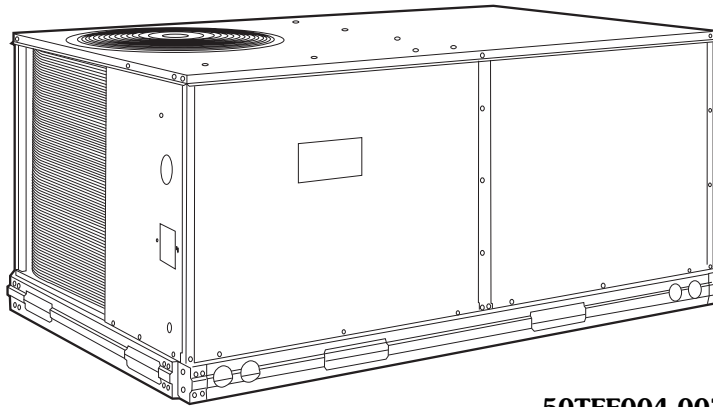




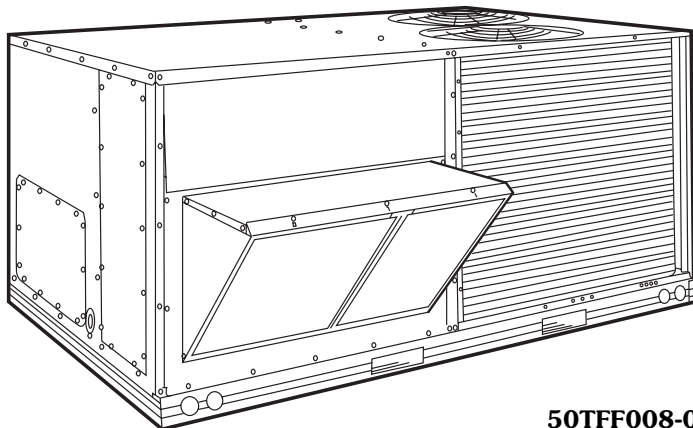
Product Data

50TFF004-014 Single-Package Rooftop Units Electric Cooling with Electric Heat Option

3 to 12.5 Nominal Tons



50TFF004-007



50TFF008-014

Standard-Efficiency Rooftop Units with:

- Pre-painted galvanized steel cabinet for long life and quality appearance
- Commercial strength base rails with built-in rigging capability
- Convertible design for vertical or horizontal supply/return
- Non-corrosive, sloped condensate drain pan, meets ASHRAE 62-89 (IAQ)
- Two-inch return-air filters
- A wide assortment of factory-installed options available, including high-static drives that provide additional performance range

Features/Benefits

Every compact one-piece unit arrives fully assembled, charged, tested, and ready to run.

Durable, dependable construction

Designed for durability in any climate, the weather-resistant cabinets are constructed of galvanized steel, bonderized, and all exterior panels are coated with a prepainted baked enamel finish. The paint finish is non-chalking, and is capable of withstanding ASTM (American Society for Testing and Materials) B117 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, ALL 50TFF 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.



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.) 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 and rigging holes for easier maneuvering. (Forklift slots are found on 3 sides.) Durable packaging protects all units during shipment and storage.

The units can be easily converted from a vertical to a horizontal discharge configuration by interchanging the panels supplied with the unit.

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.

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

The 50TFF units were designed with the service technician in mind. The single-row condenser coils on the 50TFF004 and 008 units simplify the cleaning process. In addition, the 50TFF004-014 units have a standard filter access panel, which permits tool-less filter changes, even on units with horizontal economizers.

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 on sizes 008-014 improve the dehumidification capability of the standard units, and standard enthalpy controls provided with the optional or accessory economizers maximize building humidity control.

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 utility connection capability allows power and control wiring to be routed through the unit basepan, 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 compressors are equipped with compressor overcurrent and overtemperature protection to ensure dependability. All units have Carrier's exclusive Acutrol™ metering device to precisely control

refrigerant flow (preventing slugging and flood-back) while maintaining optimum unit performance. Filter driers are standard.

Integrated economizers and outdoor air

During a first stage call for cooling, if the outdoor-air temperature is below the economizer control changeover set point, the discharge-air sensor modulates the economizer outdoor-air damper open taking, advantage of free cooling provided by outside air. When second-stage cooling is called for, the compressor is energized in addition to the economizer. If the outdoor-air temperature is above the changeover set point, the first stage of compression is activated and the economizer stays at vent position. Durablade economizer operation is controlled by a dry-bulb thermostat that senses outdoor-air temperature. Accessory upgrade kits allow for either outdoor air enthalpy changeover or for more precise differential enthalpy control.

The Durablade economizer has a reliable sliding plate damper which is easily adjusted for 100% outdoor air, 100% return air, or any proportions of mixed air.

The 50TFF004-014 units also utilize the optional field or factory-installed EconoMi\$er. The microprocessor controlled EconoMi\$er incorporates a gear driven parallel-opposed blade design. In addition, the EconoMi\$er has a spring return built into the damper motor to provide reliable close-on-power-loss. The EconoMi\$er comes equipped with up to 100% barometric relief capability for high outdoor air-flow applications.

In addition, the EconoMi\$er barometric relief damper or integrated two-stage power exhaust accessory can be utilized to help maintain proper building pressure.

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

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 compressors are mounted on an independent mounting plate.

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Features/Benefits (cont)



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 Apollo 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 controls are factory-installed into the rooftop unit evaporator-fan section (004-007) or unit control box (008-014), and come 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

controls are designed to work specifically with the Carrier TEMP and VVT® (variable volume and temperature) thermostats. The Apollo controls, 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 the Apollo controls are suitable for integration into building monitor control systems if required. This system gives the 50TFF units the flexibility to communicate with almost any thermostat or building control system.

Energy\$Recycler — the IAQ solution for today's "tight" buildings

Indoor-air quality (IAQ) generally refers to the level of pollutants inside a building. These pollutants include cigarette smoke, carbon dioxide exhaled by occupants, radon gas, car exhaust, paint fumes, and odors.

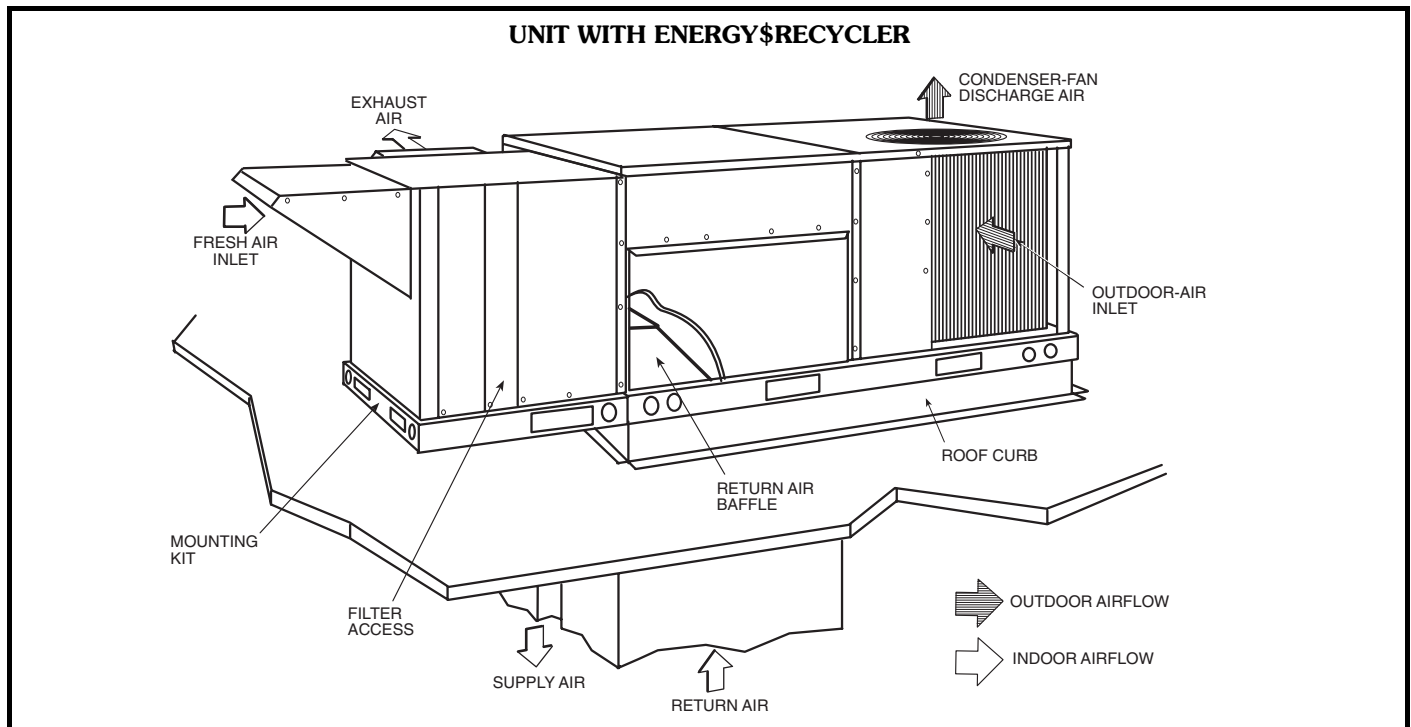
Concern over increased indoor air pollutants has been spurred by several issues: 1) changes in new building construction methods and retrofit of older buildings have reduced air

infiltration rates; 2) Synthetic materials release airborne particles, odors, and chemicals; and 3) HVAC (heating, ventilation, and air conditioning) systems that bring in minimal fresh air.

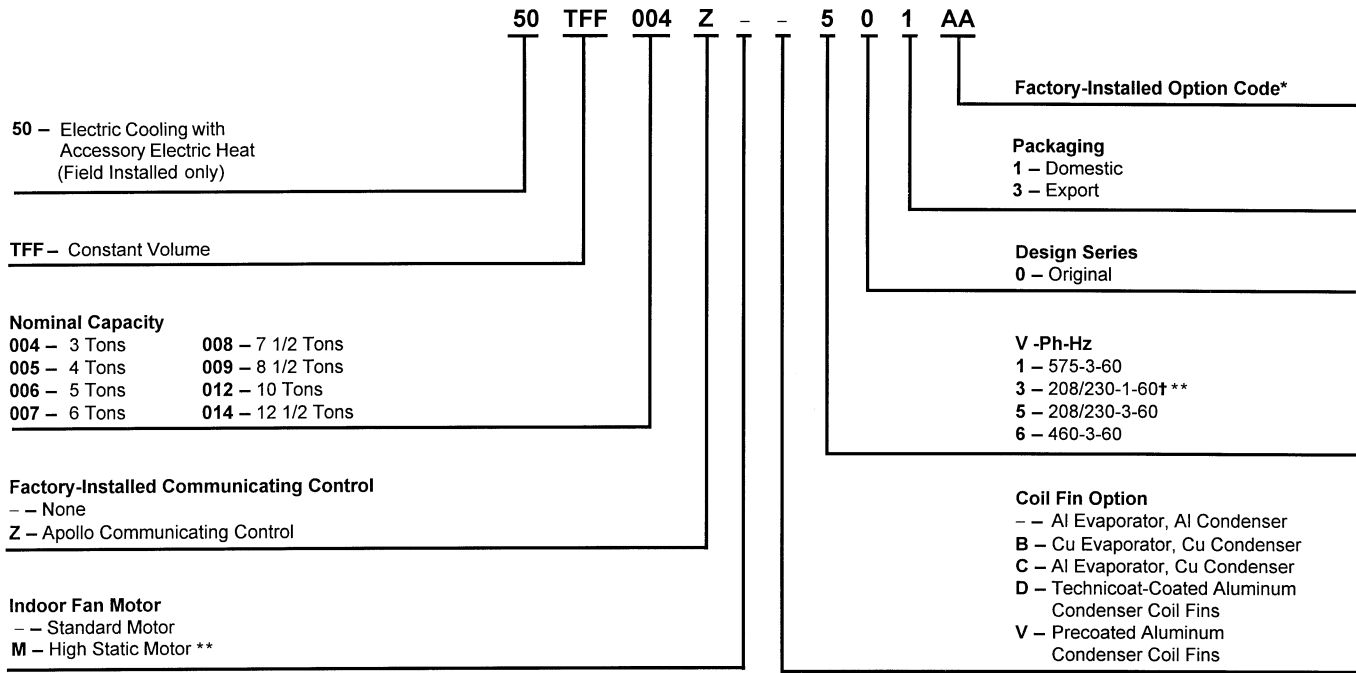
In 1989, IAQ concerns caused ASHRAE to recommend increased ventilation for all public buildings. Simply introducing fresh air into a building, however, is not always practical or cost effective. Additional ventilation can overload HVAC systems and increase energy costs.

Carrier's 62AQ Energy\$Recycler unit solves this dilemma by providing increased fresh air while keeping increased costs to a minimum. In addition, the Energy\$Recycler helps reduce humidity levels, which helps to prevent deterioration of building materials and retards the growth of mold and mildew.

The 62AQ Energy\$Recycler unit provides the best solution to retaining the energy-conserving benefits of today's tighter building construction while improving indoor-air quality.



Model number nomenclature



LEGEND

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

*Refer to 50TFF Price Pages for 50TFF FIOP code table or contact your local Carrier representative for more details.

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

**High-static motors are not available on single-phase units and size 014 units.

Quality Assurance



Certification No FM 22838

Approvals:

- ISO 9001
- EN 29002
- BS5750 PART 2
- ANSI/ASQC Q92

ARI* capacity ratings



UNIT 50TFF	NOMINAL TONS	STANDARD CFM	NET COOLING CAPACITY (Btuh)	TOTAL kW	SEER†		SOUND RATING (Bels)
					Belt Drive	Direct Drive	
004	3	1200	35,000	4.0	10.0	9.7	8.1
005	4	1600	47,000	5.5	10.0	9.7	8.1
006	5	2000	57,000	6.7	10.0	9.7	8.1

UNIT 50TFF	NOMINAL TONS	STANDARD CFM	NET COOLING CAPACITY (Btuh)	TOTAL kW	EER	SOUND RATING (Bels)	IPLV
007	6	2100	72,000	8.0	9.0	8.1	**
008	7 ¹ / ₂	2800	85,000	9.6	8.9	8.7	9.35
009	8 ¹ / ₂	3000	99,000	11.0	9.0	8.7	9.00
012	10	4000	117,000	13.0	9.0	8.8	9.35
014	12 ¹ / ₂	4500	145,000	15.8	9.0	8.7	9.20

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 applies only to 2-stage cooling units.

NOTES:

1. Rated in accordance with ARI Standards 210/240-94 (004-012) or 340/360-93 (014) and 270-95.
2. Ratings are net values, reflecting the effects of circulating fan heat.
3. Ratings are based on:



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

Physical data — 50TFF004-007



UNIT SIZE 50TFF	004	005	006	007
NOMINAL CAPACITY (tons)	3	4	5	6
OPERATING WEIGHT (lb)				
Unit				
Al/Al*	365	375	395	470
Al/Cu*	370	381	402	479
Cu/Cu*	373	387	410	490
Durablade Economizer	34	34	34	34
EconoMiSer	47	47	47	47
Roof Curb†	115	115	115	115
COMPRESSOR		Reciprocating		Scroll
Quantity	1	1	1	1
No. Cylinders (per circuit)	2	2	2	2
Oil (oz)	50	50	50	54
REFRIGERANT TYPE		R-22		
Operating Charge (lb-oz)				
Circuit 1	4-4	6-6	6-14	9-0
Circuit 2	—	—	—	—
CONDENSER COIL		Enhanced Copper Tubes, Aluminum Lanced Fins		
Rows...Fins/in.	1...17	2...17	2...17	2...17
Total Face Area (sq ft)	8.36	8.36	10.42	10.42
CONDENSER FAN		Propeller Type		
Nominal Cfm	3500	4000	4000	4000
Quantity...Diameter (in.)	1...22.0	1...22.0	1...22.0	1...22.0
Motor Hp...Rpm	1/4...1100	1/4...1100	1/4...1100	1/4...1100
Watts Input (Total)	325	325	325	325
EVAPORATOR COIL		Enhanced Copper Tubes, Aluminum Double-Wavy Fins		
Expansion Device		Acutrol™ Metering Device		
Rows...Fins/in.	2...15	2...15	3...15	4...15
Total Face Area (sq ft)	4.17	5.5	5.5	5.5
EVAPORATOR FAN		Centrifugal Type		
Quantity...Size (in.)	Std 1...10 x 10 Alt 1...10 x 10 High-Static 1...10 x 10	1...10 x 10 1...10 x 10 1...10 x 10	1...11 x 10 1...10 x 10 1...10 x 10	1...10 x 10 — 1...10 x 10
Type Drive	Std Direct Alt Belt High-Static	Direct Belt Belt Belt High-Static	Direct Belt Belt Belt 1.30/2.40**	Belt — Belt Belt 2.40
Nominal Cfm	1200	1600	2000	2400
Maximum Continuous Bhp	Std .34 Alt 1.00 High-Static 2.40	.75 1.00 2.40	1.20 2.90	— 2.90
Motor Frame Size	Std 48 Alt 48 High-Static 56	48 48 56	48 56 56	56 — 56
Nominal Rpm High/Low	Std 860/800 Alt 1620 High-Static 1725	1075/970 1620 1725	1075/970 1725 1725	— 1725
Fan Rpm Range	Std — Alt 760-1000 High-Static 1075-1455	— 835-1185 1075-1455	— 900-1300 1300-1685	1070-1460 — 1300-1685
Motor Bearing Type	Ball	Ball	Ball	Ball
Maximum Allowable Rpm	2100	2100	2100	2100
Motor Pulley Pitch Diameter Min/Max (in.)	Std 1.9/2.9 Alt 2.8/3.8 High-Static — Std 1/2 Alt 1/2 High-Static 5/8	1.9/2.9 2.8/3.8	2.4/3.4 3.4/4.4	— 3.4/4.4 5/8 — 5/8
Fan Pulley Pitch Diameter (in.)	Std — Alt 4.5 High-Static 4.5	— 4.0 4.5	— 4.5 4.5	4.5 — 4.5
Belt, Quantity...Type...Length (in.)	Std — Alt 1...A...34 High-Static 1...A...39 Std — Alt 10.0-12.4 High-Static 10.0-12.4	— 1...A...34 1...A...39	— 1...A...39 1...A...40	1...A...40 — 14.7-15.5
Speed Change per Full Turn of Movable Pulley Flange (rpm)	Std — Alt 48 High-Static 65	— 70 65	— 80 60	80 — 60
Movable Pulley Maximum Full Turns From Closed Position	Std — Alt 5 High-Static 6	— 5 6	— 5 5	5 — 5
Factory Setting	Std — Alt 3 High-Static 3 1/2	— 3 3 1/2	— 3 3 1/2	3 — 3 1/2
Factory Speed Setting (rpm)	Std — Alt 856 High-Static 1233	— 975 1233	— 1060 1396	— 1225 1396
Fan Shaft Diameter at Pulley (in.)	5/8	5/8	5/8	5/8
HIGH-PRESSURE SWITCH (psig)		450 ± 50		500 ± 50
Standard Compressor Internal Relief (Differential)		428		428
Cutout		320		320
Reset (Auto.)				
LOW-PRESSURE SWITCH (psig)		7 ± 3		
Cutout		22 ± 7		
Reset (Auto.)				
FREEZE-PROTECTION THERMOSTAT (F)		30 ± 5		
Opens		45 ± 5		
Closes				
OUTDOOR-AIR INLET SCREENS		Cleanable		
Quantity...Size (in.)		1...20 x 24 x 1		
RETURN-AIR FILTERS		Throwaway		
Quantity...Size (in.)		2...16 x 25 x 2		

LEGEND

Al — Aluminum
 Bhp — Brake Horsepower
 Cu — Copper

†Weight of 14-in. roof curb.
 **Single phase/three phase.

NOTE: The 50TFF004-014 units have a loss-of-charge switch located in the liquid line.

*Evaporator coil fin material/condenser coil fin material. Contact your local representative for details about coated fins.

Physical data — 50TFF008-014



UNIT SIZE 50TFF	008	009	012	014
NOMINAL CAPACITY (tons)	7½	8½	10	12½
OPERATING WEIGHT (lb)				
Unit				
Al/Al*	755	760	915	930
Al/Cu*	766	776	937	957
Cu/Cu*	778	787	960	980
Durablade Economizer	44	44	44	44
EconoMI\$er	62	62	62	62
Roof Curb†	143	143	143	143
COMPRESSOR	Reciprocating	Reciprocating	Reciprocating	Scroll
Quantity	2	2	2	2
No. Cylinders (per circuit)	2	2	2	2
Oil (oz)	42 ea	65 ea	54 ea	54 ea
REFRIGERANT TYPE	R-22			
Operating Charge (lb-oz)				
Circuit 1	4-13	6-14	7- 3	8-10
Circuit 2	4-14	9- 2	7-13	8- 6
CONDENSER COIL	Enhanced Copper Tubes, Aluminum Lanced Fins			
Rows...Fins/in.	1...17	2...17	2...17	2...17
Total Face Area (sq ft)	20.50	18.00	20.47	25.00
CONDENSER FAN	Propeller Type			
Nominal Cfm	6400	6400	7000	7000
Quantity...Diameter (in.)	2...22	2...22	2...22	2...22
Motor Hp...Rpm	¼...1100	¼...1100	¼...1100	¼...1100
Watts Input (Total)	600	600	600	600
EVAPORATOR COIL	Enhanced Copper Tubes, Aluminum Double-Wavy Fins, Acutrol™ Metering Device			
Rows...Fins/in.	3...15	3...15	3...15	4...15
Total Face Area (sq ft)	8.0	8.0	10.0	11.1
EVAPORATOR FAN	Centrifugal Type			
Quantity...Size (in.)	Std 1...15 x 15 Alt 1...15 x 15 High-Static 1...15 x 15	Std 1...15 x 15 Alt — High-Static 1...15 x 15	Std 1...15 x 15 Alt 1...15 x 15 High-Static 1...15 x 15	Std 1...15 x 15 Alt 1...15 x 15 High-Static —
Type Drive	Std Belt Alt Belt High-Static Belt	Std Belt Alt Belt High-Static Belt	Std Belt Alt Belt High-Static Belt	Std Belt Alt Belt High-Static —
Nominal Cfm	3000	3100	4000	5000
Maximum Continuous Bhp	Std 2.40 Alt 2.40 High-Static 3.70	Std 2.40 Alt — High-Static 3.70	Std 2.40 Alt 2.90 High-Static 5.25	Std 3.70 Alt 5.25 High-Static —
Motor Frame Size	Std 56 Alt 56 High-Static 56	Std 56 Alt — High-Static 56	Std 56 Alt 56 High-Static 56	Std 56 Alt 56 High-Static —
Nominal Rpm High/Low	Std — Alt — High-Static —	Std — Alt — High-Static —	Std — Alt — High-Static —	Std — Alt — High-Static —
Fan Rpm Range	Std 1725 Alt 590- 840 High-Static 685- 935	Std 1725 Alt 685- 935 High-Static 860-1080	Std 1725 Alt 685- 935 High-Static 830-1130	Std 1725 Alt 860-1080 High-Static —
Motor Bearing Type	Ball	Ball	Ball	Ball
Maximum Allowable Rpm	2100	2100	2100	2100
Motor Pulley Pitch Diameter Min/Max (in.)	Std 2.4/3.4 Alt 2.8/3.8 High-Static 4.0/5.0	Std 2.8/3.8 Alt — High-Static 4.0/5.0	Std 2.8/3.8 Alt 3.4/4.4 High-Static 2.8/3.8	Std 4.0/5.0 Alt 3.1/4.1 High-Static —
Nominal Motor Shaft Diameter (in.)	Std 5/8 Alt 5/8 High-Static 7/8	Std 5/8 Alt — High-Static 7/8	Std 5/8 Alt 7/8 High-Static 7/8	Std 7/8 Alt 7/8 High-Static —
Fan Pulley Pitch Diameter (in.)	Std 7.0 Alt 7.0 High-Static 8.0	Std 7.0 Alt — High-Static 8.0	Std 7.0 Alt 7.0 High-Static 5.8	Std 8.0 Alt 5.9 High-Static —
Belt, Quantity...Type...Length (in.)	Std 1...A...49 Alt 1...A...49 High-Static 1...A...55	Std 1...A...49 Alt — High-Static 1...A...55	Std 1...A...49 Alt 1...A...49 High-Static 1...BX...46	Std 1...A...52 Alt 1...BX...46 High-Static —
Pulley Center Line Distance (in.)	Std 16.75-19.25 Alt 15.75-19.25 High-Static 15.75-19.25	Std 16.75-19.25 Alt — High-Static 16.75-19.25	Std 15.85-17.50 Alt 15.85-17.50 High-Static 15.85-17.50	Std 15.85-17.50 Alt — High-Static —
Speed Change per Full Turn of Movable Pulley Flange (rpm)	Std 50 Alt 50 High-Static 60	Std 50 Alt — High-Static 60	Std 50 Alt 50 High-Static 60	Std 44 Alt 50 High-Static —
Movable Pulley Maximum Full Turns From Closed Position	Std 5 Alt 5 High-Static 5	Std 5 Alt — High-Static 5	Std 5 Alt 6 High-Static 5	Std 5 Alt 6 High-Static —
Factory Setting	Std 5 Alt 5 High-Static 5	Std 5 Alt — High-Static 5	Std 5 Alt 5 High-Static 5	Std 5 Alt 5 High-Static —
Factory Speed Setting (rpm)	Std 590 Alt 685 High-Static 860	Std 685 Alt — High-Static 860	Std 685 Alt 835 High-Static 887	Std 860 Alt 960 High-Static —
Fan Shaft Diameter at Pulley (in.)	Std 860 Alt 1	Std 860 Alt 1	Std 887 Alt 1	Std — Alt 1
HIGH-PRESSURE SWITCH (psig)	Standard Compressor Internal Relief (Differential)		500 ± 50	
Cutout			428	
Reset (Auto.)			320	
LOW-PRESSURE SWITCH (psig)			7 ± 3	
Cutout			22 ± 7	
Reset (Auto.)				
FREEZE-PROTECTION THERMOSTAT (F)			30 ± 5	
Opens			45 ± 5	
Closes				
OUTDOOR-AIR INLET SCREENS			Cleanable	
Quantity...Size (in.)			1...20 x 25 x 1	
			1...16 x 25 x 1	
RETURN-AIR FILTERS			Throwaway	
Quantity...Size (in.)	4...16 x 20 x 2	4...16 x 20 x 2	4...20 x 20 x 2	4...20 x 20 x 2

LEGEND

Al — Aluminum
Bhp — Brake Horsepower
Cu — Copper

†Weight of 14-in. roof curb.

NOTES:

1. The 50TFF004-014 units have a loss-of-charge switch located in the liquid line.
2. High-static motor not available on size 014 units.

*Evaporator coil fin material/condenser coil fin material. Contact your local representative for details about coated fins.

Options and accessories



ITEM	OPTION*	ACCESSORY†
Apollo Direct-Digital Communicating Controls	X	
Energy\$Recycler		X
Durablade Integrated Economizer (includes Hood)	X	X
EconoMi\$er (Vertical only)	X	X
EconoMi\$er with Power Exhaust (Vertical only)		X
Power Exhaust for EconoMi\$er (Vertical or Horizontal)		X
EconoMi\$er (Horizontal)		X
Electric Heat**		X
Manual Outdoor-Air Damper	X	X
115 V Convenience Outlet	X	X
Alternate Drive (008)	X	
Alternate Motor and Drive (004-006, 012,014)	X	
High-Static Motor and Drive††	X	
Unit-Mounted Disconnect	X	
25% Open Two-Position Damper		X
100% Open Two-Position Damper		X
Roof Curbs (Vertical and Horizontal Discharge)		X
Thermostats and Subbases		X
Motormaster® IV Head Pressure Control (Cycle Control)		X
Time Guard® II Control Circuit		X
Thru-the-Bottom Utility Connections		X
Electronic Programmable Thermostat		X
Light Commercial Thermidistat		X
Condenser Coil Grille		X
Condenser Coil Hail Guard Assembly		X
Fan/Filter Status		X
Outdoor-Air Enthalpy Sensor (EconoMi\$er Only)		X
Return-Air Enthalpy Sensor (EconoMi\$er Only)		X
Return-Air Temperature Sensor (EconoMi\$er Only)		X
Indoor-Air Quality (CO ₂) Sensor (EconoMi\$er Only)		X

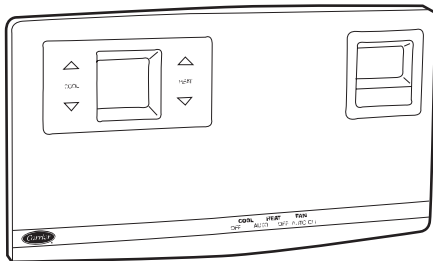
*Factory installed.

†Field installed.

**Electric heat for 575-v units is only offered on 50TFF008-014 units. Accessory single-point kit is required for 50TFF004-014 units using electric heat.

††High-static motor not available on single-phase and size 014 units.

ELECTRONIC PROGRAMMABLE THERMOSTAT



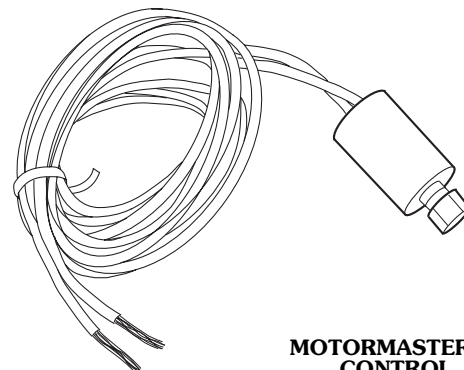
Carrier's electronic programmable thermostat provides efficient temperature control by allowing you to program heating and cooling set-backs and set ups with provisions for weekends and holidays. Accessory remote sensing package is also available to provide tamperproof control in high traffic spaces. 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.

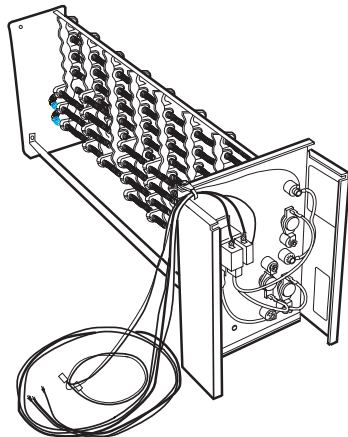
HEAD PRESSURE CONTROL

The 50TFF004-014 standard units are designed to operate at outdoor temperatures down to 25 F. With accessory Motormaster control (condenser-fan speed modulation), 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.



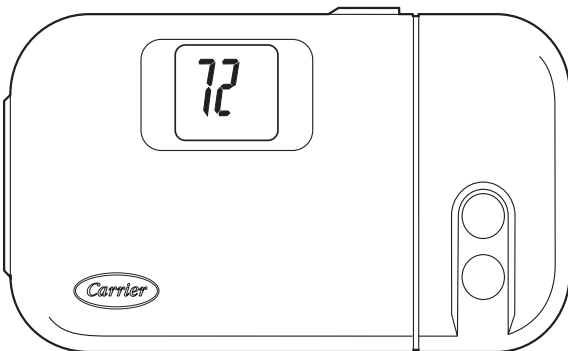
MOTORMASTER IV CONTROL

ELECTRIC HEATER



Electric heaters (and single point kits) are available in a wide range of capacities for field installation.

CARRIER COMMERCIAL THERMOSTAT

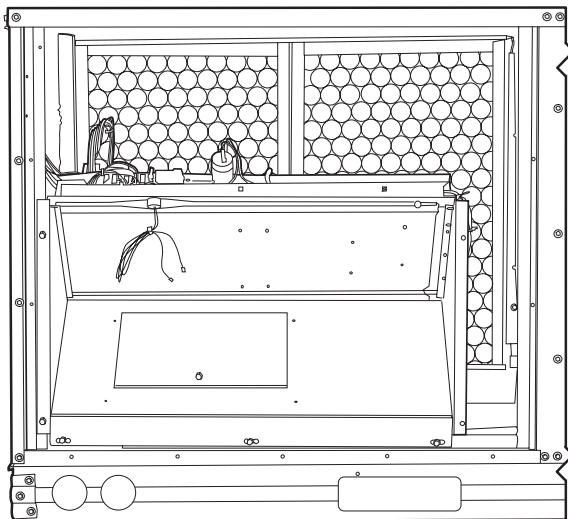


Carrier's electronic programmable thermostat provides efficient temperature control by allowing you to program heating and cooling setbacks and setups with provisions for weekends and holidays.

LIGHT COMMERCIAL THERMIDISTAT

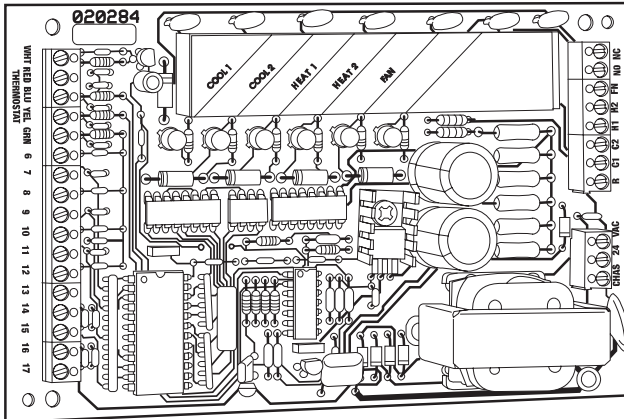
The Light Commercial Thermidistat combines temperature and humidity control in one device.

DURABLADE ECONOMIZER



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

FACTORY-INSTALLED APOLLO COMMUNICATING CONTROLS

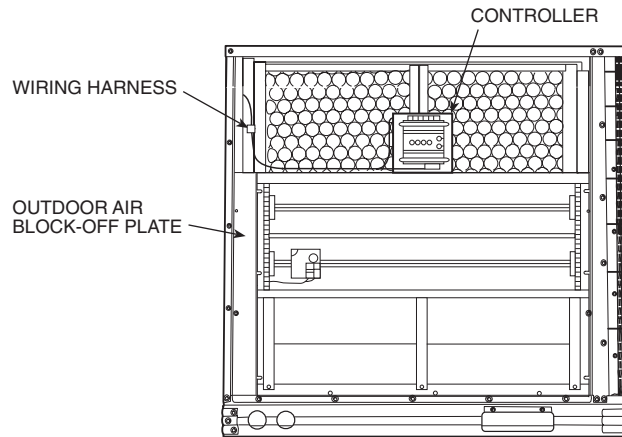


The Apollo direct digital controls are designed exclusively by Carrier, and are used to actively monitor and control all modes of operation as well as to monitor evaporator-fan status, filter status, supply-air temperature, outdoor-air temperature, and indoor-air quality. They are designed to work in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

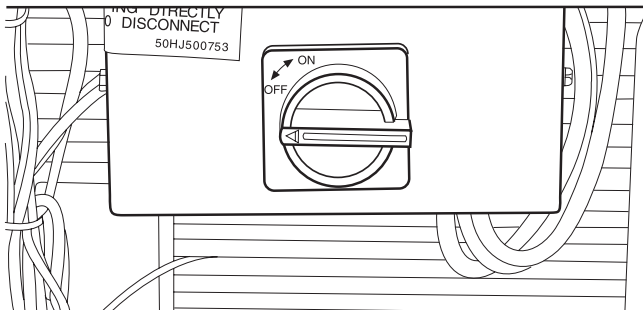
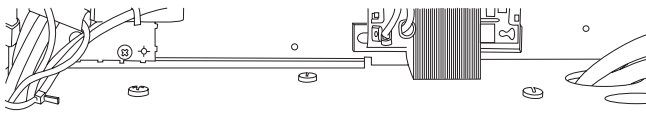
ECONOMI\$ER

Factory-installed, vertical airflow EconoMi\$er utilizes a microprocessor-based control, gear drive damper system, low pressure drop characteristics, built-in spring return (for close upon power loss), and an integral barometric damper.

The EconoMi\$er is available for vertical ductwork applications for field or factory installation. A horizontal EconoMi\$er is available for field installation, and an accessory two-stage power exhaust is available for field installation in vertical or horizontal applications.

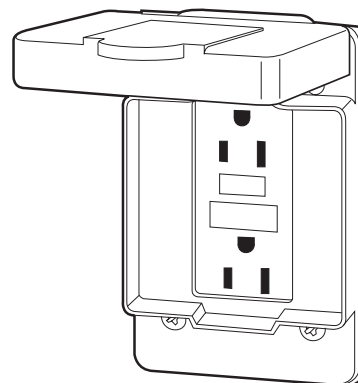


UNIT MOUNTED DISCONNECT



Factory-installed, internally mounted, NEC (National Electrical Code) and UL (Underwriters' Laboratories) approved non-fused switch provides unit power shutoff with disconnect lockout protection capability. The switch is accessible from outside the unit.

CONVENIENCE OUTLET



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

Base unit dimensions — 50TFF004-007



UNIT	STD UNIT WEIGHT		DURABLADE ECONWEIGHT		ECONOMISER WEIGHT		(A) CORNER WEIGHT		(B) CORNER WEIGHT		(C) CORNER WEIGHT		(D) CORNER WEIGHT		"A" PANEL LENGTH
	Lbs	Kg	Lbs	Kg	Lbs	Kg	Lbs	Kg	Lbs	Kg	Lbs	Kg	Lbs	Kg	
50TFF004	365	165.6	34	15.4	47	21.3	126	57.2	89	40.4	111	50.3	39	17.7	1'-10 ³ / ₈ " [568.0]
50TFF005	375	170.1	34	15.4	47	21.3	128	58.1	90	40.8	114	51.7	43	19.5	1'-10 ³ / ₈ " [568.0]
50TFF006	395	179.2	34	15.4	47	21.3	132	59.9	94	42.6	120	54.4	49	22.2	1'-0 ³ / ₈ " [315.0]
50TFF007	470	213.2	34	15.4	47	21.3	148	67.1	103	46.7	155	70.3	64	29.0	1'-0 ³ / ₈ " [315.0]

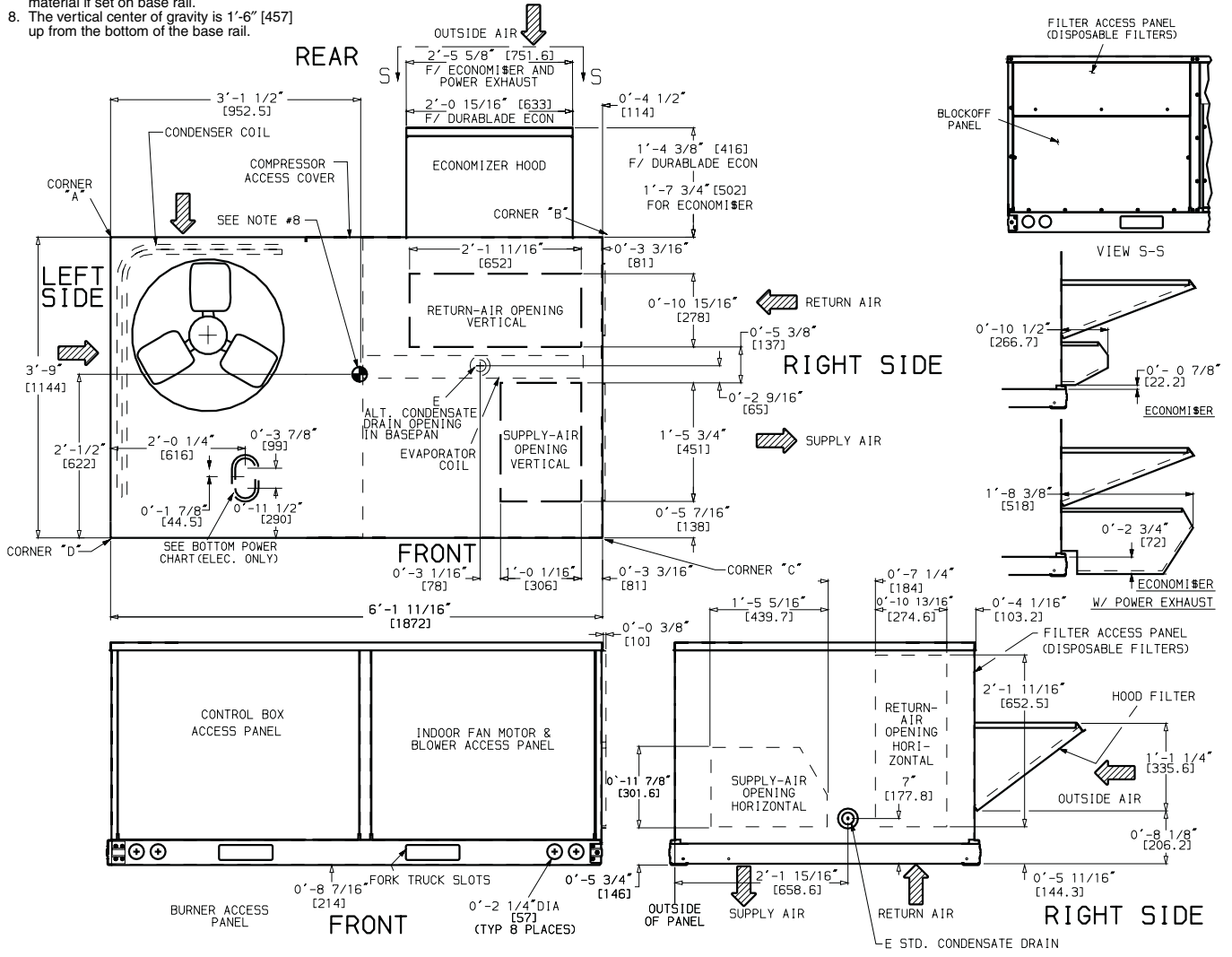
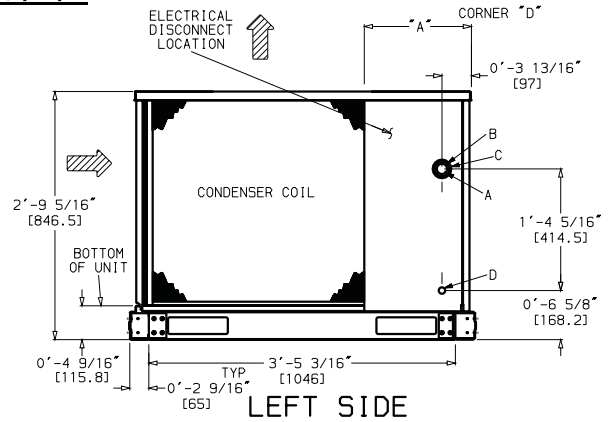
CONNECTION SIZES	
A	1 ³ / ₈ " Dia. [35] Field Power Supply Hole
B	2" Dia. [51] Power Supply Knockout
C	2 ¹ / ₂ " Dia. [64] Power Supply Knockout
D	7 ⁷ / ₈ " Dia. [22] Field Control Wiring Hole
E	3 ³ / ₄ "-14 NPT Condensate Drain

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

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

NOTES:

- Dimensions in [] are in millimeters.
- Center of gravity.
- Direction of airflow.
- On vertical discharge units, ductwork to be attached to accessory roof curb only. For horizontal discharge units field-supplied flanges should be attached to horizontal discharge openings, and all ductwork should be attached to the flanges.
- Minimum clearance (local codes or jurisdiction may prevail):
 - Between unit, flue side and combustible surfaces, 36 inches.
 - Bottom of unit to combustible surfaces (when not using curb) 1 inch. Bottom of base rail to combustible surfaces (when not using curb) 0 inches.
 - 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.
 - 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 and combustion side as stated in Note 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 if set on base rail.
- The vertical center of gravity is 1'-6" [457] up from the bottom of the base rail.



Base unit dimensions — 50TFF008-014



UNIT	STD UNIT WEIGHT		DURABLADE ECONOMIZER WEIGHT		ECONOMISER WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		"H"		"J"		"K"	
	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	Lb	Kg	Ft-in.	mm	Ft-in.	mm	Ft-in.	mm
50TFF008	755	342	44	20	62	28	164	74	140	64	208	94	243	110	1-2 ⁷ / ₈	378	3-5 ⁵ / ₁₆	1050	2-9 ¹ / ₁₆	856
50TFF009	760	345	44	20	62	28	165	75	141	64	209	94	245	111	3-3 ⁷ / ₈	1013	3-5 ⁵ / ₁₆	1050	2-9 ¹ / ₁₆	856
50TFF012	915	415	44	20	62	28	199	90	170	77	252	114	294	134	2-5 ⁷ / ₈	759	4-1 ⁵ / ₁₆	1253	3-0 ³ / ₈	924
50TFF014	930	422	44	20	62	28	202	92	172	78	256	116	300	136	1-2 ⁷ / ₈	378	4-1 ⁵ / ₁₆	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 Knockout
C	1 ³ / ₄ " Dia. [44] Charging Port Hole
D	7 ⁸ / ₈ " Dia. [22] Field Control Wiring Hole
E	3 ⁴ / ₄ " — 14 NPT Condensate Drain
F	2" Dia. [51] Power Supply Knockout

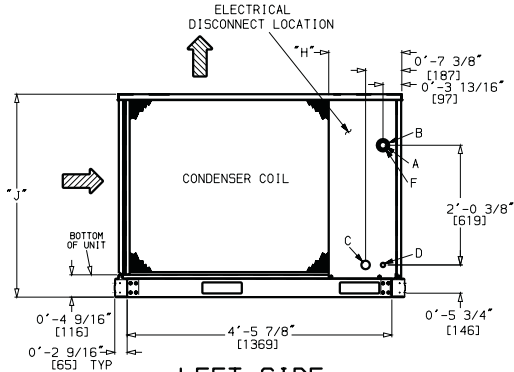
BOTTOM POWER CHART, THESE HOLES REQ'D FOR USE WITH ACCESSORY PACKAGES — CRBTMPWR001A00 (1/2", 3/4") OR CRBTMPWR002A00 (1/2", 1/4")

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

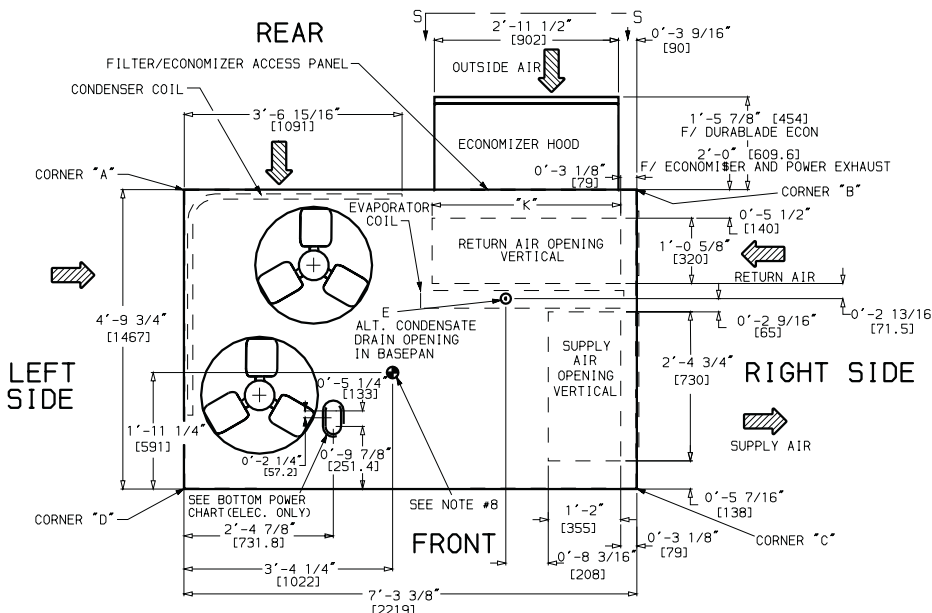
*Select either 3/4" or 1 1/4" for power, depending on wire size.

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 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.



LEFT SIDE

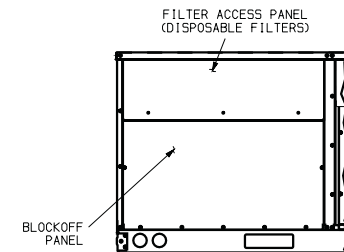


REAR

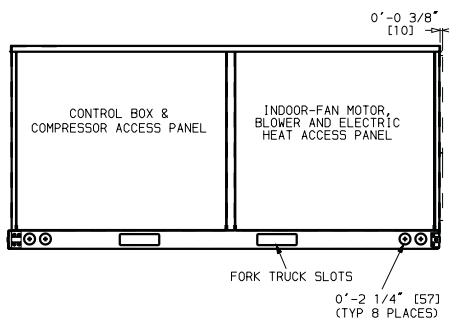
LEFT SIDE

RIGHT SIDE

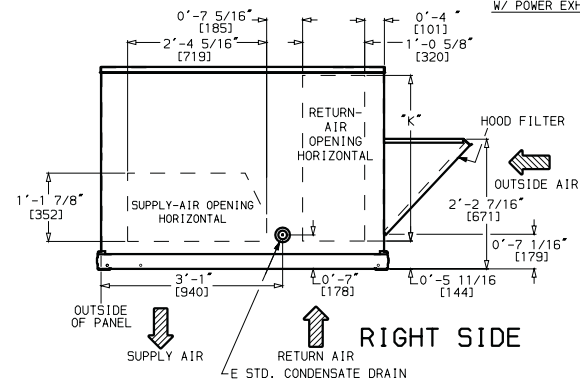
FRONT



VIEW S-S



FRONT



RIGHT SIDE

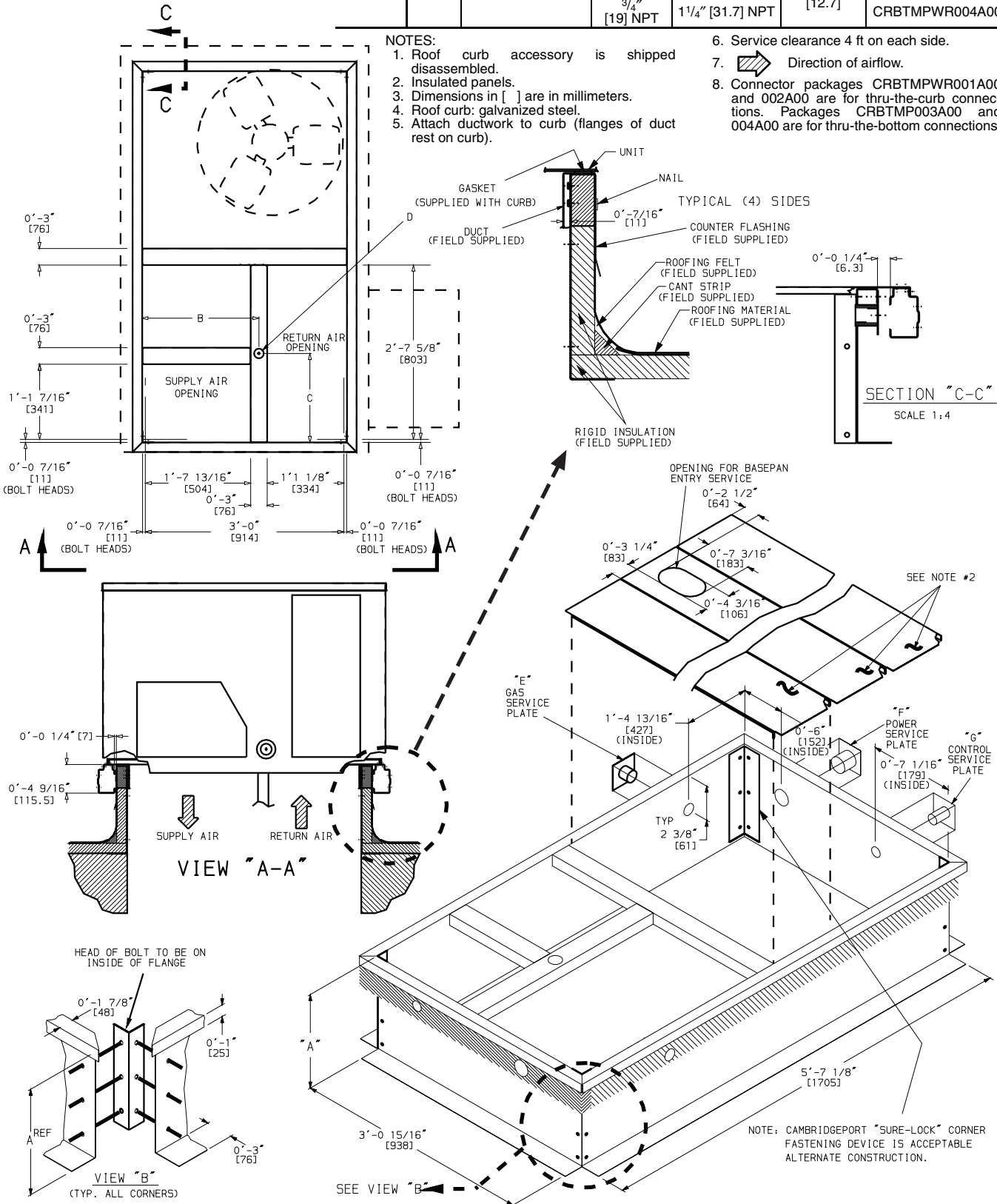
Accessory dimensions



ROOF CURB ACCESSORY	"A"	UNIT SIZE 50TFF	B	C	D ALT DRAIN HOLE	"E" GAS	"F" POWER	"G" CONTROL	CONNECTOR PKG. ACCY.
CRRFCURB001A00	1'-2" [356]	004-007	1'-9 11/16" [551]	1'-4" [406]	13/4" [44.5]	3/4" [19] NPT	3/4" [19] NPT	1/2" [12.7]	CRBTMPWR001A00
CRRFCURB002A00	2'-0" [610]					1 1/4" [31.7] NPT	1 1/4" [31.7] NPT	1/2" [12.7]	CRBTMPWR002A00
						1/2" [12.7] NPT	3/4" [19] NPT	1/2" [12.7]	CRBTMPWR003A00
						3/4" [19] NPT	1 1/4" [31.7] NPT		CRBTMPWR004A00

NOTES:

1. Roof curb accessory is shipped disassembled.
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.
8. Connector packages CRBTMPWR001A00 and 002A00 are for thru-the-curb connections. Packages CRBTMP003A00 and 004A00 are for thru-the-bottom connections.



Accessory dimensions (cont)

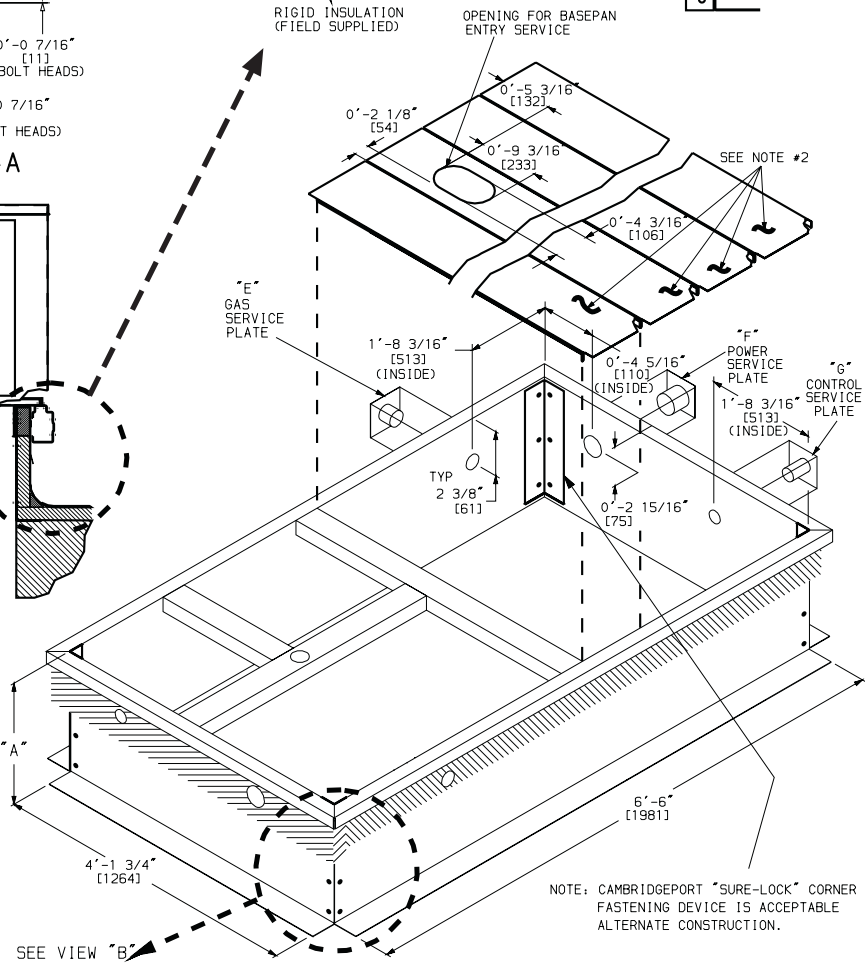
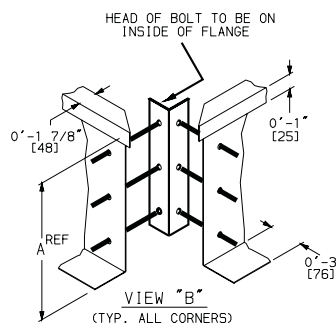
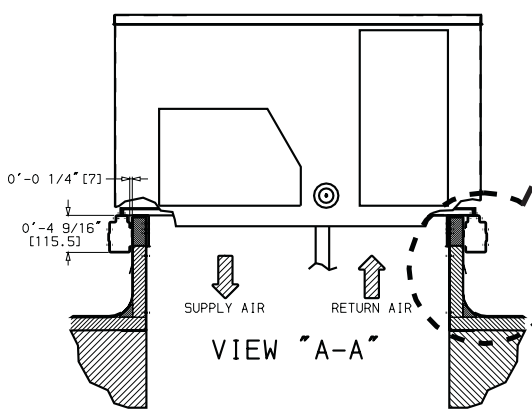
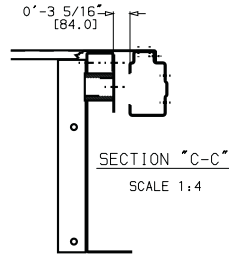
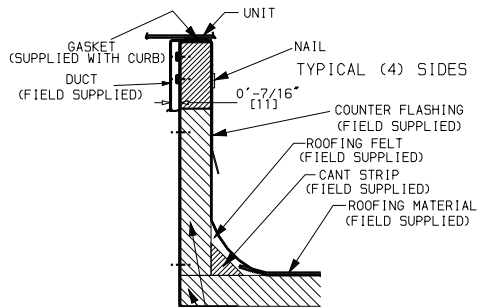
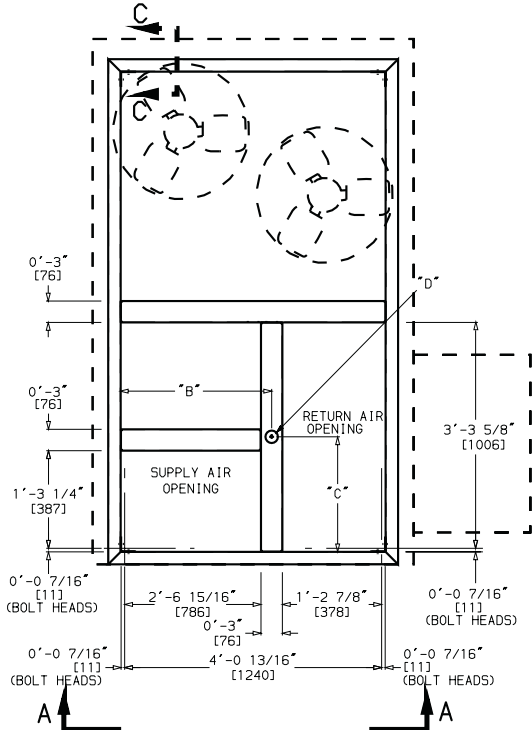


ROOF CURB ACCESSORY	"A"	UNIT SIZE 50TFF
CRRFCURB003A00	1'-2" [356]	008-014
CRRFCURB004A00	2'-0" [610]	

"B"	"C"	"D" ALT DRAIN HOLE	"E" GAS	"F" POWER	"G" CONTROL	CONNECTOR PACKAGE ACCESSORY
2'-8 ⁷ / ₁₆ " [827]	1'-10 ¹⁵ / ₁₆ " [583]	1 ³ / ₄ " [44.5]	3/4" [19] NPT	3/4" [19] NPT	1/2" [12.7] NPT	CRBTMPWR001A00
			1/2" [12.7] NPT	1 1/4" [31.7] NPT		CRBTMPWR002A00
			3/4" [19] NPT	1 1/4" [31.7] NPT	1/2" [12.7] NPT	CRBTMPWR003A00
						CRBTMPWR004A00

NOTES:

- Roof curb accessory is shipped disassembled.
- Insulated panels, 1" thick polyurethane foam, 1³/₄ lb density.
- Dimensions in [] are in millimeters.
- Roof curb: 16 gage steel.
- Attach ductwork to curb (flanges of duct rest on curb).
- Service clearance 4 ft on each side.
- Direction of airflow.
- Connector packages CRBTMPWR001A00 and 002A00 are for thru-the-curb connections. Packages CRBTMP003A00 and 004A00 are for thru-the-bottom connections.



NOTE: CAMBRIDGEPORT "SURE-LOCK" CORNER FASTENING DEVICE IS ACCEPTABLE ALTERNATE CONSTRUCTION.

Selection procedure (with 50TFF006 example) (cont)



The required heating capacity is 60,000 Btuh. Determine additional electric heat capacity in kW. Therefore 40,896 Btuh (60,000 Btuh - 19,104 Btuh) of additional heat is required.

Determine additional electric heat in kW.
 $(40,896/3413 \text{ Btuh/kW}) = 11.98 \text{ kW}$ of additional heat is required.

Enter Electric Heating Capacities tables on page 51, for the 50TFF006 at 208/230 v, 3 phase. The 16.0 kW heater at 240 v most closely satisfies the heating requirement. To calculate kW at 230 v use the multiplication factors table.

$16.0 \times 0.92 = 14.72 \text{ kW}$
 $16.0 \times 0.92 \times 3413 \text{ Btuh/kW} = 50,239 \text{ Btuh}$
 Total unit net heating capacity is 69,343 (50,239 + 19,104) Btuh. The 50TFF006 unit with accessory 16.0 kW electric heater is sufficient.

VIII Determine net cooling capacity.

Cooling capacities are gross capacities and do not include indoor (evaporator) or optional Energy\$Recycler supply fan heat.

Determine net cooling capacity using the following formula:

Net Capacity = (Gross Capacity Rooftop Unit + Energy\$Recycler) - (Indoor [evaporator] fan motor [IFM] Heat + Optional Energy\$Recycler Supply Fan motor heat)

Gross Total Cooling	
Rooftop unit	58,400 Btuh
Energy\$Recycler	<u>13,000 Btuh</u>
Total	71,400 Btuh
Less	
IFM heat (from Step II)	<3,904> Btuh
Opt. Energy\$Recycler Supply Fan Motor Heat	<u> none</u>
Net Total Capacity	67,496 Btuh

Gross Sensible Cooling	
Rooftop unit	51,400 Btuh
Energy\$Recycler	<u>10,090 Btuh</u>
Total	61,490 Btuh
Less	
IFM heat (from Step II)	<3,904> Btuh
Opt. Energy\$Recycler Supply Fan Motor Heat	<u> none</u>
Net Sensible Capacity	57,586 Btuh

IX Determine the operating watts of the unit.

Cooling with Energy\$Recycler in operation:

- a) Rooftop unit:
 Using the 50TFF006 cooling capacity table and the calculations described in Step VI of this procedure, determine:
- | | |
|---|-------------|
| compressor watts | 5,690 watts |
| Indoor fan motor from Step II | 1,144 watts |
| Outdoor fan motor from Physical Data table find 1/4 hp† | |
| Assume OD motor efficiency is 0.75. | |
| Watts = (746 x hp)/(motor Eff) | |
| = (746 x 1/4)/(0.75) | |
| = 249 watts | |

†Dual circuit units will have two outdoor fans, double values.

- b) Energy\$Recycler:
- | | |
|--|---------------|
| Compressor watts from 62AQ060 Cooling Ratings table | 1,060 watts |
| Optional supply fan from fan curves | none selected |
| Exhaust fan operating watts from 62AQ060 Exhaust Fan Performance Curve at 230-v, 450 cfm, 0.2 in. wg, Static = | 110 watts |
| Total watts for the unit in operation at design conditions | 8,253 watts |

X Electrical data RLA, FLA, LRA, MCA and MOCP.

Separate Power Supply:

If the 62AQ is wired for separate power see the Electrical Data table.

Single Power Supply with Unit:

The unit is 230 v-3-60 Hz, so from the 50TFF Electrical Data table, find unit electrical data. For the rooftop unit the data is MCA = 27.3 amps, MOCP = 35 amps, Min Unit Disconnect Size FLA = 29, and LRA = 128.

For this example follow the steps outlined in the Application Data section of the Energy\$Recycler Product Data for single power supply for all rooftop units except size 014 (230-v) and 62AQ on 460-v power supply. For other size and voltage conditions follow corresponding steps also outlined in the Energy\$Recycler Product Data Application data section.

From the Single Power Supply table (Electrical Data, Energy\$Recycler Product Data) find 230 v, for 62AQ060300, "X" = 8.1 amps and "Y" = 9.3 amps. Add "X" amps to the MCA and MOCP and add "Y" amps to the minimum disconnect size.

	MCA	MOCP	FLA	LRA
50TFF	27.3	35	29	128
62AQ	<u>8.1</u>	<u>8.1</u>	<u>9.3</u>	<u>31.7</u>
Total	35.4	43.1	38.3	159.7

(MOCP calculation is 43.1. Round the value down to 40. 40 is greater than the MCA of 35.4, therefore 40 is the correct MOCP.)

The wiring to the unit must be suitable for the MCA calculated above.

The overcurrent protective device for the combination load is equal to 40, thus a single disconnect may be used for BOTH the MAIN UNIT and the 62AQ provided that the wire supplying the 62AQ is sized for a minimum of 33% of the maximum overcurrent protection device value (i.e., $40 \times .33 = 14$ Amps). No further subfusing is required.

In this example a 40-amp disconnect would be used for the combined load of the 50TFF006 and the 62AQ060 Energy\$Recycler unit.

Performance data



COOLING CAPACITIES

50TFF004 (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	36.6	33.0	41.4	37.6	34.1
	SHC	18.6	22.9	27.0	20.3	26.0	30.9	22.0	28.8	34.0
	kW	3.35	3.21	3.09	3.42	3.29	3.16	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

50TFF005 (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	50.5	45.7	56.7	52.0	47.4
	SHC	25.5	31.5	36.4	27.6	35.6	42.2	29.7	39.2	46.7
	kW	4.70	4.54	4.36	4.78	4.63	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

50TFF006 (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	60.9	53.1	71.2	63.3	57.8
	SHC	32.1	38.8	45.6	35.8	45.3	52.6	39.1	50.9	57.8
	kW	5.88	5.62	5.37	6.01	5.76	5.53	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 Btuh) Gross
- TC — Total Capacity (1000 Btuh) Gross

NOTES:

- Direct interpolation is permissible. Do not extrapolate.
- 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

- 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.

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

Performance data (cont)



COOLING CAPACITIES (cont)

50TFF007 (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	86.6	80.0	73.6	87.8	80.3	73.2	90.8	84.1	77.2	93.2	86.6	79.7
	SHC	42.2	52.3	62.2	43.0	53.9	65.5	46.5	59.6	71.6	50.1	66.4	78.7
	KW	5.48	5.33	5.21	5.69	5.50	5.32	5.59	5.44	5.29	5.66	5.51	5.35
85	TC	84.1	77.4	71.0	84.0	77.2	69.5	87.8	81.2	74.5	90.1	83.5	77.3
	SHC	41.4	51.3	61.1	41.7	53.1	64.0	45.5	58.6	70.3	49.4	65.4	76.7
	KW	6.17	6.00	5.85	6.21	6.04	5.83	6.27	6.11	5.94	6.35	6.19	6.02
95	TC	81.6	74.7	68.5	81.0	73.5	66.3	84.8	78.2	71.8	87.0	80.4	74.8
	SHC	40.6	50.3	60.0	40.8	51.8	62.8	44.6	57.6	69.1	48.7	64.5	74.7
	KW	6.86	6.67	6.49	6.78	6.54	6.33	6.95	6.77	6.59	7.03	6.86	6.69
105	TC	78.4	71.8	65.6	76.8	69.7	62.5	81.6	74.9	68.9	83.3	76.9	72.1
	SHC	39.4	49.2	58.7	39.4	50.3	61.1	43.5	56.4	67.4	47.4	63.1	72.0
	KW	7.60	7.39	7.20	7.30	7.05	6.80	7.72	7.50	7.31	7.77	7.59	7.41
115	TC	75.1	68.7	62.5	72.5	65.5	58.7	78.0	71.5	66.1	79.5	73.3	69.3
	SHC	38.1	47.9	57.2	37.9	48.7	58.7	42.3	55.1	65.5	46.3	61.6	69.2
	KW	8.36	8.14	7.93	7.81	7.53	7.27	8.49	8.25	8.06	8.55	8.33	8.18

50TFF008 (7 1/2 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	88.4	80.0	97.6	89.0	81.2	99.4	91.2	85.2
	SHC	46.4	58.2	68.8	50.2	64.6	77.2	51.4	66.8	79.0	55.6	74.4	85.2
	KW	8.18	7.84	7.48	8.36	8.00	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

50TFF009 (8 1/2 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	32.7	73.9	94.4
	KW	7.77	7.57	7.38	7.86	10.68	7.44	7.89	6.72	7.51	7.97	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	102.0	91.4	112.5	103.6	93.7	115.3	105.8	107.4
	SHC	52.6	65.9	77.4	55.0	70.9	84.9	57.1	75.1	90.3	62.2	83.2	97.3
	KW	8.90	8.97	8.68	8.99	9.06	8.79	9.06	9.12	8.86	4.76	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	54.0	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



COOLING CAPACITIES (cont)

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	118.9	106.9	132.8	122.0	114.1
	SHC	62.2	78.4	90.0	69.1	89.8	105.9	74.9	100.1	114.0
	kW	11.13	10.78	10.40	11.38	10.99	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	12.27	11.89	11.65
115	TC	115.0	98.0	84.2	120.0	103.8	93.4	122.6	109.8	102.8
	SHC	59.4	72.4	83.4	66.4	84.8	93.4	72.8	96.6	102.8
	kW	12.26	11.82	11.40	12.48	12.06	11.78	12.60	12.20	12.00

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	12.89	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

Standard Ratings

LEGEND

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

NOTES:

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

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

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

Performance data (cont)



FAN PERFORMANCE — VERTICAL DISCHARGE UNITS

50TFF004 (3 TONS) — STANDARD MOTOR (DIRECT DRIVE)

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

LEGEND

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

NOTES:

1. Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOP static pressure information.

2. 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 50.
3. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

50TFF004 (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

50TFF004 (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	1363	1.05	1044

LEGEND

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

*Motor drive range: 760 to 1000 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. indicates field-supplied motor and drive are required.

3. 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 50.
4. Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOP static pressure information.
5. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
6. Interpolation is permissible. Do not extrapolate.



FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TFF004 (3 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	673	0.18	179	805	0.25	249	911	0.34	338	988	0.43	428	1061	0.47	487
1000	709	0.22	219	835	0.30	298	937	0.38	378	1039	0.49	487	1086	0.55	547
1100	746	0.26	259	867	0.35	348	964	0.40	398	1068	0.55	547	1109	0.61	607
1200	785	0.32	318	903	0.41	408	994	0.50	497	1090	0.64	637	1156	0.68	676
1300	826	0.38	378	942	0.48	477	1047	0.60	597	1122	0.70	696	1190	0.76	756
1400	868	0.45	448	984	0.57	567	1067	0.67	666	1160	0.84	766	1237	0.85	845
1500	911	0.53	527	1029	0.66	656	1109	0.77	766	1190	1.00	855	1271	0.95	945

50TFF004 (3 TONS) — HIGH-STATIC 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
900	1105	0.57	567	1140	0.63	622	1170	0.68	674	1198	0.73	723	1224	0.77	771
1000	1136	0.63	627	1172	0.69	688	1203	0.75	745	1232	0.80	799	1258	0.86	852
1100	1145	0.67	666	1181	0.73	731	1213	0.80	792	1242	0.85	850	1268	0.91	906
1200	1210	0.74	736	1248	0.81	808	1282	0.88	875	1312	0.94	939	1340	1.01	1000
1300	1266	0.84	836	1306	0.92	917	1341	1.00	993	1373	1.07	1066	1402	1.14	1136
1400	1349	0.93	925	1391	1.02	1015	1429	1.11	1100	1463	1.19	1180	1494	1.26	1257
1500	1383	1.05	1044	1426	1.15	1146	1465	1.25	1242	1500	1.34	1332	1532	1.43	1419

LEGEND

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

*Motor drive range: 1075 to 1455 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Values include losses for filters, unit casings, and wet coils. See page 47 for accessory/FIOP static pressure information.

3. Maximum continuous bhp is 2.4, and the maximum continuous watts are 2120. 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. See Evaporator-Fan Motor Performance table on page 50 for additional information.
4. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
5. Interpolation is permissible. Do not extrapolate.

50TFF005 (4 TONS) — STANDARD MOTOR (DIRECT DRIVE)

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

LEGEND

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

NOTES:

1. Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOP static pressure information.

2. 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 50.
3. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

Performance data (cont)



FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TFF005 (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	1071	1.00	1022
1900	791	0.52	546	836	0.60	630	832	0.69	720	828	0.77	809	1019	0.93	950	1058	1.02	1037	1097	1.10	1124
2000	828	0.60	630	870	0.68	714	864	0.77	809	858	0.86	904	1046	1.03	1053	1085	1.12	1139	1124	1.21	1237

50TFF005 (4 TONS) — ALTERNATE MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)																	
	1.0			1.1			1.2			1.4			1.6			1.8		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	1008	0.67	704	1052	0.73	762	1096	0.78	820	1134	0.89	835	1203	1.00	885	—	—	—
1300	1029	0.75	788	1065	0.81	846	1101	0.86	904	1174	1.01	1040	1229	1.15	1100	1277	1.27	1029
1400	1052	0.83	826	1087	0.90	890	1121	0.96	918	1183	1.09	1042	1255	1.22	1167	1305	1.38	1190
1500	1076	0.91	905	1111	0.99	980	1145	1.06	1014	1208	1.20	1138	1274	1.33	1272	1337	1.47	1350
1600	1100	1.00	995	1134	1.08	1069	1168	1.15	1100	1232	1.31	1253	1291	1.46	1396	1350	1.60	1558
1700	1124	1.09	1084	1158	1.17	1164	1192	1.25	1196	1255	1.42	1358	1314	1.58	1511	1370	1.77	1738
1800	1147	1.18	1174	1182	1.27	1263	1217	1.36	1301	1279	1.54	1473	1381	1.71	1635	1393	1.89	1907
1900	1169	1.27	1263	1205	1.37	1363	1240	1.47	1406	1303	1.66	1588	1408	1.85	1769	1417	2.03	2068
2000	1194	1.38	1373	1228	1.48	1472	1262	1.58	1511	1327	1.78	1702	1436	1.98	1894	1440	2.18	2229

LEGEND

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

*Motor drive range: 835 to 1185 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied motor drive is required.
2. indicates field-supplied motor and drive are required.

3. 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 50.
4. Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOF static pressure information.
5. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
6. Interpolation is permissible. Do not extrapolate.



FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TFF005 (4 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	665	0.25	263	779	0.36	378	872	0.48	504	957	0.60	630	1028	0.69	725
1300	699	0.30	315	809	0.42	441	902	0.55	578	984	0.67	704	1058	0.80	841
1400	735	0.36	378	840	0.48	504	933	0.62	651	1011	0.75	788	1086	0.89	885
1500	770	0.42	441	873	0.55	578	963	0.69	725	1041	0.84	858	1113	0.99	985
1600	835	0.49	515	907	0.63	662	993	0.77	787	1072	0.93	950	1141	1.09	1084
1700	873	0.57	599	941	0.72	757	1024	0.87	889	1103	1.04	1063	1171	1.20	1194
1800	881	0.66	693	976	0.81	851	1057	0.97	991	1132	1.14	1165	1202	1.32	1313
1900	919	0.75	788	1011	0.92	967	1091	1.08	1104	1162	1.25	1277	1232	1.45	1442
2000	958	0.86	904	1046	1.03	1082	1125	1.21	1237	1195	1.38	1410	1262	1.58	1572

50TFF005 (4 TONS) — HIGH-STATIC 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
1200	1083	0.74	778	1134	0.80	935	1185	0.88	965	1331	0.99	1000	1374	1.09	1083
1300	1121	0.89	935	1171	0.94	988	1219	1.00	999	1268	1.10	1029	1309	1.21	1203
1400	1153	1.00	976	1210	1.12	1071	1257	1.17	1105	1307	1.25	1190	1349	1.37	1367
1500	1180	1.13	1081	1241	1.27	1215	1295	1.37	1294	1339	1.43	1350	1382	1.57	1564
1600	1207	1.25	1196	1269	1.40	1339	1326	1.54	1454	1376	1.65	1558	1420	1.81	1805
1700	1235	1.37	1310	1296	1.53	1463	1354	1.70	1605	1407	1.84	1738	1452	2.02	2013
1800	1263	1.49	1425	1323	1.57	1597	1381	1.85	1757	1436	2.02	1907	1482	2.22	2210
1900	1294	1.63	1559	1351	1.81	1731	1408	2.00	1889	1463	2.19	2068	—	—	—
2000	1325	1.78	1702	1362	1.97	1884	1436	2.16	2040	1489	2.36	2229	—	—	—

LEGEND

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

*Motor drive range: 1075 to 1455 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Values include losses for filters, unit casings, and wet coils. See page 47 for accessory/FIOP static pressure information.

3. Maximum continuous bhp is 2.4 and the maximum continuous watts are 2120. 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. See Evaporator-Fan Motor Performance table on page 50 for additional information.
4. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
5. Interpolation is permissible. Do not extrapolate.

50TFF006 (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)
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

1. Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOP static pressure information.

2. 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 50.
3. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

Performance data (cont)



FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TFF006 (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	1365	1.94	1983
2500	1150	1.39	1420	1186	1.48	1512	1262	1.68	1717	1331	1.80	1921	1400	2.12	2166

50TFF006 (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	1424	1.89	1931
1800	1235	1.29	1318	1303	1.48	1512	1371	1.69	1727	1433	1.90	1942	1480	2.09	2136
1900	1266	1.40	1431	1330	1.59	1625	1396	1.80	1850	1460	2.03	2074	1517	2.25	2299
2000	1297	1.53	1564	1362	1.73	1768	1422	1.94	1983	1485	2.16	2207	1544	2.40	2453
2100	1327	1.66	1696	1393	1.80	1911	1452	2.08	2126	1510	2.31	2361	1569	2.55	2606
2200	1359	1.80	1850	1423	2.02	2064	1483	2.24	2289	1538	2.46	2514	1595	2.71	2769
2300	1392	1.97	2013	1454	2.18	2228	1515	2.41	2463	1569	2.64	2698	1622	2.88	2943
2400	1426	2.15	2197	1485	2.36	2412	1544	2.59	2647	1601	2.84	2902	1652	3.07	3137
2500	1461	2.34	2391	1518	2.55	2606	1575	2.78	2841	1631	3.03	3096	1684	3.28	3352

LEGEND

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

*Motor drive range: 900 to 1300 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. indicates field-supplied motor and drive are required.

3. Maximum usable watts input is 2120 and maximum continuous bhp is 1.30 for single-phase units and 2.40 for 3-phase units. 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 50.
4. Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOP static pressure information.
5. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
6. Interpolation is permissible. Do not extrapolate.



FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TFF006 (5 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	808	0.42	429	914	0.56	572	1001	0.69	705	1084	0.85	869	1168	1.01	1032
1600	846	0.49	501	950	0.64	645	1034	0.78	797	1111	0.94	961	1194	1.11	1134
1700	884	0.57	582	983	0.72	736	1068	0.88	899	1145	1.03	1053	1218	1.21	1237
1800	924	0.66	674	1018	0.82	838	1105	0.98	1001	1179	1.13	1155	1246	1.32	1349
1900	965	0.76	777	1057	0.92	940	1143	1.10	1124	1212	1.26	1288	1280	1.43	1461
2000	1008	0.87	889	1096	1.04	1063	1177	1.22	1247	1247	1.40	1431	1300	1.57	1604
2100	1051	0.99	1012	1136	1.17	1196	1210	1.35	1380	1284	1.54	1574	1347	1.72	1758
2200	1095	1.12	1145	1173	1.30	1328	1245	1.49	1523	1322	1.70	1737	1380	1.89	1931
2300	1140	1.26	1288	1210	1.47	1502	1284	1.65	1686	1356	1.80	1901	1418	2.07	2115
2400	1185	1.41	1441	1249	1.61	1645	1323	1.80	1860	1389	2.03	2074	1456	2.26	2310
2500	1231	1.57	1604	1289	1.78	1819	1363	2.00	2044	1424	2.22	2269	1500	2.45	2504

50TFF006 (5 TONS) — HIGH-STATIC 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
1500	1199	1.19	1216	1126	1.46	1492	1250	1.69	1757	1301	1.91	1944	1349	2.12	2164
1600	1263	1.28	1308	1275	1.49	1523	1299	1.78	1800	1352	2.01	2047	1401	2.23	2280
1700	1295	1.39	1420	1351	1.58	1615	1352	1.80	1850	1407	2.03	2070	1459	2.26	2305
1800	1319	1.52	1553	1389	1.71	1747	1435	1.91	1952	1494	2.15	2197	1548	2.40	2446
1900	1343	1.64	1676	1415	1.80	1891	1478	2.05	2095	1538	2.31	2358	1594	2.57	2625
2000	1374	1.77	1809	1438	1.99	2034	1505	2.21	2258	1566	2.49	2542	1624	2.77	2830
2100	1409	1.91	1952	1465	2.14	2167	1533	2.45	2501	1596	2.77	2821	1654	3.08	3141
2200	1442	2.08	2126	1498	2.30	2350	1568	2.64	2688	1632	2.97	3031	1691	3.31	3375
2300	1475	2.26	2310	1554	2.64	2698	1627	3.03	3091	1693	3.42	3486	1755	3.81	3881
2400	1565	2.47	2524	1649	2.89	2948	1726	3.31	3379	—	—	—	—	—	—
2500	1596	2.95	3010	1682	3.45	3522	1760	3.96	4036	—	—	—	—	—	—

LEGEND

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

*Motor drive range: 1300 to 1685 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. indicates field-supplied motor and drive are required.
3. Values include losses for filters, unit casings, and wet coils. See page 47 for accessory/FIOP static pressure information.

4. Maximum continuous bhp is 2.9 and the maximum continuous watts are 2562. 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. See Evaporator-Fan Motor Performance table on page 50 for additional information.
5. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
6. Interpolation is permissible. Do not extrapolate.

Performance data (cont)



FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TFF007 (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	2180	1506	2.72	2394
2900	1324	2.15	1901	1354	2.24	1980	1420	2.47	2180	1481	2.69	2369	1542	2.94	2579
3000	1368	2.37	2093	1396	2.46	2171	1460	2.69	2369	1521	2.93	2571	—	—	—

50TFF007 (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	2326
2400	1426	2.15	1901	1485	2.36	2084	1544	2.59	2283	1601	2.84	2459
2500	1461	2.34	2067	1518	2.55	2249	1575	2.78	2445	—	—	—
2600	1497	2.54	2240	1552	2.76	2428	—	—	—	—	—	—
2700	1532	2.75	2420	—	—	—	—	—	—	—	—	—
2800	—	—	—	—	—	—	—	—	—	—	—	—
2900	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

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

*Motor drive range: 1070 to 1460 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
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 50.
4. Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOP static pressure information.
5. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
6. Interpolation is permissible. Do not extrapolate.



FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TFF007 (6 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	978	0.66	700	1063	0.82	771	1147	0.97	891	1248	1.20	1081	1322	1.33	1190
1900	1023	0.78	779	1097	0.91	843	1175	1.11	1006	1266	1.29	1158	1356	1.47	1310
2000	1068	0.90	867	1132	1.01	924	1218	1.23	1106	1303	1.41	1258	1397	1.52	1353
2100	1115	1.00	998	1180	1.17	1056	1261	1.35	1207	1340	1.53	1361	1428	1.66	1473
2200	1159	1.15	1081	1214	1.28	1148	1310	1.52	1353	1375	1.63	1447	1459	1.80	1595
2300	1202	1.29	1140	1248	1.38	1233	1358	1.69	1499	1410	1.72	1526	1488	1.93	1709
2400	1237	1.41	1224	1292	1.55	1378	1392	1.81	1604	1460	1.90	1683	1532	2.14	1892
2500	1272	1.53	1335	1335	1.71	1517	1427	1.94	1718	1518	2.16	1910	1575	2.35	2076
2600	1320	1.68	1482	1368	1.81	1604	1458	2.06	1823	1562	2.42	2136	1620	2.59	2283
2700	1361	1.82	1595	1400	1.91	1691	1490	2.19	1936	1602	2.64	2326	1666	2.85	2504
2800	1402	1.95	1639	1439	2.08	1840	1543	2.43	2145	1642	2.86	2512	1775	3.62	3290
2900	1446	2.16	1814	1477	2.16	1989	1585	2.65	2335	1753	3.58	3262	—	—	—
3000	1489	2.36	2032	1529	2.52	2223	1598	2.73	2444	1767	3.69	3360	—	—	—

50TFF007 (6 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

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
1800	1395	1.46	1301	1475	1.56	1387	1542	1.71	1517	1607	1.94	1761	1667	2.16	1967
1900	1430	1.58	1404	1504	1.69	1499	1556	1.82	1613	1621	2.06	1874	1682	2.30	2093
2000	1459	1.67	1482	1532	1.82	1613	1588	1.97	1744	1655	2.23	2029	1717	2.49	2266
2100	1489	1.80	1595	1567	1.99	1761	1626	2.16	1910	1694	2.44	2224	1758	2.73	2485
2200	1528	1.95	1726	1603	2.17	1919	1666	2.37	2093	1736	2.68	2441	—	—	—
2300	1561	2.13	1884	1637	2.35	2076	1710	2.54	2272	1782	2.87	2616	—	—	—
2400	1584	2.28	2015	1671	2.55	2249	1756	2.70	2467	—	—	—	—	—	—
2500	1633	2.53	2232	1698	2.72	2405	1779	3.13	2848	—	—	—	—	—	—
2600	1675	2.77	2436	1768	3.26	2964	—	—	—	—	—	—	—	—	—
2700	1775	3.45	3141	—	—	—	—	—	—	—	—	—	—	—	—
2800	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2900	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

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

*Motor drive range: 1300 to 1685 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. indicates field-supplied motor and drive are required.
3. Values include losses for filters, unit casings, and wet coils. See page 47 for accessory/FIOP static pressure information.

4. Maximum continuous bhp is 2.9 and the maximum continuous watts are 2562. 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. See Evaporator-Fan Motor Performance table on page 50 for additional information.
5. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
6. Interpolation is permissible. Do not extrapolate.

Performance data (cont)



FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TFF008 (7 1/2 TONS)* — STANDARD MOTOR AND DRIVE AND ALTERNATE DRIVE (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	911	2.46	2171
3100	646	1.15	1039	709	1.39	1241	772	1.70	1508	825	1.99	1761	875	2.28	2015	923	2.58	2275
3200	662	1.25	1123	724	1.50	1335	785	1.80	1595	840	2.11	1866	887	2.41	2128	934	2.71	2386
3300	679	1.35	1207	740	1.61	1430	798	1.91	1691	854	2.24	1980	900	2.54	2240	946	2.85	2504
3400	696	1.46	1301	756	1.73	1534	811	2.02	1788	868	2.37	2093	914	2.69	2369	959	3.00	2629
3500	712	1.57	1396	771	1.85	1639	824	2.14	1892	881	2.50	2206	928	2.84	2495	971	3.16	2759
3600	729	1.69	1499	787	1.98	1753	839	2.21	2006	894	2.64	2326	942	2.99	2620	984	3.22	2886
3700	746	1.85	1613	803	2.12	1875	854	2.42	2136	907	2.78	2445	956	3.15	2751	997	3.49	3017
3750	755	1.89	1674	811	2.20	1945	862	2.49	2197	914	2.85	2504	963	3.23	2815	—	—	—

50TFF008 (7 1/2 TONS)* — STANDARD MOTOR AND DRIVE AND ALTERNATE DRIVE (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	947	2.66	2343	1022	3.10	2710
2300	885	2.00	1770	939	2.36	2084	979	2.69	2369	1025	3.12	2727
2400	892	2.08	1840	944	2.40	2119	987	2.76	2428	1039	3.20	2791
2500	902	2.18	1927	949	2.48	2188	1002	2.84	2495	1041	3.25	2831
2550	908	2.24	1980	953	2.53	2232	1003	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	2223	978	2.62	2479	1019	3.13	2735	1061	3.47	3002
2900	946	2.65	2335	989	2.96	2595	1030	3.27	2847	—	—	—
3000	957	2.78	2445	1000	3.09	2702	1040	3.41	2956	—	—	—
3100	968	2.91	2554	1011	3.24	2832	—	—	—	—	—	—
3200	980	3.04	2661	1022	3.38	2933	—	—	—	—	—	—
3300	991	3.18	2775	—	—	—	—	—	—	—	—	—
3400	1003	3.32	2886	—	—	—	—	—	—	—	—	—
3500	1014	3.48	3009	—	—	—	—	—	—	—	—	—
3600	—	—	—	—	—	—	—	—	—	—	—	—
3700	—	—	—	—	—	—	—	—	—	—	—	—
3750	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

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

*Standard motor drive range: 590 to 840 rpm. Alternate motor drive range: 685 to 935 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
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 50.
4. Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOP static pressure information.
5. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
6. Interpolation is permissible. Do not extrapolate.



FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TFF008 (7¹/₂ TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	514	0.55	562	593	0.76	723	662	0.99	907	724	1.22	1097	781	1.48	1318
2300	521	0.57	577	600	0.79	747	668	1.02	932	730	1.26	1131	786	1.50	1335
2400	536	0.63	623	613	0.85	795	680	1.09	989	741	1.34	1199	796	1.59	1413
2500	551	0.69	669	626	0.93	859	693	1.17	1056	753	1.43	1275	808	1.69	1499
2550	559	0.72	692	634	0.97	891	700	1.21	1089	759	1.48	1318	814	1.74	1543
2600	567	0.75	716	641	1.00	916	706	1.25	1123	764	1.52	1353	819	1.79	1587
2700	582	0.83	779	655	1.08	981	719	1.34	1199	776	1.61	1430	831	1.89	1674
2800	598	0.90	835	670	1.17	1056	732	1.43	1275	789	1.71	1617	842	2.00	1770
2900	614	0.98	899	684	1.25	1123	745	1.53	1361	802	1.81	1604	854	2.11	1866
3000	630	1.07	973	699	1.35	1207	759	1.63	1447	815	1.92	1700	866	2.23	1971
3100	646	1.16	1047	714	1.45	1292	773	1.74	1543	828	2.04	1805	878	2.35	2076
3200	662	1.28	1131	729	1.55	1378	787	1.86	1648	841	2.16	1910	891	2.48	2188
3300	679	1.36	1216	744	1.66	1473	801	1.98	1753	854	2.29	2023	904	2.61	2300
3400	695	1.47	1310	759	1.78	1578	816	2.10	1868	867	2.42	2136	917	2.75	2420
3500	712	1.59	1413	774	1.90	1683	830	2.23	1971	881	2.56	2257	930	2.90	2546
3600	729	1.71	1617	790	2.03	1796	845	2.37	2093	895	2.71	2386	943	3.05	2670
3700	745	1.84	1630	805	2.17	1919	860	2.52	2223	909	2.87	2521	956	3.22	2807
3750	754	1.91	1691	813	2.24	1980	868	2.59	2283	917	2.95	2587	963	3.30	2870

50TFF008 (7¹/₂ TONS) — HIGH-STATIC MOTOR (BELT DRIVE)* (cont)

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	841	1.81	1604	902	2.25	1989	939	2.60	2292	979	2.94	2589	1015	3.29	2892
2300	843	1.83	1621	905	2.28	2015	943	2.52	2309	983	2.96	2609	1020	3.31	2914
2400	848	1.88	1665	910	2.31	2041	952	2.74	2411	992	3.10	2729	1029	3.46	3048
2500	859	1.96	1735	912	2.31	2050	963	2.81	2470	1004	3.18	2798	1041	3.55	3126
2550	864	2.01	1779	915	2.34	2067	968	2.81	2479	1009	3.18	2798	1047	3.55	3126
2600	869	2.06	1823	918	2.37	2093	973	2.81	2487	1014	3.18	2798	1052	3.55	3126
2700	880	2.17	1919	927	2.47	2180	976	2.84	2495	1017	3.21	2828	1055	3.59	3159
2800	892	2.29	2023	938	2.58	2275	983	2.92	2562	1024	3.30	2908	1063	3.69	3248
2900	903	2.42	2136	949	2.71	2386	993	3.03	2653	1035	3.43	3017	1074	3.83	3370
3000	915	2.54	2240	961	2.85	2504	1003	3.17	2767	1045	3.59	3157	1084	4.01	3526
3100	926	2.67	2352	972	3.00	2629	1015	3.32	2886	1058	3.76	3306	1097	4.20	3693
3200	938	2.81	2470	983	3.14	2743	1026	3.47	3002	1069	3.93	3456	—	—	—
3300	950	2.95	2587	995	3.30	2870	1043	3.80	3341	—	—	—	—	—	—
3400	963	3.10	2710	1007	3.45	2987	1055	3.97	3493	—	—	—	—	—	—
3500	976	3.25	2831	1030	3.82	3362	—	—	—	—	—	—	—	—	—
3600	988	3.41	2956	1043	4.01	3528	—	—	—	—	—	—	—	—	—
3700	1019	3.90	3431	—	—	—	—	—	—	—	—	—	—	—	—
3750	1026	4.00	3517	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

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

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

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. indicates field-supplied motor and drive are required.
3. Values include losses for filters, unit casings, and wet coils. See page 47 for accessory/FIOF static pressure information.

4. Maximum continuous bhp is 3.7 and the maximum continuous watts are 3313. 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. See Evaporator-Fan Motor Performance table on page 50 for additional information.
5. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
6. Interpolation is permissible. Do not extrapolate.

Performance data (cont)



FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TFF009 (8 TONS)* — STANDARD MOTOR (BELT DRIVE)

Airflow (Cfm)	External Static Pressure (in. wg)																	
	0.2			0.4			0.6			0.8			1.0			1.2		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2550	557	0.71	684	633	0.94	867	697	1.18	1064	756	1.42	1267	811	1.69	1499	861	1.96	1735
2600	565	0.74	708	639	0.97	891	703	1.22	1097	761	1.46	1301	816	1.74	1543	866	2.01	1779
2700	581	0.81	763	652	1.04	948	717	1.31	1173	773	1.55	1378	827	1.83	1621	878	2.12	1875
2800	597	0.89	827	665	1.12	1014	733	1.40	1250	786	1.66	1473	839	1.93	1709	889	2.23	1971
2900	613	0.97	891	679	1.20	1081	745	1.50	1335	799	1.76	1560	850	2.04	1805	900	2.34	2067
3000	629	1.06	965	694	1.29	1156	759	1.59	1413	812	1.88	1665	862	2.15	1901	911	2.46	2171
3100	646	1.15	1039	709	1.39	1241	772	1.70	1508	825	1.99	1761	875	2.28	2015	923	2.58	2275
3200	662	1.25	1123	724	1.50	1335	785	1.80	1595	840	2.11	1866	887	2.41	2128	934	2.71	2386
3300	679	1.35	1207	740	1.61	1430	798	1.91	1691	854	2.24	1980	900	2.54	2240	946	2.85	2504
3400	696	1.46	1301	756	1.73	1534	811	2.02	1788	868	2.37	2093	914	2.69	2369	959	3.00	2629
3500	712	1.57	1396	771	1.85	1639	824	2.14	1892	881	2.50	2206	928	2.84	2495	971	3.16	2759
3600	729	1.69	1499	787	1.98	1753	839	2.27	2006	894	2.64	2326	942	2.99	2620	984	3.32	2886
3700	746	1.82	1613	803	2.12	1875	854	2.42	2136	907	2.78	2445	956	3.15	2751	997	3.49	3017
3750	755	1.89	1674	811	2.20	1945	862	2.49	2197	914	2.85	2504	963	3.23	2815	—	—	—
3800	763	1.95	1726	819	2.27	2006	869	2.56	2257	920	2.92	2562	970	3.31	2878	—	—	—
3900	780	2.09	1849	835	2.42	2136	884	2.72	2394	933	3.07	2686	983	3.48	3009	—	—	—
4000	796	2.23	1971	851	2.56	2257	900	2.89	2537	946	3.23	2815	—	—	—	—	—	—
4100	813	2.39	2110	867	2.74	2411	915	3.06	2678	960	3.40	2948	—	—	—	—	—	—
4200	830	2.55	2249	883	2.91	2554	931	3.24	2823	—	—	—	—	—	—	—	—	—
4250	839	2.63	2317	892	3.00	2629	939	3.34	2902	—	—	—	—	—	—	—	—	—

50TFF009 (8 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	1003	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	2223	978	2.62	2479	1019	3.13	2735	1061	3.41	3002
2900	946	2.65	2335	989	2.96	2595	1030	3.27	2847	—	—	—
3000	957	2.78	2445	1000	3.09	2702	1040	3.41	2956	—	—	—
3100	968	2.91	2554	1011	3.24	2832	—	—	—	—	—	—
3200	980	3.04	2661	1022	3.38	2933	—	—	—	—	—	—
3300	991	3.18	2775	—	—	—	—	—	—	—	—	—
3400	1003	3.52	2886	—	—	—	—	—	—	—	—	—
3500	1014	3.48	3009	—	—	—	—	—	—	—	—	—
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

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

NOTES:

1. **Boldface** indicates field-supplied drive is required.
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 50.
4. Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOF static pressure information.
5. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative to verify.
6. Interpolation is permissible. Do not extrapolate.



FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TFF009 (8 1/2 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2550	559	0.72	692	634	0.97	891	700	1.21	1089	759	1.48	1318	814	1.74	1543
2600	567	0.76	716	641	1.00	916	706	1.25	1123	764	1.52	1353	819	1.79	1587
2700	582	0.83	779	655	1.08	981	719	1.34	1199	776	1.61	1430	831	1.89	1674
2800	598	0.90	835	670	1.17	1056	732	1.43	1275	789	1.71	1517	842	2.00	1770
2900	614	0.98	899	684	1.25	1123	745	1.53	1361	802	1.81	1604	854	2.11	1866
3000	630	1.07	973	690	1.35	1207	759	1.63	1447	816	1.92	1700	866	2.23	1971
3100	646	1.16	1047	714	1.45	1292	773	1.74	1543	828	2.04	1805	878	2.35	2076
3200	662	1.26	1131	729	1.55	1378	787	1.86	1648	841	2.16	1910	891	2.48	2188
3300	679	1.36	1216	744	1.66	1473	801	1.98	1753	854	2.29	2023	904	2.61	2300
3400	695	1.47	1310	759	1.78	1578	816	2.10	1958	867	2.42	2136	917	2.75	2420
3500	712	1.59	1413	774	1.90	1683	830	2.23	1971	881	2.56	2257	930	2.90	2546
3600	729	1.71	1517	790	2.03	1796	845	2.37	2093	895	2.71	2386	943	3.05	2670
3700	745	1.84	1630	805	2.17	1919	860	2.52	2223	909	2.87	2521	956	3.22	2807
3750	754	1.91	1691	813	2.24	1980	868	2.59	2283	917	2.95	2587	963	3.30	2870
3800	762	1.98	1753	821	2.31	2041	875	2.66	2343	924	3.03	2653	970	3.38	2933
3900	779	2.12	1875	836	2.46	2171	890	2.82	2479	938	3.19	2783	981	3.65	3209
4000	796	2.27	2006	852	2.61	2300	905	2.98	2612	953	3.37	2925	996	3.85	3390
4100	813	2.42	2136	868	2.78	2445	920	3.15	2751	974	3.74	3294	—	—	—
4200	830	2.59	2283	884	2.95	2587	935	3.33	2894	990	3.96	3482	—	—	—
4250	839	2.68	2360	890	3.04	2661	965	3.88	3412	—	—	—	—	—	—

50TFF009 (8 1/2 TONS) — HIGH-STATIC 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	864	2.01	1779	915	2.34	2067	968	2.81	2479	991	3.02	2654	1012	3.21	2827
2600	869	2.06	1823	918	2.37	2093	973	2.81	2487	996	3.02	2654	1017	3.21	2827
2700	880	2.17	1919	927	2.47	2180	976	2.84	2495	999	3.05	2682	1021	3.25	2857
2800	892	2.29	2023	938	2.58	2275	983	2.92	2562	1006	3.13	2758	1028	3.34	2938
2900	903	2.42	2136	949	2.71	2386	993	3.03	2653	1017	3.25	2862	1038	3.46	3048
3000	915	2.54	2240	961	2.85	2504	1003	3.17	2767	1027	3.40	2994	1049	3.62	3189
3100	926	2.67	2352	972	3.00	2629	1016	3.32	2886	1040	3.56	3136	1062	3.80	3340
3200	938	2.81	2470	983	3.14	2743	1026	3.47	3002	1050	3.72	3277	1073	3.97	3491
3300	950	2.95	2587	995	3.30	2870	1022	3.58	3146	1046	3.84	3377	1069	4.09	3597
3400	963	3.10	2710	1007	3.45	2987	1034	3.74	3289	1059	4.01	3530	—	—	—
3500	976	3.25	2831	1007	3.56	3137	1034	3.85	3399	1058	4.15	3648	—	—	—
3600	988	3.41	2956	1019	3.74	3292	1047	4.05	3566	—	—	—	—	—	—
3700	992	3.59	3161	1023	3.94	3467	—	—	—	—	—	—	—	—	—
3750	999	3.68	3240	1030	4.04	3554	—	—	—	—	—	—	—	—	—
3800	1006	3.77	3318	1038	4.14	3640	—	—	—	—	—	—	—	—	—
3900	1017	4.07	3580	—	—	—	—	—	—	—	—	—	—	—	—
4000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

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

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

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. indicates field-supplied motor and drive are required.
3. Values include losses for filters, unit casings, and wet coils. See page 47 for accessory/FIOF static pressure information.

4. Maximum continuous bhp is 3.7 and the maximum continuous watts are 3313. 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. See Evaporator-Fan Motor Performance table on page 50 for additional information.

5. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
6. Interpolation is permissible. Do not extrapolate.

Performance data (cont)



FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TFF012 (10 TONS)*																		
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	963	2.94	2651
4500	729	1.83	1621	785	2.10	1858	837	2.35	2076	885	2.59	2335	929	2.85	2569	973	3.08	2782
4600	742	1.94	1718	797	2.22	1962	848	2.48	2238	896	2.72	2451	940	2.98	2688	984	3.22	2914
4700	756	2.06	1823	810	2.34	2067	860	2.61	2353	908	2.86	2578	951	3.12	2727	994	3.38	3068
4800	770	2.18	1927	823	2.46	2221	872	2.75	2505	919	3.00	2707	963	3.27	2847	1003	3.43	3202
4900	783	2.31	2041	836	2.60	2344	884	2.89	2605	931	3.14	2838	974	3.41	2956	1013	3.59	3349
5000	797	2.44	2203	849	2.73	2460	897	3.04	2661	943	3.30	2870	984	3.44	3211	1023	3.75	3501

50TFF012 (10 TONS)* (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	1059	2.98	2688
3900	952	2.51	2265	994	2.72	2451	1032	2.92	2633	1068	3.12	2819
4000	962	2.63	2371	1003	2.84	2560	1042	3.06	2763	1078	3.26	2952
4100	973	2.77	2496	1011	2.97	2679	1051	3.20	2895	1087	3.41	3097
4200	983	2.91	2624	1021	3.11	2810	1060	3.34	3029	1090	3.51	3276
4300	994	3.05	2754	1031	3.25	2943	1068	3.48	3166	1097	3.70	3453
4400	1004	3.19	2885	1042	3.41	3097	1080	3.63	3388	1105	3.91	3642
4500	1015	3.33	2020	1051	3.45	3218	1090	3.75	3493	1112	4.12	3843
4600	1025	3.48	3166	1060	3.61	3369	1100	3.92	3655	1119	4.35	4057
4700	1037	3.58	3335	1070	3.84	3325	1111	4.10	3822	1126	4.59	4284
4800	1048	3.75	3494	1080	3.95	3686	1121	4.28	3995	1133	4.85	4523
4900	1060	3.92	3659	1089	4.13	3854	1132	4.48	4174	1140	5.12	4775
5000	1072	4.11	3830	1099	4.32	4027	1144	4.67	4359	—	—	—

LEGEND

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

*Standard motor drive range: 685 to 935 rpm. Alternate motor drive range: 835 to 1085 rpm. High-static motor drive range is 830 to 1130 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates high-static motor and drive are required.
2. Maximum usable watts input is 2120 with standard motor, 2615 with alternate motor, and 4400 for the high-static motor. Maximum continuous bhp is 2.40 with standard motor, 2.90 with alternate motor, and 5.25 for the high-static 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 50.

3. Values include losses for filters, unit casings, and wet coils. See page 47 for accessory/FIOF static pressure information.
4. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
5. Interpolation is permissible. Do not extrapolate.



FAN PERFORMANCE — VERTICAL DISCHARGE UNITS (cont)

50TFF014 (12 TONS)*																		
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
3700	654	1.12	1065	714	1.31	1218	767	1.50	1373	815	1.67	1514	861	1.85	1666	906	2.08	1862
3800	668	1.20	1129	727	1.40	1291	780	1.60	1456	827	1.77	1598	873	1.95	1751	916	2.18	1948
3900	683	1.28	1194	741	1.49	1365	793	1.70	1540	839	1.88	1691	884	2.05	1836	927	2.28	2035
4000	697	1.37	1267	754	1.59	1448	806	1.80	1624	851	1.99	1785	895	2.16	1931	938	2.38	2123
4100	711	1.46	1340	767	1.69	1531	819	1.90	1708	864	2.10	1879	907	2.28	2035	949	2.49	2219
4200	726	1.56	1423	780	1.80	1624	832	2.01	1802	877	2.22	1983	919	2.41	2149	960	2.60	2316
4300	741	1.66	1506	794	1.91	1717	845	2.12	1897	889	2.35	2096	931	2.54	2263	971	2.72	2433
4400	755	1.77	1598	808	2.03	1819	858	2.24	2000	902	2.48	2210	943	2.68	2387	983	2.86	2548
4500	770	1.89	1700	821	2.15	1923	871	2.37	2114	915	2.61	2325	955	2.82	2512	995	3.01	2683
4600	784	2.00	1794	835	2.27	2027	884	2.49	2219	928	2.75	2450	968	2.96	2638	1006	3.17	2828
4700	799	2.13	1905	849	2.40	2140	897	2.63	2343	941	2.88	2566	981	3.11	2773	1018	3.32	2964
4800	814	2.25	2009	863	2.53	2254	910	2.77	2468	954	3.02	2692	993	3.27	2919	1030	3.48	3111
4900	829	2.39	2131	877	2.67	2378	923	2.92	2602	967	3.17	2828	1006	3.43	3065	1043	3.65	3267
5000	843	2.52	2246	892	2.81	2503	937	3.08	2746	980	3.32	2964	1019	3.60	3221	1055	3.82	3424
5100	858	2.67	2378	906	2.95	2629	950	3.24	2891	993	3.48	3111	1032	3.76	3368	1068	4.00	3590
5200	873	2.82	2512	920	3.10	2764	963	3.40	3037	1006	3.65	3267	1045	3.93	3525	1081	4.19	3767
5300	888	2.97	2647	934	3.26	2910	977	3.57	3193	1019	3.82	3424	1058	4.11	3692	1094	4.38	3943
5400	903	3.13	2792	949	3.43	3065	991	3.75	3359	1032	4.00	3590	1071	4.29	3860	1106	4.57	4120
5500	918	3.30	2946	963	3.59	3212	1004	3.92	3516	1045	4.18	3757	1084	4.47	4027	1119	4.77	4307
5600	933	3.47	3101	978	3.77	3377	1018	4.11	3692	1058	4.38	3943	1097	4.66	4204	1132	4.97	4493
5700	948	3.65	3267	992	3.95	3544	1032	4.30	3869	1072	4.58	4130	1110	4.86	4391	1145	5.18	4689
5800	963	3.83	3433	1006	4.14	3720	1046	4.50	4055	1085	4.79	4326	1123	5.07	4586	—	—	—
5900	978	4.00	3590	1021	4.34	3906	1060	4.69	4232	1098	5.01	4531	—	—	—	—	—	—
6000	993	4.22	3795	1035	4.54	4093	1074	4.91	4419	1112	5.23	4735	—	—	—	—	—	—
6100	1008	4.42	3981	1050	4.75	4288	1089	5.10	4616	—	—	—	—	—	—	—	—	—
6200	1023	4.63	4176	1065	4.96	4484	—	—	—	—	—	—	—	—	—	—	—	—
6300	1038	4.85	4382	1079	5.19	4698	—	—	—	—	—	—	—	—	—	—	—	—

50TFF014 (12 TONS)* (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	3934	1182	4.68	4223
5000	1091	4.05	3637	1126	4.25	3822	1160	4.53	4083	1193	4.85	4382
5100	1103	4.23	3804	1137	4.45	4009	1171	4.70	4242	1204	5.01	4531
5200	1115	4.42	3981	1149	4.65	4195	1182	4.91	4409	1215	5.18	4689
5300	1127	4.62	4167	1161	4.85	4382	1194	5.07	4586	—	—	—
5400	1139	4.82	4354	1173	5.06	4577	—	—	—	—	—	—
5500	1152	5.03	4549	—	—	—	—	—	—	—	—	—
5600	1165	5.24	4746	—	—	—	—	—	—	—	—	—
5700	—	—	—	—	—	—	—	—	—	—	—	—
5800	—	—	—	—	—	—	—	—	—	—	—	—
5900	—	—	—	—	—	—	—	—	—	—	—	—
6000	—	—	—	—	—	—	—	—	—	—	—	—
6100	—	—	—	—	—	—	—	—	—	—	—	—
6200	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

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

*Standard motor drive range: 860 to 1080 rpm. Alternate motor drive range: 900 to 1260 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates alternate motor and drive are required.
2. Maximum usable watts input is 3313 with standard motor and 4400 with alternate motor. Maximum continuous bhp is 3.70 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 50.

3. Values include losses for filters, unit casings, and wet coils. See page 47 for accessory/FIOP static pressure information.
4. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
5. Interpolation is permissible. Do not extrapolate.

Performance data (cont)



FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS

50TFF004 (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)
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

NOTES:

1. Values include losses for filters, unit casing, and wet coils. See page 47 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 50.
- Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

50TFF004 (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

50TFF004 (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
FIOP — Factory-Installed Option
Watts — Input Watts to Motor

*Motor drive range: 760 to 1000 rpm. All other rpms require field-supplied drive.

NOTES:

- Boldface** indicates field-supplied drive is 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 50.

- Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOP static pressure information.
- Interpolation is permissible. Do not extrapolate.
- Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.



FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50TFF004 (3 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
900	584	0.08	99	734	0.22	219	875	0.27	269	953	0.35	348	1028	0.42	438
1000	627	0.13	149	800	0.26	259	895	0.31	308	977	0.39	388	1064	0.48	477
1100	670	0.16	189	812	0.29	288	914	0.35	348	1005	0.43	428	1100	0.52	527
1200	710	0.23	229	840	0.32	318	938	0.40	398	1038	0.50	497	1136	0.59	577
1300	752	0.27	269	868	0.37	368	963	0.45	448	1061	0.56	557	1172	0.65	647
1400	776	0.31	308	891	0.42	418	983	0.51	507	1071	0.60	597	1208	0.70	706
1500	816	0.38	378	924	0.48	477	1014	0.58	577	1097	0.68	676	1245	0.74	776

50TFF004 (3 TONS) — HIGH-STATIC 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
900	1120	0.54	537	1155	0.59	589	1186	0.64	639	1215	0.69	685	1240	0.73	730
1000	1185	0.60	597	1222	0.66	655	1255	0.71	709	1285	0.77	761	1312	0.82	811
1100	1225	0.65	647	1263	0.71	709	1298	0.77	769	1328	0.83	825	1357	0.88	879
1200	1266	0.72	716	1306	0.79	786	1341	0.86	851	1373	0.92	914	1402	0.98	973
1300	1306	0.79	786	1347	0.87	862	1383	0.94	934	1416	1.01	1003	1446	1.07	1068
1400	1347	0.87	865	1389	0.95	950	1427	1.03	1029	1461	1.11	1104	1492	1.18	1176
1500	1385	0.96	955	1428	1.05	1048	1467	1.14	1135	1502	1.22	1218	1534	1.30	1298

LEGEND

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

*Motor drive range: 1075 to 1455 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOP static pressure information.

3. Maximum continuous bhp is 2.4 and the maximum continuous watts are 2120. 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. See Evaporator-Fan Motor Performance table on page 50 for additional information.
4. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
5. Interpolation is permissible. Do not extrapolate.

50TFF005 (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 47 for accessory/FIOP static pressure information.

2. 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 50.
3. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

Performance data (cont)



FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50TFF005 (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	1066	1.03	1082
2000	778	0.55	578	836	0.62	651	875	0.70	730	913	0.77	809	1004	0.94	988	1046	1.03	1082	1088	1.12	1177

50TFF005 (4 TONS) — ALTERNATE MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)																				
	1.0			1.1			1.2			1.4			1.6			1.8					
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts			
1200	999	0.66	674	1018	0.67	685	1036	0.68	695	1073	0.71	756	1109	0.75	794	1138	0.79	851			
1300	1025	0.74	756	1058	0.79	807	1090	0.84	858	1121	0.87	832	1159	0.90	918	1193	0.95	976			
1400	1042	0.81	828	1080	0.88	899	1118	0.95	971	1175	1.06	1014	1206	1.09	1042	1244	1.12	1138			
1500	1060	0.88	899	1098	0.96	981	1136	1.04	1063	1205	1.19	1138	1258	1.30	1243	1289	1.34	1282			
1600	1080	0.95	971	1117	1.04	1058	1153	1.12	1140	1224	1.29	1234	1287	1.45	1387	1337	1.56	1492			
1700	1101	1.03	1053	1137	1.12	1139	1172	1.20	1226	1241	1.38	1320	1307	1.56	1492	1366	1.73	1655			
1800	1122	1.11	1134	1157	1.20	1226	1192	1.29	1318	1258	1.48	1415	1323	1.67	1597	1385	1.86	1779			
1900	1143	1.21	1237	1179	1.30	1328	1214	1.39	1420	1279	1.58	1511	1341	1.78	1702	1402	1.98	1894			
2000	1165	1.31	1339	1200	1.40	1431	1235	1.49	1523	1300	1.69	1616	1361	1.90	1817	1419	2.10	2008			

LEGEND

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

*Motor drive range: 835 to 1185 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. indicates field-supplied motor and drive are required.
3. 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 50.

4. Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOF static pressure information.
5. Interpolation is permissible. Do not extrapolate.
6. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

50TFF005 (4 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1200	641	0.23	242	761	0.34	357	859	0.46	483	943	0.58	609	1030	0.70	695
1300	673	0.28	294	788	0.39	410	887	0.52	546	968	0.65	683	1044	0.77	736
1400	705	0.33	347	817	0.45	473	914	0.59	620	996	0.72	757	1069	0.86	838
1500	738	0.38	399	847	0.51	536	940	0.65	683	1024	0.81	851	1095	0.95	930
1600	772	0.44	462	877	0.58	609	967	0.73	767	1051	0.89	935	1123	1.05	1073
1700	806	0.51	536	908	0.66	693	997	0.81	851	1077	1.01	1030	1151	1.15	1185
1800	841	0.59	620	939	0.75	788	1026	0.91	956	1104	1.07	1124	1178	1.26	1318
1900	876	0.68	714	971	0.84	883	1056	1.01	1061	1132	1.18	1240	1204	1.37	1502
2000	912	0.77	809	1004	0.94	988	1087	1.12	1177	1162	1.30	1366	1231	1.48	1604

50TFF005 (4 TONS) — HIGH-STATIC 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
1200	1106	0.87	889	1134	0.98	998	1189	1.12	1138	1245	1.21	1358	1292	1.35	1345
1300	1128	0.91	930	1183	1.10	1052	1226	1.23	1215	1297	1.35	1406	1346	1.51	1500
1400	1139	1.01	1012	1218	1.14	1090	1286	1.34	1282	1320	1.48	1463	1370	1.65	1645
1500	1162	1.09	1114	1228	1.24	1186	1303	1.40	1339	1343	1.60	1530	1393	1.79	1778
1600	1185	1.20	1226	1250	1.35	1291	1319	1.51	1444	1382	1.68	1607	1434	1.88	1867
1700	1215	1.31	1339	1276	1.48	1415	1334	1.64	1569	1398	1.80	1722	1451	2.01	2001
1800	1243	1.43	1461	1303	1.61	1540	1359	1.78	1702	1418	1.95	1865	1471	2.18	2167
1900	1271	1.56	1594	1330	1.74	1664	1386	1.93	1846	1439	2.11	2018	1493	2.36	2345
2000	1298	1.69	1727	1358	1.89	1808	1413	2.08	1989	1466	2.27	2171	—	—	—

LEGEND

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

*Motor drive range: 1075 to 1455 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOF static pressure information.

3. Maximum continuous bhp is 2.4 and the maximum continuous watts are 2120. 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. See Evaporator-Fan Motor Performance table on page 58 for additional information.

4. Interpolation is permissible. Do not extrapolate.
5. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.



FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50TFF006 (5 TONS) — STANDARD MOTOR (DIRECT DRIVE)

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

LEGEND

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

- 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 50.
- Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.

NOTES:

- Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOP static pressure information.

50TFF006 (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

50TFF006 (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	1432	1.89	1931
1800	1178	1.14	1165	1249	1.32	1349	1316	1.52	1553	1382	1.72	1758	1447	1.95	1993
1900	1201	1.23	1257	1274	1.43	1461	1338	1.62	1656	1402	1.80	1870	1464	2.05	2095
2000	1226	1.33	1359	1297	1.53	1564	1363	1.73	1768	1424	1.94	1983	1484	2.16	2207
2100	1252	1.45	1482	1320	1.64	1676	1388	1.80	1891	1448	2.07	2115	1505	2.29	2340
2200	1280	1.58	1615	1345	1.77	1809	1410	1.97	2013	1473	2.20	2248	1529	2.43	2483
2300	1309	1.71	1747	1372	1.91	1952	1434	2.11	2156	1496	2.34	2391	1554	2.58	2637
2400	1336	1.80	1891	1400	2.06	2105	1459	2.26	2310	1519	2.48	2534	1578	2.76	2820
2500	1363	2.00	2044	1428	2.22	2269	1486	2.43	2483	1543	2.65	2708	1600	2.89	2953

LEGEND

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

*Motor drive range: 900 to 1300 rpm. All other rpms require field-supplied drive.

NOTES:

- Boldface** indicates field-supplied drive is required.
- Grey shading** indicates field-supplied motor and drive are required.

- Maximum usable watts input is 2120 and maximum continuous bhp is 1.30 for single-phase units and 2.40 for 3-phase units. 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 50.
- Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOP static pressure information.
- Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
- Interpolation is permissible. Do not extrapolate.

Performance data (cont)



FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50TFF006 (5 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1500	789	0.40	420	896	0.53	557	990	0.67	704	1072	0.83	872	1153	1.00	1051
1600	826	0.46	483	931	0.61	641	1020	0.75	788	1101	0.91	956	1178	1.09	1145
1700	865	0.54	567	966	0.69	725	1051	0.84	883	1133	1.01	1061	1205	1.18	1240
1800	905	0.62	661	1002	0.78	820	1084	0.93	977	1163	1.10	1156	1235	1.29	1355
1900	945	0.72	757	1037	0.88	925	1119	1.04	1093	1194	1.21	1271	1266	1.40	1471
2000	984	0.82	862	1072	0.98	1030	1154	1.16	1219	1226	1.33	1397	1297	1.53	1608
2100	1024	0.93	977	1108	1.10	1156	1192	1.29	1355	1259	1.47	1545	1327	1.66	1744
2200	1064	1.05	1103	1145	1.22	1282	1225	1.43	1503	1294	1.62	1702	1359	1.80	1902
2300	1104	1.18	1240	1183	1.36	1429	1260	1.57	1650	1330	1.78	1870	1392	1.97	2070
2400	1145	1.32	1387	1222	1.45	1524	1296	1.73	1818	1365	1.94	2038	1426	2.15	2259
2500	1186	1.48	1555	1262	1.68	1765	1331	1.89	1986	1400	2.12	2227	1461	2.34	2459

50TFF006 (5 TONS) — HIGH-STATIC 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
1500	1221	1.17	1229	1256	1.30	1366	1283	1.32	1387	1303	1.22	1282	1345	1.34	1390
1600	1252	1.27	1334	1311	1.45	1524	1340	1.58	1660	1330	1.61	1692	1373	1.77	1834
1700	1278	1.37	1439	1345	1.57	1650	1397	1.76	1849	1424	1.89	1986	1470	2.08	2153
1800	1303	1.48	1555	1371	1.69	1776	1433	1.90	1996	1480	2.09	2196	1528	2.30	2381
1900	1330	1.59	1671	1396	1.80	1902	1460	2.03	2133	1517	2.25	2364	1566	2.47	2563
2000	1362	1.73	1818	1422	1.94	2038	1485	2.16	2270	1544	2.40	2522	1594	2.64	2734
2100	1393	1.87	1965	1452	2.08	2185	1510	2.31	2427	1570	2.55	2674	1620	2.80	2905
2200	1423	2.02	2122	1483	2.24	2354	1538	2.46	2585	1594	2.71	2821	1645	2.98	3087
2300	1454	2.18	2291	1515	2.41	2532	1571	2.64	2758	1623	2.88	2976	1675	3.17	3280
2400	1485	2.36	2480	1544	2.59	2721	1604	2.84	2947	1657	3.07	3152	1710	3.38	3497
2500	1518	2.55	2679	1574	2.78	2905	1633	3.03	3134	1692	3.28	3345	1746	3.61	3736

LEGEND

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

*Motor drive range: 1300 to 1685 rpm. All other rpms require field-supplied drive.

NOTES:

- Boldface** indicates field-supplied drive is required.
- Grey shading** indicates field-supplied motor and drive are required.
- Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOP static pressure information.

- Maximum continuous bhp is 2.9 and the maximum continuous watts are 2562. 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. See Evaporator-Fan Motor Performance table on page 50 for additional information.
- Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
- Interpolation is permissible. Do not extrapolate.



FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50TFF007 (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	1413	2.44	2154
3000	1227	1.92	1700	1253	2.00	1770	1316	2.19	1936	1382	2.42	2136	1444	2.63	2317

50TFF007 (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	1519	2.48	2188
2500	1363	2.00	1770	1428	2.22	1962	1486	2.43	2145	1543	2.65	2335
2600	1390	2.15	1901	1456	2.38	2102	1514	2.61	2300	1569	2.83	2487
2700	1418	2.31	2041	1483	2.56	2257	1543	2.80	2462	—	—	—
2800	1446	2.48	2188	1510	2.73	2403	—	—	—	—	—	—
2900	1476	2.67	2352	1537	2.92	2562	—	—	—	—	—	—
3000	1506	2.88	2529	—	—	—	—	—	—	—	—	—

LEGEND

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

*Motor drive range: 1070 to 1460 rpm. All other rpms require field-supplied drive.

NOTES:

- 1. Boldface** indicates field-supplied drive is required.
- 2. [Shaded Box]** 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 50.
- 4.** Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOP static pressure information.
- 5.** Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
- 6.** Interpolation is permissible. Do not extrapolate.

Performance data (cont)



FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50TFF007 (6 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
1800	942	0.73	700	1047	0.90	835	1139	1.05	956	1193	1.14	1031	1276	1.30	1165
1900	982	0.83	779	1084	1.02	932	1160	1.11	1006	1223	1.24	1114	1301	1.38	1233
2000	1022	0.94	867	1121	1.12	1014	1188	1.22	1097	1254	1.36	1216	1329	1.44	1284
2100	1063	1.10	998	1140	1.18	1064	1196	1.27	1140	1272	1.45	1292	1354	1.58	1404
2200	1104	1.20	1081	1159	1.23	1106	1229	1.41	1258	1306	1.53	1361	1363	1.70	1508
2300	1130	1.27	1140	1196	1.37	1224	1264	1.56	1387	1340	1.66	1473	1397	1.86	1648
2400	1174	1.37	1224	1245	1.57	1396	1305	1.63	1447	1373	1.84	1630	1440	1.95	1726
2500	1201	1.50	1335	1284	1.65	1465	1338	1.75	1552	1402	1.99	1761	1469	2.04	1805
2600	1246	1.67	1482	1312	1.76	1560	1366	1.96	1735	1435	2.10	1858	1494	2.19	1936
2700	1285	1.80	1595	1354	1.95	1726	1403	2.14	1892	1474	2.21	1954	1536	2.46	2171
2800	1304	1.85	1639	1374	2.12	1875	1459	2.25	1989	1514	2.42	2136	1570	2.66	2343
2900	1345	2.05	1814	1412	2.32	2050	1496	2.54	2240	1529	2.61	2300	1603	2.87	2521
3000	1378	2.30	2032	1451	2.40	2119	1534	2.66	2343	1560	2.81	2470	1611	3.01	2648

50TFF007 (6 TONS) — HIGH-STATIC 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
1800	1341	1.40	1250	1413	1.55	1378	1474	1.58	1404	1522	1.74	1564	1566	1.89	1704
1900	1374	1.53	1361	1437	1.62	1439	1490	1.67	1482	1538	1.84	1653	1583	2.00	1801
2000	1396	1.66	1473	1460	1.68	1491	1509	1.77	1569	1558	1.95	1752	1603	2.12	1909
2100	1413	1.75	1552	1475	1.73	1534	1529	1.92	1700	1578	2.11	1901	1624	2.30	2070
2200	1434	1.81	1604	1487	1.85	1639	1554	2.07	1831	1604	2.28	2049	1651	2.48	2232
2300	1459	1.88	1665	1520	2.07	1831	1576	2.24	1980	1627	2.46	2218	1674	2.68	2415
2400	1502	2.06	1823	1552	2.24	1980	1604	2.42	2136	1656	2.66	2396	1704	2.90	2609
2500	1524	2.24	1980	1585	2.42	2136	1638	2.60	2292	1691	2.86	2574	1740	3.12	2804
2600	1552	2.40	2119	1616	2.63	2317	1671	2.80	2462	1725	3.08	2772	1775	3.35	3019
2700	1584	2.61	2300	1646	2.83	2487	1706	2.97	2653	1761	3.27	2941	—	—	—
2800	1624	2.85	2504	1677	2.99	2661	1739	3.33	2998	1795	3.67	3299	—	—	—
2900	1671	3.03	2725	1742	3.43	3090	—	—	—	—	—	—	—	—	—
3000	1692	3.49	3140	1764	3.95	3558	—	—	—	—	—	—	—	—	—

LEGEND

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

*Motor drive range: 1300 to 1685 rpm. All other rpms require field-supplied drive.

NOTES:

- 1. Boldface** indicates field-supplied drive is required.
- 2. [Shaded Box]** indicates field-supplied motor and drive are required.

3. Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOF static pressure information.
4. Maximum continuous bhp is 2.9 and the maximum continuous watts are 2562. 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. See Evaporator-Fan Motor Performance table on page 50 for additional information.
5. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
6. Interpolation is permissible. Do not extrapolate.



FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50TFF008 (7¹/₂ TONS) — STANDARD MOTOR AND DRIVE AND ALTERNATE DRIVE (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	870	2.47	2180
3600	636	1.25	1123	707	1.60	1422	772	1.93	1709	828	2.23	1971	880	2.57	2266
3700	649	1.33	1190	720	1.71	1517	783	2.03	1796	840	2.35	2076	890	2.69	2369
3750	655	1.37	1224	727	1.77	1569	789	2.09	1849	846	2.42	2136	896	2.75	2420

50TFF008 (7¹/₂ TONS) — STANDARD MOTOR AND DRIVE AND ALTERNATE DRIVE (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	883	2.50	2206	895	2.78	2445
2300	816	1.65	1465	859	1.94	1718	888	2.24	1980	903	2.55	2249	911	2.85	2504
2400	824	1.72	1526	872	2.01	1779	909	2.32	2050	931	2.64	2326	935	2.96	2595
2500	832	1.79	1587	882	2.09	1849	925	2.40	2119	955	2.72	2394	972	3.06	2678
2550	836	1.83	1621	887	2.13	1884	931	2.45	2162	964	2.77	2436	986	3.11	2718
2660	839	1.87	1656	891	2.17	1919	936	2.49	2197	973	2.82	2479	999	3.16	2759
2700	846	1.95	1726	898	2.26	1997	946	2.58	2275	987	2.91	2554	1019	3.26	2839
2800	855	2.04	1805	906	2.35	2076	954	2.67	2352	997	3.01	2637	1034	3.36	2917
2900	863	2.13	1884	913	2.44	2154	961	2.77	2436	1006	3.12	2727	—	—	—
3000	872	2.22	1962	921	2.54	2240	969	2.88	2529	1014	3.22	2807	—	—	—
3100	882	2.33	2058	930	2.65	2335	976	2.99	2620	1021	3.34	2902	—	—	—
3200	892	2.45	2162	939	2.76	2428	984	3.10	2710	—	—	—	—	—	—
3300	902	2.57	2266	948	2.88	2529	993	3.21	2799	—	—	—	—	—	—
3400	912	2.69	2369	958	3.01	2637	1002	3.34	2902	—	—	—	—	—	—
3500	921	2.82	2479	968	3.15	2751	—	—	—	—	—	—	—	—	—
3600	930	2.95	2587	978	3.29	2862	—	—	—	—	—	—	—	—	—
3700	940	3.07	2686	—	—	—	—	—	—	—	—	—	—	—	—
3750	945	3.14	2743	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

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

*Motor drive range: 590 to 840 rpm. Alternate motor drive range: 685 to 935 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. indicates high-static 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 on page 50.
4. Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOP static pressure information.
5. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
6. Interpolation is permissible. Do not extrapolate.

Performance data (cont)



FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50TFF008 (7¹/₂ TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2250	507	0.53	547	586	0.73	700	658	0.97	891	722	1.22	1097	783	1.46	1301
2300	513	0.55	562	592	0.76	723	663	1.00	916	727	1.26	1131	786	1.49	1327
2400	528	0.60	600	606	0.83	779	674	1.06	965	738	1.34	1199	795	1.58	1404
2500	542	0.68	648	619	0.90	835	686	1.13	1022	748	1.41	1258	806	1.68	1491
2550	550	0.69	669	627	0.94	867	692	1.17	1056	754	1.45	1292	812	1.74	1543
2660	557	0.72	692	634	0.97	891	698	1.21	1089	759	1.49	1327	816	1.79	1587
2700	573	0.79	747	648	1.05	956	711	1.29	1156	770	1.58	1404	827	1.88	1665
2800	588	0.86	803	662	1.13	1022	723	1.38	1233	782	1.66	1473	837	1.98	1763
2900	604	0.94	867	676	1.21	1089	737	1.48	1318	794	1.76	1560	849	2.08	1840
3000	620	1.02	932	690	1.30	1165	750	1.58	1404	806	1.86	1648	849	2.18	1927
3100	636	1.11	1006	704	1.39	1241	764	1.69	1499	818	1.97	1744	870	2.29	2023
3200	652	1.21	1089	718	1.49	1327	778	1.90	1595	831	2.09	1849	882	2.40	2119
3300	668	1.31	1173	732	1.59	1413	793	1.92	1700	844	2.21	1954	894	2.53	2232
3400	684	1.41	1258	747	1.70	1508	807	2.04	1805	857	2.35	2076	907	2.66	2343
3500	701	1.53	1361	762	1.82	1613	821	2.16	1010	871	2.48	2188	919	2.80	2462
3600	717	1.65	1465	777	1.94	1718	835	2.29	2023	885	2.63	2317	932	2.95	2587
3700	733	1.77	1569	792	2.07	1831	849	2.42	2136	899	2.78	2445	945	3.11	2718
3750	742	1.84	1630	800	2.14	1892	856	2.49	2197	907	2.86	2512	952	3.20	2719

50TFF008 (7¹/₂ TONS) — HIGH-STATIC 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	843	1.81	1604	908	2.25	1989	955	2.59	2283	991	2.89	2543	1023	3.19	2805
2300	846	1.84	1630	910	2.25	2015	959	2.61	2300	995	2.91	2563	1028	3.21	2827
2400	853	1.88	1665	912	2.31	2041	967	2.68	2360	1003	2.99	2631	1036	3.30	2902
2500	859	1.94	1718	919	2.37	2093	971	2.73	2403	1007	3.05	2681	1041	3.36	2956
2550	864	1.99	1761	920	2.39	2110	974	2.76	2428	1010	3.08	2710	1044	3.40	2989
2660	868	2.04	1805	921	2.41	2136	976	2.78	2445	1012	3.10	2730	1046	3.42	3011
2700	878	2.16	1910	928	2.45	2162	983	2.88	2529	1020	3.21	2828	1053	3.54	3119
2800	889	2.29	2023	937	2.57	2266	986	2.91	2554	1023	3.25	2857	1057	3.58	3181
2900	900	2.41	2128	947	2.70	2377	993	3.01	2637	1030	3.36	2955	1064	3.70	3260
3000	910	2.52	2223	958	2.85	2504	1002	3.15	2751	1039	3.51	3093	1074	3.88	3411
3100	920	2.64	2326	968	2.99	2620	1012	3.30	2870	1050	3.68	3240	1084	4.06	3574
3200	931	2.76	2428	979	3.13	2735	1023	3.47	3002	1061	3.87	3407	—	—	—
3300	942	2.89	2537	989	3.26	2839	1034	3.63	3121	1072	4.05	3564	—	—	—
3400	954	3.02	2645	1000	3.40	2948	1044	3.79	3237	—	—	—	—	—	—
3500	966	3.15	2751	1011	3.55	3062	1054	3.94	3340	—	—	—	—	—	—
3600	978	3.30	2870	1022	3.69	3165	1065	4.10	3445	—	—	—	—	—	—
3700	990	3.45	2987	1034	3.84	3272	—	—	—	—	—	—	—	—	—
3750	997	3.54	3055	1040	3.93	3333	—	—	—	—	—	—	—	—	—

LEGEND

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

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

NOTES:

- 1. Boldface** indicates field-supplied drive is required.
- 2. [Shaded Box]** indicates field-supplied motor and drive are required.

3. Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOF static pressure information.
4. Maximum continuous bhp is 3.7 and the maximum continuous watts are 3313. 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. See Evaporator-Fan Motor Performance table on page 50 for additional information.
5. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
6. Interpolation is permissible. Do not extrapolate.



FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50TFF009 (8 1/2 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	1321	841	2.15	1901
3300	598	1.03	940	671	1.32	1182	739	1.62	1439	795	1.91	1691	851	2.26	1997
3400	610	1.10	998	682	1.41	1258	750	1.72	1526	806	2.01	1779	860	2.36	2084
3500	623	1.17	1056	694	1.50	1335	761	1.82	1613	817	2.11	1866	870	2.47	2180
3600	636	1.25	1123	707	1.60	1422	772	1.93	1709	828	2.23	1971	880	2.57	2266
3700	649	1.33	1190	720	1.71	1517	783	2.03	1796	840	2.35	2076	890	2.69	2369
3750	655	1.37	1224	727	1.77	1569	789	2.09	1849	846	2.42	2136	896	2.75	2420
3800	661	1.41	1258	733	1.82	1613	795	2.15	1901	852	2.48	2188	901	2.80	2462
3900	674	1.49	1327	746	1.93	1709	806	2.26	1997	863	2.61	2300	912	2.93	2571
4000	687	1.57	1396	759	2.05	1814	817	2.38	2102	874	2.75	2420	923	3.08	2694
4100	699	1.60	1473	772	2.17	1919	828	2.50	2206	885	2.88	2529	935	3.23	2815
4200	712	1.75	1552	785	2.30	2032	840	2.64	2326	897	3.03	2653	947	3.39	2940
4250	719	1.80	1595	792	2.37	2093	846	2.71	2386	903	3.10	2710	—	—	—

50TFF009 (8 1/2 TONS) — STANDARD MOTOR (BELT DRIVE)* (cont)

Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2550	836	1.83	1621	887	2.13	1884	931	2.45	2162	964	2.77	2436	986	3.11	2718
2660	839	1.87	1656	891	2.17	1919	936	2.49	2197	973	2.82	2479	999	3.16	2759
2700	846	1.95	1726	898	2.26	1997	946	2.58	2275	987	2.91	2554	1019	3.26	2839
2800	855	2.04	1805	906	2.35	2076	954	2.67	2352	997	3.01	2637	1034	3.36	2917
2900	863	2.13	1884	913	2.44	2154	961	2.77	2436	1006	3.12	2727	—	—	—
3000	872	2.22	1962	921	2.54	2240	969	2.88	2529	1014	3.22	2807	—	—	—
3100	882	2.33	2058	930	2.65	2335	976	2.99	2620	1021	3.34	2902	—	—	—
3200	892	2.45	2162	939	2.76	2428	984	3.10	2710	—	—	—	—	—	—
3300	902	2.57	2266	948	2.88	2529	993	3.21	2799	—	—	—	—	—	—
3400	912	2.69	2369	958	3.01	2637	1002	3.34	2902	—	—	—	—	—	—
3500	921	2.82	2479	968	3.15	2751	—	—	—	—	—	—	—	—	—
3600	930	2.95	2587	978	3.29	2862	—	—	—	—	—	—	—	—	—
3700	940	3.07	2686	—	—	—	—	—	—	—	—	—	—	—	—
3750	945	3.14	2743	—	—	—	—	—	—	—	—	—	—	—	—
3800	949	3.20	2781	—	—	—	—	—	—	—	—	—	—	—	—
3900	959	3.33	2894	—	—	—	—	—	—	—	—	—	—	—	—
4000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

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

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

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. 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 50.
4. Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOP static pressure information.
5. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
6. Interpolation is permissible. Do not extrapolate.

Performance data (cont)



FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50TFF009 (8 1/2 TONS) — HIGH-STATIC MOTOR (BELT DRIVE)*

Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
2550	550	0.69	669	627	0.94	867	692	1.17	1056	754	1.45	1292	812	1.74	1543
2660	557	0.72	692	634	0.97	891	698	1.21	1089	759	1.49	1327	816	1.79	1587
2700	573	0.79	747	648	1.05	956	711	1.29	1156	770	1.58	1404	827	1.88	1665
2800	588	0.86	803	662	1.13	1022	723	1.38	1233	782	1.66	1473	837	1.98	1753
2900	604	0.94	867	676	1.21	1089	737	1.48	1318	794	1.76	1560	848	2.08	1840
3000	620	1.02	932	690	1.30	1165	750	1.58	1404	806	1.86	1648	849	2.18	1927
3100	636	1.11	1006	704	1.39	1241	764	1.69	1499	818	1.97	1744	870	2.29	2023
3200	652	1.21	1089	718	1.49	1327	778	1.80	1595	831	2.09	1849	882	2.40	2119
3300	668	1.31	1173	732	1.59	1413	793	1.92	1700	844	2.21	1954	894	2.53	2232
3400	684	1.41	1258	747	1.70	1508	807	2.04	1805	857	2.35	2076	907	2.66	2343
3500	701	1.53	1361	762	1.82	1613	821	2.16	1910	871	2.48	2188	919	2.80	2462
3600	717	1.65	1465	777	1.94	1718	835	2.29	2023	885	2.63	2317	932	2.95	2587
3700	733	1.77	1569	792	2.07	1831	849	2.42	2136	899	2.78	2445	945	3.11	2718
3750	742	1.84	1630	800	2.14	1892	856	2.49	2197	907	2.86	2512	952	3.20	2719
3800	750	1.90	1683	807	2.21	1954	863	2.56	2257	914	2.93	2571	958	3.28	2854
3900	767	2.04	1805	822	2.35	2076	877	2.71	2386	928	3.09	2702	972	3.45	2987
4000	783	2.18	1927	838	2.50	2206	891	2.86	2512	942	3.26	2839	986	3.63	3121
4100	800	2.34	2067	854	2.66	2343	905	3.02	2645	956	3.43	2971	1000	3.81	3251
4200	817	2.49	2197	869	2.82	2479	920	3.19	2783	970	3.60	3099	1015	4.00	3380
4250	826	2.58	2275	877	2.91	2554	928	3.28	2854	977	3.69	3165	1022	4.10	3445

50TFF009 (8 1/2 TONS) — HIGH-STATIC 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	864	1.99	1761	920	2.39	2110	974	2.76	2428	1005	3.04	2672	1034	3.31	2910
2660	868	2.04	1805	921	2.41	2136	976	2.78	2445	1008	3.06	2691	1037	3.33	2931
2700	878	2.16	1910	928	2.45	2162	983	2.88	2529	1015	3.17	2788	1044	3.45	3036
2800	889	2.29	2023	937	2.57	2266	986	2.91	2554	1018	3.20	2817	1047	3.49	3068
2900	900	2.41	2128	947	2.70	2377	993	3.01	2637	1025	3.31	2914	1055	3.61	3174
3000	910	2.52	2223	958	2.85	2504	1002	3.15	2751	1034	3.47	3049	1064	3.77	3321
3100	920	2.64	2326	968	2.99	2620	1012	3.30	2870	1045	3.63	3195	1075	3.95	3479
3200	931	2.76	2428	979	3.13	2735	1023	3.47	3002	1056	3.82	3359	1087	4.16	3659
3300	942	2.89	2537	989	3.26	2839	1034	3.63	3121	1067	3.99	3514	—	—	—
3400	954	3.02	2645	1000	3.40	2948	1044	3.79	3237	1078	4.17	3669	—	—	—
3500	966	3.15	2751	1011	3.55	3062	1054	3.94	3340	—	—	—	—	—	—
3600	978	3.30	2870	1022	3.69	3165	1065	4.10	3445	—	—	—	—	—	—
3700	990	3.45	2987	1034	3.84	3272	—	—	—	—	—	—	—	—	—
3750	997	3.54	3055	1040	3.93	3333	—	—	—	—	—	—	—	—	—
3800	1003	3.62	3114	1045	4.01	3387	—	—	—	—	—	—	—	—	—
3900	1015	3.80	3244	1057	4.18	3495	—	—	—	—	—	—	—	—	—
4000	1028	3.99	3373	—	—	—	—	—	—	—	—	—	—	—	—
4100	1042	4.18	3495	—	—	—	—	—	—	—	—	—	—	—	—
4200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

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

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

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. indicates field-supplied motor and drive are required.

3. Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOP static pressure information.
4. Maximum continuous bhp is 3.7 and the maximum continuous watts are 3313. 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. See Evaporator-Fan Motor Performance table on page 50 for additional information.
5. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details.
6. Interpolation is permissible. Do not extrapolate.



FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50TFF012 (10 TONS)*															
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	900	2.99	2698
5000	710	2.45	2212	766	2.47	2230	818	2.61	2353	866	2.86	2578	910	3.12	2819

50TFF012 (10 TONS)* (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	1034	3.00	2707
4000	875	2.22	1962	915	2.42	2186	960	2.65	2389	1000	2.87	2587	1039	3.10	2800
4100	883	2.32	2050	924	2.54	2291	966	2.76	2487	1008	2.99	2698	1046	3.21	2904
4200	889	2.41	2177	934	2.65	2389	972	2.87	2587	1015	3.12	2819	1053	3.34	3029
4300	896	2.51	2265	943	2.77	2406	980	2.99	2698	1021	3.23	2923	1061	3.48	3166
4400	903	2.62	2362	951	2.89	2603	990	3.12	2819	1028	3.36	3049	1068	3.61	3241
4500	912	2.74	2469	958	3.00	2707	999	3.26	2982	1035	3.51	3161	1074	3.74	3346
4600	921	2.87	2587	965	3.11	2810	1008	3.39	3078	1041	3.68	3295	1081	3.90	3450
4700	930	3.00	2707	972	3.23	2923	1017	3.45	3224	1048	3.80	3436	1088	4.13	3552
4800	938	3.14	2838	980	3.37	3058	1025	3.55	3362	1055	3.85	3584	1095	4.30	3653
4900	946	3.27	2962	990	3.51	3149	1034	3.71	3505	1062	3.98	3741	1101	4.45	3753
5000	954	3.39	3078	998	3.62	3271	1042	3.85	3654	1068	4.08	3907	1108	4.59	3851

LEGEND

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

*Standard motor drive range: 685 to 935 rpm. Alternate motor drive range: 835 to 1085 rpm. High static motor drive range: 830 to 1130 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. indicates high-static motor and drive are required.
3. Maximum usable watts input is 2120 with standard motor, 2615 with alternate motor, and 4400 for the high-static motor. Maximum

continuous bhp is 2.40 with standard motor, 2.90 with alternate motor and 5.25 with high-static 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.

4. Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FIOP static pressure information.
5. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details. For additional information on motor performance, refer to Evaporator-Fan Motor Performance table on page 50.
6. Interpolation is permissible. Do not extrapolate.

Performance data (cont)



FAN PERFORMANCE — HORIZONTAL DISCHARGE UNITS (cont)

50TFF014 (12½ TONS)*															
Airflow (Cfm)	External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3700	607	0.97	947	670	1.18	1113	732	1.37	1267	782	1.56	1423	833	1.73	1565
3800	621	1.05	1010	681	1.25	1170	742	1.45	1332	795	1.66	1506	842	1.82	1641
3900	636	1.13	1073	693	1.32	1226	751	1.53	1398	808	1.76	1590	851	1.92	1725
4000	650	1.21	1137	705	1.40	1291	761	1.61	1464	819	1.86	1674	861	2.02	1811
4100	665	1.30	1210	717	1.48	1357	772	1.71	1548	830	1.96	1759	871	2.13	1905
4200	680	1.39	1283	728	1.57	1431	783	1.81	1632	839	2.05	1836	883	2.25	2009
4300	696	1.49	1365	739	1.66	1506	794	1.91	1717	848	2.14	1914	896	2.38	2123
4400	711	1.60	1456	750	1.75	1582	805	2.02	1811	857	2.24	2000	908	2.51	2237
4500	727	1.70	1540	762	1.85	1666	817	2.12	1897	867	2.35	2096	919	2.63	2343
4600	742	1.82	1641	774	1.96	1759	828	2.23	1992	877	2.46	2193	929	2.75	2450
4700	758	1.94	1742	786	2.07	1854	840	2.34	2088	888	2.59	2307	938	2.87	2557
4800	773	2.06	1845	799	2.18	1948	852	2.46	2193	899	2.72	2423	947	2.98	2656
4900	789	2.19	1957	812	2.30	2053	863	2.57	2290	910	2.86	2548	957	3.11	2773
5000	805	2.32	2070	826	2.43	2166	875	2.70	2405	921	2.99	2665	966	3.24	2891
5100	821	2.47	2202	840	2.57	2290	887	2.83	2521	932	3.13	2792	976	3.38	3019
5200	837	2.61	2325	854	2.71	2414	898	2.96	2638	943	3.28	2928	987	3.53	3157
5300	853	2.76	2459	868	2.85	2539	909	3.09	2755	955	3.42	3056	998	3.69	3304
5400	869	2.92	2602	882	3.01	2683	920	3.24	2891	967	3.57	3193	1009	3.86	3461
5500	885	3.09	2755	897	3.17	2828	932	3.38	3019	978	3.72	3331	1029	4.03	3618
5600	901	3.26	2910	911	3.33	2973	943	3.54	3166	990	3.87	3470	1031	4.20	3775
5700	917	3.44	3074	926	3.50	3129	956	3.70	3313	1002	4.03	3618	1042	4.38	3943
5800	933	3.62	3239	941	3.68	3294	968	3.87	3470	1013	4.20	3775	1053	4.56	4111
5900	949	3.81	3414	956	3.87	3470	981	4.05	3637	1025	4.37	3934	1065	4.74	4279
6000	965	4.01	3600	972	4.06	3646	995	4.23	3804	1037	4.55	4102	1076	4.92	4447
6100	981	4.21	3785	987	4.26	3832	1008	4.42	3981	1042	4.73	4270	1088	5.10	4614
6200	997	4.42	3981	1002	4.46	4018	1022	4.62	4167	1058	4.91	4437	—	—	—
6300	1014	4.64	4186	1018	4.68	4223	1036	4.83	4363	1070	5.11	4624	—	—	—

50TFF014 (12½ TONS)* (cont)															
Airflow (Cfm)	External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts	Rpm	Bhp	Watts
3700	879	1.95	1751	927	2.17	1940	973	2.38	2123	1013	2.57	2290	1046	2.73	2432
3800	889	2.03	1819	934	2.26	2018	980	2.48	2210	1022	2.69	2396	1058	2.87	2557
3900	898	2.12	1897	942	2.36	2105	987	2.59	2307	1030	2.81	2503	1068	3.01	2683
4000	908	2.21	1974	950	2.46	2193	994	2.70	2405	1037	2.92	2602	1077	3.14	2801
4100	917	2.32	2070	960	2.55	2272	1001	2.81	2503	1045	3.04	2710	1085	3.21	2919
4200	925	2.44	2175	969	2.65	2370	1009	2.92	2602	1051	3.17	2828	1092	3.40	3037
4300	935	2.56	2281	979	2.77	2468	1018	3.03	2701	1058	3.29	2937	1100	3.53	3157
4400	945	2.68	2387	988	2.89	2575	1028	3.14	2801	1066	3.41	3047	1106	3.67	3285
4500	955	2.82	2512	996	3.02	2692	1037	3.25	2901	1074	3.54	3166	1113	3.81	3414
4600	967	2.96	2638	1005	3.16	2819	1046	3.38	3019	1084	3.66	3276	1121	3.95	3544
4700	980	3.11	2773	1015	3.30	2946	1056	3.52	3147	1093	3.79	3396	1129	4.09	3674
4800	992	3.26	2910	1025	3.45	3083	1064	3.67	3285	1103	3.92	3516	1137	4.22	3795
4900	1003	3.41	3047	1036	3.61	3230	1073	3.83	3433	1112	4.07	3655	1147	4.36	3925
5000	1014	3.56	3184	1049	3.79	3396	1083	4.00	3590	1121	4.23	3804	1157	4.50	4055
5100	1024	3.71	3322	1061	3.96	3553	1093	4.17	3748	1129	4.40	3962	1166	4.66	4202
5200	1033	3.84	3442	1073	4.14	3720	1103	4.34	3906	1138	4.58	4130	1175	4.82	4354
5300	1042	3.98	3572	1084	4.31	3878	1115	4.53	4157	1148	4.76	4326	1184	5.01	4531
5400	1051	4.14	3720	1095	4.49	4046	1128	4.74	4279	1158	4.95	4475	1193	5.20	4707
5500	1061	4.30	3818	1105	4.66	4204	1140	4.94	4465	1168	5.15	4661	—	—	—
5600	1071	4.46	4018	1114	4.81	4344	1152	5.14	4652	—	—	—	—	—	—
5700	1081	4.64	4186	1123	4.98	4503	—	—	—	—	—	—	—	—	—
5800	1092	4.84	4372	1132	5.15	4661	—	—	—	—	—	—	—	—	—
5900	1103	5.04	4558	—	—	—	—	—	—	—	—	—	—	—	—
6000	1114	5.24	4745	—	—	—	—	—	—	—	—	—	—	—	—
6100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

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

*Standard motor drive range: 860 to 1080 rpm. Alternate motor drive range: 900 to 1260 rpm. All other rpms require field-supplied drive.

NOTES:

1. **Boldface** indicates field-supplied drive is required.
2. indicates alternate motor and drive are required.

3. Maximum usable watts input is 3313 with standard motor and 4400 with alternate motor. Maximum continuous bhp is 3.70 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.
4. Values include losses for filters, unit casing, and wet coils. See page 47 for accessory/FLOP static pressure information.
5. Use of a field-supplied motor may affect wire sizing. Contact your Carrier representative for details. For additional information on motor performance, refer to Evaporator-Fan Motor Performance table on page 50.
6. Interpolation is permissible. Do not extrapolate.



ACCESSORY/FIOP STATIC PRESSURE (in. wg) — 50TFF004-007

COMPONENT	CFM									
	900	1200	1400	1600	1800	2000	2200	2400	2600	3000
1 Heater Module	0.05	0.07	0.09	0.09	0.10	0.11	0.11	0.12	0.13	0.15
2 Heater Modules	0.15	0.16	0.16	0.16	0.17	0.17	0.17	0.18	0.18	0.19
Durablade Economizer	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
EconoMi\$er	0.05	0.09	0.13	0.17	0.22	0.27	0.32	0.39	0.45	0.53

LEGEND

FIOP — Factory-Installed Option

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

ACCESSORY/FIOP STATIC PRESSURE* (in. wg) — 50TFF008-014

COMPONENT	CFM									
	2250	2500	3000	3500	4000	4500	5000	5500	6000	6250
1 Heater Module	0.02	0.03	0.05	0.07	0.08	0.10	0.12	0.14	0.16	0.17
2 Heater Modules	0.03	0.05	0.07	0.09	0.12	0.14	0.16	0.19	0.21	0.20
Durablade Economizer	0.02	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.09
EconoMi\$er	0.07	0.09	0.13	0.18	0.23	0.30	0.36	—	—	—

LEGEND

FIOP — Factory-Installed Option

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

FAN RPM AT MOTOR PULLEY SETTINGS*

UNIT 50TFF	MOTOR PULLEY TURNS OPEN												
	0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6
004†	1000	976	952	928	904	880	856	832	808	784	760	—	—
004**	1455	1423	1392	1360	1328	1297	1265	1233	1202	1170	1138	1107	1075
005†	1185	1150	1115	1080	1045	1010	975	940	905	870	835	—	—
005**	1455	1423	1392	1360	1328	1297	1265	1233	1202	1170	1138	1107	1075
006†	1300	1260	1220	1180	1140	1100	1060	1020	980	940	900	—	—
006**	1685	1589	1557	1525	1493	1460	1428	1396	1364	1332	1300	—	—
007††	1460	1420	1380	1345	1305	1265	1225	1185	1150	1110	1070	—	—
007**	1685	1589	1557	1525	1493	1460	1428	1396	1364	1332	1300	—	—
008††	840	815	790	765	740	715	690	665	635	615	590	—	—
008 	935	910	885	860	835	810	785	760	735	710	685	—	—
008**	1080	1025	1007	988	970	952	933	915	897	878	860	—	—
009††	935	910	885	860	835	810	785	760	735	710	685	—	—
009**	1080	1025	1007	988	970	952	933	915	897	878	860	—	—
012††	935	910	885	860	835	810	785	760	735	710	685	—	—
012†	1085	1060	1035	1010	985	960	935	910	885	860	835	—	—
012**	1130	1112	1087	1062	1037	1012	987	962	937	912	887	862	830
014††	1080	1060	1035	1015	990	970	950	925	905	880	860	—	—
014†	1260	1220	1185	1155	1130	1100	1075	1045	1015	990	960	930	900

*Approximate fan rpm shown.

†Indicates alternate motor and drive package.

**Indicates high-static motor and drive package.

††Indicates standard motor and drive package.

||Indicates alternate drive package only.

Performance data (cont)



OUTDOOR SOUND DATA (Total Unit)

UNIT 50TFF	SOUND RATING (Bells)	A-WEIGHTED (db)	SOUND POWER							
			Octave Bands							
			63	125	250	500	1000	2000	4000	8000
004-007	8.1	80.5	56.8	75.8	72.4	72.9	74.8	75.4	71.3	69.1
008,009	8.7	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	8.7	86.4	83.7	87.2	83.4	82.8	83.0	77.7	71.8	67.0

LEGEND

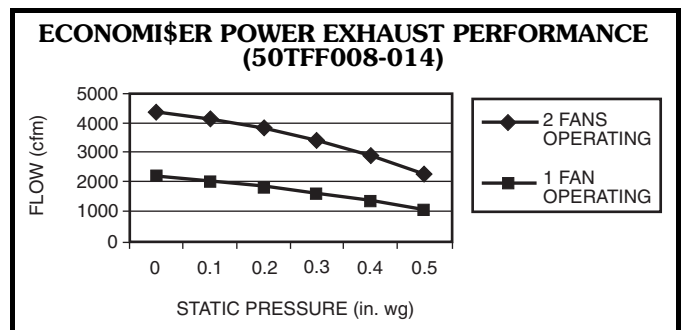
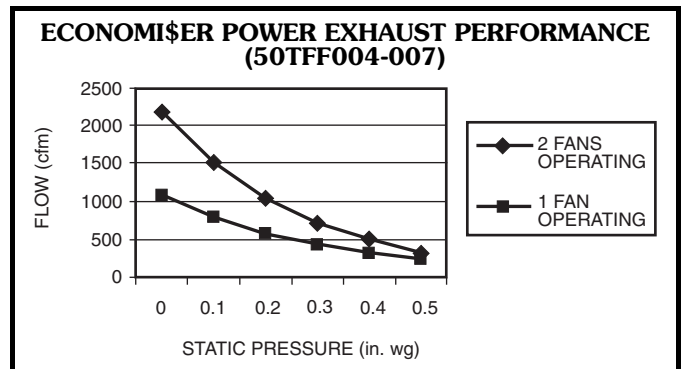
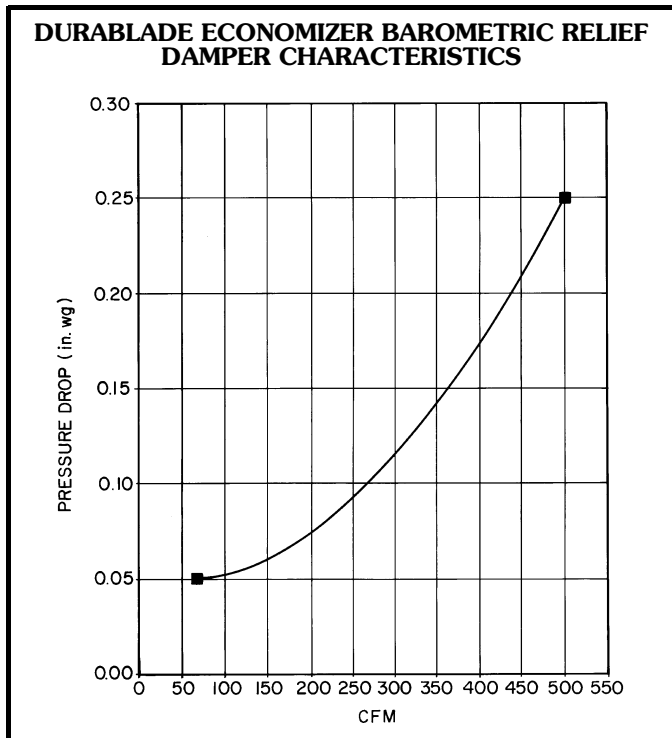
Bels — Sound Levels (1 bel = 10 decibels)

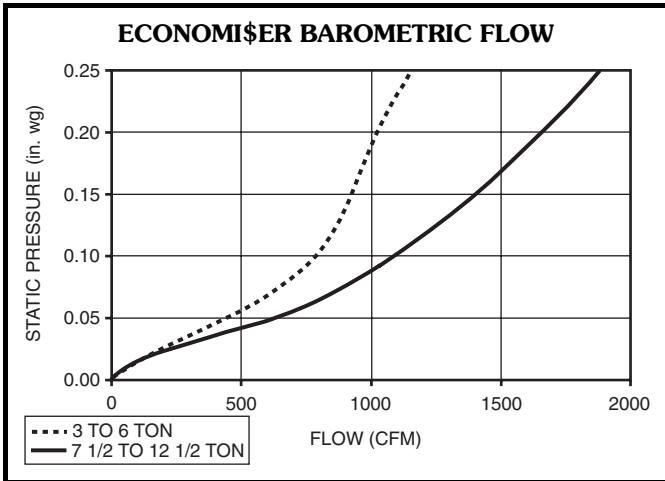
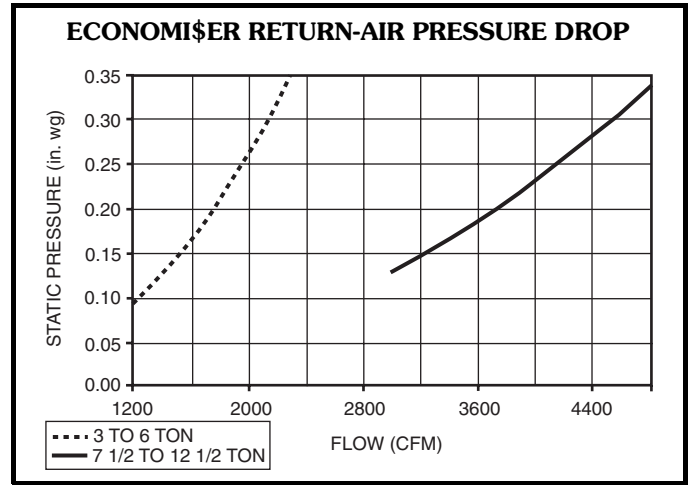
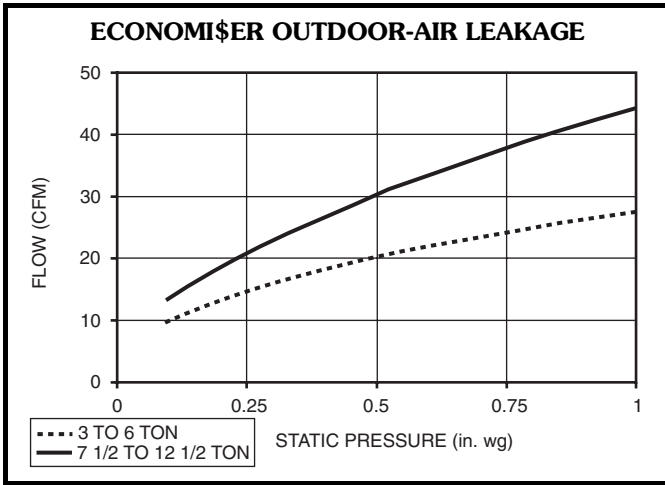
EVAPORATOR-FAN MOTOR EFFICIENCY

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

*Single-phase/three-phase.

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





Performance data (cont)



EVAPORATOR-FAN MOTOR PERFORMANCE

UNIT 50TFF	EVAPORATOR-FAN MOTOR	UNIT VOLTAGE	MAXIMUM ACCEPTABLE CONTINUOUS BHP*	MAXIMUM ACCEPTABLE OPERATING WATTS	MAXIMUM AMP DRAW
004	Standard	208/230	0.34	440	2.8
		460			1.3
		575			1.3
	Alternate	208/230	1.00	1000	4.9
		460			2.1
		575			2.1
	High Static	208/230	2.40	2120	6.0
		460			3.0
		575			3.0
005	Standard	208/230	0.75	850	3.5
		460			1.8
		575			1.8
	Alternate	208/230	1.00	1000	4.9
		460			2.1
		575			2.1
	High Static	208/230	2.40	2120	6.0
		460			3.0
		575			3.0
006	Standard	208/230	1.20	1340	5.9
		460			3.2
		575			3.2
	Alternate	208/230	1.30/2.40†	2120	10.1/6.7†
		460			3.0
		575			3.0
	High Static	208/230	2.90	2562	8.6
		460			3.9
		575			3.9
007	Standard	208/230	2.40	2120	6.7
		460			3.0
		575			3.0
	High Static	208/230	2.90	2562	8.6
		460			3.9
		575			3.9
008	Standard, Alternate	208/230	2.40	2120	6.7
		460			3.0
		575			3.0
	High Static	208/230	3.70	3313	12.2
		460			5.5
		575			5.5
009	Standard	208/230	2.40	2120	6.7
		460			3.0
		575			3.0
	High Static	208/230	3.70	3313	12.2
		460			5.5
		575			5.5
012	Standard	208/230	2.40	2120	6.7
		460			3.0
		575			3.0
	Alternate	208/230	2.90	2615	8.6
		460			3.9
		575			3.9
	High Static	208/230	5.25	4400	17.3
		460			8.5
		575			8.5
014	Standard	208/230	3.70	3313	12.2
		460			5.5
		575			5.5
	Alternate	208/230	5.25	4400	17.3
		460			8.5
		575			8.5

LEGEND

Bhp — Brake Horsepower

*Extensive motor and electrical testing on these units ensures that the full horsepower range of the motors can be utilized with confidence. Using 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/three-phase.

NOTES:

1. All indoor-fan motors 5 hp and larger meet the minimum efficiency requirements as established by the Energy Policy Act of 1992 (EPACT) effective October 24, 1997.
2. High-static motor not available on single-phase units.



ELECTRIC HEATING CAPACITIES

UNIT 50TFF	UNIT 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
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
		18.7
		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*	
		25.5*

ELECTRIC HEATING CAPACITIES (cont)

UNIT 50TFF	UNIT VOLTAGE (60 Hz)	ACCESSORY kW
007	208/230 (3 phase)	6.5
		10.5
		16.0
		21.0*
		26.5*
	460 (3 phase)	6.0
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
575 (3 phase)	17.0	
	34.0	
	10.4	
	16.0	
012,014	208/230 (3 phase)	32.0
		42.4*
		50.0*
		16.5
		27.8
	460 (3 phase)	33.0
		41.7*
		50.0*
		17.0
575 (3 phase)	34.0	
	51.0*	

*Two heater packages required to provide kW indicated.

NOTES:

1. The kW ratings shown above are at 240, 480, and 600 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

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

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

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

Electrical data — 50TFF004-007



UNIT 50TFF	NOMINAL V-Ph-Hz	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (ea)		OFM (ea)			IFM FLA	ELECTRIC HEAT*		POWER SUPPLY		DISCONNECT SIZE†		
			Min	Max	RLA	LRA	Qty	Hp	FLA		Nominal kW**	FLA	MCA	MOCP††	FLA	LRA	
004	208/230-1-60	Std	187	254	16.2	96.0	1	1/4	1.4	3.5	— 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	24.5/24.5 24.5/26.4 32.8/37.4 42.8/48.8 50.9/58.2 62.2/71.2	30/30 30/30 35/40 45/50 60/60 70/80	23/23 23/24 30/34 39/45 47/54 57/66	106/106	
		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	26.6/26.6 26.6/29.0 35.5/40.0 45.4/51.4 53.5/60.8 64.8/73.8	35/35 35/35 40/40 50/60 60/70 70/80	26/26 26/27 33/37 42/47 49/56 60/68		
	208/230-3-60	Std	187	254	10.2	75.0	1	1/4	1.4	3.5	— 3.3/ 4.4 4.9/ 6.5 6.5/ 8.7 7.9/10.5 12.0/16.0	— 9.2/10.6 13.6/15.6 18.1/20.9 21.9/25.3 33.4/38.5	17.7/17.7 17.7/17.7 21.3/23.9 27.0/30.5 31.7/35.9 46.1/52.5	25/25 25/25 25/25 30/35 35/40 50/60	17/17 17/17 20/22 25/28 29/33 42/48	85/85	
		Alt								4.9	— 3.3/ 4.4 4.9/ 6.5 6.5/ 8.7 7.9/10.5 12.0/16.0	— 9.2/10.6 13.6/15.6 18.1/20.9 21.9/25.3 33.4/38.5	19.1/19.1 19.1/19.4 23.1/25.7 28.8/32.3 33.5/37.7 47.8/54.2	25/25 25/25 25/30 30/35 35/40 50/60	19/19 19/19 21/24 26/30 31/35 44/50		90/90
		High								5.2	— 3.3/ 4.4 4.9/ 6.5 6.5/ 8.7 7.9/10.5 12.0/16.0	— 9.2/10.6 13.6/15.6 18.1/20.9 21.9/25.3 33.4/38.5	19.4/19.4 21.2/21.2 23.4/26.0 29.2/32.7 33.9/38.1 48.2/54.6	25/25 25/25 30/30 30/35 35/40 50/60	19/19 21/21 22/24 27/30 31/35 44/50		
	460-3-60	Std	414	508	4.4	40.0	1	1/4	0.8	1.3	— 6.0 8.8 11.5 14.0	— 7.2 10.6 13.8 16.8	7.6 10.6 14.9 18.9 22.7	15 15 15 20 25	7 10 14 17 21	48/48	
		Alt								2.1	— 6.0 8.8 11.5 14.0	— 7.2 10.6 13.8 16.8	8.4 11.6 15.9 19.9 23.7	15 15 20 20 25	8 11 15 18 22		48/48
		High								2.6	— 6.0 8.8 11.5 14.0	— 7.0 11.0 14.0 17.0	8.9 12.3 16.5 20.5 24.3	15 15 20 25 25	9 11 15 19 22		
	575-3-60	Std	518	632	3.7	31.0	1	1/4	0.8	1.3	—	—	6.8	15	7	35	
		Alt								2.1	—	—	7.4	15	8	37	
		High								2.6	—	—	7.8	15	7	45	
	005	208/230-1-60	Std	187	254	23.3	118.0	1	1/4	1.4	3.5	— 3.3/ 4.4 6.5/ 8.7 9.8/13.0 13.1/17.4 16.0/21.0	— 15.9/18.3 31.4/36.3 46.9/54.2 62.8/72.5 75.8/87.5	34.0/ 34.0 34.0/ 34.0 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	129/129
Alt			4.9								— 3.3/ 4.4 6.5/ 8.7 9.8/13.0 13.1/17.4 16.0/21.0	— 15.9/18.3 31.4/36.3 46.9/54.2 62.8/72.5 75.8/87.5	35.4/ 35.4 35.4/ 35.4 45.4/ 51.4 64.8/ 73.8 84.7/ 96.8 100.9/115.5	45/ 45 45/ 45 50/ 60 70/ 80 90/100 110/125	34/ 34 34/ 34 42/ 47 60/ 68 78/ 89 93/106	133/133	
208/230-3-60		Std	187	254	15.4	90.0	1	1/4	1.4	3.5	— 4.9/ 6.5 6.5/ 8.7 12.0/16.0 16.0/21.0	— 13.6/15.6 18.1/20.9 33.4/38.5 43.8/50.5	24.2/24.2 24.2/24.2 27.0/30.5 46.1/52.5 59.1/67.5	30/30 30/30 30/35 50/60 60/70	23/23 23/23 25/28 42/48 54/62		101/101
		Alt								4.9	— 4.9/ 6.5 6.5/ 8.7 12.0/16.0 16.0/21.0	— 13.6/15.6 18.1/20.9 33.4/38.5 43.8/50.5	25.6/25.6 25.6/25.7 28.8/32.3 47.8/54.2 60.8/69.3	30/30 30/30 30/35 50/60 70/70	25/25 26/26 26/30 44/50 56/64	105/105	
		High								5.2	— 4.9/ 6.5 6.5/ 8.7 12.0/16.0 16.0/21.0	— 13.6/15.6 18.1/20.9 33.4/38.5 43.8/50.5	25.9/25.9 26.4/26.4 29.2/32.7 48.2/54.6 61.2/69.6	30/30 35/35 30/35 50/60 70/70	25/25 26/26 27/30 44/50 56/64		

See Legend and Notes on page 57.



UNIT 50TFF	NOMINAL V-Ph-Hz	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (ea)		OFM (ea)			IFM FLA	ELECTRIC HEAT*		POWER SUPPLY		DISCONNECT SIZE†		
			Min	Max	RLA	LRA	Qty	Hp	FLA		Nominal kW**	FLA	MCA	MOCPT†	FLA	LRA	
005	460-3-60	Std	414	508	8.3	45.0	1	1/4	0.8	1.8	— 6.0 11.5 14.0 23.0	— 7.2 13.8 16.8 27.7	13.0 13.0 19.5 23.3 36.8	20 20 20 25 40	13 13 18 21 34	51	
		Alt								2.1	— 6.0 11.5 14.0 23.0	— 7.2 13.8 16.8 27.7	13.3 13.3 19.9 23.7 37.2	20 20 20 25 40	13 13 18 22 34		
		High								2.6	— 6.0 11.5 14.0 23.0	— 7.0 14.0 17.0 28.0	13.8 13.8 20.5 24.3 37.8	20 20 25 25 40	13 13 19 22 35		
	575-3-60	Std	518	632	6.4	36.0	1	1/4	0.8	1.8	—	—	10.1	15	10	41	
		Alt								2.1	—	—	10.3	15	11	42	
		High								2.6	—	—	10.7	15	10	50	
	006	208/230-1-60	Std	187	254	28.8	147	1	1/4	1.4	5.9	— 4.9/ 6.5 6.5/ 8.7 9.8/13.0 13.1/17.4 16.0/21.0	— 23.5/27.1 31.4/36.3 46.9/54.2 62.8/72.5 75.8/87.5	43.3/ 43.3 43.3/ 43.3 46.6/ 52.7 66.0/ 75.1 85.9/ 98.0 102.2/116.8	60/ 60 60/ 60 50/ 60 70/ 80 90/100 110/125	42/ 42 42/ 42 43/ 48 61/ 69 79/ 90 97/107	161/161
			Alt								6.6	— 4.9/ 6.5 6.5/ 8.7 9.8/13.0 13.1/17.4 16.0/21.0	— 23.5/27.1 31.4/36.3 46.9/54.2 62.8/72.5 75.8/87.5	44.0/ 44.0 44.0/ 44.0 47.5/ 53.6 66.7/ 76.0 86.8/ 98.9 103.0/117.6	60/ 60 60/ 60 60/ 60 70/ 80 90/110 110/125	42/ 42 42/ 42 44/ 49 62/ 70 80/ 91 95/108	
		208/230-3-60	Std	187	254	16.3	114	1	1/4	1.4	5.9	— 4.9/ 6.5 7.9/10.5 12.0/16.0 16.0/21.0 20.0/26.5	— 13.6/15.6 21.9/25.3 33.4/38.5 43.8/50.5 55.2/63.8	27.3/27.3 27.3/27.3 34.7/38.9 49.1/55.5 62.1/70.5 76.4/87.1	35/35 35/35 40/40 50/60 70/80 80/90	29/29 29/29 32/36 45/51 57/65 70/80	128/128
Alt			5.2								— 4.9/ 6.5 7.9/10.5 12.0/16.0 16.0/21.0 20.0/26.5	— 13.6/15.6 21.9/25.3 33.4/38.5 43.8/50.5 55.2/63.8	26.6/26.6 26.6/26.6 33.9/38.1 48.2/54.6 61.2/69.6 75.6/86.2	35/35 35/35 35/40 50/60 70/80 80/90	26/26 26/26 31/35 44/50 56/64 70/79		
460-3-60		Std	414	508	7.4	64	1	1/4	0.8	3.1	— 6.0 11.5 14.0 23.0 25.5	— 7.2 13.8 16.8 27.7 30.1	13.2 13.2 21.2 24.9 38.5 41.5	20 20 25 30 40 45	13 13 20 23 35 38	72	
		Alt								2.6	— 6.0 11.5 14.0 23.0 25.5	— 7.2 13.8 16.8 27.7 30.1	12.7 12.7 20.5 24.3 37.8 40.8	15 15 25 25 40 45	12 13 19 23 35 38		
575-3-60		Std	518	632	6.2	62	1	1/4	0.8	3.1	—	—	10.9	15	11	58	
		Alt								3.0	—	—	10.5	15	10	66	
		High								3.4	—	—	12.6	15	11	76	

Electrical data — 50TFF004-007 (cont)



UNIT 50TFF	NOMINAL V-Ph-Hz	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (ea)		OFM (ea)			IFM FLA	ELECTRIC HEAT*		POWER SUPPLY		DISCONNECT SIZE†	
			Min	Max	RLA	LRA	Qty	Hp	FLA		Nominal kW**	FLA	MCA	MOCPT†	FLA	LRA
007	208/230-3-60	Std	187	254	23.6	146	1	1/4	1.4	5.2	—	—	30.2/30.2	35/35	29/29	180/180
		4.9/ 6.5									13.6/15.6	30.2/30.2	35/35	29/29		
	7.9/10.5	21.9/25.3	33.9/38.1	35/40	31/35											
	12.0/16.0	33.4/38.5	48.2/54.6	50/60	44/50											
	15.8/21.0	43.8/50.5	61.2/69.6	70/70	56/64											
	19.9/26.5	55.2/63.8	75.6/86.2	80/90	70/79											
High	414	508	10.6	73	1	1/4	0.6	2.6	—	—	32.5/32.5	40/40	32/32	205/205		
4.9/ 6.5									13.6/15.6	38.4/38.4	45/45	37/37				
7.9/10.5	21.9/25.3	36.7/40.9	40/45	37/38												
12.0/16.0	33.4/38.5	51.1/57.5	60/60	47/53												
15.8/21.0	43.8/50.5	64.1/72.5	70/80	59/67												
19.9/26.5	55.2/63.8	78.4/89.1	80/90	72/82												
460-3-60	Std	414	508	10.6	73	1	1/4	0.6	2.6	—	—	15.4	20	15	90	
	6.0									7.2	15.4	20	15			
11.5	13.8	20.5	25	19												
14.0	16.8	24.3	25	22												
23.0	27.7	37.8	40	35												
25.5	30.7	41.6	45	38												
High	518	632	8.5	58.4	1	1/4	0.6	2.6	—	—	16.1	20	16	103		
6.0									7.0	17.5	25	17				
11.5	14.0	21.5	25	20												
14.0	17.0	25.3	30	23												
23.0	28.0	38.8	40	36												
25.5	31.0	42.6	45	39												
575-3-60	Std	518	632	8.5	58.4	1	1/4	0.6	2.6	—	—	12.3	15	13	72	
	3.4								—	—	12.9	20	14	82		

See Legend and Notes on page 57.

Electrical data — 50TFF008-014



UNIT 50TFF	NOMINAL V-Ph-Hz	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (ea)		OFM (ea)			IFM FLA	ELECTRIC HEAT*		POWER SUPPLY		DISCONNECT SIZE†	
			Min	Max	RLA	LRA	Qty	Hp	FLA		Nominal kW**	FLA	MCA	MOCPP††	FLA	LRA
			008	208/230-3-60	Std and Alt	187	254	14.0	91.0		2	1/4	1.4	5.8	—	—
7.8/10.4	21.7/ 25.0	40.1/ 40.1								45/ 45					42/ 42	
12.0/16.0	33.4/ 38.5	48.9/ 55.4			50/ 60					45/ 51						
18.6/24.8	51.7/ 59.7	71.9/ 81.8			80/ 90					66/ 75						
High	Std and Alt	414		508	6.4	42.0	2	1/4	0.7	2.8	—	—	18.4	20	19	138
											13.9	16.7	26.9	30	25	
	16.5										19.8	28.1	30	26		
	27.8										33.4	45.0	50	41		
High	Std and Alt	518		632	5.2	39.0	2	1/4	0.7	2.6	—	—	14.9	20	16	97
											17.0	17.1	23.9	25	22	
	34.0										34.1	45.3	50	42		
	—										—	16.7	20	18		
High	Std and Alt	518	632	5.2	39.0	2	1/4	0.7	4.8	—	—	16.7	20	18	114	
										17.0	17.1	26.1	30	24		
	34.0									34.1	47.5	50	44			
	—									—	20.6	25	22			
009	208/230-3-60	Std	187	254	16.0	137.0	2	1/4	1.4	5.8	—	—	44.6/ 44.6	50/ 50	47/ 47	321/321
											7.8/10.4	21.7/ 25.0	44.6/ 44.6	50/ 50	47/ 47	
		12.0/16.0									33.4/ 38.5	48.9/ 55.4	50/ 60	47/ 51		
		18.6/24.8									51.7/ 59.7	71.9/ 81.8	80/ 90	66/ 75		
	High	Std	414	508	8.3	69.0	2	1/4	0.7	2.6	—	—	22.7	25	24	161
											13.9	16.7	24.1	25	24	
		16.5									19.8	28.1	30	26		
		27.8									33.4	45.0	50	41		
	High	Std	518	632	6.4	58.0	2	1/4	0.7	2.6	—	—	17.6	20	18	135
											17.0	17.1	23.9	25	22	
		34.0									34.1	45.3	50	42		
		—									—	19.4	25	20		
High	Std	518	632	6.4	58.0	2	1/4	0.7	4.8	—	—	19.4	25	20	152	
										17.0	17.1	26.1	30	24		
	34.0									34.1	47.5	50	44			
	—									—	24.9	30	26			
012	208/230-3-60	Std	187	254	15.8	130.0	2	1/4	1.4	5.8	—	—	44.2/ 44.2	50/ 50	46/ 46	307/307
											7.8/10.4	21.7/ 25.0	44.2/ 44.2	50/ 50	45/ 45	
		12.0/16.0									33.4/ 38.5	48.9/ 55.4	60/ 60	45/ 51		
		24.0/32.0									66.7/ 77.0	90.6/103.5	100/110	83/ 95		
	Alt	Std	187	254	15.8	130.0	2	1/4	1.4	7.5	—	—	45.9/ 45.9	50/ 50	48/ 48	326/326
											7.8/10.4	21.7/ 25.0	45.9/ 45.9	50/ 50	47/ 47	
		12.0/16.0									33.4/ 38.5	51.1/ 57.5	60/ 60	47/ 53		
		24.0/32.0									66.7/ 77.0	92.8/105.6	100/110	85/ 97		
	High	Std	187	254	15.8	130.0	2	1/4	1.4	15.0	—	—	53.4/ 53.4	50/ 50	57/ 57	374/374
											7.8/10.4	21.7/ 25.0	53.4/ 53.4	60/ 60	56/ 56	
		12.0/16.0									33.4/ 38.5	60.4/ 66.9	60/ 80	56/ 62		
		24.0/32.0									66.7/ 77.0	102.1/115.0	110/125	94/106		
High	Std	187	254	15.8	130.0	2	1/4	1.4	15.0	—	—	119.9/136.9	125/150	110/126	374/374	
										7.8/10.4	21.7/ 25.0	119.9/136.9	125/150	110/126		
	12.0/16.0									33.4/ 38.5	139.7/159.7	150/175	128/147			
	24.0/32.0									66.7/ 77.0	149.0/169.0	150/175	137/156			

Electrical data — 50TFF008-014 (cont)



UNIT 50TFF	NOMINAL V-Ph-Hz	IFM TYPE	VOLTAGE RANGE		COMPRESSOR (ea)		OFM (ea)			IFM FLA	ELECTRIC HEAT*		POWER SUPPLY		DISCONNECT SIZE†									
			Min	Max	RLA	LRA	Qty	Hp	FLA		Nominal kW**	FLA	MCA	MOCP††	FLA	LRA								
012	460-3-60	Std	414	508	7.9	64.0	2	1/4	0.7	2.6	—	—	21.8	25	23	152								
											16.5	19.8	28.1	30	26									
											27.8	33.4	45.0	50	41									
		33.0									39.7	52.9	60	49										
		41.7									50.2	65.9	70	61										
		50.0									60.1	63.4	70	72										
	Alt	414	508	7.9	64.0	2	1/4	0.7	3.4	—	—	22.6	25	24	191									
										16.5	19.8	29.1	30	27										
										27.8	33.4	46.0	50	42										
High	414	508	7.9	64.0	2	1/4	0.7	7.4	—	—	26.6	30	28	185										
									16.5	19.8	34.1	35	31											
									27.8	33.4	51.0	60	47											
014	208/230-3-60	Std	187	254	23.0	146.0	2	1/4	1.4	10.6	—	—	65.2/ 65.2	80/ 80	68/ 68	383/383								
											7.8/10.4	21.7/ 25.0	65.2/ 65.2	80/ 80	68/ 68									
											12.0/16.0	33.4/ 38.5	65.2/ 65.2	70/ 70	68/ 68									
		24.0/32.0									66.7/ 77.0	96.6/109.5	100/110	89/101										
		31.9/42.4									88.4/102.0	123.7/140.8	125/150	114/129										
		37.5/50.0									104.2/120.3	143.5/163.6	150/175	132/151										
	Alt	187	254	23.0	146.0	2	1/4	1.4	15.0	—	—	69.6/ 69.6	80/ 80	73/ 73	406/406									
										7.8/10.4	21.7/ 25.0	69.6/ 69.6	80/ 80	73/ 73										
										12.0/16.0	33.4/ 38.5	69.6/ 69.6	80/ 80	73/ 73										
460-3-60	Std	414	508	10.4	73.0	2	1/4	0.7	4.8	—	—	29.6	40	31	192									
										16.5	19.8	30.8	40	31										
										27.8	33.4	47.8	50	44										
	33.0									39.7	55.6	60	51											
	41.7									50.2	68.7	70	63											
	50.0									60.1	66.1	80	75											
Alt	414	508	10.4	73.0	2	1/4	0.7	7.4	—	—	32.2	45	34	203										
									16.5	19.8	34.1	45	34											
									27.8	33.4	51.0	60	47											
575-3-60	Std	518	632	8.3	58.4	2	1/4	0.7	4.8	—	—	23.6	30	25	153									
										17.0	17.1	26.1	30	25										
										34.0	34.1	47.5	50	44										
	51.0									51.2	56.0	60	53											
	Alt									518	632	8.3	58.4	2		1/4	0.7	7.4	—	—	25.7	30	27	162
																			17.0	17.1	28.7	35	27	
34.0		34.1	50.1	60	46																			
										51.0	51.2	58.6	70	66										

LEGEND AND NOTES FOR ELECTRICAL DATA TABLES PAGES 52-56

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, 480 v, and 600 v. Heaters are rated at 240 v, 480 v, or 600 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 600 v capacity by multipliers found in table on page 51.

†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.

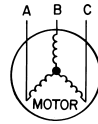
NOTES:

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.

% Voltage Imbalance

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

Example: Supply voltage is 460-3-60.



AB = 452 v
 BC = 464 v
 AC = 455 v

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

Determine maximum deviation from average voltage.

- (AB) 457 - 452 = 5 v
- (BC) 464 - 457 = 7 v
- (AC) 457 - 455 = 2 v

Maximum deviation is 7 v.

Determine percent of voltage imbalance.

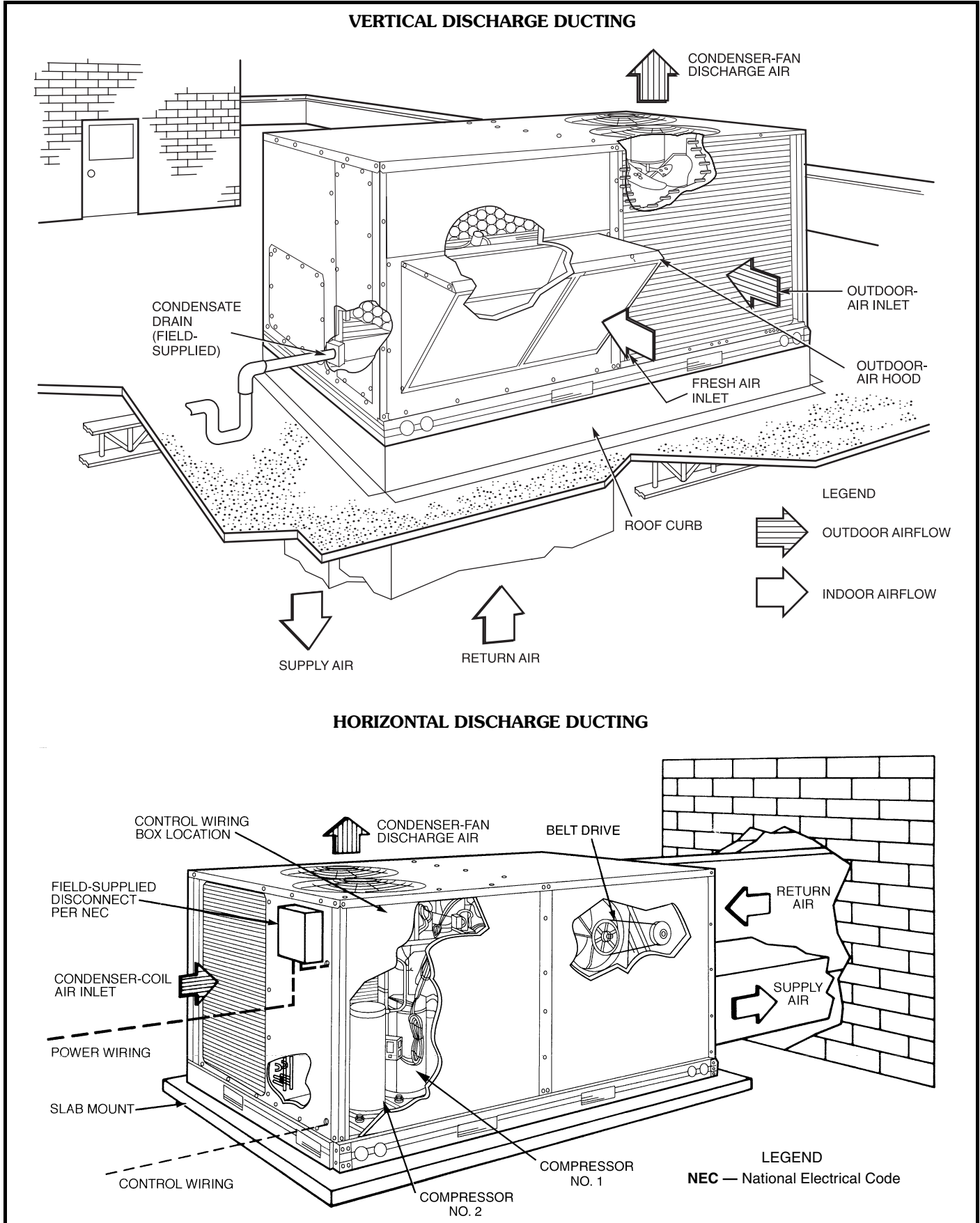
$$\begin{aligned} \% \text{ Voltage Imbalance} &= 100 \times \frac{7}{457} \\ &= 1.53\% \end{aligned}$$

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.



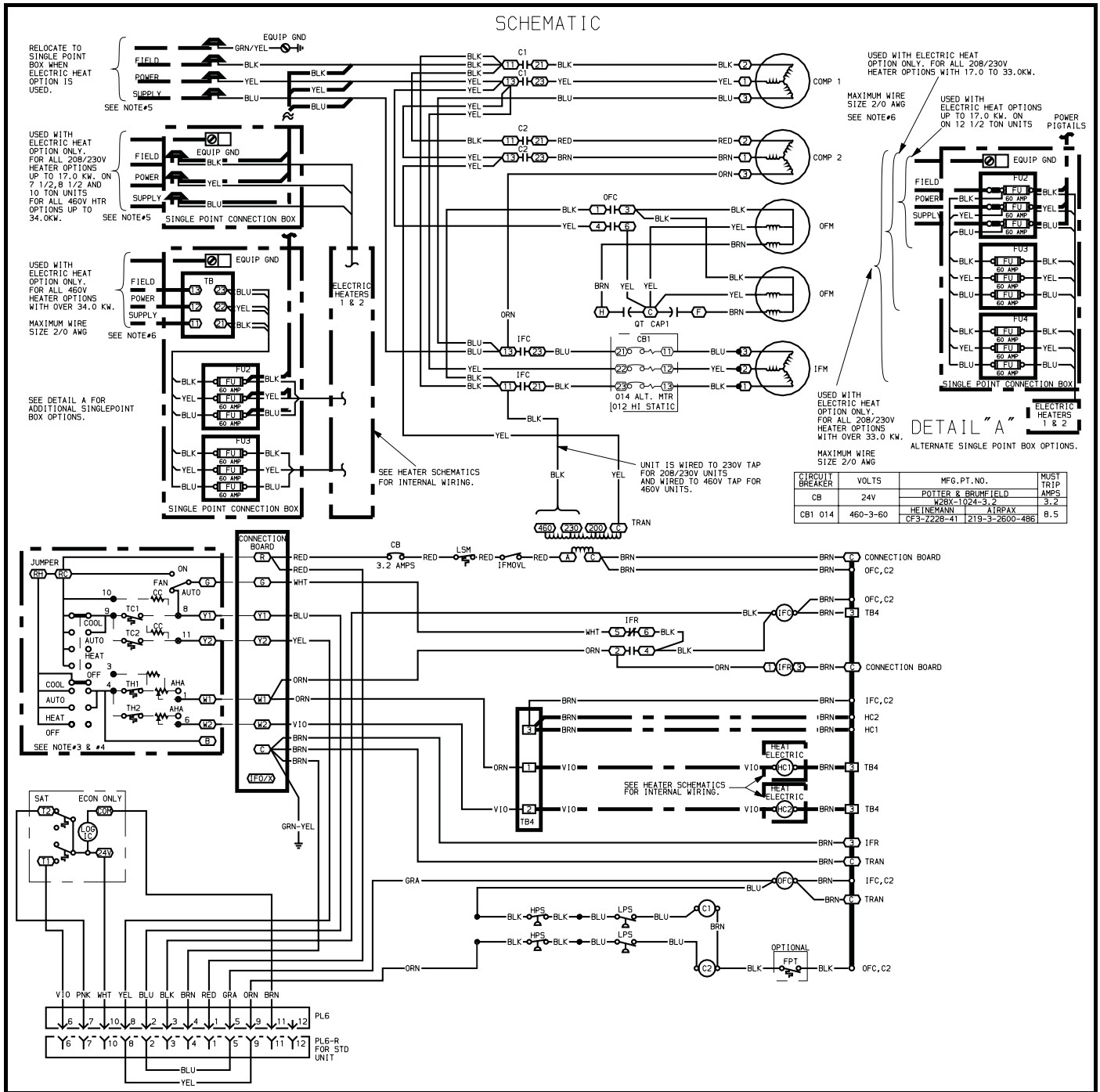
Typical piping and wiring — 50TFF004-014 (size 008-014 shown)



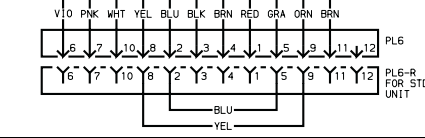
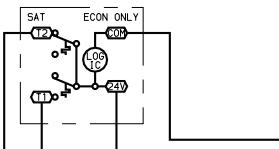
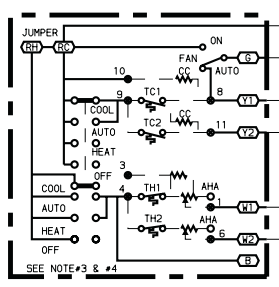
Typical wiring schematic — 50TFF008-014



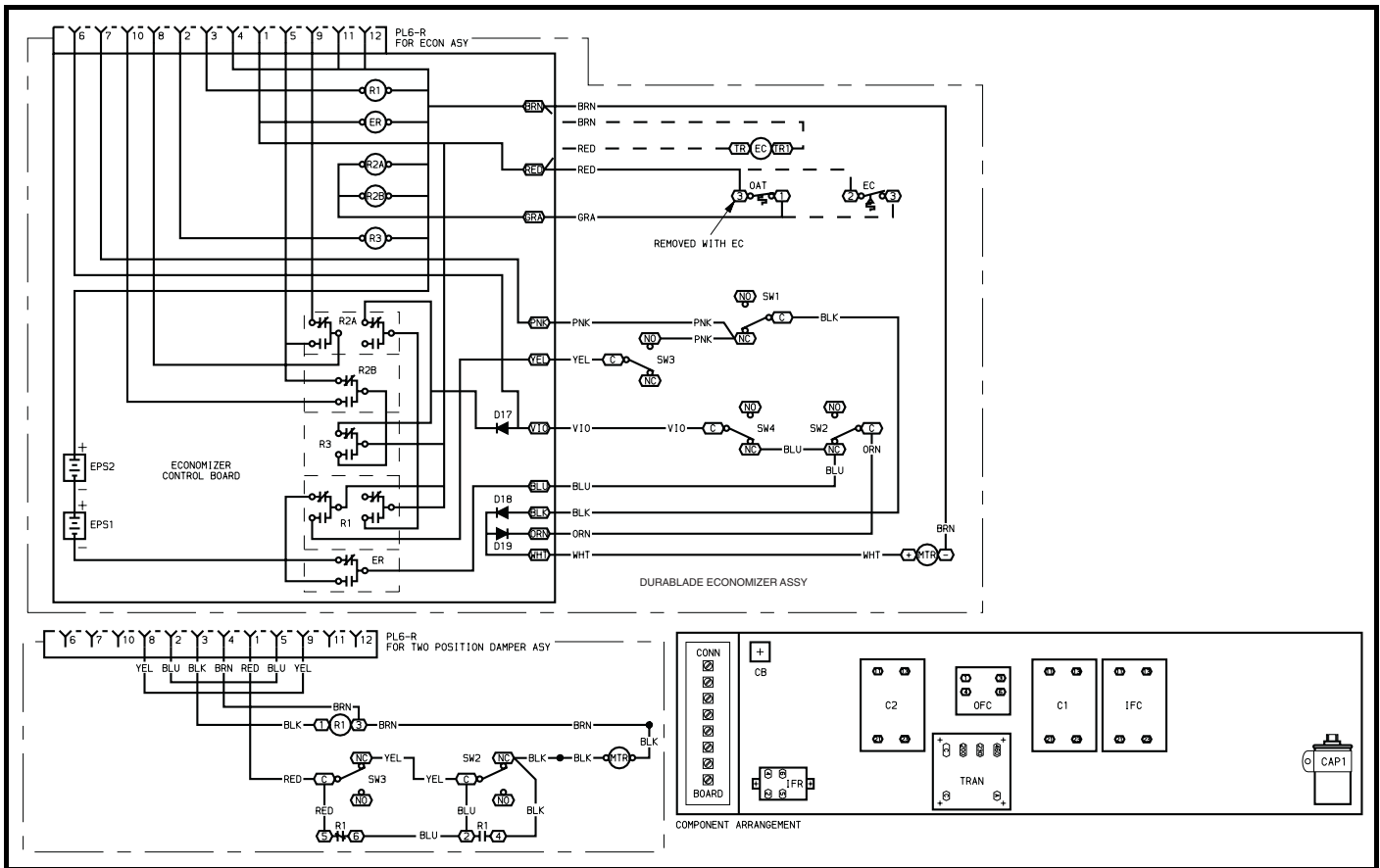
SCHEMATIC



CIRCUIT BREAKER	VOLTS	MFG. PT. NO.	MUST TRIP AMPS
CB	24V	POTTER & BRUNNFIELD W28-1024-3-2	3.2
CB1 014	460-3-60	HEINEMANN AIRPAX CF3-2228-41 219-3-2600-485	8.5



Typical wiring schematic — 50TFF008-014 (cont)



LEGEND AND NOTES FOR TYPICAL WIRING SCHEMATIC

AHA — Adjustable Heat Anticipator	SW1 — Switch Fully Open
AWG — American Wire Gage	SW2 — Switch Fully Closed
C — Contactor, Compressor	SW3 — Switch Min. Vent Position
CAP — Capacitor	SW4 — Switch Max. Vent Position
CB — Circuit Breaker	TB — Terminal Block
CC — Cooling Compensator	TC — Thermostat-Cooling
COMP — Compressor Motor	TH — Thermostat-Heating
D — Diode	TRAN — Transformer
EC — Enthalpy Control	Field Splice
ECON — Economizer	Marked Wire
EPS — Emergency Power Supply (Nine-Volt Battery)	Terminal (Marked)
EQUIP — Equipment	Terminal (Unmarked)
ER — Economizer Relay	Terminal Block
FPT — Freeze-Up Protection Thermostat	Splice
FU — Fuse	Splice (Marked)
GND — Ground	Factory Wiring
HC — Heater Contactor (Strip Heat)	Field Control Wiring
HPS — High-Pressure Switch	Field Power Wiring
IFC — Indoor-Fan Contactor	Accessory or Optional Wiring
IFM — Indoor-Fan Motor	To indicate common potential only.
IFMOVL — Indoor-Fan Motor Overload	Not to represent wiring.
IFR — Indoor-Fan Relay	
LPS — Low-Pressure Switch	
LSM — Limit Switch (Manual Reset)	
MTR — Motor	
OAT — Outdoor-Air Thermostat	
OFC — Outdoor-Fan Contactor	
OFM — Outdoor-Fan Motor	
P — Plug	
PL — Plug Assembly	
QT — Quadruple Terminal	
R — Relay	
SAT — Supply-Air Thermostat	

NOTES:

1. If any of the original wire furnished must be replaced, it must be replaced with Type 90 C wire or its equivalent.
2. Three phase motors are protected under primary single phasing conditions.
3. Thermostat: HH07AT170, 172, 174 & P272-2783. Subbase: HH93AZ176, 178 & P272-1882, 1883.
4. Set heat anticipator at 1 amp.
5. Use copper conductors only.
6. Use copper, copper-clad aluminum or aluminum conductors.
7. For 208/230-3-60 v units TRAN is wired for 208-v unit. If unit is to be run with 208-v power supply, disconnect BLK wire from 230-v tap (RED) and connect to 208-v tap (BLU). Insulate end of 230-v tap.

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 and condenser fans start. The liquid line solenoid valve for compressor no. 1 is deenergized to open. The condenser-fan motor runs continuously while unit is cooling. On 50TFF008-014 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.

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

Cooling, units with Durablade economizer — When the outdoor-air temperature is above the outdoor-air thermostat (OAT) setting and the room thermostat calls for cooling, compressor contactor no. 1 is energized to start compressor no. 1 and the 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 (50TFF008-014), 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 (50TFF008-014) 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 EconoMi\$er (50TFF004-007)

When the outdoor-air temperature (OAT) is above the ECON SP set point and the room thermostat calls for Stage 1 cooling (R to G + Y1), the indoor (evaporator) fan motor (IFM) is energized and the EconoMi\$er damper modulates to minimum position. The compressor contactor is energized to start the compressor and outdoor (condenser) fan motor (OFM). After the thermostat is satisfied,

the damper modulates to the fully closed position when the IFM is deenergized.

When the OAT is below the ECON SP setting and the room thermostat calls for Stage 1 cooling (R to G + Y1), the EconoMi\$er modulates to the minimum position when the IFM is energized. The EconoMi\$er provides Stage 1 of cooling by modulating the return and outdoor-air dampers to maintain a 55 F supply air set point. If the supply-air temperature (SAT) is greater than 57 F, the EconoMi\$er modulates open, allowing a greater amount of outdoor air to enter the unit. If the SAT drops below 53 F, the outdoor air damper modulates closed to reduce the amount of outdoor air. When the SAT is between 53 and 57 F, the EconoMi\$er maintains its position.

If outdoor-air alone cannot satisfy the cooling requirements of the conditioned space, and the OAT is above the MECH CLG LOCKOUT set point, the EconoMi\$er integrates free cooling with mechanical cooling. This is accomplished by the strategies below.

NOTE: Compressor has a 2-minute Minimum On, Minimum Off, and Interstage delay timer.

1. If Y1 is energized, and the room thermostat calls for Y2 (2-stage thermostat), the compressor and OFM are energized. The EconoMi\$er damper is maintained at its current position.
2. If Y1 is energized for more than 20 minutes, and Y2 is not energized (whether or not a 2-stage thermostat is used), the compressor and OFM are energized. The EconoMi\$er damper is maintained at its current position.
3. If Y1 is energized, and the compressor is already energized (see Step 2) and the room thermostat calls for Y2, the compressor continues to operate.
4. If compressor is energized and the thermostat is satisfied, the compressor, the OFM, and IFM are deenergized and the EconoMi\$er modulates closed.

When the OAT is below the MECH CLG LOCKOUT set point, the compressors remain off.

Cooling, units with EconoMi\$er (50TFF008-014)

When the outdoor-air temperature (OAT) is above the ECON SP set point and the room thermostat calls for Stage 1 cooling (R to G + Y1), the indoor (evaporator) fan motor (IFM) is energized and the EconoMi\$er damper modulates to minimum position. The compressor contactor is energized to start the compressor and outdoor (condenser) fan motor (OFM). After the thermostat is satisfied, the damper modulates to the fully closed position when the IFM is deenergized.

When the OAT is below the ECON SP setting and the room thermostat calls for Stage 1 cooling (R to G + Y1), the EconoMi\$er modulates to the minimum position when the IFM is energized. The EconoMi\$er provides Stage 1 of cooling by modulating the return and outdoor-air dampers to maintain a 55 F supply air set point. If the supply-air temperature (SAT) is greater than 57 F, the EconoMi\$er modulates open, allowing a greater amount of outdoor air to enter the unit. If the SAT drops below 53 F, the outdoor air damper modulates closed to reduce the amount of outdoor air. When the SAT is between 53 and 57 F, the EconoMi\$er maintains its position.

Controls (cont)



If outdoor-air alone cannot satisfy the cooling requirements of the conditioned space, and the OAT is above the MECH CLG LOCKOUT set point, the EconoMi\$er integrates free cooling with mechanical cooling. This is accomplished by the strategies below.

NOTE: Compressors have a 2-minute Minimum On, Minimum Off, and Interstage delay timer.

1. If Y1 is energized, and the room thermostat calls for Y2 (2-stage thermostat), compressor no. 1 and OFM are energized. The EconoMi\$er damper is maintained at its current position.
2. If Y1 is energized for more than 20 minutes, and Y2 is not energized (whether or not a 2-stage thermostat is used), compressor no. 1 and OFM are energized. The EconoMi\$er damper is maintained at its current position.
3. If Y1 is energized, and compressor no. 1 is already energized (see Step 2) and the room thermostat calls for Y2, compressor no. 1 continues to operate. If Y2 remains energized for more than 20 minutes, compressor no. 2 is energized.

NOTE: Compressor no. 2 cannot be energized unless there is a signal for Y2 from the space thermostat.

4. If compressor no. 2 is energized, and the Y2 signal from the thermostat is satisfied, compressor no. 1 and 2 are deenergized. Reasserting Y2 will start compressor no. 1 and (after a 20-minute interstage delay) compressor 2.
5. If compressor no. 1 is energized and the thermostat is satisfied, compressor no. 1, the OFM, and IFM are deenergized and the EconoMi\$er modulates closed.

When the OAT is below the MECH CLG LOCKOUT set point, the compressors remain off.

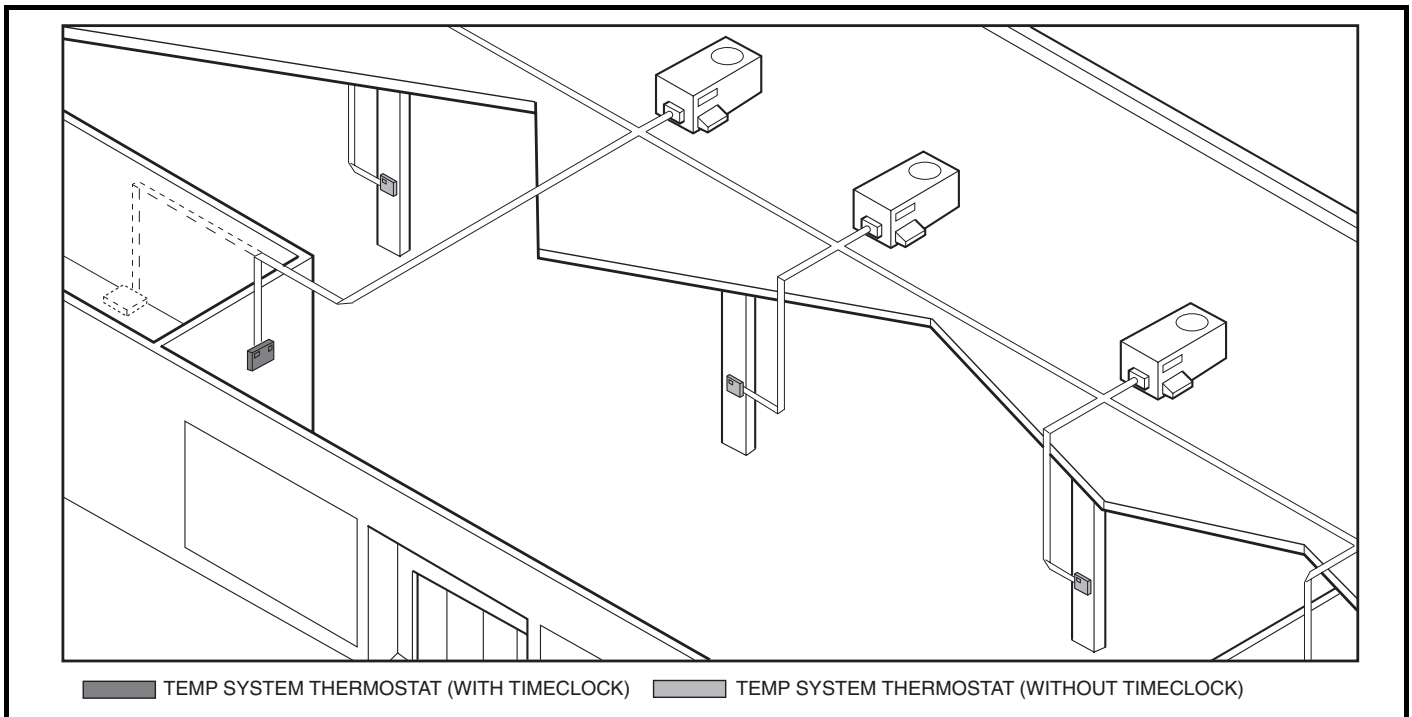
Heating, units with economizer (If Accessory Heater is Installed) — When the room thermostat calls for heat through terminal W1, the evaporator-fan contactor and heater contactor no. 1 are energized. On units equipped for 2 stages of heat, when additional heat is needed, heater contactor no. 2 is energized 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.

TEMP systems

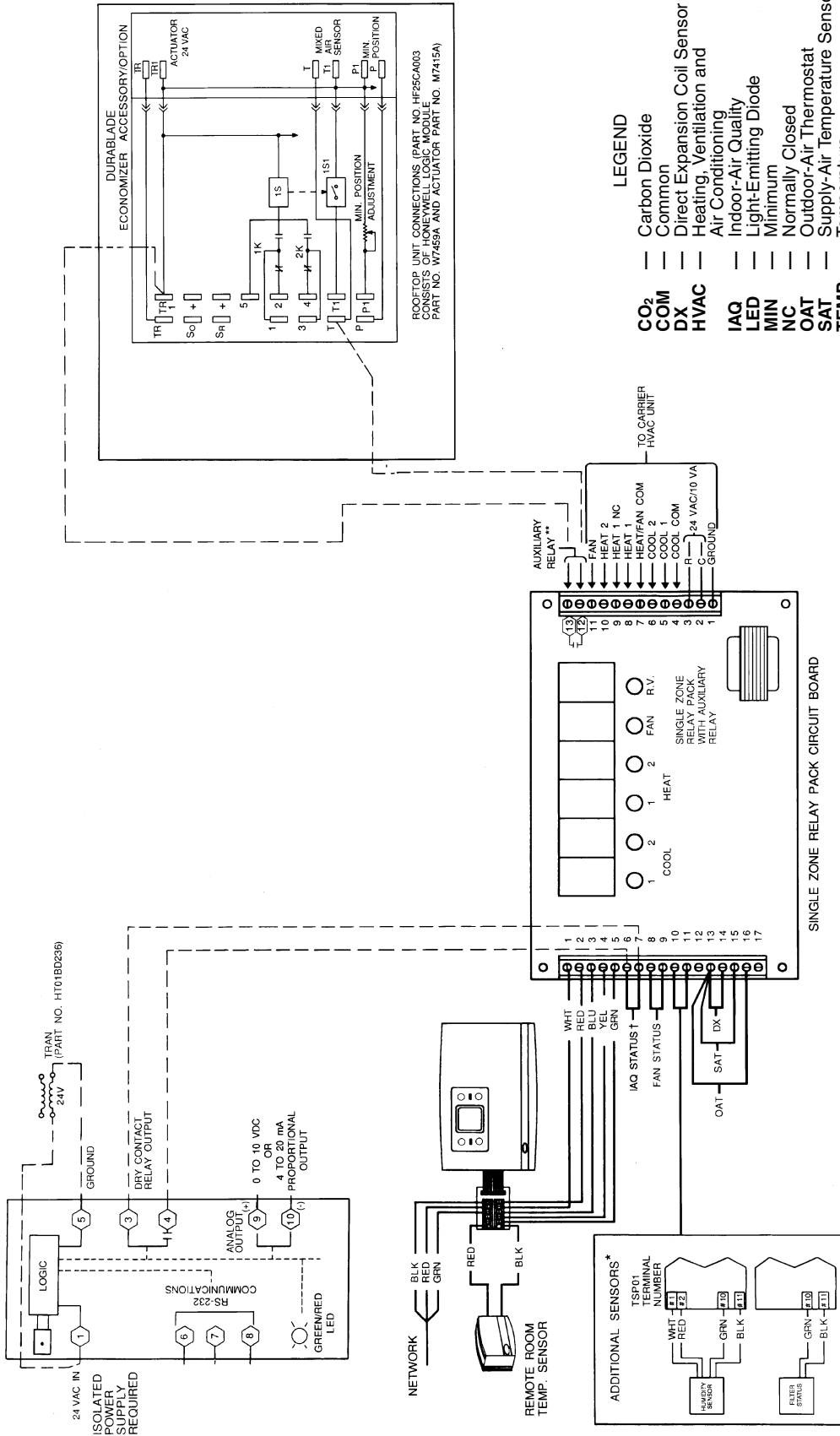
A TEMP System is a network of communicating Carrier TEMP System Thermostats and rooftop, factory-mounted Apollo direct digital controls, each serving its own zone and heating/cooling unit. Networking allows your building manager to easily access each of your systems from a single location...whether they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



INDOOR-AIR QUALITY CONTROLS WIRING



*Filter status switch and humidity sensor cannot function simultaneously. Only one sensor can be wired.
 †Such as a CO₂ sensor.
 **Set auxiliary option to "2" — IAQ Control per VTS or VVT Installation Instructions.

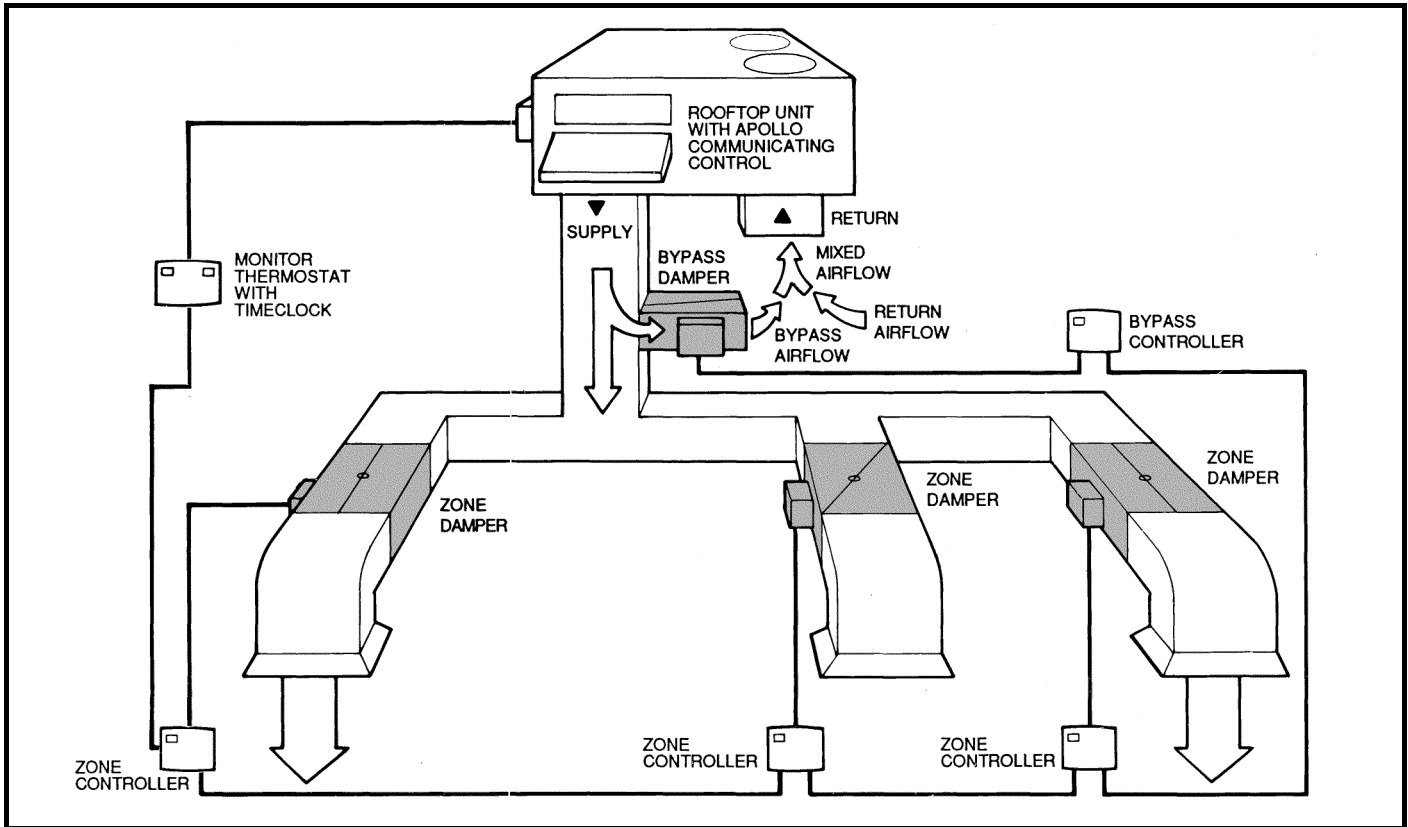
Controls (cont)



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

Horizontal discharge — To convert from vertical discharge to horizontal discharge (Durablade economizer or two-position damper 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.

Horizontal EconoMi\$er — A field-installed accessory for horizontal discharge applications. Field-installed power exhaust accessory also available for vertical or horizontal EconoMi\$er applications.

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

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

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

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

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

Minimum airflow — For cooling, minimum airflow is 300 cfm/ton. For units with electric heating, required minimum cfm is 900 for 50TFF004; 1200 for 50TFF005; 1500 for 50TFF006; 1800 for 50TFF007; 2250 for 50TFF008; 2550 for 50TFF009; and 3000 for 50TFF012 and 014, with the following exceptions:

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

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

Maximum operating outdoor-air temperature — For cooling, this temperature is 115 F.

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

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

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

Guide specifications



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

HVAC Guide Specifications

Size Range: **3 to 12¹/₂ Tons, Nominal Cooling**

Carrier Model Number: **50TFF**

Part 1 — General

1.01 SYSTEM DESCRIPTION

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 340/360 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 500-hour salt spray exposure per ASTM B117 (scribed specimen).
- G. Unit shall be designed in accordance with ISO 9001, and shall be manufactured in a facility registered to ISO 9002/BS5750, Part 2.

1.03 DELIVERY, STORAGE, AND HANDLING

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

Part 2 — Products

2.01 EQUIPMENT (STANDARD)

A. General:

Factory-assembled, single-piece 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, and shall be bonderized and coated with a baked enamel finish on all externally exposed surfaces.
2. Evaporator fan cabinet interior shall be insulated with a minimum ¹/₂-in. thick, 1-lb density neoprene coated, 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 ³/₄-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. (Accessory kit is required.)

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. Reciprocating or scroll type, fully hermetic type, internally protected.
2. Factory mounted on rubber grommets 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 for sizes 004-007 and of the face-split design for sizes 008-014.

F. Refrigerant Components:

Refrigerant circuit components shall include:

1. Acutrol™ metering system.
2. Refrigerant filter drier.
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. Refrigerant Controls:

Unit shall contain high-pressure, loss-of-charge and freeze protection switches.

3. 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, contact your local Carrier Sales Office.

* 1. Direct Digital Communicating 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, outdoor-air temperature, and field-supplied sensors.
- 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 shall be capable of supporting entire unit weight.
- b. Permits installing and securing ductwork to curb prior to mounting unit on the curb.

* 3. Integrated Economizers:

- a. Integrated integral-modulating type capable of simultaneous economizer and compressor operation.
- b. Includes all hardware and controls to provide cooling with outdoor air.
- c. Equipped with low-leakage dampers not to exceed 3% leakage at 1 in. wg pressure differential (Durablade 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 (Durablade economizer). Damper shall close upon unit shutoff.

- f. EconoMi\$er shall be equipped with a barometric relief damper with up to 100% of return air (004-007) or 90% of return air (008-014) relief. The Durablade economizer is equipped with 30% of return-air relief (004-014).

- g. Designed to close damper during loss-of-power situations with emergency power supply (Durablade economizer) or spring return built into motor (EconoMi\$er).

- h. Dry bulb outdoor-air temperature sensor shall be provided as standard. Enthalpy control shall be provided as an option.

- i. Durablade economizer is a guillotine-style damper, and the EconoMi\$er is a gear-driven, parallel blade design.

NOTE: EconoMi\$er shall also be available with field-installed two-stage power exhaust accessory for vertical or horizontal duct applications.

* 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.

* 7. Solid-State Enthalpy Control:

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

* 8. 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.

* 9. 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.

Guide specifications (cont)



- *10. Thermostat and Subbase:
Provides staged cooling and heating automatic (or manual) changeover, fan control, and indicator light.
- 11. Thru-The-Bottom Utility Connectors:
Kit shall provide connectors to permit electrical connections to be brought to the unit through the basepan.
- *12. 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.
- 13. Light Commercial Thermidistat:
Shall regulate temperature and humidity from one location. Automatic humidity control adjusts indoor humidity based on the outdoor temperature sensor.
- 14. Condenser Coil Hail Guard Assembly:
Hail guard shall protect against damage from hail and flying debris.
- 15. Unit-Mounted Non-Fused Disconnet Switch:
Shall be factory-installed, internally-mounted. NEC and UL approved non-fused switch shall provide unit power shutoff. Shall be accessible from outside the unit and shall provide power off lockout capability.
- 16. Convenience Outlet:
Shall be factory-installed and internally mounted with easily accessible 115-v female receptacle. Shall include 15-amp GFI receptacle with independent fuse protection. Voltage required to operate convenience outlet shall be provided by a factory-installed step-down transformer. Shall be accessible from outside the unit.
- 17. Alternate Motors and/or Drives (004-006, 008, 012, 014):
Alternate motors and drives shall be factory-installed to provide additional performance range.
- 18. High-Static Motor(s) and Drive(s) (50TFF004-012):
High-static motor(s) and drive(s) shall be factory-installed to provide an additional performance range.
- 19. Condenser Coil Grille:
The grille protects the condenser coil from damage by large objects without increasing unit clearances.
- 20. Compressor Cycle Delay:
Unit shall be prevented from restarting for a minimum of 5 min. after shutdown.
- 21. Fan/Filter Status Switch:
Provides status of evaporator fan (ON/OFF) or filter (CLEAN/DIRTY). Status shall be displayed over communication bus when used with direct digital controls or with an indicator light at the thermostat.
- 22. Energy\$Recycler:
The package shall be an outdoor rooftop or surface mounted, electronically controlled, air-to-air heat pump unit utilizing a hermetic compressor for cooling and heating duty.
The Energy\$Recycler shall recover energy from building exhaust air and pre-condition ventilation air to allow higher ventilation requirements and minimizing energy cost.
- 23. EconoMi\$er and Power Exhaust:
Package shall provide control of internal building pressure. The two-stage system shall exhaust up to 100% of return air (vertical only).
- 24. Power Exhaust for Accessory EconoMi\$er:
The two-stage power exhaust shall be used in conjunction with EconoMi\$er to provide the system with the capability to exhaust up to 100% of return air. The power exhaust is a field-installed accessory for vertical and horizontal applications.
- 25. Outdoor-Air Enthalpy Sensor:
The outdoor-air enthalpy sensor shall be used with the EconoMi\$er device to provide single enthalpy control. When used in conjunction with a return air enthalpy sensor, the EconoMi\$er device will provide differential enthalpy control. The sensor allows the EconoMi\$er controller to determine if outside air is suitable for free cooling.
- 26. Return-Air Enthalpy Sensor:
The return-air enthalpy sensor shall be used with the EconoMi\$er device. When used in conjunction with an outdoor air enthalpy sensor, the EconoMi\$er device will provide differential enthalpy control.
- 27. Return-Air Temperature Sensor:
The return-air temperature sensor shall be used with the EconoMi\$er device. When used in conjunction with the standard outdoor air temperature sensor, the EconoMi\$er device will provide differential temperature control.
- 28. Indoor-Air Quality (CO₂) Sensor:
 - a. Shall have the ability to provide demand ventilation indoor-air quality (IAQ) control through the economizer with an IAQ sensor.
 - b. The IAQ sensor shall be available in duct mount, wall mount, and wall mount with LED display. The set point shall have adjustment capability.

