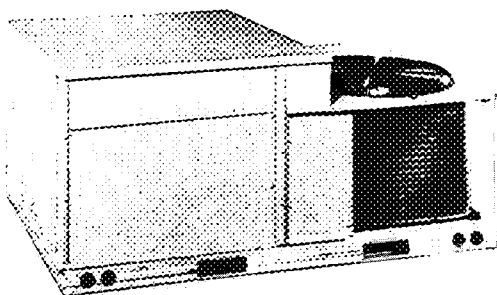




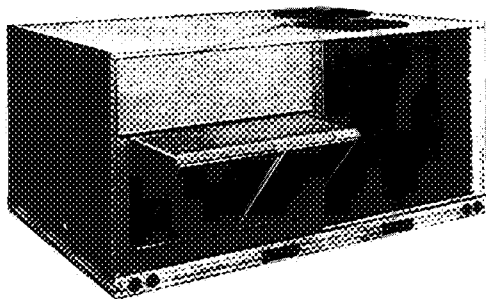
Product Data

50TJ004-028 Single-Package Rooftop Units Electric Cooling with Electric Heat Option

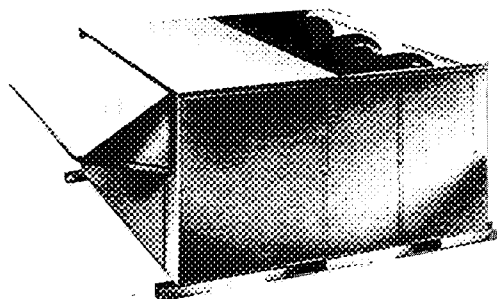
3 to 25 Nominal Tons



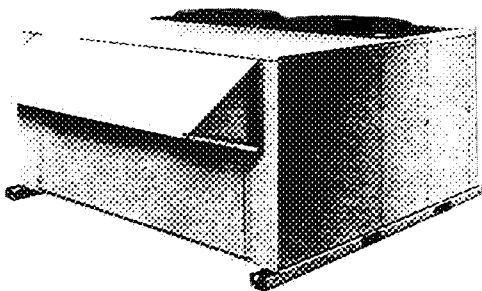
50TJ004-007



50TJ008-014



50TJ016,020



50TJ024,028

Single-Package Rooftop Units with:

- Galvanized steel cabinet with Carrier Weather Armor® coating
- Two-in. return-air filters
- Commercial strength base rails (full perimeter, 14 gage on 004-014)
- Exclusive tool-less filter access panel (004-014)
- Corrosion-resistant sloped condensate pan
- Single power entry to unit
- Commercial duty motors with permanently lubricated bearings
- Standard cooling operation at outdoor ambient temperatures as low as 25 F
- Meets ASHRAE Standard 62

Features/Benefits

Compact, vertical discharge units convert to horizontal discharge (50TJ016-028 require accessory curb or adapter), combining installation flexibility with efficient performance and easy maintenance.

Easy installation and conversion

All units are shipped in the vertical discharge configuration for fit-up to standard roof curbs. (Two different curb sizes fit unit sizes 004-007 and 008-014 respectively, and one size is offered for 016-028 units.) The contractor can order and install the roof curb early in the construction stage, before decisions on size requirements are made.

All units feature roll-formed base rail design with forklift slots on 3 sides and rigging holes for easier maneuvering. Durable packaging protects all units during shipment and storage.

The units can be easily converted from a vertical to a horizontal discharge configuration either by interchanging the panels supplied with the unit (004-014) or by using the horizontal supply/return roof curb or adapter (016-028).

Convenient duct openings in the 50TJ016-028 unit basepans permit side-by-side or concentric duct connections (see Application data section on page 65) without requiring internal unit modification.

The non-corrosive sloped condensate pan permits either an external, horizontal, side condensate drain (outside the roof curb) or an internal, vertical, bottom drain (inside the roof curb). Both options require an external, field-supplied P-trap. Also, the new condenser coil grille (available on the 004-014 units as a field-installed accessory or a factory-installed option) provides a metal plate as an alternate location for the field-supplied disconnect, if desired.

Factory- and field-installed electric heaters are available in a wide range of capacities. (50TJ004-014 offer field-installed electric heat only.) Single point wiring kit makes installation simple (004-014).

The 50TJ units were designed with the service technician in mind. The single-row condenser coils on the 50TJ004-006 and 008 units simplify the cleaning process. In addition, the 50TJ004-014 units have a standard filter access panel, which permits tool-less filter changes, even on units with horizontal economizers.

Simple electrical connections

Terminal boards, located in the base unit control box, facilitate connections to room thermostat, outdoor thermostat(s), economizer, and electric heat. Service panels are quickly removed, permitting easy servicing.

Thru-the-bottom service connection capability and thru-the-curb service connections (016-028 units) allow power and control wiring to be routed through the unit basepan (004-014 units) or curb (016-028 units), minimizing roof penetrations. Both power and control connections are made on the same side of the unit to simplify installation. In addition, color-coded wires permit easy tracing and diagnostics.

Proven compressor reliability

Design techniques feature computer-programmed balance between compressor, condenser, and evaporator. Carrier-specified hermetic (004-014, 020, and 024 units) and semi-hermetic (016 and 028 units) compressors are equipped with compressor overcurrent

and overtemperature protection to ensure dependability. Crankcase heaters (016 and 028 units) prevent refrigerant dilution of oil during off cycles and ensure proper lubrication at start-up to prolong compressor life. Crankcase heaters are not necessary on 004-014 and 020,024 units due to high-side crankcase design (007, 014, 020, 024) and low refrigerant charge levels (004-014). Carrier's exclusive Acutrol™ metering device precisely controls refrigerant flow, preventing slugging and flood-back, while maintaining optimum unit performance.

Durable, dependable construction

Designed for durability in any climate, the weather-resistant cabinets are manufactured using Carrier Weather Armor® coating. The cabinet is constructed of galvanized steel and bonderized, and all exterior panels are coated with a prepainted baked enamel finish. The paint finish is non-chalking, and is capable of withstanding Federal test method Standard No. 141 (Method 6061) 500-hour salt spray test. All internal cabinet panels are primed, permitting longer life and a more attractive appearance for the entire unit. In addition, the 50TJ008-014 units are designed with a single, continuous top piece to eliminate any possible leaks. Totally-enclosed condenser fan motors and permanently-lubricated bearings provide additional unit dependability.

Integrated economizers and outdoor air

During a first stage call for cooling, if the outdoor-air temperature is below the control changeover set point, the discharge-air sensor modulates the economizer outdoor-air damper open to achieve the set point. When second-stage cooling is called for, the compressor is energized in addition to the economizer. If the outdoor-air tempera-

ture is above the change-over set point, the first stage of compression is activated and the economizer stays at vent position. Economizer operation is controlled by Accusensor™ I dry-bulb thermostat that senses outdoor-air temperature. Accessory upgrade kits include solid-state enthalpy control (004-014) and differential enthalpy sensor.

The Varislide™ type economizer on the 50TJ004-014 units has a reliable sliding plate damper which is easily adjusted for 100% outdoor air, 100% return air, or any proportions of mixed air.

The 50TJ004-014 units also utilize the optional Parablade economizer. This newly-designed economizer incorporates a parallel-opposed blade design with standard enthalpy controls. In addition, the Parablade economizer has a spring return built into the damper motor to provide reliable close-on-power-loss. The new Parablade economizer comes equipped with up to 45% barometric relief capability for high outdoor airflow applications.

For units without economizer, year-round ventilation is enhanced by a manual outdoor-air damper (ordered as standard on 50TJ016-028; ordered as an accessory or an option on 50TJ004-014 units). The damper can be preset to admit up to 25% outdoor air.

In addition, the barometric relief damper or power exhaust accessory (016-028) or Parablade integrated economizer with power exhaust (004-014) can be utilized to help maintain proper building pressure.

Quiet, efficient operation and dependable performance

Compressors have vibration isolators for extremely quiet operation. Efficient fan and motor design permits operation at very low sound levels, and all 50TJ004-014 units are mounted on independent rails.

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Features/Benefits (cont)



The 50TJ008-028 units offer high energy efficiency and lower utility costs through part load operation using 2 stages of cooling.

Quiet and efficient operation is provided by belt-driven evaporator fans (standard on all units over 5 tons). The belt-driven evaporator-fan with variable-pitch pulleys allows adjustment to available static pressure to meet the job requirements of even the most demanding applications.

Carrier Apollo controls add reliability, efficiency, and simplification

The direct digital controls are ordered as a factory-installed option. Designed and manufactured exclusively by Carrier, the controls can be used to actively monitor and control all modes of operation, as well as to monitor evaporator-fan status, filter status, indoor-air quality (humidity and carbon dioxide), supply-air temperature, and outdoor-air temperature.

The Apollo communicating control is factory-installed into the rooftop unit evaporator-fan section (004-007) or unit control box (008-028), 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, evaporator fan operation, and economizer operation. The Apollo communicating control is designed to work specifically with the Carrier TEMP and VVT® (variable volume and temperature) thermostats. The Apollo control combined with Carrier thermostats incorporate a 5-minute recycle delay timer between modes of operation to prevent short cycling.

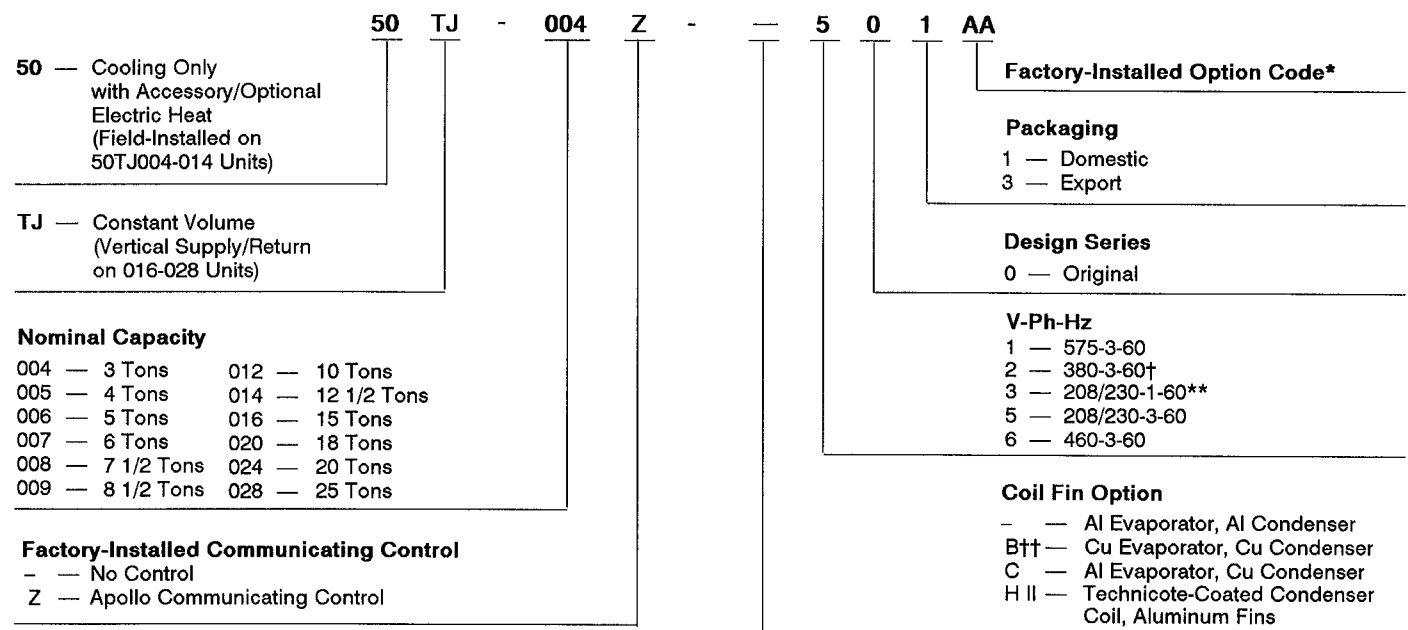
The standard rooftop control system is readily adaptable to all conventional and programmable thermostats. In addition, units with Apollo controls are suitable for integration into building monitor control systems if required.

This system gives the 50TJ units the flexibility to communicate with almost any thermostat or building control system.

Indoor-air quality begins with Carrier rooftops

Sloped condensate pans minimize biological growth in rooftop units in accordance with ASHRAE (American Society of Heating, Refrigeration, and Air Conditioning Engineers) Standard 62. Two-in. filters with optional dirty filter indicator switch provide for greater particle reduction in the return air. The face-split evaporator coils improve the dehumidification capability of the standard units, and standard enthalpy controls provided with the optional or accessory economizers maximize building humidity control. The 50TJ004-014 units also have an accessory, 100% open, two-position damper to meet all your fresh outdoor air requirements.

Model number nomenclature



LEGEND

Al — Aluminum

Cu — Copper

FIOF — Factory-Installed Option

*Refer to 50TJ price pages for 50TJ FIOF code table or contact your local Carrier representative

†Export units only

**Single phase is available on 5-ton and smaller units

††50TJ016-028 units only.

‡50TJ004-014 only

Quality Assurance



Certificate No FM 22838
SIZES 004-014

Approvals:

ISO 9002

EN 29002

BS5750 PART 2

ANSI/ASQC Q92

Quality Assurance



Certificate No FM 21837
SIZES 016-028

Approvals:

ISO 9002

EN 29002

BS5750 PART 2

ANSI/ASQC Q92

Physical data — 50TJ004-007



UNIT SIZE	004	005	006	007
NOMINAL CAPACITY (tons)	3	4	5	6
OPERATING WEIGHT (lb)				
Unit				
Al/Al*	365	375	395	470
Al/Cu*	—	—	—	—
Varislide™ Economizer	34	34	34	34
Parablade Economizer	42	42	42	42
Roof Curb†	115	115	115	115
COMPRESSOR				
Quantity	1	1	1	1
Oil (oz)	50	50	50	54
REFRIGERANT TYPE				
Operating Charge (lb-oz)				
Circuit 1	3-6	4-11	5-13	7-10
Circuit 2	—	—	—	—
CONDENSER COIL				
Rows...Fins/in.	1...17	Enhanced Copper Tubes, Aluminum Lanced Fins	1...17	2...17
Total Face Area (sq ft)	7.36	11.39	13.19	10.42
CONDENSER FAN				
Nominal Cfm	3500	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
EVAPORATOR COIL				
Rows...Fins/in.	2...15	Enhanced Copper Tubes, Aluminum Double-Wavy Fins, Acutrol™ Feed Device	3...15	4...15
Total Face Area (sq ft)	4.17	5.5	5.5	5.5
EVAPORATOR FAN				
Quantity...Size (in.)				
Std	1 10 x 10	1 10 x 10	1 11 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	2400
Motor Hp				
Std	—	—	—	—
Alt	—	—	—	—
Maximum Continuous Bhp				
Std	.34	.75	1.20	2.40
Alt	1.00	1.00	1.80	—
Motor Frame Size				
Std	48	48	48	56
Alt	48	48	56	—
Nominal Rpm High/Low				
Std	860/800	1075/970	1075/970	—
Alt	—	—	—	—
Fan Rpm Range				
Std	—	—	—	1070-1460
Alt	760-1000	835-1185	900-1300	—
Motor Bearing Type				
Ball	2100	2100	2100	2100
Maximum Allowable Rpm				
Std	—	—	—	2 8/3 8
Alt	1.9/2 9	1 9/2 9	2 4/3 4	—
Motor Pulley Pitch Diameter				
Min/Max (in.)				
Std	½	½	½	¾
Alt	½	½	½	—
Nominal Motor Shaft Diameter (in.)				
Std	—	—	—	4.5
Alt	—	—	—	—
Fan Pulley Pitch Diameter (in.)				
Std	4.5	4.0	4.5	—
Alt	—	—	—	—
Belt, Quantity...Type...Length (in.)				
Std	—	—	—	1 A 40
Alt	1 A 34	1 A 34	1 A 34	—
Pulley Center Line Distance (in.)				
Std	—	—	—	14 7-15 5
Alt	10 0-12 4	10 0-12 4	14 7-15 5	—
Speed Change per Full Turn of Movable Pulley Flange (rpm)				
Std	—	—	—	80
Alt	48	70	80	—
Movable Pulley Maximum Full Turns From Closed Position				
Std	—	—	—	5
Alt	5	5	5	—
Factory Setting				
Std	—	—	—	3
Alt	3	3	3	—
Factory Speed Setting (rpm)				
Std	—	—	—	1225
Alt	856	975	1060	—
Fan Shaft Diameter at Pulley (in.)				
Std	½	½	½	½
Alt	—	—	—	—
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 ± 7	
FREEZE PROTECTION THERMOSTAT (F)**				
Opens			30 ± 5	
Closes			45 ± 5	
OUTDOOR-AIR INLET SCREENS				
Quantity...Size (in.)			Cleanable	
			1 20 x 24 x 1	
RETURN-AIR FILTERS				
Quantity...Size (in.)			Throwaway	
			2 16 x 25 x 2	

LEGEND

Al — Aluminum
Bhp — Horsepower
Cu — Copper

*Evaporator coil fin material/condenser coil fin material
†Weight of 14-in. roof curb.

**Requires an accessory or optional controls upgrade kit

††On 50TJ020-028 units, Circuit 1 consists of lower portion of both the condenser and evaporator coils, and Circuit 2 consists of the upper portion of both coils

||50TJ016-028 units have adjustable drives

¶The 50TJ028 units require 2-in. industrial-grade filters capable of handling face velocities up to 625 ft/min (such as American Air Filter no. 5700 or equivalent).

NOTE: The 50TJ004-014 units have a loss-of-charge/low-pressure switch (accessory) located in the liquid line, and the 50TJ016-028 units have a low-pressure switch on the suction side (standard)

Physical data — 50TJ008-014



UNIT SIZE	008	009	012	014
NOMINAL CAPACITY (tons)	7½	8½	10	12½
OPERATING WEIGHT (lb)				
Unit				
Al/Al*	755	760	915	930
Al/Cu*	—	—	—	—
Varislide™ Economizer	44	44	44	44
Parablade Economizer	62	62	62	62
Roof Curb†	143	143	143	143
COMPRESSOR				
Quantity	2	2	2	2
Oil (oz)	50 ea	50 ea	50 ea	54 ea
REFRIGERANT TYPE				
Operating Charge (lb-oz)				
Circuit 1	4-13	6-14	5-13	9-6
Circuit 2	4-14	6-3	5-14	9-0
CONDENSER COIL				
Rows...Fins/in.	1...17	Enhanced Copper Tubes, Aluminum Lanced Fins	2...17	2...17
Total Face Area (sq ft)	20.50	18.00	17.42	25.00
CONDENSER FAN				
Nominal Cf _m	6500	6500	7000	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
EVAPORATOR COIL				
Rows...Fins/in.	3...15	Enhanced Copper Tubes, Aluminum Double-Wavy Fins, Acutrol™ Feed Device	3...15	4...15
Total Face Area (sq ft)	8.0	8.0	10.0	11.1
EVAPORATOR 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	Belt	Belt	Belt	Belt
Nominal Cf _m	3000	3400	4000	5000
Motor Hp	—	—	—	—
Maximum Continuous Bhp	2.40	2.40	2.40	4.20
Motor Frame Size	56	56	56	56
Nominal Rpm High/Low	—	—	—	—
Fan Rpm Range	590-840	685-935	685-935	860-1080
Motor Bearing Type	Ball	Ball	Ball	Ball
Maximum Allowable Rpm	2100	2100	2100	2100
Motor Pulley Pitch Diameter	2 4/3 4	2 8/3 8	2 8/3 8	4 0/5 0
Min/Max (in.)	2 8/3 8	—	3 4/4 4	3 1/4 1
Nominal Motor Shaft Diameter (in.)	¾	¾	¾	¾
Fan Pulley Pitch Diameter (in.)	7.0	7.0	7.0	8.0
Belt, Quantity...Type...Length (in.)	1 A .48	1 A .48	1 A .51	1 A .51
Pulley Center Line Distance (in.)	16 75-19.25	16 75-19.25	15 85-17.50	15 85-17.50
Speed Change per Full Turn of Movable Pulley Flange (rpm)	50	50	50	44
Movable Pulley Maximum Full Turns From Closed Position	5	5	5	5
Factory Setting	5	5	5	5
Factory Speed Setting (rpm)	590	685	685	860
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 ± 7	
FREEZE PROTECTION THERMOSTAT (F)**				
Opens			30 ± 5	
Closes			45 ± 5	
OUTDOOR-AIR INLET SCREENS				
Quantity...Size (in.)			Cleanable	
			1 20 x 25 x 1	
			1 16 x 25 x 1	
RETURN-AIR FILTERS				
Quantity...Size (in.)	4 .16 x 20 x 2	4...16 x 20 x 2	4 20 x 20 x 2	4 .20 x 20 x 2

LEGEND

Al — Aluminum
Bhp — Horsepower
Cu — Copper

*Evaporator coil fin material/condenser coil fin material.

†Weight of 14-in roof curb

**Requires an accessory or optional controls upgrade kit

††On 50TJ020-028 units, Circuit 1 consists of lower portion of both the condenser and evaporator coils, and Circuit 2 consists of the upper portion of both coils

‡50TJ016-028 units have adjustable drives

¶The 50TJ028 units require 2-in industrial-grade filters capable of handling face velocities up to 625 ft/min (such as American Air Filter no 5700 or equivalent).

NOTE: The 50TJ004-014 units have a loss-of-charge/low-pressure switch (accessory) located in the liquid line, and the 50TJ016-028 units have a low-pressure switch on the suction side (standard)

Physical data — 50TJ016-028



UNIT SIZE	016		020	024	028
	208/230,460 v	380, 575 v			
NOMINAL CAPACITY (tons)	15		18	20	25
OPERATING WEIGHT (lb)					
Unit					
Al/Al*	1484		1730	1730	2114
Al/Cu*	1564		1860	1860	2244
Economizer	110		110	110	110
Roof Curb†	200		200	200	200
COMPRESSOR	Semi-Hermetic			Hermetic	Semi-Hermetic
Quantity	1		2	2	2
Oil (oz)	115		65 ea	65 ea	152 ea
REFRIGERANT TYPE			R-22		
Operating Charge (lb-oz)					
Circuit 1††	19-4		15-4	15-8	16-12
Circuit 2	—		12-6	15-8	15-12
CONDENSER COIL	Enhanced Copper Tubes, Aluminum Lanced or Copper Fins				
Rows...Fins/in.	2...17		3...15	4...15	4...15
Total Face Area (sq ft)	22.2		22.2	22.2	22.2
CONDENSER FAN	Propeller Type				
Nominal Cfm	10,500			14,200	14,200
Quantity...Diameter (in.)	3...22			2...30	2...30
Motor Hp...Rpm	1/2...1050			1...1075	1...1075
Watts Input (Total)	1100			3400	3400
EVAPORATOR COIL	Copper Tubes, Aluminum or Copper Plate Fins				
Rows...Fins/in.	2...17		3...17	4...15	4...15
Total Face Area (sq ft)	17.9		17.9	17.9	17.9
EVAPORATOR FAN‡	Centrifugal Type				
Quantity...Size (in.)	2 10 x 10	2 10 x 10	2 12 x 12	2 12 x 12	2 12 x 12
Type Drive	Belt	Belt	Belt	Belt	Belt
Nominal Cfm	6000	6000	7200	8000	10,000
Motor Hp	3.7	3.0	5	7 1/2	10
Maximum Continuous Bhp	4.25	3.45	5.90	8.7 [208/230,575 v]	10.26 [208/230,380,575 v]
				9.5 [460 v]	11.80 [460 v]
Motor Frame Size	56H	56H	184T	213T	215T
Fan Rpm Range	1194-1526	1201-1462	1047-1251	1238-1494	1323-1579
Motor Bearing Type	Ball	Ball	Ball	Ball	Ball
Maximum Allowable Rpm	1550	1550	1550	1550	1550
Motor Pulley Pitch Diameter	3 4/4 4	4 3/5.3	4 9/5.9	5 4/6 4	5 8/7 0
Min/Max (in.)					
Nominal Motor Shaft Diameter (in.)	7/8	7/8	1 1/8	1 3/8	1 3/8
Fan Pulley Pitch Diameter (in.)	5.0	6.4	8.4	7.9	7.9
Belt, Quantity...Type...Length (in.)	1...AX...42	1...BX...45	1...BX...50	1...BX...50	1...BX...51
Pulley Center Line Distance (in.)	13.5-15.5	13.5-15.5	13.3-14.8	14.6-15.4	14.6-15.4
Speed Change per Full Turn of Movable Pulley Flange (rpm)	66	52	34	43	43
Movable Pulley Maximum Full Turns From Closed Position	5	5	6	6	6
Factory Setting	3.5	3.5	3	3	3
Factory Speed Setting (rpm)	1293	1279	1149	1366	1451
Fan Shaft Diameter at Pulley (in.)	1 1/16	1 1/16	1 1/16	1 1/16	1 1/16
HIGH-PRESSURE SWITCH (psig)					
Standard Compressor Internal Relief (Differential)	—				
Cutout	426				
Reset (Auto.)	320				
LOW-PRESSURE SWITCH (psig)					
Cutout	7				
Reset (Auto.)	22				
FREEZE PROTECTION THERMOSTAT (F)					
Opens	30 ± 5				
Closes	45 ± 5				
OUTDOOR-AIR INLET SCREENS					
Quantity...Size (in.)	Cleanable 2 20 x 25 x 1 1 20 x 20 x 1				
RETURN-AIR FILTERS					
Quantity...Size (in.)	Throwaway¶ 4 20 x 20 x 2 4 16 x 20 x 2				

LEGEND

Al — Aluminum
Bhp — Horsepower
Cu — Copper

*Evaporator coil fin material/condenser coil fin material

†Weight of 14-in. roof curb

**Requires an accessory or optional controls upgrade kit.

††On 50TJ020-028 units, Circuit 1 consists of lower portion of both the condenser and evaporator coils, and Circuit 2 consists of the upper portion of both coils.

‡50TJ016-028 units have adjustable drives

¶The 50TJ028 units require 2-in. industrial-grade filters capable of handling face velocities up to 625 ft/min (such as American Air Filter no. 5700 or equivalent)

NOTE: The 50TJ004-014 units have a loss-of-charge/low-pressure switch (accessory) located in the liquid line, and the 50TJ016-028 units have a low-pressure switch on the suction side (standard)

ARI* capacity ratings



UNIT 50TJ	NOMINAL TONS	STANDARD CFM	NET COOLING CAPACITY (Btuh)	TOTAL kW	SEER†		EER	SOUND RATING (Bels)
					Belt Drive	Direct Drive		
004	3	1200	35,000	4.0	10.0	9.7	8.7	8.2
005	4	1600	47,000	5.5	10.0	9.7	8.6	8.2
006	5	2000	57,000	6.7	10.0	9.7	8.5	8.2

UNIT 50TJ	NOMINAL TONS	STANDARD CFM	NET COOLING CAPACITY (Btuh)	TOTAL kW	EER	SOUND RATING (Bels)	IPLV
007	6	2100	70,000	7.9	8.9	8.4	**
008	7½	2800	85,000	9.6	8.9	8.6	9.35
009	8½	3000	99,000	11.0	9.0	8.6	9.00
012	10	4000	117,000	13.0	9.0	8.8	9.35
014	12½	4500	145,000	15.8	9.2	8.8	9.65

UNIT 50TJ	NOMINAL TONS	NET COOLING CAPACITY (Btuh)	TOTAL kW	EER	SOUND RATING (Bels)	IPLV
016	15	178,000	20.7	8.6	8.8	10.70
020	18	190,000	20.9	9.1	8.8	9.50
024	20	220,000	25.9	8.5	9.4	8.30
028	25	268,000	31.2	8.6	9.5	8.40

LEGEND

Bels — Sound Levels (1 bel = 10 decibels)
db — dry bulb
EER — Energy Efficiency Ratio
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 65,000 Btuh or less.

**The IPLV only applies to 2-stage cooling units.

NOTES:

1. Rated in accordance with ARI Standards 210/240-89 or 360-86 (for 014-024) and 270-84.
2. The 50TJ028 is beyond the scope of the ARI Certification Program
3. Ratings are net values, reflecting the effects of circulating fan heat.
4. 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

Options and accessories

Carrier®

ITEM	OPTION*	ACCESSORY†
Apollo Communicating Controls	X	
Varislide™ Integrated Economizer (004-014; Includes Hood)	X	X
Parablast Economizer (004-014)	X	
Parablast Economizer with Power Exhaust (004-014)		X
Integrated Economizer (016-028)	X	X
Electric Heat**	X††	X
Manual Outdoor-Air Damper (ordered as standard on 016-028 units without optional economizer)	X	X
Controls Upgrade Kit (004-014)	X	X
Condenser Coil Grille (004-014)	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 (004-014)		X
Barometric Relief Damper (016-028)		X
Roof Curbs (Vertical and Horizontal Discharge)		X
Horizontal Adapter (016-028)		X
Remote Control Panel		X
Thermostats and Subbases		X
Power Exhaust (016-028)		X
Low-Ambient Kits (016-028)		X
Winter Start Time-Delay Relay (020-028)		X
Motormaster® Head Pressure Control (Speed Control) (004-014)		X
Motormaster II Head Pressure Control (Cycle Control) (004-014)		X
Motormaster III Head Pressure Control (Speed Control) (020-028)		X
Time Guard® II Control Circuit		X
Thru-the-Bottom Service Connections (004-014)		X
Electronic Programmable Thermostat		X
Accusensor™ II Enthalpy Control (004-014)		X
Accusensor III Enthalpy Sensor (016-028)		X
Condenser Coil Hail Guard Assembly (004-014)		X
Fan/Filter Status (004-014)		X
Salt Spray Protection Grille (008-014)		X
Suction Pressure Unloader (028)		X
Glycol Coil (016-028)		X

*Factory installed

†Field installed

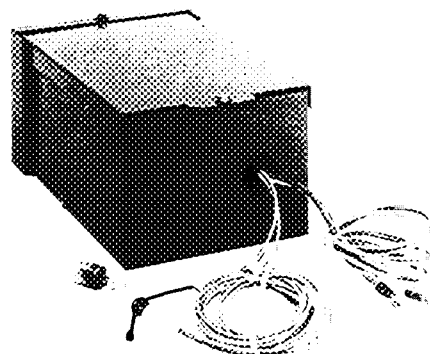
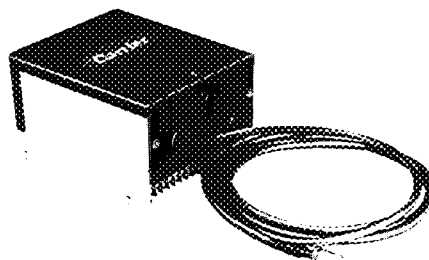
**Electric heat for 575-v units is only offered on 50TJ008-016 units. Accessory single-point kit is required for 004-014 units using electric heat.

††50TJ016-028 units only

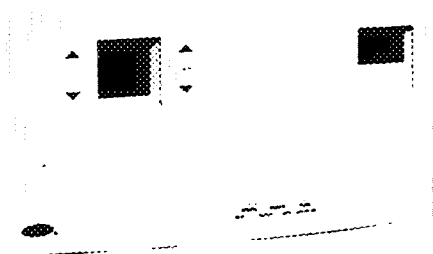
||Only available as part of an option package

HEAD PRESSURE CONTROL

The 50TJ004-014 and 024 standard units are designed to operate at outdoor temperature down to 25 F. The standard 50TJ016 and 020 units operate down to 40 F, and the standard 50TJ028 operates down to 48 F. With accessory Motormaster control (condenser-fan speed modulation for unit sizes 004-014), Motormaster II control (condenser-fan cycling for unit sizes 004-014), -20 F low-ambient kit (condenser-fan sequencing for 50TJ016), or Motormaster III control (condenser-fan speed modulation for unit sizes 020-028), units can operate at outdoor temperatures down to -20 F. The head pressure controls, which mount in the condenser section, modulate the condenser-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.



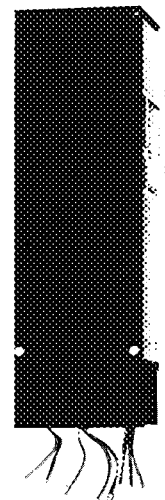
ELECTRONIC PROGRAMMABLE THERMOSTAT



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.

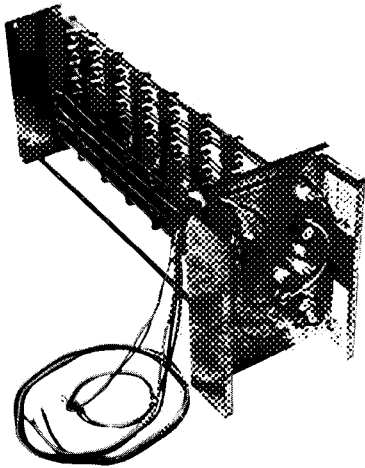
TIME GUARD II CONTROL

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.



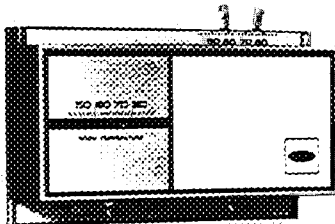
MOTORMASTER III (020-028)

ELECTRIC HEATER



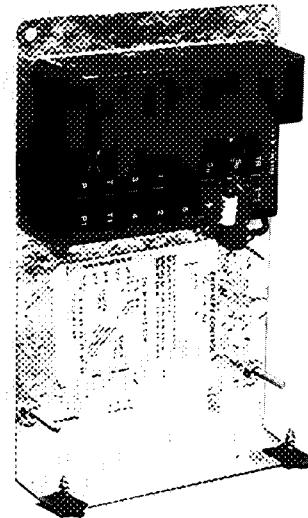
Electric heaters are available in a wide range of capacities for factory or field installation

NOTE. Heaters are field-installed only on the 004-014 units.

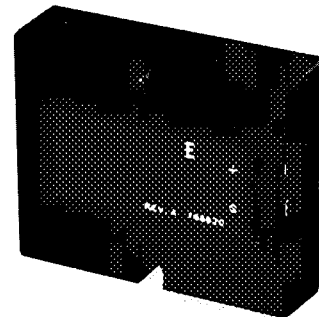


Zone thermostat (24 v) provides one- or 2-stage cooling for control of unit. Matching subbases are available with or without tamper-proof switches and automatic changeover.

ACCUSENSOR™ II (004-014 Only)

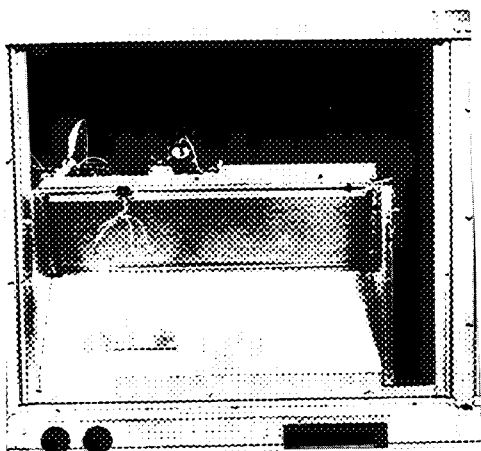


ACCUSENSOR III



Accusensor economizer controls help provide efficient, economical economizer operation. Accusensor II solid-state enthalpy control includes the logic and one sensor to calculate both dry and wet bulb of the outdoor air to provide an accurate enthalpy reading on 004-014 units. It then decides when to energize the economizer based on this reading. The 016-028 unit economizer provides the decision-making function internally, and requires one Accusensor III sensor for solid-state enthalpy sensing. A second Accusensor III sensor provides information for comparison of outdoor temperature and humidity to return-air temperature and humidity and determines the most economical mixture of air (purchased in addition to first solid-state enthalpy sensor for differential enthalpy sensing)

VARISLIDE™ ECONOMIZER (004-014)

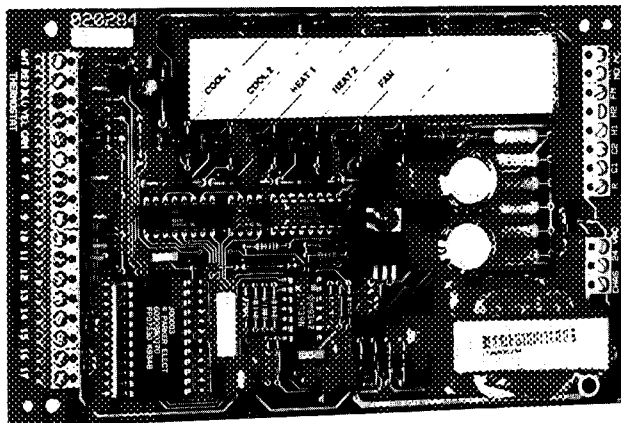


Exclusive Varislide economizer damper design saves energy while providing economical and reliable cooling. A sliding plate on the face of the economizer controls the amount of outdoor air entering the system. Closed, it provides a leakproof seal which prevents ambient air from seeping in or conditioned 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.

Options and accessories (cont)

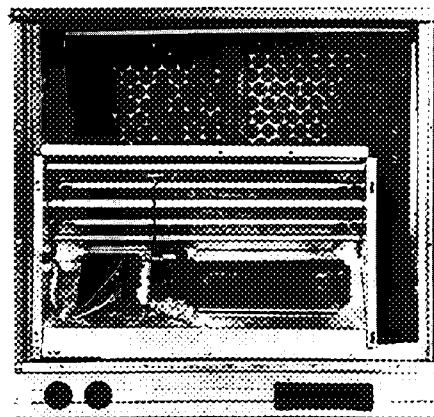


FACTORY-INSTALLED APOLLO COMMUNICATING CONTROLS



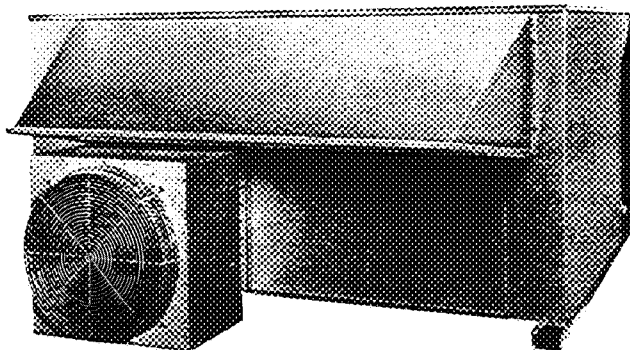
The Apollo direct digital controls are designed exclusively by Carrier, and are used to actively monitor and control all modes of operation as well as to monitor evaporator-fan status, filter status, supply-air temperature, outdoor-air temperature, and indoor-air quality. They are designed to work in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

PARABLADE ECONOMIZER (004-014)



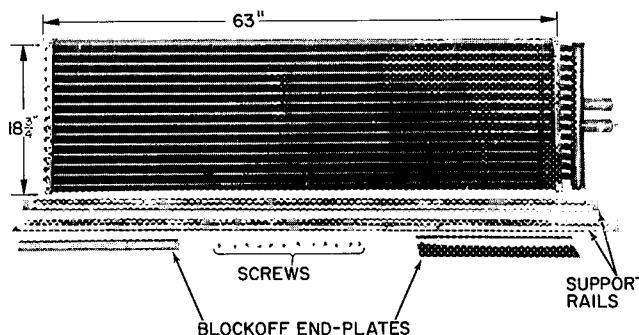
The unique design of the Parabla economizer saves energy while providing economical and reliable cooling. The new design uses a parallel-opposed blade damper. The economizer also has built-in spring return for reliable close-on-power-loss. The Parabla design incorporates standard enthalpy controls and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

POWER EXHAUST (016-028 SHOWN)



When used with accessory/optional economizer, the power exhaust accessory helps to relieve building overpressurization.

GLYCOL COIL (016-028)



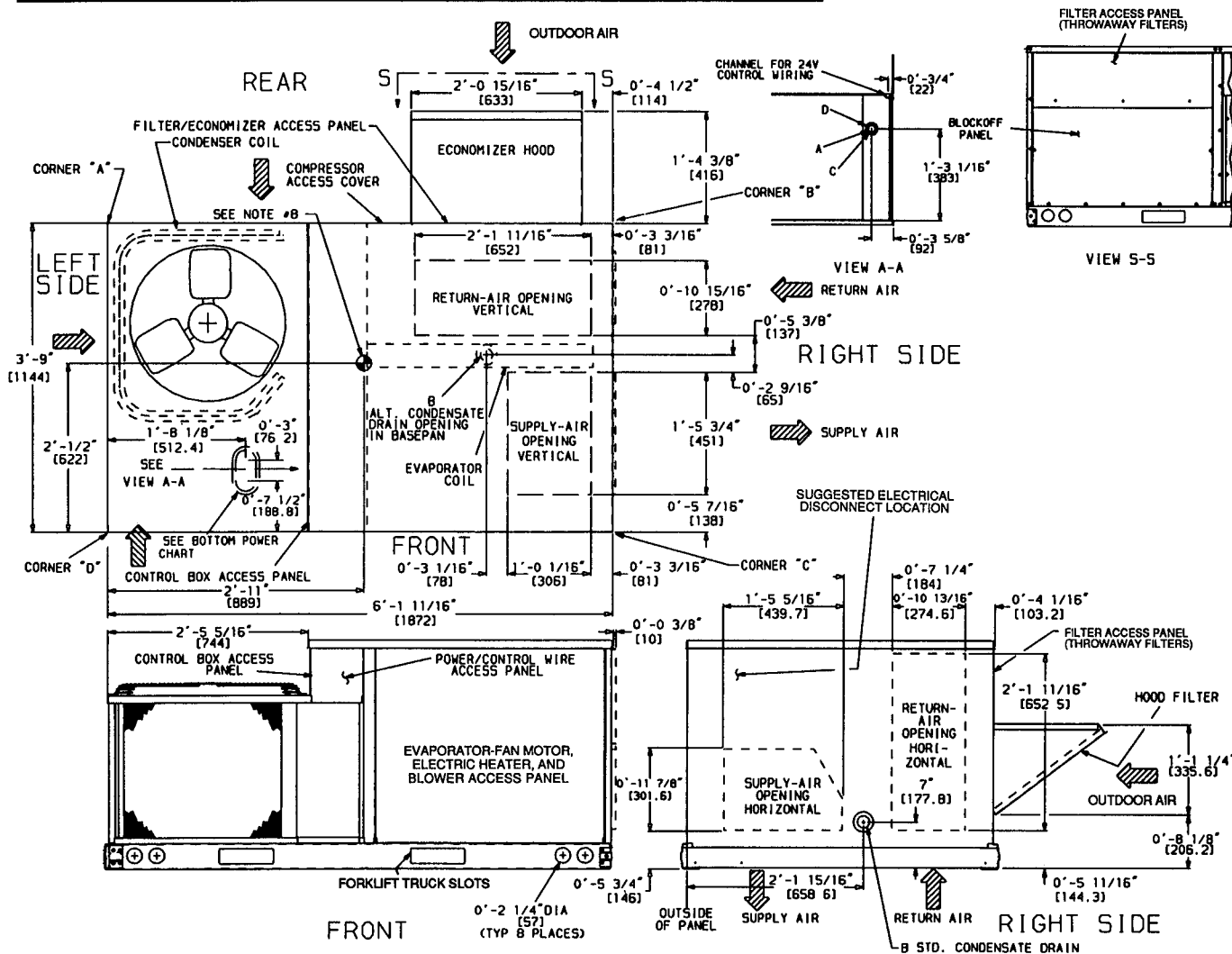
Glycol coil is intended for add-on type applications or new work where a boiler system is available. Glycol coil and electric heat cannot be installed together.

Base unit dimensions — 50TJ004-007

Carrier

UNIT 50TJ	STD UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)	
	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg
004	365	165.6	126	57.2	89	40.4	111	50.3	39	17.7
005	375	170.1	128	58.1	90	40.8	114	51.7	43	19.5
006	395	179.2	132	59.9	94	42.6	120	54.4	49	22.2
007	470	213.2	148	67.1	103	46.7	155	70.3	64	29.0

CONNECTION SIZES	
A	1 1/8" dia [28.6] field power supply hole
B	3/4"-14 NPT condensate drain
C	1 1/8" dia [35] power supply knockout
D	2" dia [50.8] 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 inches. On horizontal discharge units with electric heat 1 in. clearance to ductwork for 1 ft.
 - Condenser 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 condenser 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 condenser coil or combustibles 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'-6 1/2" [470] up from the bottom of the base rail. Horizontal center of gravity is shown

BOTTOM POWER CHART: THESE HOLES REQUIRED FOR USE WITH ACCESSORY PACKAGES — CRBTMPWR001A00 (1/2", 3/4") CRBTMPWR002A00 (1/2", 1 1/4")

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

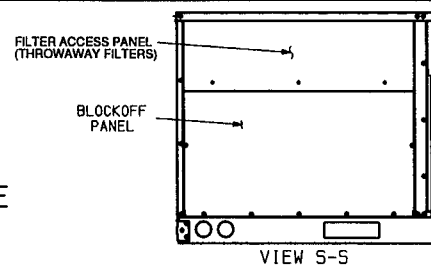
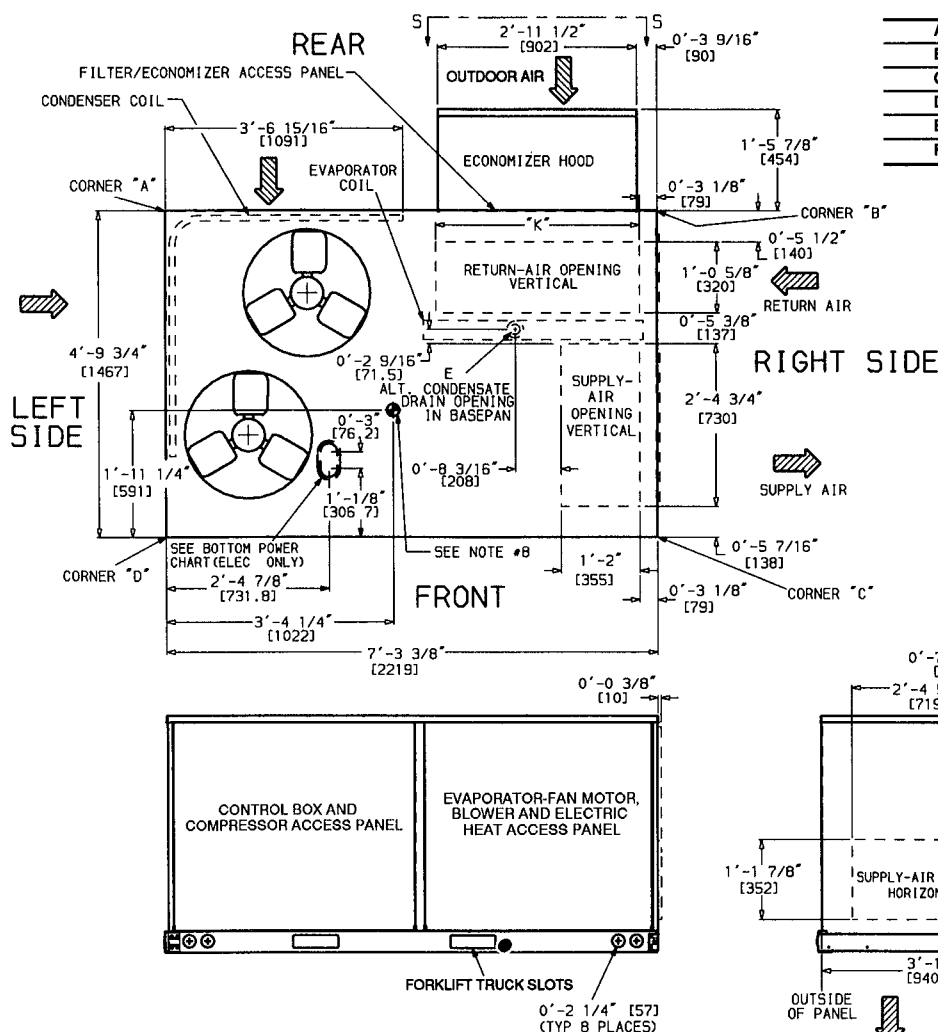
*Select either 3/4" or 1 1/4" for power, depending on wire size

Base unit dimensions — 50TJ008-014



UNIT 50TJ	STD UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		"H"		"J"		"K"	
	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	Ft.-in.	mm	Ft.-in.	mm	Ft.-in.	mm
008	755	342	164	74	140	64	208	94	243	110	1-2 ⁷ / ₈	378	3-5 ¹ / ₈	1050	2-9 ¹ / ₈	856
009	760	345	165	75	141	64	209	94	245	111	3-3 ⁷ / ₈	1013	3-5 ¹ / ₈	1050	2-9 ¹ / ₈	856
012	915	415	199	90	170	77	252	114	294	134	2-5 ⁷ / ₈	759	4-1 ¹ / ₈	1253	3-0 ³ / ₈	924
014	930	422	202	92	172	78	256	116	300	136	1-2 ⁷ / ₈	378	4-1 ¹ / ₈	1253	3-0 ³ / ₈	924

CONNECTION SIZES	
A	1 ³ / ₈ " dia [35] field power supply hole
B	2 ¹ / ₂ " dia [64] power supply knock-out
C	1 ³ / ₄ " dia [44] charging port hole
D	7/8" [22] field control wiring hole
E	3/4"-14 NPT condensate drain
F	2" dia [51] power supply knock-out



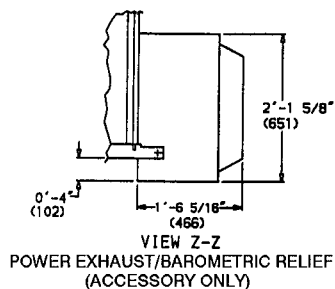
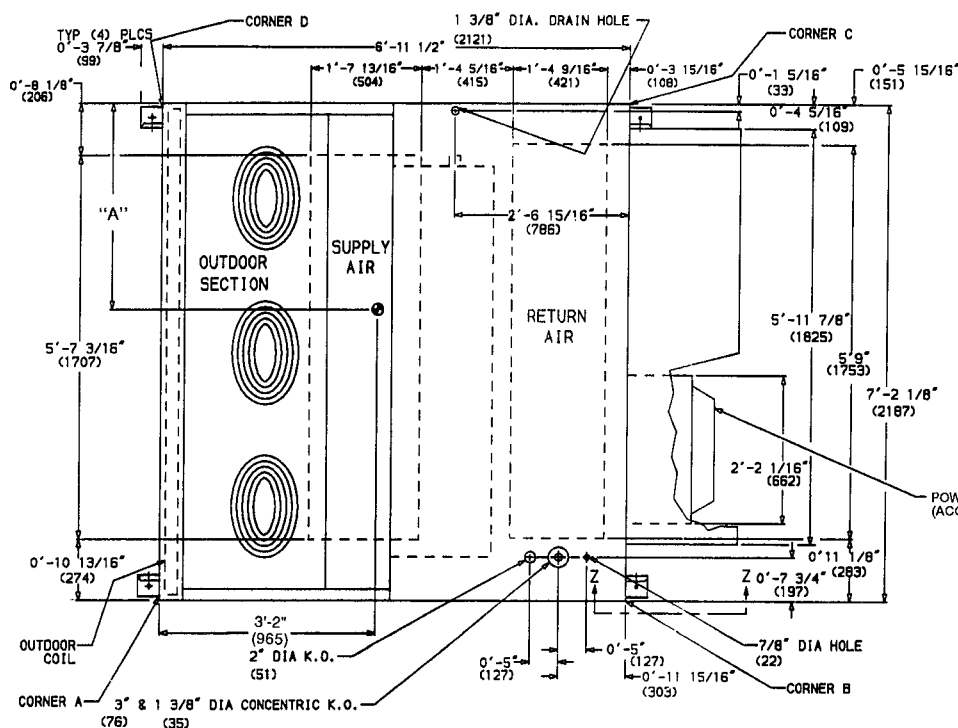
- NOTES:**
- Dimensions in [] are in millimeters
 - Center of gravity
 - Direction of airflow
 - Ductwork to be attached to accessory roof curb only
 - Minimum clearance (local codes or jurisdiction may prevail):
 - Bottom to combustible surfaces (when not using curb) 0 inches. On horizontal discharge units with electric heat 1 in. clearance to ductwork for 1 ft
 - Condenser 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 condenser 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 condenser coil or combustibles 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" [495] for 008 and 009, 2'-0" [610] for 012 and 014 up from the bottom of the base rail. Horizontal center of gravity is shown

BOTTOM POWER CHART: THESE HOLES REQUIRED FOR USE WITH ACCESSORY PACKAGES — CRBTMPWR001A00 (1/2", 3/4") CRBTMPWR002A00 (1/2", 1 1/4")

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

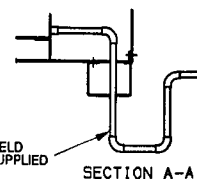
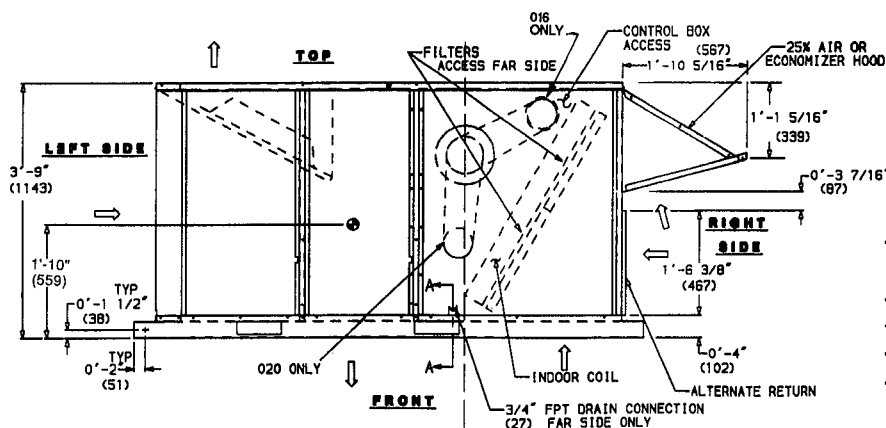
*Select either 3/4" or 1 1/4" for power, depending on wire size

Base unit dimensions — 50TJ016,020



LEGEND
KO — Knockout

UNIT 50TJ	DIMENSIONS	
	"A"	
	Ft-in.	mm
016	3-2	965
020	3-7	1092

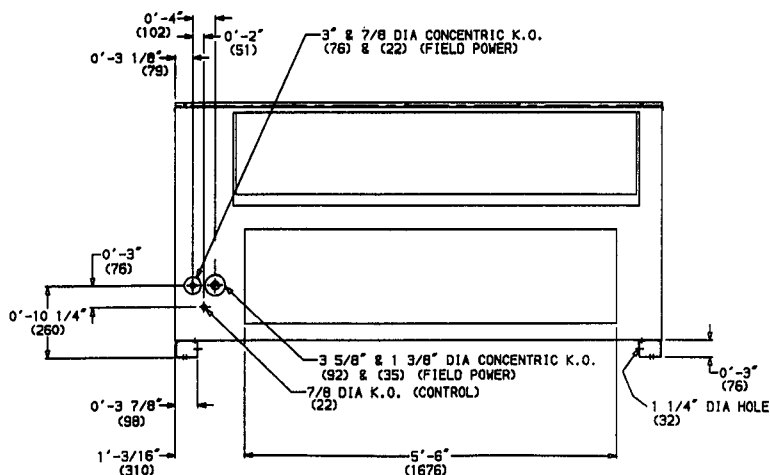


UNIT 50TJ	MAXIMUM SHIPPING WEIGHT	
	Lb	Kg
016	1779	807
020	2010	912

UNIT 50TJ	CORNER WEIGHT*							
	A		B		C		D	
	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg
016	319	145	333	151	342	155	491	223
020	307	139	440	200	467	212	516	234

*Weights are for unit only and do not include options or crating.

- NOTES:
- Dimensions in () are in millimeters.
 - Center of gravity
 - Direction of airflow
 - Ductwork to be attached to accessory roof curb only
 - Minimum clearance:
 - Rear: 7'-0" (2134) for coil removal. This dimension can be reduced to 4'-0" (1219) if conditions permit coil removal from the top.
 - Left side: 4'-0" (1219) for proper condenser coil airflow
 - Front: 4'-0" (1219) for control box access.
 - Right side: 4'-0" (1219) for proper operation of damper and power exhaust (if so equipped)
 - Top: 6'-0" (1829) to assure proper condenser fan operation.
 - Local codes or jurisdiction may prevail
 - With the exception of clearance for the condenser coil and the damper/power exhaust as stated in note no. 5, removable fence or barricade requires no clearance
 - Dimensions are from outside of corner post. Allow 0'-5/8" (8) on each side for top cover drip edge.



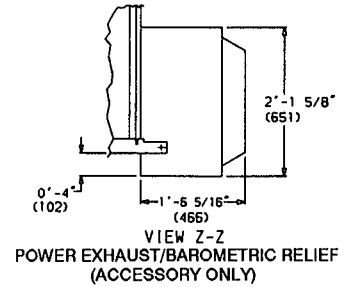
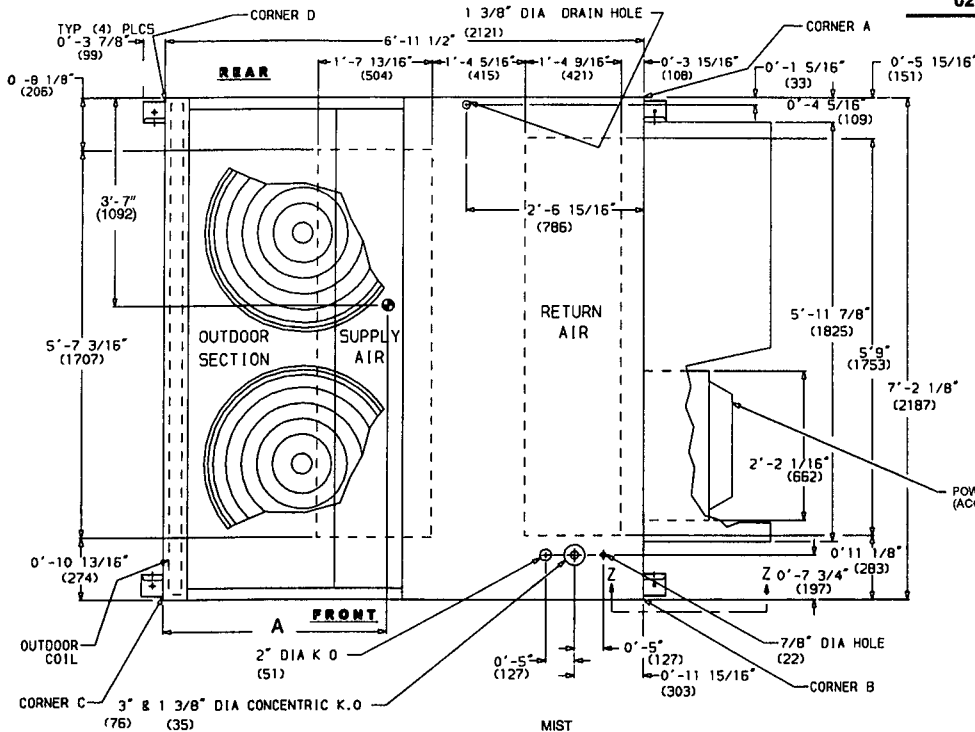
Base unit dimensions — 50TJ024,028



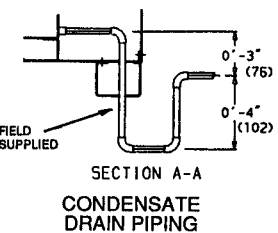
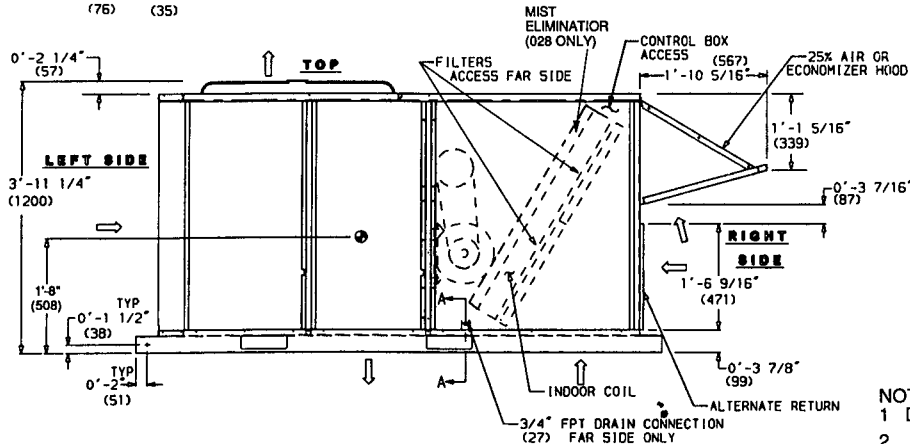
UNIT 50TJ	CORNER WEIGHT*								DIMENSIONS	
	A		B		C		D		Ft.-in.	mm
	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg		
024	467	212	440	200	307	139	516	234	3-4	1016
028	504	229	523	237	533	242	554	251	3-4 3/4	1035

*Weights are for unit only and do not include options or crating

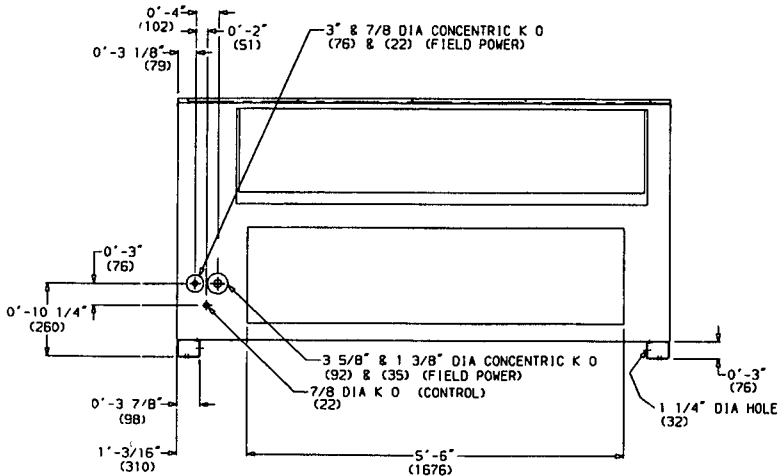
UNIT 50TJ	MAXIMUM SHIPPING WEIGHT	
	Lb	Kg
024	2010	912
028	2394	1086



POWER EXHAUST/BAROMETRIC RELIEF (ACCESSORY ONLY)



SECTION A-A
CONDENSATE DRAIN PIPING



NOTES:

- 1 Dimensions in () are in millimeters.
- 2 Center of gravity.
- 3 Direction of airflow.
- 4 Ductwork to be attached to accessory roof curb only
- 5 Minimum clearance:
 - a Rear: 7'-0" (2134) for coil removal. This dimension can be reduced to 4'-0" (1219) if conditions permit coil removal from the top
 - b Left side: 4'-0" (1219) for proper condenser coil airflow.
 - c Front: 4'-0" (1219) for control box access.
 - d Right side: 4'-0" (1219) for proper operation of damper and power exhaust (if so equipped)
 - e Top: 6'-0" (1829) to assure proper condenser fan operation.
 - f. Local codes or jurisdiction may prevail.
- 6 With the exception of clearance for the condenser coil and the damper/power exhaust as stated in note no. 5, a removable fence or barricade requires no clearance.
- 7 Dimensions are from outside of corner post. Allow 0'-5/16" (8) on each side for top cover drip edge.

Accessory dimensions



ROOF CURB — 50TJ004-007

ROOF CURB ACCESSORY	"A"	UNIT SIZE 50TJ
CRRFCURB001A00	1'-2" [356]	004-007
CRRFCURB002A00	2'-0" [610]	

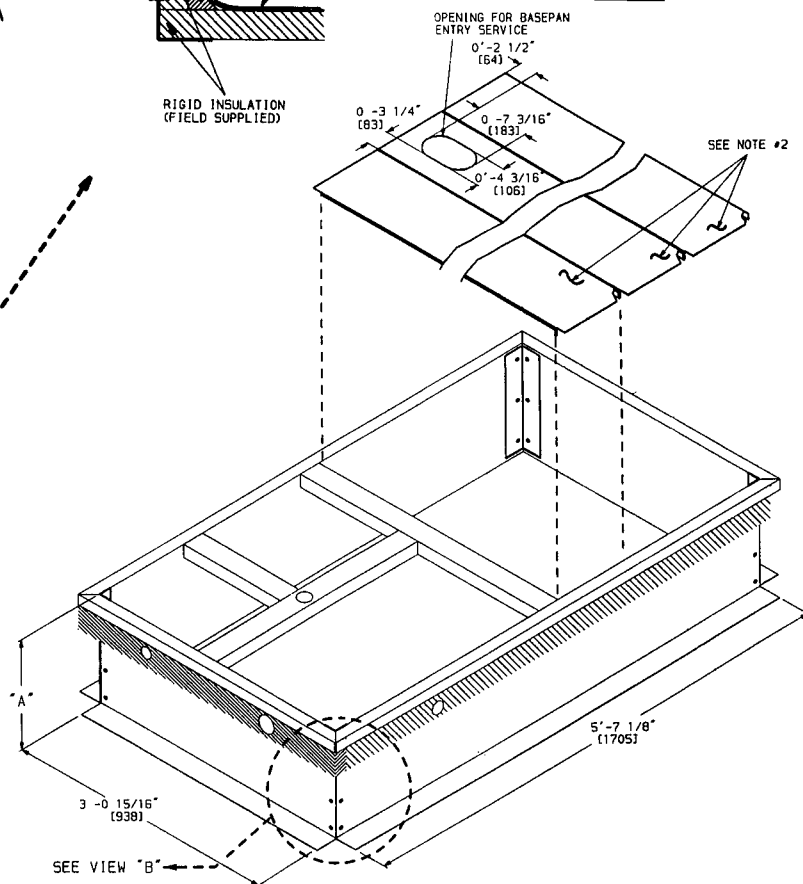
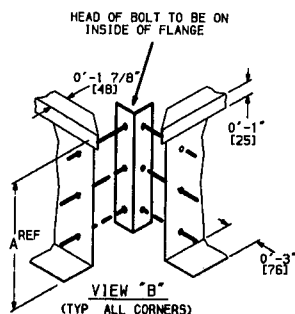
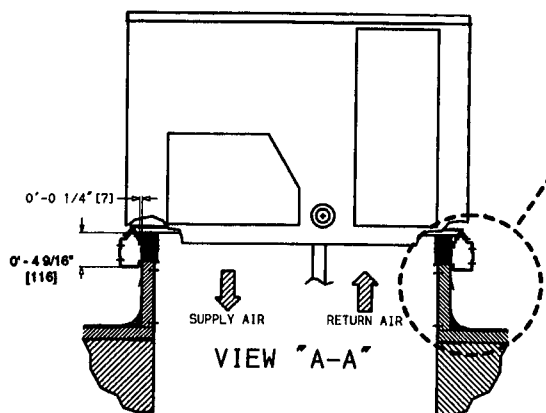
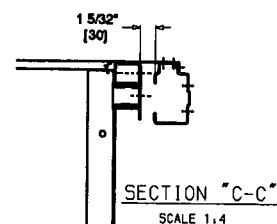
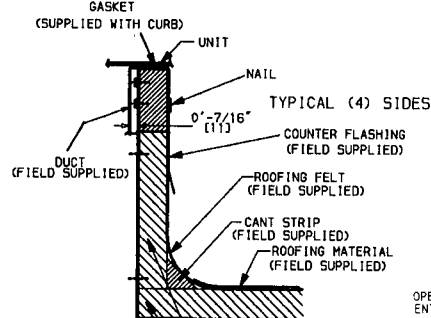
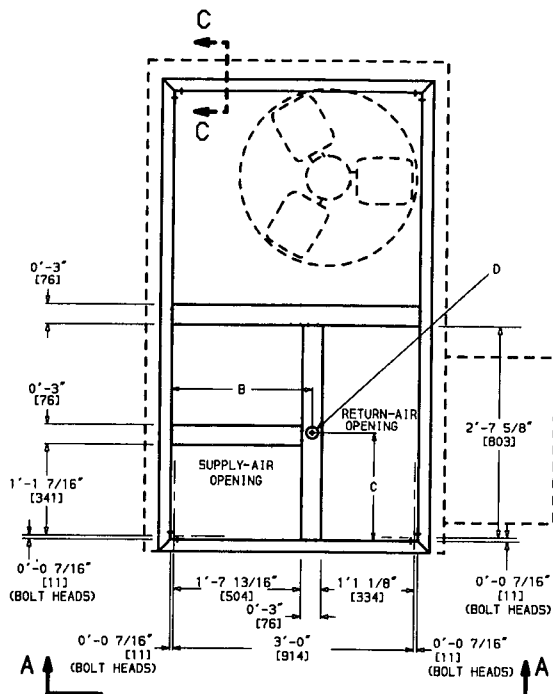
UNIT SIZE 50TJ	"B"	"C"	"D" ALT DRAIN HOLE	POWER	CONTROL	CONNECTOR PKG ACY
004-007	1'-9 11/16" [551]	1'-4" [406]	1 3/4" [45]	3/4" NPT	1/2" NPT	CRBTMPWR001A00* (Thru-the-Bottom)
				1 1/4" NPT	1/2" NPT	CRBTMPWR002A00† (Thru-the-Bottom)

*For use with CRRFCURB001A00
†For use with CRRFCURB002A00

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 (cont)



ROOF CURB — 50TJ008-014

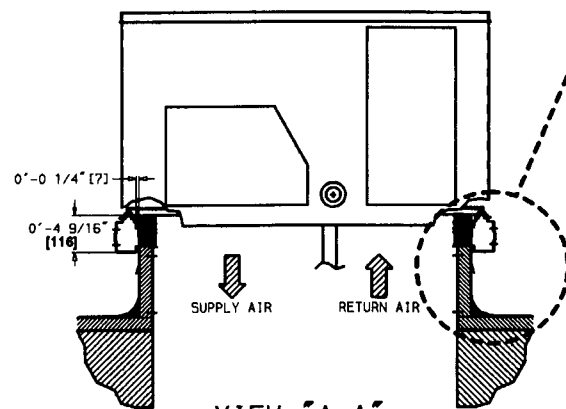
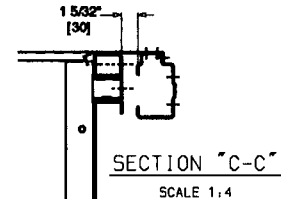
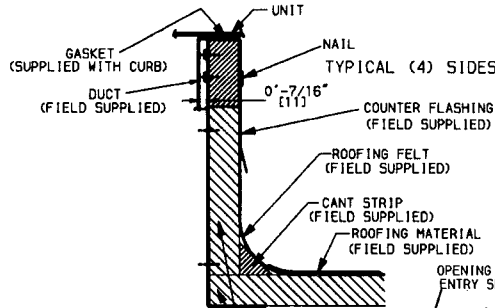
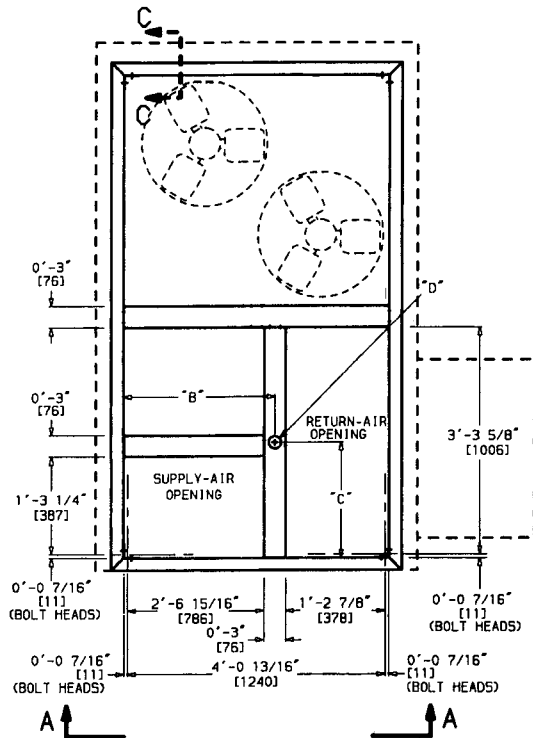
ROOF CURB ACCESSORY	"A"	UNIT SIZE 50TJ
CRRFCURB003A00	1'-2" [356]	008-014
CRRFCURB004A00	2'-0" [610]	

UNIT SIZE 50TJ	"B"	"C"	"D" ALT DRAIN HOLE	POWER	CONTROL	CONNECTOR PKG ACY
008-014	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)

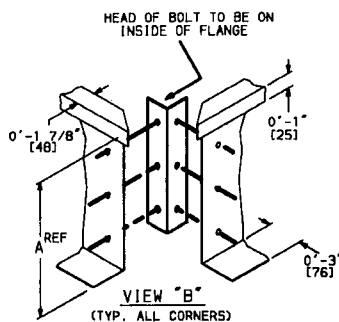
*For use with CRRFCURB003A00
†For use with CRRFCURB004A00

NOTES:

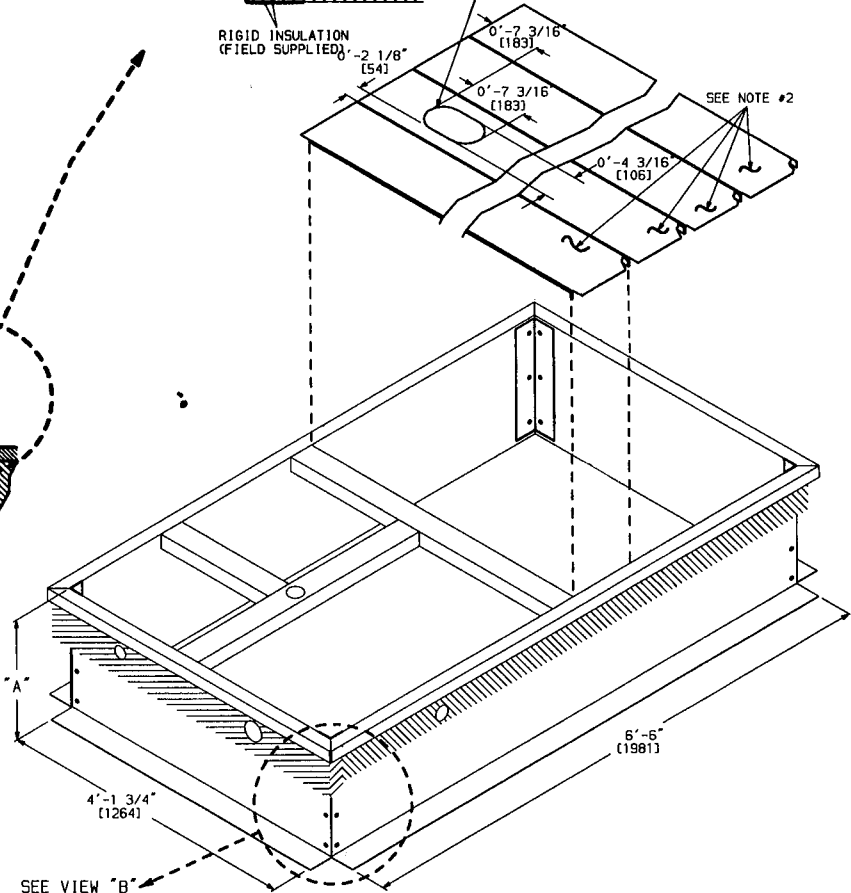
- 1 Roof curb accessory is shipped unassembled
- 2 Insulated panels.
- 3 Dimensions in [] are in millimeters
- 4 Roof curb: galvanized steel
- 5 Attach ductwork to curb (flanges of duct rest on curb)
- 6 Service clearance 4 ft on each side.
- 7 Direction of airflow.



VIEW "A-A"

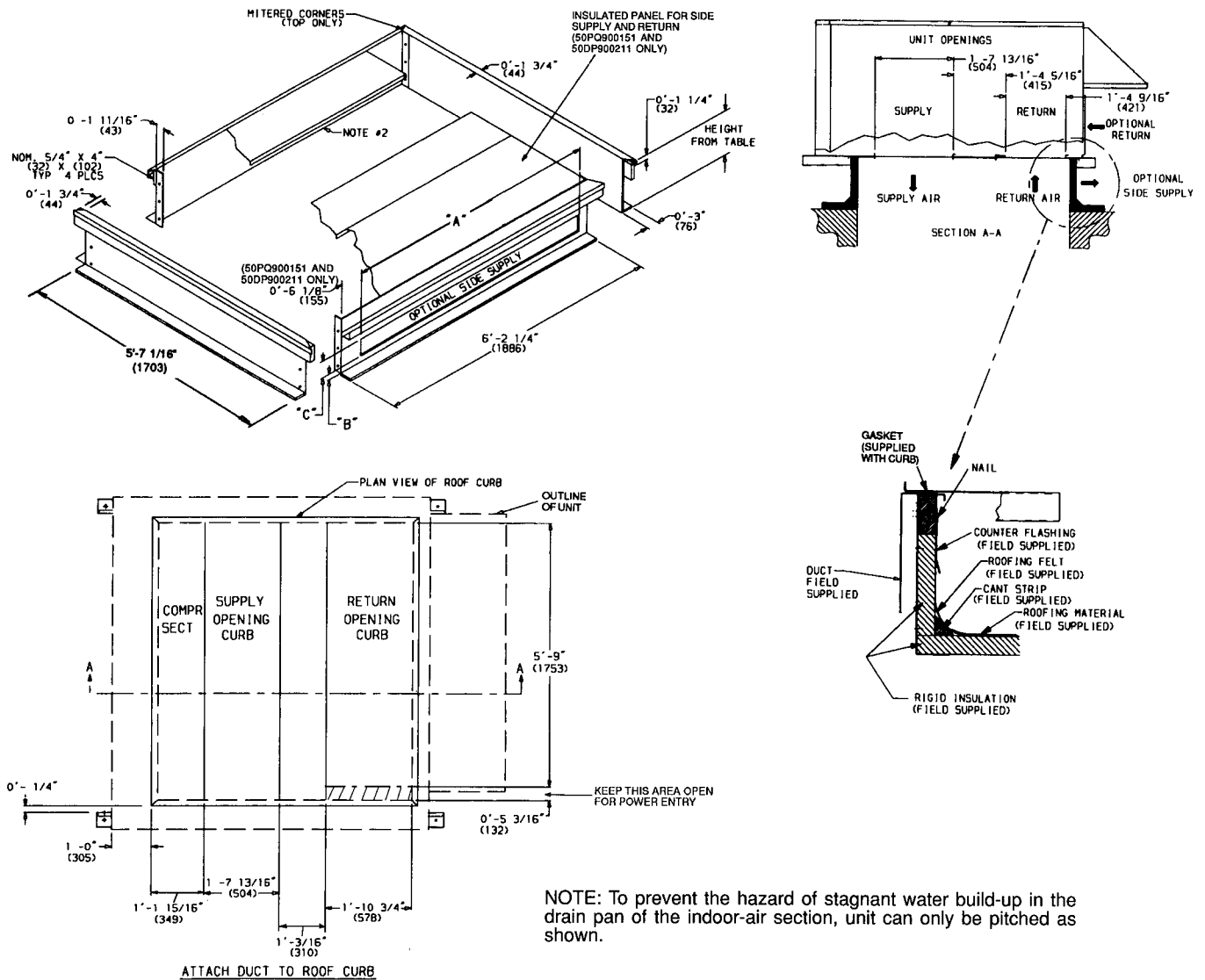


VIEW "B"
(TYP. ALL CORNERS)



SEE VIEW "B"

HORIZONTAL AND VERTICAL ROOF CURBS AND HORIZONTAL ADAPTER — 50TJ016-028

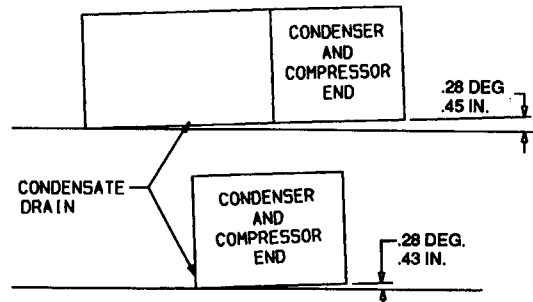


LEGEND

COMP SECT. — Compressor Section

NOTES:

1. Roof curb accessory is shipped unassembled.
2. Insulated panels, 1/2-in thick neoprene-coated, 2 lb density.
3. Dimensions in () are in millimeters
4. Direction of airflow.
5. Roof curb: 18 gage steel
6. Attach all ductwork to roof curb

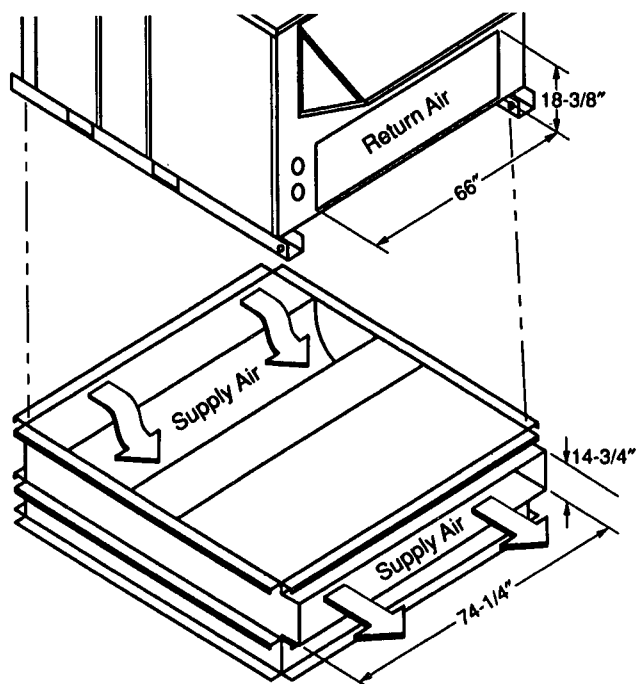


ACCESSORY PACKAGE NO.	CURB HEIGHT	DESCRIPTION	"A"	"B"	"C"
50PQ900221	1'-2" (305)	Standard Curb — 14" High	—	—	—
50PQ900141	2'-0" (610)	Standard Curb for Units Requiring High Installation	—	—	—
50PQ900151	2'-0" (610)	Horizontal Supply and Return Curb	5'-6" (1676)	0'-2 1/2" (64)	1'-6" (457)
50DP900211	1'-11" (584)	Pre-Assembled, High-Static, Horizontal Adapter	6'-2" (1880)	0'-6 1/4" (159)	1'-2 5/8" (371)

Accessory dimensions (cont)

Carrier®

HORIZONTAL ADAPTER INSTALLATION — 50TJ016-028



NOTES:

1. The 50DP900211 is a fully factory preassembled horizontal adapter which includes an insulated high static regain transition duct and substantially improves fan static performance.
2. The barometric relief and power exhaust accessories cannot be used with the horizontal adapter.

Selection procedure (with 50TJ016 example)

I Determine cooling and heating requirements at design conditions:

Given:

Cooling Capacity Required 177,000 Btuh
 Sensible Heat Capacity 127,000 Btuh
 Condenser Entering-Air Temperature 95 F Edb/78 F Ewb
 Evaporator Entering-Air Temperature 80 F Edb/67 F Ewb
 Evaporator Air Quantity 6000 cfm
 External Static Pressure 0.66 in. wg
 Heating Capacity 76,000 Btuh
 Power Supply (V-Ph-Hz) 230-3-60
 Edb — Entering dry bulb
 Ewb — Entering wet bulb

II Select unit based on required cooling capacity.

Enter cooling capacity table for 50TJ016 on page 21 at condenser entering dry bulb temperature 95 F, air entering evaporator at 6000 cfm, 80 F edb and 67 F ewb. The 50TJ016 unit will provide a total cooling capacity of 188,000 Btuh, and a sensible heating capacity of 136,000 Btuh. For evaporator-air temperatures other than 80 F edb, calculate sensible heat capacity correction as required using the formula in the notes following the Cooling Capacities tables.

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

III Select electric heat.

Heating load required is 76,000 Btuh.

$$\frac{76,000 \text{ Btuh}}{3.414 \text{ Btu/W}} = 22,261 \text{ Watts of heat required}$$

$$= 22.3 \text{ kW}$$

Enter the Electric Resistance Heater Data table on page 49 for the 50TJ016 at 230-3-60. The 34 kW electric heater most closely satisfies the heat required.

IV Determine fan speed and motor horsepower requirements at design conditions.

Enter Accessory/FIOP Static Pressure Drop table on page 45 at selected unit size and heater kW.

Find that at given air quantity (6000 cfm), pressure loss is .09 in. wg.

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

External static pressure	0.66 in. wg
34 kW Heater static pressure	.09 in. wg
Total static pressure	0.75 in. wg

Enter Fan Performance table for unit 50TJ016 on page 40. At 6000 cfm and 0.75 in. wg external static pressure, the fan speed is 1184 rpm and the watts are 2631. (Interpolation is necessary) The 3.7 hp motor is suitable.

V Determine net cooling capacity.

Cooling capacities are gross capacities and do not include indoor (evaporator) fan motor (IFM) heat. Use the watts input power to the motor.

IFM watts = 2631

Determine net cooling capacity using the following formula:

$$\begin{aligned} \text{Net capacity} &= \text{Gross capacity} - \text{IFM heat} \\ &= 188,000 \text{ Btuh} - 2631 \left(3.414 \frac{\text{Btuh}}{\text{Watt}} \right) \\ &= 188,000 \text{ Btuh} - 8982 \text{ Btuh} \\ &= 179,018 \text{ Btuh} \end{aligned}$$

$$\begin{aligned} \text{Net sensible capacity} &= 136,000 \text{ Btuh} - 8982 \text{ Btuh} \\ &= 127,018 \text{ Btuh} \end{aligned}$$

As demonstrated above, the 50TJ016 with the 34 kW electric heater meets the cooling capacity, sensible heating capacity, and heating capacity requirements.

NOTE: To obtain more sensible cooling, increase quantity of air entering evaporator.

Performance data



COOLING CAPACITIES

50TJ004 (3 TONS)										
Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF								
		900/0.11			1200/0.14			1500/0.17		
		Air Entering Evaporator — Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	42.8	38.9	35.0	44.8	40.8	37.0	45.8	41.9	38.2
	SHC	20.0	24.5	28.7	21.8	27.5	32.8	23.0	30.0	36.0
	KW	2.91	2.81	2.70	2.99	2.88	2.78	3.02	2.92	2.82
85	TC	40.8	36.9	33.3	42.5	38.7	35.0	43.6	39.9	36.1
	SHC	19.4	23.7	27.9	21.0	26.8	31.8	22.6	29.7	35.1
	KW	3.14	3.01	2.90	3.20	3.08	2.97	3.24	3.14	3.02
95	TC	38.7	34.9	31.4	40.4	36.7	33.0	41.4	37.6	34.1
	SHC	18.6	22.9	27.0	20.3	26.8	30.9	22.0	28.8	34.0
	KW	3.35	3.21	3.09	3.42	3.16	3.06	3.47	3.35	3.22
105	TC	36.5	32.8	29.2	38.1	34.3	30.9	39.0	35.2	32.4
	SHC	17.8	22.1	25.9	19.6	25.2	29.8	21.2	28.0	32.3
	KW	3.55	3.41	3.27	3.63	3.49	3.35	3.68	3.54	3.43
115	TC	34.3	30.7	26.9	35.7	32.1	28.8	36.5	32.9	30.6
	SHC	17.0	21.3	24.8	19.0	24.4	28.8	20.5	27.1	30.6
	KW	3.76	3.60	3.45	3.84	3.68	3.54	3.88	3.74	3.64

50TJ005 (4 TONS)										
Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF								
		1200/0.12			1600/0.15			2000/0.18		
		Air Entering Evaporator — Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	57.9	53.1	48.3	60.4	55.9	51.3	62.2	57.3	52.9
	SHC	27.2	33.3	39.2	29.4	37.2	44.8	31.4	40.3	49.1
	KW	4.07	3.93	3.79	4.17	4.03	3.90	4.24	4.08	3.96
85	TC	55.7	50.8	45.3	57.7	53.4	48.5	59.4	55.0	50.2
	SHC	26.4	32.5	37.8	28.4	36.7	43.6	30.5	40.3	47.9
	KW	4.40	4.24	4.08	4.47	4.35	4.20	4.54	4.42	4.25
95	TC	52.9	48.1	42.5	55.2	51.7	45.7	56.7	52.0	47.4
	SHC	25.5	31.5	36.4	27.6	36.7	42.2	29.7	39.2	46.7
	KW	4.70	4.54	4.36	4.78	4.65	4.47	4.87	4.70	4.56
105	TC	50.1	45.3	39.8	52.3	47.6	42.8	53.6	48.9	44.9
	SHC	24.4	30.3	35.1	26.7	34.5	40.7	28.8	38.1	44.6
	KW	5.00	4.81	4.62	5.10	4.91	4.73	5.17	4.99	4.84
115	TC	47.3	42.6	37.2	49.3	44.6	40.0	50.5	45.9	42.4
	SHC	23.4	29.2	33.7	25.9	33.3	39.3	27.8	37.1	42.4
	KW	5.30	5.07	4.88	5.42	5.19	4.99	5.48	5.28	5.12

50TJ006 (5 TONS)										
Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF								
		1500/0.07			2000/0.09			2500/0.12		
		Air Entering Evaporator — Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	71.0	63.8	55.4	74.5	67.2	59.2	76.5	69.7	62.1
	SHC	33.9	41.5	47.9	37.4	47.4	55.8	40.6	52.8	61.8
	kW	5.04	4.82	4.62	5.20	4.97	4.76	5.29	5.06	4.87
85	TC	69.2	61.0	54.2	72.9	65.6	57.2	75.2	68.1	61.5
	SHC	33.4	40.5	47.3	37.0	46.9	54.9	40.1	52.3	61.3
	kW	5.50	5.27	5.02	5.66	5.41	5.18	5.75	5.50	5.29
95	TC	65.5	56.6	50.4	69.4	62.1	53.1	71.2	63.3	57.8
	SHC	32.1	38.8	45.6	35.8	46.9	52.6	39.1	50.9	57.8
	kW	5.88	5.62	5.37	6.01	5.53	5.31	6.12	5.87	5.67
105	TC	61.9	53.1	47.1	65.4	56.6	50.5	67.1	58.8	54.5
	SHC	30.8	37.5	44.1	34.5	43.7	50.2	37.9	49.3	54.5
	kW	6.25	5.99	5.72	6.38	6.13	5.91	6.50	6.23	6.06
115	TC	58.2	49.7	43.7	61.4	52.3	47.8	63.0	54.3	51.2
	SHC	29.5	36.1	42.5	33.2	42.1	47.8	36.7	47.6	51.2
	kW	6.63	6.35	6.08	6.75	6.49	6.29	6.88	6.59	6.46



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 Btu/h) Gross
- TC — Total Capacity (1000 Btu/h) Gross

NOTES:

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

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

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

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

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

- The SHC is based on 80 F edb temperature of air entering evaporator 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

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

50TJ007 (6 TONS)													
Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		1800/0.06			2100/0.08			2400/0.09			3000/0.11		
		Air Entering Evaporator — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC SHC kW	86.6	80 0	73 6	87 8	80 3	87 8	90 8	84.1	77 2	93 2	86.6	79 7
		42.2	52.3	62.2	43.0	53.9	43.0	46.5	59.6	71.6	50.1	66.4	78.7
		5.48	5.33	5.21	5.69	5.50	5.69	5.59	5.44	5.29	5.66	5.51	5.35
85	TC SHC kW	84.1	77.4	71.0	84 0	77.2	84.0	87 8	81 2	74.5	90 1	83 5	77 3
		41.4	51.3	61.1	41.7	53.1	41.7	45.5	58.6	70.3	49.4	65.4	76.7
		6.17	6.00	5.85	6.21	6.04	6.21	6.27	6.11	5.94	6.35	6.19	6.02
95	TC SHC kW	81 6	74.7	68 5	81 0		81.0	84 8	78.2	71.8	87 0	80 4	74 8
		40.6	50.3	60.0	40.8		40.8	44.6	57.6	69.1	48.7	64.5	74.7
		6.86	6.67	6.49	6.78		6.78	6.95	6.77	6.59	7.03	6.86	6.69
105	TC SHC kW	78 4	71.8	65 6	76.8	69 7	76.8	81 6	74.9	68 9	83 3	76 9	72 1
		39.4	49.2	58.7	39.4	50.3	39.4	43.5	56.4	67.4	47.4	63.1	72.0
		7.60	7.39	7.20	7.30	7.05	7.30	7.72	7.50	7.31	7.77	7.59	7.41
115	TC SHC kW	75 1	68.7	62 5	72 5	65.5	72.5	78 0	71 5	66 1	79 5	73 3	69 3
		38.1	47.9	57.2	37.9	48.7	37.9	42.3	55.1	65.5	46.3	61.6	69.2
		8.36	8.14	7.93	7.81	7.53	7.81	8.49	8.25	8.06	8.55	8.33	8.18

Performance data (cont)



COOLING CAPACITIES (cont)

50TJ008 (7½ TONS)													
Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		2250/0.07			2800/0.09			3000/0.10			3750/0.12		
		Air Entering Evaporator — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	102.8	94.8	86.2	105.8	98.2	90.0	106.4	99.0	90.8	109.2	101.6	93.6
	SHC	49.4	61.8	73.2	52.6	67.8	81.6	53.6	69.8	84.0	58.2	77.4	92.2
	kW	7.14	6.82	6.50	7.28	6.98	6.68	7.32	7.04	6.72	7.46	7.18	6.86
85	TC	98.2	90.2	81.6	101.8	93.6	85.2	102.6	94.4	86.0	104.6	96.8	89.6
	SHC	48.0	60.2	71.2	51.6	66.4	79.6	52.8	68.6	82.0	56.8	76.0	89.4
	kW	7.66	7.34	7.00	7.82	7.50	7.18	7.86	7.54	7.22	7.98	7.68	7.40
95	TC	93.8	85.2	76.6	97.0	88.0	80.0	97.6	89.0	81.2	99.4	91.2	85.2
	SHC	46.4	58.2	68.8	50.2	65.0	77.2	51.4	66.8	79.0	55.6	74.4	85.2
	kW	8.18	7.84	7.48	8.36	8.04	7.64	8.40	8.04	7.70	8.50	8.16	7.92
105	TC	88.4	79.8	70.8	91.0	82.8	74.6	91.6	83.4	76.0	93.8	85.4	80.6
	SHC	44.6	56.2	66.0	48.2	62.6	74.2	49.4	64.8	75.6	54.2	72.4	80.6
	kW	8.68	8.30	7.98	8.80	8.46	8.14	8.86	8.50	8.20	8.98	8.64	8.42
115	TC	82.8	73.8	66.0	85.2	76.8	69.6	85.6	77.4	71.0	87.6	79.4	76.0
	SHC	42.6	53.8	63.2	46.4	60.4	69.6	47.8	62.6	71.0	52.8	70.4	75.8
	kW	9.16	8.78	8.42	9.30	8.92	8.64	9.34	8.96	8.72	9.48	9.10	8.94

50TJ009 (8½ TONS)													
Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		2550/0.08			3000/0.10			3400/0.11			4250/0.135		
		Air Entering Evaporator — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	116.6	108.4	99.0	119.2	111.3	101.8	120.1	112.8	103.6	122.3	114.8	106.3
	SHC	71.9	61.9	75.9	75.2	65.1	81.4	80.5	68.0	85.6	92.7	73.9	94.4
	kW	7.77	7.57	7.38	7.86	10.68	7.44	7.89	6.72	7.51	3.97	7.80	7.60
85	TC	113.3	104.2	94.0	115.7	106.9	97.0	117.2	108.7	98.8	120.1	111.0	101.8
	SHC	54.0	67.7	80.4	56.3	72.5	87.1	58.2	76.4	92.5	62.9	84.2	101.0
	kW	8.46	8.22	7.96	5.54	8.31	8.04	8.60	8.38	8.12	8.72	8.48	8.23
95	TC	109.1	99.3	87.3	111.2	101.4	91.4	112.5	103.6	93.7	115.3	105.8	107.4
	SHC	52.6	65.9	77.4	55.0	84.9	84.9	57.1	75.1	90.3	62.2	83.2	97.3
	kW	8.90	8.57	8.68	8.99	8.79	8.79	9.06	9.12	8.86	4.62	9.24	9.00
105	TC	103.3	94.0	81.4	105.9	96.3	84.6	107.4	97.7	87.9	109.4	99.9	92.8
	SHC	50.5	64.0	74.5	53.5	69.1	81.4	55.8	73.1	86.6	60.4	81.4	92.8
	kW	9.74	9.43	9.08	9.85	9.54	9.21	9.92	9.60	9.29	10.03	9.72	9.48
115	TC	97.7	87.9	75.9	99.9	90.4	78.8	101.3	91.8	82.4	102.9	93.8	88.3
	SHC	48.7	61.7	71.9	51.8	66.9	78.1	54.0	71.2	82.3	58.5	79.4	88.2
	kW	10.33	9.97	9.61	10.46	10.10	9.75	10.54	10.18	9.88	10.61	10.30	10.10

50TJ012 (10 TONS)												
Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF										
		3000/0.095			4000/0.125			5000/0.15				
		Air Entering Evaporator — Ewb (F)										
		72	67	62	72	67	62	72	67	62		
75	TC	135.8	124.8	112.0	142.4	130.6	119.8	146.5	134.2	123.7		
	SHC	66.8	82.6	97.4	73.2	93.4	112.7	79.7	104.4	123.1		
	kW	9.76	9.41	9.10	10.00	9.61	9.27	10.17	9.75	9.41		
85	TC	130.0	119.6	104.0	136.0	125.0	114.5	140.0	127.9	118.8		
	SHC	64.3	80.5	93.8	71.1	91.7	110.2	77.5	101.8	118.7		
	kW	10.41	10.07	9.74	10.67	10.28	9.94	10.84	10.41	10.09		
95	TC	124.1	113.7	96.7	129.5	118.8	108.9	132.8	122.0	114.1		
	SHC	62.2	78.4	90.0	69.1	89.7	105.9	74.9	100.1	114.0		
	kW	11.13	10.78	10.40	11.38	10.94	10.63	11.52	11.14	10.83		
105	TC	118.1	104.6	87.9	122.7	111.8	98.5	126.0	115.1	108.0		
	SHC	60.4	74.9	85.2	66.9	87.7	98.5	73.1	98.3	108.0		
	kW	11.93	11.52	11.10	12.13	11.74	11.41	12.21	11.89	11.65		
115	TC	57.5	49.0	42.1	60.0	51.9	46.7	61.3	54.9	51.4		
	SHC	29.7	36.2	41.7	33.2	42.4	46.7	36.4	48.3	51.4		
	kW	6.13	5.91	5.70	6.24	6.03	5.89	6.30	6.10	6.00		



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 Btu/h) Gross
- TC — Total Capacity (1000 Btu/h) Gross

NOTES:

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

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

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

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

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

- The SHC is based on 80 F edb temperature of air entering evaporator 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)

50TJ014 (12½ TONS)

Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		3750/0.08			4500/0.09			5000/0.10			6250/0.12		
		Air Entering Evaporator — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	175.6	162.2	149.2	181.0	167.5	154.2	182.9	170.2	156.4	187.2	174.7	161.8
	SHC	85.7	107.3	128.0	91.4	116.2	140.3	94.2	122.2	146.5	102.1	135.3	160.7
	kW	11.16	10.85	10.57	11.32	11.00	10.69	11.37	11.07	10.73	11.49	11.19	10.87
85	TC	169.3	155.7	140.6	174.2	160.7	147.0	176.9	163.0	149.7	181.5	167.3	155.8
	SHC	83.9	104.8	124.0	89.6	113.9	137.0	92.7	119.7	143.6	100.9	133.4	155.6
	kW	12.15	11.78	11.42	12.31	11.94	11.58	12.39	12.01	11.63	12.53	12.14	11.82
95	TC	161.9	148.9	132.0	166.8	153.5	139.1	169.5	155.7	142.8	173.2	159.5	149.6
	SHC	81.4	102.0	119.8	87.0	111.1	133.2	90.7	117.3	140.2	98.3	130.8	149.6
	kW	13.12	12.72	12.28	13.30	12.99	12.46	13.40	12.97	12.56	13.54	13.11	12.78
105	TC	154.9	141.3	123.0	158.8	145.4	130.2	160.9	147.6	135.0	165.3	151.2	143.2
	SHC	79.0	99.2	115.5	84.5	108.2	128.1	87.8	114.3	134.9	96.6	127.8	143.1
	kW	14.16	13.66	13.17	14.31	13.82	13.35	14.38	13.91	13.48	14.58	14.07	13.77
115	TC	146.2	132.2	113.1	150.5	137.0	122.4	152.3	139.4	127.8	155.2	142.7	136.0
	SHC	76.1	95.7	110.3	81.7	105.2	122.3	85.0	111.6	127.7	92.9	125.0	135.8
	kW	15.09	14.57	14.07	15.30	14.76	14.25	15.37	14.87	14.43	15.49	15.02	14.73

50TJ016 (15 TONS)

Temp (F) Air Entering Condenser		Air Entering Evaporator — Cfm/BF								
		4500/0.08			5250/0.10			6000/0.11		
		Air Entering Evaporator — Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC	212.0	195.0	179.0	216.0	200.0	183.0	219.0	204.0	187.0
	SHC	101.0	126.0	148.0	105.0	133.0	161.0	109.0	141.0	170.0
	KW	15.20	14.70	14.20	15.40	14.90	14.40	15.50	15.10	14.60
85	TC	205.0	188.0	171.0	210.0	193.0	176.0	212.0	196.0	179.0
	SHC	98.5	123.0	145.0	103.0	131.0	156.0	108.0	138.0	167.0
	KW	16.60	16.10	15.50	16.80	16.30	15.70	16.90	16.40	15.90
95	TC	197.0	180.0	162.0	202.0	184.0	167.0	205.0	188.0	171.0
	SHC	95.8	120.0	141.0	101.0	128.0	152.0	105.0	136.0	164.0
	KW	18.00	17.40	16.70	18.20	17.60	16.90	18.40	17.80	17.10
105	TC	190.0	172.0	152.0	194.0	176.0	157.0	197.0	179.0	161.0
	SHC	93.0	117.0	136.0	98.0	125.0	148.0	103.0	133.0	158.0
	KW	19.40	18.70	17.90	19.60	18.90	18.10	19.80	19.10	18.40
115	TC	180.0	161.0	142.0	185.0	166.0	146.0	187.0	170.0	151.0
	SHC	90.0	112.0	131.0	95.4	121.0	142.0	100.0	130.0	151.0
	KW	20.80	19.90	19.10	21.00	20.10	19.30	21.20	20.30	19.60

50TJ016 (15 TONS) (cont)

Temp (F) Air Entering Condenser		Air Entering Evaporator — Cfm/BF					
		6750/0.12			7500/0.14		
		Air Entering Evaporator — Ewb (F)					
		72	67	62	72	67	62
75	TC	223.0	205.0	189.0	224.0	207.0	193.0
	SHC	115.0	152.0	179.0	118.0	157.0	187.0
	kW	15.70	15.10	14.70	15.70	15.20	14.80
85	TC	215.0	199.0	182.0	216.0	199.0	185.0
	SHC	113.0	145.0	176.0	116.0	154.0	184.0
	kW	17.10	16.50	16.00	17.10	16.60	16.10
95	TC	206.0	191.0	174.0	209.0	193.0	178.0
	SHC	110.0	143.0	172.0	115.0	150.0	178.0
	kW	18.40	17.90	17.30	18.60	18.00	17.50
105	TC	199.0	182.0	166.0	200.0	183.0	171.0
	SHC	107.0	140.0	166.0	112.0	148.0	171.0
	kW	19.90	19.20	18.60	20.00	19.30	18.80
115	TC	190.0	172.0	158.0	191.0	173.0	163.0
	SHC	105.0	137.0	158.0	109.0	144.0	163.0
	kW	21.40	20.50	19.90	21.50	20.60	20.10

Performance data (cont)



COOLING CAPACITIES (cont)

50TJ020 (18 TONS)										
Temp (F) Air Entering Condenser		Air Entering Evaporator — Cfm/BF								
		5400/0.035			6300/0.045			7200/0.055		
		Air Entering Evaporator — Ewb (F)								
		72	67	62	72	67	62	72	67	62
75	TC SHC kW	233.0	215 0	198 8	237.0	221 0	204.5	240.0	223.0	209.6
		116.7	148 3	178.0	123.8	159.2	193.0	132 9	170 1	206 1
		15.42	14 99	14.54	15.57	15.15	14.73	15 66	15.26	14.90
85	TC SHC kW	226 0	208 9	191.1	230 0	212.7	196.6	234.0	216 0	202.0
		115.2	145 7	174 5	120 9	156.6	189.1	126.8	167 2	201.2
		16.88	16 35	15 80	16 99	16.52	16.03	17 13	16.65	16.24
95	TC SHC kW	217.0	200.0	181.3	221 0	204 3	187.5	224.0	207.8	194 2
		112.4	142.3	170.0	119.0	153 3	184 3	125.3	164.2	194.0
		18.25	17.66	17.04	18.40	17.86	17 31	18.55	18.00	17 54
105	TC SHC kW	206 7	188 3	170.3	210 0	193.4	176.9	213 4	196.8	185.7
		109.0	138 2	164.3	115.6	149.7	176.7	122.6	160.2	185.6
		19.54	18 94	18.25	19.75	19.05	18 57	19.94	19 22	18.83
115	TC SHC kW	195.4	178 7	159 1	199 7	183.0	169 0	203 3	185 9	176 3
		104.8	134 2	157.9	111.8	145 7	168.9	119.3	156.3	176.3
		20 77	20.10	19 40	20 95	20 31	19.74	21 25	20 48	20.09
125	TC SHC kW	183 9	167 2	151.1	187 1	171 8	160 2	189.5	174.4	167.6
		100 8	129 8	151 1	107.6	141.4	160 1	114.3	152.1	167.5
		21.80	21 25	20.61	22.10	21.50	21 02	22 30	21.60	21 25

50TJ020 (18 TONS) (cont)							
Temp (F) Air Entering Condenser		Air Entering Evaporator — Cfm/BF					
		8100/0.065			9000/0.075		
		Air Entering Evaporator — Ewb (F)					
		72	67	62	72	67	62
75	TC	239 0	227.0	214 6	241 0	227.0	217 0
	SHC	141 6	180 3	214 4	148.1	191 2	217 0
	KW	15.65	15.36	15 04	15 75	15.38	15 12
85	TC	236.0	219.0	207.6	237 0	221.0	212.4
	SHC	133.0	176.9	207.4	139.6	186 9	211.1
	KW	17 21	16 73	16.41	17.24	16.80	16.55
95	TC	227 0	209 3	199.8	229.0	211 3	204 0
	SHC	131.4	174 2	199.8	136.5	183.7	203 9
	KW	18.67	18 07	17.74	18.74	18 14	17 91
105	TC	216.0	199 0	191 0	217 0	200.7	195 1
	SHC	128.7	170 6	190 0	133 9	180.0	195 0
	KW	20.01	19 38	19.03	20 01	19.42	19.22
115	TC	204.1	187.9	182.0	206.1	189 8	186 1
	SHC	124 9	166.4	182.0	131.3	175.8	186.0
	KW	21.27	20 55	20.30	21.40	20 71	20 50
125	TC	191 5	176 9	172 7	193.4	178 9	176 3
	SHC	120 6	161.6	172 6	127 0	169 9	176.3
	KW	22.40	21 70	21 60	22 60	21.90	21.70

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} = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil (h_{lwb})

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

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

- 3 SHC is based on 80 F edb temperature of air entering evaporator 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)

50TJ024 (20 TONS)													
Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		6000/0.06			7000/0.075			8000/0.085			9000/0.095		
		Air Entering Evaporator — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	266.0	244.0	223.0	228.0	250.0	271.0	276.0	254.0	232.0	236.0	257.0	276.0
	SHC	127.5	161.0	192.6	207.9	171.8	133.8	140.7	182.4	221.0	233.0	192.2	147.3
	kW	17.55	17.20	16.79	16.94	17.30	17.68	17.80	17.42	17.04	17.14	17.50	17.80
85	TC	259.0	236.0	213.0	263.0	241.0	219.0	266.0	248.0	224.0	269.0	252.0	229.0
	SHC	125.5	157.7	187.7	131.4	169.5	203.9	138.0	183.0	217.3	145.0	193.0	227.0
	kW	19.21	18.82	18.28	19.36	19.00	18.47	19.49	19.06	18.64	19.56	19.17	18.81
95	TC	250.0	227.0	203.1	255.0	231.0	208.9	259.0	240.0	214.3	262.0	246.0	220.0
	SHC	123.1	154.5	183.7	129.9	166.2	198.9	136.8	180.0	212.3	142.7	189.0	220.0
	kW	21.01	20.48	19.79	21.19	20.63	20.00	21.35	20.69	20.19	21.48	20.82	20.48
105	TC	238.0	216.0	189.7	243.0	221.0	195.3	248.0	224.0	202.9	250.0	226.0	210.9
	SHC	119.3	150.4	177.5	126.6	162.5	192.7	133.7	174.1	202.9	140.0	184.8	210.9
	kW	22.70	22.10	21.30	22.90	22.30	21.62	23.00	22.50	21.93	23.20	21.60	22.12
115	TC	227.0	201.6	175.6	231.0	207.6	182.8	234.0	211.4	191.9	237.0	214.6	200.1
	SHC	115.4	145.3	170.5	122.8	157.8	182.6	129.8	169.6	191.9	136.5	180.2	200.1
	kW	24.30	23.60	22.90	24.60	23.90	23.30	24.70	24.10	23.60	24.90	24.10	23.80
125	TC	214.3	190.5	164.2	218.0	196.2	173.6	221.0	198.8	184.0	223.0	200.7	191.0
	SHC	111.0	141.0	163.8	117.9	153.2	173.6	125.4	164.4	184.0	131.6	174.9	191.0
	kW	25.80	25.00	24.40	26.00	25.20	24.80	26.20	25.40	25.00	26.40	25.50	25.30

50TJ028 (25 TONS)													
Temp (F) Air Entering Condenser (Edb)		Air Entering Evaporator — Cfm/BF											
		7000/0.03			8750/0.05			10,000/0.07			11,250/0.09		
		Air Entering Evaporator — Ewb (F)											
		72	67	62	72	67	62	72	67	62	72	67	62
75	TC	323.9	299.4	275.8	331.3	312.7	288.4	336.1	319.8	294.7	342.6	322.5	300.0
	SHC	159.4	195.2	230.6	170.1	216.5	259.1	177.6	231.1	276.8	186.6	242.9	292.6
	kW	21.10	20.50	19.90	21.30	20.90	20.20	21.50	21.10	20.40	21.70	21.20	20.50
85	TC	315.3	290.4	264.3	326.9	303.2	278.0	333.7	309.1	285.0	335.1	314.2	291.1
	SHC	156.3	191.7	224.9	168.4	213.2	254.9	177.5	226.9	273.8	184.4	240.7	288.4
	kW	22.70	22.10	21.30	23.10	22.50	21.80	23.30	22.70	22.00	23.30	22.80	22.20
95	TC	304.1	277.4	243.1	315.3	290.1	263.8	320.4	295.6	271.1	324.1	300.6	279.4
	SHC	152.0	186.5	215.2	165.0	208.5	248.0	173.0	222.4	266.4	181.6	236.5	279.4
	kW	24.80	24.00	23.20	25.20	24.50	23.50	25.40	24.60	23.80	25.50	24.80	24.10
105	TC	291.2	261.4	224.8	300.9	274.2	242.1	305.7	280.3	252.3	309.8	284.8	266.3
	SHC	147.2	179.7	206.6	159.9	201.8	237.3	168.3	216.8	252.3	176.8	231.1	266.3
	kW	26.90	25.80	25.00	27.20	26.30	25.40	27.40	26.60	25.80	27.60	26.80	26.00
115	TC	274.6	237.9	207.6	285.9	251.5	222.6	291.3	258.4	237.7	293.9	267.5	247.1
	SHC	140.9	170.0	198.6	154.9	193.2	222.6	164.1	208.7	237.7	163.0	224.3	247.1
	kW	28.80	27.80	26.80	29.40	28.20	27.40	29.60	28.50	27.70	29.70	28.50	28.10
125	TC	254.5	214.9	184.3	266.7	230.9	206.7	272.0	236.0	220.8	276.1	240.0	231.1
	SHC	133.3	160.8	184.3	148.0	185.1	206.7	157.5	200.2	220.8	166.6	214.4	231.1
	kW	30.90	29.90	28.90	31.40	30.20	29.60	31.70	30.50	29.90	31.90	30.80	30.30

GLYCOL COIL (016-028)																									
Temperature Entering Condenser		Air Entering Evaporator — Cfm																							
		4400						5400						7200						9000					
		Percent Glycol																							
		25			50			25			50			25			50			25			50		
EWT	EDB	Cap	Gpm	Ldb	Cap	Gpm	Ldb	Cap	Gpm	Ldb	Cap	Gpm	Ldb	Cap	Gpm	Ldb	Cap	Gpm	Ldb	Cap	Gpm	Ldb	Cap	Gpm	Ldb
200	55	310	33	120	293	33	116	347	37	115	327	37	111	405	43	107	381	43	104	453	48	102	425	48	99
180		255	27	108	237	27	105	285	30	104	264	30	101	332	35	98	306	35	95	371	39	93	342	39	90
160		200	21	97	181	21	93	223	24	94	202	23	90	259	27	89	233	27	85	290	31	85	260	30	82
200	70	274	29	127	257	29	124	306	32	123	287	33	119	357	38	116	333	38	113	400	42	111	372	42	108
180		218	23	116	201	23	112	244	26	112	224	26	109	284	30	107	259	30	104	317	34	103	287	33	100
160		164	17	104	146	17	100	183	19	101	162	19	98	212	22	97	187	22	94	237	25	94	208	24	91
200	80	249	26	132	233	27	129	279	30	128	260	30	125	325	34	122	302	34	119	364	39	118	337	38	115
180		194	21	121	177	20	117	217	23	117	197	23	114	252	26	113	228	27	109	281	30	109	254	29	106
160		140	15	109	123	14	106	156	16	107	136	16	103	180	18	103	156	19	100	201	21	101	173	20	78

LEGEND
 CAP — Btuh x 1000
 EDB — Entering Dry Bulb Temperature (F)
 EWT — Entering Water Temperature (F)
 GPM — Gallons Per Minute
 Ldb — Leaving Dry-Bulb Temperature (F)

NOTES:
 1 This accessory glycol coil is intended for use with a MINIMUM of 25% glycol solution. It IS NOT intended for use solely with water due to freeze-up conditions and the resulting water damage to the conditioned space.
 2 Water Δ = 20 F

Performance data (cont)



FAN PERFORMANCE — VERTICAL DISCHARGE UNITS

50TJ004 (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)
FIOF — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

1. Values include losses for filters, unit casing, and wet coils. See page 45 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 Evaporator-Fan Motor Performance table on page 48.
- Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative to verify.

50TJ004 (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

50TJ004 (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
FIOF — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

- Boldface** indicates a field-supplied drive is required. (See Note 6.)
- 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 Evaporator-Fan Motor Performance table on page 48.
- Values include losses for filters, unit casing, and wet coils. See page 45 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. 760 to 1000 rpm. All other rpms require field-supplied drive.
- Interpolation is permissible. Do not extrapolate.

FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TJ005 (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)
FIOF — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

1. Values include losses for filters, unit casing, and wet coils. See page 45 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 Evaporator-Fan Motor Performance table on page 48.
- Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative to verify.

50TJ005 (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	832	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									

50TJ005 (4TONS) — 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
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 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 Evaporator-Fan Motor Performance table on page 48.

- Values include losses for filters, unit casing, and wet coils. See page 45 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: 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)

50TJ006 (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 45 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 Evaporator-Fan Motor Performance table on page 48.
- Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative to verify.

50TJ006 (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			

50TJ006 (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 Evaporator-Fan Motor Performance table on page 48.

- Values include losses for filters, unit casing, and wet coils. See page 45 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)

50TJ007 (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	1471	2.51	2214
2800	1280	1.94	1718	1311	2.03	1796	1381	2.25	1989	1442	2.47	2189	1505	2.72	2394
2900	1324	2.15	1901	1354	2.24	1980	1423	2.47	2180	1481	2.69	2399	1542	2.94	2579
3000	1368	2.37	2093	1396	2.46	2171	1460	2.69	2365	1521	2.93	2571	—	—	—

50TJ007 (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	1538	2.46	2171
2300	1392	1.97	1744	1454	2.18	1927	1515	2.41	2128	1569	2.64	2325
2400	1426	2.15	1901	1485	2.36	2084	1544	2.59	2283	1591	2.84	2459
2500	1461	2.34	2067	1514	2.55	2249	1575	2.78	2445	—	—	—
2600	1495	2.54	2240	1542	2.76	2425	—	—	—	—	—	—
2700	1522	2.75	2421	—	—	—	—	—	—	—	—	—
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 Evaporator-Fan Motor Performance table on page 48.

- Values include losses for filters, unit casing, and wet coils. See page 45 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)

50TJ008 (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												

50TJ008 (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	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												

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 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 Evaporator-Fan Motor Performance table on page 48.

- Values include losses for filters, unit casing, and wet coils. See page 45 for accessory/FIOF 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)

50TJ009 (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	557	0.71	684	633	0.94	867	697	1.18	1064	756	1.42	1267	811	1.69	1499
2600	565	0.74	708	639	0.97	891	703	1.22	1097	761	1.46	1301	816	1.74	1543
2700	581	0.81	763	652	1.04	948	717	1.31	1173	773	1.55	1378	827	1.83	1621
2800	597	0.89	827	665	1.12	1014	733	1.40	1250	786	1.66	1473	839	1.93	1709
2900	613	0.97	891	679	1.20	1081	745	1.50	1335	799	1.76	1560	850	2.04	1805
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	887	2.40	2136
3300	679	1.35	1207	740	1.61	1430	798	1.91	1691	854	2.24	1980	900	2.54	2264
3400	696	1.46	1301	756	1.73	1534	811	2.02	1788	868	2.37	2093	914	2.68	2398
3500	712	1.57	1396	771	1.85	1639	824	2.14	1892	883	2.50	2206	928	2.84	2536
3600	729	1.69	1499	787	1.98	1753	839	2.27	2006	894	2.64	2328	942	2.99	2670
3700	746	1.82	1613	803	2.12	1875	854	2.42	2135	907	2.78	2445	958	3.15	2794
3750	755	1.89	1674	811	2.20	1945	862	2.49	2197	914	2.85	2504	963	3.23	2845
3800	763	1.95	1726	819	2.27	2006	869	2.56	2257	920	2.92	2562	970	3.29	2896
3900	780	2.09	1849	835	2.42	2135	884	2.72	2394	933	3.07	2695	983	3.40	3002
4000	796	2.23	1971	851	2.56	2257	900	2.89	2537	946	3.23	2845	—	—	—
4100	813	2.39	2110	867	2.73	2411	915	3.06	2678	959	3.40	2995	—	—	—
4200	831	2.55	2263	883	2.91	2554	931	3.24	2823	—	—	—	—	—	—
4250	839	2.62	2317	892	3.00	2629	939	3.34	2902	—	—	—	—	—	—

50TJ009 (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	953	2.53	2232	1002	2.87	2521	1045	3.28	2854
2600	913	2.29	2023	957	2.58	2275	1004	2.91	2554	1050	3.31	2878
2700	924	2.40	2120	967	2.70	2377	1010	3.01	2637	1056	3.37	2925
2800	935	2.52	2225	978	2.82	2479	1019	3.13	2735	1061	3.41	3002
2900	946	2.65	2335	989	2.96	2585	1030	3.27	2847	—	—	—
3000	957	2.78	2445	1000	3.09	2702	1040	3.41	2955	—	—	—
3100	968	2.91	2554	1011	3.24	2832	—	—	—	—	—	—
3200	980	3.04	2664	1022	3.38	2933	—	—	—	—	—	—
3300	991	3.18	2775	—	—	—	—	—	—	—	—	—
3400	1003	3.32	2885	—	—	—	—	—	—	—	—	—
3500	1014	3.46	3002	—	—	—	—	—	—	—	—	—
3600	—	—	—	—	—	—	—	—	—	—	—	—
3700	—	—	—	—	—	—	—	—	—	—	—	—
3750	—	—	—	—	—	—	—	—	—	—	—	—
3800	—	—	—	—	—	—	—	—	—	—	—	—
3900	—	—	—	—	—	—	—	—	—	—	—	—
4000	—	—	—	—	—	—	—	—	—	—	—	—
4100	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—
4250	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

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

NOTES

- 1 Boldface** indicates a field-supplied drive is required (See Note 6.)
- 2**  indicates field-supplied motor and drive are required.
- 3** 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 Evaporator-Fan Motor Performance table on page 48.

- 4** Values include losses for filters, unit casing, and wet coils. See page 45 for accessory/FIOF static pressure information.
- 5** Use of a field-supplied motor may affect wire sizing. Contact Carrier representative to verify.
- 6** Standard motor drive range: 685 to 935 rpm. All other rpms require field-supplied drive.
- 7** Interpolation is permissible. Do not extrapolate.

Performance data (cont)



FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TJ012 (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			1.2		
	Rpm	Bhp	Watts	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	825	1.43	1275
3100	544	0.70	677	616	0.86	803	680	1.03	940	735	1.20	1081	787	1.36	1216	835	1.52	1353
3200	557	0.75	716	628	0.93	859	690	1.10	998	746	1.28	1148	796	1.44	1284	844	1.61	1430
3300	570	0.81	763	639	0.99	907	700	1.18	1064	757	1.36	1216	805	1.52	1353	854	1.70	1508
3400	583	0.88	818	651	1.06	965	711	1.25	1123	767	1.44	1284	815	1.61	1430	863	1.79	1587
3500	596	0.94	867	663	1.14	1031	721	1.33	1190	777	1.52	1353	826	1.71	1517	871	1.88	1665
3600	609	1.01	924	674	1.22	1097	732	1.42	1267	787	1.61	1430	836	1.80	1595	880	1.98	1753
3700	622	1.09	989	686	1.30	1165	744	1.50	1335	797	1.70	1508	847	1.91	1691	890	2.09	1849
3800	635	1.16	1047	698	1.39	1241	755	1.59	1413	808	1.80	1595	857	2.01	1779	901	2.20	1945
3900	649	1.25	1123	713	1.48	1318	767	1.68	1491	818	1.90	1683	867	2.11	1866	912	2.32	2050
4000	662	1.33	1190	722	1.57	1396	778	1.78	1578	829	2.01	1779	878	2.22	1962	922	2.44	2203
4100	675	1.42	1267	734	1.67	1482	790	1.89	1674	839	2.12	1875	888	2.33	2058	933	2.56	2309
4200	689	1.52	1353	746	1.77	1569	801	1.99	1761	851	2.23	1971	898	2.45	2212	943	2.69	2424
4300	702	1.61	1430	759	1.88	1665	813	2.11	1866	862	2.34	2067	908	2.58	2326	953	2.81	2533
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	2606									
5000	797	2.44	2203	849	2.73	2460												

50TJ012 (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
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 indicates alternate motor and drive are required
- 3 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. For additional information on motor performance, refer to Evaporator-Fan Motor Performance table on page 48.

- 5 Values include losses for filters, unit casing, and wet coils. See page 45 for accessory/FIOF static pressure information.
- 6 Use of a field-supplied motor may affect wire sizing. Contact Carrier representative to verify.
- 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 — VERTICAL DISCHARGE UNITS

50TJ014 (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	4.56	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	3961	1050	4.75	4268									
6200	1023	4.63	4176												
6300	1038	4.85	4382												

50TJ014 (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	1149	4.37	3924	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	3961	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:

- 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. For additional information on motor performance, refer to Evaporator-Fan Motor Performance table on page 48.

- Values include losses for filters, unit casing, and wet coils. See page 45 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)



NOTE: FAN PERFORMANCE DATA TABLES FOR 50TJ016-028 UNITS ARE ON PAGES 40-44.

FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS

50TJ004 (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 45 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 Evaporator-Fan Motor Performance table on page 48.
- Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative to verify.

50TJ004 (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	526	0.06	70	584	0.08	99	656	0.12	139	734	0.22	219	818	0.25	269	875	0.27	289
1000	570	0.09	109	627	0.13	149	738	0.19	189	800	0.26	259	848	0.29	288	895	0.31	308
1100	614	0.13	149	670	0.16	189	758	0.23	229	812	0.29	288	863	0.32	308	914	0.35	348
1200	658	0.16	189	710	0.23	229	780	0.28	279	840	0.32	318	889	0.36	358	938	0.40	398
1300	703	0.20	239	752	0.27	269	808	0.32	318	868	0.37	368	916	0.41	408	963	0.45	448
1400	725	0.29	288	776	0.31	308	845	0.38	378	891	0.42	418	937	0.47	467	983	0.51	507
1500	755	0.33	328	816	0.38	378	870	0.43	428	924	0.48	477	969	0.53	527	1014	0.58	577

50TJ004 (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	924	0.32	308	953	0.35	348	989	0.38	388	1028	0.42	438	1074	0.49	487	1120	0.54	537
1000	936	0.35	348	977	0.39	388	1020	0.44	438	1064	0.48	477	1124	0.54	537	1185	0.60	597
1100	960	0.39	388	1005	0.43	428	1052	0.49	487	1100	0.52	527	1163	0.59	587	1225	0.65	647
1200	960	0.45	388	1038	0.50	497	1076	0.53	527	1136	0.59	577	1201	0.65	647	1266	0.72	716
1300	1012	0.51	507	1061	0.56	557	1090	0.61	607	1172	0.65	647	1239	0.72	716	1306	0.79	786
1400	1027	0.56	557	1071	0.60	597	1108	0.67	666	1208	0.70	706	1278	0.79	786	1347	0.87	865
1500	1056	0.63	627	1097	0.68	676	1117	0.70	696	1245	0.74	776	1315	0.87	865	1385	0.96	955

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 Evaporator-Fan Motor Performance table on page 48.

- Values include losses for filters, unit casing, and wet coils. See page 45 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)

50TJ005 (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 45 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 Evaporator-Fan Motor Performance table on page 48.
- Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative to verify.

50TJ005 (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			
2000	778	0.55	578	836	0.62	651	875	0.70	730	913	0.77	809	1004	0.94	988						

50TJ005 (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									
1500	1060	0.88	899	1098	0.96	981												
1600	1080	0.95	971															
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)
-  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 Evaporator-Fan Motor Performance table on page 48

- Values include losses for filters, unit casing, and wet coils. See page 45 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)

50TJ006 (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)
FIOF — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

1 Values include losses for filters, unit casing, and wet coils. See page 45 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 Evaporator-Fan Motor Performance table on page 48.
- Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative to verify.

50TJ006 (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	

50TJ006 (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	1442	1.83	1953
1800	1178	1.14	1165	1249	1.32	1349	1316	1.52	1553	1382	1.72	1758	1460	1.85	1985
1900	1201	1.23	1257	1274	1.43	1461	1338	1.62	1656	1402	1.80	1870	1478	1.87	2017
2000	1226	1.33	1359	1297	1.53	1564	1363	1.73	1768	1424	1.84	1892	1496	1.89	2049
2100	1252	1.45	1482	1320	1.64	1676	1388	1.80	1891	1446	1.88	1914	1514	1.91	2081
2200	1280	1.58	1615	1345	1.77	1809	1410	1.87	2003	1468	1.92	2036	1532	1.93	2113
2300	1309	1.71	1747	1370	1.91	1952	1434	1.94	2115	1490	1.96	2058	1550	1.95	2145
2400	1336	1.80	1891	1395	2.06	2105	1458	2.06	2217	1512	2.00	2180	1568	2.00	2217
2500	1362	1.90	2044	1420	2.20	2269	1486	2.15	2329	1543	2.05	2242	1593	2.05	2300

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)
- Shaded area** 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 Evaporator-Fan Motor Performance table on page 48.

- Values include losses for filters, unit casing, and wet coils. See page 45 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 — HORIZONTAL DISCHARGE UNITS (cont)

50TJ007 (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						

50TJ007 (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:

1. **Boldface** indicates a field-supplied drive is required. (See Note 6.)
2.  indicates field-supplied motor and drive are required
3. 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 Evaporator-Fan Motor Performance table on page 48.

4. Values include losses for filters, unit casing, and wet coils. See page 45 for accessory/FIOP static pressure information
5. Use of a field-supplied motor may affect wire sizing. Contact Carrier representative to verify
6. Standard motor drive range: 1070 to 1460 rpm. All other rpms require field-supplied drive
7. Interpolation is permissible. Do not extrapolate.

Performance data (cont)



FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50TJ008 (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						

50TJ008 (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:

- Boldface** indicates a field-supplied drive is required (See Note 7)
- indicates an alternate motor and drive are 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 Evaporator-Fan Motor Performance table on page 48.

- Values include losses for filters, unit casing, and wet coils. See page 45 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 — HORIZONTAL DISCHARGE UNITS (cont)

50TJ009 (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			
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						
3800	661	1.41	1258	733	1.82	1613	795	2.15	1901						
3900	674	1.49	1327	746	1.93	1709	806	2.26	1997						
4000	687	1.57	1396	759	2.05	1814	817	2.38	2102						
4100	699	1.60	1473	772	2.17	1919									
4200	712	1.75	1552	785	2.30	2032									
4250	719	1.80	1595	792	2.37	2093									

50TJ009 (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	938	2.45	2162	989	2.77	2450	1040	3.09	2738
2660	839	1.87	1656	891	2.17	1919	938	2.49	2197	989	2.81	2485	1040	3.13	2773
2700	846	1.95	1726	898	2.26	1997	945	2.58	2275	996	2.90	2563	1047	3.21	2851
2800	855	2.04	1805	906	2.35	2076	954	2.67	2354	1005	3.01	2642	1056	3.30	2930
2900	863	2.13	1884	913	2.44	2154	961	2.77	2433	1012	3.10	2721	1063	3.39	3009
3000	872	2.22	1962	921	2.54	2233	969	2.86	2512	1019	3.20	2800	1070	3.48	3088
3100	882	2.33	2058	931	2.65	2335	978	2.96	2591	1028	3.30	2880	1079	3.58	3167
3200	892	2.45	2162	940	2.76	2425	987	3.06	2670	1037	3.40	2960	1088	3.68	3246
3300	902	2.57	2269	949	2.88	2523	996	3.16	2750	1046	3.50	3040	1097	3.78	3325
3400	912	2.69	2369	958	3.01	2631	1005	3.26	2830	1055	3.60	3120	1106	3.88	3404
3500	921	2.82	2473	968	3.15	2751	1014	3.36	2910	1064	3.70	3200	1115	3.98	3483
3600	930	2.95	2582	978	3.29	2862	1023	3.46	3000	1073	3.80	3280	1124	4.08	3562
3700	940	3.07	2696	—	—	—	—	—	—	—	—	—	—	—	—
3750	945	3.14	2743	—	—	—	—	—	—	—	—	—	—	—	—
3800	949	3.23	2791	—	—	—	—	—	—	—	—	—	—	—	—
3900	953	3.33	2844	—	—	—	—	—	—	—	—	—	—	—	—
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.)
-  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 Evaporator-Fan Motor Performance table on page 48

- Values include losses for filters, unit casing, and wet coils. See page 45 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)

50TJ012 (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	2238	856	2.73	2460			
5000	710	2.45	2212	766	2.47	2230	818	2.61	2353	866	2.86	2578			

50TJ012 (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	2186	960	2.65	2389	1000	2.87	2587			
4100	883	2.32	2050	924	2.54	2291	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	2603									
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. indicates an alternate motor and drive are required
3. 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 45 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 Evaporator-Fan Motor Performance table on page 48.
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)

50TJ014 (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	2666
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	3961	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						

50TJ014 (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	3796
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 of 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 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 45 for accessory/FIOP 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 48.
- 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 — 50TJ016-028 UNITS

50TJ016 (15 TONS) — STANDARD MOTOR (BELT DRIVE); 208/230-V AND 460-V UNITS

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
4500	790	1.02	906	879	1.23	1092	960	1.43	1270	1039	1.64	1456	1114	1.85	1643
4800	830	1.21	1075	915	1.43	1270	993	1.64	1456	1068	1.86	1652	1140	2.09	1856
5100	870	1.42	1261	953	1.65	1465	1028	1.88	1670	1099	2.11	1874	1168	2.35	2087
5400	911	1.66	1474	991	1.90	1687	1063	2.15	1909	1131	2.39	2123	1197	2.64	2345
5700	952	1.92	1705	1030	2.18	1936	1099	2.44	2167	1165	2.69	2389	1228	2.95	2620
6000	994	2.21	1963	1069	2.48	2202	1136	2.76	2451	1200	3.03	2691	1260	3.29	2922
6300	1035	2.53	2247	1109	2.82	2504	1174	3.10	2753	1235	3.39	3011	1294	3.67	3259
6600	1078	2.88	2558	1148	3.18	2824	1213	3.48	3019	1271	3.78	3357	1329	4.07	3615
6900	1120	3.26	2895	1188	3.58	3179	1251	3.89	3455	1309	4.20	3730	—	—	—
7200	1163	3.68	3268	1229	4.01	3561	—	—	—	—	—	—	—	—	—
7500	1205	4.13	3668	—	—	—	—	—	—	—	—	—	—	—	—

50TJ016 (15 TONS) — STANDARD MOTOR (BELT DRIVE); 208/230-V AND 460-V UNITS (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
4500	1189	2.09	1856	1264	2.36	2096	1338	2.67	2371	1410	3.00	2664	1479	3.36	2984
4800	1210	2.32	2060	1280	2.58	2291	1351	2.88	2558	1420	3.20	2842	1488	3.55	3153
5100	1235	2.59	2300	1301	2.85	2531	1367	3.13	2780	1433	3.44	3055	1499	3.78	3357
5400	1262	2.89	2567	1325	3.15	2798	1386	3.42	3037	1449	3.72	3304	1512	4.05	3597
5700	1290	3.22	2860	1351	3.48	3091	1410	3.76	3339	1468	4.05	3597	—	—	—
6000	1320	3.57	3171	1379	3.85	3419	1436	4.13	3668	—	—	—	—	—	—
6300	1351	3.95	3508	1408	4.24	3766	—	—	—	—	—	—	—	—	—
6600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

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

NOTES:

1. Factory-shipped motor drive range is 1194 to 1526 rpm. Other rpms may require a field-supplied drive.
2. Maximum continuous bhp is 4.25 and maximum continuous watts are 3775. Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.
3. Static pressure losses (i.e., economizer) must be added to external static pressure before entering Fan Performance table.

4. Interpolation is permissible. Do not extrapolate.
5. Fan performance is based on wet coils, clean filters, and casing losses. See page 45 for accessory/FIOF static pressure information. For additional information on motor performance, refer to Evaporator-Fan Motor Performance table on page 48.
6. Extensive motor and drive testing on these units ensures that the full horsepower and watts range of the motor can be utilized with confidence. Using your fan motors up to the watts or bhp rating shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.

FAN PERFORMANCE — 50TJ016-028 UNITS (cont)

50TJ016 (15 TONS) — STANDARD MOTOR (BELT DRIVE); 380-V AND 575-V UNITS																		
Airflow (Cfm)	External Static Pressure (in. wg)																	
	0.2			0.4			0.6			0.8			1.0			1.1		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
4500	790	1.02	906	879	1.23	1092	960	1.43	1270	1039	1.64	1456	1114	1.85	1643	1152	1.97	1751
4800	830	1.21	1075	915	1.43	1270	993	1.64	1456	1068	1.86	1652	1140	2.09	1856	1175	2.21	1958
5100	870	1.42	1261	953	1.65	1465	1028	1.88	1670	1099	2.11	1874	1168	2.35	2087	1202	2.47	2194
5400	911	1.66	1474	991	1.90	1687	1063	2.15	1909	1131	2.39	2123	1197	2.64	2345	1230	2.77	2456
5700	952	1.92	1705	1030	2.18	1936	1099	2.44	2167	1165	2.69	2389	1228	2.95	2620	1259	3.09	2740
6000	994	2.21	1963	1069	2.48	2202	1136	2.76	2451	1200	3.03	2691	1260	3.29	2922	1290	3.43	3047
6300	1035	2.53	2247	1109	2.82	2504	1174	3.10	2753	1235	3.39	3011	—	—	—	—	—	—
6600	1078	2.88	2558	1148	3.18	2824	—	—	—	—	—	—	—	—	—	—	—	—
6900	1120	3.26	2895	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

50TJ016 (15 TONS) — STANDARD MOTOR (BELT DRIVE); 380-V AND 575-V UNITS (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
4500	1189	2.09	1856	1264	2.36	2096	1338	2.67	2371	1410	3.00	2664	1479	3.36	2984
4800	1210	2.32	2060	1280	2.58	2291	1351	2.88	2558	1420	3.20	2842	—	—	—
5100	1235	2.59	2300	1301	2.85	2531	1367	3.13	2780	1433	3.44	3055	—	—	—
5400	1262	2.89	2567	1325	3.15	2798	1386	3.42	3037	—	—	—	—	—	—
5700	1290	3.22	2860	—	—	—	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

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

NOTES:

- Factory-shipped motor drive range is 1201 to 1462 rpm. Other rpms may require a field-supplied drive.
- Maximum continuous bhp is 3.45 and maximum continuous watts are 3065. Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.
- Static pressure losses (i.e., economizer) must be added to external static pressure before entering Fan Performance table.
- Interpolation is permissible. Do not extrapolate.
- Fan performance is based on wet coils, clean filters, and casing losses. See page 45 for accessory/FIOF static pressure information. For additional information on motor performance, refer to Evaporator-Fan Motor Performance table on page 48.
- Extensive motor and drive testing on these units ensures that the full horsepower and watts range of the motor can be utilized with confidence. Using your fan motors up to the watts or bhp rating shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.

Performance data (cont)



FAN PERFORMANCE — 50TJ016-028 UNITS (cont)

50TJ020 (18 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
5000	617	1.00	903	721	1.30	1157	819	1.60	1424	909	1.90	1710	994	2.30	2019
5500	658	1.30	1143	757	1.60	1418	850	1.90	1701	935	2.20	2000	1015	2.60	2318
6000	702	1.60	1428	796	1.90	1723	884	2.30	2025	965	2.60	2339	1041	3.00	2669
6500	747	2.00	1757	835	2.30	2073	919	2.70	2394	997	3.10	2725	1070	3.40	3069
7000	792	2.40	2138	877	2.80	2476	957	3.20	2816	1031	3.50	3165	1102	3.90	3525
7200	856	2.60	2311	893	3.00	2657	973	3.40	3006	1045	3.74	3362	1115	4.14	3729
7500	838	2.90	2571	918	3.30	2929	996	3.70	3290	1067	4.10	3658	1135	4.50	4035
8000	885	3.40	3060	962	3.90	3440	1036	4.30	3822	1105	4.70	4209	1170	5.20	4604
8500	932	4.00	3610	1005	4.50	4011	1077	4.90	4414	1143	5.40	4821	—	—	—
9000	980	4.70	4223	1050	5.20	4647	1119	5.70	5071	—	—	—	—	—	—

50TJ020 (18 TONS) — STANDARD MOTOR (BELT DRIVE) (cont)

Airflow (Cfm)	External Static Pressure (in. wg)											
	1.2			1.4			1.6			1.8		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
5000	1076	2.60	2351	1155	3.00	2704	1230	3.40	3076	1302	3.90	3462
5500	1093	3.00	2658	1168	3.40	3017	1240	3.80	3396	1310	4.20	3793
6000	1115	3.40	3018	1186	3.80	3385	1251	4.20	3771	1322	4.70	4175
6500	1140	3.80	3429	1208	4.30	3805	1274	4.70	4198	1338	5.20	4609
7000	1169	4.40	3898	1233	4.80	4285	1296	5.20	4687	1358	5.70	5106
7200	1181	4.60	4108	1245	5.04	4500	—	—	—	—	—	—
7500	1199	4.90	4422	1262	5.40	4822	—	—	—	—	—	—
8000	1232	5.60	5008	—	—	—	—	—	—	—	—	—
8500	—	—	—	—	—	—	—	—	—	—	—	—
9000	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

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

NOTES:

1. Factory-shipped motor drive range is 1047 to 1251 rpm. Other rpms may require a field-supplied drive.
2. Maximum continuous bhp is 5.90 and maximum continuous watts are 5180. Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.
3. Static pressure losses (i.e., economizer) must be added to external static pressure before entering Fan Performance table.

4. Interpolation is permissible. Do not extrapolate.
5. Fan performance is based on wet coils, clean filters, and casing losses. See page 45 for accessory/FIOF static pressure information. For additional information on motor performance, refer to Evaporator-Fan Motor Performance table on page 48.
6. Extensive motor and drive testing on these units ensures that the full horsepower and watts range of the motor can be utilized with confidence. Using your fan motors up to the watts or bhp rating shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.

FAN PERFORMANCE — 50TJ016-028 UNITS (cont)

50TJ024 (20 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
5000	617	1.00	903	721	1.30	1157	819	1.60	1424	909	1.90	1710	994	2.30	2019
5500	658	1.30	1143	757	1.60	1418	850	1.90	1701	935	2.20	2000	1015	2.60	2318
6000	702	1.60	1428	796	1.90	1723	884	2.30	2025	965	2.60	2339	1041	3.00	2669
6500	747	2.00	1757	835	2.30	2073	919	2.70	2394	997	3.10	2725	1070	3.40	3069
7000	792	2.40	2138	877	2.80	2476	957	3.20	2816	1031	3.50	3165	1102	3.90	3525
7500	838	2.90	2571	918	3.30	2929	996	3.70	3290	1067	4.10	3658	1135	4.50	4035
8000	885	3.40	3060	962	3.90	3440	1036	4.30	3822	1105	4.70	4209	1170	5.20	4604
8500	932	4.00	3610	1005	4.50	4011	1077	4.90	4414	1143	5.40	4821	1206	5.90	5234
9000	980	4.70	4223	1050	5.20	4647	1119	5.70	5071	1183	6.20	5498	1244	6.60	5930
9500	1028	5.50	4904	1096	6.00	5350	1162	6.50	5796	1224	7.00	6243	1283	7.50	6695
10000	1077	6.30	5655	1141	6.90	6123	1205	7.40	6591	1266	7.90	7059	1323	8.40	7531

50TJ024 (20 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
5000	1076	2.60	2351	1155	3.00	2704	1230	3.40	3076	1302	3.90	3462	1374	4.40	3848
5500	1093	3.00	2658	1168	3.40	3017	1240	3.80	3396	1310	4.20	3793	1380	4.60	4190
6000	1115	3.40	3018	1186	3.80	3385	1255	4.20	3771	1322	4.70	4175	1389	5.20	4579
6500	1140	3.80	3429	1208	4.30	3805	1274	4.70	4198	1338	5.20	4609	1402	5.70	5020
7000	1169	4.40	3898	1233	4.80	4285	1296	5.20	4687	1358	5.70	5106	1420	6.20	5525
7500	1199	4.90	4422	1262	5.40	4822	1322	5.90	5235	1381	6.30	5662	1440	6.70	6089
8000	1232	5.60	5008	1292	6.10	5422	1350	6.50	5847	1407	7.00	6286	1464	7.50	6725
8500	1266	6.30	5655	1324	6.80	6085	1380	7.30	6524	1435	7.80	6975	1490	8.30	7426
9000	1302	7.10	6369	1359	7.60	6816	1413	8.10	7270	1466	8.70	7735	1519	9.30	8200
9500	1340	8.00	7152	1394	8.50	7616	1447	9.10	8088	1508	9.40	8428	—	—	—
10000	1378	9.00	8007	1431	9.50	8489	—	—	—	—	—	—	—	—	—

LEGEND

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

NOTES:

- Boldface** indicates additional capability of 460 v motor
- Factory-shipped motor drive range is 1238 to 1494 rpm. Other rpms may require a field-supplied drive
- Maximum continuous bhp is 8.7 (208/230, 575 v) or 9.5 (460 v) and maximum continuous watts are 7915 (208/230, 575 v) or 8640 (460 v). Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.
- Static pressure losses (i.e., economizer) must be added to external static pressure before entering Fan Performance table.

- Interpolation is permissible. Do not extrapolate.
- Fan performance is based on wet coils, clean filters, and casing losses. See page 45 for accessory/FIOP static pressure information. For additional information on motor performance, refer to Evaporator-Fan Motor Performance table on page 48.
- Extensive motor and drive testing on these units ensures that the full horsepower and watts range of the motor can be utilized with confidence. Using your fan motors up to the watts or bhp rating shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected

Performance data (cont)



FAN PERFORMANCE — 50TJ016-028 UNITS (cont)

50TJ028 (25 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
5,000	645	1.06	972	750	1.33	1226	844	1.63	1497	933	1.94	1789	1017	2.28	2,104
5,500	690	1.34	1231	789	1.63	1505	878	1.95	1793	961	2.28	2098	1041	2.63	2,422
6,000	736	1.67	1536	830	1.99	1831	915	2.32	2136	944	2.67	2456	1069	3.03	2,792
6,500	784	2.05	1890	872	2.40	2206	953	2.75	2530	1028	3.11	2866	1100	3.49	3,216
7,000	832	2.49	2297	916	2.86	2634	993	3.23	2978	1065	3.62	3332	1134	4.01	3,697
7,500	881	3.00	2761	961	3.39	3119	1035	3.78	3483	1104	4.19	3855	1170	4.60	4,237
8,000	930	3.57	3284	1007	3.98	3664	1077	4.40	4049	1144	4.82	4440	1207	5.25	4,840
8,500	980	4.20	3873	1053	4.64	4274	1121	5.08	4679	1185	5.53	5090	1246	5.98	5,508
9,000	1030	4.92	4528	1100	5.38	4951	1166	5.84	5377	1228	6.31	5808	1286	6.78	6,244
9,500	1081	5.70	5254	1148	6.19	5700	1211	6.67	6146	1271	7.16	6597	1328	7.66	7,053
10,000	1132	6.57	6055	1197	7.08	6523	1257	7.59	6991	1315	8.10	7462	1370	8.62	7,937
10,500	1183	7.53	6935	1245	8.06	7425	1304	8.59	7913	1360	9.13	8404	1413	9.66	8,899
11,000	1235	8.57	7896	1295	9.13	8408	1351	9.68	8918	1405	10.24	9430	1457	10.80	9,944
11,250	1261	9.13	8408	1320	9.70	8932	1375	10.26	9452	1428	10.83	9974	1479	11.40	10,499

50TJ028 (25 TONS) — STANDARD MOTOR (BELT DRIVE) (cont)

Airflow (Cfm)	External Static Pressure (in. wg)								
	1.4			1.6			1.8		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
5,000	1176	3.04	2801	1250	3.45	3177	1321	3.87	3568
5,500	1191	3.40	3134	1263	3.82	3519	1332	4.26	3922
6,000	1212	3.82	3521	1280	4.25	3915	1346	4.70	4324
6,500	1236	4.31	3966	1301	4.74	4366	1364	5.19	4784
7,000	1263	4.85	4470	1326	5.30	4880	1386	5.76	5307
7,500	1294	5.47	5038	1353	5.93	5458	1411	6.40	5893
8,000	1327	6.16	5670	1384	6.63	6102	1440	7.11	6549
8,500	1362	6.92	6371	1416	7.40	6816	1470	7.90	7215
9,000	1398	7.75	7141	1451	8.25	7602	1503	8.77	8074
9,500	1436	8.67	7985	1487	9.19	8462	—	—	—
10,000	1475	9.67	8905	1525	10.21	9400	—	—	—
10,500	1515	10.76	9907	—	—	—	—	—	—
11,000	—	—	—	—	—	—	—	—	—
11,250	—	—	—	—	—	—	—	—	—

LEGEND

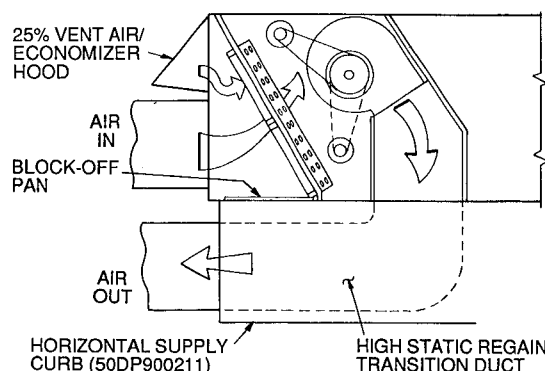
Bhp — Brake Horsepower Input to Fan
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

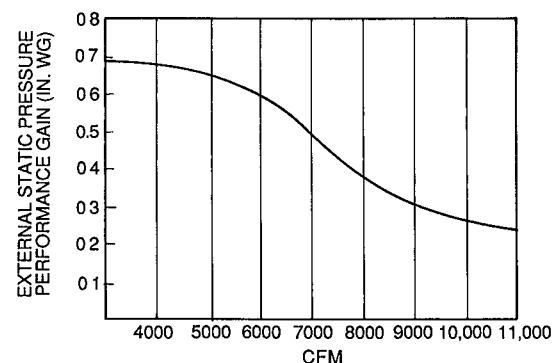
- Boldface** indicates additional capability of 460-v motor
- Factory-shipped motor drive range is 1323 to 1579 rpm. Other rpms may require a field-supplied drive
- Maximum continuous bhp is 10.26 (208/230, 380, 575 v) or 11.80 (460 v) and maximum continuous watts are 9510 (208/230, 575 v) or 11,000 (460 v) Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.

- Static pressure losses (i.e., economizer) must be added to external static pressure before entering Fan Performance table.
- Interpolation is permissible. Do not extrapolate.
- Fan performance is based on wet coils, clean filters, and casing losses. See page 45 for accessory/FIOP static pressure information. For additional information on motor performance, refer to Evaporator-Fan Motor Performance table on page 48.
- Extensive motor and drive testing on these units ensures that the full horsepower and watts range of the motor can be utilized with confidence. Using your fan motors up to the watts or bhp rating shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.

50TJ016-028 HORIZONTAL SUPPLY/RETURN FAN PERFORMANCE WITH 50DP900211 HIGH STATIC REGAIN ADAPTER



NOTE: The 50DP900211 high static regain adapter accessory may be used to provide horizontal supply/return.



NOTE: The 50DP900211 horizontal supply/return adapter accessory improves 50TJ016-028 fan performance by increasing external static pressure by amount shown above.

ACCESSORY/FIOP STATIC PRESSURE (in. wg) — 50TJ004-014

UNIT 50TJ	UNIT VOLTAGE	CFM	1 HEATER MODULE*	2 HEATER MODULES*	VARISLIDE™ 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 evaporator entering-air cfm should then be used in conjunction with the Fan Performance table to determine blower rpm and watts.

ACCESSORY/FIOP STATIC PRESSURE (in. wg) — 50TJ016-028

UNIT 50TJ	HEATER RATED VOLTAGE	CFM	ELECTRIC HEATERS* (kW)			ECONOMIZER*	GLYCOL COIL*
016	208/240-3-60	4,000	0.05 (26/34)	0.06 (42/56)	0.07 (56/75)	0.03	0.18
		5,000	0.07 (26/34)	0.08 (42/56)	0.10 (56/75)	0.05	0.26
		6,000	0.09 (26/34)	0.12 (42/56)	0.15 (56/75)	0.07	0.35
		7,200	0.11 (26/34)	0.16 (42/56)	0.20 (56/75)	0.09	0.44
		7,500	0.12 (26/34)	0.17 (42/56)	0.21 (56/75)	0.10	0.46
	380, 480-3-60	4,000	0.05 (21.6, 32)	0.06 (37.2, 55)	0.07 (80)	0.03	0.18
		5,000	0.07 (21.6, 32)	0.08 (37.2, 55)	0.10 (80)	0.05	0.26
		6,000	0.09 (21.6, 32)	0.12 (37.2, 55)	0.15 (80)	0.07	0.35
		7,200	0.11 (21.6, 32)	0.15 (37.2, 55)	0.20 (80)	0.09	0.44
		7,500	0.12 (21.6, 32)	0.17 (37.2, 55)	0.21 (80)	0.10	0.46
	575	4,000		0.07 (50)		0.03	0.18
		5,000		0.10 (50)		0.05	0.26
		6,000		0.15 (50)		0.07	0.35
		7,200		0.20 (50)		0.09	0.44
		7,500		0.21 (50)		0.10	0.46
020-028	208/230,575†-3-60	5,000	0.08 (26/34)	0.11 (42/56)	0.14 (56/75)	0.06	0.26
		6,000	0.09 (26/34)	0.12 (42/56)	0.15 (56/75)	0.07	0.35
		7,200	0.11 (26/34)	0.16 (42/56)	0.20 (56/75)	0.09	0.44
		9,000	0.15 (26/34)	0.19 (42/56)	0.24 (56/75)	0.11	0.58
		10,000	0.17 (26/34)	0.21 (42/56)	0.26 (56/75)	0.12	0.66
		11,250	0.20 (26/34)	0.24 (42/56)	0.29 (56/75)	0.14	0.77
	380**, 480-3-60	5,000	0.08 (21, 32)	0.11 (36, 55)	0.14 (80)	0.06	0.26
		6,000	0.09 (21, 32)	0.12 (36, 55)	0.15 (80)	0.07	0.35
		7,200	0.11 (21, 32)	0.15 (36, 55)	0.20 (80)	0.09	0.44
		9,000	0.15 (21, 32)	0.19 (36, 55)	0.24 (80)	0.11	0.58
		10,000	0.17 (21, 32)	0.21 (36, 55)	0.26 (80)	0.12	0.66
		11,250	0.20 (21, 32)	0.24 (36, 55)	0.29 (80)	0.14	0.77

LEGEND

FIOP — Factory-Installed Option

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

†There are no electric heaters available for 575-v units

**028 units only

NOTE: Heaters are rated at 240 v, 480 v, and 575 v.

Performance data (cont)



FAN RPM AT MOTOR PULLEY SETTINGS* — 50TJ004-028

UNIT 50TJ	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
016, (208/230, 460 V)**	1526	1492	1459	1426	1393	1360	1326	1293	1260	1227	1194	—	—
016, (380, 575 V)**	1462	1436	1410	1384	1358	1332	1305	1279	1253	1227	1201	—	—
020**	1251	1234	1217	1200	1183	1166	1149	1132	1115	1098	1081	1064	1047
024**	1494	1472	1451	1430	1408	1387	1366	1345	1323	1302	1281	1259	1238
028**			1536	1515	1493	1472	1451	1430	1408	1387	1366	1344	1323

*Approximate fan rpm shown

†Indicates alternate motor and drive package

**Indicates standard motor and drive package

††Indicates alternate drive package only.

||Do not run this fan with the pulley set at less than 1 turn open, as it will exceed the maximum allowable rpm of 1550.

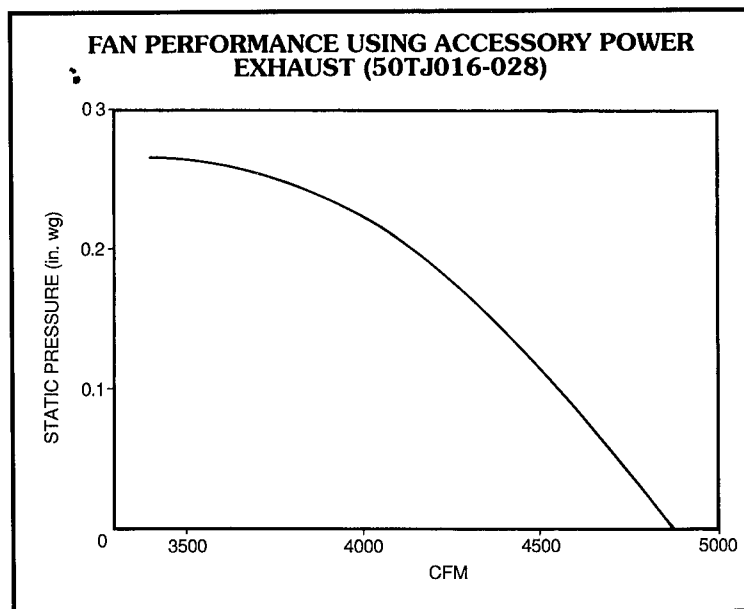
OUTDOOR SOUND DATA (Total Unit)

UNIT 50TJ	SOUND RATING (Bels)	A-WEIGHTED (db)	SOUND POWER (dB)							
			Octave Bands							
			63	125	250	500	1000	2000	4000	8000
004-006	8.2	80.5	56.8	75.8	72.4	72.9	74.8	75.4	71.3	69.1
007	8.4	82.4	56.0	69.8	72.9	75.9	78.3	76.5	72.6	67.9
008,009	8.6	86.4	83.2	87.4	83.5	82.8	83.0	77.7	71.8	67.0
012	8.8	87.6	97.6	90.4	85.7	84.8	83.9	77.5	71.3	65.8
014	8.8	86.4	83.7	87.2	83.4	82.8	83.0	77.7	71.8	67.0
016	8.8	87.3	87.1	89.9	86.4	84.0	82.7	79.0	73.9	68.6
020	8.8	87.2	91.1	88.1	89.0	84.7	82.0	76.9	74.1	68.2
024	9.4	94.3	99.6	92.8	94.2	91.8	89.8	85.5	81.0	75.2
028	9.5	94.1	98.7	92.3	93.8	90.9	89.6	85.9	80.3	74.3

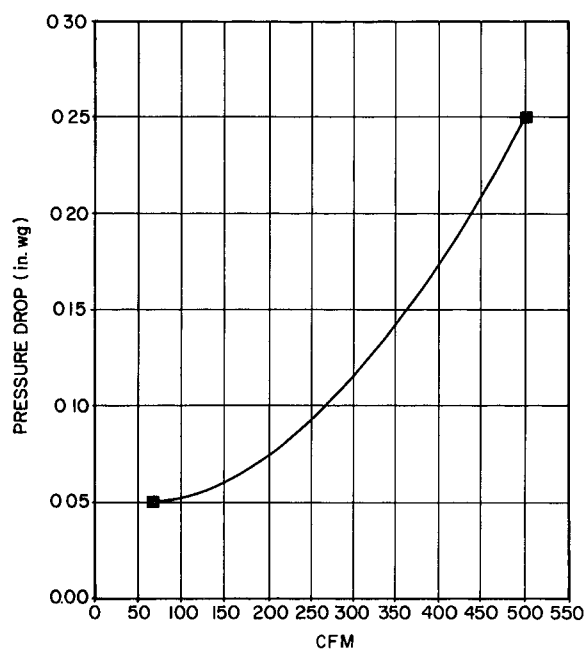
Bels — Sound Levels (1 bel = 10 decibels)

EVAPORATOR-FAN MOTOR EFFICIENCY

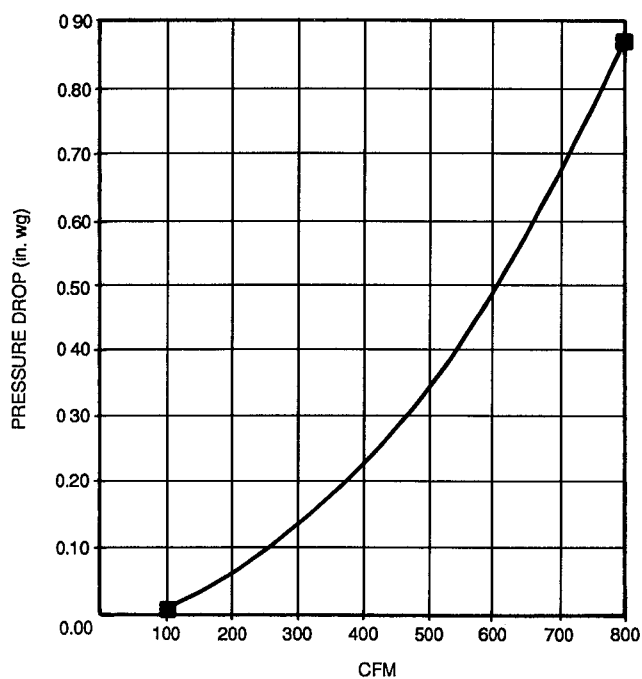
50TJ	MOTOR EFFICIENCY (%)
004,005	75
006	74
007	84
008-012	80
014	87
016	84
020	83
024	84
028	81



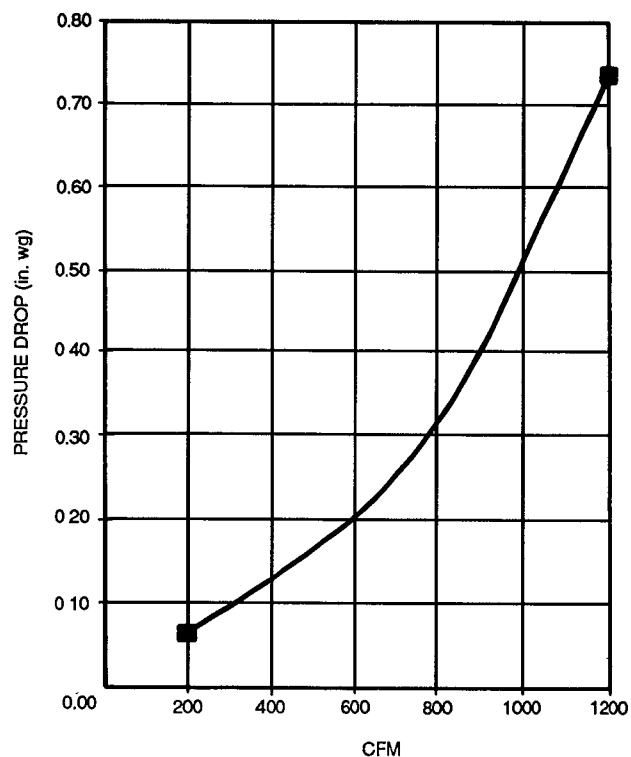
**VARISLIDE™ ECONOMIZER BAROMETRIC RELIEF
DAMPER CHARACTERISTICS — 50TJ004-014**



**PARABLADE ECONOMIZER BAROMETRIC RELIEF
DAMPER CHARACTERISTICS — 50TJ004-007**



**PARABLADE ECONOMIZER BAROMETRIC RELIEF
DAMPER CHARACTERISTICS — 50TJ008-014**



Performance data (cont)



EVAPORATOR-FAN MOTOR PERFORMANCE

UNIT 50TJ	EVAPORATOR-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	5.1
		460			2.3
		575			2.3
005	Standard	208/230	0.75	850	3.7
		460			1.9
		575			1.9
	Alternate	208/230	1.00	1000	5.1
		460			2.3
		575			2.3
006	Standard	208/230	1.20	1340	6.2
		460			3.4
		575			3.4
	Alternate	208/230	1.80	1921	6.1/9.2†
		460			2.7
		575			2.7
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	12.6
		460			5.7
		575			5.7
	Alternate	208/230	5.25	4400	15.0
		460			7.4
		575			7.4
016	Standard	208/230	4.25	3775	10.5
		460			4.8
		380, 575			3.9
020	Standard	208/230	5.90	5180	15.8
		460			7.9
		575			6.0
024	Standard	208/230	8.70	7915	25.0
		460	9.50	8640	13.0
		575	8.70	7915	10.0
028	Standard	208/230	10.26	9510	28.0
		380	10.26	9510	20.7
		460	11.80	11,000	14.6
		575	10.26	9510	13.0

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.

†Single phase/3 phase

ELECTRIC HEATING CAPACITIES — 50TJ004-014

UNIT 50TJ	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
		16.0
	460 (3 phase)	6.0
		8.8
		11.5
		14.0
005	208/230 (single phase)	4.4
		8.7
		13.0*
		17.4*
		21.0*
	208/230 (3 phase)	6.5
		8.7
		16.0
		21.0*
	460 (3 phase)	6.0
		11.5
		14.0*
		23.0*
006	208/230 (single phase)	6.5
		8.7
		13.0*
		17.4*
		21.0*
	208/230 (3 phase)	6.5
		10.5
		16.0
		21.0*
	460 (3 phase)	6.0
		11.5
		14.0
		23.0*
		25.0*
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*
		25.5*

ELECTRIC HEATING CAPACITIES — 50TJ004-014 (cont)

UNIT 50TJ	VOLTAGE (60 Hz)	ACCESSORY kW
008,009	208/230 (3 phase)	10.4
		16.0
		24.8
		32.0
		42.4*
	460 (3 phase)	13.9
		16.5
		27.8
		33.0
		41.7*
	575 (3 phase)	18.0
		36.0
012,014	208/230 (3 phase)	10.4
		16.0
		32.0
		42.4*
		50.0*
	460 (3 phase)	16.5
		27.8
		33.0
		41.7*
		50.0*
	575 (3 phase)	18.0
		36.0
		54.0*

*Two heater packages required to provide kW indicated.

NOTES:

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

MULTIPLICATION FACTORS — 50TJ004-014

HEATER kW RATING	VOLTAGE DISTRIBUTION V-3-60	MULTIPLICATION FACTOR
240	200	0.694
	208	0.751
	230	0.918
	240	1.000
480	440	0.840
	460	0.918
	480	1.000

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

ELECTRIC RESISTANCE HEATER DATA — 50TJ016-028

UNIT 50TJ	HEATER kW				HEATER STAGES	% HEAT PER STAGE	MAXIMUM STAGES*
	Unit Voltages						
	208	230	380, 460	575			
016	26	34	21.6, 32	—	2	50/50	2
	42	56	37 2, 55	—	2	33/67	3
	56	75	80	50	2	50/50	4
020-028	26	34	21, 32	—	2	50/50	2
	42	56	36, 55	—	2	33/67	3
	56	75	80	—	2	50/50	4

*Maximum number of stages using accessory low-ambient kit or head pressure control device and low-ambient kit.

NOTE Heaters are rated at 240 v, 480 v, and 575 v.

Electrical data — 50TJ004-007



UNIT 50TJ	NOMINAL V-PH-HZ	IFM TYPE	VOLTAGE RANGE		COMPR (each)		OFM			IFM FLA	ELECTRIC HEAT*		POWER SUPPLY		DISCONNECT SIZE†									
			Min	Max	RLA	LRA	Quantity	Hp	FLA		Nominal kW**	FLA	MCA	MOCPT†	FLA	LRA								
004 (3 Ton)	208/230-1-60	Std	187	254	16.9	86.7	1	¼	1.4	2.8	— 3.3/ 4.4 4.9/ 6.5 6.5/ 8.7 7.9/10.5 9.8/13.0	— 15.9/18.3 23.8/27.3 31.4/36.2 37.9/43.8 47.1/54.6	25.3/ 25.3 25.3/ 26.4 32.8/ 37.4 42.8/ 48.8 50.9/ 58.2 62.2/ 71.2	35/ 35 35/ 35 35/ 40 45/ 50 60/ 60 70/ 80	24/ 24 24/ 24 30/ 34 39/ 45 47/ 54 57/ 66	97/ 97								
											4.9	— 3.3/ 4.4 4.9/ 6.5 6.5/ 8.7 7.9/10.5 9.8/13.0	— 15.9/18.3 23.5/27.1 31.4/36.3 37.9/43.8 46.9/54.2	27.4/ 27.4 27.4/ 29.0 35.5/ 40.0 45.4/ 51.4 53.5/ 60.8 64.8/ 73.8	35/ 35 35/ 35 35/ 40 45/ 60 60/ 60 70/ 80		27/ 27 27/ 27 33/ 37 42/ 47 49/ 56 60/ 68							
		Alt								4.9		— 3.3/ 4.4 4.9/ 6.5 6.5/ 8.7 7.9/10.5 9.8/13.0	— 15.9/18.3 23.5/27.1 31.4/36.3 37.9/43.8 46.9/54.2	27.4/ 27.4 27.4/ 29.0 35.5/ 40.0 45.4/ 51.4 53.5/ 60.8 64.8/ 73.8	35/ 35 35/ 35 35/ 40 45/ 60 60/ 60 70/ 80	27/ 27 27/ 27 33/ 37 42/ 47 49/ 56 60/ 68								
											208/230-3-60	Std	187	254	11.7	65.1	1	¼	1.4	2.8	— 3.3/ 4.4 4.9/ 6.5 6.5/ 8.7 7.9/10.5 12.1/16.0	— 9.2/10.6 13.6/15.6 18.1/20.9 21.9/25.3 33.5/38.6	18.8/ 18.8 18.8/ 18.8 20.4/ 23.0 26.2/ 29.7 30.9/ 35.1 45.3/ 51.7	25/ 25 25/ 25 25/ 25 30/ 30 35/ 40 50/ 60
	4.9	— 3.3/ 4.4 4.9/ 6.5 6.5/ 8.7 7.9/10.5 12.1/16.0	— 9.2/10.6 13.6/15.6 18.1/20.9 21.9/25.3 33.5/38.6	20.9/ 20.9 20.9/ 20.9 23.1/ 25.7 28.8/ 32.3 33.5/ 37.7 47.9/ 54.4	25/ 25 25/ 25 25/ 25 30/ 35 35/ 40 50/ 60	21/ 21 21/ 21 21/ 24 26/ 30 31/ 35 44/ 50																		
		460-3-60	Std	414	508	5.1	32.8	1	¼	0.8		1.3								— 6.0 8.8 11.5 14.0	— 7.2 10.6 13.8 16.8	8.5 10.6 14.9 18.9 22.7	15 15 20 25	8 10 14 21
	2.1																			— 6.0 8.8 11.5 14.0	— 7.2 10.6 13.8 16.8	9.3 11.6 15.9 19.9 23.7	15 15 20 25	9 10 15 18 22
			Alt								2.1	— 6.0 8.8 11.5 14.0	— 7.2 10.6 13.8 16.8	9.3 11.6 15.9 19.9 23.7	15 15 20 25	9 10 15 18 22								
	575-3-60											Std	518	632	4.1	27.0	1	¼	0.8	1.3	—	—	6.8	15
		Alt	518	632	4.1	27.0	1	¼	0.8	2.1	—	—	7.4	15	7	34								
	005 (4 Ton)	208/230-1-60	Std	187	254	23.0	110	1	¼	1.4	3.5	— 3.3/ 4.4 6.5/ 8.7 9.8/13.0 13.1/17.4 15.8/21.0	— 15.9/18.3 31.4/36.3 46.9/54.2 62.8/72.5 75.8/87.5	33.7/ 33.7 33.7/ 33.7 43.6/ 49.7 63.0/ 72.1 82.9/ 95.0 99.2/113.8	40/ 40 40/ 40 45/ 50 70/ 80 90/100 100/125	32/ 32 32/ 32 40/ 46 58/ 66 76/ 87 91/105	122/122							
												4.9	— 3.3/ 4.4 6.5/ 8.7 9.8/13.0 13.0/17.4 15.9/21.0	— 15.9/18.3 31.4/36.3 46.9/54.2 62.8/72.5 75.8/87.5	35.1/ 35.1 35.1/ 35.1 45.4/ 51.4 64.8/ 73.8 84.7/ 96.8 100.9/115.5	40/ 40 40/ 40 45/ 60 70/ 80 90/100 100/125		34/ 34 34/ 34 42/ 47 60/ 68 78/ 89 93/106						
208/230-3-60			Std								187		254	15.3	92.0	1	¼	1.4	3.5	— 4.9/ 6.5 6.5/ 8.7 12.0/16.0 15.8/21.0	— 13.6/15.6 18.1/20.9 33.4/38.5 43.8/50.5	24.0/ 24.0 24.0/ 24.0 27.0/ 30.5 46.1/ 52.5 59.1/ 67.5	30/ 30 30/ 30 30/ 35 50/ 60 60/ 70	24/ 24 24/ 25 27/ 30 45/ 51 58/ 64
												4.9								— 4.9/ 6.5 6.5/ 8.7 12.0/16.0 15.8/21.0	— 13.6/15.6 18.1/20.9 33.4/38.5 43.8/50.5	25.4/ 25.4 25.4/ 25.7 28.8/ 32.3 47.8/ 54.2 60.8/ 69.3	30/ 30 30/ 30 30/ 35 50/ 60 60/ 70	25/ 25 25/ 25 26/ 30 44/ 50 56/ 64
		460-3-60	Std	414	508	7.0	46.0	1	¼	0.8									1.8	— 6.0 11.5 14.0 23.0	— 7.2 13.8 16.6 27.7	11.4 11.4 19.5 23.0 36.8	15 15 20 25 40	11 11 18 21 34
												2.1								— 6.0 11.5 14.0 23.0	— 7.2 14.0 16.6 27.7	11.7 11.7 19.9 23.4 37.2	15 15 20 25 40	11 11 18 22 34
575-3-60			Std								518		632	5.8	44.0	1	¼	0.8	1.8	—	—	9.3	15	9
			Alt								518	632	5.8	44.0	1	¼	0.8	2.1	—	—	9.6	15	9	51

UNIT 50TJ	NOMINAL V-PH-HZ	IFM TYPE	VOLTAGE RANGE		COMPR (each)		OFM			IFM	ELECTRIC HEAT*		POWER SUPPLY		DISCONNECT SIZE†	
			Min	Max	RLA	LRA	Quantity	Hp	FLA		Nom kW**	FLA	MCA	MOCPT††	FLA	LRA
006 (5 Ton)	208/230-1-60	Std	187	254	30.5	141	1	1/4	1.4	5.9	—	—	42.7/ 42.7	50/ 50	41/ 41	155/155
											4.9/ 6.5 6.5/ 8.7 9.8/13.0 13.0/17.4 15.8/21.0	23.5/27.1 31.4/36.3 46.9/54.2 62.8/72.5 75.8/87.5	42.7/ 42.7 46.6/ 52.7 66.0/ 75.1 85.9/ 98.0 102.2/116.8	50/ 50 50/ 50 70/ 80 90/100 110/125	41/ 41 41/ 41 61/ 69 79/ 90 94/107	
		Alt	187	254	30.5	141	1	1/4	1.4	8.8	—	—	45.3/ 45.3	60/ 60	44/ 44	178/178
											4.9/ 6.5 6.5/ 8.7 9.8/13.0 13.0/17.4 15.8/21.0	23.5/27.1 31.4/36.3 46.9/54.2 62.8/72.5 75.8/87.5	45.3/ 45.3 49.9/ 55.9 69.3/ 78.3 89.2/101.3 105.5/120.0	60/ 60 60/ 60 70/ 80 90/110 110/125	44/ 44 46/ 52 64/ 72 82/ 93 97/110	
											4.9/ 6.5 7.9/10.5 12.0/16.0 15.8/21.0 19.9/26.5	13.6/15.6 21.9/25.3 33.4/38.5 43.8/50.5 55.2/63.8	29.4/ 29.4 34.7/ 38.9 49.1/ 55.5 62.1/ 70.5 76.4/ 87.1	35/ 35 40/ 40 50/ 60 70/ 80 80/ 90	29/ 29 32/ 36 46/ 51 57/ 65 70/ 80	
		Alt	187	254	17.7	110	1	1/4	1.4	5.8	—	—	29.3/ 29.3	40/ 40	29/ 29	145/145
											4.9/ 6.5 7.9/10.5 12.0/16.0 15.8/21.0 19.9/26.5	13.6/15.6 21.9/25.3 33.4/38.5 43.8/50.5 55.2/63.8	29.3/ 29.3 35.3/ 39.5 49.6/ 56.0 62.6/ 71.1 77.0/ 87.6	40/ 40 40/ 45 60/ 60 70/ 80 80/100	29/ 29 32/ 36 45/ 51 57/ 65 70/ 80	
	460-3-60	Std	414	508	8.6	55	1	1/4	0.8	3.2	—	—	14.8	20	15	63
											6.0 11.5 14.0 23.0 25.0	7.2 13.8 16.8 27.7 30.1	14.8 21.3 25.0 38.6 41.6	20 25 30 40 45	15 20 23 36 38	
		Alt	414	508	8.6	55	1	1/4	0.8	2.6	—	—	14.2	20	14	73
											6.0 11.5 14.0 23.0 25.0	7.2 13.8 16.8 27.7 30.1	14.2 21.0 24.8 38.3 41.3	20 25 30 45 45	14 19 22 35 38	
	575-3-60	Std	518	632	6.4	44	1	1/4	0.8	3.2	—	—	12.0	15	12	52
		Alt	518	632	6.4	44	1	1/4	0.8	2.6	—	—	11.4	15	12	62
007 (6 Ton)	208/230-3-60	Std	187	254	20.9	142	1	1/4	1.4	5.8	4.9/ 6.5 7.9/10.5 12.0/16.0 15.8/21.0 19.9/26.5	13.6/15.6 21.9/25.3 33.4/38.4 43.8/50.5 55.2/63.8	33.3/ 33.3 33.3/ 33.3 34.6/ 38.8 48.9/ 55.4 62.0/ 70.4 76.8/ 86.9	40/ 40 40/ 40 40/ 40 50/ 60 70/ 80 80/ 90	32/ 32 32/ 32 32/ 46 45/ 51 57/ 65 70/ 80	187/187
	460-3-60	Std	414	508	0.9	72	1	1/4	0.8	2.6	6.0 11.5 14.0 23.0 25.5	7.2 13.8 16.8 27.8 30.7	15.6 20.5 24.3 37.8 41.6	20 25 25 40 45	15 19 22 35 38	94
	575-3-60	Std	518	632	7.9	58	1	1/4	0.8	2.6	—	—	14.6	15	12	76

LEGEND AND NOTES FOR ELECTRICAL DATA TABLES PAGES 50-55

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

*Heater capacity (kW) is based on heater voltage of 208 v, 240 v, 380 v, 480 v, and 575 v. Heaters are rated at 240 v, 480 v, or 575 v. If power distribution voltage to unit varies from rated heater voltage, heater kW will vary accordingly. To determine heater capacity at actual unit voltage, multiply 240 v, 480 v, or 575 v capacity by multipliers found in table on page 52.

†Used to determine minimum disconnect size per NEC.

**Heaters are field installed only.

††Fuse or HACR circuit breaker.

‡Fusing in single point box provides the required branch circuit protection.

NOTES:

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

2 Unbalanced 3-Phase Supply Voltage

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

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

EXAMPLE: Supply voltage is 460-3-60

AB = 452 v

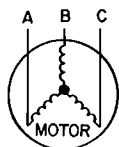
BC = 464 v

AC = 455 v

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

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

$$= 457$$



Determine maximum deviation from average voltage

(AB) 457 - 452 = 5 v

(BC) 464 - 457 = 7 v

(AC) 457 - 455 = 2 v

Maximum deviation is 7 v

Determine percent of voltage imbalance

$$\% \text{ Voltage Imbalance} = 100 \times \frac{7}{457} = 1.53\%$$

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

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

3. MCA calculation for 50TJ016-028 units with electric heaters over 50 kW = (1.25 x IFM amps) + (1.00 x heater FLA)



016-028 Only
(Except 380 v)



004-014 Only



004-007 Only



008-014 Only



016-028 Only

Electrical data — 50TJ008-014



UNIT 50TJ	NOMINAL VOLTAGE	IFM	VOLTAGE RANGE		COMPR (ea)		OFM (ea)			IFM	ELECTRIC HEAT*		POWER SUPPLY		DISCONNECT SIZE†	
			Min	Max	RLA	LRA	Quantity	Hp	FLA		Nom kW**	FLA	MCA	MOCP††	FLA	LRA
008 (7½ Tons)	208/230-3-60	Std	187	254	13 6	73 4	2	¼	1 4	5.8	7.8/10 4 12 0/16 0 18 6/24 8 24 0/32 0 31 9/42 4	21 7/ 25 0 33 4/ 38 5 51 7/ 59 7 66 7/ 74 2 88 4/102 0	40 2/ 40.2 40 2/ 40.2 48 9/ 55 4 71 9/ 81.8 90 6/103 5 117 8/134 8	45/ 45 45/ 45 50/ 60 80/ 90 100/110 125/150	42/ 42 42/ 42 45/ 51 66/ 75 83/ 95 108/124	206/206
	460-3-60	Std	414	508	6.2	37 7	2	¼	0 8	2.6	13.9 16 5 27 8 33 0 41.7	16 7 19 8 33 4 39 7 50 2	18 5 24 1 28 1 45 0 52 9 65 9	25 25 30 50 60 70	19 22 26 41 49 61	105
	575-3-60	Std	518	632	4.9	31 0	2	¼	0 8	2 6	18 0 36 0	17 0 34.0	14 6 23 8 45 1	20 25 50	15 22 41	86
009 (8½ Tons)	208/230-3-60	Std	187	254	15 8	92 0	2	¼	1 4	5 8	7.8/10 4 12 0/16 0 18 6/24 8 24 0/32 0 31 8/42.4	21 7/ 25 0 33 4/ 38 5 51 7/ 59 7 66 7/ 77 0 88.4/102.0	45 2/ 45 2 45 2/ 45 2 48 9/ 55 4 71 9/ 81 8 90 6/103 5 117.7/134.8	50/ 50 50/ 50 50/ 60 80/ 90 100/110 125/150	47/ 47 47/ 47 46/ 51 66/ 75 83/ 95 108/124	243/243
	460-3-60	Std	414	508	7.4	46 0	2	¼	0 8	2 6	13.9 16.5 27 8 33 0 41.7	16 7 19 8 33 4 39 7 50 2	21 0 24 1 28 1 45 0 52 9 65 9	25 25 30 50 60 70	22 22 26 41 49 61	122
	575-3-60	Std	518	632	5 9	44 0	2	¼	0 8	2 6	18 0 36 0	17 0 34.0	16 8 23 8 45.1	20 25 50	18 22 42	112
012 (10 Tons)	208/230-3-60	Std	187	254	17 9	110 0	2	¼	1 4	5 8	7.8/10 4 12 0/16 0 24 0/32 0 31 8/42.4 37 5/50.0	21 7/ 25 0 33 4/ 38 5 51 7/ 59 7 66 7/ 77 0 88 4/102 0 104.2/120.3	49 5/ 49.5 49 5/ 49 5 49 5/ 55 4 90 6/103 5 117 7/134 8 137.5/127 5	60/ 60 60/ 60 60/ 60 100/110 125/150 150/150	52/ 52 52/ 52 52/ 52 83/ 95 108/124 127/145	279/279
		Alt								7.5	7.8/10 4 12 0/16 0 24 0/32 0 31 8/42.4 37 5/50.0	21 7/ 25 0 33 4/ 38 5 51 2/ 57.5 66 7/ 77 0 92 8/105 6 119 9/136 9 104.2/120 3	51.2/ 51.2 51 2/ 51.2 51 2/ 57.5 92 8/105 6 100/110 119 9/136 9 139 7/129 7	60/ 60 60/ 60 60/ 60 100/110 125/150 150/150	54/ 54 54/ 54 54/ 54 85/ 97 110/126 129/147	298/298
	460-3-60	Std	414	508	8 6	55 0	2	¼	0 8	2.6	16 5 27 8 33 0 41 7 60.0	19 8 33 4 39 7 50 2 60.1	23 9 28 1 45 0 52 9 65 9 63 4	30 30 50 60 70 70	25 26 41 49 61 72	140
		Alt								3.4	16 5 27.8 33 0 41 7 50.0	19 8 33 4 39 7 50 2 60 1	24 7 29.1 46.0 53 9 66 9 64 4	30 30 50 60 70 70	26 27 42 50 62 73	149
	575-3-60	Std	518	632	6 4	50 0	2	¼	0 8	2 6	18 0 36 0 54.0	17 0 34 0 51 0	18 0 23 8 45 1 53.6	20 25 50 60	19 22 42 61	112
		Alt								3 4	18 0 36 0 54 0	17 0 34 0 51.0	18 6 24 6 45 9 54 4	20 25 50 60	20 23 42 62	119

HEATER RATING VOLTAGE	ACTUAL HEATER VOLTAGE										
	200	208	230	240	380	440	460	480	550	575	600
240	0.694	0.751	0.918	1.000	—	—	—	—	—	—	—
480	—	—	—	—	0.626	0.840	0.918	1.000	—	—	—
575	—	—	—	—	—	—	—	—	0.915	1.000	1.089

NOTE: The following equation converts kW of heat energy to Btuh.
 $\text{kW} \times 3.412 = \text{Btuh.}$

UNIT 50TJ	NOMINAL VOLTAGE	IFM	VOLTAGE RANGE		COMPR (ea)		OFM			IFM	ELECTRIC HEAT*		POWER SUPPLY		DISCONNECT SIZE†	
			Min	Max	RLA	LRA	Quantity	Hp	FLA		Nom kW**	FLA	MCA	MOCP††	FLA	LRA
014 (12½ Tons)	208/230-3-60	Std	187	254	22.3	142.0	2	¼	1.4	12.0	7.8/10.4	21.7/ 25.0	66.0/ 66.0	80/ 80	69/ 69	386/386
											12.0/16.0	33.4/ 38.1	66.0/ 66.0	80/ 80	69/ 69	
		Alt	187	254	22.3	142.0	2	¼	1.4	15.0	24.0/32.0	66.7/ 74.2	98.4/111.2	100/125	91/102	410/410
											31.8/42.4	88.4/102.0	125.3/142.5	150/150	115/131	
	460-3-60	Std	414	508	10.4	72.0	2	¼	0.8	5.4	—	—	30.7	40	35	207
											16.5	19.8	31.6	40	35	
		Alt	414	508	10.4	72.0	2	¼	0.8	7.4	27.8	33.4	48.5	60	47	207
											33.0	39.7	56.4	60	54	
	575-3-60	Std	518	632	9.6	62.0	2	¼	0.8	5.4	41.7	50.2	69.4	80	66	158
											50.0	60.1	66.9	80	78	
		Alt	518	632	9.6	62.0	2	¼	0.8	7.4	—	—	27.4	35	29	167
											18.0	17.0	27.4	35	29	
	575-3-60	Std	518	632	9.6	62.0	2	¼	0.8	5.4	36.0	34.0	47.9	50	45	158
											54.0	51.0	56.4	70	65	
		Alt	518	632	9.6	62.0	2	¼	0.8	7.4	—	—	29.1	35	31	167
											18.0	17.0	30.6	35	31	
		Alt	518	632	9.6	62.0	2	¼	0.8	7.4	36.0	34.0	51.8	60	48	167
											54.0	51.0	60.3	70	67	

LEGEND AND NOTES FOR ELECTRICAL DATA TABLES PAGES 50-55

LEGEND

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

*Heater capacity (kW) is based on heater voltage of 208 v, 240 v, 380 v, 480 v, and 575 v. Heaters are rated at 240 v, 480 v, or 575 v. If power distribution voltage to unit varies from rated heater voltage, heater kW will vary accordingly. To determine heater capacity at actual unit voltage, multiply 240 v, 480 v, or 575 v capacity by multipliers found in table on page 52.

†Used to determine minimum disconnect size per NEC

**Heaters are field installed only

††Fuse or HACR circuit breaker

||Fusing in single point box provides the required branch circuit protection

NOTES:

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

2. Unbalanced 3-Phase Supply Voltage

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

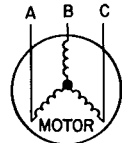
$$\% \text{ Voltage Imbalance} = 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

EXAMPLE: Supply voltage is 460-3-60

AB = 452 v

BC = 464 v

AC = 455 v



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

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

$$= 457$$

Determine maximum deviation from average voltage

(AB) 457 - 452 = 5 v

(BC) 464 - 457 = 7 v

(AC) 457 - 455 = 2 v

Maximum deviation is 7 v

Determine percent of voltage imbalance

$$\% \text{ Voltage Imbalance} = 100 \times \frac{7}{457} = 1.53\%$$

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

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

3 MCA calculation for 50TJ016-028 units with electric heaters over 50 kW = (1.25 x IFM amps) + (1.00 x heater FLA)



016-028 Only
(Except 380 v)



004-014 Only



004-007 Only



008-014 Only



016-028 Only

Electrical data — 50TJ016-028



UNIT 50TJ	NOMINAL VOLTAGE	VOLTAGE RANGE		COMPRESSOR				OFM			IFM	POWER EXHAUST		ELECTRIC HEAT		POWER SUPPLY	
				No. 1		No. 2											
		Min	Max	RLA	LRA	RLA	LRA	Quantity	Hp	FLA (ea)	FLA	FLA	LRA	FLA	kW	MCA	MOCP††
016	208/230-3-60	187	254	61.0	266	—	—	3	½	1.70	10.5/10.5	—	—	—/— 72/ 82 117/135 156/180	—/— 26/34 42/56 56/75**	92/ 92 103/116 159/148 169/193	150/150 150/150 175/150 175/200
												4.6	18.8	—/— 72/ 82 117/135 156/180	—/— 26/34 42/56 56/75**	96/ 96 109/121 165/154 175/199	150/150 150/150 175/175 175/200
	380-3-60	342	418	34.6	145	—	—	3	½	1.70	6.5	—	—	— 32 54	— 21.6 37.2**	55 55 76	80 80 80
												4.6	18.8	— 32 54	— 21.6 37.2**	59 59 81	90 90 90
	460-3-360	414	508	28.0	120	—	—	3	½	0.80	4.8	—	—	— 39 66 96	— 32 55 80**	42 55 72 102	70 70 80 110
												2.3	6.0	— 39 66 96	— 32 55 80**	45 58 75 105	70 70 80 110
	575-3-60	518	632	23.0	96	—	—	3	½	0.75	3.9	—	—	— 50	— 50**	35 58	50 60
												2.1	4.8	— 50	— 50**	37 57	60 60
020	208/230-3-60	187	254	28.3	205	25.0	185	3	½	1.70	15.8/15.8	—	—	—/— 72/ 82 117/135 156/180	—/— 26/34 42/56 56/75**	81/ 81 110/122 166/155 176/200	100/100 110/125 175/175 200/200
												4.6	18.8	—/— 72/ 82 117/135 156/180	—/— 26/34 42/56 56/75**	86/ 86 116/128 172/161 182/206	110/110 125/150 175/175 200/225
	460-3-60	414	508	14.4	104	12.4	89	3	½	0.80	7.9	—	—	— 39 66 96	— 32 55 80**	41 59 76 106	50 60 80 110
												2.3	6.0	— 39 66 96	— 32 55 80**	43 62 79 109	50 70 80 110
	575-3-60	518	632	11.4	78	10.4	78	3	½	0.75	6.0	—	—	—	—	33	40
												2.1	4.8	—	—	35	45

UNIT 50TJ	NOMINAL VOLTAGE	VOLTAGE RANGE		COMPRESSOR				OFM			IFM	POWER EXHAUST		ELECTRIC HEAT		POWER SUPPLY	
				No. 1		No. 2											
		Min	Max	RLA	LRA	RLA	LRA	Quantity	Hp	FLA (ea)	FLA	FLA	LRA	FLA	kW	MCA	MOCP††
024	208/230-3-60	187	254	34.5	239	28.3	205	2	1	5 50	25 0/25 0	—	—	—/— 72/ 82 117/135 156/180	—/— 26/34 42/56 56/75**	107/107 121/134 178/166 187/211	125/125 125/150 200/175 200/225
												4 6	18 8	—/— 72/ 82 117/135 156/180	—/— 26/34 42/56 56/75**	111/109 126/136 182/168 192/213	125/125 150/150 200/175 200/225
	460-3-60	414	508	17 0	119	14.4	104	2	1	2.80	13 0	—	—	— 39 66 96	— 32 55 80**	54 65 82 112	70 70 90 125
												2.3	6.0	— 39 66 96	— 32 55 80**	57 68 85 115	70 70 90 125
	575-3-60	518	632	15 2	111	11.4	78	2	1	3 40	10 0	—	—	—	—	47	60
												2 1	4 8	—	—	49	60
028	208/230-3-60	187	254	43 6	228	43 6	228	2	1	5 50	28 0/28 0	—	—	—/— 72/ 82 117/135 156/180	—/— 26/34 42/56 56/75**	137/137 137/138 181/170 191/215	175/175 175/175 200/175 200/225
												4 6	18 8	—/— 72/82 117/135 156/180	—/— 26/34 42/56 56/75**	142/142 142/143 187/176 197/221	175/175 175/175 200/200 200/225
	380-3-60	342	418	24 0	104	24 0	104	2	1	2.8	20.7	—	—	— 32 54	— 21 36	80 80 93	100 100 100
												2.3	6 0	— 32 54	— 21 36	83 83 96	100 100 100
	460-3-60	414	508	22 1	114	22 1	114	2	1	2 80	14 6	—	—	— 39 66 96	— 32 55 80**	70 70 84 114	90 90 90 125
												2 3	6 0	— 39 66 96	— 32 55 80**	72 72 87 117	90 90 90 125
	575-3-60	518	632	17 9	91	17.9	91	2	1	3 40	13 0	—	—	—	—	60	70
												2.1	4.8	—	—	62	80

LEGEND AND NOTES FOR ELECTRICAL DATA TABLES PAGES 50-55

LEGEND

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

*Heater capacity (kW) is based on heater voltage of 208 v, 240 v, 380 v, 480 v, and 575 v. Heaters are rated at 240 v, 480 v, or 575 v. If power distribution voltage to unit varies from rated heater voltage, heater kW will vary accordingly. To determine heater capacity at actual unit voltage, multiply 240 v, 480 v, or 575 v capacity by multipliers found in table on page 52.

†Used to determine minimum disconnect size per NEC.

**Heaters are field installed only.

††Fuse or HACR circuit breaker.

||Fusing in single point box provides the required branch circuit protection.

NOTES:

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

2 Unbalanced 3-Phase Supply Voltage

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

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

EXAMPLE: Supply voltage is 460-3-60

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

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 percent 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.

3 MCA calculation for units with electric heaters over 50 kW = (1.25 x IFM amps) + (1.00 x heater FLA).



016-028 Only
(Except 380 v)



004-014 Only



004-007 Only

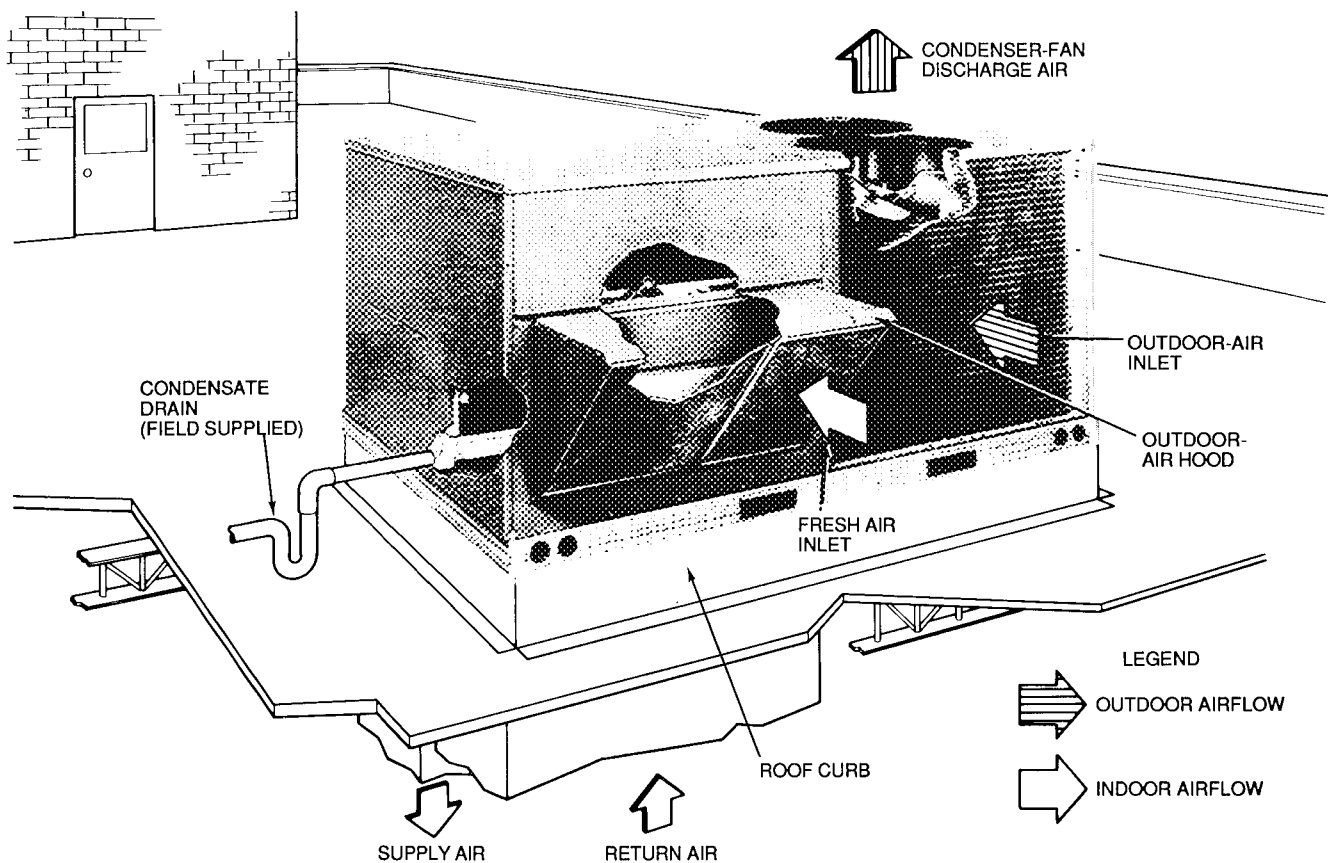


008-014 Only

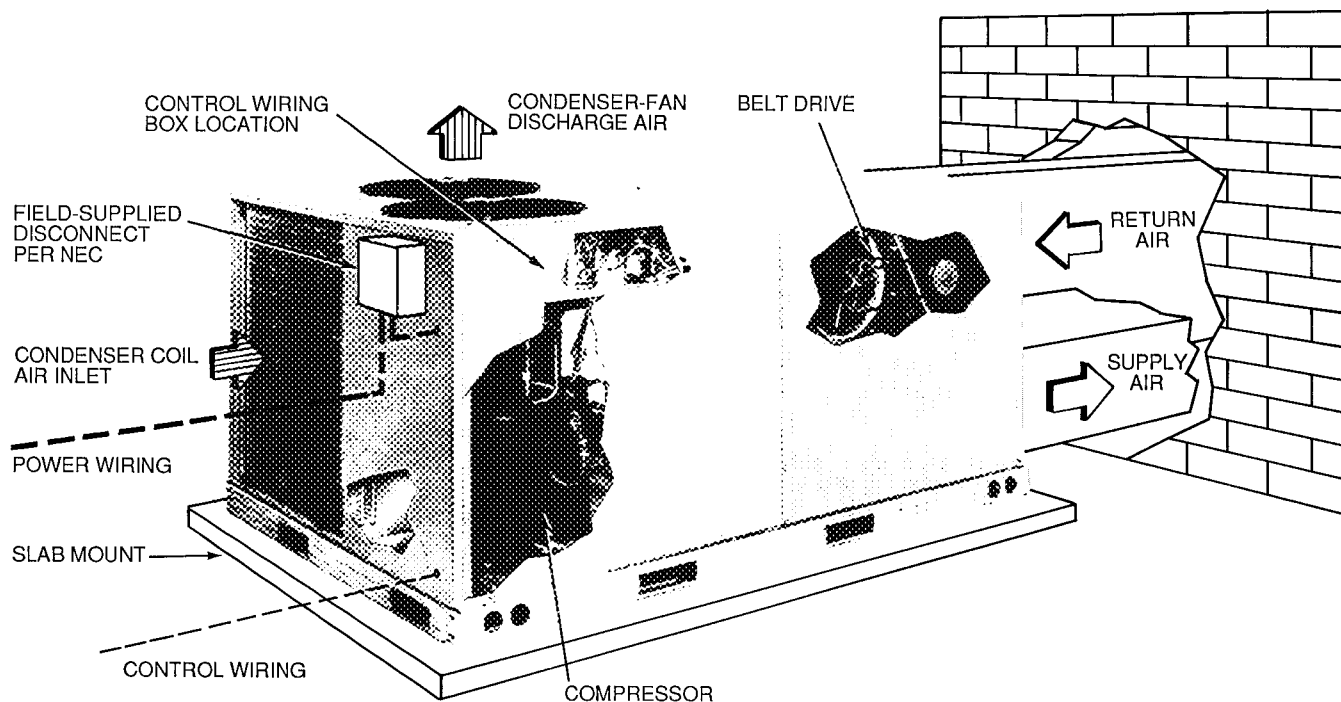


016-028 Only

VERTICAL DISCHARGE DUCTING

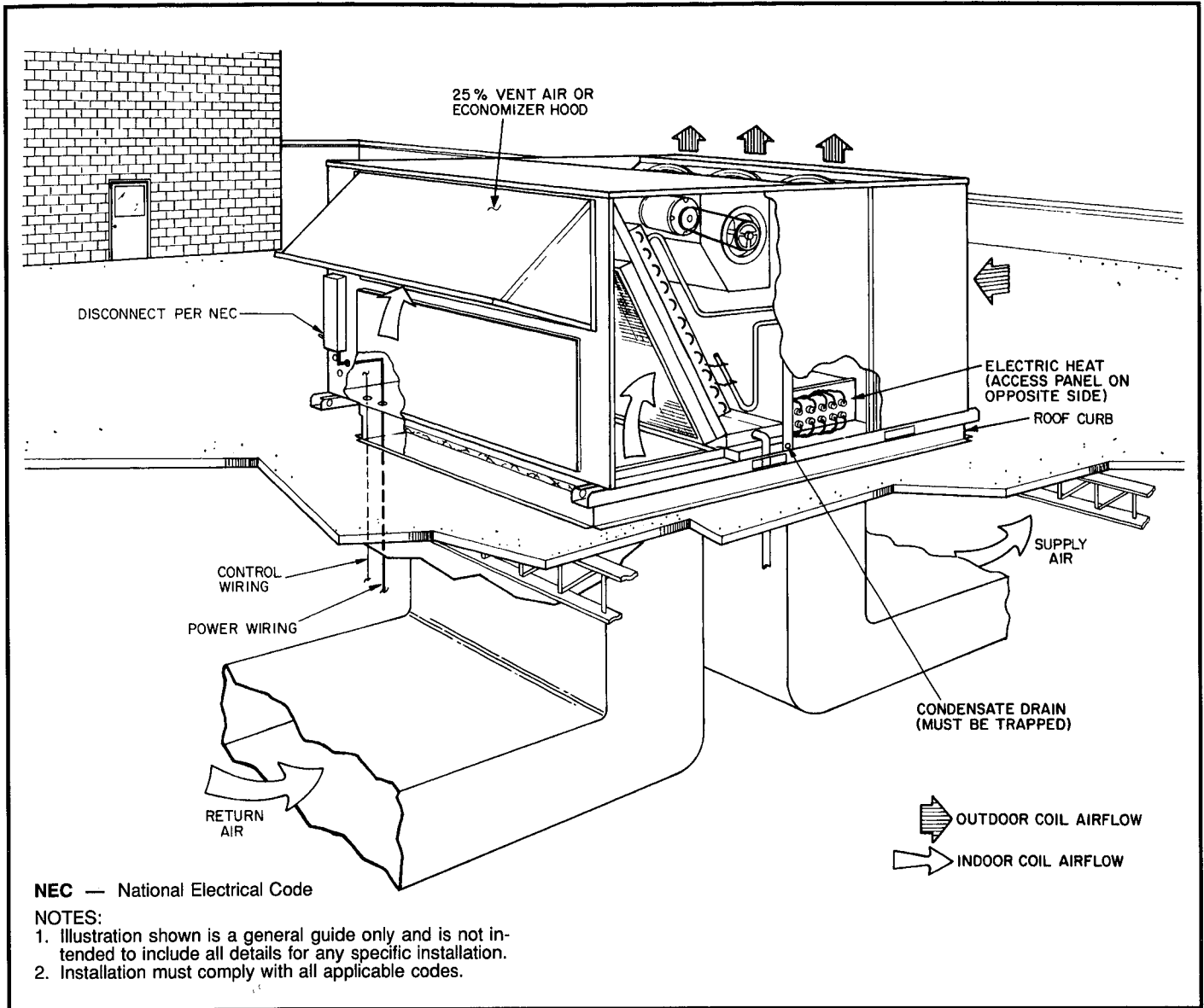


HORIZONTAL DISCHARGE DUCTING



NEC — National Electrical Code

Typical piping and wiring — 50TJ016-028



LEGEND FOR TYPICAL CONTROL WIRING SCHEMATICS

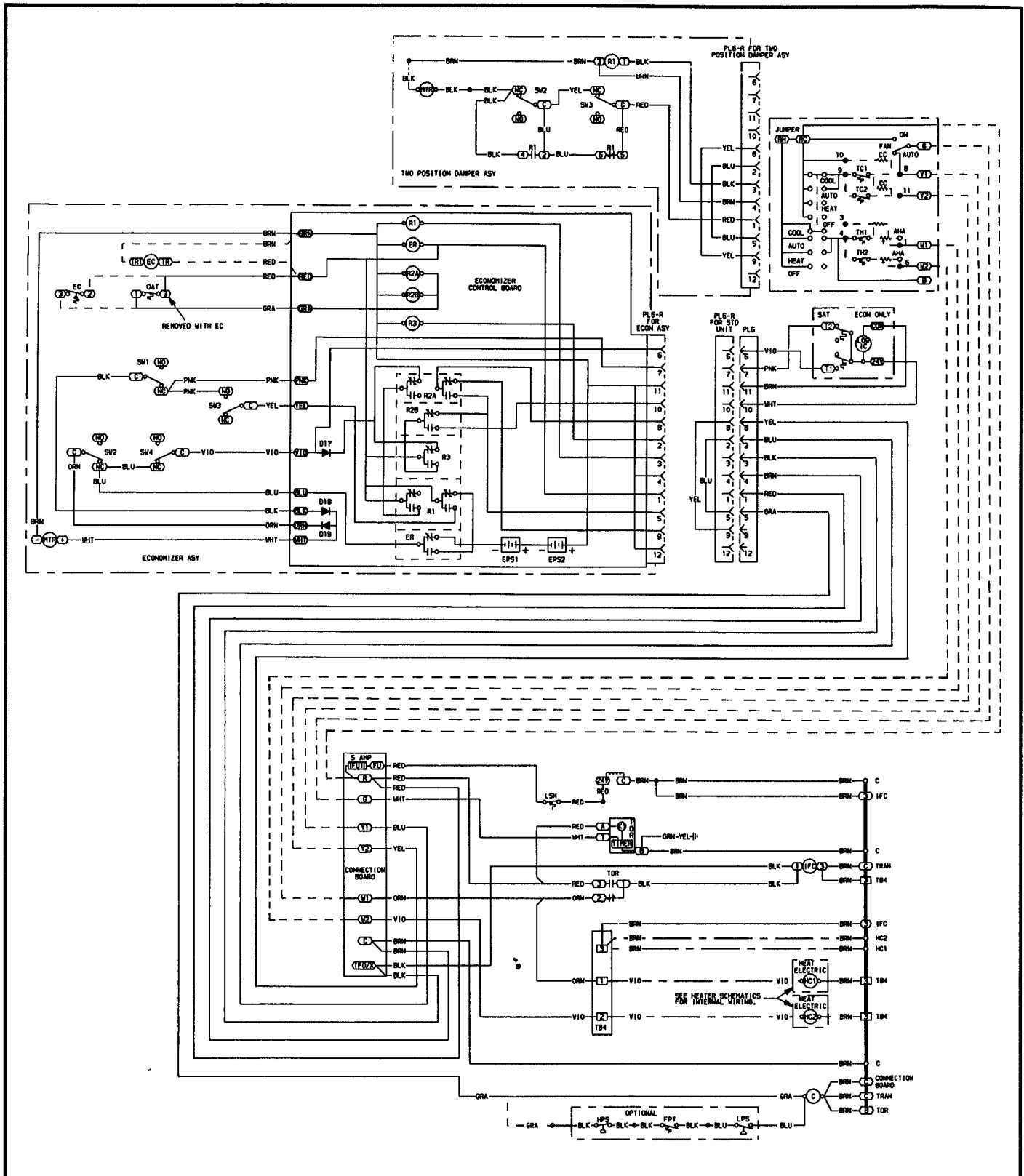
AHA	— Adjustable Heat Anticipator
BRK W/AT	— Breaks With Amp Turns
C	— Contactor, Compressor
CB	— Circuit Breaker
CC	— Cooling Compensator
CH	— Crankcase Heater
CLO	— Compressor Lockout
CLS	— Compressor Lockout Switch
COMP	— Compressor Motor
CT	— Current Transformer
DM	— Damper Motor
DU	— Dummy Terminal
EC	— Enthalpy Control
EQUIP	— Equipment
FL	— Fuse Link
FPT	— Freeze Protection Thermostat
FU	— Fuse
GND	— Ground
HC	— Heater Contactor
HPS	— High-Pressure Switch
HTR	— Heater
IFC	— Indoor (Evaporator) Fan Contactor
IFCB	— Indoor (Evaporator) Fan Circuit Breaker

IFM	— Indoor (Evaporator) Fan Motor
IFR	— Indoor (Evaporator) Fan Relay
IP	— Internal Protector
L	— Light
LOR	— Lockout Relay
LPS	— Low-Pressure Switch
LS	— Limit Switch
MAT	— Mixed-Air Thermostat
NC	— Normally Closed
NO	— Normally Open
OAT	— Outdoor-Air Thermostat
OFC	— Outdoor (Condenser) Fan Contactor
OFM	— Outdoor (Condenser) Fan Motor
OP	— Overcurrent Protector
PL	— Plug Assembly
PRI	— Primary
QT	— Quadruple Terminal
SW	— Switch
TB	— Terminal Block
TC	— Thermostat Cooling
TH	— Thermostat Heating
TRAN	— Transformer

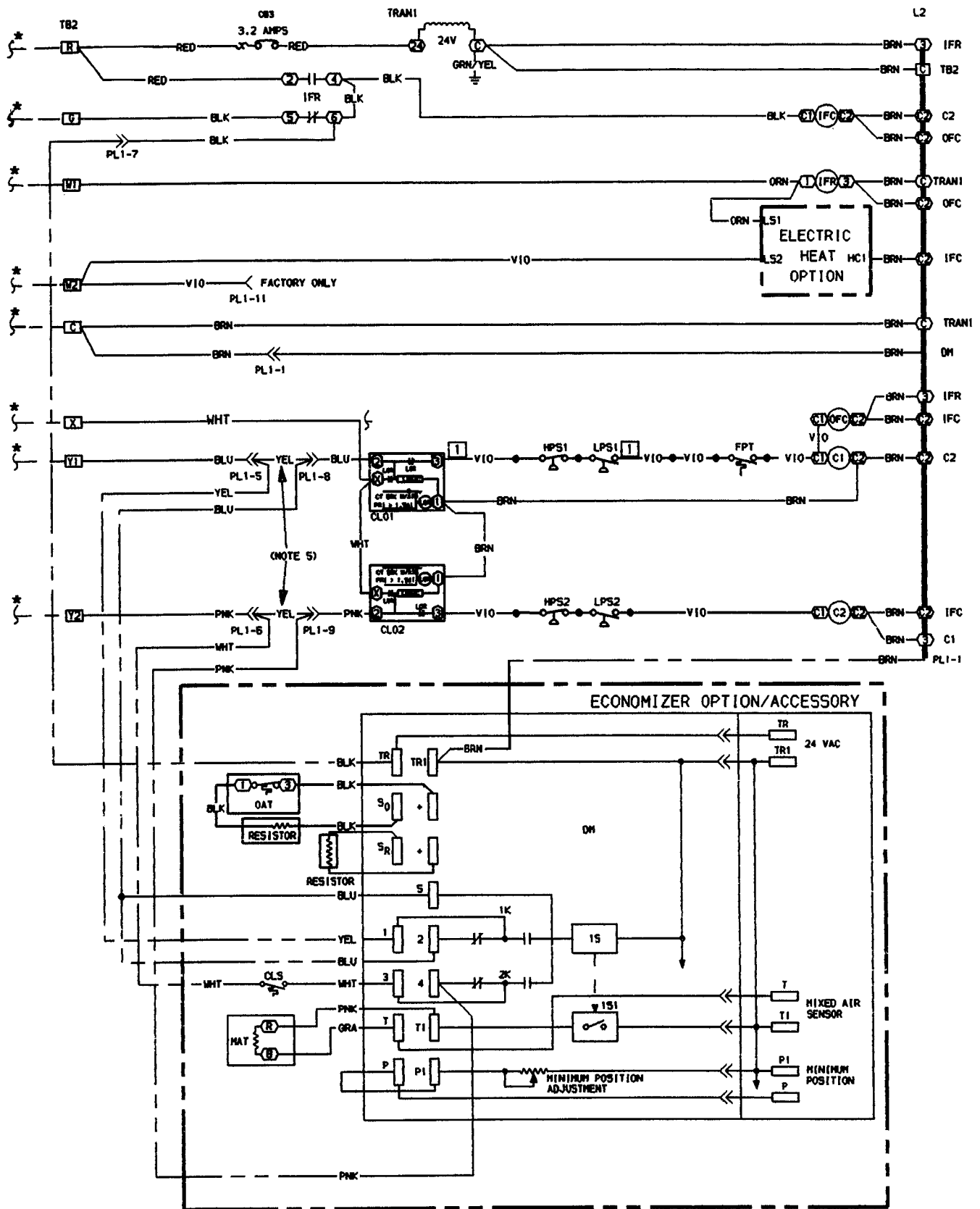
	Terminal (Marked)
	Terminal (Unmarked)
	Terminal Block
	Splice
	Splice (Marked)
	Factory Wiring
	Field Control Wiring
	Field Power Wiring
	Accessory Wiring or Optional Wiring
	Accessory
	To indicate common potential only, not to represent wiring

Typical wiring schematic — 50TJ004-014

Carrier®



Typical wiring schematic — 50TJ016-028



*To field-supplied thermostat See Application Data section for more details.

Controls

Carrier®

Operating sequence

Cooling, units without economizer — When thermostat calls for cooling, terminals G and Y1 are energized. The indoor (evaporator) fan contactor (IFC), and compressor contactor no. 1 (C1) are energized and evaporator-fan motor, compressor no. 1 (50TJ004-014 and 020-028) or unloaded compressor (50TJ016), and condenser fans start. The condenser-fan motor runs continuously while unit is cooling. On 50TJ008-028 units, if the thermostat calls for a second stage of cooling by energizing Y2, compressor contactor no. 2 (C2) is energized and compressor no. 2 starts (50TJ008-014 and 020-028), or compressor no. 1 runs fully loaded (50TJ016).

Heating, units without economizer (If Accessory or Optional Heater is Installed) — Upon a call for heating through terminal W1, IFC and heater contactor no. 1 (HC1) are energized. On units equipped for 2 stages of heat, when additional heat is needed, HC2 is energized through W2.

Cooling, units with Varislide™ economizer (50TJ004-014) — 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 condenser-fan motor. The evaporator-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 (50TJ008-014), 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 condenser fan will be energized and the position of the economizer damper will be determined by the supply-air temperature. Compressor no. 2 (50TJ008-014) is locked out.

When the second stage of cooling is satisfied, the compressor and condenser-fan motor 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 (50TJ004-007) — 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 condenser-fan motor. The evaporator-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 (50TJ008-014) — When the outdoor-air is above the enthalpy control (EC) setting, and the room thermostat calls for cooling, and compressor contactor no. 1 is energized to start compressor no. 1 and the condenser-fan motor. The evaporator-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.

Cooling, units with economizer (50TJ016-028) — Upon a call for cooling, when outdoor ambient temperature is above the temperature control setting, the evaporator and condenser fans and compressor energize. The economizer damper moves to VENT position.

Upon a first-stage call for cooling, when outdoor ambient temperature is below the temperature control setting, the evaporator fan starts and economizer damper modulates to maintain mixed-air temperature. The compressor(s) remains off.

Upon a second-stage call for cooling, compressor no. 1 (50TJ020-028) or unloaded compressor (50TJ016) is energized and mechanical cooling is integrated with economizer cooling. Compressor no. 2 is locked out. If the air temperature is below 50 F, a cooling lockout switch prevents the compressor(s) from running.

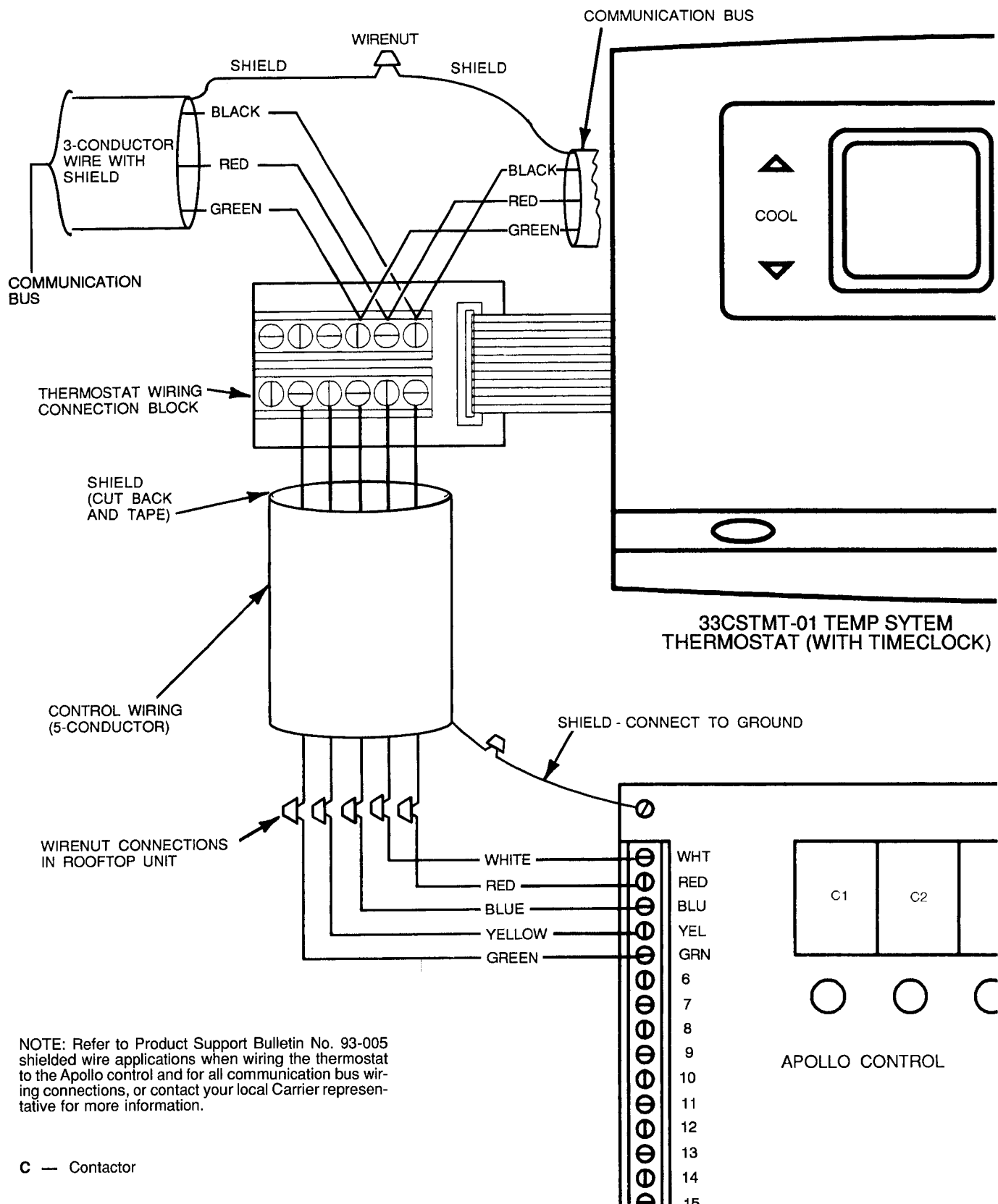
When supply-air temperature drops below a fixed set point, the economizer damper modulates to maintain the temperature at the fixed set point.

A freeze protection thermostat (FPT) is located on the evaporator coil. It detects frost build-up and turns off the compressor, allowing the coil to clear. Once frost has melted, the compressor can be reenergized.

Heating, units with economizer (50TJ004-014) (If Accessory or Optional Heater is Installed) — When the room thermostat calls for heat through terminal W1, the evaporator-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 during heating. When the thermostat is satisfied, the damper moves to the fully closed position.

Heating, units with economizer (50TJ016-028) (If Accessory or Optional Heater is Installed) — The outdoor air damper stays at VENT position while the evaporator fan is operating. Refer to Heating, Units Without Economizer section, above, for remainder of operating sequence.

THERMOSTAT AND APOLLO CONTROL WIRING



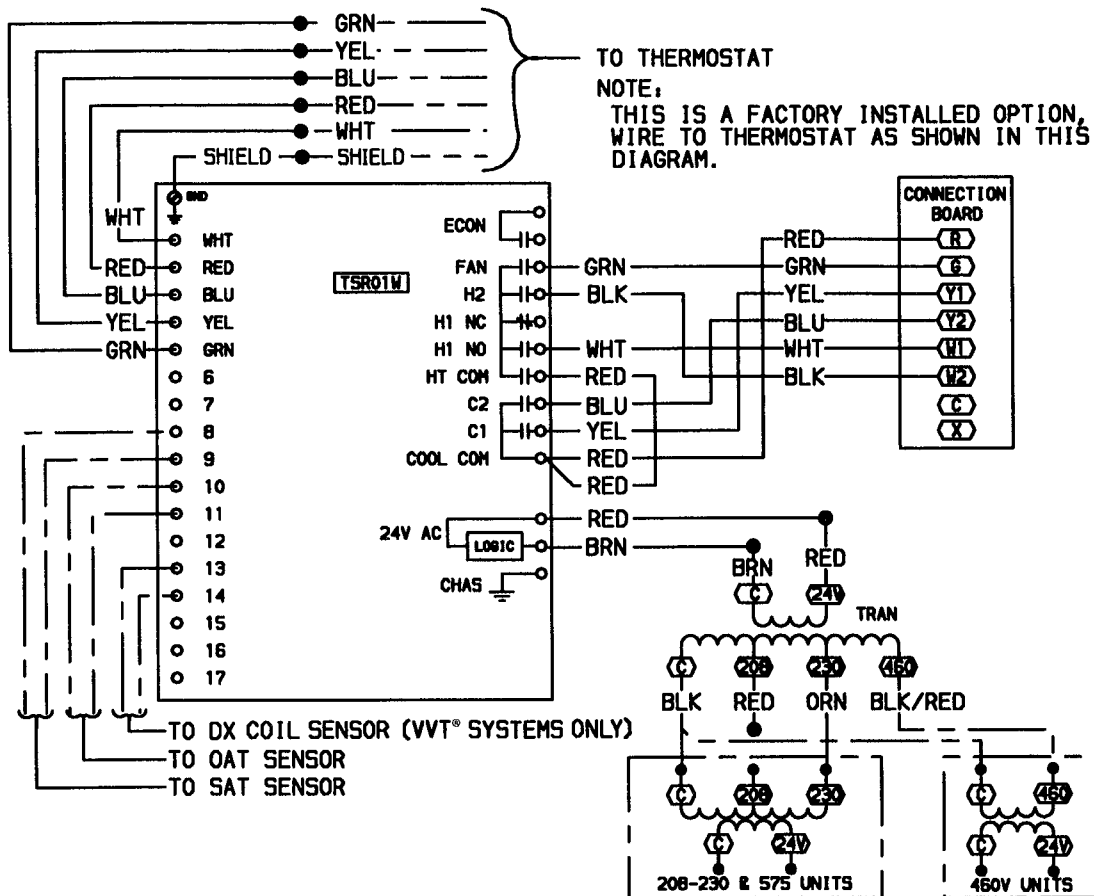
NOTE: Refer to Product Support Bulletin No. 93-005 shielded wire applications when wiring the thermostat to the Apollo control and for all communication bus wiring connections, or contact your local Carrier representative for more information.

C — Contactor

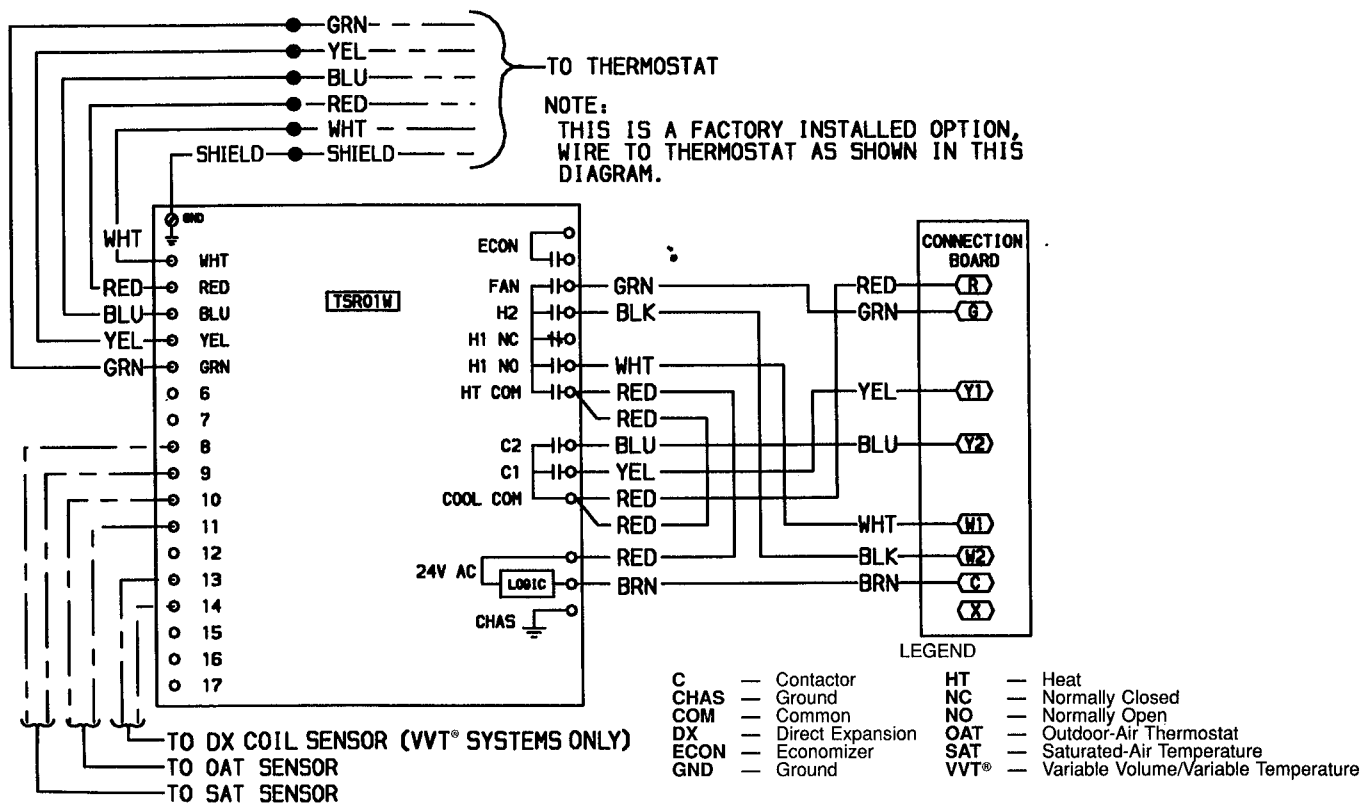
Controls (cont)



APOLLO COMMUNICATING CONTROL WIRING SCHEMATIC, 50TJ004-007 UNITS



APOLLO COMMUNICATING CONTROL WIRING SCHEMATIC, 50TJ008-028 UNITS

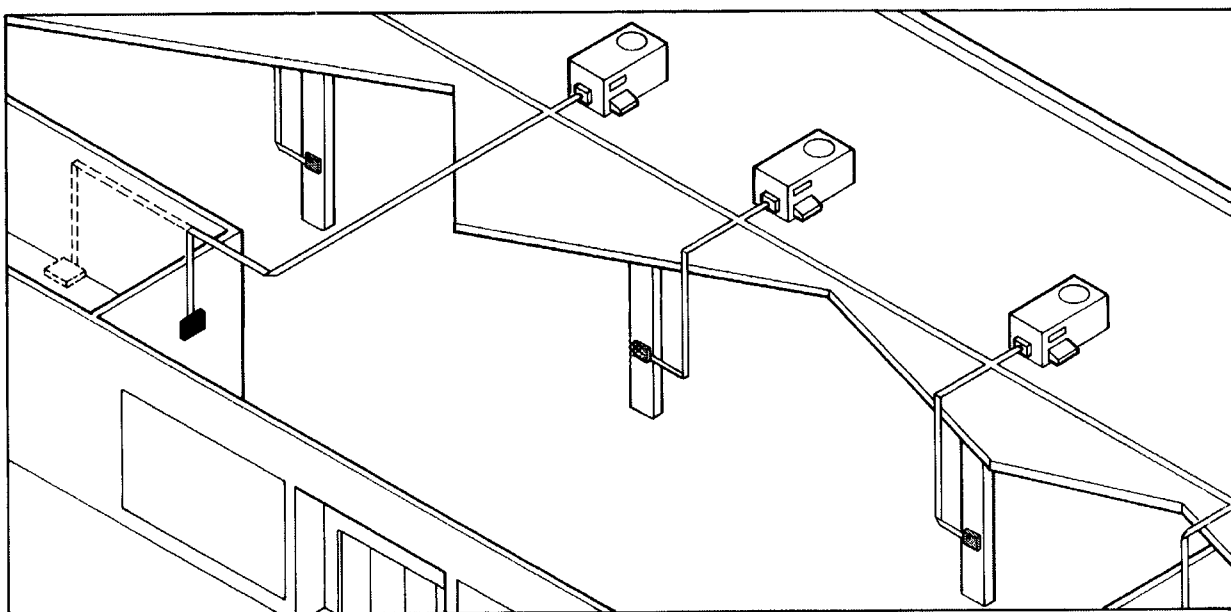


TEMP systems

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.



— TEMP SYSTEM THERMOSTAT (WITH TIMECLOCK)

— TEMP SYSTEM THERMOSTAT (WITHOUT TIMECLOCK)

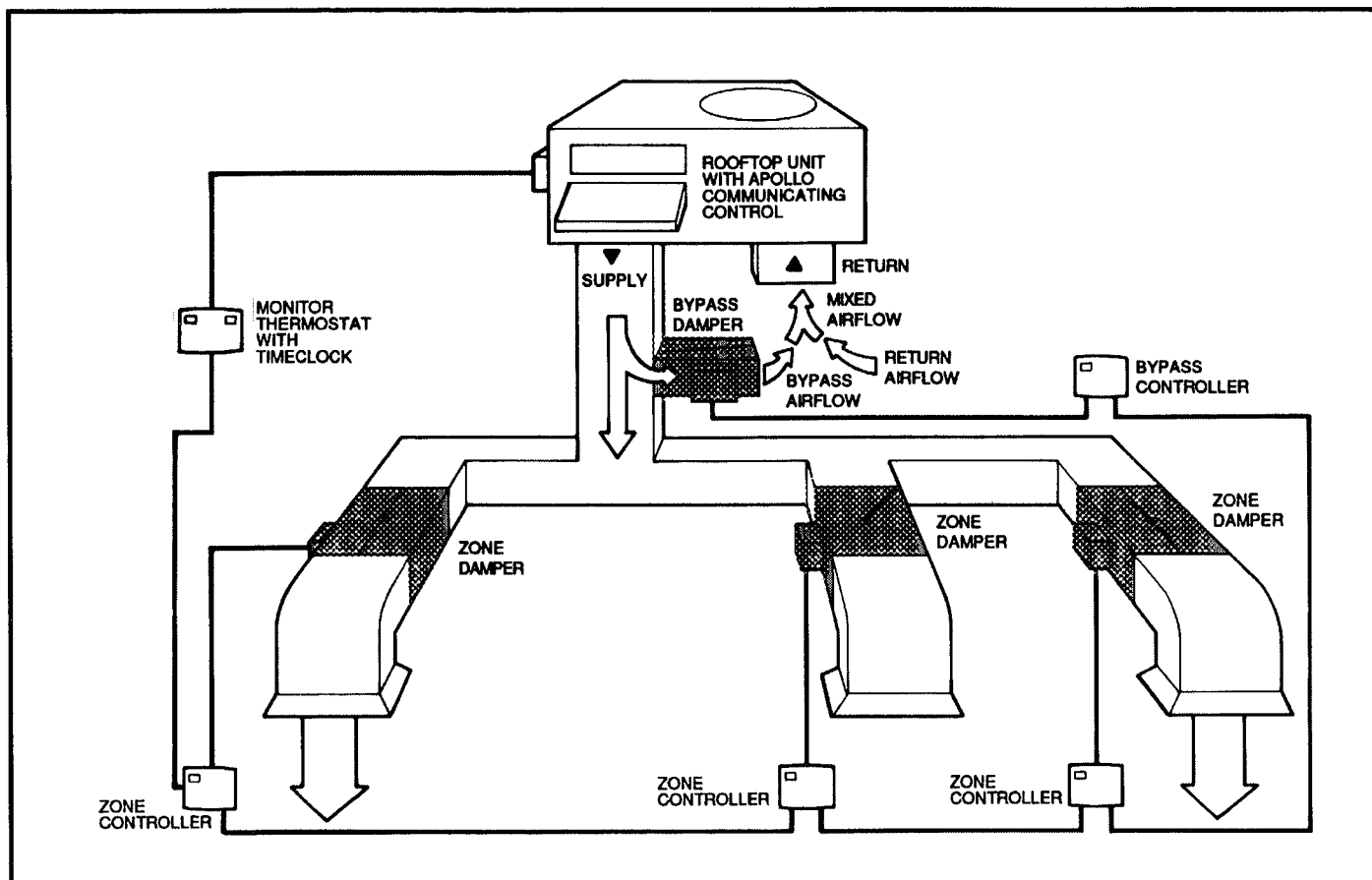
Controls (cont)



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, operating 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 (50TJ004-014) — 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.

Ductwork (50TJ016-028) — Ductwork should be attached to the curb on all units. Interior installation may proceed before unit is set in place on roof. If ductwork is to be attached to unit, do not drill in condensate drain pan area — leaks may result. Field-fabricated concentric ductwork may be connected as shown on page 66.

Horizontal discharge (50TJ004-014) — To convert from vertical discharge to horizontal discharge (Varislide™ 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-curb service connections (016-028) — Roof curb connections allow field power wires and control wires to enter through the roof curb opening.

Thru-the-bottom power connections (004-014) — 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 004-024 units and 11,250 cfm on 028 units.

Minimum airflow — For cooling, minimum airflow is 300 cfm/ton. For 004-014 units with electric heating, required minimum cfm is 900 for 50TJ004; 1200 for 50TJ005; 1500 for 50TJ006; 1800 for 50TJ007; 2250 for 50TJ008; 2550 for 50TJ009; and 3000 for 50TJ012 and 014, with the following exceptions:

UNIT 50TJ	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	18.0	Horizontal or Vertical	2800
		36.0		2350

NOTE: For 016-028 units with electric heating, the required minimum cfm is 300 cfm/ton.

Minimum ambient cooling operating temperature (50TJ004-014) — The minimum temperature for size 004-014 standard units is 25 F. With accessory Motor-master® control, units can operate at outdoor temperatures down to -20 F.

Minimum ambient cooling operation temperature (50TJ016-028) — Units are designed to operate at outdoor temperatures down to 40 F for 50TJ016 and 020, 25 F for 50TJ024, and 48 F for 50TJ028. To operate at lower outdoor temperatures, see price pages for appropriate accessory combinations for specific applications, or contact your local Carrier representative.

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.

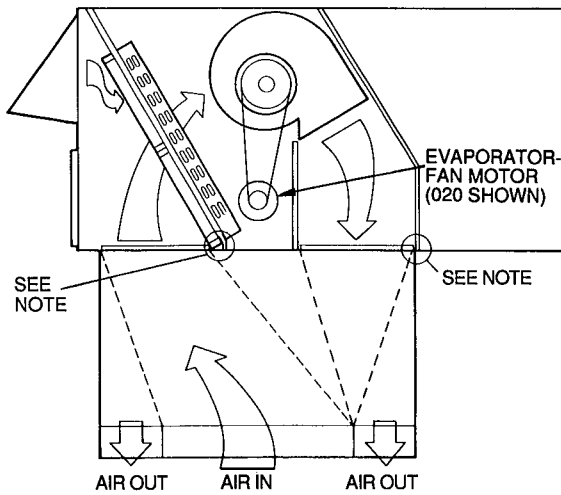
Using Carrier motors with the values listed in the Physical and Fan Performance Data tables *will not* result in nuisance tripping or premature motor failure. The unit warranty will not be affected.

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

Application data (cont)

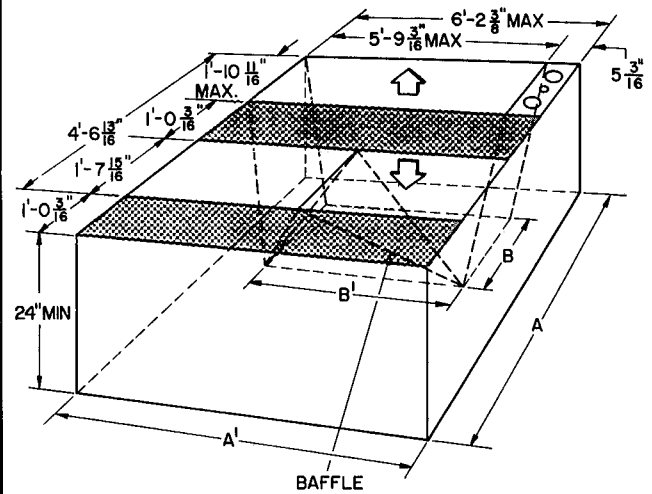


CONCENTRIC DUCT AIR DISTRIBUTION (50TJ016-028 ONLY)



NOTE: Do not drill in this area, damage to basepan may result in water leak.

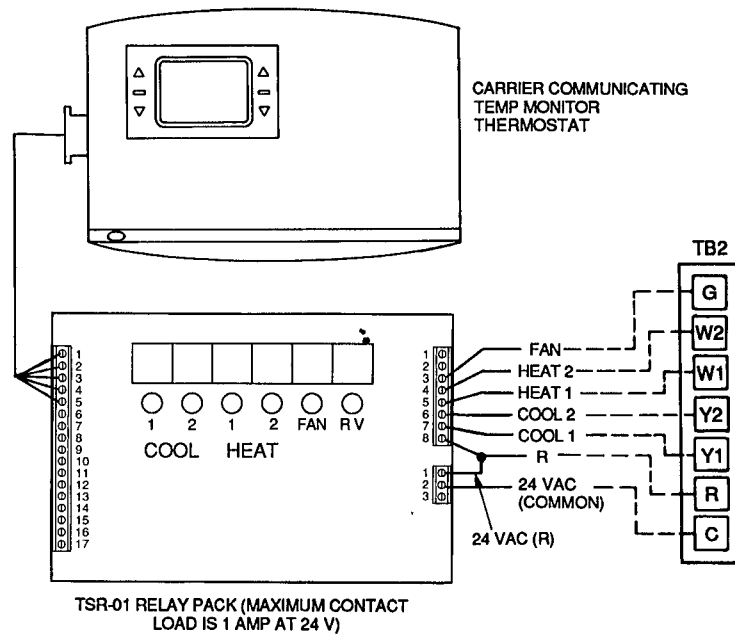
CONCENTRIC DUCT DETAILS (50TJ016-028 ONLY)



Shaded area indicates block-off panels.

NOTE: Dimensions A, A' and B, B' are obtained from field-supplied ceiling diffuser.

STANDARD UNIT TYPICAL FIELD THERMOSTAT WIRING, 50TJ016-028



LEGEND
TB — Terminal Block

Packaged Rooftop Cooling Unit with Electric Heat Option — Constant Volume Application

HVAC Guide Specifications

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

Carrier Model Number: **50TJ**

Part 1 — General

1.01 SYSTEM DESCRIPTION

- A. Outdoor rooftop- or slab-mounted, electrically controlled cooling unit with optional heat utilizing a hermetic compressor for cooling duty and electric resistance coils for heating 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

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

Part 2 — Products

2.01 EQUIPMENT (STANDARD)

A. General:

Factory-assembled, single-piece cooling unit with optional heat. 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.
- 2. Evaporator 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 (evaporator fan) 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 (evaporator-fan) 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. Condenser fan shall be of the direct-driven propeller type and shall discharge air vertically.
- 5. Condenser 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 spring-mounted and internally spring mounted for vibration isolation.
- 3. On independent circuits (008-014).

E. Coils:

- 1. Condenser 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. Evaporator coil shall be of the full face active design.

F. Refrigerant Components:

Refrigerant circuit components shall include:

- 1. Acutrol™ feed system.
- 2. Refrigerant strainer.
- 3. Service gage connections on suction, discharge, and liquid line.

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 320 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:

Unit shall be complete with self-contained low-voltage control circuit.

2. Standard Safeties:

- a. Unit shall incorporate compressor overtemperature and overcurrent safety devices to shut off compressor.
- b. Heating section shall be provided with the following minimum protections:
 - 1) High-temperature limit switches.
 - 2) Overcurrent protection.

I. Operating Characteristics:

1. Unit shall be capable of starting and running at 115 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 operation down to 25 F ambient outdoor temperature.

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 (evaporator-fan) motor shall have permanently lubricated bearings and inherent automatic-reset thermal overload protection.
3. Totally-enclosed condenser-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 evaporator-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, evaporator-fan operation, and economizer operation.
- e. Shall be equipped with a 5-minute time delay between modes of operation.

2. Roof Curbs: (Horizontal and Vertical)

- 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 (Varislide™ economizer).
- 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 (Varislide economizer). 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 Varislide economizer is equipped with 15% of return-air relief (004-014).
- g. Designed to close damper during loss-of-power situations with emergency power supply (Varislide economizer) or spring return built into motor (Parablade economizer).
- h. Dry bulb outdoor-air thermostat (Varislide economizer) or enthalpy (Parablade economizer) protection shall be provided as standard.
- i. Varislide 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 50% outdoor air for year-round ventilation.

* 5. 100% Two-Position Damper:

- a. Two-position damper package shall include single blade damper and motor. Admits up to 100% outdoor air.
- b. Damper shall close upon indoor (evaporator) 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 (evaporator) 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 Varislide™ 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 evaporator 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.
- * 10. Head Pressure Control Packages:

Each package consists of solid-state control and condenser-coil temperature sensor to maintain condensing temperature between 90 F and 110 F at outdoor ambient temperatures down to -20 F by condenser-fan speed modulation or condenser-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 Connectors:

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. Condenser 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. Condenser Coil Grille:

The grille protects the condenser 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.

Packaged Rooftop Cooling Unit with Electric Heat Option, Constant Volume Application

HVAC Guide Specifications

Size Range: **15 to 25 tons, Nominal Cooling**

Carrier Model Number: **50TJ**

Part 1 — General

1.01 SYSTEM DESCRIPTION

Unit is an outdoor, rooftop-mounted, cooling unit utilizing reciprocating, semi-hermetic (016,028) or hermetic (020,024) compressor(s) for cooling duty. Supply air is discharged vertically or horizontally (with horizontal supply/return adapter assembly or roof curb) as shown on contract drawings.

1.02 QUALITY ASSURANCE

- A. Unit (016-024) shall be rated in accordance with ARI Standard 360 and designed in accordance with UL Standard 1995.

NOTE: The 50TJ028 is beyond the scope of the ARI certification program.

- B. Unit shall be ETL and Warnock Hersey listed.
- C. Roof curb shall be designed to conform to NRCA Standards.
- D. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
- E. 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 shall be stored and handled per manufacturer's recommendations.

Part 2 — Products

2.01 EQUIPMENT (STANDARD)

A. General:

The 50TJ unit shall be a factory-assembled, single piece cooling unit. Contained within the unit enclosure shall be all factory-installed wiring, piping, controls, refrigerant charge (R-22), and special features required prior to field start-up.

B. Unit Cabinet:

- Unit cabinet shall be constructed of galvanized steel, precoated with a baked enamel finish.
- Indoor blower compartment interior surfaces shall be insulated with a minimum 1/2-in. thick, flexible fiberglass insulation coated on the air side.
- Cabinet panels shall be easily removable for servicing.
- Filters shall be accessible through an access panel.
- The manual damper shall permit up to 25% outdoor air for year-round ventilation.

- Holes shall be provided in the base rails for rigging shackles to facilitate overhead rigging.
- Unit shall have a factory-installed internal condensate drain connection and a sloped condensate pan.

C. Fans:

- Indoor Blower (Evaporator Fan):
 - The fan shall be belt driven with adjustable motor pulleys.
 - The fan wheel shall be made from steel, be of the double inlet type with forward-curved blades, and have a corrosion-resistant finish. It shall also be dynamically balanced.
 - Fan bearings shall be of the pillow block (020-028), ball-bearing type.
- The condenser fans shall be of the direct driven, propeller type, with corrosion-resistant blades riveted to corrosion-resistant steel spiders. They shall be dynamically balanced and discharge air vertically.

D. Compressor(s):

- The reciprocating semi-hermetic or hermetic compressor(s) shall have factory-installed external spring vibration isolation (016,028) or shall be factory rubber shock mounted and internally spring mounted (020,024) for vibration isolation.
- The factory-installed crankcase heater shall prevent refrigerant dilution of oil (016,028).
- The semi-hermetic compressor shall have unloading capability (016 only).
- On independent circuits (020-028).

E. Coils:

Evaporator and condenser coils shall have aluminum or copper plate fins mechanically bonded to seamless copper tubes with all joints brazed.

F. Refrigerant Components:

Refrigerant circuit components shall include:

- Filter driers and fixed expansion devices.
- Service gage connection on suction, discharge, and liquid lines.
- Acutrol™ feed system.

G. Filter Section:

Standard filter section shall consist of 2 sizes of factory-installed, 2-in. thick throwaway fiberglass filters of commercially available sizes.

H. Controls and Safeties:

1. Unit Controls:

Controls shall perform the following functions:

- Capacity control (2-step).
- Economizer operation (optional).
- Self-contained low-voltage control circuit.

2. Safeties:

- a. Should any of the following safety devices trip and shut off the compressor, the unit shall incorporate a solid-state compressor lockout which will provide reset capability at the space thermostat:
 - 1) Compressor overtemperature, overcurrent.
 - 2) Low-pressure switch.
 - 3) High-pressure switch.
 - 4) Freeze protection thermostat.
- b. Heating section shall be provided with the following minimum protections:
 - 1) High-temperature limit switches.
 - 2) Overcurrent protection.

I. Operating Characteristics:

1. Unit shall be capable of starting and running at 125 F ambient outdoor temperature, exceeding maximum load criteria of ARI Standard 360.
2. Unit shall have standard controls and will operate in cooling to 40 F on 50TJ016 and 020 units, to 25 F ambient on 50TJ024 units, and to 48 F ambient on 50TJ028 units.

J. Electrical Requirements:

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

K. Motors:

1. The 50TJ016 and 028 compressor motors shall be of the refrigerant cooled type with internal thermal overload protection and shall use a calibrated circuit breaker for electrical protection. The 50TJ020 and 024 compressor motors shall be cooled by refrigerant passing through motor windings and shall have line break thermal and current overload protection.
2. All fan motors shall have permanently lubricated, sealed bearings and inherent automatic reset thermal overload protection or manual reset calibrated circuit breakers.

L. Special Features:

Certain standard features are not applicable when the features designated * 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 evaporator-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, evaporator-fan operation, and economizer operation.

e. Shall be equipped with a 5-minute time delay between modes of operation.

2. Roof Curbs (Horizontal and Vertical):

The roof curb shall be formed of 18-gage steel with wood nailer strip and shall be capable of supporting unit's entire weight.

3. Horizontal Adapter:

Includes factory-assembled adapter and duct and substantially improves evaporator-fan static performance.

* 4. Integrated Economizer:

- a. Integrated type capable of simultaneous economizer and compressor operation to provide cooling with outdoor air.
- b. Equipped with low-leakage dampers not to exceed 3% leakage at 1.0 in. wg pressure differential.
- c. Capable of introducing up to 100% outdoor air.
- d. Equipped with dry-bulb temperature control to govern economizer changeover.

* 5. Head Pressure Control Package:

Package shall consist of an accessory outdoor-air package and a solid-state control with condenser coil temperature sensor for controlling condenser fan motor speed to maintain condensing temperature between 90 F and 100 F at outdoor ambient temperatures down to -20 F.

* 6. Power Exhaust Package:

Package shall include an exhaust fan, motor, and damper for vertical flow units with economizer to assure proper building pressurization.

* 7. Barometric Relief Damper Package:

- a. Package shall include damper, seals, hardware, and hoods to relieve excess internal pressure.
- b. Damper shall close due to gravity upon unit shutdown.

* 8. Thermostat and Subbase Assembly:

To provide staged heating and cooling in addition to automatic (or manual) changeover and fan control.

* 9. Two-Position Damper:

The two-position damper package shall include a single-blade damper and motor. It admits up to 25% outdoor air, and shall close upon unit shutoff.

10. Accessory Compressor Cycle Delay:

The compressor cycle delay prevents rapid cycling of the compressor by preventing it from re-starting for a minimum of 5 minutes after shutdown.

11. Electric Heater Package:

Fully assembled for installation. The 208/230-v and 460-v units are designed in accordance with UL standards and all units feature a single point connection.

Guide specifications — 50TJ016-028 (cont)



- 12. Low Ambient Kit:
When used, allows units to operate at lower outdoor ambient temperatures.
- * 13. 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.
- * 14. 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.
- * 15. Electronic Programmable Thermostat:
Capable of using deluxe full-featured electronic thermostat.
- 16. Winter Start Time-Delay Relay:
Used in conjunction with the accessory low-ambient kit or head pressure control device on 020-028 units to permit operation in cooling at lower outdoor ambient temperatures.
- 17. Hot Water Coil:
Coil shall be 2-row copper tube (1/2-in. OD) with aluminum plate fins (590 fins/m; 15 fins/in.) and (41.28 mm; 1.625 in.) OD copper headers. Input and output connections shall be (41.28 mm; 1.625 in.) ODM copper stubs for sweat connection. Coil shall be furnished with suitable support rails, end plates, and hardware for ready field installation in heater compartment.
- 18. Unloader (028 only):
Suction pressure unloader shall be field installed on compressor no. 1 for capacity control.