (cont)

Airflow (Cfm)	External Static Pressure (in. wg)											
	1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	884	1.97	1744	937	2.33	2058						
2300	885	2.00	1770	939	2.36	2084						
2400	892	2.08	1840	944	2.40	2119						
2500	902	2.18	1927									
2550	906	2.24	1960									
2600	913	2.29	2023									
2700	924	2.40	2120									
2800												
2900												
3000												
3100												
3200												
3300												
3400												
3500												
3600												
3700												
3750												

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

- Boldface** indicates a field-supplied drive is required. (See Note 7.)
-  indicates alternate drive is required.
-  indicates field-supplied motor and drive are required
- Maximum usable watts input is 2120 and maximum continuous bhp is 2.40. Extensive motor and electrical testing on these units ensures

that the full range of the motor can be utilized with confidence. Using your 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 Indoor-Fan Motor Performance table on page 43.

- Values include losses for filters, unit casing, and wet coils. See page 40 for accessory/FIOP static pressure information.
- Use of a field-supplied motor may affect wire sizing. Contact Carrier representative to verify.
- Standard motor drive range: 590 to 840 rpm. Alternate motor drive range: 685 to 935 rpm. All other rpms require field-supplied drive.
- Interpolation is permissible. Do not extrapolate.

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TJQ009 (8½ TONS) — STANDARD MOTOR (BELT DRIVE)

Airflow (Cfm)	External Static Pressure (in. wg)																	
	0.2			0.4			0.6			0.8			1.0			1.2		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2550	557	0.71	684	633	0.94	867	697	1.18	1064	756	1.42	1267	811	1.69	1499	861	1.96	1735
2600	565	0.74	708	639	0.97	891	703	1.22	1097	761	1.46	1301	816	1.74	1543	866	2.01	1779
2700	581	0.81	763	652	1.04	948	717	1.31	1173	773	1.55	1378	827	1.83	1621	878	2.12	1875
2800	597	0.89	827	665	1.12	1014	733	1.40	1250	786	1.66	1473	839	1.93	1709	889	2.23	1971
2900	613	0.97	891	679	1.20	1081	745	1.50	1335	799	1.76	1560	850	2.04	1805	900	2.34	2067
3000	629	1.06	965	694	1.29	1156	759	1.59	1413	812	1.88	1665	862	2.15	1901			
3100	646	1.15	1039	709	1.39	1241	772	1.70	1508	825	1.99	1761	875	2.28	2015			
3200	662	1.25	1123	724	1.50	1335	785	1.80	1595	840	2.11	1866						
3300	679	1.35	1207	740	1.61	1430	798	1.91	1691	854	2.24	1980						
3400	696	1.46	1301	756	1.73	1534	811	2.02	1788	868	2.37	2093						
3500	712	1.57	1396	771	1.85	1639	824	2.14	1892									
3600	729	1.69	1499	787	1.98	1753	839	2.27	2006									
3700	746	1.82	1613	803	2.12	1875												
3750	755	1.89	1674	811	2.20	1945												
3800	763	1.95	1726	819	2.27	2006												
3900	780	2.09	1849															
4000	796	2.23	1971															
4100	813	2.39	2110															
4200																		
4250																		

50TJQ009 (8½ TONS) — STANDARD MOTOR (BELT DRIVE) (cont)

Airflow (Cfm)	External Static Pressure (in. wg)											
	1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2550	908	2.24	1980									
2600	913	2.29	2023									
2700	924	2.40	2120									
2800												
2900												
3000												
3100												
3200												
3300												
3400												
3500												
3600												
3700												
3750												
3800												
3900												
4000												
4100												
4200												
4250												

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

- 1. Boldface** indicates a field-supplied drive is required. (See Note 6)
- 2. [Shaded Box]** indicates field-supplied motor and drive are required.
- Maximum usable watts input is 2120 and maximum continuous bhp is 2.40. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using

your 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 Indoor-Fan Motor Performance table on page 43.

- Values include losses for filters, unit casing, and wet coils. See page 40 for accessory/FIOP static pressure information.
- Use of a field-supplied motor may affect wire sizing. Contact Carrier representative to verify.
- Standard motor drive range: 685 to 935 rpm. All other rpms require field-supplied drive.
- Interpolation is permissible. Do not extrapolate.

Performance data (cont)

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TJQ012 (10 TONS) — STANDARD AND ALTERNATE MOTORS (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	630	605	0.81	763	670	0.97	891	725	1.12	1014	778	1.28	1148
3100	544	0.70	677	616	0.86	803	680	1.03	940	735	1.20	1081	787	1.36	1216
3200	557	0.75	716	628	0.93	859	690	1.10	998	746	1.28	1148	796	1.44	1284
3300	570	0.81	763	639	0.99	907	700	1.18	1064	757	1.36	1216	805	1.52	1353
3400	583	0.88	818	651	1.06	965	711	1.25	1123	767	1.44	1284	815	1.61	1430
3500	596	0.94	867	663	1.14	1031	721	1.33	1190	777	1.52	1353	826	1.71	1517
3600	609	1.01	924	674	1.22	1097	732	1.42	1267	787	1.61	1430	836	1.80	1595
3700	622	1.09	989	686	1.30	1165	744	1.50	1335	797	1.70	1508	847	1.91	1691
3800	635	1.16	1047	698	1.39	1241	755	1.59	1413	808	1.80	1595	857	2.01	1779
3900	649	1.25	1123	713	1.48	1318	767	1.68	1491	818	1.90	1683	867	2.11	1866
4000	662	1.33	1190	722	1.57	1396	778	1.78	1578	829	2.01	1779	878	2.22	1962
4100	675	1.42	1267	734	1.67	1482	790	1.89	1674	839	2.12	1875	888	2.33	2058
4200	689	1.52	1353	746	1.77	1569	801	1.99	1761	851	2.23	1971	898	2.45	2212
4300	702	1.61	1430	759	1.88	1665	813	2.11	1866	862	2.34	2067	908	2.58	2326
4400	715	1.72	1526	772	1.99	1761	825	2.22	1962	873	2.46	2221	919	2.71	2442
4500	729	1.83	1621	785	2.10	1858	837	2.35	2076	885	2.59	2335	929	2.85	2569
4600	742	1.94	1718	797	2.22	1962	848	2.48	2238	896	2.72	2451			
4700	756	2.06	1823	810	2.34	2067	860	2.61	2353	908	2.86	2578			
4800	770	2.18	1927	823	2.46	2221	872	2.75	2505						
4900	783	2.31	2041	836	2.60	2344	884	2.89	2605						
5000	797	2.44	2203	849	2.73	2460									

50TJQ012 (10 TONS) — STANDARD AND ALTERNATE MOTORS (BELT DRIVE) (cont)

Airflow (Cfm)	External Static Pressure (in. wg)											
	1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3000	874	1.60	1422	926	1.82	1613	974	2.11	1920	1012	2.41	2134
3100	880	1.68	1491	933	1.87	1656	983	2.16	1963	1017	2.44	2177
3200	888	1.77	1569	934	1.94	1718	988	2.18	1980	1025	2.47	2230
3300	897	1.86	1648	940	2.03	1853	989	2.24	2031	1032	2.53	2282
3400	907	1.97	1744	947	2.14	1946	991	2.32	2099	1038	2.57	2318
3500	916	2.07	1831	956	2.25	2039	997	2.43	2195	1043	2.64	2380
3600	926	2.18	1927	966	2.41	2134	1004	2.54	2291	1045	2.74	2478
3700	934	2.28	2015	976	2.48	2238	1013	2.66	2397	1051	2.85	2569
3800	943	2.41	2160	985	2.60	2334	1023	2.79	2514			
3900	952	2.51	2265	994	2.72	2451						
4000	962	2.63	2371	1003	2.84	2560						
4100	973	2.77	2496									
4200												
4300												
4400												
4500												
4600												
4700												
4800												
4900												
5000												

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

- Boldface** indicates a field-supplied or alternate (as appropriate) drive is required. (See Note 7)
-  indicates alternate motor and drive are required
-  indicates field-supplied motor and drive are required
- Maximum usable watts input is 2120 with standard motor and 2615 with alternate motor. Maximum continuous bhp is 2.40 with standard

motor and 2.90 with alternate motor. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your 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 Indoor-Fan Motor Performance table on page 43.

- Values include losses for filters, unit casing, and wet coils. See page 40 for accessory/FIOP static pressure information.
- Use of a field-supplied motor may affect wire sizing. Contact Carrier representative to verify.
- Standard motor drive range: 685 to 935 rpm. Alternate motor drive range: 835 to 1085 rpm. All other rpms require field-supplied drive.
- Interpolation is permissible. Do not extrapolate.

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TJQ014 (12½ TONS) — STANDARD AND ALTERNATE MOTORS (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
3700	654	1.12	1065	714	1.31	1218	767	1.50	1373	815	1.67	1514	861	1.85	1666
3800	668	1.20	1129	727	1.40	1291	780	1.60	1456	827	1.77	1598	873	1.95	1751
3900	683	1.28	1194	741	1.49	1365	793	1.70	1540	839	1.88	1691	884	2.05	1836
4000	697	1.37	1267	754	1.59	1448	806	1.80	1624	851	1.99	1785	895	2.16	1931
4100	711	1.46	1340	767	1.69	1531	819	1.90	1708	864	2.10	1879	907	2.28	2035
4200	726	1.56	1423	780	1.80	1624	832	2.01	1802	877	2.22	1983	919	2.41	2149
4300	741	1.66	1506	794	1.91	1717	845	2.12	1897	889	2.35	2096	931	2.54	2263
4400	755	1.77	1598	808	2.03	1819	858	2.24	2000	902	2.48	2210	943	2.68	2387
4500	770	1.89	1700	821	2.15	1923	871	2.37	2114	915	2.61	2325	955	2.82	2512
4600	784	2.00	1794	835	2.27	2027	884	2.49	2219	928	2.75	2450	968	2.96	2638
4700	799	2.13	1905	849	2.40	2140	897	2.63	2343	941	2.88	2566	981	3.11	2773
4800	814	2.25	2009	863	2.53	2254	910	2.77	2468	954	3.02	2692	993	3.27	2919
4900	829	2.39	2131	877	2.67	2378	923	2.92	2602	967	3.17	2828	1006	3.43	3065
5000	843	2.52	2246	892	2.81	2503	937	3.08	2746	980	3.32	2964	1019	3.60	3221
5100	858	2.67	2378	906	2.95	2629	950	3.24	2891	993	3.48	3111	1032	3.76	3368
5200	873	2.82	2512	920	3.10	2764	963	3.40	3037	1006	3.65	3267	1045	3.93	3525
5300	888	2.97	2647	934	3.26	2910	977	3.57	3193	1019	3.82	3424	1058	4.11	3692
5400	903	3.13	2792	949	3.43	3065	991	3.75	3359	1032	4.00	3590	1071	4.29	3860
5500	918	3.30	2946	963	3.59	3212	1004	3.92	3516	1045	4.18	3757	1084	4.47	4027
5600	933	3.47	3101	978	3.77	3377	1018	4.11	3692	1058	4.38	3943	1097	4.66	4204
5700	948	3.65	3267	992	3.95	3544	1032	4.30	3869	1072	4.58	4130	1110	4.86	4391
5800	963	3.83	3433	1006	4.14	3720	1046	4.50	4055	1085	4.79	4326			
5900	978	4.00	3590	1021	4.34	3906	1060	4.69	4232						
6000	993	4.22	3795	1035	4.54	4093									
6100	1008	4.42	3981	1050	4.75	4288									
6200	1023	4.63	4176												
6300	1038	4.85	4382												

50TJQ014 (12½ TONS) — STANDARD AND ALTERNATE MOTORS (BELT DRIVE) (cont)

Airflow (Cfm)	External Static Pressure (in. wg)											
	1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3700	950	2.27	2027	991	2.47	2202	1030	2.65	2361	1064	2.82	2512
3800	959	2.38	2123	1001	2.58	2299	1040	2.78	2476	1075	2.96	2638
3900	969	2.50	2228	1010	2.70	2405	1049	2.91	2593	1085	3.11	2773
4000	979	2.62	2334	1020	2.83	2521	1059	3.04	2710	1095	3.25	2901
4100	989	2.74	2441	1029	2.96	2638	1068	3.18	2837	1105	3.39	3028
4200	1000	2.86	2548	1039	3.10	2764	1077	3.31	2955	1114	3.54	3166
4300	1011	2.97	2647	1049	3.23	2882	1087	3.46	3092	1124	3.69	3304
4400	1022	3.10	2764	1059	3.37	3010	1097	3.61	3230	1133	3.84	3442
4500	1033	3.23	2882	1070	3.51	3138	1107	3.76	3368	1143	4.00	3590
4600	1044	3.37	3010	1081	3.64	3258	1117	3.92	3516	1152	4.17	3748
4700	1056	3.52	3147	1092	3.78	3387	1127	4.07	3655	1162	4.33	3897
4800	1057	3.69	3304	1103	3.93	3525	1138	4.23	3804	1172	4.50	4055
4900	1079	3.87	3470	1114	4.09	3674	1148	4.37	3934	1182	4.68	4223
5000	1091	4.05	3637	1126	4.25	3822	1160	4.53	4083	1193	4.85	4382
5100	1103	4.23	3804	1137	4.45	4009	1171	4.70	4242			
5200	1115	4.42	3981	1149	4.65	4195						
5300	1127	4.62	4167	1161	4.85	4382						
5400	1139	4.82	4354									
5500												
5600												
5700												
5800												
5900												
6000												
6100												
6200												
6300												

LEGEND

Bhp — Brake Horsepower Input to Fan
FLOP — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

- 1. Boldface** indicates a field-supplied or alternate (as appropriate) drive is required (See Note 7.)
- 2. [Shaded Box]** indicates alternate motor and drive are required.
- 3. [Stippled Box]** indicates field-supplied motor and drive are required
- Maximum usable watts input is 3775 with standard motor and 4400 with alternate motor. Maximum continuous bhp is 4.20 with standard

motor and 5.25 with alternate motor. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your 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 Indoor-Fan Motor Performance table on page 43.

- Values include losses for filters, unit casing, and wet coils. See page 40 for accessory/FLOP static pressure information.
- Use of a field-supplied motor may affect wire sizing. Contact Carrier representative to verify.
- Standard motor drive range: 860 to 1080 rpm. Alternate motor drive range: 900 to 1260 rpm. All other rpms require field-supplied drive.
- Interpolation is permissible. Do not extrapolate.

Performance data (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS

50TJQ004 (3 TONS) — STANDARD MOTOR (DIRECT DRIVE)												
Airflow (Cfm)	Low Speed						High Speed					
	208 v			230, 460, 575 v			208 v			230, 460, 575 v		
	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts
900	0.72	0.21	253	0.75	0.23	277	0.73	0.26	307	0.76	0.31	363
1000	0.67	0.23	270	0.69	0.25	292	0.70	0.27	321	0.71	0.32	374
1100	0.61	0.24	287	0.63	0.26	307	0.64	0.28	335	0.65	0.33	385
1200	0.57	0.26	304	0.58	0.27	323	0.56	0.29	349	0.59	0.34	397
1300	0.51	0.27	321	0.53	0.29	338	0.53	0.31	364	0.54	0.34	408
1400	0.44	0.29	338	0.46	0.30	354	0.47	0.32	378	—	—	—
1500	0.39	0.30	355	0.41	0.31	369	0.43	0.33	392	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
ESP — External Static Pressure (in. wg)
FIOF — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

1. Values include losses for filters, unit casing, and wet coils. See page 40 for accessory/FIOF static pressure information.

- Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your 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 Indoor-Fan Motor Performance table on page 43.
- Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative to verify.

50TJQ004 (3 TONS) — ALTERNATE MOTOR (BELT DRIVE)																	
Airflow (Cfm)	External Static Pressure (in. wg)																
	0.1			0.2			0.3			0.4			0.5			0.6	
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp
900	526	0.06	70	584	0.08	99	656	0.12	139	734	0.22	219	818	0.25	269	875	0.27
1000	570	0.09	109	627	0.13	149	738	0.19	189	800	0.26	259	848	0.29	288	895	0.31
1100	614	0.13	149	670	0.16	189	758	0.23	229	812	0.29	288	863	0.32	308	914	0.35
1200	658	0.16	189	710	0.23	229	780	0.28	279	840	0.32	318	889	0.36	358	938	0.40
1300	703	0.20	239	752	0.27	269	808	0.32	318	868	0.37	368	916	0.41	408	963	0.45
1400	725	0.29	288	776	0.31	308	845	0.38	378	891	0.42	418	937	0.47	467	983	0.51
1500	755	0.33	328	816	0.38	378	870	0.43	428	924	0.48	477	969	0.53	527	1014	0.58

50TJQ004 (3 TONS) — ALTERNATE MOTOR (BELT DRIVE) (cont)																	
Airflow (Cfm)	External Static Pressure (in. wg)																
	0.7			0.8			0.9			1.0			1.1			1.2	
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp
900	924	0.32	308	953	0.35	348	989	0.38	388	1028	0.42	438	1074	0.49	487	1120	0.54
1000	936	0.35	348	977	0.39	388	1020	0.44	438	1064	0.48	477	1124	0.54	537	1185	0.60
1100	960	0.39	388	1005	0.43	428	1052	0.49	487	1100	0.52	527	1163	0.59	587	1225	0.65
1200	960	0.45	388	1038	0.50	497	1076	0.53	527	1136	0.59	577	1201	0.65	647	1266	0.72
1300	1012	0.51	507	1061	0.56	557	1090	0.61	607	1172	0.65	647	1239	0.72	716	1306	0.79
1400	1027	0.56	557	1071	0.60	597	1108	0.67	666	1208	0.70	706	1278	0.79	786	1347	0.87
1500	1056	0.63	627	1097	0.68	676	1117	0.70	696	1245	0.74	776	1315	0.87	865	1385	0.96

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOF — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

- Boldface** indicates a field-supplied drive is required (See Note 4.)
- Maximum usable watts input is 1000 and maximum continuous bhp is 1.00. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using

your 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 Indoor-Fan Motor Performance table on page 43.

- Values include losses for filters, unit casing, and wet coils. See page 40 for accessory/FIOF static pressure information.
- Alternate motor drive range: 760 to 1000 rpm. All other rpms require field-supplied drive.
- Interpolation is permissible. Do not extrapolate.
- Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative to verify.

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50TJQ005 (4 TONS) — STANDARD MOTOR (DIRECT DRIVE)

Airflow (Cfm)	Low Speed						High Speed					
	208 v			230, 460, 575 v			208 v			230, 460, 575 v		
	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts
1200	0.93	0.41	458	0.97	0.45	506	1.04	0.51	572	1.09	0.56	632
1300	0.86	0.42	471	0.90	0.46	521	0.96	0.52	589	1.02	0.58	651
1400	0.78	0.45	503	0.84	0.49	556	0.90	0.54	616	0.96	0.60	681
1500	0.73	0.47	536	0.76	0.52	593	0.83	0.56	631	0.89	0.62	698
1600	0.67	0.49	557	0.70	0.54	616	0.75	0.58	654	0.82	0.64	723
1700	0.60	0.52	584	0.63	0.57	646	0.67	0.60	678	0.74	0.66	750
1800	0.51	0.54	610	0.54	0.60	674	0.62	0.62	698	0.69	0.68	772
1900	0.40	0.56	629	0.45	0.62	696	0.54	0.64	720	0.62	0.70	796
2000	0.32	0.58	661	0.33	0.65	731	0.47	0.66	744	0.54	0.73	823

LEGEND

Bhp — Brake Horsepower Input to Fan
ESP — External Static Pressure (in wg)
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

1. Values include losses for filters, unit casing, and wet coils. See page 40 for accessory/FIOP static pressure information.

- Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your 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 Indoor-Fan Motor Performance table on page 43.
- Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative to verify.

50TJQ005 (4 TONS) — ALTERNATE MOTOR (BELT DRIVE)

Airflow (Cfm)	External Static Pressure (in. wg)																				
	0.1			0.2			0.3			0.4			0.6			0.7			0.8		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	514	0.15	158	590	0.20	210	657	0.25	263	723	0.30	315	828	0.42	441	876	0.49	510	924	0.55	578
1300	545	0.18	189	615	0.23	242	680	0.29	305	744	0.35	368	849	0.47	494	895	0.54	562	940	0.60	630
1400	577	0.21	221	642	0.27	284	704	0.33	347	766	0.39	410	870	0.52	546	915	0.59	620	959	0.66	693
1500	609	0.26	273	670	0.31	326	729	0.38	394	788	0.44	462	892	0.58	609	936	0.65	683	980	0.72	757
1600	642	0.30	315	699	0.36	378	755	0.43	447	811	0.49	515	913	0.64	672	957	0.72	751	1001	0.79	830
1700	675	0.36	378	728	0.42	441	782	0.49	510	836	0.55	578	935	0.71	746	979	0.79	825	1023	0.86	904
1800	709	0.41	431	759	0.48	504	810	0.55	578	860	0.62	651	957	0.78	820	1001	0.86	904	1044	0.94	988
1900	743	0.48	504	790	0.55	578	838	0.62	651	886	0.69	725	980	0.86	904	1023	0.95	993	1065	1.03	1082
2000	778	0.55	578	836	0.62	651	875	0.70	730	913	0.77	809	1004	0.94	988	1048	1.03	1082	1088	1.12	1177

50TJQ005 (4 TONS) — ALTERNATE MOTOR (BELT DRIVE) (cont)

Airflow (Cfm)	External Static Pressure (in. wg)																	
	1.0			1.1			1.2			1.4			1.6			1.8		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	999	0.66	674	1018	0.67	685	1036	0.68	695	1073	0.71	756	1109	0.75	794	1138	0.79	851
1300	1025	0.74	756	1058	0.79	807	1090	0.84	858	1121	0.87	832	1159	0.90	918	1193	0.95	976
1400	1042	0.81	828	1080	0.88	899	1118	0.95	971	1175	1.06	1014	1206	1.09	1042	1244	1.12	1135
1500	1060	0.88	899	1098	0.96	981	1136	1.04	1062	1205	1.19	1138	1258	1.20	1243	1283	1.34	1282
1600	1080	0.95	971	1117	1.04	1058	1153	1.12	1140	1224	1.29	1234	1287	1.45	1387	1337	1.56	1492
1700	1101	1.03	1052	1137	1.12	1139	1172	1.20	1226	1241	1.36	1325	1307	1.56	1432	1366	1.73	1635
1800	1122	1.11	1134	1157	1.20	1226	1192	1.29	1318	1258	1.46	1415	1323	1.67	1597	1365	1.95	1779
1900	1143	1.21	1237	1179	1.30	1328	1214	1.38	1420	1279	1.59	1511	1341	1.78	1702	1402	1.95	1934
2000	1165	1.31	1339	1200	1.40	1431	1235	1.49	1523	1300	1.69	1616	1361	1.90	1817	1419	2.10	2038

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

- Boldface** indicates a field-supplied drive is required (See Note 6.)
-  indicates field-supplied motor and drive are required.
- Maximum usable watts input is 1000 and maximum continuous bhp is 1.00. Extensive motor and electrical testing on these units ensures

that the full range of the motor can be utilized with confidence. Using your 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 Indoor-Fan Motor Performance table on page 43.

- Values include losses for filters, unit casing, and wet coils. See page 40 for accessory/FIOP static pressure information.
- Use of a field-supplied motor may affect wire sizing. Contact Carrier representative to verify.
- Alternate motor drive range: 835 to 1185 rpm. All other rpms require field-supplied drive.
- Interpolation is permissible. Do not extrapolate.

Performance data (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50TJQ006 (5 TONS) — STANDARD MOTOR (DIRECT DRIVE)																		
AIRFLOW (Cfm)	Low Speed						Medium Speed						High Speed					
	208 v			230, 460, 575 v			208 v			230, 460, 575 v			208 v			230, 460, 575 v		
	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts	ESP	Bhp	Watts
1500	1.01	0.67	750	1.25	0.71	791	1.26	0.70	782	1.46	0.76	845	1.46	0.79	875	1.52	0.85	949
1600	0.82	0.70	780	1.09	0.74	824	1.11	0.74	821	1.32	0.79	883	1.33	0.82	913	1.41	0.89	988
1700	0.64	0.73	810	0.97	0.77	857	0.99	0.77	861	1.22	0.83	921	1.24	0.85	950	1.33	0.92	1027
1800	0.44	0.75	839	0.81	0.80	891	0.84	0.80	900	1.09	0.86	959	1.11	0.89	988	1.22	0.96	1066
1900	0.32	0.78	869	0.66	0.83	924	0.69	0.83	940	0.96	0.90	997	0.99	0.92	1025	1.11	0.99	1105
2000	0.21	0.81	899	0.47	0.86	957	0.51	0.86	979	0.80	0.93	1035	0.83	0.95	1063	0.97	1.03	1144
2100	0.13	0.83	929	0.32	0.89	990	0.36	0.89	1018	0.64	0.96	1073	0.71	0.99	1101	0.86	1.06	1183
2200	0.05	0.86	959	0.19	0.92	1023	0.21	0.92	1058	0.50	1.00	1111	0.58	1.02	1138	0.75	1.10	1222
2300	—	—	—	0.08	0.95	1057	0.08	0.95	1097	0.34	1.03	1149	0.39	1.06	1176	0.57	1.13	1261
2400	—	—	—	—	—	—	—	—	—	0.24	1.07	1187	0.29	1.09	1213	0.49	1.17	1300
2500	—	—	—	—	—	—	—	—	—	0.15	1.10	1225	0.15	1.12	1251	0.34	1.20	1340

LEGEND

Bhp — Brake Horsepower Input to Fan
ESP — External Static Pressure (in. wg)
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

1. Values include losses for filters, unit casing, and wet coils. See page 40 for accessory/FIOP static pressure information.

- Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your 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 Indoor-Fan Motor Performance table on page 43.
- Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative to verify.

50TJQ006 (5 TONS) — ALTERNATE MOTOR (BELT DRIVE)																
Airflow (Cfm)	External Static Pressure (In. wg)															
	0.1			0.2			0.4			0.6			0.8			
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	
1500	658	0.27	276	722	0.33	337	840	0.46	470	937	0.59	603	1027	0.74	756	
1600	693	0.32	327	754	0.38	388	867	0.52	531	963	0.65	664	1052	0.81	828	
1700	729	0.38	388	787	0.44	450	895	0.58	593	991	0.73	746	1075	0.88	899	
1800	765	0.45	460	821	0.51	521	923	0.65	664	1019	0.81	828	1099	0.96	981	
1900	802	0.52	531	854	0.58	593	953	0.73	746	1046	0.90	920	1126	1.06	1083	
2000	840	0.60	613	900	0.66	674	984	0.82	838	1073	0.99	1012	1154	1.16	1185	
2100	878	0.69	705	923	0.75	766	1015	0.91	930	1101	1.08	1104	1182	1.27	1298	
2200	916	0.78	797	958	0.85	869	1046	1.01	1032	1129	1.19	1216	1209	1.39	1420	
2300	954	0.89	910	993	0.96	981	1079	1.13	1155	1160	1.31	1339	1237	1.51	1543	
2400	993	1.00	1022	1029	1.07	1093	1112	1.25	1277	1190	1.43	1461	1264	1.63	1666	
2500	1031	1.13	1155	1066	1.20	1226	1145	1.39	1420	1220	1.57	1604	1292	1.77	1809	

50TJQ006 (5 TONS) — ALTERNATE MOTOR (BELT DRIVE) (cont)																
Airflow (Cfm)	External Static Pressure (in. wg)															
	1.0			1.2			1.4			1.6			1.8			
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	
1500	1108	0.90	920	1186	1.08	1104	1263	1.30	1328	1343	1.58	1615	1431	1.79	1829	
1600	1130	0.97	991	1205	1.15	1175	1278	1.35	1380	1350	1.61	1645	1424	1.80	1921	
1700	1154	1.06	1083	1226	1.23	1257	1296	1.42	1451	1364	1.64	1676	1447	1.85	1992	
1800	1178	1.14	1165	1249	1.32	1349	1316	1.52	1553	1382	1.72	1758	1467	1.95	2092	
1900	1201	1.23	1257	1274	1.43	1461	1338	1.62	1656	1402	1.80	1870	1484	2.05	2194	
2000	1226	1.33	1359	1297	1.53	1564	1363	1.73	1768	1424	1.94	1982	1504	2.16	2296	
2100	1252	1.45	1482	1320	1.64	1676	1388	1.80	1891	1446	2.07	2105	1525	2.28	2398	
2200	1280	1.58	1615	1345	1.77	1809	1413	1.87	2015	1468	2.20	2248	1548	2.43	2499	
2300	1309	1.71	1747	1369	1.94	1952	1434	2.11	2159	1489	2.34	2397	1574	2.58	2699	
2400	1336	1.80	1891	1395	2.08	2105	1455	2.25	2310	1515	2.48	2534	1598	2.75	2802	
2500	1363	2.00	2044	1421	2.22	2269	1476	2.40	2465	1543	2.65	2708	1626	2.99	2952	

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

- Boldface** indicates a field-supplied drive is required (See Note 6.)
-  indicates field-supplied motor and drive are required.
- Maximum usable watts input is 1921 and maximum continuous bhp is 1.80. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using

your 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 Indoor-Fan Motor Performance table on page 43.

- Values include losses for filters, unit casing, and wet coils. See page 40 for accessory/FIOP static pressure information.
- Use of a field-supplied motor may affect wire sizing. Contact Carrier representative to verify.
- Alternate motor drive range: 900 to 1300 rpm. All other rpms require field-supplied drive.
- Interpolation is permissible. Do not extrapolate.

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50TJQ007 (6 TONS) STANDARD MOTOR (BELT DRIVE)															
AIRFLOW (Cfm)	External Static Pressure (in. wg)														
	0.1			0.2			0.4			0.6			0.8		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	765	0.45	487	821	0.51	532	923	0.65	638	1019	0.81	843	1099	0.96	883
1900	802	0.45	539	854	0.58	585	953	0.73	700	1046	0.90	835	1126	1.06	965
2000	840	0.60	600	888	0.66	646	984	0.82	771	1073	0.99	907	1154	1.16	1047
2100	878	0.69	669	923	0.75	716	1015	0.91	843	1101	1.08	981	1182	1.27	1140
2200	916	0.78	739	958	0.85	795	1046	1.01	924	1129	1.19	1072	1209	1.39	1241
2300	954	0.89	827	993	0.96	883	1079	1.13	1022	1160	1.31	1173	1237	1.51	1344
2400	993	1.00	916	1029	1.07	973	1112	1.25	1123	1190	1.43	1275	1264	1.63	1447
2500	1031	1.13	1022	1066	1.20	1081	1145	1.39	1241	1220	1.57	1396	1292	1.77	1569
2600	1070	1.26	1131	1103	1.34	1199	1179	1.52	1353	1251	1.71	1517	1322	1.92	1700
2700	1109	1.41	1258	1140	1.48	1318	1212	1.67	1482	1283	1.87	1656	1352	2.09	1849
2800	1148	1.57	1396	1177	1.64	1456	1246	1.83	1621	1316	2.04	1805	1383	2.26	1997
2900	1188	1.74	1543	1215	1.81	1604	1281	2.00	1770	1349	2.22	1962			
3000	1227	1.92	1700	1253	2.00	1770	1316	2.19	1936						

50TJQ007 (6 TONS) STANDARD MOTOR (BELT DRIVE) (cont)												
AIRFLOW (Cfm)	External Static Pressure (in. wg)											
	1.0			1.2			1.4			1.6		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	1178	1.14	1031	1249	1.32	1182	1316	1.52	1353	1382	1.72	1526
1900	1201	1.23	1106	1274	1.43	1275	1338	1.62	1439	1402	1.83	1621
2000	1226	1.33	1190	1297	1.53	1361	1363	1.73	1534	1424	1.94	1718
2100	1252	1.45	1292	1320	1.64	1456	1388	1.85	1639	1448	2.07	1831
2200	1280	1.58	1404	1345	1.77	1569	1410	1.97	1744	1473	2.20	1945
2300	1309	1.71	1517	1372	1.91	1691	1434	2.11	1866	1496	2.34	2067
2400	1336	1.85	1639	1400	2.06	1823	1459	2.26	1997			
2500	1363	2.00	1770	1428	2.22	1962						
2600	1390	2.15	1901	1456	2.38	2102						
2700	1418	2.31	2041									
2800												
2900												
3000												

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

- Boldface** indicates a field-supplied drive is required (See Note 6.)
-  indicates field-supplied motor and drive are required
- Maximum usable watts input is 2120 and maximum continuous bhp is 2.40. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using

your 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 Indoor-Fan Motor Performance table on page 43.

- Values include losses for filters, unit casing, and wet coils. See page 40 for accessory/FIOP static pressure information.
- Use of a field-supplied motor may affect wire sizing. Contact Carrier representative to verify.
- Standard motor drive range. 1070 to 1460 rpm. All other rpms require field-supplied drive
- Interpolation is permissible. Do not extrapolate.

Performance data (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50TJQ008 (7½ TONS) — 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	473	554	0.64	630	630	0.86	803	695	1.09	989	757	1.34	1199
2300	471	0.45	487	559	0.66	646	635	0.89	827	699	1.12	1014	760	1.37	1224
2400	482	0.50	524	569	0.71	684	645	0.95	875	708	1.18	1064	768	1.44	1284
2500	494	0.54	554	581	0.76	723	654	1.01	924	717	1.25	1123	776	1.51	1344
2550	501	0.57	577	587	0.79	747	659	1.05	956	722	1.29	1156	780	1.55	1378
2660	507	0.59	592	592	0.82	771	663	1.08	981	727	1.32	1182	784	1.58	1404
2700	520	0.65	638	604	0.89	827	672	1.14	1031	737	1.40	1250	793	1.66	1473
2800	533	0.71	684	615	0.95	875	683	1.20	1081	747	1.49	1327	802	1.75	1552
2900	546	0.77	731	626	1.02	932	693	1.27	1140	756	1.57	1396	813	1.84	1630
3000	559	0.83	779	637	1.09	989	704	1.35	1207	765	1.66	1473	823	1.94	1718
3100	572	0.90	835	648	1.17	1056	715	1.43	1275	775	1.74	1543	832	2.05	1814
3200	585	0.96	883	660	1.24	1114	727	1.52	1353	785	1.83	1621	841	2.15	1901
3300	598	1.03	940	671	1.32	1182	739	1.62	1439	795	1.91	1691	851	2.26	1997
3400	610	1.10	998	682	1.41	1258	750	1.72	1526	806	2.01	1779	860	2.36	2084
3500	623	1.17	1056	694	1.50	1335	761	1.82	1613	817	2.11	1866			
3600	636	1.25	1123	707	1.60	1422	772	1.93	1709	828	2.23	1971			
3700	649	1.33	1190	720	1.71	1517	783	2.03	1796	840	2.35	2076			
3750	655	1.37	1224	727	1.77	1569	789	2.09	1849						

50TJQ008 (7½ TONS) — STANDARD MOTOR (BELT DRIVE) (cont)

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	810	1.62	1439	850	1.91	1691	873	2.20	1945						
2300	816	1.65	1465	859	1.94	1718	888	2.24	1980						
2400	824	1.72	1526	872	2.01	1779	909	2.32	2050						
2500	832	1.79	1587	882	2.09	1849	925	2.40	2119						
2550	836	1.83	1621	887	2.13	1884									
2660	839	1.87	1656	891	2.17	1919									
2700	846	1.95	1726	898	2.26	1997									
2800	855	2.04	1805	906	2.35	2076									
2900	863	2.13	1884												
3000	872	2.22	1962												
3100	882	2.33	2058												
3200															
3300															
3400															
3500															
3600															
3700															
3750															

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

- 1. Boldface** indicates a field-supplied drive is required. (See Note 7.)
- 2.**  indicates an alternate motor and drive are required
- 3.**  indicates field-supplied motor and drive are required
- 4.** Maximum usable watts input is 2120 and maximum continuous bhp is 2.40. Extensive motor and electrical testing on these units ensures

that the full range of the motor can be utilized with confidence. Using your 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 Indoor-Fan Motor Performance table on page 43.

- 5.** Values include losses for filters, unit casing, and wet coils. See page 40 for accessory/FIOP static pressure information.
- 6.** Use of a field-supplied motor may affect wire sizing. Contact Carrier representative to verify.
- 7.** Standard motor drive range: 590 to 840 rpm. Alternate motor drive range: 685 to 935 rpm. All other rpms require field-supplied drive.
- 8.** Interpolation is permissible. Do not extrapolate.

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50TJQ009 (8½ TONS) — 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
2550	501	0.57	577	587	0.79	747	659	1.05	956	722	1.29	1156	780	1.55	1378
2660	507	0.59	592	592	0.82	771	663	1.08	981	727	1.32	1182	784	1.58	1404
2700	520	0.65	638	604	0.89	827	672	1.14	1031	737	1.40	1250	793	1.66	1473
2800	533	0.71	684	615	0.95	875	683	1.20	1081	747	1.49	1327	802	1.75	1552
2900	546	0.77	731	626	1.02	932	693	1.27	1140	756	1.57	1396	813	1.84	1630
3000	559	0.83	779	637	1.09	989	704	1.35	1207	765	1.66	1473	823	1.94	1718
3100	572	0.90	835	648	1.17	1056	715	1.43	1275	775	1.74	1543	832	2.05	1814
3200	585	0.96	883	660	1.24	1114	727	1.52	1353	785	1.83	1621	841	2.15	1901
3300	598	1.03	940	671	1.32	1182	739	1.62	1439	795	1.91	1691	851	2.26	1997
3400	610	1.10	998	682	1.41	1258	750	1.72	1526	806	2.01	1779	860	2.36	2084
3500	623	1.17	1056	694	1.50	1335	761	1.82	1613	817	2.11	1866	870	2.47	2171
3600	636	1.25	1123	707	1.60	1422	772	1.93	1709	828	2.23	1971	880	2.57	2259
3700	649	1.33	1190	720	1.71	1517	783	2.03	1796	840	2.35	2076	890	2.69	2346
3750	655	1.37	1224	727	1.77	1569	789	2.09	1849	846	2.42	2136	896	2.75	2402
3800	661	1.41	1258	733	1.82	1613	795	2.15	1901	852	2.48	2196	901	2.80	2462
3900	674	1.49	1327	746	1.93	1709	806	2.26	1997	863	2.61	2306	912	2.93	2557
4000	687	1.57	1396	759	2.05	1814	817	2.38	2102	874	2.75	2421	923	3.06	2659
4100	699	1.60	1473	772	2.17	1919	828	2.50	2209	885	2.88	2536	935	3.22	2769
4200	712	1.75	1552	785	2.30	2032	840	2.64	2326	896	3.09	2655	947	3.38	2889
4250	719	1.80	1595	792	2.37	2093	846	2.71	2386	900	3.10	2700	—	—	—

50TJQ009 (8½ TONS) — STANDARD MOTOR (BELT DRIVE) (cont)

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
2550	836	1.83	1621	887	2.13	1884	931	2.45	2162	984	2.77	2435	996	2.81	2479
2660	839	1.87	1656	891	2.17	1919	935	2.49	2197	973	2.82	2479	999	2.85	2519
2700	846	1.95	1726	898	2.26	1997	946	2.58	2275	981	2.91	2554	1010	3.26	2920
2800	855	2.04	1805	906	2.35	2076	954	2.67	2352	997	3.01	2632	1024	3.36	2982
2900	863	2.13	1884	914	2.44	2154	961	2.77	2430	1006	3.12	2712	—	—	—
3000	872	2.22	1962	921	2.54	2240	968	2.88	2523	1014	3.22	2802	—	—	—
3100	882	2.33	2058	930	2.65	2325	975	2.99	2625	1023	3.28	2902	—	—	—
3200	892	2.45	2162	939	2.76	2429	984	3.10	2736	—	—	—	—	—	—
3300	902	2.57	2269	948	2.88	2538	993	3.21	2799	—	—	—	—	—	—
3400	912	2.69	2380	957	3.01	2653	1002	3.34	2922	—	—	—	—	—	—
3500	921	2.82	2499	966	3.15	2780	—	—	—	—	—	—	—	—	—
3600	930	2.95	2627	975	3.29	2912	—	—	—	—	—	—	—	—	—
3700	940	3.07	2764	—	—	—	—	—	—	—	—	—	—	—	—
3750	945	3.14	2792	—	—	—	—	—	—	—	—	—	—	—	—
3800	950	3.20	2830	—	—	—	—	—	—	—	—	—	—	—	—
3900	953	3.23	2859	—	—	—	—	—	—	—	—	—	—	—	—
4000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

- Boldface** indicates a field-supplied drive is required. (See Note 6)
- Shaded** indicates field-supplied motor and drive are required
- Maximum usable watts input is 2120 and maximum continuous bhp is 2.40. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence Using

your 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 Indoor-Fan Motor Performance table on page 43.

- Values include losses for filters, unit casing, and wet coils See page 40 for accessory/FIOP static pressure information.
- Use of a field-supplied motor may affect wire sizing. Contact Carrier representative to verify.
- Standard motor drive range 685 to 935 rpm All other rpms require field-supplied drive.
- Interpolation is permissible. Do not extrapolate

Performance data (cont)

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50TJQ012 (10 TONS) — STANDARD AND ALTERNATE MOTORS (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	0.55	562	560	0.70	677	631	0.87	810	690	1.03	940	747	1.20	1081
3100	495	0.61	607	570	0.76	723	638	0.92	851	699	1.10	998	755	1.27	1140
3200	505	0.66	646	579	0.81	763	646	0.98	899	708	1.16	1047	761	1.34	1199
3300	516	0.72	692	589	0.87	810	655	1.05	956	717	1.23	1106	767	1.40	1250
3400	527	0.78	739	599	0.93	859	664	1.11	1006	724	1.30	1165	775	1.48	1318
3500	537	0.85	795	609	0.99	907	672	1.18	1064	731	1.36	1216	784	1.56	1387
3600	548	0.92	851	619	1.05	956	680	1.24	1114	738	1.43	1275	794	1.64	1456
3700	560	1.00	916	629	1.12	1014	688	1.31	1173	747	1.51	1344	802	1.73	1534
3800	571	1.08	981	639	1.19	1072	698	1.39	1241	756	1.60	1422	810	1.81	1604
3900	582	1.16	1047	649	1.27	1140	708	1.47	1310	764	1.69	1499	816	1.89	1674
4000	593	1.25	1123	659	1.35	1207	717	1.56	1387	773	1.78	1578	823	1.98	1753
4100	605	1.35	1207	670	1.44	1284	727	1.65	1465	781	1.86	1648	832	2.08	1840
4200	616	1.45	1292	680	1.53	1361	737	1.74	1543	789	1.95	1726	841	2.18	1927
4300	628	1.56	1387	690	1.63	1447	747	1.83	1621	798	2.05	1814	849	2.30	2032
4400	639	1.67	1482	701	1.73	1534	757	1.92	1700	807	2.16	1910	858	2.41	2177
4500	651	1.78	1578	712	1.84	1630	767	2.02	1788	817	2.27	2006	866	2.51	2265
4600	662	1.91	1691	722	1.95	1726	777	2.13	1884	827	2.38	2102	874	2.62	2362
4700	674	2.03	1796	733	2.07	1831	787	2.24	1980	836	2.50	2256	882	2.73	2460
4800	686	2.17	1919	744	2.20	1945	797	2.36	2084	846	2.62	2362	891	2.85	2569
4900	698	2.31	2041	755	2.33	2058	808	2.48	2236	856	2.73	2460			
5000	710	2.45	2212	766	2.47	2230	818	2.61	2353	866	2.86	2578			

50TJQ012 (10 TONS) — STANDARD AND ALTERNATE MOTORS (BELT DRIVE) (cont)															
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	800	1.38	1233	850	1.52	1353	879	1.38	1233	925	1.81	1604	964	1.92	1761
3100	805	1.44	1284	857	1.63	1447	896	1.66	1473	935	1.93	1709	975	1.98	1811
3200	812	1.51	1344	862	1.71	1517	908	1.85	1639	944	2.01	1836	984	2.09	1903
3300	819	1.59	1413	867	1.78	1578	915	1.98	1753	952	2.11	1920	993	2.22	2014
3400	827	1.67	1482	873	1.85	1639	920	2.07	1831	963	2.21	2005	1001	2.31	2091
3500	833	1.75	1552	880	1.94	1718	926	2.15	1901	970	2.41	2134	1007	2.46	2221
3600	840	1.83	1621	888	2.04	1805	931	2.23	1971	976	2.47	2230	1017	2.62	2362
3700	847	1.92	1700	895	2.13	1884	938	2.33	2108	981	2.56	2309	1024	2.77	2496
3800	856	2.02	1788	901	2.23	1971	945	2.44	2203	986	2.65	2389	1029	2.89	2605
3900	865	2.12	1875	908	2.32	2050	953	2.55	2300	993	2.75	2478			
4000	875	2.22	1962	915	2.42	2136	960	2.65	2389	1000	2.87	2587			
4100	883	2.32	2050	924	2.54	2231	966	2.76	2487						
4200	889	2.41	2177	934	2.65	2389	972	2.87	2587						
4300	896	2.51	2265	943	2.77	2406									
4400	903	2.62	2362	951	2.89	2503									
4500	912	2.74	2469												
4600	921	2.87	2587												
4700															
4800															
4900															
5000															

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOF — Factory-Installed Option
Watts — Input Watts to Motor

NOTES

1. **Boldface** indicates a field-supplied or alternate (as appropriate) drive is required. (See Note 7)
2. **[Pattern]** indicates an alternate motor and drive are required.
3. **[Pattern]** indicates field-supplied motor and drive are required.
4. Maximum usable watts input is 2120 with standard motor and 2615 with alternate motor. Maximum continuous bhp is 2.40 with standard

motor and 2.90 with alternate motor. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.

5. Values include losses for filters, unit casing, and wet coils. See page 40 for accessory/FIOF static pressure information.
6. Use of a field-supplied motor may affect wire sizing. Contact Carrier representative to verify. For additional information on motor performance, refer to Indoor-Fan Motor Performance table on page 43.
7. Standard motor drive range 685 to 935 rpm. Alternate motor drive range 835 to 1085 rpm. All other rpms require field-supplied drive.
8. Interpolation is permissible. Do not extrapolate.

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50TJQ014 (12½ TONS) — STANDARD AND ALTERNATE MOTORS (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
3700	607	0.97	947	670	1.18	1113	732	1.37	1267	782	1.56	1423	833	1.73	1565
3800	621	1.05	1010	681	1.25	1170	742	1.45	1332	795	1.66	1506	842	1.82	1641
3900	636	1.13	1073	693	1.32	1226	751	1.53	1398	808	1.76	1590	851	1.92	1725
4000	650	1.21	1137	705	1.40	1291	761	1.61	1464	819	1.86	1674	861	2.02	1811
4100	665	1.30	1210	717	1.48	1357	772	1.71	1548	830	1.96	1759	871	2.13	1905
4200	680	1.39	1283	728	1.57	1431	783	1.81	1632	839	2.05	1836	883	2.25	2009
4300	696	1.49	1365	739	1.66	1506	794	1.91	1717	848	2.14	1914	896	2.38	2123
4400	711	1.60	1456	750	1.75	1582	805	2.02	1811	857	2.24	2000	908	2.51	2237
4500	727	1.70	1540	762	1.85	1666	817	2.12	1897	867	2.35	2096	919	2.63	2343
4600	742	1.82	1641	774	1.96	1759	828	2.23	1992	877	2.46	2193	929	2.75	2450
4700	758	1.94	1742	786	2.07	1854	840	2.34	2088	888	2.59	2307	938	2.87	2557
4800	773	2.06	1845	799	2.18	1948	852	2.46	2193	899	2.72	2423	947	2.98	2656
4900	789	2.19	1957	812	2.30	2053	863	2.57	2290	910	2.86	2548	957	3.11	2773
5000	805	2.32	2070	826	2.43	2166	875	2.70	2405	921	2.99	2665	966	3.24	2891
5100	821	2.47	2202	840	2.57	2290	887	2.83	2521	932	3.13	2792	976	3.38	3019
5200	837	2.61	2325	854	2.71	2414	898	2.96	2638	943	3.28	2928	987	3.53	3157
5300	853	2.76	2459	868	2.85	2539	909	3.09	2755	955	3.42	3056	998	3.69	3304
5400	869	2.92	2602	882	3.01	2683	920	3.24	2891	967	3.57	3193	1009	3.86	3461
5500	885	3.09	2755	897	3.17	2828	932	3.38	3019	978	3.72	3331	1029	4.03	3618
5600	901	3.26	2910	911	3.33	2973	943	3.54	3166	990	3.87	3470	1031	4.20	3775
5700	917	3.44	3074	926	3.50	3129	956	3.70	3313	1002	4.03	3618	1042	4.38	3943
5800	933	3.62	3239	941	3.68	3294	968	3.87	3470	1013	4.20	3775	1053	4.56	4111
5900	949	3.81	3414	956	3.87	3470	981	4.05	3637	1025	4.37	3934	1065	4.74	4279
6000	965	4.01	3600	972	4.06	3646	995	4.23	3804	1037	4.55	4102			
6100	981	4.21	3785	987	4.26	3832	1008	4.42	3981	1042	4.73	4270			
6200	997	4.42	3981	1002	4.46	4018	1022	4.62	4167						
6300	1014	4.64	4186	1018	4.68	4223	1036	4.83	4363						

50TJQ014 (12½ TONS) — STANDARD AND ALTERNATE MOTORS (BELT DRIVE) (cont)

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
3700	879	1.95	1751	927	2.17	1940	973	2.38	2123	1013	2.57	2290	1046	2.73	2432
3800	889	2.03	1819	934	2.26	2018	980	2.48	2210	1022	2.69	2396	1058	2.87	2557
3900	898	2.12	1897	942	2.36	2105	987	2.59	2307	1030	2.81	2503	1068	3.01	2683
4000	908	2.21	1974	950	2.46	2193	994	2.70	2405	1037	2.92	2602	1077	3.14	2801
4100	917	2.32	2070	960	2.55	2272	1001	2.81	2503	1045	3.04	2710	1085	3.21	2919
4200	925	2.44	2175	969	2.65	2370	1009	2.92	2602	1051	3.17	2828	1092	3.40	3037
4300	935	2.56	2281	979	2.77	2468	1018	3.03	2701	1058	3.29	2937	1100	3.53	3157
4400	945	2.68	2387	988	2.89	2575	1028	3.14	2801	1066	3.41	3047	1106	3.67	3285
4500	955	2.82	2512	996	3.02	2692	1037	3.25	2901	1074	3.54	3166	1113	3.81	3414
4600	967	2.96	2638	1005	3.16	2819	1046	3.38	3019	1084	3.66	3276	1121	3.95	3544
4700	980	3.11	2773	1015	3.30	2946	1056	3.52	3147	1093	3.79	3396	1129	4.09	3674
4800	992	3.26	2910	1025	3.45	3083	1064	3.67	3285	1103	3.92	3516	1137	4.22	3795
4900	1003	3.41	3047	1036	3.61	3230	1073	3.83	3433	1112	4.07	3655	1147	4.36	3925
5000	1014	3.56	3184	1049	3.79	3396	1083	4.00	3590	1121	4.23	3804	1157	4.50	4055
5100	1024	3.71	3322	1061	3.96	3553	1093	4.17	3748	1129	4.40	3962	1166	4.66	4202
5200	1033	3.84	3442	1073	4.14	3720	1103	4.34	3906	1138	4.58	4130	1175	4.82	4354
5300	1042	3.98	3572	1084	4.31	3878	1115	4.53	4157	1148	4.76	4326			
5400	1051	4.14	3720	1095	4.49	4046	1128	4.74	4279						
5500	1061	4.30	3818	1105	4.66	4204									
5600	1071	4.46	4018	1114	4.81	4344									
5700	1081	4.64	4186												
5800	1092	4.84	4372												
5900															
6000															
6100															
6200															
6300															

LEGEND

Bhp — Brake Horsepower Input to Fan
FIOF — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

- Boldface** indicates a field-supplied or alternate (as appropriate) drive is required. (See Note 7.)
-  indicates alternate motor and drive are required.
-  indicates field-supplied motor and drive are required.
- Maximum usable watts input is 3775 with standard motor and 4400 with alternate motor. Maximum continuous bhp is 4.20 with standard

motor and 5.25 with alternate motor. Extensive motor and electrical testing on these units ensures that the full range of the motor can be utilized with confidence. Using your fan motors up to the wattage ratings shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.

- Values include losses for filters, unit casing, and wet coils. See page 40 for accessory/FIOF static pressure information.
- Use of a field-supplied motor may affect wire sizing. Contact Carrier representative to verify. For additional information on motor performance, refer to Evaporator-Fan Motor Performance table on page 43.
- Standard motor drive range: 860 to 1080 rpm. Alternate motor drive range: 900 to 1260 rpm. All other rpms require field-supplied drive.
- Interpolation is permissible. Do not extrapolate.

Performance data (cont)

ACCESSORY/FIOP STATIC PRESSURE (in. wg)

UNIT 50TJQ	UNIT VOLTAGE	CFM	1 HEATER MODULE*	2 HEATER MODULES*	DURABLADE ECONOMIZER*	PARABLADE ECONOMIZER*
004-007	All	900	.05	.15	.05	.08
		1200	.07	.16	.05	.10
		1400	.09	.16	.05	.17
		1600	.09	.16	.05	.26
		1800	.10	.17	.05	.33
		2000	.11	.17	.05	.34
		2200	.11	.17	.05	.36
		2400	.12	.18	.05	.40
		2600	.13	.18	.05	.44
		3000	.15	.19	.05	—
008-014	All	2200	.02	.03	.02	.21
		2500	.03	.05	.02	.25
		3000	.05	.07	.03	.35
		3500	.07	.09	.04	.49
		4000	.08	.12	.05	.61
		4500	.10	.14	.06	—
		5000	.12	.16	.07	—
		5500	.14	.19	.08	—
		6000	.16	.21	.09	—
		6250	.17	.20	.09	—

LEGEND

FIOP — Factory-Installed Option

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

FAN RPM AT MOTOR PULLEY SETTINGS*

UNIT 50TJQ	MOTOR PULLEY TURNS OPEN												
	0	½	1	1½	2	2½	3	3½	4	4½	5	5½	6
004†	1000	976	952	928	904	880	856	832	808	784	760	—	—
005†	1185	1150	1115	1080	1045	1010	975	940	905	870	835	—	—
006†	1300	1260	1220	1180	1140	1100	1060	1020	980	940	900	—	—
007**	1460	1420	1380	1345	1305	1265	1225	1185	1150	1110	1070	—	—
008**	840	815	790	765	740	715	690	665	635	615	590	—	—
008††	935	910	885	860	835	810	785	760	735	710	685	—	—
009**	935	910	885	860	835	810	785	760	735	710	685	—	—
012**	935	910	885	860	835	810	785	760	735	710	685	—	—
012†	1085	1060	1035	1010	985	960	935	910	885	860	835	—	—
014**	1080	1060	1035	1015	990	970	950	925	905	880	860	—	—
014†	1260	1220	1185	1155	1130	1100	1075	1045	1015	990	960	930	900

*Approximate fan rpm shown.

†Indicates alternate motor and drive package

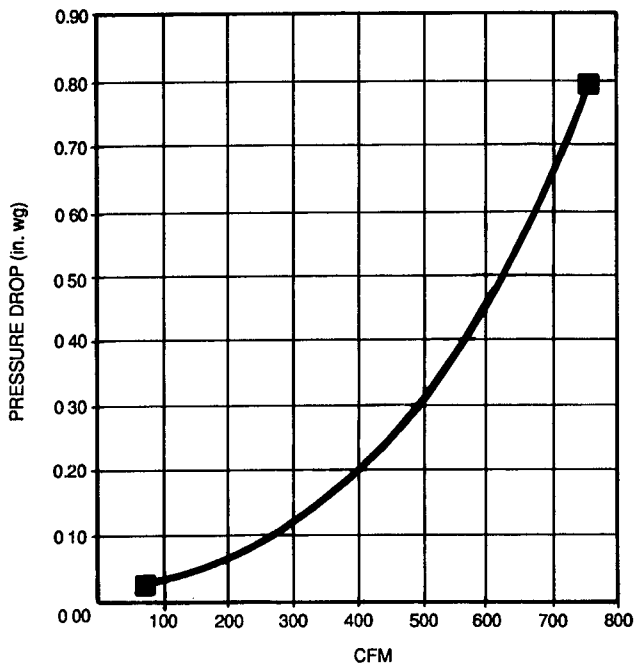
**Indicates standard motor and drive package

††Indicates alternate drive package only.

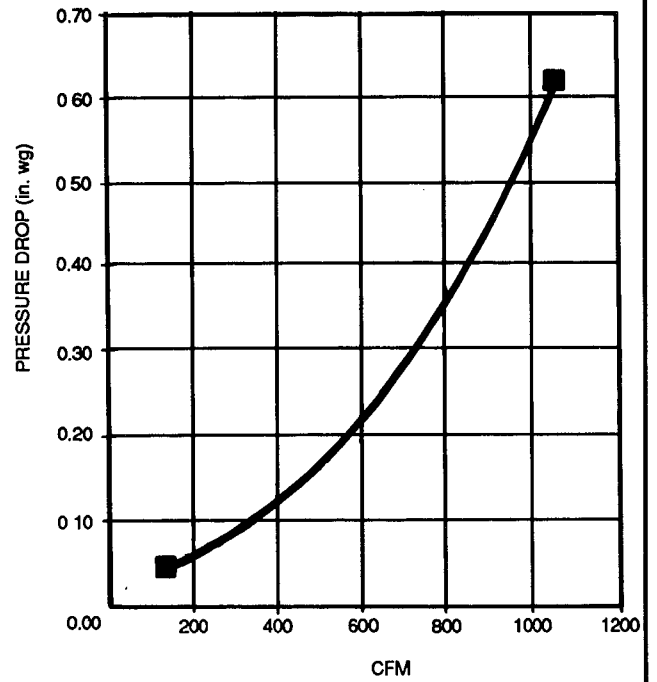
INDOOR-FAN MOTOR EFFICIENCY

50TJQ	MOTOR EFFICIENCY (%)
004,005	75
006	74
007	84
008-012	80
014	87

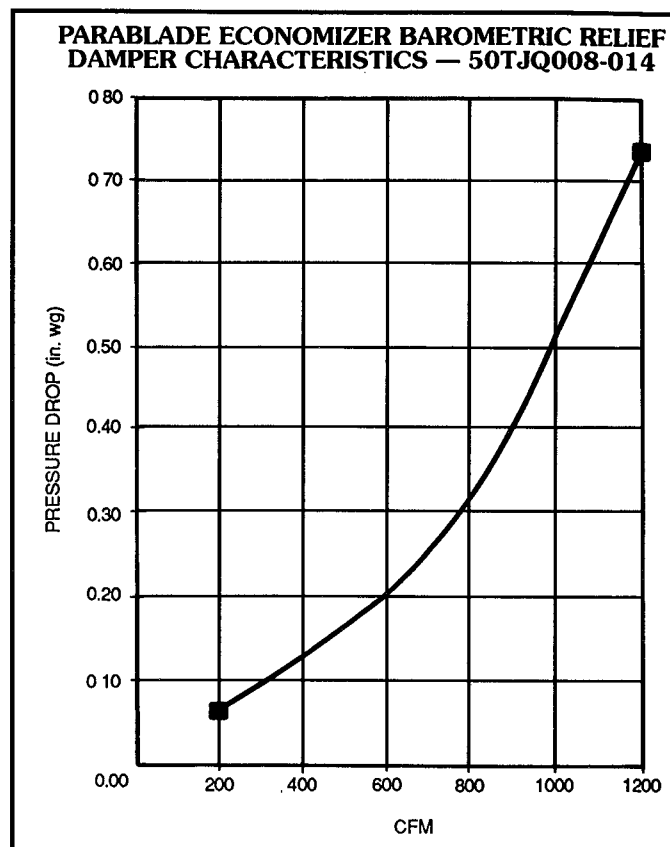
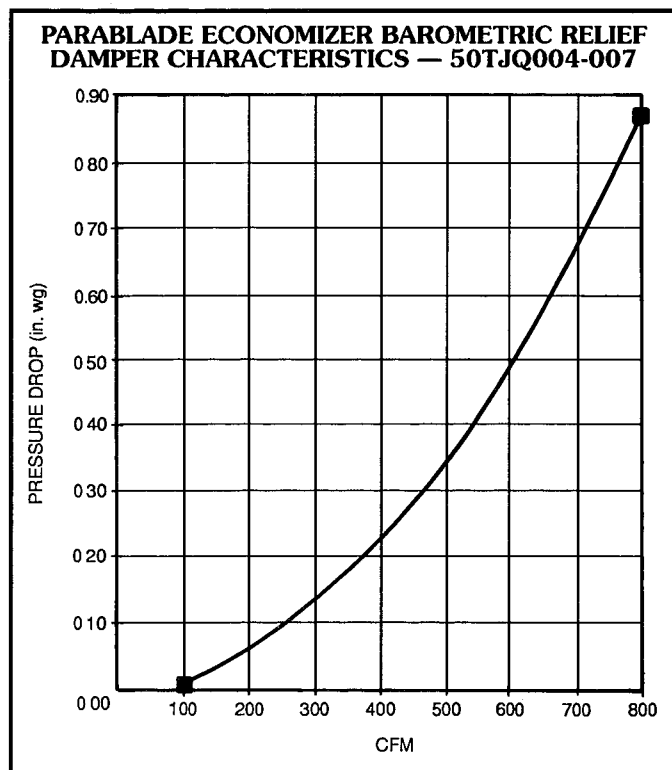
DURABLADE ECONOMIZER BAROMETRIC RELIEF DAMPER CHARACTERISTICS — 50TJQ004-007



DURABLADE ECONOMIZER BAROMETRIC RELIEF DAMPER CHARACTERISTICS — 50TJQ008-014



Performance data (cont)



ELECTRIC HEATING CAPACITIES

UNIT 50TJQ	VOLTAGE (60 Hz)	ACCESSORY kW
004	208/230 (single phase)	4.4
		6.5
		8.7
		10.5
		13.0*
	208/230 (3 phase)	4.4
		6.5
		8.7
		10.5
005	460 (3 phase)	16.0
		6.0
		8.8
		11.5
		14.0
	208/230 (single phase)	4.4
		8.7
		13.0*
		17.4*
006	208/230 (3 phase)	21.0*
		6.5
		8.7
		10.5
		16.0
	460 (3 phase)	21.0*
		6.0
		11.5
		14.0

ELECTRIC HEATING CAPACITIES (cont)

UNIT 50TJQ	VOLTAGE (60 Hz)	ACCESSORY kW
007	208/230 (3 phase)	6.5
		10.5
		16.0
		21.0*
		26.5*
	460 (3 phase)	6.0
		11.5
		14.0
		23.0*
008,009	208/230 (3 phase)	25.5*
		10.4
		16.0
		24.0
		32.0
	460 (3 phase)	42.4*
		13.9
		16.5
		27.0
012,014	575 (3 phase)	33.0
		41.7*
		50.0*
		10.4
		16.0
	208/230 (3 phase)	32.0
		42.4*
		50.0*
		16.5
012,014	460 (3 phase)	27.8
		33.0
		41.7*
		50.0*
		17.0
	575 (3 phase)	34.0
		51.0*
		17.0
		34.0

*Two heater packages required to provide kW indicated

NOTES:

- The kW ratings shown above are at 240, 480, and 575 v. Use the Multiplication Factors table on page 43 to determine heater capacity for your particular voltage.
- Heaters are not available for size 004-007, 575-v units

MULTIPLICATION FACTORS

HEATER kW RATING	VOLTAGE DISTRIBUTION V-3-60	MULTIPLICATION FACTOR
240	200	0.69
	208	0.75
	230	0.92
	240	1.00
480	440	0.84
	460	0.92
	480	1.00

EXAMPLE: 32.0 kW (at 240 v) heater on 208 v
 = 32.0 (.75 mult factor)
 = 24.0 kW capacity at 208 v

INDOOR-FAN MOTOR PERFORMANCE

UNIT 50TJQ	INDOOR-FAN MOTOR	UNIT VOLTAGE	MAXIMUM ACCEPTABLE CONTINUOUS BHP*	MAXIMUM ACCEPTABLE OPERATING WATTS	MAXIMUM AMP DRAW
004	Standard	208/230	0.34	440	2.9
		460			1.4
		575			1.4
	Alternate	208/230	1.00	1000	5.4
		460			2.3
		575			2.3
005	Standard	208/230	0.75	850	3.5
		460			1.8
		575			1.8
	Alternate	208/230	1.00	1000	5.4
		460			2.3
		575			2.3
006	Standard	208/230	1.20	1340	5.9
		460			3.2
		575			3.2
	Alternate	208/230	1.80	1921	8.9
		460			4.7
		575			4.7
007	Standard	208/230	2.40	2120	6.1
		460			2.7
		575			2.7
008	Standard	208/230	2.40	2120	6.1
		460			2.7
		575			2.7
009	Standard	208/230	2.40	2120	6.1
		460			2.7
		575			2.7
012	Standard	208/230	2.40	2120	6.1
		460			2.7
		575			2.7
	Alternate	208/230	2.90	2615	7.9
		460			3.6
		575			3.6
014	Standard	208/230	4.20	3775	11.1
		460			5.0
		575			5.0
	Alternate	208/230	5.25	4400	15.0
		460			7.4
		575			7.4

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 your 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

Electrical data

UNITS WITHOUT ELECTRICAL CONVENIENCE OUTLET

UNIT 50TJQ	NOMINAL V-PH-HZ	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (each)		OFM FLA	IFM FLA	ELECTRIC HEAT*		POWER SUPPLY		DISCONNECT SIZE†	
			Min	Max	RLA	LRA			Nominal kW**	FLA	MCA	MOCP	FLA	LRA
004 (3 Tons)	208/230-1-60	STD	187	254	16.9	86.7	1.5	3.1	—	—	25.7/ 25.7	30/ 30††	25/ 25	98/ 98
									3.3/ 4.4	15.9/18.3	45.6/ 48.6	50/ 50††	43/ 46	114/116
									4.9/ 6.5	23.6/27.1	55.2/ 59.6	60/ 60††	52/ 56	121/125
									6.5/ 8.7	31.3/36.3	64.9/ 71.1	70/ 80	61/ 66	129/134
									7.9/10.5	38.0/43.8	73.2/ 80.5	80/ 90	68/ 75	136/141
									9.8/13.0	47.1/54.2	84.6/ 93.5	90/100	79/ 87	145/152
		ALT	187	254	16.9	86.7	1.5	4.9	—	—	27.5/ 27.5	30/ 30††	27/ 27	102/102
									3.3/ 4.4	15.9/18.3	47.4/ 50.4	50/ 60††	45/ 48	118/120
									4.9/ 6.5	23.6/27.1	57.0/ 61.4	60/ 70	54/ 58	126/129
									6.5/ 8.7	31.3/36.3	66.7/ 72.9	70/ 80	63/ 69	133/138
									7.9/10.5	38.0/43.8	75.0/ 82.3	80/ 90	70/ 77	140/146
									9.8/13.0	47.1/54.2	86.4/ 95.3	90/100	81/ 89	149/156
	208/230-3-60	STD	187	254	11.7	65.0	1.5	3.1	—	—	19.2/ 19.2	20/ 20††	19/ 19	76/ 76
									3.3/ 4.4	9.2/10.6	30.7/ 32.5	35/ 35††	29/ 31	85/ 87
									4.9/ 6.5	13.6/15.6	36.2/ 38.7	40/ 40††	34/ 37	90/ 92
									6.5/ 8.7	18.0/20.9	41.7/ 45.4	45/ 50††	39/ 43	94/ 97
									7.9/10.5	21.9/25.3	46.6/ 50.9	50/ 60††	44/ 48	98/101
									12.0/16.0	33.3/38.5	60.9/ 67.4	70/ 70	57/ 63	109/114
		ALT	187	254	11.7	65.0	1.5	4.9	—	—	21.0/ 21.0	25/ 25††	21/ 21	80/ 80
									3.3/ 4.4	9.2/10.6	32.5/ 34.3	35/ 35††	31/ 33	90/ 91
									4.9/ 6.5	13.6/15.6	38.0/ 40.5	40/ 45††	36/ 39	94/ 96
									6.5/ 8.7	18.0/20.9	43.5/ 47.2	45/ 50††	42/ 45	98/101
									7.9/10.5	21.9/25.3	48.4/ 52.7	50/ 60††	46/ 50	102/106
									12.0/16.0	33.3/38.5	62.7/ 69.2	70/ 70	59/ 65	114/119
	460-3-60	STD	414	508	5.1	33.0	0.8	1.7	—	—	8.9	15††	9	39
									6.0	7.2	17.9	20††	17	46
									8.8	10.6	22.1	25††	21	50
									11.5	13.8	26.1	30††	25	53
									14.0	16.8	29.9	30††	28	56
		ALT	414	508	5.1	33.0	0.8	2.1	—	—	9.3	15††	9	42
									6.0	7.2	18.3	20††	17	49
									8.8	10.6	22.5	25††	21	52
									11.5	13.8	26.5	30††	25	56
	575-3-60	STD	518	632	4.1	27.0	0.8	1.7	—	—	7.1	15††	7	32
		ALT	518	632	4.1	27.0	0.8	2.1	—	—	7.4	15††	7	34
005 (4 Tons)	208/230-1-60	STD	187	254	23.0	110.0	1.5	3.5	—	—	33.8/ 33.8	35/ 35††	32/ 32	121/121
									3.3/ 4.4	15.9/18.3	53.6/ 56.6	60/ 60††	50/ 53	137/139
									6.5/ 8.7	31.3/36.3	72.9/ 79.1	80/ 80	68/ 74	152/157
									9.8/13.0	47.1/54.2	92.6/101.5	100/110	86/ 95	168/175
									13.1/17.4	63.0/72.5	112.5/124.4	125/125	105/116	184/193
									15.8/21.0	76.0/87.5	128.8/143.1	150/150	120/133	197/208
		ALT	187	254	23.0	110.0	1.5	4.9	—	—	40.0/ 40.0	40/ 40††	39/ 39	130/130
									3.3/ 4.4	15.9/18.3	59.8/ 62.8	60/ 70	58/ 60	146/148
									6.5/8.7	31.3/36.3	79.1/ 85.3	80/ 90	75/ 81	161/166
									9.8/13.0	47.1/54.2	98.8/107.7	100/110	94/102	177/184
									13.1/17.4	63.0/72.5	118.7/130.6	125/150	112/123	193/203
	208/230-3-60	STD	187	254	15.3	92.0	1.5	3.5	—	—	24.1/ 24.1	25/ 25††	23/ 23	103/103
									4.9/ 6.5	13.6/15.6	41.1/ 43.6	45/ 45††	39/ 41	116/118
									6.5/ 8.7	18.0/20.9	46.6/ 50.3	50/ 60††	44/ 47	121/124
									12.0/16.0	33.3/38.5	65.8/ 72.3	70/ 80	62/ 68	136/141
									15.8/21.0	43.9/50.5	79.0/ 87.3	80/ 90	74/ 81	147/153
		ALT	187	254	15.3	92.0	1.5	4.9	—	—	25.5/ 25.5	30/ 30††	25/ 25	107/107
									4.9/ 6.5	13.6/15.6	42.5/ 45.0	45/ 50††	41/ 43	121/123
									6.5/ 8.7	18.0/20.9	48.0/ 51.7	50/ 60††	46/ 49	125/128
									12.0/16.0	33.3/38.5	67.2/ 73.7	70/ 80	63/ 69	141/146
									15.8/21.0	43.9/50.5	80.4/ 88.7	90/ 90	75/ 83	151/158

Legend on page 52.

UNITS WITHOUT ELECTRICAL CONVENIENCE OUTLET (cont)

UNIT 50TJQ	NOMINAL V-PH-HZ	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (each)		OFM FLA	IFM FLA	ELECTRIC HEAT*		POWER SUPPLY		DISCONNECT SIZE†		
			Min	Max	RLA	LRA			Nominal kW**	FLA	MCA	MOCP	FLA	LRA	
005 (4 Tons) (cont)	460-3-60	STD	414	508	7.0	46.0	0.8	1.8	—	—	11.4	15††	11	52	
									6.0	7.2	20.4	25††	19	59	
									11.5	13.8	28.6	30††	27	66	
									14.0	16.8	32.4	35††	30	69	
									23.0	27.7	46.0	50††	43	80	
		ALT	414	508	7.0	46.0	0.8	2.1	—	—	11.7	15††	11	54	
									6.0	7.2	20.7	25††	20	61	
									11.5	13.8	28.9	30††	27	68	
									14.0	16.8	32.7	35††	31	71	
									23.0	27.7	46.3	50††	43	82	
575-3-60	STD	518	632	5.8	44.0	0.8	1.8	—	—	9.3	15††	9	49		
	ALT	518	632	5.8	44.0	0.8	2.1	—	—	9.6	15††	9	50		
006 (5 Tons)	208/230-1-60	STD	187	254	30.5	141.0	1.5	5.9	—	—	45.5/ 45.5	50/ 50††	44/ 44	155/155	
									4.9/ 6.5	23.6/27.1	75.0/ 79.4	80/ 80	71/ 75	179/182	
									6.5/ 8.7	31.3/36.3	84.7/ 90.9	90/100	80/ 85	186/191	
									9.8/13.0	47.1/54.2	104.4/113.3	110/125	98/106	202/209	
									13.1/17.4	63.0/72.5	124.3/136.2	125/150	116/127	218/228	
		ALT	187	254	30.5	141.0	1.5	8.8	15.8/21.0	76.0/87.5	140.5/154.9	150/175	131/144	231/243	
									—	—	53.2/ 53.2	60/ 60††	52/ 52	193/193	
									4.9/ 6.5	23.6/27.1	82.7/ 87.1	90/ 90	80/ 84	217/220	
									6.5/ 8.7	31.3/36.3	92.4/ 98.6	100/100	88/ 94	224/229	
									9.8/13.0	47.1/54.2	112.1/121.0	125/125	107/115	240/247	
	208/230-3-60	STD	187	254	17.7	110.0	1.5	5.9	13.1/17.4	63.0/72.5	132.0/143.9	150/150	125/136	256/265	
									15.8/21.0	76.0/87.5	148.2/162.6	150/175	140/153	269/280	
									—	—	29.5/ 29.5	30/ 30††	29/ 29	124/124	
									4.9/ 6.5	13.6/15.6	46.5/ 49.0	50/ 50††	45/ 47	138/140	
									7.9/10.5	21.9/25.3	56.9/ 61.2	60/ 70	54/ 58	146/149	
		ALT	187	254	17.7	110.0	1.5	5.8	12.0/16.0	33.3/38.5	71.2/ 77.7	80/ 80	67/ 73	157/163	
									15.8/21.0	43.9/50.5	84.4/ 92.7	90/100	79/ 87	168/175	
									19.9/26.5	55.2/63.8	98.5/109.3	100/110	92/102	179/188	
									—	—	29.4/ 29.4	30/ 30††	29/ 29	155/155	
									4.9/ 6.5	13.6/15.6	46.4/ 48.9	50/ 50††	44/ 47	168/170	
	460-3-60	STD	414	508	8.6	55.0	0.8	3.2	7.9/10.5	21.9/25.3	56.9/ 61.2	60/ 70	54/ 58	146/149	
									12.0/16.0	33.3/38.5	71.1/ 77.6	80/ 80	67/ 73	188/193	
									15.8/21.0	43.9/50.5	84.3/ 92.6	90/100	79/ 87	199/205	
									19.9/26.5	55.2/63.8	98.4/109.2	100/110	92/102	210/219	
									—	—	14.8	15††	14	63	
		ALT	414	508	8.6	55.0	0.8	2.6	6.0	7.2	23.8	25††	23	70	
									11.5	13.8	32.0	35††	30	77	
									14.0	16.8	35.8	40††	34	80	
									23.0	27.7	49.4	50††	46	91	
									25.5	30.7	53.1	60††	50	94	
	575-3-60	STD	518	632	6.4	44.0	0.8	3.2	—	—	11.2	15††	11	50	
		ALT	518	632	6.4	44.0	0.8	2.6	—	—	10.7	15††	10	62	
	007 (6 Tons)	208/230-3-60	STD	187	254	20.9	142.0	1.4	5.8	—	—	33.3/ 33.3	35/ 35††	32/ 32	186/186
										4.9/ 6.5	13.6/15.6	50.3/ 52.8	60/ 60††	48/ 50	200/202
										7.9/10.5	21.9/25.3	60.7/ 65.0	70/ 70	58/ 61	208/211
										12.0/16.0	33.3/38.5	75.0/ 81.5	80/ 90	71/ 77	219/225
15.8/21.0										43.9/50.5	88.2/ 96.5	90/100	83/ 90	230/237	
19.9/26.5										55.2/63.8	102.3/113.1	110/125	96/106	241/250	
460-3-60		STD	414	508	9.9	72.0	0.7	2.6	—	—	15.7	20††	15	94	
									6.0	7.2	24.7	25††	23	101	
									11.5	13.8	32.9	35††	31	108	
									14.0	16.8	36.7	40††	35	111	
									23.0	27.7	50.3	60††	47	122	
									25.5	30.7	54.1	60††	50	125	
575-3-60		STD	518	632	7.9	58.0	0.7	2.6	—	—	12.5	15††	12	76	
		ALT	518	632	7.9	58.0	0.7	2.6	—	—	12.5	15††	12	76	

Legend on page 52.

Electrical data (cont)

UNITS WITHOUT ELECTRICAL CONVENIENCE OUTLET (cont)

UNIT 50TJQ	NOMINAL V-PH-HZ	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (each)		OFM FLA	IFM FLA	ELECTRIC HEAT*		POWER SUPPLY		DISCONNECT SIZE†	
			Min	Max	RLA	LRA			Nominal kW**	FLA	MCA	MOCP	FLA	LRA
008 (7½ Tons)	208/230-3-60	STD	187	254	13.6	73.4	1.4	5.8	—	—	39.2/ 39.2	40/ 40††	41/ 41	194/194
									7.8/10.4	21.7/ 25.0	66.3/ 70.5	70/ 80	66/ 70	216/219
									12.0/16.0	33.3/ 38.5	80.8/ 87.3	90/ 90	79/ 85	227/232
									18.0/24.0	50.0/ 57.7	101.7/111.3	110/125	99/108	244/252
									24.0/32.0	66.6/ 77.0	122.5/135.5	125/150	118/130	260/271
									31.8/42.4	88.3/102.0	149.6/166.7	150/175	143/158	282/296
		ALT	187	254	13.6	73.4	1.4	5.8	—	—	39.2/ 39.2	40/ 40††	41/ 41	194/194
									7.8/10.4	21.7/ 25.0	66.3/ 70.5	70/ 80	66/ 70	216/219
									12.0/16.0	33.3/ 38.5	80.8/ 87.3	90/ 90	79/ 85	227/232
									18.0/24.0	50.0/ 57.7	101.7/111.3	110/125	99/108	244/252
									24.0/32.0	66.6/ 77.0	122.5/135.5	125/150	118/130	260/271
									31.8/42.4	88.3/102.0	149.6/166.7	150/175	143/158	282/296
	460-3-60	STD	414	508	6.2	37.7	0.7	2.6	—	—	18.0	20††	19	99
									13.9	16.7	38.8	40††	38	116
									16.5	19.8	42.7	45††	42	119
									27.8	33.4	59.7	60††	57	133
									33.0	39.7	67.6	80	65	139
									41.7	50.2	80.7	90	77	149
		ALT	414	508	6.2	37.7	0.7	2.6	—	—	18.0	20††	19	99
									13.9	16.7	38.8	40††	38	116
									16.5	19.8	42.7	45††	42	119
									27.8	33.4	59.7	60††	57	133
									33.0	39.7	67.6	80	65	139
									41.7	50.2	80.7	90	77	149
	575-3-60	STD	518	632	4.9	31.0	0.7	2.6	—	—	14.2	15††	15	81
									17.0	17.1	35.6	40††	35	98
									34.0	34.1	56.9	60††	54	115
									—	—	14.2	15††	15	81
		ALT	518	632	4.9	31.0	0.7	2.6	17.0	17.1	35.6	40††	35	98
									34.0	34.1	56.9	60††	54	115
									—	—	14.2	15††	15	81
									17.0	17.1	35.6	40††	35	98
009 (8½ Tons)	208/230-3-60	STD	187	254	15.8	92.0	1.4	5.8	—	—	44.2/ 44.2	45/ 45††	46/ 46	231/231
									7.8/10.4	21.7/ 25.0	71.3/ 75.4	80/ 80	71/ 75	253/256
									12.0/16.0	33.3/ 38.5	85.8/ 92.3	90/100	85/ 91	264/270
									18.0/24.0	50.0/ 57.7	106.7/116.3	110/125	104/113	281/289
									24.0/32.0	66.6/ 77.0	127.4/140.4	150/150	123/135	298/308
									31.8/42.4	88.3/102.0	154.5/171.7	175/175	148/164	319/333
	460-3-60	STD	414	508	7.4	46.0	0.7	2.6	—	—	20.7	25††	22	116
									13.9	16.7	41.5	45††	41	132
									16.5	19.8	45.4	50††	44	136
									27.8	33.4	62.4	80	60	149
									33.0	39.7	70.3	80	67	155
									41.7	50.2	83.4	90	79	166
	575-3-60	STD	518	632	5.9	44.0	0.7	2.6	—	—	16.5	20††	17	107
									17.0	17.1	37.9	40††	37	124
									34.0	34.1	59.1	60††	56	141
									—	—	48.9/ 48.9	50/ 50††	51/ 51	267/267
									7.8/10.4	21.7/ 25.0	76.0/ 80.1	80/ 90	76/ 80	289/292
									12.0/16.0	33.3/ 38.5	90.5/ 97.0	100/100	89/ 95	300/306
012 (10 Tons)	208/230-3-60	STD	187	254	17.9	110.0	1.4	5.8	24.0/32.0	66.6/ 77.0	132.1/145.1	150/150	128/140	334/344
									31.8/42.4	88.3/102.0	159.3/176.4	175/200	153/168	355/369
									37.6/50.0	104.4/120.3	179.4/169.2	200/200	171/189	371/387
									—	—	50.6/ 50.6	60/ 60††	53/ 53	286/286
		ALT	187	254	17.9	110.0	1.4	7.5	7.8/10.4	21.7/ 25.0	77.7/ 81.8	80/ 90	78/ 82	308/311
									12.0/16.0	33.3/ 38.5	92.2/ 98.7	100/100	91/ 97	319/325
									24.0/32.0	66.6/ 77.0	133.8/146.8	150/150	130/142	353/363
									31.8/42.4	88.3/102.0	161.0/178.1	175/200	155/170	374/388
									37.6/50.0	104.4/120.3	181.1/170.9	200/200	173/191	390/406
									—	—	48.9/ 48.9	50/ 50††	51/ 51	267/267

Legend on page 52

UNITS WITHOUT ELECTRICAL CONVENIENCE OUTLET (cont)

UNIT 50TJQ	NOMINAL V-PH-HZ	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (each)		OFM FLA	IFM FLA	ELECTRIC HEAT*		POWER SUPPLY		DISCONNECT SIZE†	
			Min	Max	RLA	LRA			Nominal kW**	FLA	MCA	MOCP	FLA	LRA
012 (10 Tons) (cont)	460-3-60	STD	414	508	8.6	55.0	0.7	2.6	—	—	23.4	25††	24	134
									16.5	19.8	48.1	50††	47	154
									27.8	33.4	65.1	80	63	167
									33.0	39.7	73.0	80	70	173
									41.7	50.2	86.1	90	82	184
									50.0	60.1	83.5	90	93	194
		ALT	414	508	8.6	55.0	0.7	3.4	—	—	24.2	25††	25	173
									16.5	19.8	48.9	50††	48	193
									27.8	33.4	65.9	80	64	207
									33.0	39.7	73.8	80	71	213
									41.7	50.2	86.9	90	83	223
	575-3-60	STD	518	632	6.4	44.0	0.7	2.6	—	—	17.6	20††	18	107
									17.0	17.1	39.0	40††	38	124
									34.0	34.1	60.2	70.0	58	141
									51.0	51.2	68.8	80.0	77	158
		ALT	518	632	6.4	44.0	0.7	3.4	—	—	18.2	20††	19	139
									17.0	17.1	39.6	40††	39	156
									34.0	34.1	60.9	70	58	173
									51.0	51.2	69.4	80	78	190
014 (12½ Tons)	208/230-3-60	STD	187	254	22.3	142.0	1.4	10.6	—	—	63.6/ 63.6	70/ 70	67/ 67	375/375
									7.8/10.4	21.7/ 25.0	90.7/ 94.8	100/100	92/ 95	396/400
									12.0/16.0	33.3/ 38.5	105.2/111.7	110/125	105/111	408/413
									24.0/32.0	66.6/ 77.0	146.8/159.8	150/175	143/155	441/452
									31.8/42.4	88.3/102.0	174.0/191.1	175/200	168/184	463/477
		ALT	187	254	22.3	142.0	1.4	15.0	37.6/50.0	104.4/120.3	194.1/183.9	200/200	187/205	479/495
									—	—	68.0/ 72.8	70/ 80	77/ 77	403/403
									7.8/10.4	21.7/ 25.0	99.9/104.0	100/110	102/106	425/428
									12.0/16.0	33.3/ 38.5	114.4/120.9	125/125	116/122	436/441
									24.0/32.0	66.6/ 77.0	156.0/169.0	175/175	154/166	469/480
	460-3-60	STD	414	508	10.4	72.0	0.7	4.8	31.8/42.4	88.3/102.0	183.2/200.3	200/175	179/195	491/505
									37.6/50.0	104.4/120.3	203.3/193.1	200/200	197/216	507/523
									—	—	29.6	30††	31	190
									16.5	19.8	54.4	60††	54	210
									27.8	33.4	71.4	80	69	224
		ALT	414	508	10.4	72.0	0.7	7.4	33.0	39.7	79.2	80	77	230
									41.7	50.2	92.4	100	89	240
									50.0	60.1	89.7	100	100	250
									—	—	32.2	35††	34	201
									16.5	19.8	57.0	60††	57	221
									27.8	33.4	74.0	80	72	235
	575-3-60	STD	518	632	9.6	58.5	0.7	4.8	33.0	39.7	81.8	90	80	241
									41.7	50.2	95.0	100	92	251
									50.0	60.1	92.3	100	103	261
		ALT	518	832	9.6	58.5	0.7	7.4	—	—	26.6	30††	28	154
									17.0	17.1	47.9	50††	47	171
									34.0	34.1	69.2	80	67	188
									51.0	51.2	77.8	80	87	205
									—	—	28.6	30††	30	163
		STD	518	632	9.6	58.5	0.7	4.8	17.0	17.1	50.0	60††	50	180
									34.0	34.1	71.3	80	69	197
									51.0	51.2	79.8	80	89	214
									—	—	26.6	30††	28	154

Legend on page 52

Electrical data (cont)

UNITS WITH ELECTRICAL CONVENIENCE OUTLET

UNIT 50TJQ	NOMINAL V-PH-HZ	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (each)		OFM FLA	IFM FLA	ELECTRIC HEAT*		POWER SUPPLY		DISCONNECT SIZE†	
			Min	Max	RLA	LRA			Nominal kW**	FLA	MCA	MOCP	FLA	LRA
004 (3 Tons)	208/230-1-60	STD	187	254	16.9	86.7	1.5	3.1	—	—	30.5/ 30.5	35/ 35††	30/ 30	102/102
									3.3/ 4.4	15.9/18.3	50.4/ 53.4	60/ 60††	49/ 51	118/121
									4.9/ 6.5	23.6/27.1	60.0/ 64.4	70/ 70	57/ 61	126/130
									6.5/ 8.7	31.3/36.3	69.7/ 75.9	70/ 80	66/ 72	134/139
									7.9/10.5	38.0/43.6	78.0/ 85.3	80/ 90	74/ 81	140/146
									9.8/13.0	47.1/54.2	89.4/ 98.3	90/100	84/ 93	150/157
		ALT	187	254	16.9	86.7	1.5	4.9	—	—	32.3/ 32.3	35/ 35††	32/ 32	107/107
									3.3/ 4.4	15.9/18.3	52.2/ 55.2	60/ 60††	51/ 53	123/125
									4.9/ 6.5	23.6/27.1	61.8/ 66.2	70/ 70	59/ 63	130/134
									6.5/ 8.7	31.3/36.3	71.5/ 77.7	80/ 80	68/ 74	138/143
									7.9/10.5	38.0/43.6	79.8/ 87.1	80/ 90	76/ 83	145/151
									9.8/13.0	47.1/54.2	91.2/100.1	100/110	86/ 95	154/161
	208/230-3-60	STD	187	154	11.7	65.0	1.5	3.1	—	—	24.0/ 24.0	25/ 25††	24/ 24	81/ 81
									3.3/ 4.4	9.2/10.6	35.5/ 37.3	40/ 40††	35/ 36	90/ 91
									4.9/ 6.5	13.6/15.6	41.0/ 43.5	45/ 45††	40/ 42	94/ 96
									8.5/ 8.7	18.0/20.9	46.5/ 50.2	50/ 60††	45/ 48	99/102
									7.9/10.5	21.9/25.3	51.4/ 55.7	60/ 60††	49/ 53	103/106
									12.0/16.0	33.3/38.5	65.7/ 72.2	70/ 80††	63/ 69	114/119
		ALT	187	254	11.7	65.0	1.5	4.9	—	—	25.8/ 25.8	30/ 30††	26/ 26	85/ 85
									3.3/ 4.4	9.2/10.6	37.3/ 39.1	40/ 40††	37/ 39	94/ 96
									4.9/ 6.5	13.6/15.6	42.8/ 45.3	45/ 50††	42/ 44	99/101
									6.5/ 8.7	18.0/20.9	48.3/ 52.0	50/ 60††	47/ 50	103/106
									7.9/10.5	21.9/25.3	53.2/ 57.5	60/ 60††	52/ 55	107/110
									12.0/16.0	33.3/38.5	67.5/ 74.0	70/ 80	65/ 71	118/124
	460-3-60	STD	414	508	5.1	33.0	0.8	1.7	—	—	11.1	15††	11	41
									6.0	7.2	20.1	25††	20	48
									8.8	10.6	24.3	25††	23	52
									11.5	13.8	28.3	30††	27	55
									14.0	16.8	32.1	35††	31	58
		ALT	414	508	5.1	33.0	0.8	2.1	—	—	11.5	15††	12	44
									6.0	7.2	20.5	25††	20	51
									8.8	10.6	24.7	25††	24	54
									11.5	13.8	28.7	30††	28	58
	575-3-60	STD	518	632	4.1	27.0	0.8	1.7	—	—	8.9	15††	9	33
		ALT	518	632	4.1	27.0	0.8	2.1	—	—	9.2	15††	9	36
005 (4 Tons)	208/230-1-60	STD	187	254	23.0	110.0	1.5	3.5	—	—	38.6/ 38.6	40/ 40††	38/ 38	126/126
									3.3/ 4.4	15.9/18.3	58.4/ 61.4	60/ 70	56/ 59	141/144
									6.5/ 8.7	31.3/36.3	77.7/ 83.9	80/ 90	74/ 79	157/162
									9.8/13.0	47.1/54.2	97.4/106.3	100/110	92/100	173/180
									13.1/17.4	63.0/72.5	117.3/129.2	125/150	110/121	189/198
									15.8/21.0	76.0/87.5	133.6/147.9	150/150	125/138	202/213
		ALT	187	254	23.0	110.0	1.5	4.9	—	—	40.0/ 40.0	40/ 40††	39/ 39	130/130
									3.3/ 4.4	15.9/18.3	59.8/ 62.8	60/ 70	58/ 60	146/148
									6.5/ 8.7	31.3/36.3	79.1/ 85.3	80/ 90	75/ 81	161/166
									9.8/13.0	47.1/54.2	98.8/107.7	100/110	94/102	177/184
									13.1/17.4	63.0/72.5	118.7/130.6	125/150	112/123	193/203
									15.8/21.0	76.0/87.5	135.0/149.3	150/150	127/140	206/218
	208/230-3-60	STD	187	254	15.3	92.0	1.5	3.5	—	—	28.9/ 28.9	30/ 30††	29/ 29	108/108
									4.9/ 6.5	13.6/15.6	45.9/ 48.4	50/ 50††	45/ 47	121/123
									6.5/ 8.7	18.0/20.9	51.4/ 55.1	60/ 60††	50/ 53	126/128
									12.0/16.0	33.3/38.5	70.6/ 77.1	80/ 80	67/ 73	141/146
									15.8/21.0	43.9/50.5	83.8/ 92.1	90/100	79/ 87	151/158
		ALT	187	254	15.3	92.0	1.5	4.9	—	—	30.3/ 30.3	35/ 35††	30/ 30	112/112
									4.9/ 6.5	13.6/15.6	47.3/ 49.8	50/ 50††	46/ 48	126/128
									6.5/ 8.7	18.0/20.9	52.8/ 56.5	60/ 60††	51/ 55	130/133
									12.0/16.0	33.3/38.5	72.0/ 78.5	80/ 80	69/ 75	145/151
									15.8/21.0	43.9/50.5	85.2/ 93.5	90/100	81/ 89	156/163

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UNITS WITH ELECTRICAL CONVENIENCE OUTLET (cont)

UNIT 50TJQ	NOMINAL V-PH-HZ	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (each)		OFM FLA	IFM FLA	ELECTRIC HEAT*		POWER SUPPLY		DISCONNECT SIZE†	
			Min	Max	RLA	LRA			Nominal kW**	FLA	MCA	MOCP	FLA	LRA
005 (4 Tons) (cont)	460-3-60	STD	414	508	7 0	46.0	0.8	1 8	—	—	13.5	15††	14	54
									6.0	7 2	22 5	25††	22	62
									11 5	13.8	30.8	35††	29	68
									14.0	16.8	34.5	35††	33	71
									23.0	27 7	48 2	50††	45	82
		ALT	414	508	7 0	46.0	0 8	2 1	—	—	13.8	15††	14	56
									6 0	7.2	22 8	25††	22	63
									11.5	13 8	31 1	35††	30	70
									14.0	16.8	34.8	35††	33	73
									23.0	27 7	48.5	50††	46	84
	575-3-60	STD	518	632	5.8	44.0	0 8	1 8	—	—	11 1	15††	11	51
		ALT	518	832	5 8	44 0	0 8	2 1	—	—	11.3	15††	11	52
006 (5 Tons)	208/230-1-60	STD	187	254	30 5	141.0	1 5	5 9	—	—	50.3/ 50 3	60/ 60††	49/ 49	160/160
									4 9/ 6 5	23.6/27 1	79 8/ 84.2	80/ 90	76/ 80	184/187
									6.5/ 8.7	31 3/36.3	89.5/ 95 7	90/100	85/ 91	191/196
									9.8/13 0	47.1/54.2	109 2/118.1	110/125	103/111	207/214
									13.1/17.4	63 0/72 5	129.1/141.0	150/150	122/132	223/232
		ALT	187	254	30 5	141 0	1 5	8 8	15.8/21 0	76.0/87.5	145.3/159 7	150/175	137/150	236/247
									—	—	53.2/ 53 2	60/ 60††	52/ 52	193/193
									4 9/ 6 5	23 6/27.1	82.7/ 87.1	90/ 90	80/ 84	217/220
									6.5/ 8.7	31.3/36 3	92 4/ 98 6	100/100	88/ 94	224/229
									9.8/13 0	47.1/54.2	112 1/121.0	125/125	107/115	240/247
	208/230-3-60	STD	187	254	17 7	110 0	1 5	5 9	13.1/17.4	63 0/72 5	132.0/143 9	150/150	125/136	256/265
									15.8/21 0	76.0/87.5	148 2/162.6	150/175	140/153	269/280
									—	—	34.3/ 34 3	35/ 35††	34/ 34	129/129
									4.9/ 6.5	13.6/15 6	51 3/ 53.8	60/ 60††	50/ 52	143/145
									7 9/10 5	21 9/25.3	61.7/ 66 0	70/ 70	60/ 63	151/154
		ALT	187	254	17 7	110 0	1.5	5 8	12.0/16.0	33.3/38.5	76 0/ 82.5	80/ 90	73/ 79	162/167
									15 8/21.0	43.9/50.5	89.2/ 97.5	90/100	85/ 92	173/179
									19.9/26 5	55.2/63.8	103 3/114.1	110/125	98/108	184/193
									—	—	34.2/ 34 2	35/ 35††	34/ 34	160/160
									4 9/ 6.5	13.6/15 6	51 2/ 53.7	60/ 60††	50/ 52	173/175
	460-3-60	STD	414	508	8.6	55.0	0 8	3 2	7 9/10 5	21 9/25.3	61.6/ 65.9	70/ 70	59/ 63	181/185
									12.0/16.0	33.3/38 5	75 9/ 82 4	80/ 90	73/ 79	193/198
									15 8/21.0	43.9/50.5	89.1/ 97.4	90/100	85/ 92	203/210
									19.9/26 5	55 2/63.8	103 2/114.0	110/125	98/108	215/223
									—	—	16 9	20††	17	65
		ALT	414	508	8.6	55 0	0 8	2 6	6 0	7 2	25.9	30††	25	72
									11.5	13.8	34 2	35††	33	79
									14.0	16.8	37 9	40††	36	82
									23.0	27 7	51.6	60††	49	93
									25.5	30.7	55.3	60††	52	96
007 (6 Tons)	208/230-3-60	STD	187	254	20 9	142 0	1 4	5 8	—	—	16.3	20††	16	80
									6 0	7.2	25.3	30††	25	87
									11.5	13 8	33 6	35††	32	93
									14 0	16.8	37 3	40††	36	96
									23.0	27 7	51.0	60††	48	107
		ALT	414	508	8.6	55 0	0 8	2 6	25 5	30.7	54 7	60††	52	110
									—	—	17.9	20††	18	96
									6.0	7 2	26 9	30††	26	103
									11.5	13.8	35.1	40††	34	110
									14 0	16.8	38 9	40††	37	113
	460-3-60	STD	414	508	9 9	72 0	0 7	2 6	23.0	27 7	52 5	60††	50	124
									25 5	30 7	56.2	60††	53	127
									—	—	14 3	15††	14	77
									—	—	38 1/ 38 1	40/ 40††	38/ 38	191/191
									4 9/ 6 5	13 6/15.6	55 1/ 57.6	60/ 60††	53/ 56	204/206
									7.9/10 5	21.9/25 3	65 5/ 69.8	70/ 70	63/ 67	213/216
	575-3-60	STD	518	632	7 9	58 0	0.7	2.6	12 0/16.0	33 3/38.5	79.8/ 86.3	80/ 90	76/ 82	224/229
									15 8/21 0	43 9/50.5	93 0/101 3	100/110	88/ 96	235/241
									19.9/26.5	55 2/63 8	107.1/117.9	110/125	101/111	246/255
									—	—	17.9	20††	18	96
									6.0	7 2	26 9	30††	26	103
									11.5	13.8	35.1	40††	34	110

Legend on page 52.

Electrical data (cont)

UNITS WITH ELECTRICAL CONVENIENCE OUTLET (cont)

UNIT 50TJQ	NOMINAL V-PH-HZ	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (each)		OFM FLA	IFM FLA	ELECTRIC HEAT*		POWER SUPPLY		DISCONNECT SIZE†			
			Min	Max	RLA	LRA			Nominal kW**	FLA	MCA	MOCP	FLA	LRA		
008 (7½ Tons)	208/230-3-60	STD	187	254	13.6	73.4	1.4	5.8	—	—	44.0/ 44.0	45/ 45††	47/ 47	199/199		
									7.8/10.4	21.7/ 25.0	71.1/ 75.3	80/ 80	72/ 75	220/224		
									12.0/16.0	33.3/ 38.5	85.6/ 92.1	90/100	85/ 91	232/237		
									18.0/24.0	50.0/ 57.7	106.5/116.1	110/125	104/113	249/256		
									24.0/32.0	66.6/ 77.0	127.3/140.3	150/150	123/135	265/276		
		31.8/42.4	88.3/102.0	154.4/171.5	175/175	148/164	287/301									
		ALT	187	254	13.6	73.4	1.4	5.8	—	—	44.0/ 44.0	45/ 45††	47/ 47	199/199		
									7.8/10.4	21.7/ 25.0	71.1/ 75.3	80/ 80	72/ 75	220/224		
									12.0/16.0	33.3/ 38.5	85.6/ 92.1	90/100	85/ 91	232/237		
									18.0/24.0	50.0/ 57.7	106.5/116.1	110/125	104/113	249/256		
	24.0/32.0								66.6/ 77.0	127.3/140.3	150/150	123/135	265/276			
	31.8/42.4	88.3/102.0	154.4/171.5	175/175	148/164	287/301										
	460-3-60	STD	414	508	6.2	37.7	0.7	2.6	—	—	20.1	25††	21	101		
									13.9	16.7	41.0	45††	41	118		
									16.5	19.8	44.9	45††	44	121		
									27.8	33.4	61.9	70	60	135		
									33.0	39.7	69.8	80	67	141		
		41.7	50.2	82.9	90	79	151									
		ALT	414	508	6.2	37.7	0.7	2.6	—	—	20.1	25††	21	101		
									13.9	16.7	41.0	45††	41	118		
									16.5	19.8	44.9	45††	44	121		
									27.8	33.4	61.9	70	60	135		
	33.0								39.7	69.8	80	67	141			
	41.7	50.2	82.9	90	79	151										
	575-3-60	STD	518	632	4.9	31.0	0.7	2.6	—	—	16.0	20††	17	83		
									17.0	17.1	37.3	40††	37	100		
									34.0	34.1	58.6	60††	56	117		
		ALT	518	632	4.9	31.0	0.7	2.6	—	—	16.0	20††	17	83		
									17.0	17.1	37.3	40††	37	100		
									34.0	34.1	58.6	60††	56	117		
009 (8½ Tons)	208/230-3-60	STD	187	254	15.8	92.0	1.4	5.8	—	—	49.0/ 49.0	50/ 50††	52/ 52	236/236		
									7.8/10.4	21.7/ 25.0	76.1/ 80.2	80/ 90	77/ 81	258/261		
									12.0/16.0	33.3/ 38.5	90.6/ 97.1	100/100	90/ 96	269/274		
									18.0/24.0	50.0/ 57.7	111.5/121.1	125/125	109/118	286/294		
									24.0/32.0	66.6/ 77.0	132.2/145.2	150/150	128/140	302/313		
									31.8/42.4	88.3/102.0	159.3/176.5	175/200	153/169	324/338		
	460-3-60	STD	414	508	7.4	46.0	0.7	2.6	—	—	22.8	25††	24	118		
									13.9	16.7	43.7	45††	43	135		
									16.5	19.8	47.6	50††	47	138		
									27.8	33.4	64.6	80	63	151		
									33.0	39.7	72.5	80	70	158		
									41.7	50.2	85.6	90	82	168		
	575-3-60	STD	518	632	5.9	44.0	0.7	2.6	—	—	18.2	20††	19	109		
									17.0	17.1	39.6	40††	39	126		
									34.0	34.1	60.8	70	58	143		
		012 (10 Tons)	208/230-3-60	STD	187	254	17.9	110.0	1.4	5.8	—	—	53.7/ 53.7	60/ 60††	57/ 57	272/272
											7.8/10.4	21.7/ 25.0	80.8/ 84.9	90/ 90	82/ 85	294/297
											12.0/16.0	33.3/ 38.5	95.3/101.8	100/110	95/101	305/310
24.0/32.0	66.6/ 77.0										136.9/149.9	150/150	133/145	338/349		
31.8/42.4	88.3/102.0										164.1/181.2	175/200	158/174	360/374		
37.6/50.0	104.4/120.3										184.2/174.0	200/200	177/195	376/392		
ALT	187	254		17.9	110.0	1.4	7.5	—	—	55.4/ 55.4	60/ 60††	59/ 59	291/291			
								7.8/10.4	21.7/ 25.0	82.5/ 86.6	90/ 90	84/ 87	313/316			
								12.0/16.0	33.3/ 38.5	97.0/103.5	100/110	97/103	324/329			
								24.0/32.0	66.6/ 77.0	138.6/151.6	150/175	135/147	357/368			
								31.8/42.4	88.3/102.0	165.8/182.9	175/200	160/176	379/393			
								37.6/50.0	104.4/120.3	185.9/175.7	200/200	179/197	395/411			

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UNITS WITH ELECTRICAL CONVENIENCE OUTLET (cont)

UNIT 50TJQ	NOMINAL V-PH-HZ	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (each)		OFM FLA	IFM FLA	ELECTRIC HEAT*		POWER SUPPLY		DISCONNECT SIZE†	
			Min	Max	RLA	LRA			Nominal kW**	FLA	MCA	MOCP	FLA	LRA
012 (10 Tons) (cont)	460-3-60	STD	414	508	8.6	55.0	0.7	2.6	—	—	25.5	30††	27	136
									16.5	19.8	50.3	60††	50	156
									27.8	33.4	67.3	80	65	169
									33.0	39.7	75.2	80	73	176
									41.7	50.2	88.3	90	85	186
									50.0	60.1	85.6	90	96	196
		ALT	414	508	8.6	55.0	0.7	3.4	—	—	26.3	30††	28	175
									16.5	19.8	51.1	60††	51	195
									27.8	33.4	68.1	70	66	209
									33.0	39.7	76.0	80	73	215
	575-3-60	STD	518	632	6.4	44.0	0.7	2.6	41.7	50.2	89.1	90	86	226
									50.0	60.1	86.4	90	97	235
									—	—	19.3	20††	20	109
									17.0	17.1	40.7	45††	40	126
									34.0	34.1	62.0	80	60	143
									51.0	51.2	70.5	80	79	160
		ALT	518	632	6.4	44.0	0.7	3.4	—	—	20.0	20††	21	140
									17.0	17.1	41.4	45††	41	157
									34.0	34.1	62.6	80	60	174
									51.0	51.2	71.2	80	80	192
014 (12½ Tons)	208/230-3-60	STD	187	254	22.3	142.0	1.4	10.6	—	—	68.4/ 68.4	70/ 70	72/ 72	379/379
									7.8/10.4	21.7/ 25.0	95.5/ 99.6	100/100	97/101	401/404
									12.0/16.0	33.3/ 38.5	110.0/116.5	125/125	111/117	413/418
									24.0/32.0	66.6/ 77.0	151.6/164.6	175/175	149/161	446/456
									31.8/42.4	88.3/102.0	178.8/195.9	200/200	174/190	468/481
									37.6/50.0	104.4/120.3	198.9/188.7	200/200	192/211	484/500
		ALT	187	254	22.3	142.0	1.4	15.0	—	—	72.8/ 72.8	80/ 80	77/ 77	403/403
									7.8/10.4	21.7/ 25.0	99.9/104.0	100/110	102/106	425/428
									12.0/16.0	33.3/ 38.5	114.4/120.9	125/125	116/122	436/441
									24.0/32.0	66.6/ 77.0	156.0/169.0	175/175	154/166	469/480
	460-3-60	STD	414	508	10.4	72.0	0.7	4.8	31.8/42.4	88.3/102.0	183.2/200.3	200/175	179/195	491/505
									37.6/50.0	104.4/120.3	203.3/193.1	200/200	197/216	507/523
									—	—	31.8	35††	34	192
									16.5	19.8	56.5	60††	56	212
									27.8	33.4	73.5	80	72	226
									33.0	39.7	81.4	90	79	232
		ALT	414	508	10.4	72.0	0.7	7.4	41.7	50.2	94.5	100	91	243
									50.0	60.1	91.9	100	103	252
									—	—	34.4	35††	37	203
									16.5	19.8	59.1	60††	59	223
	575-3-60	STD	518	632	9.6	58.5	0.7	4.8	27.8	33.4	76.1	80	75	237
									33.0	39.7	84.0	90	82	243
									41.7	50.2	97.1	100	94	254
									50.0	60.1	94.5	100	106	263
		ALT	518	632	9.6	58.5	0.7	7.4	—	—	28.3	30††	30	156
									17.0	17.1	49.7	50††	49	173
									34.0	34.1	70.9	80	69	190
									51.0	51.2	79.5	80	89	207
		ALT	518	632	9.6	58.5	0.7	7.4	—	—	30.4	35††	32	165
									17.0	17.1	51.8	60††	52	182
									34.0	34.1	73.0	80	71	199
									51.0	51.2	81.6	90	91	216

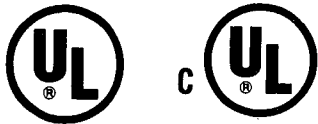
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Electrical data (cont)

LEGEND AND NOTES FOR ELECTRICAL DATA TABLES

LEGEND

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



*Heaters are field-installed only.

†Used to determine minimum disconnect per NEC

**Heater capacity (kW) is based on heater voltage of 208 v, 240 v, 480 v, and 575 v. If power distribution voltage to unit varies from rated heater voltage, heater kW will vary accordingly.

††Fuse or HACR circuit breaker.

|| Optional disconnect switch is unavailable

NOTES:

1 In compliance with NEC requirements for multimotor and combination load and equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker

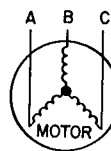
2 Unbalanced 3-Phase Supply Voltage

Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percentage 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

$$\begin{aligned} \text{Average Voltage} &= \frac{452 + 464 + 455}{3} \\ &= \frac{1371}{3} \\ &= 457 \end{aligned}$$

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 percentage of voltage imbalance:

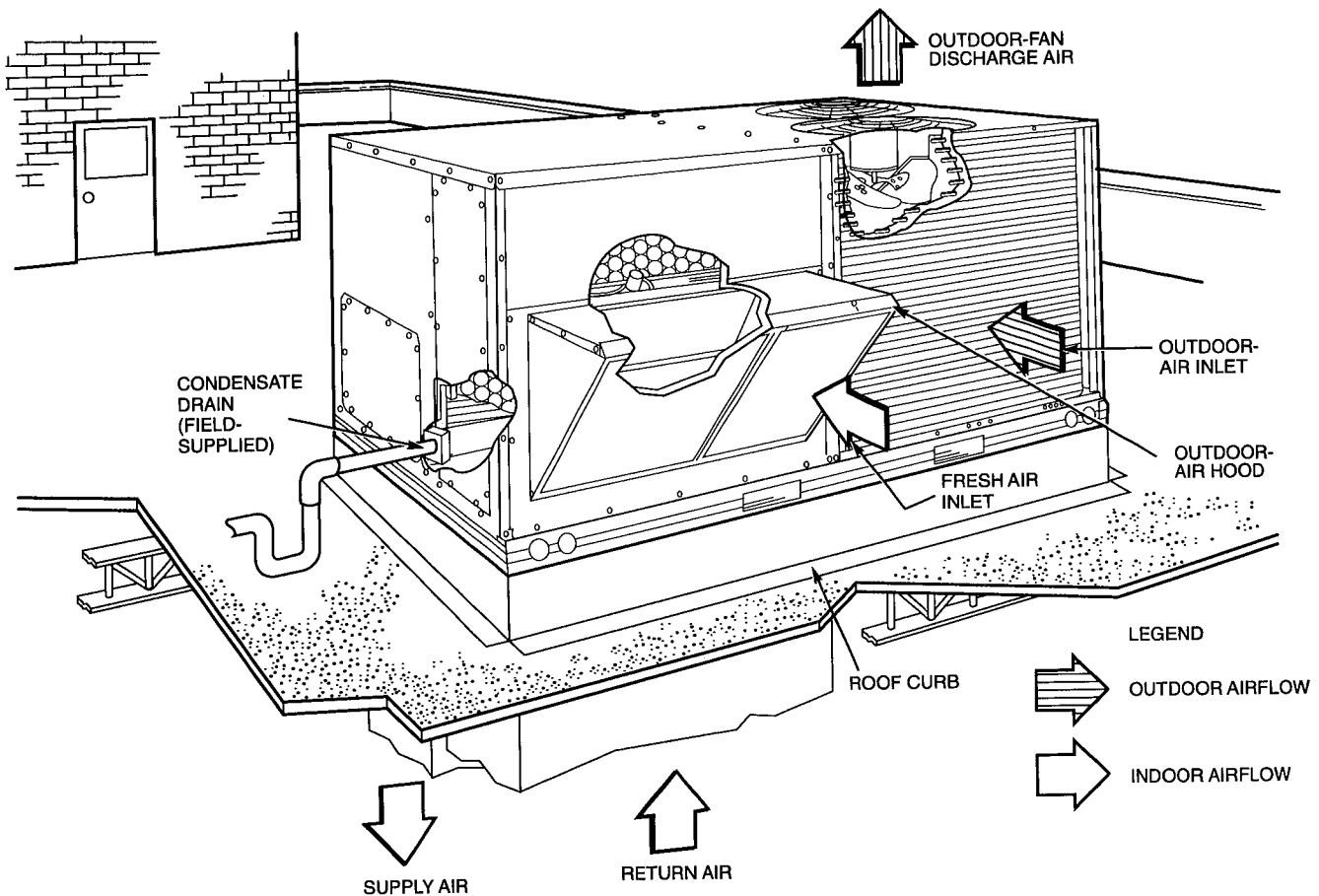
$$\begin{aligned} \% \text{ Voltage imbalance} &= 100 \times \frac{7}{457} \\ &= 1.53\% \end{aligned}$$

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

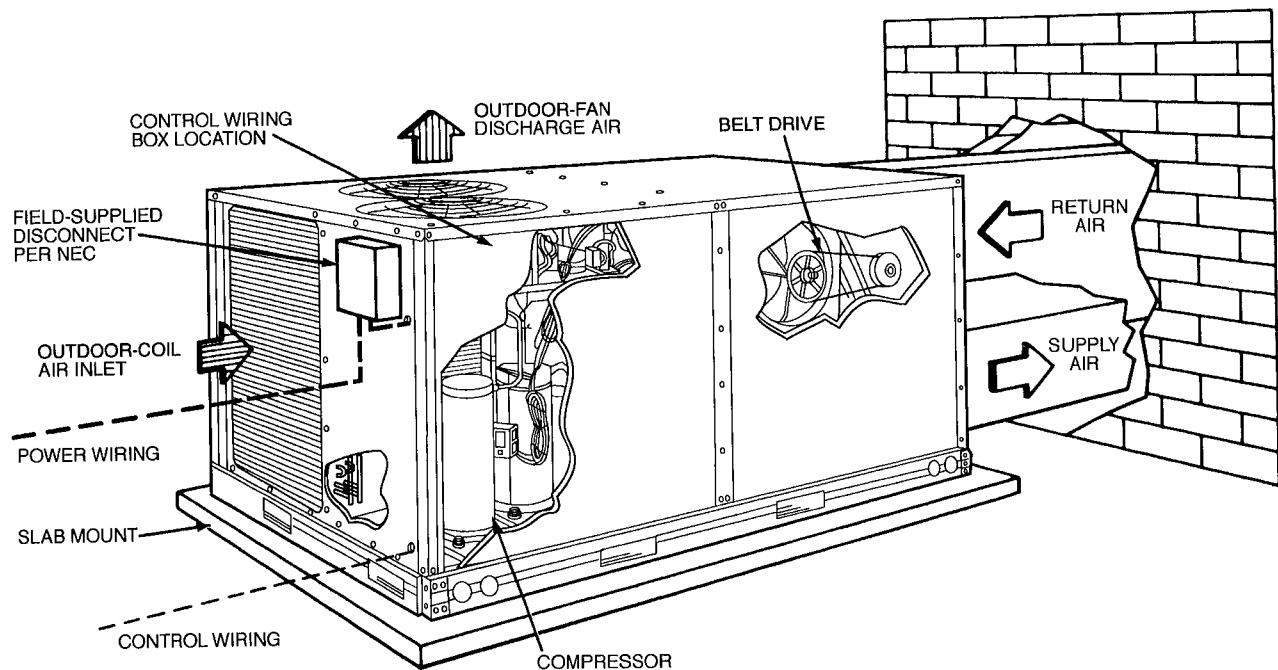
IMPORTANT: If the supply voltage phase imbalance is more than 2% contact your local electric utility company immediately

Typical piping and wiring — 50TJQ008-014

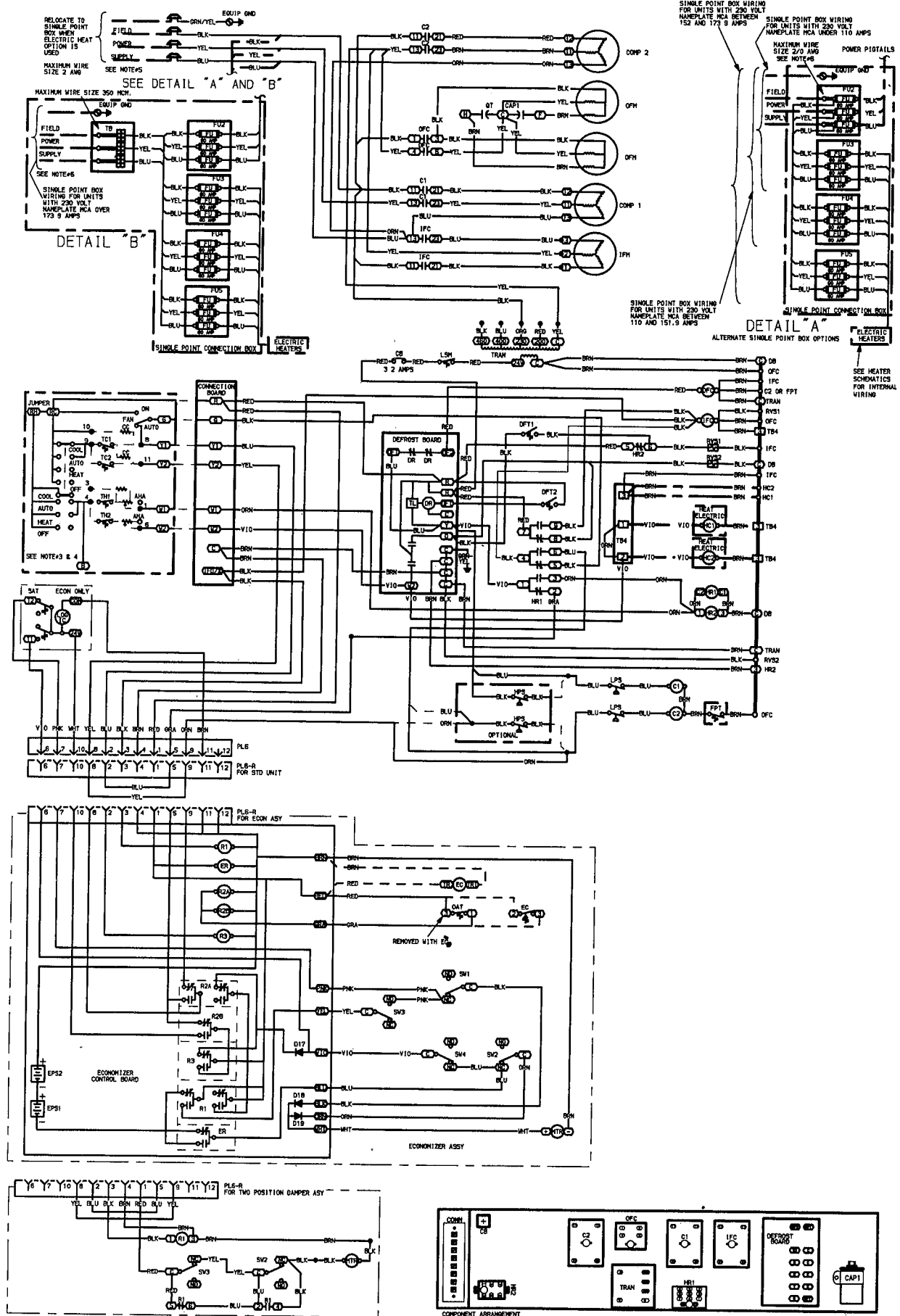
VERTICAL DISCHARGE DUCTING



HORIZONTAL DISCHARGE DUCTING



Typical wiring schematic — 50TJQ008-014



Controls

Operating sequence

Cooling, units without economizer — When thermostat calls for cooling, terminals G and Y1 are energized. The indoor fan contactor (IFC), reversing valve solenoid (RVS1) and compressor contactor no. 1 (C1) are energized and indoor-fan motor, compressor no. 1, and outdoor fans start. The outdoor-fan motor(s) run continuously while unit is cooling. On 50TJQ008-014 units, if the thermostat calls for a second stage of cooling by energizing Y2, compressor contactor no. 2 (C2) and reversing valve solenoid (RVS2) are energized and compressor no. 2 starts.

Heating, units without economizer (50TJQ004-007)

— Set system switch at AUTO. or HEAT position. Set thermostat at desired temperature.

When the thermostat calls for heat, the IFC, outdoor-fan contactor, and compressor contactor are energized. The RVS is deenergized and switches position, and the indoor fan, outdoor fan, and compressor are energized.

If the thermostat calls for a second stage of heat, the heater contactor (HC) is energized and starts the electric heaters.

When the space temperature approaches the heating temperature set point, heating stages cycle off. The reversing valve solenoid is reenergized.

Heating, units without economizer (50TJQ008-014)

— Upon a request for heating from the space thermostat, terminal W1 will be energized with 24 v. The IFC, OFC, C1, and C2 will be energized. The reversing valves switch position and the indoor fan, outdoor fan, compressor no. 1, and compressor no. 2 are energized.

If the space temperature continues to fall while W1 is energized, W2 will be energized with 24 v, and the heater contactor(s) (HC) will be energized, which will energize the electric heater(s).

When the space thermostat is satisfied, W2 will be deenergized first, and the electric heater(s) will be deenergized.

Upon a further rise in space temperature, W1 will be deenergized, and the reversing valve solenoids (RVS1 and RVS2) will be energized.

Cooling, units with Durablade economizer — When the outdoor-air temperature is above the outdoor-air thermostat (OAT) setting and the room thermostat calls for cooling, compressor contactor no. 1 is energized to start compressor no. 1 and the outdoor-fan motor(s). The indoor-fan motor is energized and the economizer damper moves to the minimum position. Upon a further call for cooling, compressor contactor no. 2 will be energized (50TJQ008-014), starting compressor no. 2. After the thermostat is satisfied, the damper moves to the fully closed position.

When the outdoor-air temperature is below the OAT setting and the thermostat calls for cooling, the economizer dampers move to the minimum position. If the supply-air temperature is above 57 F, the damper continues to open until it reaches the fully open position or until the supply-air temperature drops below 57 F.

When the supply-air temperature falls to between 57 F and 52 F, the damper will remain at an intermediate open position. If the supply-air temperature falls below 52 F, the damper will modulate closed until it reaches the minimum

position or until the supply-air temperature is above 52 F. When the thermostat is satisfied, the damper will move to the fully closed position.

If the outdoor air alone cannot satisfy the cooling requirements of the conditioned space, economizer cooling is integrated with mechanical cooling, providing second-stage cooling. Compressor no. 1 and the outdoor fan will be energized and the position of the economizer damper will be determined by the supply-air temperature. Compressor no. 2 (50TJQ008-014) is locked out.

When the second stage of cooling is satisfied, the compressor and outdoor-fan motor(s) will be deenergized. The damper position will be determined by the supply-air temperature.

When the first stage of cooling is satisfied, the damper will move to fully closed position.

Cooling, units with Parablade economizer (50TJQ004-007)

— When the outdoor air is above the enthalpy control (EC) setting, and the room thermostat calls for cooling, and compressor contactor is energized to start the compressor and the outdoor-fan motor. The indoor-fan motor is energized and the economizer damper moves to the minimum position. After the room thermostat is satisfied, the damper will spring return to the fully-closed position.

When the outdoor-air is below the EC setting and the thermostat calls for cooling, the economizer outdoor-air damper is opened proportionally to maintain between 50 and 56 F at the mixed-air sensor. If outdoor-air alone cannot satisfy the cooling requirements, economizer cooling is integrated with mechanical cooling. When the room thermostat is satisfied, the damper will spring return to the fully-closed position.

Cooling, units with Parablade economizer (50TJQ008-014)

— When the outdoor-air is above the enthalpy control (EC) setting, and the room thermostat calls for cooling, compressor contactor no. 1 is energized to start compressor no. 1 and the outdoor-fan motor. The indoor-fan motor is energized and the economizer damper moves to the minimum position. Upon a further call for cooling, compressor contactor no. 2 is energized, starting compressor no. 2. After the room thermostat is satisfied, the damper will spring return to the fully-closed position.

When the outdoor-air is below the EC setting and the thermostat calls for cooling, the economizer outdoor-air damper is opened proportionally to maintain between 50 and 56 F at the mixed-air sensor. If outdoor-air alone cannot satisfy the cooling requirements, economizer cooling is integrated with mechanical cooling, and the second compressor is locked out. When the room thermostat is satisfied, the damper will spring return to the fully-closed position.

Heating, units with economizer — When the room thermostat calls for heat through terminal W1, the indoor fan contactor and heater contactor no. 1 are energized. On units equipped for 2 stages of heat, when additional heat is needed, heater contactor no. 2 is energized through W2. The economizer damper moves to the minimum position. When the thermostat is satisfied, the damper moves to the fully closed position.

Controls (cont)

Defrost (50TJQ004-007) — As frost builds up on the outdoor coil, the coil temperature drops below 28 F. When this outdoor-coil temperature drop is sensed by the defrost thermostat (DFT) and the defrost timer is at the end of a timed period (adjustable at 30, 50, or 90 minutes), the unit operates in a defrost cycle controlled by the defrost timer and thermostat. During this cycle, the reversing valve solenoid (RVS) is energized and the outdoor fan shuts off. The electric heaters (if installed) will be energized.

The unit continues to defrost until the coil temperature as measured by DFT reaches 65 F, or the duration of defrost cycle completes a 10-minute period.

At the end of the defrost cycle, the electric heaters (if installed) and the reversing valve will be deenergized, and the outdoor-fan motor will be energized. The unit will now operate in the heating mode.

If the thermostat is satisfied during a defrost cycle, the unit will continue in the defrost mode until the time or temperature constraints are satisfied.

Defrost (50TJQ008-014) — When the temperature of the outdoor coil drops below 28 F as sensed by the defrost thermostat (DFT2) and the defrost timer is at the end of a timed period (adjustable at 30, 50, or 90 minutes), reversing valve solenoids (RVS1 and RVS2) are energized and the OFC is deenergized. This switches the position of the reversing valves and shuts off the outdoor fan. The electric heaters (if installed) will be energized.

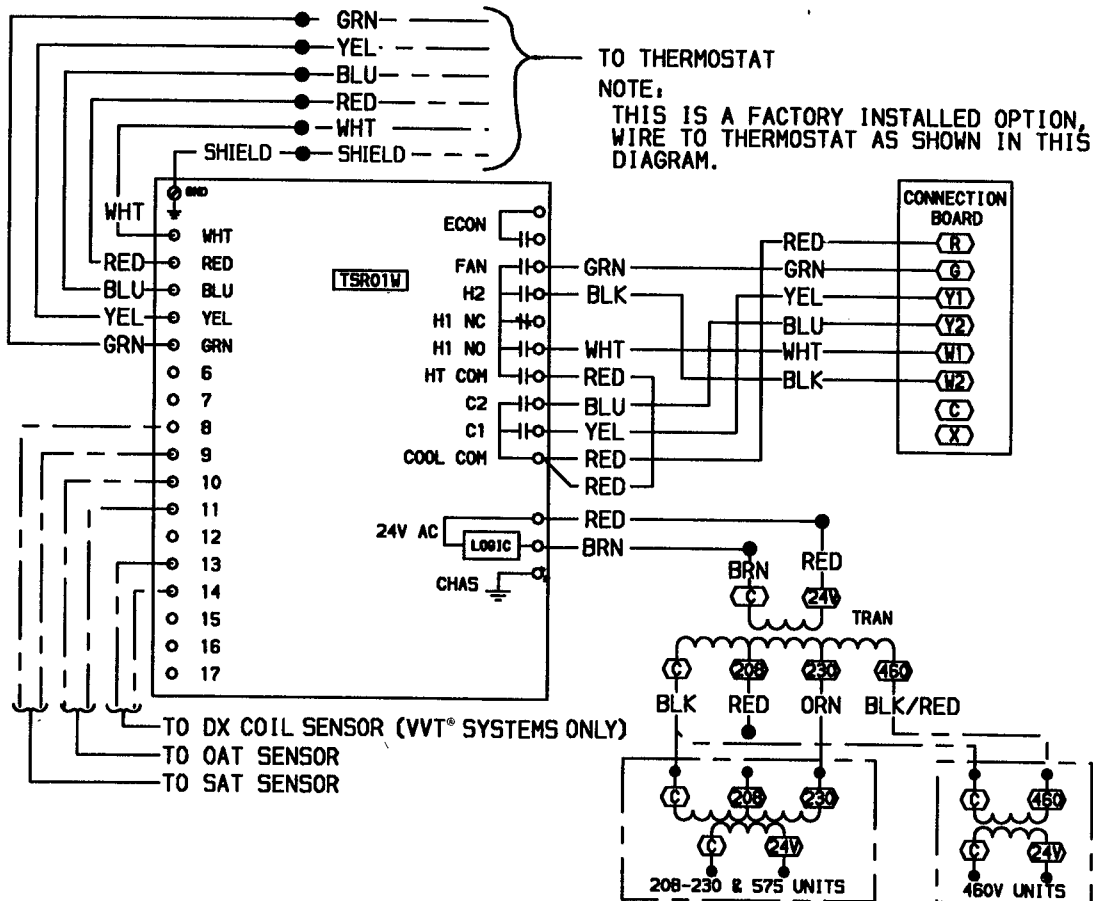
The unit continues to defrost until the coil temperature as measured by DFT2 reaches 65 F, or the duration of defrost cycle completes a 10-minute period.

During the defrost mode, if circuit 1 defrosts first, RVS1 will oscillate between heating and cooling modes until the defrost mode is complete.

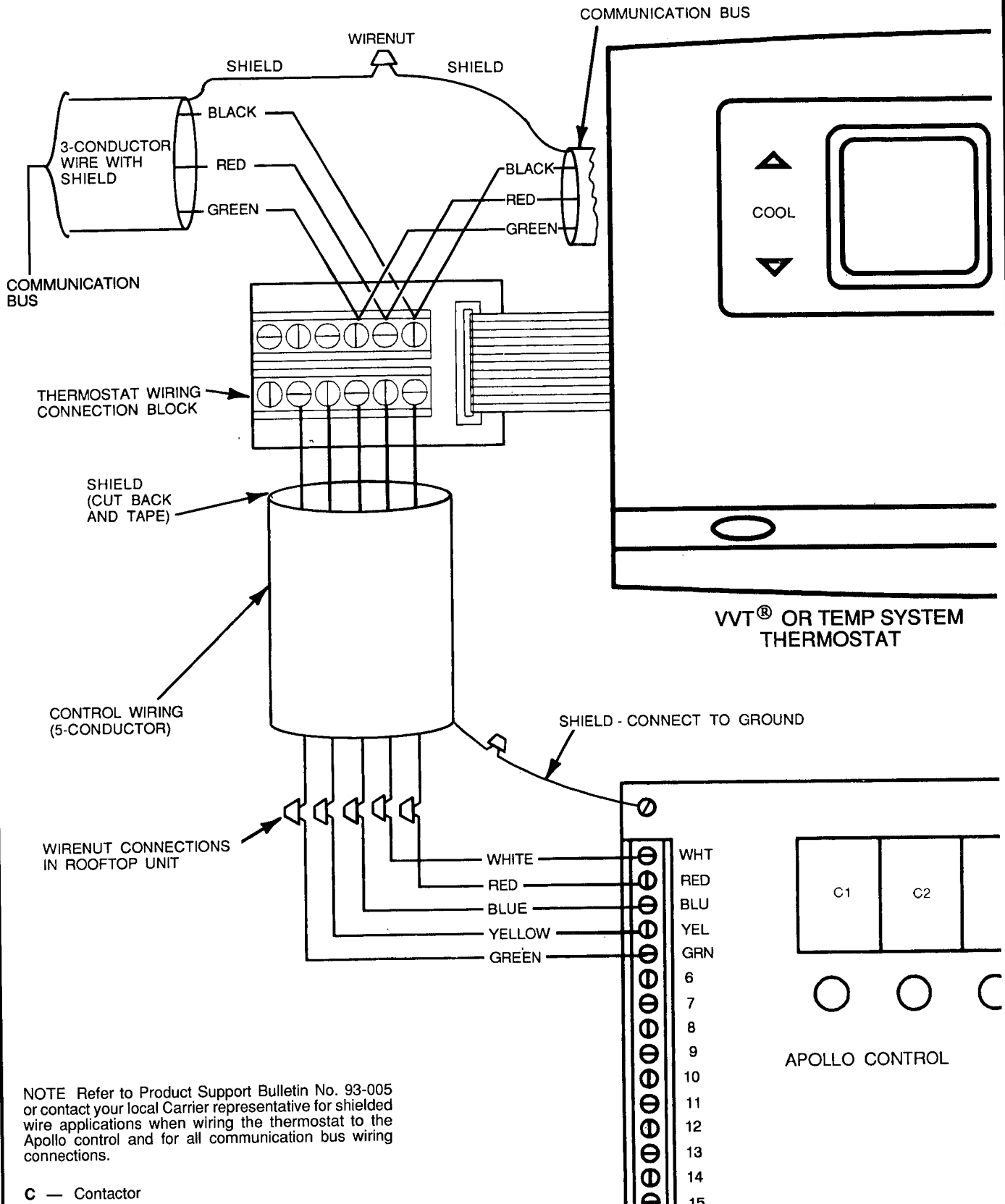
At the end of the defrost cycle, the electric heaters (if installed) will be deenergized; the reversing valves switch and the outdoor-fan motor will be energized. The unit will now operate in the heating mode.

If the space thermostat is satisfied during a defrost cycle, the unit will continue in the defrost mode until the time or temperature constraints are satisfied.

APOLLO COMMUNICATING CONTROL WIRING SCHEMATIC, 50TJQ004-007 UNITS



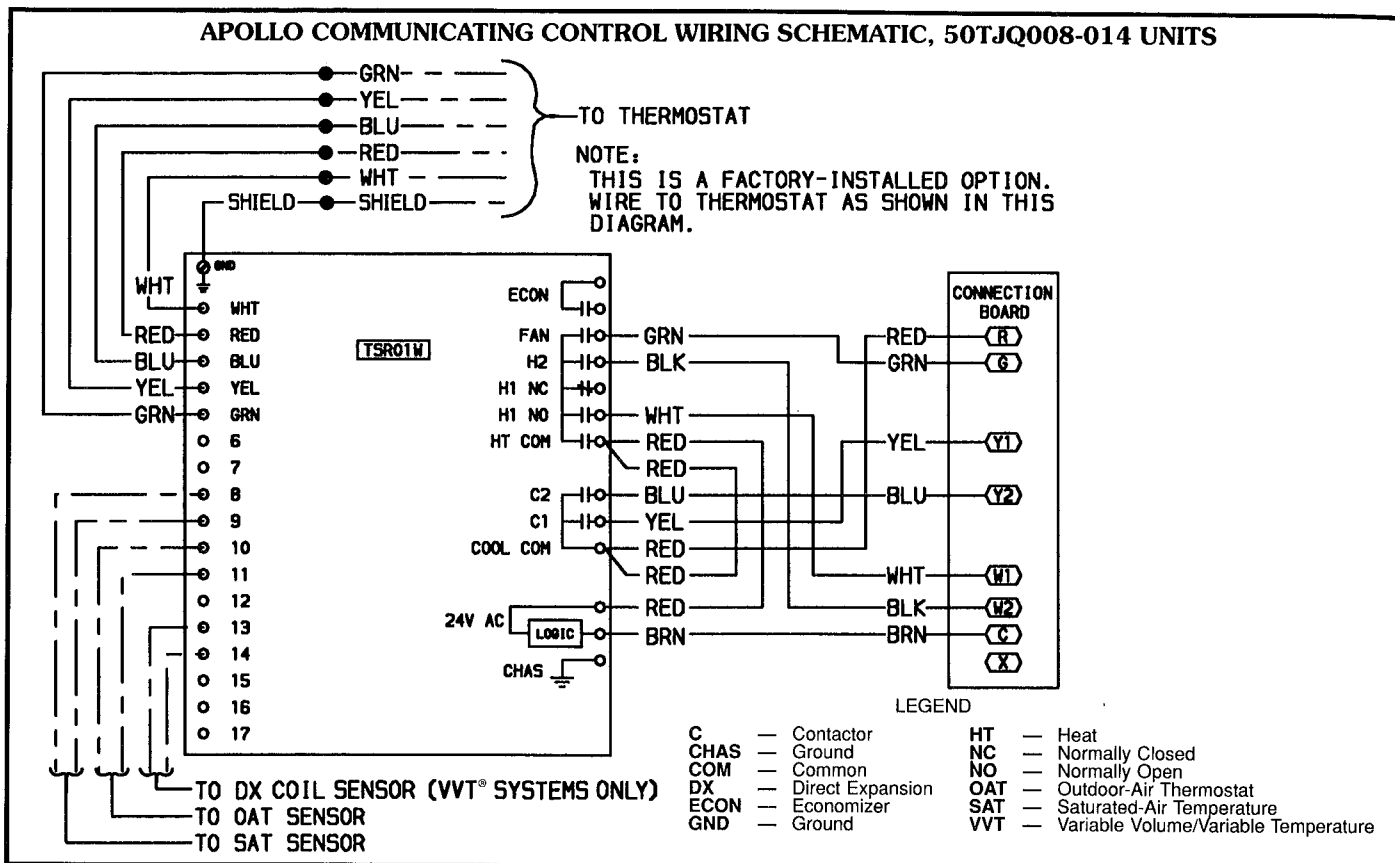
THERMOSTAT AND APOLLO CONTROL WIRING



NOTE Refer to Product Support Bulletin No. 93-005 or contact your local Carrier representative for shielded wire applications when wiring the thermostat to the Apollo control and for all communication bus wiring connections.

C — Contactor

Controls (cont)

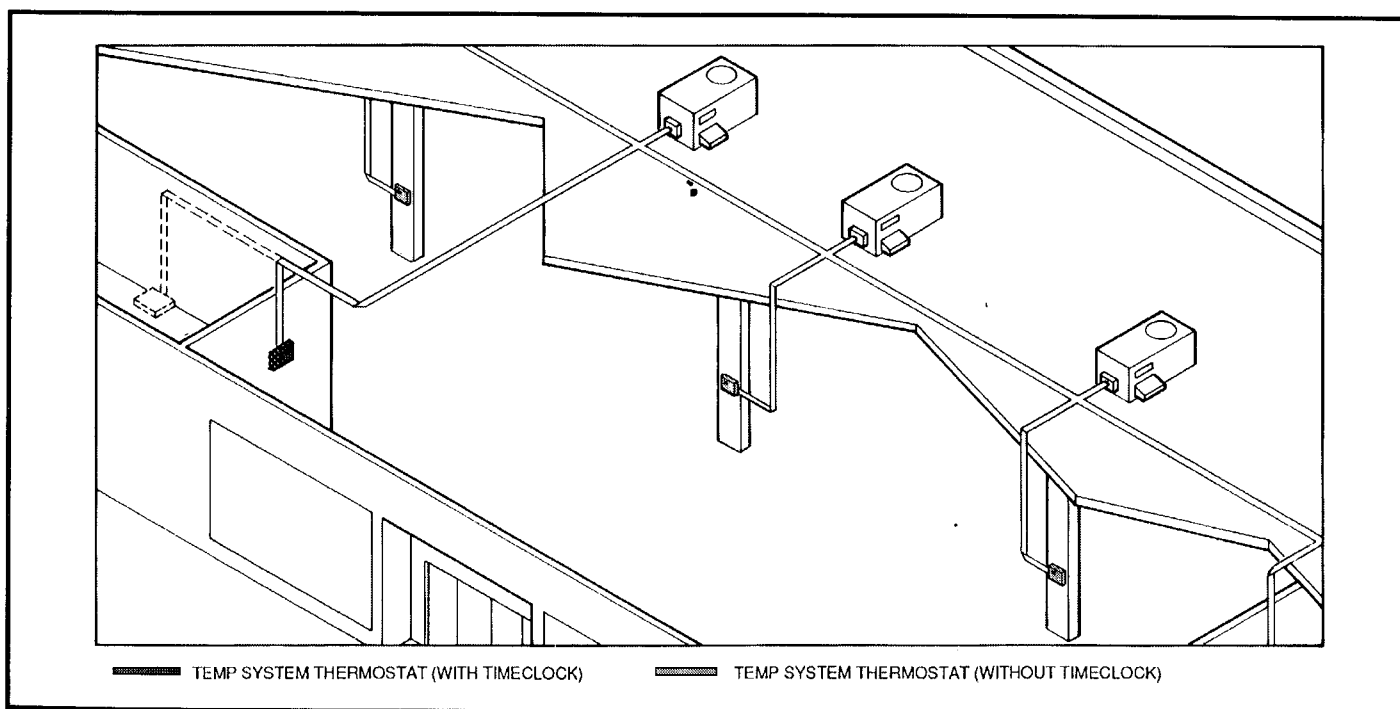


TEMP systems

A TEMP System is a network of communicating Carrier TEMP System Thermostats and rooftop, factory-mounted Apollo direct digital controls, each serving its own zone and heating/cooling unit. Networking allows your building manager to easily access each of your systems from a single location...whether they are in the same building or located throughout town.

The TEMP System's inherently flexible, modular base design supports the *exact* number of independent, single zone systems you require...no more, no less, no compromises.

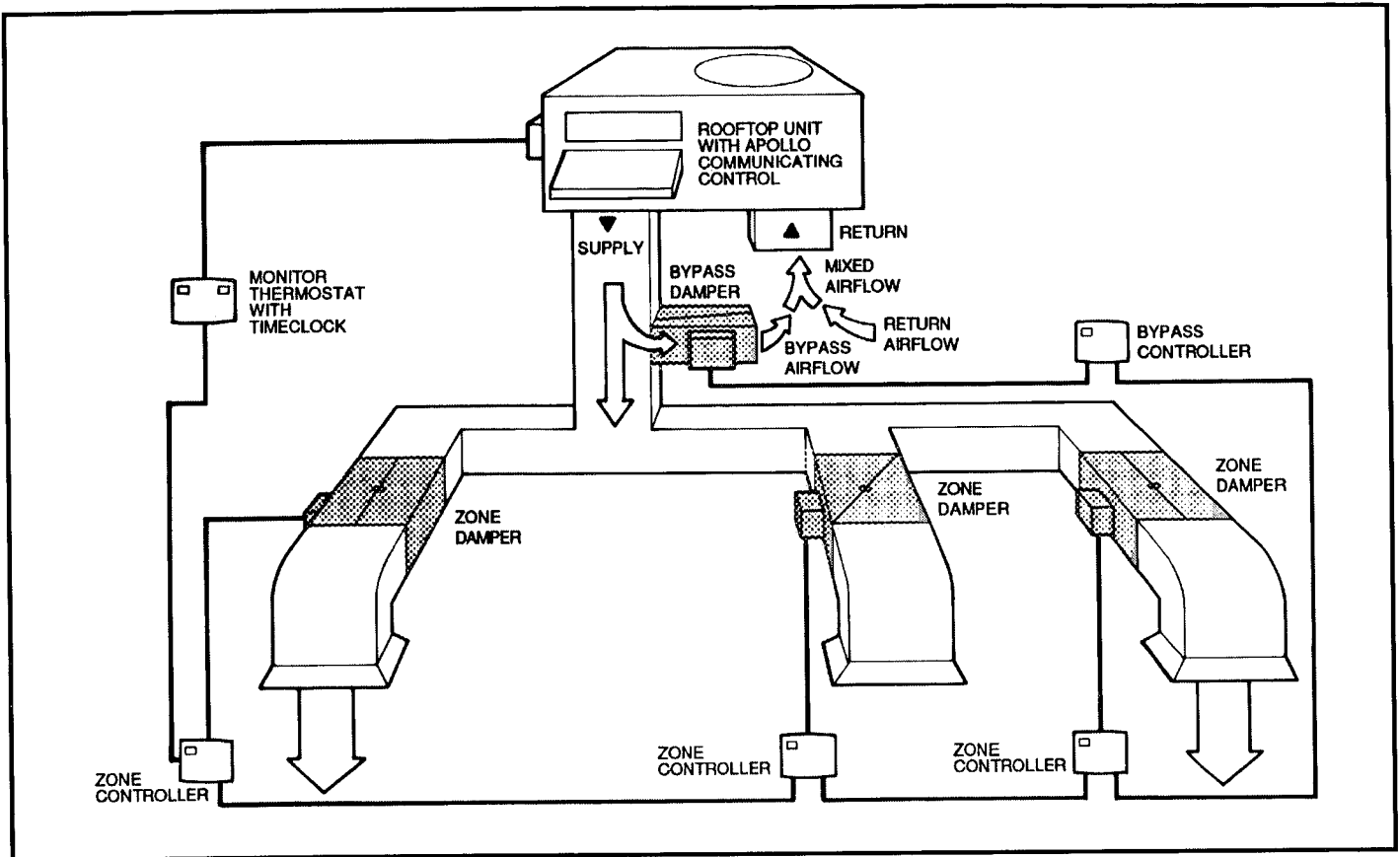
Ideal for department stores, small office buildings, fast food chains, schools and hotels, a TEMP System is a cost-effective way to maintain comfortable building environments.



Variable Volume/Variable Temperature (VVT®) Systems

VVT Systems are dedicated to total building comfort. Carrier thermostats, zone dampers, and HVAC equipment with factory-mounted direct digital controls continually monitor and adjust their operation to ensure uninterrupted and personalized comfort for all occupants.

Through the use of communicating electronic controls, VVT Systems are able to provide the comfort of a multiple zone system while using the installation, operation and maintenance economics of single zone equipment... virtually putting an end to the cost vs comfort compromise.



Application data

Outdoor installation — Units approved for outdoor installation only.

Ductwork — Secure vertical discharge ductwork to roof curb. For horizontal discharge applications, either attach ductwork to unit, or use field-supplied flanges attached to the horizontal discharge openings and attach all ductwork to flanges.

Horizontal discharge — To convert from vertical discharge to horizontal discharge (Durablade economizer only):

1. Remove economizer or two-position damper to gain access to return duct opening.
2. Move the horizontal-discharge duct opening covers to the vertical discharge openings.
3. Rotate economizer or two-position damper 90 degrees.
4. Rotate the barometric relief damper 90 degrees.
5. Install block-off plate over the opening on the access panel.

NOTE: Parablade economizer is for vertical discharge units only.

Thru-the-bottom power connections — For applications requiring thru-the-bottom connections, Carrier accessory thru-the-bottom package must be purchased to ensure proper connections.

Thermostat — Use of 2-stage heating and cooling thermostat is recommended for all units. A 2-stage cooling thermostat is required on units with accessory economizer to provide integrated cooling.

Heating-to-cooling changeover — All units are automatic changeover from heating to cooling when automatic changeover thermostat and subbase are used.

Airflow — Units are draw-thru on cooling and blow-thru on heating.

Maximum airflow — To minimize the possibility of condensate blow-off from evaporator, airflow through units should not exceed 500 cfm/ton on 004-014 units.

Minimum airflow — For cooling, minimum airflow is 300 cfm/ton. For 50TJQ units with electric heating, required minimum cfm is 900 for 50TJQ004; 1200 for 50TJQ005; 1500 for 50TJQ006; 1800 for 50TJQ007; 2250 for 50TJQ008; 2550 for 50TJQ009; and 3000 for 50TJQ012 and 014, with the following exceptions:

UNIT 50TJQ	UNIT VOLTAGE	HEATER KW	UNIT CONFIGURATION	REQUIRED MINIMUM CFM
012, 014	208/230	42.4	Horizontal	3200
	208/230	50.0	Horizontal	3200
	460	50.0	Horizontal or Vertical	3200
008- 014	575	17.0	Horizontal or Vertical	2800
		34.0		2350

Minimum ambient cooling operating temperature — The minimum temperature for standard units is 25 F. With accessory Motormaster® control, units can operate at outdoor temperatures down to -20 F.

Internal unit design — Due to Carrier's internal unit design (draw-thru over the motor), air path, and specially designed motors, the full horsepower (maximum continuous bhp) listed in the Physical Data table and the notes following each Fan Performance table can be utilized with confidence.

Using Carrier motors with the values listed in the Physical and Fan Performance Data tables *will not* result in nuisance tripping or premature motor failure. The unit warranty will not be affected.

Apollo direct digital controls — The Apollo direct digital controls must be used with either a Carrier master or monitor thermostat.

Guide specifications

Packaged Rooftop Air-to-Air Heat Pump with Electric Heat Option — Constant Volume Application

HVAC Guide Specifications

Size Range: **3 to 12½ Tons, Nominal Cooling**

Carrier Model Number: **50TJQ**

Part 1 — General

1.01 SYSTEM DESCRIPTION

Outdoor rooftop- or slab-mounted, electrically controlled air-to-air heat pump utilizing a hermetic compressor for heating and cooling duty. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.

1.02 QUALITY ASSURANCE

- A. Unit shall be rated in accordance with ARI Standards 210/240 or 360 and 270.
- B. Unit shall be designed to conform to ASHRAE 15, latest revision, and in accordance with UL 1995.
- C. Unit shall be UL tested and certified in accordance with ANSI Z21.47 Standard and UL listed and certified under Canadian Standards as a total package for safety requirements.
- D. Roof curb shall be designed to conform to NRCA Standards.
- E. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
- F. Unit casing shall be capable of withstanding Federal Test Method Standard No. 141 (Method 6061) 500-hour salt spray test.

1.03 DELIVERY, STORAGE, AND HANDLING

Unit(s) shall be stored and handled per manufacturer's recommendations.

Part 2 — Products

2.01 EQUIPMENT (STANDARD)

A. General:

Factory-assembled, single-piece air-to-air heat pump. Contained within the unit enclosure shall be all factory wiring, piping, controls, refrigerant charge (R-22), and special features required prior to field start-up.

B. Unit Cabinet:

1. Unit cabinet shall be constructed of galvanized steel, bonderized and coated with a baked enamel finish on all externally exposed surfaces with primer coated internal panels.
2. Indoor fan cabinet interior shall be insulated with a minimum ½-in. thick flexible fiberglass insulation coated on the air side.
3. Cabinet panels shall be easily removable for servicing.
4. Holes shall be provided in the base rails for rigging shackles to facilitate overhead rigging, and forklift slots shall be provided to facilitate maneuvering.
5. Unit shall have a factory-installed, sloped condensate drain pan made of a non-corrosive material, providing a minimum ¾-in. connection with both vertical and horizontal drains and shall comply with ASHRAE 62.
6. Unit shall have factory-installed filter access panel to provide filter access with tool-less removal.

7. Unit shall have standard thru-the-bottom power connection capability.

C. Fans:

1. Indoor blower shall be of the direct- or belt-driven, double inlet, forward-curved centrifugal type. Belt drive shall include an adjustable-pitch motor pulley.
2. Indoor blower shall be made from steel with a corrosion-resistant finish and shall be dynamically balanced.
3. Bearings shall be of the sealed, permanently lubricated, ball-bearing type for longer life and lower maintenance.
4. Outdoor fan shall be of the direct-driven propeller type and shall discharge air vertically.
5. Outdoor fan shall have aluminum blades riveted to corrosion-resistant steel spiders and shall be dynamically balanced.

D. Compressor(s):

1. Fully hermetic type, internally protected.
2. Factory rubber shock-mounted and internally spring mounted for vibration isolation.

E. Coils:

1. Outdoor and indoor coils shall have aluminum plate fins mechanically bonded to enhanced copper tubes with all joints brazed.
2. Tube sheet openings shall be belled to prevent tube wear.
3. Indoor coil shall be of the full face active design.

F. Refrigerant Components:

Refrigerant circuit components shall include:

1. Acutrol™ multiple independent circuit feed system.
2. Filter drier to eliminate any moisture or foreign matter.
3. Service gage connections on suction, discharge, and liquid line to charge, evacuate, and contain refrigerant.
4. Accumulator.
5. Reversing valve.

G. Filter Section:

1. Standard filter section shall consist of factory-installed low-velocity, throwaway 2-in. thick fiberglass filters of commercially available sizes.
2. Filter face velocity shall not exceed 300 fpm at nominal airflows.
3. Filter section shall use only one size filter.
4. Filters shall be accessible through an access panel with "no-tool" removal.

H. Controls and Safeties:

1. Unit Controls:

- a. Unit shall be complete with self-contained low-voltage control circuit.
- b. Unit shall incorporate an outdoor coil defrost system to prevent excessive frost accumulation during heating duty, and shall be controlled as follows:
 - 1) Defrost shall be initiated on the basis of time and coil temperature.

Guide specifications (cont)

- 2) A 30/50/90-minute timer shall activate defrost cycle only if coil temperature is low enough to indicate a heavy frost condition.
- 3) Defrost cycle shall terminate when defrost thermostat is satisfied and shall have a positive termination time of 10 minutes.

2. Standard Safeties:

Unit shall incorporate compressor overtemperature and overcurrent safety devices to shut off compressor.

I. Operating Characteristics:

1. Unit shall be capable of starting and running in cooling at 125 F ambient outdoor temperature, meeting maximum load criteria of ARI Standard 210/240 or 360 at $\pm 10\%$ voltage.
2. Compressor with standard controls shall be capable of cooling operation down to 25 F ambient outdoor temperature.
3. Compressor shall be capable of operation in heating duty down to -10 F ambient outdoor-air temperature.
4. Unit shall be capable of simultaneous heating duty and defrost cycle operation when using electric heaters indicated in Section L, Special Features.

J. Electrical Requirements:

All unit power wiring shall enter unit cabinet at a single factory-predrilled location.

K. Motors:

1. Compressor motors shall be cooled by refrigerant passing through motor windings and shall have line break thermal and current overload protection.
2. Indoor blower motor shall have permanently lubricated bearings and inherent automatic-reset thermal overload protection.
3. Totally-enclosed outdoor-fan motor shall have permanently lubricated bearings, and inherent automatic-reset thermal overload protection.

L. Special Features:

Certain features are not applicable when the features designated by * are specified. For assistance in amending the specifications, your local Carrier Sales Office should be contacted.

* 1. Direct Digital Controls:

- a. Shall be available as a factory-installed option.
- b. Shall actively monitor all modes of operation, as well as indoor-fan status, filter status, indoor-air quality, supply-air temperature, and outdoor-air temperature.
- c. Shall work with Carrier TEMP and VVT® systems.
- d. Shall have built-in diagnostics for thermostat commands for both staged heating and cooling, indoor-fan operation, and economizer operation.
- e. Shall be equipped with a 5-minute time delay between modes of operation.

2. Roof Curbs:

- a. Formed galvanized steel with wood nailer strip and capable of supporting entire unit weight.
- b. Allows for installing and securing ductwork to curb prior to mounting unit on the curb.

* 3. Integrated Economizers:

- a. Integrated integral-modulating type capable of simultaneous economizer and compressor operation.
- b. Includes all hardware and controls to provide cooling with outdoor air.
- c. Equipped with low-leakage dampers not to exceed 3% leakage, at 1 in. wg pressure differential (Durablade).
- d. Capable of introducing up to 100% outdoor air in both minimum and fully-open positions.
- e. Equipped with a gravity relief sliding plate damper (Durablade). Damper shall close upon unit shutoff.
- f. Parablade economizer shall be equipped with a barometric relief damper with up to 30% of return air (004-007) or 45% of return air (008-014) relief. The Durablade economizer is equipped with 30% of return-air relief (004-014).
- g. Designed to close damper during loss-of-power situations with emergency power supply (Durablade) or spring return built into motor (Parablade).
- h. Dry bulb outdoor-air thermostat (Durablade) or enthalpy (Parablade) protection shall be provided as standard.
- i. Durablade economizer is a guillotine-style damper, and the Parablade economizer is a parallel blade design.

* 4. Manual Outdoor-Air Damper:

Manual damper package shall consist of damper, birdscreen, and rainhood which can be preset to admit up to 25% or 50% outdoor air for year-round ventilation.

* 5. 100% Two-Position Damper:

- a. Two-position damper package shall include single blade damper. Admits up to 100% outdoor air.
- b. Damper shall close upon indoor fan shutoff.
- c. Designed to close damper during loss of power situations.
- d. Equipped with barometric relief damper.

* 6. 25% Two-Position Damper:

- a. Two-position damper package shall include single blade damper and motor. Admits up to 25% outdoor air.
- b. Damper shall close upon indoor fan shutoff.
- c. Designed to close damper during loss of power situations.
- d. Equipped with barometric relief damper.

* 7. Solid-State Enthalpy Control:

- a. For use with Durablade economizer package only.
- b. Capable of sensing outdoor-air enthalpy content (temperature and humidity) and controlling economizer cut-in point to have minimum heat content air passing over the indoor coil for most efficient system operation.

- * 8. Differential Enthalpy Sensor:
 - a. For use with economizer only.
 - b. Capable of comparing enthalpy content (temperature and humidity) of outdoor and indoor air and controlling economizer cut-in point at the most economical level.
- * 9. Electric Resistance Heaters:
 - a. Open wire nichrome elements with all necessary safety operating controls.
 - b. UL listed and indicated on basic unit informative plate.
 - c. Available in multiples to match heating requirements.
 - d. Single point kits available for each heater when required.
- * 10. Head Pressure Control Packages:

Consists of solid-state control and outdoor-coil temperature sensor to maintain condensing temperature between 90 F and 110 F at outdoor ambient temperatures down to -20 F by outdoor fan speed modulation or outdoor fan cycling.
- * 11. Remote Control Panel:

Panel shall be a decorative, indoor, wall-mounted panel consisting of:

 - a. Two-stage heat/2-stage cool thermostat.
 - b. Automatic changeover.
 - c. System switch with HEAT-COOL-AUTO.-OFF settings.
 - d. Fan switch with ON-AUTO. settings.
 - e. Ventilation control for remote variation of the amount of outdoor-air intake.
 - f. Indicator lights for HEAT-COOL-FAN operation.
 - g. Three unused indicator lights for field use.
- * 12. Thermostat and Subbase:

Provides staged cooling and heating automatic (or manual) changeover, fan control, and indicator light.
- 13. Thru-The-Bottom Service Connections:

Kit shall provide connectors to permit electrical connections to be brought to the unit through the basepan.
- * 14. Electronic Programmable Thermostat:

Capable of using deluxe full-featured electronic thermostat. Shall use built-in compressor cycle delay control for both heating and cooling duty. Capable of working with Carrier direct digital controls.
- 15. Outdoor Coil Hail Guard Assembly:

Hail guard shall protect against damage from hail and flying debris.
- 16. Controls Upgrade Kit:

Kit shall contain high-pressure, loss-of-charge/low-pressure, and freeze protection switches. It shall mount on factory-installed Schrader fittings.
- 17. Alternate Motors and Drives:

Alternate motors and drives shall be factory-installed to provide additional performance range.
- 18. Outdoor Coil Grille:

The grille protects the outdoor coil from damage by large objects without increasing unit clearances.
- 19. Compressor Cycle Delay:

Unit shall be prevented from restarting for a minimum of 5 min. after shutdown.
- 20. Salt Spray Protection Package (008-014):

Coil guard protects coil from corrosion in coastal areas and in areas with high sulfur emissions.
- 21. Fan/Filter Status Switch:

Provides status of evaporator fan (ON/OFF) or filter (CLEAN/DIRTY). Status shall be displayed over communication bus when used with direct digital controls or with an indicator light at the thermostat.
- 22. Unit Mounted Disconnect Switch:

Shall be factory-installed. Internally-mounted, NEC and UL approved non-fused switch provides unit power shutoff. Shall be accessible from outside the unit.
- 23. Convenience Outlet:

Shall be factory-installed and internally-mounted with easily accessible 115-v female receptacle. Shall include 15 amp GFI receptacle with independent fuse protection. Voltage required to operate convenience outlet shall be provided by a factory-installed step-down transformer. Shall be accessible from outside the unit.
- 24. Emergency Heat Package:

When mechanical heating is locked out, auxiliary heat shall be activated when necessary.
- 25. Logo Kit:

Shall be mounted on the outdoor coil grille.
- 26. Parablade Economizer with Power Exhaust:

Provides control of internal building air pressure. The system shall exhaust up to 100% of return air.

