50TJ016-032S Side Discharge
Single-Package
Rooftop Units 50/60 Hz
15 to 30 Nominal Tons

Carrier®
Turn to the Experts.℠

Product Data

The 50TJ-S series is a special side discharge version packaged unit with capacities of 15-30 Tons. This unit can be placed on the side of a building with direct ducts to and from conditioned space, or can be placed on the roof, without a roof curb, and simple Ductwork.

High Efficiency Rooftop Units with:
• Dual, electrically and mechanically independent refrigerant circuits
• Scroll compressors on each circuit
• TXV refrigerant metering devices
• Non-corrosive, sloped condensate drain pans meet ASHRAE 62-99 (IAQ)
• One-inch return air filters
• Electric heat (FIOP)

Special Standard Features
• Double skin construction.
• Pre-coated fin condenser coil, for extra corrosion protection.
• High Efficiency, High Static Blower.

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 pre-painted 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. Totally enclosed condenser-fan motor and permanently lubricated bearings provide additional unit dependability.

Desert Master

Easy installation

All units feature base rail design with forklift slots and rigging holes for easier manoeuvring. Durable packaging protects all units during shipment and storage. Convenient side by side openings permit installation very close to the face of buildings, or on roof top.
The non-corrosive sloped condensate pan minimizes residual condensate in off cycle.
An external, field-supplied P-trap is required.
Field-installed electric heaters are available in two convenient capacities 30 kW or 40 kW.

Indoor-air quality begins with Carrier rooftops

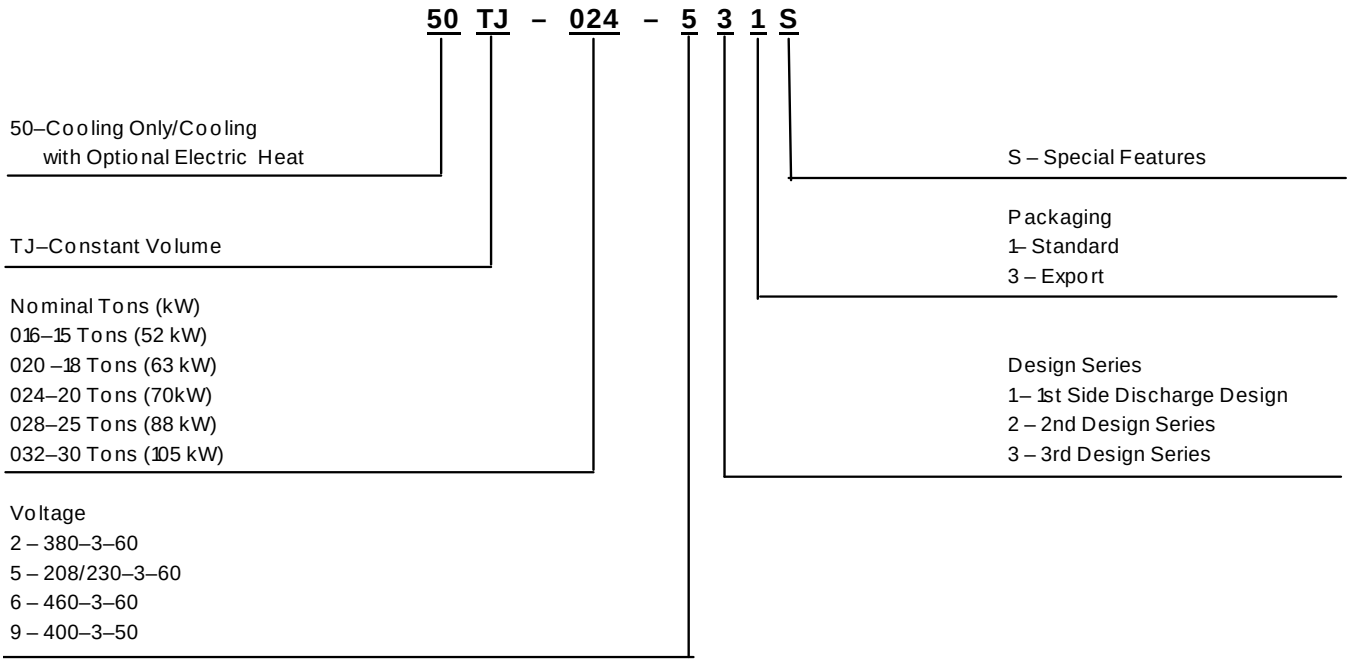
Sloped condensate pans minimize biological growth in rooftop units in accordance with ASHRAE (American Society of Heating, Refrigeration and Air Conditioning Engineers) Standard 62. One-in. filters provide for grater partical reductionin the return air.

Simple electrical connections

Terminal boards, located in the base unit control box, facilitate connections to room thermostat, outdoor thermostat(s) and electric heat. Service panels are quickly removed, permitting easy servicing. Both power and control connections are made on the same side of the unit to simplify installation. In addition, colour-coded wires permit easy tracing and diagnostics.

Table of contents

Model Number Nomenclature



LEGEND
FIOP Factory-Installed Option

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

Quality Assurance
SAMCO
TÜV CERT
DIN ISO 9001 : 2000

Approvals :
ISO 9001 : 2000
EN ISO 9001 : 2000
ANSI/ASQC Q9001 : 2000

Capacity at ARI* rating condition

UNIT 50TJ	NOMINAL TONS	STANDARD CFM / L/s	GROSS COOLING CAPACITY Btuh	NET COOLING CAPACITY (Btuh)/ Kw	TOTAL WATTS	EER	SOUND RATING (Bels)
016	15	6000 / 2831	180,000	176,000 / 52	19,800	8.9	8.8
020	18	6300 / 2973	201,000	192,000 / 57	21,400	9.0	8.8
024	20	8000 / 3870	234,000	225,000 / 66	24,400	9.2	9.5
028	25	8700 / 4105	287,000	275,000 / 81	30,000	9.2	9.5
032	30	10,000 / 4700	338,000	317,000 / 96	35,000	9.0	9.5

LEGEND
Bels — Sound Levels (1 bel = 10 decibels)
db — Dry Bulb
EER — Energy Efficiency Ratio

*Air Conditioning and Refrigeration Institute.

NOTES:
1. The above net cooling capacity ratings are net values, reflecting the effects of circulating fan heat.
Net Cooling Capacity = Refrigeration Cycle Cooling – Indoor Fan Motor Power.
2. Ratings are based on:
Cooling Standard: 80 F db, 67 F wb indoor entering-air temperature and 95 F db air entering outdoor unit.

AIR QUANTITY LIMITS

UNIT 50TJ	MINIMUM CFM / L/s	MAXIMUM CFM / L/s
016	4500 / 2124	7,500 / 3539
020	4800 / 2265	7,600 / 3586
024	6000 / 2831	10,000 / 4719
028	6700 / 3162	10,700 / 5049
032	8500 / 4011	11,500 / 5427

ELECTRIC RESISTANCE HEATER DATA — 50TJ016-032

UNIT 50TJ	HEATER kW				HEATER FLA (PER STAGE)				HEATER STAGES	HEAT PER STAGE	MINIMUM HEATING CFM	
	Unit Voltages				Unit Voltages							
	208	240	380	460	208	240	380	460			Cfm	L/s
016	23 kW	30 kW	19 kW	28 kW	31.3	36.1	14.3	17.3	2	50/50	4800	2265
020									2	50/50	5500	2596
024	30 kW	40 kW	25 kW	37 kW	41	49	19	23	2	50/50	6000	2832
028									2	50/50	7000	3304
032									2	50/50	7000	3304

NOTE: Use the Multiplication Factors table below to determine heater capacity for your particular voltage.

MULTIPLICATION FACTORS

HEATER RATING VOLTAGE	ACTUAL HEATER VOLTAGE							
	200	208	230	240	380	400	460	480
240	0.694	0.751	0.918	1.000	—	—	—	—
480	—	—	—	—	0.62	0.7	0.92	1

NOTE: The following equation converts kW of heat energy to Btuh: kW x 3.413 = Btuh.
EXAMPLE: 30 kW (at 240 v) heater on 208 v
= 30.0 (0.751 mult factor)
= 22.5

ACCESSORY HEATER PART NUMBER

UNIT 50TJ	220 V			400 V		
	Complete Kit P.N.	Casing P.N. (1 Per Kit)	Heater Element P.N. (2 Per Kit)	Complete Kit P.N.	Casing P.N. (1 Per Kit)	Heater Element P.N. (2 Per Kit)
016	50TJ600201	50TJ600289	CPHEATER030A00	50TJ600287	50TJ600289	CPHEATER036A00
020						
024	50TJ600202	50TJ600290	CPHEATER031A00	50TJ600288	50TJ600290	CPHEATER037A00
028						
032	50TJ600729	50TJ600727	CPHEATER031A00	50TJ600730	50TJ600727	CPHEATER037A00

Physical data (60Hz) — English

UNIT 50TJ	016	020	024	028	032
NOMINAL CAPACITY (tons)	15	18	20	25	30
OPERATING WEIGHT	For Operating Weights see page 10.				
COMPRESSOR	Scroll				
Quantity...Danfoss Model (Ckt 1 , Ckt 2)	2... SM100S	1..SM110S, 1..SM100S	1...SM120S, 1..SM110S	1..SM161T, 1...SM120S	2..SM161T,
Number of Refrigerant Circuits	2	2	2	2	2
Oil (oz) (Ckt 1 , Ckt 2)	81, 81	106,81	106, 106	136, 106	136, 136
Stages of Capacity Control (%)	50/50	55/45	55/45	60/40	50/50
REFRIGERANT TYPE	R-22				
Expansion Device	TXV				
Operating Charge (lb-oz)					
Circuit 1*	12-8	17-0	20-8	24-0	24-0
Circuit 2	12-8	14-0	14-0	16-0	24-0
CONDENSER COIL	Grooved 3/8-in. Copper Tubes, Aluminium Wavy, Aluminium Pre-Coated, or Copper Plate Fins				
Rows...Fins/in.	2...16	3...16	3..16	4...16	4...16
Total Face Area (sq ft)	24.43	24.43	27.44	27.44	30.00
CONDENSER FAN	Propeller Type				
Nominal Cfm	14,200				15,000
Quantity...Diameter (in.), No. of Blades.	2...30…4				2...30…4
Motor Hp...Rpm	1…1140				1…1140
EVAPORATOR COIL	Grooved 3/8-in. Copper Tubes, LSW or Copper Plate Fins, Face Split				
Rows...Fins/in.	2...17	3...17	3...17	4...17	4...17
Total Face Area (sq ft)	18.4	18.4	21	21	23.3
EVAPORATOR FAN	Centrifugal Type				
Quantity...Size (in.)	**1**...16 x 16	**1**...16 x 16	1...18 x 18	1...18 x 18	1...18 x 18
Type Drive	Belt	Belt	Belt	Belt	Belt
Nominal Cfm	6000	6300	8000	8700	10,500
Motor Hp	5	5	7.5	7.5	10
Motor Nominal Rpm	1745	1745	1745	1745	1745
Maximum Continuous Bhp	5.5	5.5	8.2	8.2	11
Motor Frame Size	184T	184T	213T	213T	215T
Fan Rpm Range	690-840	765-920	710-810	810-910	850-1080
Fan Pulley Pitch Diameter (in.)	11.0	10.0	11.0	11.0	11.0
Nominal Fan Shaft Diameter (in.)	1.19	1.19	1.38	1.38	1.38
Motor Bearing Type	Ball	Ball	Ball	Ball	Ball
Maximum Allowable Rpm	1200	1200	1400	1400	1400
Motor Pulley Pitch Diameter Min/Max (in.)	4.3/5.2	4.3/5.2	4.5/5.0	5.2/5.75	5.4/6.8
Nominal Motor Shaft Diameter (in.)	1 1/8	1 1/8	1 3/8	1 3/8	1 3/8
Belt, Quantity...Type...Length (in.)	2... SPA 1900	2... SPA 1900	2... SPB 2060	2... SPB 2060	2... SPB 2000
Pulley Center Line Distance (in.)	23.8-25	23.8-25	23.8-25	23.8-25	23.8-25
Speed Change per Full Turn of Movable Pulley Flange (rpm)	30	30	20	20	50
Movable Pulley Maximum Full Turns From Closed Position	5	5	5	5	5
Factory Speed Setting	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
Factory Speed Setting (rpm)	765	840	760	860	975
HIGH-PRESSURE SWITCH (psig)					
Cut-out	426				
Reset (Auto)	320				
LOW-PRESSURE SWITCH (psig)					
Cut-out	27				
Reset (Auto)	44				
FREEZE PROTECTION THERMOSTAT (F)					
Opens	30 ± 5				
Closes	45 ± 5				
RETURN-AIR FILTERS	Aluminium				Aluminium
Quantity...Size (in.)	4…...(31.5'' x 21.5'')				4..(36.5'' x 21.5'')

Condenser Motor Efficiency 80%
Evaporator Motor Efficiency 87%

Physical data (60 Hz)— SI

UNIT 50TJ	016	020	024	028	032
NOMINAL CAPACITY (kW)	52.8	63.3	70.3	87.9	105
OPERATING WEIGHT	For Operating Weights see page 10.				
COMPRESSOR	Scroll				
Quantity...Danfoss Model (Ckt 1 , Ckt 2)	2...SM100S	1..SM110S, 1..SM100S	1...SM120S, 1..SM110S	1..SM161T, 1...SM120S	2..SM161T,
Number of Refrigerant Circuits	2	2	2	2	2
Oil (ml) (Ckt 1 , Ckt 2)	2531, 2531	3312,2531	3312, 3312	4250, 3312	4250, 4250
Stages of Capacity Control (%)	50/50	55/45	55/45	60/40	50/50
REFRIGERANT TYPE	R-22				
Expansion Device	TXV				
Operating Charge (Kg)					
Circuit 1*	5.7	7.7	8.2	10.9	10.9
Circuit 2	5.7	6.3	6.3	7.3	10.9
CONDENSER COIL	Grooved 3/8-in. Copper Tubes, Aluminium Wavy, Aluminium Pre-Coated, or Copper Plate Fins				
Rows...Fins/in.	2...16	3...16	3...16	4...16	4...16
Total Face Area (m^2)	2.271	2.271	2.55	2.55	2.79
CONDENSER FAN	Propeller Type				
Nominal L/s	6700				7079
Quantity...Diameter (mm)..No. of Blades.	2...762…4				2...762…4
Motor BkW...r/s	0.745…19				0.745…19
EVAPORATOR COIL	Grooved 3/8-in. Copper Tubes, LSW or Copper Plate Fins, Face Split				
Rows...Fins/in.	2...17	3...17	3...17	4...17	4...17
Total Face Area (m^2)	1.71	1.71	1.951	1.951	2.165
EVAPORATOR FAN	Centrifugal Type				
Quantity...Size (mm)	1...400 x 400	1...400 x 400	1...450 x 450	1...450 x 450	1...450 x 450
Type Drive	Belt	Belt	Belt	Belt	Belt
Nominal L/s	2830	2973	3775	4105	4955
Motor BkW	3.7	3.7	5.6	5.6	7.5
Motor Nominal r/s	29	29	29	29	29
Maximum Continuous BkW	4	4	6.2	6.2	8.25
Motor Frame Size	184T	184T	213T	213T	215T
Fan Rpm Range	11.5-14	13-15	11.83-13.5	13.5-15	14-18
Fan Pulley Pitch Diameter (mm)	280	250	280	280	280
Nominal Fan Shaft Diameter (mm)	30	30	35	35	35
Motor Bearing Type	Ball	Ball	Ball	Ball	Ball
Maximum Allowable r/s	20	20	23.33	23.33	23.33
Motor Pulley Pitch Diameter Min/Max (mm)	110/131	110/131	114/129	131/146	137/173
Nominal Motor Shaft Diameter (mm)	28.5	28.5	35	35	35
Belt, Quantity...Type...Length (mm.)	2... SPA 1900	2... SPA 1900	2... SPB 2060	2... SPB 2060	2... SPB 2000
Pulley Center Line Distance (mm.)	604.5-635	604.5-635	604.5-635	604.5-635	660-685
Speed Change per Full Turn of Movable Pulley Flange (r/s)	0.5	0.5	0.33	0.33	0.83
Movable Pulley Maximum Full Turns From Closed Position	5	5	5	5	5
Factory Speed Setting	$2_{1/2}$	$2_{1/2}$	$2_{1/2}$	$2_{1/2}$	$2_{1/2}$
Factory Speed Setting (r/s)	12.75	14	12.66	14.33	16.25
HIGH-PRESSURE SWITCH (psig)					
Cut-out	426				
Reset (Auto)	320				
LOW-PRESSURE SWITCH (psig)					
Cut-out	27				
Reset (Auto)	44				
FREEZE PROTECTION THERMOSTAT (C)					
Opens	-1 ± 1				
Closes	7 ± 1				
RETURN-AIR FILTERS	Aluminium				Aluminium
Quantity...Size (mm.)	4……(790 x 546)				4..(902 x 546)

Condenser Motor Efficiency 80%
Evaporator Motor Efficiency 87%

Physical data (50Hz) — English

UNIT 50TJ	016	020	024	028	032
NOMINAL CAPACITY (tons)	15	18	20	25	30
OPERATING WEIGHT	For Operating Weights see page 10.				
COMPRESSOR	Scroll				
Quantity...Danfoss Model (Ckt 1 , Ckt 2)	2...SM110S	1..SM120S, 1..SM110S	1...SM161T, 1..SM120S	1..SM185W, 1...SM161T	2..SM185W,
Number of Refrigerant Circuits	2	2	2	2	2
Oil (oz) (Ckt 1 , Ckt 2)	106, 106	106,106	136, 106	136, 136	136, 136
Stages of Capacity Control (%)	50/50	55/45	60/40	55/45	50/50
REFRIGERANT TYPE	R-22				
Expansion Device	TXV				
Operating Charge (lb-oz)					
Circuit 1*	14-0	17-8	23-0	25-0	25-0
Circuit 2	14-0	14-8	14-8	17-0	25-0
CONDENSER COIL	Grooved 3/8-in. Copper Tubes, Aluminium Wavy, Aluminium Pre-Coated, or Copper Plate Fins				
Rows...Fins/in.	2...16	3...16	3...16	4...16	4...16
Total Face Area (sq ft)	24.43	24.43	27.44	27.44	30.00
CONDENSER FAN	Propeller Type				
Nominal Cfm	12,800			14,500	
Quantity...Diameter (in.)…No. of Blades.	2...30…4			2...30…6	
Motor Hp...Rpm	1…950			1…950	
EVAPORATOR COIL	Grooved 3/8-in. Copper Tubes, LSW or Copper Plate Fins, Face Split				
Rows...Fins/in.	2...17	3...17	3...17	4...17	4...17
Total Face Area (sq ft)	18.4	18.4	21	21	23.3
EVAPORATOR FAN	Centrifugal Type				
Quantity...Size (in.)	1...16 x 16	1...16 x 16	1...18 x 18	1...18 x 18	1...18 x 18
Type Drive	Belt	Belt	Belt	Belt	Belt
Nominal Cfm	6000	6300	8000	8700	10,500
Motor Hp	5	5	7.5	7.5	10
Motor Nominal Rpm	1435	1435	1435	1435	1435
Maximum Continuous Bhp	5.5	5.5	8.2	8.2	11
Motor Frame Size	184T	184T	213T	213T	215T
Fan Rpm Range	690-840	765-920	710-810	810-910	830-1050
Fan Pulley Pitch Diameter (in.)	8 7/8	7 7/8	9 5/17	9 5/17	9 5/17
Nominal Fan Shaft Diameter (in.)	1.19	1.19	1.38	1.38	1.38
Motor Bearing Type	Ball	Ball	Ball	Ball	Ball
Maximum Allowable Rpm	1200	1200	1400	1400	1400
Motor Pulley Pitch Diameter Min/Max (in.)	4.3/5.2	4.3/5.2	4.5/5.0	5.2/5.75	5.4/6.8
Nominal Motor Shaft Diameter (in.)	1 1/8	1 1/8	1 3/8	1 3/8	1 3/8
Belt, Quantity...Type...Length (in.)	2... SPA 1800	2... SPA 1800	2... SPB 2000	2... SPB 2000	2... SPB 1950
Pulley Center Line Distance (in.)	23.8-25	23.8-25	23.8-25	23.8-25	23.8-25
Speed Change per Full Turn of Movable Pulley Flange (rpm)	30	30	20	20	50
Movable Pulley Maximum Full Turns From Closed Position	5	5	5	5	5
Factory Speed Setting	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
Factory Speed Setting (rpm)	765	840	760	860	955
HIGH-PRESSURE SWITCH (psig)					
Cut-out	426				
Reset (Auto)	320				
LOW-PRESSURE SWITCH (psig)					
Cut-out	27				
Reset (Auto)	44				
FREEZE PROTECTION THERMOSTAT (F)					
Opens	30 ± 5				
Closes	45 ± 5				
RETURN-AIR FILTERS	Aluminium				Aluminium
Quantity...Size (in.)	4……(31.5" x 21.5")				4..(36.5" x 21.5")

Condenser Motor Efficiency 80%
Evaporator Motor Efficiency 87%

Physical data (50 Hz)— SI

UNIT 50TJ	016	020	024	028	32
NOMINAL CAPACITY (kW)	52.8	63.3	70.3	87.9	105
OPERATING WEIGHT	For Operating Weights see page 10.				
COMPRESSOR	Scroll				
Quantity...Danfoss Model (Ckt 1 , Ckt 2)	2...SM110S	1..SM120S, 1..SM110S	1...SM161T, 1..SM120S	1..SM185W, 1...SM161T	2..SM185W,
Number of Refrigerant Circuits	2	2	2	2	2
Oil (ml) (Ckt 1 , Ckt 2)	3312, 3312	3312, 3312	3312, 3312	4250, 4250	4250, 4250
Stages of Capacity Control (%)	50/50	55/45	60/40	55/45	50/50
REFRIGERANT TYPE	R-22				
Expansion Device	TXV				
Operating Charge (Kg)					
Circuit 1*	6.4	8	10.5	11.4	11.4
Circuit 2	6.4	6.6	6.6	7.7	11.4
CONDENSER COIL	Grooved 3/8-in. Copper Tubes, Aluminium Wavy, Aluminium Pre-Coated, or Copper Plate Fins				
Rows...Fins/in.	2...16	3...16	3...16	4...16	4...16
Total Face Area (m^2)	2.271	2.271	2.55	2.55	2.79
CONDENSER FAN	Propeller Type				
Nominal L/s	6040			6843	
Quantity...Diameter (mm)…No. of Blades.	2...762…4			2...762…6	
Motor BkW...r/s	0.75…16			0.745…16	
EVAPORATOR COIL	Grooved 3/8-in. Copper Tubes, LSW or Copper Plate Fins, Face Split				
Rows...Fins/in.	2...17	3...17	3...17	4...17	4...17
Total Face Area (m^2)	1.71	1.71	1.951	1.951	2.165
EVAPORATOR FAN	Centrifugal Type				
Quantity...Size (mm)	1...400 x 400	1...400 x 400	1...450 x 450	1...450 x 450	1...450 x 450
Type Drive	Belt	Belt	Belt	Belt	Belt
Nominal L/s	2830	2973	3775	4105	4955
Motor BkW	3.7	3.7	5.6	5.6	7.5
Motor Nominal r/s	24	24	24	24	24
Maximum Continuous BkW	4	4	6.2	6.2	8.25
Motor Frame Size	184T	184T	213T	213T	215T
Fan r/s Range	11.5-14	13-15	11.83-13.5	13.5-15	14-18
Fan Pulley Pitch Diameter (mm)	224	200	236	236	236
Nominal Fan Shaft Diameter (mm)	30	30	35	35	35
Motor Bearing Type	Ball	Ball	Ball	Ball	Ball
Maximum Allowable r/s	20	20	23.33	23.33	23.33
Motor Pulley Pitch Diameter Min/Max (mm)	110/131	110/131	114/129	131/146	137/173
Nominal Motor Shaft Diameter (mm)	28.5	28.5	35	35	35
Belt, Quantity...Type...Length (mm.)	2... SPA 1800	2... SPA 1800	2... SPB 2000	2... SPB 2000	2... SPB 1950
Pulley Center Line Distance (mm.)	604.5-635	604.5-635	604.5-635	604.5-635	660-685
Speed Change per Full Turn of Movable Pulley Flange (r/s)	0.5	0.5	0.33	0.33	0.83
Movable Pulley Maximum Full Turns From Closed Position	5	5	5	5	5
Factory Speed Setting	$2_{1/2}$	$2_{1/2}$	$2_{1/2}$	$2_{1/2}$	$2_{1/2}$
Factory Speed Setting (r/s)	12.75	14	12.66	14.33	15.9
HIGH-PRESSURE SWITCH (psig)					
Cut-out	426				
Reset (Auto)	320				
LOW-PRESSURE SWITCH (psig)					
Cu-out	27				
Reset (Auto)	44				
FREEZE PROTECTION THERMOSTAT (C)					
Opens	-1 ± 1				
Closes	7 ± 1				
RETURN-AIR FILTERS	Aluminium				Aluminium
Quantity...Size (mm.)	4……(790 x 546)				4..(902 x 546)

Condenser Motor Efficiency 80%
Evaporator Motor Efficiency 87%

Physical data (cont)

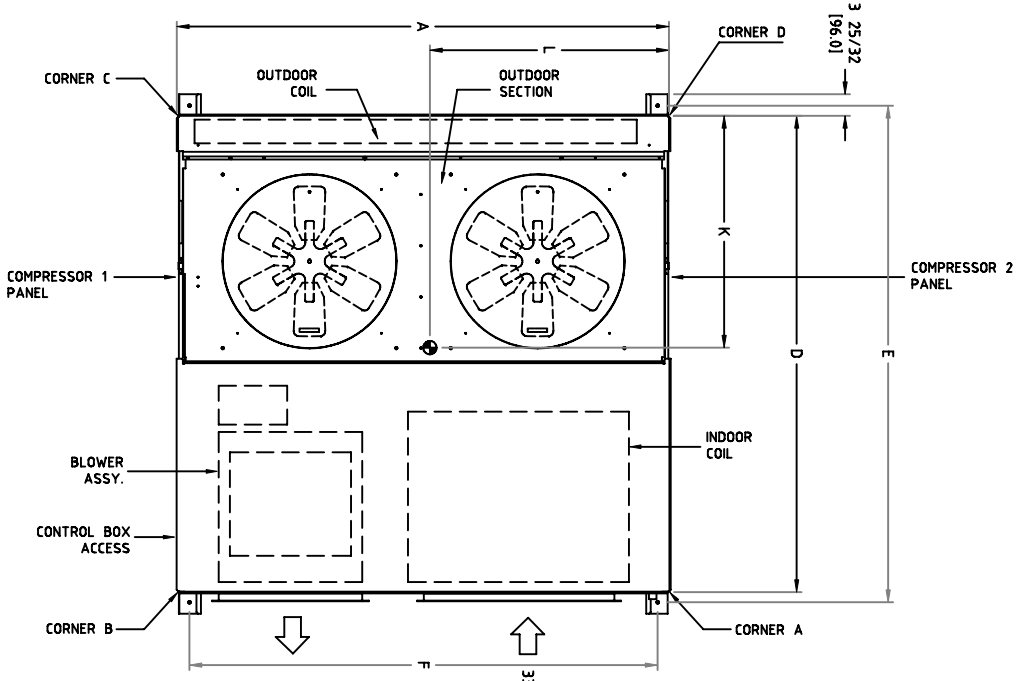
OPERATING AND RIGGING WEIGHTS

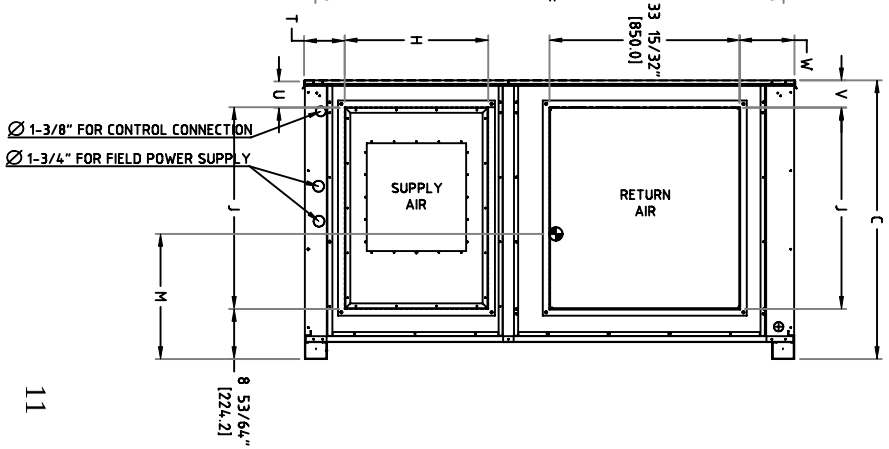
UNIT	BASE UNIT OPERATING WEIGHTS*									
	016		020		024		028		032	
	lb	kg	lb	kg	lb	kg	Lb	Kg	Lb	Kg
50TJ	1628	723	1733	786	1870	850	2035	923	2200	1000

*Base unit weight does not include electric heaters, copper coils or crating.
NOTES:
-For 016 and 020 unit sizes add 75 lb (34 kg) for domestic crating. For 024 and 032 unit sizes add 135 lb (61 kg). For export crating add 500 lb (227 kg).
- All units are internally isolated against vibration. If extra isolation required, please see dimensional drawing (page- 11) for corner weights.

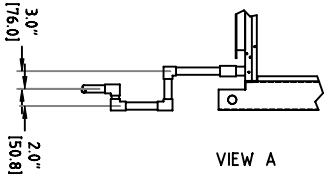
UNIT	SHIPPING DIMENSIONS		
	As	Bs	Cs
50TJ016	90-1/2 [2299.0]	91-1/4 [2318.0]	50.0 [1270.0]
50TJ020	90-1/2 [2299.0]	91-1/4 [2318.0]	50.0 [1270.0]
50TJ024	100-1/2 [2553.0]	96.0 [2440.0]	50.0 [1270.0]
50TJ028	100-1/2 [2553.0]	96.0 [2440.0]	50.0 [1270.0]
50TJ032	100-1/2 [2553.0]	102-23/64 [2600.0]	55.0 [1397.0]

UNIT	A	B	C	D	E	F	G	H	J	T	U	V	W
50TJ016	86-1/2 [2197.0]	91-1/4 [2318.0]	49.0 [1244.5]	83-47/64 [2127.0]	87-1/4 [2216.0]	82-9/32 [2090.0]	5-11/16 [144.5]	25-13/64 [640.0]	35-7/16 [900.0]	7.0 [178.0]	9-3/4 [247.5]	4-7/8 [122.0]	9-1/4 [235.0]
50TJ020	86-1/2 [2197.0]	91-1/4 [2318.0]	49.0 [1244.5]	83-47/64 [2127.0]	87-1/4 [2216.0]	82-9/32 [2090.0]	5-11/16 [144.5]	25-13/64 [640.0]	35-7/16 [900.0]	7.0 [178.0]	9-3/4 [247.5]	4-7/8 [122.0]	9-1/4 [235.0]
50TJ024	96-1/2 [2451.0]	96.0 [2440.0]	49.0 [1244.5]	88 - 7/16 [2247.0]	92-3/64 [2338.0]	92-1/8 [2340.0]	5-11/16 [144.5]	29-47/64 [755.0]	35-7/16 [900.0]	9-2/3 [245.5]	6-1/4 [159.5]	4-7/8 [122.0]	9-1/4 [235.0]
50TJ028	96-1/2 [2451.0]	96.0 [2440.0]	49.0 [1244.5]	88 - 7/16 [2247.0]	92-3/64 [2338.0]	92-1/8 [2340.0]	5-11/16 [144.5]	29-47/64 [755.0]	35-7/16 [900.0]	9-2/3 [245.5]	6-1/4 [159.5]	4-7/8 [122.0]	9-1/4 [235.0]
50TJ032	96-1/2 [2451.0]	102-23/64 [2600.0]	54.0 [1372.0]	94-27/32 [2409.0]	98-11/32 [2318.0]	92-1/8 [2315.0]	6-5/8 [168.3]	29-47/64 [755.0]	39-3/8 [1000.0]	9-2/3 [245.5]	10-3/8 [263.0]	4-7/8 [122.0]	9-1/4 [235.0]



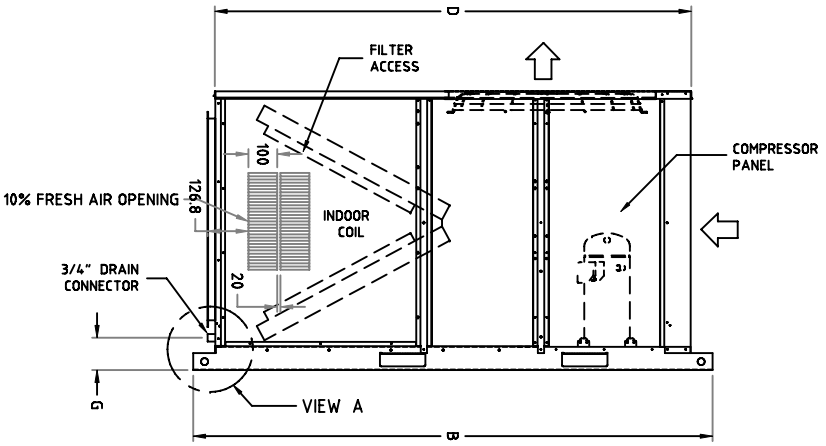


UNIT	CORNER WEIGHTS (Kg)					CENTER OF GRAVITY		
	A	B	C	D	Total	K	L	M
50TJ016	180	173	180	190	723	41.0 [1041.0]	42.0 [1067.0]	22.0 [559.0]
50TJ020	191	183	200	211	786	40.0 [1016.0]	42.0 [1067.0]	20.0 [508.0]
50TJ024	203	195	221	231	850	41-3/8 [1051.0]	47.0 [1194.0]	18.0 [457.0]
50TJ028	218	210	242	253	923	40-11/32 [1025.0]	47.0 [1194.0]	16.0 [406.0]
50TJ032	220	211	278	290	1000	41.0 [1041.0]	47.0 [1194.0]	18.0 [457.0]



NOTES:

1. Dimensions in. [ ] are in millimeters.
2. ⊕ Center of Gravity.
3. ⇨ Direction of airflow.
4. Minimum clearance :
   - Rear : 7.0'-0' (2134) for coil removal. This dimension can be reduced to 4.0'-0" (1219) if conditions permit coil removal from the top.
   - Top : 6'-0" (1829) to assure proper condenser fan operation.
   - Side: 4'-0" (1219) for compressor, filter & control box access.
   - Local codes or jurisdiction may prevail.
5. With the exception of clearance for the condenser coil and the damper/ power exhaust as stated in Note no. 6, a removable fence or barricade requires no clearance.
6. Dimensions are from outside of corner post. Allow 0'-5/16" (8) on each side for top cover drip edge.



Performance data (60 Hz)

COOLING CAPACITIES — ENGLISH

50TJ016 (15 TONS)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF											
		4500/0.10				5250/0.12				6000/0.14			
		Evaporator Air — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
75	TC	164	177	193	212	171	181	197	216	178	184	202	220
	SHC	164	146	124	100	171	157	132	105	178	169	140	111
	kW	13.6	14.0	14.4	15.0	13.9	14.2	14.6	15.1	14.1	14.3	14.7	15.2
85	TC	159	170	186	204	166	174	190	208	172	178	194	212
	SHC	159	142	120	98	166	152	129	102	172	163	137	107
	kW	14.8	15.2	15.6	16.1	15.1	15.3	15.8	16.3	15.3	15.5	15.9	16.5
95	TC	154	163	178	195	160	167	182	200	166	170	**186**	204
	SHC	153	139	117	94	160	148	126	100	166	158	**133**	104
	kW	16.1	16.4	16.9	17.4	16.3	16.6	17.0	17.6	16.6	16.7	**17.2**	17.7
105	TC	148	155	170	186	154	159	174	190	160	162	177	193
	SHC	147	135	114	91	154	144	122	96	160	155	130	101
	kW	17.5	17.6	18.2	18.7	17.7	17.8	18.3	18.8	17.9	17.9	18.5	18.9
115	TC	142	148	162	176	148	151	165	180	153	153	167	183
	SHC	142	131	111	88	148	140	118	93	150	150	126	97
	kW	18.9	19.0	19.5	20.0	19.1	19.1	19.7	20.2	19.2	19.2	19.8	20.2
120	TC	140	145	159	173	146	148	162	177	151	151	164	179
	SHC	140	130	110	87	146	139	117	92	148	148	125	96
	kW	19.3	19.4	19.9	20.4	19.5	19.5	20.0	20.6	19.6	19.6	20.2	20.6
125	TC	139	144	157	171	144	147	160	—	149	149	162	—
	SHC	139	129	109	86	144	139	116	—	147	147	124	—
	kW	19.6	19.6	20.2	20.6	19.8	19.8	20.2	—	19.9	19.9	20.4	—

50TJ016 (15 TONS)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF							
		6750/0.15				7500/0.16			
		Evaporator Air — Ewb (F)							
		57	62	67	72	57	62	67	72
75	TC	183	188	204	224	188	190	206	226
	SHC	183	176	147	116	188	185	157	120
	kW	14.3	14.4	14.9	15.4	14.4	14.5	14.9	15.4
85	TC	178	181	197	216	182	183	199	218
	SHC	178	172	144	112	182	180	151	117
	kW	15.5	15.6	16.1	16.6	15.6	15.7	16.1	16.7
95	TC	171	173	189	206	175	175	190	208
	SHC	171	168	141	109	175	175	147	113
	kW	16.7	16.8	17.3	17.8	16.9	16.9	17.4	17.9
105	TC	164	165	179	196	168	168	181	197
	SHC	164	163	137	105	168	168	143	109
	kW	18.1	18.1	18.5	19.1	18.2	18.2	18.6	19.1
115	TC	157	157	169	185	160	160	171	187
	SHC	156	156	133	102	160	160	140	106
	kW	19.4	19.4	19.9	20.4	19.5	19.5	19.9	20.4
120	TC	154	154	166	182	158	158	168	183
	SHC	154	154	131	100	158	158	138	105
	kW	19.8	19.8	20.2	20.8	19.9	19.9	20.4	20.8
125	TC	153	153	164	—	156	156	166	—
	SHC	153	153	130	—	156	156	137	—
	kW	20.0	20.0	20.4	—	20.2	20.2	20.6	—

LEGEND

BF – Bypass factor
Edb – Entering Dry-Bulb
Ewd – Entering Wet-Bulb
KW – Compressor Motor Power Input
Idb – Leaving Dry-Bulb
Iwb – Leaving Wet-Bulb
SHC – Sensible Heat Capacity (1000 Rtuh) Gross
TC – Total Capacity (1000 Btuh) Gross

NOTES:

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

$$tIdb = tedb - \frac{\text{Sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

TIwb = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil.

$$hIdb = hedb - \frac{\text{Total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: hewb = 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 x (1-BF) x (edb – 80

Performance data (60 Hz)

COOLING CAPACITIES — ENGLISH (cont)

50TJ020 (18 TONS)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF								
		5400/0.095			6000/0.105			7000/0.120		
		Evaporator Air — Ewb (F)								
		62	67	72	62	67	72	62	67	72
75	TC	191	211	231	194	213	235	198	218	239
	SHC	165	138	111	173	145	115	187	155	121
	KW	14.3	14.9	14.2	14.4	15.0	15.6	14.6	15.1	15.7
85	TC	184	202	224	187	206	226	191	209	231
	SHC	161	135	108	170	142	112	183	152	119
	KW	15.2	15.6	16.2	15.3	15.8	16.4	15.5	15.9	16.5
95	TC	181	199	220	184	**201**	223	188	205	228
	SHC	162	135	108	170	**142**	112	183	153	118
	KW	15.6	16.0	16.7	15.6	**16.2**	16.7	15.8	16.3	16.9
105	TC	176	194	214	180	196	217	183	201	219
	SHC	162	134	107	170	142	111	183	152	118
	KW	17.8	18.2	18.8	17.8	18.3	19.0	18.0	18.5	19.1
115	TC	171	188	208	173	189	210	179	193	212
	SHC	161	134	106	168	140	109	179	151	116
	KW	19.6	20.1	20.7	19.8	20.3	20.9	20.0	20.4	21.0
120	TC	164	181	200	166	182	202	172	185	204
	SHC	155	129	102	162	135	105	172	146	111
	KW	20.3	20.8	21.5	20.4	20.9	21.5	20.7	21.1	21.7
125	TC	153	169	189	156	170	191	161	173	193
	SHC	146	122	96	153	128	99	160	138	105
	KW	21.3	21.9	22.4	21.5	21.9	22.3	21.7	22.2	22.6

50TJ020 (18 TONS)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF					
		8000/0.140			9000/0.150		
		Evaporator Air — Ewb (F)					
		62	67	72	62	67	72
75	TC	202	221	243	206	223	245
	SHC	199	166	128	206	175	133
	KW	14.8	15.3	15.9	14.9	15.4	16.0
85	TC	194	213	234	199	215	237
	SHC	194	162	125	199	172	131
	KW	15.6	16.1	16.7	15.7	16.2	16.8
95	TC	192	208	230	197	210	232
	SHC	192	163	124	197	172	131
	KW	16.0	16.5	17.0	16.2	16.6	17.1
105	TC	189	203	224	193	204	226
	SHC	188	162	124	193	172	130
	KW	18.2	18.6	19.3	18.4	18.7	19.3
115	TC	184	195	214	188	196	217
	SHC	184	162	122	188	171	128
	KW	20.2	20.5	21.1	20.3	20.5	21.2
120	TC	177	187	—	181	188	—
	SHC	177	156	—	181	165	—
	KW	20.9	21.1	—	21.1	21.3	—

LEGEND
BF – Bypass factor
Edb – Entering Dry-Bulb
Ewd – Entering Wet-Bulb
KW – Compressor Motor Power Input
Idb – Leaving Dry-Bulb
Iwb – Leaving Wet-Bulb
SHC – Sensible Heat Capacity (1000 Rtuh) Gross
TC – Total Capacity (1000 Btuh) Gross

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

$$tIdb = tedb - \frac{\text{Sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

TIwb = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil.

$$hIdb = hedb - \frac{\text{Total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: hewb = 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 x (1-BF) x (edb – 80).

Performance data (60 Hz)

COOLING CAPACITIES — ENGLISH (cont)

50TJ024 (20 TONS)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF											
		6,000/0.075				7,000/0.085				8,000/0.100			
		Evaporator Air — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
75	TC	209	222	246	270	219	228	251	277	227	231	256	282
	SHC	209	190	160	130	219	205	171	136	227	219	182	143
	kW	15.7	16.0	16.6	17.2	15.9	16.2	16.8	17.4	16.2	16.3	16.9	17.6
85	TC	203	214	237	261	212	220	242	267	220	224	246	272
	SHC	203	186	157	126	212	201	168	133	220	215	179	140
	kW	17.0	17.3	17.9	18.5	17.3	17.5	18.1	18.7	17.5	17.6	18.2	18.9
95	TC	197	207	228	252	206	211	233	257	213	215	**237**	261
	SHC	197	182	153	123	206	196	164	130	213	210	**175**	136
	kW	18.5	18.7	19.3	19.8	18.8	18.9	19.4	20.1	19.0	19.0	**19.6**	20.2
105	TC	190	197	218	241	198	202	222	246	205	205	226	250
	SHC	190	178	149	119	198	192	160	126	204	204	171	133
	kW	20.1	20.1	20.6	21.3	20.3	20.2	20.8	21.5	20.4	20.4	21.0	21.7
115	TC	183	188	207	228	191	192	211	233	197	197	215	237
	SHC	183	173	145	117	191	187	156	122	197	197	166	128
	kW	21.7	21.7	22.1	22.8	22.0	21.9	22.3	22.9	22.0	22.0	22.4	23.1
120	TC	175	178	196	217	182	182	200	221	188	188	202	224
	SHC	175	168	141	111	181	181	152	117	188	188	162	125
	kW	23.2	23.2	23.7	24.3	23.4	23.4	23.8	24.4	23.6	23.6	23.9	24.6
125	TC	167	168	185	206	172	172	189	209	179	179	189	211
	SHC	167	163	137	105	172	172	148	112	179	179	158	122
	kW	24.7	24.7	25.3	25.8	24.9	24.9	25.3	25.9	25.2	25.2	25.4	26.1

50TJ024 (20 TONS)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF							
		9,000/0.110				10,000/0.120			
		Evaporator Air — Ewb (F)							
		57	62	67	72	57	62	67	72
75	TC	234	235	259	286	240	240	262	289
	SHC	234	231	193	149	240	240	203	156
	Kw	16.4	16.5	17.1	17.7	16.6	16.7	17.2	17.8
85	TC	227	227	250	276	233	233	252	279
	SHC	227	226	189	147	233	233	200	153
	KW	17.7	17.8	18.4	19.0	17.9	18.0	18.5	19.2
95	TC	220	220	239	265	225	225	241	267
	SHC	220	219	185	143	225	225	195	149
	KW	19.2	19.2	19.8	20.4	19.4	19.4	19.8	20.5
105	TC	212	212	228	254	216	216	230	255
	SHC	212	211	181	139	216	216	191	145
	KW	20.7	20.7	21.1	21.8	20.9	20.9	21.3	21.9
115	TC	203	203	217	240	207	207	218	242
	SHC	203	203	177	135	207	207	186	141
	KW	22.2	22.2	22.6	23.2	22.4	22.4	22.6	23.3
120	TC	194	194	204	226	198	198	206	227
	SHC	194	194	172	130	198	198	181	137
	KW	23.8	23.8	24.1	24.7	3.9	3.9	24.2	24.8

LEGEND

BF – Bypass factor
Edb – Entering Dry-Bulb
Ewd – Entering Wet-Bulb
KW – Compressor Motor Power Input
Idb – Leaving Dry-Bulb
Iwb – Leaving Wet-Bulb
SHC – Sensible Heat Capacity (1000 Rtuh) Gross
TC – Total Capacity (1000 Btuh) Gross

NOTES:

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

$$tIdb = tedb - \frac{\text{Sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

TIwb = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil.

$$hIdb = hedb - \frac{\text{Total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: hewb = 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	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 x (1-BF) x (edb – 80).

Performance data (60 Hz)

COOLING CAPACITIES — ENGLISH (cont)

50TJ028 (25 TONS)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF											
		7,000/0.05				8,000/0.06				9,000/0.07			
		Evaporator Air — Ewb (F)											
		57	62	67	72	57	62	67	72	57	62	67	72
75	TC	256	271	298	328	266	277	304	334	275	281	308	339
	SHC	255	232	195	158	266	250	208	167	275	265	223	177
	kW	19.1	19.5	20.4	21.2	19.5	19.7	20.6	21.4	19.8	19.9	20.7	21.6
85	TC	248	262	287	317	259	267	294	324	268	272	298	330
	SHC	248	227	191	155	259	244	203	162	268	259	216	170
	kW	21	21.4	22.2	23.1	21.4	21.6	22.4	23.3	21.7	21.8	20.6	23.5
95	TC	242	252	277	306	251	258	283	312	260	261	**288**	317
	SHC	242	223	187	150	251	240	199	158	260	254	**210**	165
	kW	23	23.3	24.1	25.1	23.4	23.6	24.4	25.3	23.7	23.8	**24.5**	25.5
105	TC	234	241	266	293	243	247	272	299	251	252	275	302
	SHC	234	218	182	146	243	233	195	153	251	246	205	161
	kW	25.1	25.3	26.1	27	25.5	25.6	26.4	27.4	25.8	25.8	26.5	27.5
115	TC	226	231	254	279	235	236	259	284	241	241	261	288
	SHC	226	212	178	141	235	228	189	148	241	238	201	156
	kW	27.4	27.4	28.3	29.1	27.7	27.7	28.5	29.3	27.9	27.9	28.6	29.5
120	TC	221	224	246	275	229	229	251	280	235	235	253	284
	SHC	221	209	175	140	229	223	186	147	235	233	197	155
	kW	28.7	28.7	29.6	29.7	29	29	29.8	30	29.2	29.2	29.9	30
125	TC	217	219	240	272	224	224	245	277	231	231	247	281
	SHC	217	207	173	139	224	219	184	146	231	229	194	154
	kW	29.6	29.6	30.5	30.1	29.9	29.9	30.7	30.5	30.1	30.1	30.8	30.3

50TJ028 (25 TONS)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF							
		10,000/0.08				11,250/0.09			
		Evaporator Air — Ewb (F)							
		57	62	67	72	57	62	67	72
75	TC	283	286	312	342	292	293	316	346
	SHC	283	279	235	184	292	291	249	197
	kW	20	20.2	20.9	21.8	20.3	20.4	21	21.9
85	TC	275	278	303	334	283	284	306	337
	SHC	275	271	226	177	283	283	243	189
	kW	22	22	22.8	23.7	22.3	22.3	22.9	23.9
95	TC	267	267	291	321	274	274	294	326
	SHC	267	263	222	172	274	274	236	181
	kW	24	24	24.7	25.7	24.3	24.3	24.9	25.8
105	TC	257	257	279	307	264	264	282	311
	SHC	257	255	217	167	264	264	230	175
	kW	26.1	26.1	26.7	27.7	26.3	26.3	26.9	27.9
115	TC	247	247	264	291	253	253	267	294
	SHC	247	247	211	162	253	253	225	170
	KW	28.2	28.2	28.8	29.7	28.4	28.4	29	29.9
120	TC	240	240	256	—	246	246	258	—
	SHC	240	240	208	—	246	246	221	—
	KW	29.5	29.5	30.1	—	29.4	29.4	30.2	—

LEGEND

BF – Bypass factor
Edb – Entering Dry-Bulb
Ewd – Entering Wet-Bulb
KW – Compressor Motor Power Input
Idb – Leaving Dry-Bulb
Iwb – Leaving Wet-Bulb
SHC – Sensible Heat Capacity (1000 Rtuh) Gross
TC – Total Capacity (1000 Btuh) Gross

NOTES:

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

$$tIdb = tedb - \frac{\text{Sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

TIwb = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil.

$$hIdb = hedb - \frac{\text{Total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: hewb = 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	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 x (1-BF) x (edb – 80).

Performance data (60 Hz)

COOLING CAPACITIES — ENGLISH (cont)

50TJ0032 (30 TONS)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF								
		8,500/0.07			9,500/0.08			10,500/0.09		
		Evaporator Air — Ewb (F)								
		62	67	72	62	67	72	62	67	72
75	TC	325	359	395	333	367	404	339	373	411
	SHC	266	234	191	297	249	198	317	264	210
	kW	24.1	24.9	25.9	24.3	25.2	26.1	24.4	25.4	26.4
85	TC	314	346	381	321	354	389	327	360	396
	SHC	261	229	184	292	243	194	309	258	203
	kW	26.6	27.6	28.5	26.8	27.8	28.8	27.1	28.0	29.0
95	TC	302	333	366	308	340	373	314	**345**	380
	SHC	255	224	180	285	238	189	303	**253**	197
	kW	29.5	30.3	31.3	29.6	30.6	31.5	29.8	**30.8**	31.8
105	TC	289	319	350	295	325	357	301	330	363
	SHC	248	218	174	278	231	183	295	246	191
	kW	32.4	33.3	34.3	32.6	33.6	34.5	32.8	33.7	34.8
115	TC	275	303	333	280	308	338	287	313	342
	SHC	243	212	168	271	225	177	286	239	184
	kW	35.4	36.3	37.3	35.6	36.6	37.5	36.0	36.8	37.8
120	TC	271	298	—	276	303	—	282	306	—
	SHC	241	210	—	269	223	—	281	237	—
	kW	36.3	37.3	—	36.6	37.4	—	36.8	37.6	—
125	TC	267	293	—	273	298	—	280	299	—
	SHC	239	206	—	267	219	—	280	232	—
	kW	36.9	38.0	—	37.2	38	—	37.5	38.4	—

50TJ0032 (30 TONS)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF					
		11,500/0.1			12,500/0.11		
		Evaporator Air — Ewb (F)					
		62	67	72	62	67	72
75	TC	343	376	416	351	382	420
	SHC	321	281	218	351	297	233
	Kw	24.7	25.5	26.6	24.9	25.8	26.7
85	TC	332	365	402	340	370	406
	SHC	313	272	211	340	289	223
	kW	27.3	28.2	29.2	27.6	28.4	29.4
95	TC	320	350	385	449	354	390
	SHC	305	266	205	448	282	217
	kW	30.1	30.9	32.0	30.4	31.2	32.2
105	TC	307	333	367	316	338	370
	SHC	294	259	200	316	275	211
	kW	33.1	33.9	35.0	33.4	34.0	35.1
115	TC	294	316	—	302	320	—
	SHC	282	253	—	302	268	—
	kW	36.2	36.9	—	36.6	37.2	—
120	TC	289	309	—	297	—	—
	SHC	277	250	—	297	—	—
	kW	37.2	37.8	—	37.4	—	—

LEGEND

BF – Bypass factor
Edb – Entering Dry-Bulb
Ewd – Entering Wet-Bulb
KW – Compressor Motor Power Input
Idb – Leaving Dry-Bulb
Iwb – Leaving Wet-Bulb
SHC – Sensible Heat Capacity (1000 Rtuh) Gross
TC – Total Capacity (1000 Btuh) Gross

NOTES:

4. Direct interpolation is permissible. Do not extrapolate.
5. the following formulas may be used:

$$tIdb = tedb - \frac{\text{Sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

TIwb = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil.

$$hIdb = hedb - \frac{\text{Total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: hewb = Enthalpy of air entering evaporator coil

6. 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 x (1-BF) x (edb – 80).

Performance data (60 Hz)

COOLING CAPACITIES — SI

50TJ016 (51 kW)

Temp (C) Air Entering Condenser (Edb)		Evaporator Air Quantity — L/s/BF											
		2124/0.10				2478/0.12				2832/0.14			
		Evaporator Air — Ewb (C)											
		14	17	19	22	14	17	19	22	14	17	19	22
24	TC	48.0	51.8	56.5	62.0	50.0	53.0	57.6	63.2	52.1	53.8	59.1	64.4
	SHC	48.0	42.7	36.3	29.3	50.0	45.9	38.6	30.7	52.1	49.4	41.0	32.5
	KW	13.6	14	14.4	15	13.9	14.2	14.6	15.1	14.1	14.3	14.7	15.2
29	TC	46.5	49.7	54.4	59.7	48.6	50.9	55.6	60.9	50.3	52.1	56.8	62.0
	SHC	46.5	41.5	35.1	28.7	48.6	44.5	37.7	29.8	50.3	47.7	40.1	31.3
	KW	14.8	15.2	15.6	16.1	15.1	15.3	15.8	16.3	15.3	15.5	15.9	16.5
35	TC	45.1	47.7	52.1	57.1	46.8	48.9	53.3	58.5	48.6	49.7	**54.4**	59.7
	SHC	44.8	40.7	34.2	27.5	46.8	43.3	36.9	29.3	48.6	46.2	**38.9**	30.4
	KW	16.1	16.4	16.9	17.4	16.3	16.6	17	17.6	16.6	16.7	**17.2**	17.7
41	TC	43.3	45.4	49.7	54.4	45.1	46.5	50.9	55.6	46.8	47.4	51.8	56.5
	SHC	43.0	39.5	33.4	26.6	45.1	42.1	35.7	28.1	46.8	45.4	38.0	29.6
	KW	17.5	17.6	18.2	18.7	17.7	17.8	18.3	18.8	17.9	17.9	18.5	18.9
46	TC	41.5	43.3	47.4	51.5	43.3	44.2	48.3	52.7	44.8	44.8	48.9	53.5
	SHC	41.5	38.3	32.5	25.7	43.3	41.0	34.5	27.2	44.8	43.9	36.9	28.4
	KW	18.9	19	19.5	20	19.1	19.1	19.7	20.2	19.3	19.2	19.8	20.2
49	TC	41.0	42.4	46.5	50.6	42.7	43.3	47.4	51.8	44.2	44.2	48.0	52.4
	SHC	41.0	38.0	32.2	25.5	42.7	40.7	34.2	26.9	44.2	43.3	36.6	28.1
	KW	19.3	19.4	19.9	20.4	19.5	19.5	20	20.6	19.7	19.6	20.2	20.6
52	TC	40.7	42.1	45.9	50.0	42.1	43.0	46.8	—	43.6	43.6	47.4	—
	SHC	40.7	37.7	31.9	25.2	42.1	40.7	33.9	—	43.6	43.0	36.3	—
	KW	19.6	19.6	20.2	20.6	19.8	19.8	20.2	—	20	19.9	20.4	—

50TJ016 (51 kW)

Temp (C) Air Entering Condenser (Edb)		Evaporator Air Quantity — L/s/BF							
		3186/0.15				3540/0.16			
		Evaporator Air — Ewb (C)							
		14	17	19	22	14	17	19	22
24	TC	53.5	55.0	59.7	65.5	55.0	55.7	60.3	66.1
	SHC	53.5	51.5	43.0	33.9	55.0	54.1	45.9	35.1
	KW	14.3	14.4	14.9	15.4	14.4	14.5	14.9	15.4
29	TC	52.1	53.0	57.6	63.2	53.3	53.5	58.2	63.8
	SHC	52.1	50.3	42.1	32.8	53.3	52.7	44.2	34.2
	KW	15.5	15.6	16.1	16.6	15.6	15.7	16.1	16.7
35	TC	50.0	50.6	55.3	60.3	51.2	51.2	55.6	60.9
	SHC	50.0	49.2	41.3	31.9	51.2	51.2	43.0	33.1
	KW	16.7	16.8	17.3	17.8	16.9	16.9	17.4	17.9
41	TC	48.0	48.3	52.4	57.3	49.2	49.2	53.0	57.6
	SHC	48.0	47.7	40.1	30.7	49.2	49.2	41.8	31.9
	KW	18.1	18.1	18.5	19.1	18.2	18.2	18.6	19.1
46	TC	45.9	45.9	49.4	54.1	47.1	46.8	50.0	54.7
	SHC	45.9	45.6	38.9	29.8	47.1	46.8	41.0	31.0
	KW	19.4	19.4	19.9	20.4	19.5	19.5	19.9	20.4
49	TC	45.1	45.1	48.6	53.3	46.2	46.2	49.2	53.5
	SHC	45.1	45.1	38.3	29.3	46.2	46.2	40.4	30.7
	KW	19.8	19.8	20.2	20.8	19.9	19.9	20.4	20.8
52	TC	44.8	44.8	48.0	—	45.6	45.6	48.6	—
	SHC	44.8	44.8	38.0	—	45.6	45.6	40.1	—
	KW	20	20	20.4	—	20.2	20.2	20.6	—

LEGEND

BF – Bypass Factor
Edb – Entering Dry Bulb Temperature (C)
Ewd – Entering Wet Bulb Temperature (C)
KW – Compressor Input (kW)
SHC – Sensible Heat Capacity (kW)
TC – Total Capacity (kW)

NOTES:
1. Ratings are gross, and do not account for the effects of the evaporator-fan motor power and heat.
2. Direct interpolation is permissible. Do not extrapolate.
3. SHC is based on 26.7 C db temperature of air entering the unit. At any other temperature, correct the SHC read from the table of cooling capacities as follows:
Corrected SHCkW
= SHC + [1.23 x 10 –3 x (1 – BF) x (Cdb – 26.7) x L/s]
Observe the rule of sign. Above 26.7 C, SHC correction will be positive; add it to SHC. Below 26.7 C, SHC correction will be nega-tive; subtract it from SHC.
4. Formulas:

$$Cldb = Cedb - \frac{\text{Sensible capacity (kW) X 1000}}{\text{1.23 X L/s}}$$

Leaving wet bulb = wet bulb temperature corresponding to enthalpy of air leaving coil (hlwb).

$$hldb = hedb - \frac{\text{Total capacity (kW) X 1000}}{\text{1.20 X L/s}}$$

Where hewb is enthalpy of air entering evaporator coil (kJ/kg).

Performance data (60 Hz)

COOLING CAPACITIES — SI (cont)

50TJ020 (61 kW)

Temp (C) Air Entering Condenser (Edb)		Evaporator Air Quantity — L/s/BF								
		2548/0.95			2832/0.105			3304/0.120		
		Evaporator Air — Ewb (C)								
		17	19	22	17	19	22	17	19	22
24	TC	55.9	61.7	67.6	56.8	62.3	68.8	57.9	63.8	69.9
	SHC	48.3	40.4	32.5	50.6	42.4	33.6	54.7	45.4	35.4
	KW	14.3	14.9	14.2	14.4	15.0	15.6	14.6	15.1	15.7
29	TC	53.8	59.1	65.5	54.7	60.3	66.1	55.9	61.2	67.6
	SHC	47.1	39.5	31.6	49.7	41.5	32.8	53.5	44.5	34.8
	KW	15.2	15.6	16.2	15.3	15.8	16.4	15.5	15.9	16.5
35	TC	52.8	58.3	64.2	53.8	**58.8**	65.2	54.9	60.0	66.7
	SHC	47.4	39.6	31.5	49.9	**41.5**	32.7	53.5	44.7	34.5
	KW	15.6	16.0	16.7	15.6	**16.2**	16.7	15.8	16.3	16.9
41	TC	51.7	56.8	62.7	52.5	57.4	63.6	53.4	58.7	64.3
	SHC	47.4	39.4	31.3	49.8	41.5	32.6	53.4	44.5	34.4
	kW	17.8	18.2	18.8	17.8	18.3	19.0	18.0	18.5	19.1
46	TC	50.1	55.1	60.8	50.7	55.4	61.3	52.3	56.4	62.0
	SHC	47.0	39.2	31.0	49.1	41.0	31.9	52.3	44.2	33.8
	KW	19.6	20.1	20.7	19.8	20.3	20.9	20.0	20.4	21.0
49	TC	48.0	52.9	58.4	48.7	53.2	59.1	50.2	54.2	59.6
	SHC	45.3	37.8	29.8	47.4	39.5	30.8	50.2	42.6	32.6
	kW	20.3	20.8	21.5	20.4	20.9	21.5	20.7	21.1	21.7
52	TC	44.9	49.5	55.2	45.7	49.8	55.9	47.2	50.7	56.3
	SHC	42.6	35.6	28.2	44.9	37.3	29.2	46.9	40.3	30.8
	kW	21.3	21.9	22.4	21.5	21.9	22.3	21.7	22.2	22.6

50TJ020 (61 kW)

Temp (C) Air Entering Condenser (Edb)		Evaporator Air Quantity — L/s/BF					
		3776/0.140			4248/0.150		
		Evaporator Air — Ewb (C)					
		17	19	22	17	19	22
24	TC	59.1	64.7	71.1	60.3	65.2	71.7
	SHC	58.2	48.6	37.5	60.3	51.2	38.9
	kW	14.8	15.3	15.9	14.9	15.4	16.0
29	TC	56.8	62.3	68.5	58.2	62.9	69.3
	SHC	56.8	47.4	36.6	58.2	50.3	38.3
	kW	15.6	16.1	16.7	15.7	16.2	16.8
35	TC	56.1	60.9	67.2	57.7	61.6	67.8
	SHC	56.1	47.7	36.3	57.7	50.5	38.5
	kW	16.0	16.5	17.0	16.2	16.6	17.1
41	TC	55.3	59.3	65.4	56.5	59.6	66.0
	SHC	55.0	47.4	36.2	56.5	50.4	38.1
	kW	18.2	18.6	19.3	18.4	18.7	19.3
46	TC	53.8	57.0	62.6	55.1	57.2	63.6
	SHC	53.8	47.3	35.7	55.1	50.1	37.6
	kW	20.2	20.5	21.1	20.3	20.5	21.2
49	TC	51.7	54.8	—	52.9	55.1	—
	SHC	51.7	45.7	—	52.9	48.4	—
	kW	20.9	21.1	—	21.1	21.3	—

LEGEND

BF – Bypass Factor
Edb – Entering Dry Bulb Temperature (C)
Ewd – Entering Wet Bulb Temperature (C)
KW – Compressor Input (kW)
SHC – Sensible Heat Capacity (kW)
TC – Total Capacity (kW)

NOTES:
1. Ratings are gross, and do not account for the effects of the evaporator-fan motor power and heat.
2. Direct interpolation is permissible. Do not extrapolate.
3. SHC is based on 26.7 C db temperature of air entering the unit. At any other temperature, correct the SHC read from the table of cooling capacities as follows:
Corrected SHCkW
= SHC + [1.23 x 10 –3 x (1 – BF) x (Cdb – 26.7) x L/s]
Observe the rule of sign. Above 26.7 C, SHC correction will be positive; add it to SHC. Below 26.7 C, SHC correction will be nega-tive; subtract it from SHC.
4. Formulas:

$$CIdb = Cedb - \frac{\text{Sensible capacity (kW) X 1000}}{1.23 \text{ X L/s}}$$

Leaving wet bulb = wet bulb temperature corresponding to enthalpy of air leaving coil (hlwb).

$$hIdb = hedb - \frac{\text{Total capacity (kW) X 1000}}{1.20 \text{ X L/s}}$$

Where hewb is enthalpy of air entering evaporator coil (kJ/kg).

Performance data (60 Hz)

COOLING CAPACITIES — SI (cont)

50TJ024 (68 kW)

Temp (C) Air Entering Condenser (Edb)		Evaporator Air Quantity — L/s/BF											
		2832/0.075				3304/0.085				3776/0.100			
		Evaporator Air — Ewb (C)											
		14	17	19	22	14	17	19	22	14	17	19	22
24	TC	61.2	65.0	72.0	79.0	64.1	66.7	73.4	81.1	66.4	67.6	74.9	82.5
	SHC	61.2	55.6	46.8	38.0	64.1	60.0	50.0	39.8	66.4	64.1	53.3	41.8
	kW	15.7	16	16.6	17.2	15.9	16.2	16.8	17.4	16.2	16.3	16.9	17.6
29	TC	59.4	62.6	69.3	76.4	62.0	64.4	70.8	78.1	64.4	65.5	72.0	79.6
	SHC	59.4	54.4	45.9	36.9	62.0	58.8	49.2	38.9	64.4	62.9	52.4	41.0
	kW	17	17.3	17.9	18.5	17.3	17.5	18.1	18.7	17.5	17.6	18.2	18.9
35	TC	57.6	60.6	66.7	73.7	60.3	61.7	68.2	75.2	62.3	62.9	**69.3**	76.4
	SHC	57.6	53.3	44.8	36.0	60.3	57.3	48.0	38.0	62.3	61.4	**51.2**	39.8
	kW	18.5	18.7	19.3	19.8	18.8	18.9	19.4	20.1	19	19	**19.6**	20.2
41	TC	55.6	57.6	63.8	70.5	57.9	59.1	65.0	72.0	60.3	60.0	66.1	73.2
	SHC	55.6	52.1	43.6	34.8	57.9	56.2	46.8	36.9	60.3	59.7	50.0	38.9
	kW	20.1	20.1	20.6	21.3	20.2	20.2	20.8	21.5	20.5	20.4	21	21.7
46	TC	53.5	55.0	60.6	66.7	55.9	56.2	61.7	68.2	57.6	57.6	62.9	69.3
	SHC	53.5	50.6	42.4	34.2	55.9	54.7	45.6	35.7	57.6	57.6	48.6	37.5
	kW	21.7	21.7	22.1	22.8	21.9	21.9	22.3	22.9	22	22	22.4	23.1
49	TC	51.2	52.1	57.3	63.5	53.3	53.3	58.5	64.7	55.0	55.0	59.1	65.5
	SHC	51.2	49.2	41.3	32.5	53.3	53.0	44.5	34.2	55.0	55.0	47.4	36.6
	kW	23.2	23.2	23.7	24.3	23.4	23.4	23.8	24.4	23.6	23.6	23.9	24.6
52	TC	48.9	49.2	54.0	60.3	50.4	50.4	55.3	61.2	52.4	52.4	55.3	61.7
	SHC	48.9	47.8	40.2	30.8	50.4	51.3	43.4	32.7	52.4	52.4	46.2	35.7
	kW	24.7	24.7	25.3	25.8	24.9	24.9	25.3	25.9	25.2	25.2	25.4	26.1

50TJ024 (68 kW)

Temp (C) Air Entering Condenser (Edb)		Evaporator Air Quantity — L/s/BF							
		4248/0.110				4720/0.120			
		Evaporator Air — Ewb (C)							
		14	17	19	22	14	17	19	22
24	TC	68.5	68.8	75.8	83.7	70.2	70.2	76.7	84.6
	SHC	68.5	67.6	56.5	43.6	70.2	70.2	59.4	45.6
	kW	16.4	16.5	17.1	17.7	16.6	16.7	17.2	17.8
29	TC	66.4	66.4	73.2	80.8	68.2	68.2	73.7	81.6
	SHC	66.4	66.1	55.3	43.0	68.2	68.2	58.5	44.8
	kW	17.7	17.8	18.4	19	17.9	18	18.5	19.2
35	TC	64.4	64.4	69.9	77.5	65.8	65.8	70.5	78.1
	SHC	64.4	64.1	54.1	41.8	65.8	65.8	57.1	43.6
	kW	19.2	19.2	19.8	20.4	19.4	19.4	19.8	20.5
41	TC	62.0	62.0	66.7	74.3	63.2	63.2	67.3	74.6
	SHC	62.0	61.7	53.0	40.7	63.2	63.2	55.9	42.4
	kW	20.7	20.7	21.1	21.8	20.9	20.9	21.3	21.9
46	TC	59.4	59.4	63.5	70.2	60.6	60.6	63.8	70.8
	SHC	59.4	59.4	51.8	39.5	60.6	60.6	54.4	41.3
	kW	22.2	22.2	22.6	23.2	22.4	22.4	22.6	23.3
49	TC	56.8	56.8	59.7	66.1	57.9	57.9	60.3	66.4
	SHC	56.8	56.8	50.3	38.0	57.9	57.9	53.0	40.1
	kW	23.8	23.8	24.1	24.7	3.9	3.9	24.2	24.8

LEGEND

BF – Bypass Factor
Edb – Entering Dry Bulb Temperature (C)
Ewd – Entering Wet Bulb Temperature (C)
KW – Compressor Input (kW)
SHC – Sensible Heat Capacity (kW)
TC – Total Capacity (kW)

NOTES:
1. Ratings are gross, and do not account for the effects of the evaporator-fan motor power and heat.
2. Direct interpolation is permissible. Do not extrapolate.
3. SHC is based on 26.7 C db temperature of air entering the unit. At any other temperature, correct the SHC read from the table of cooling capacities as follows:
Corrected SHCkW
= SHC + [1.23 x 10 –3 x (1 – BF) x (Cdb – 26.7) x L/s]
Observe the rule of sign. Above 26.7 C, SHC correction will be positive; add it to SHC. Below 26.7 C, SHC correction will be nega-tive; subtract it from SHC.
4. Formulas:

$$CIdb = Cedb - \frac{\text{Sensible capacity (kW)} \times 1000}{1.23 \times L/s}$$

Leaving wet bulb = wet bulb temperature corresponding to enthalpy of air leaving coil (hlwb).

$$hIdb = hedb - \frac{\text{Total capacity (kW)} \times 1000}{1.20 \times L/s}$$

Where hewb is enthalpy of air entering evaporator coil (kJ/kg).

Performance data (60 Hz)

COOLING CAPACITIES — SI (cont)

50TJ028 (85 kW)

Temp (C) Air Entering Condenser (Edb)		Evaporator Air Quantity — L/s/BF											
		3304/0.05				3776/0.06				4248/0.07			
		Evaporator Air — Ewb (C)											
		14	17	19	22	14	17	19	22	14	17	19	22
24	TC	74.9	79.3	87.2	96.0	77.8	81.1	89.0	97.7	80.5	82.2	90.1	99.2
	SHC	74.6	67.9	57.1	46.2	77.8	73.2	60.9	48.9	80.5	77.5	65.2	51.8
	kW	19.1	19.5	20.4	21.2	19.5	19.7	20.6	21.4	19.8	19.9	20.7	21.6
29	TC	72.6	76.7	84.0	92.8	75.8	78.1	86.0	94.8	78.4	79.6	87.2	96.6
	SHC	72.6	66.4	55.9	45.4	75.8	71.4	59.4	47.4	78.4	75.8	63.2	49.7
	kW	21.0	21.4	22.2	23.1	21.4	21.6	22.4	23.3	21.7	21.8	20.6	23.5
35	TC	70.8	73.7	81.1	89.5	73.4	75.5	82.8	91.3	76.1	76.4	**84.3**	92.8
	SHC	70.8	65.2	54.7	43.9	73.4	70.2	58.2	46.2	76.1	74.3	**61.4**	48.3
	kW	23.0	23.3	24.1	25.1	23.4	23.6	24.4	25.3	23.7	23.8	**24.5**	25.5
41	TC	68.5	70.5	77.8	85.7	71.1	72.3	79.6	87.5	73.4	73.7	80.5	88.4
	SHC	68.5	63.8	53.3	42.7	71.1	68.2	57.1	44.8	73.4	72.0	60.0	47.1
	kW	25.1	25.3	26.1	27.0	25.5	25.6	26.4	27.4	25.8	25.8	26.5	27.5
46	TC	66.1	67.6	74.3	81.6	68.8	69.1	75.8	83.1	70.5	70.5	76.4	84.3
	SHC	66.1	62.0	52.1	41.3	68.8	66.7	55.3	43.3	70.5	69.6	58.8	45.6
	kW	27.4	27.4	28.3	29.1	27.7	27.7	28.5	29.3	27.9	27.9	28.6	29.5
49	TC	64.7	65.5	72.0	80.4	67.0	67.0	73.4	81.8	68.8	68.8	74.0	83.1
	SHC	64.7	61.2	51.2	40.9	67.0	65.2	54.4	42.9	68.8	68.2	57.6	45.2
	kW	28.7	28.7	29.6	29.7	29.0	29.0	29.8	29.9	29.2	29.2	29.9	30.1
52	TC	63.8	64.1	70.5	79.6	65.6	65.6	71.8	80.9	67.7	67.7	72.4	82.3
	SHC	63.8	60.7	50.6	40.6	65.6	64.2	53.8	42.6	67.7	67.3	56.8	44.9
	kW	29.6	29.6	30.5	30.2	29.9	29.9	30.7	30.3	30.1	30.1	30.8	30.5

50TJ028 (85 kW)

Temp (C) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF							
		4720/0.08				5310/0.09			
		Evaporator Air — Ewb (C)							
		14	17	19	22	14	17	19	22
24	TC	82.8	83.7	91.3	100.1	85.4	85.7	92.5	101.2
	SHC	82.8	81.6	68.8	53.8	85.4	85.1	72.9	57.6
	kW	20.0	20.2	20.9	21.8	20.3	20.4	21.0	21.9
29	TC	80.5	81.3	88.7	97.7	82.8	83.1	89.5	98.6
	SHC	80.5	79.3	66.1	51.8	82.8	82.8	71.1	55.3
	kW	22.0	22.0	22.8	23.7	22.3	22.3	22.9	23.9
35	TC	78.1	78.1	85.1	93.9	80.2	80.2	86.0	95.4
	SHC	78.1	77.0	65.0	50.3	80.2	80.2	69.1	53.0
	kW	24.0	24.0	24.7	25.7	24.3	24.3	24.9	25.8
41	TC	75.2	75.2	81.6	89.8	77.2	77.2	82.5	91.0
	SHC	75.2	74.6	63.5	48.9	77.2	77.2	67.3	51.2
	kW	26.1	26.1	26.7	27.7	26.3	26.3	26.9	27.9
46	TC	72.3	72.3	77.2	85.1	74.0	74.0	78.1	86.0
	SHC	72.3	72.3	61.7	47.4	74.0	74.0	65.8	49.7
	kW	28.2	28.2	28.8	29.7	28.4	28.4	29.0	29.9
49	TC	70.2	70.2	74.9	—	72.0	72.0	75.5	—
	SHC	70.2	70.2	60.9	—	72.0	72.0	64.7	—
	kW	29.5	29.5	30.1	—	29.4	29.4	30.2	—

LEGEND

BF – Bypass Factor
Edb – Entering Dry Bulb Temperature (C)
Ewd – Entering Wet Bulb Temperature (C)
KW – Compressor Input (kW)
SHC – Sensible Heat Capacity (kW)
TC – Total Capacity (kW)

NOTES:
1. Ratings are gross, and do not account for the effects of the evaporator-fan motor power and heat.
2. Direct interpolation is permissible. Do not extrapolate.
3. SHC is based on 26.7 C db temperature of air entering the unit. At any other temperature, correct the SHC read from the table of cooling capacities as follows:

Corrected SHCkW
= SHC + [1.23 x 10 –3 x (1 – BF) x (Cdb – 26.7) x L/s]

Observe the rule of sign. Above 26.7 C, SHC correction will be positive; add it to SHC. Below 26.7 C, SHC correction will be nega-tive; subtract it from SHC.

4. Formulas:

$$CIdb = Cedb - \frac{\text{Sensible capacity (kW) X 1000}}{\text{1.23 X L/s}}$$

Leaving wet bulb = wet bulb temperature corresponding to enthalpy of air leaving coil (hlwb).

$$hIdb = hedb - \frac{\text{Total capacity (kW) X 1000}}{\text{1.20 X L/s}}$$

Where hewb is enthalpy of air entering evaporator coil (kJ/kg)

Performance data (60 Hz)

COOLING CAPACITIES — SI (cont)

50TJ032 (105 kW)

Temp (C) Air Entering Condenser (Edb)		Evaporator Air Quantity — L/s/BF								
		4011/0.07			4483/0.08			4955/0.09		
		Evaporator Air — Ewb (C)								
		17	19	22	17	19	22	17	19	22
24	TC	95.3	105.1	115.8	97.4	107.5	118.3	99.2	109.2	120.4
	SHC	77.9	68.6	55.8	87.1	72.8	58.1	93.0	77.3	61.4
	kW	24.1	25.0	25.9	24.4	25.2	26.2	24.5	25.4	26.4
29	TC	91.9	101.4	111.7	94.0	103.7	114.0	95.8	105.6	115.9
	SHC	76.5	67.1	54.0	85.4	71.3	56.9	90.7	75.5	59.3
	kW	26.6	27.6	28.6	26.9	27.8	28.8	27.1	28.1	29.0
35	TC	88.4	97.4	107.3	90.2	99.6	109.3	92.0	**101.0**	111.2
	SHC	74.8	65.5	52.8	83.6	69.7	55.2	88.9	**74.2**	57.7
	kW	29.5	30.4	31.3	29.6	30.6	31.6	29.9	**30.8**	31.8
40.5	TC	84.6	93.4	102.5	86.3	95.0	104.6	88.2	96.5	106.3
	SHC	72.8	64.0	51.1	81.6	67.8	53.6	86.4	72.1	55.9
	kW	32.4	33.4	34.3	32.6	33.6	34.6	32.9	33.7	34.8
46	TC	80.5	88.8	97.4	82.1	90.4	99.0	84.0	91.7	100.3
	SHC	71.2	62.2	49.2	79.4	66.0	51.7	83.8	70.1	53.9
	kW	35.4	36.4	37.3	35.6	36.6	37.6	36.0	36.8	37.8
49	TC	79.3	87.2	—	80.9	88.7	—	82.7	89.8	—
	SHC	70.6	61.6	—	78.7	65.4	—	82.6	69.4	—
	kW	36.4	37.3	—	36.6	37.4	—	36.8	37.7	—
52	TC	78.2	85.6	—	79.9	87.0	—	82.2	88.0	—
	SHC	70.0	60.5	—	78.2	64.1	—	82.1	67.9	—
	kW	37.0	38	—	37.2	38.0	—	37.6	38.5	—

50TJ032 (105 kW)

Temp (C) Air Entering Condenser (Edb)		Evaporator Air Quantity — L/s/BF					
		5426/0.10			5899/0.11		
		Evaporator Air — Ewb (C)					
		17	19	22	17	19	22
24	TC	100.7	110.3	121.9	102.8	112.1	123.1
	SHC	94.0	82.4	64.0	102.7	87.1	68.3
	kW	24.7	25.6	26.6	25.0	25.8	26.8
29	TC	97.2	106.9	117.7	99.7	108.5	118.9
	SHC	91.7	79.7	61.9	99.6	84.6	65.4
	kW	27.4	28.2	29.3	27.6	28.4	29.4
35	TC	93.7	102.6	112.8	96.4	103.9	114.2
	SHC	89.4	77.8	60.1	96.2	82.7	63.6
	kW	30.1	31.0	32.0	30.5	31.2	32.3
40.5	TC	90.0	97.7	104.3	92.6	99.0	108.5
	SHC	86.3	76.0	58.6	92.5	80.6	61.9
	kW	33.1	34.0	35.0	33.5	34.1	35.2
46	TC	86.3	92.8	—	88.6	93.8	—
	SHC	82.6	74.0	—	88.6	78.5	—
	kW	36.2	37.0	—	36.6	37.2	—
49	TC	84.7	90.6	—	86.9	—	—
	SHC	81.1	73.3	—	86.9	—	—
	kW	37.2	37.8	—	37.4	—	—

LEGEND

BF – Bypass Factor
Edb – Entering Dry Bulb Temperature (C)
Ewd – Entering Wet Bulb Temperature (C)
KW – Compressor Input (kW)
SHC – Sensible Heat Capacity (kW)
TC – Total Capacity (kW)

NOTES:
1. Ratings are gross, and do not account for the effects of the evaporator-fan motor power and heat.
2. Direct interpolation is permissible. Do not extrapolate.
3. SHC is based on 26.7 C db temperature of air entering the unit. At any other temperature, correct the SHC read from the table of cooling capacities as follows:

Corrected SHCkW
= SHC + [1.23 x 10 –3 x (1 – BF) x (Cdb – 26.7) x L/s]
Observe the rule of sign. Above 26.7 C, SHC correction will be positive; add it to SHC. Below 26.7 C, SHC correction will be nega-tive; subtract it from SHC.

4. Formulas:

$$CIdb = Cedb - \frac{\text{Sensible capacity (kW) X 1000}}{\text{1.23 X L/s}}$$

Leaving wet bulb = wet bulb temperature corresponding to enthalpy of air leaving coil (hlwb).

$$hIdb = hedb - \frac{\text{Total capacity (kW) X 1000}}{\text{1.20 X L/s}}$$

Where hewb is enthalpy of air entering evaporator coil (kJ/kg).

Performance Data (50 Hz)

COOLING CAPACITIES — ENGLISH

50TJ016 (15 TONS)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF								
		4500/0.10			5250/0.12			6000/0.14		
		Evaporator Air — Ewb (F)								
		62	67	72	62	67	72	62	67	72
75	TC	167	182	200	172	188	206	177	193	209
	SHC	142	121	98	154	129	104	162	137	109
	kW	11.3	11.7	13.3	11.5	1.9	13.4	11.6	12	13.5
85	TC	162	177	193	167	182	198	171	186	204
	SHC	139	118	96	150	126	101	159	134	107
	kW	12.7	13	14.7	12.8	13.2	14.9	12.6	13.3	15
95	TC	157	171	188	162	176	193	165	**180**	197
	SHC	137	115	94	147	124	99	157	**131**	103
	kW	14.1	14.5	16.3	14.3	14.6	16.5	14.4	**14.7**	16.6
105	TC	148	162	177	153	166	180	156	169	184
	SHC	130	111	89	140	119	94	150	126	99
	kW	15.7	16.2	18.1	15.9	16.3	18.3	16	16.4	18.4
115	TC	139	152	166	143	155	170	146	158	173
	SHC	125	106	85	135	113	90	144	121	94
	kW	17.4	17.9	18.4	17.6	18	18.6	17.7	18.1	18.7
120	TC	133	145	159	136	148	163	140	151	165
	SHC	121	102	82	131	110	86	139	117	91
	kW	18.4	18.9	19.4	18.5	19	19.6	18.7	19.1	19.8
125	TC	127	138	151	130	141	—	134	144	—
	SHC	117	99	81	126	106	—	134	113	—
	kW	19.3	19.7	20.3	19.4	19.9	—	19.6	20.1	—

50TJ016 (15 TONS)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF					
		6750/0.15			7500/0.16		
		Evaporator Air — Ewb (F)					
		62	67	72	62	67	72
75	TC	180	195	211	184	197	213
	SHC	171	147	118	180	154	125
	kW	11.7	12	13.6	11.7	12.1	13.6
85	TC	175	189	206	178	191	209
	SHC	168	141	113	176	151	116
	kW	13	13.4	15.1	13.1	13.5	15.2
95	TC	169	182	200	172	186	202
	SHC	166	139	108	172	146	113
	kW	14.5	14.9	16.7	14.6	15	16.8
105	TC	159	172	188	163	174	189
	SHC	158	133	103	163	140	107
	kW	16.1	16.5	18.5	16.2	16.6	18.6
115	TC	150	161	174	153	163	177
	SHC	150	127	98	154	134	104
	kW	17.9	18.3	18.7	18	18.3	18.8
120	TC	143	154	166	147	155	169
	SHC	144	124	95	148	129	101
	kW	18.8	19.2	19.8	18.9	19.3	19.8
125	TC	137	146	—	140	148	—
	SHC	138	119	—	142	125	—
	kW	19.7	20.1	—	19.9	20.1	—

LEGEND

BF – Bypass factor
Edb – Entering Dry-Bulb
Ewd – Entering Wet-Bulb
KW – Compressor Motor Power Input
Idb – Leaving Dry-Bulb
Iwb – Leaving Wet-Bulb
SHC – Sensible Heat Capacity (1000 Rtuh) Gross
TC – Total Capacity (1000 Btuh) Gross

NOTES:

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

$$tIdb = tedb - \frac{\text{Sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

TIwb = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil.

$$hIdb = hedb - \frac{\text{Total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: hewb = 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 x (1-BF) x (edb – 80)

Performance Data (50 Hz)

COOLING CAPACITIES — ENGLISH (cont)

50TJ020 (18 TONS)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF								
		5400/0.095			6000/0.105			7000/0.120		
		Evaporator Air — Ewb (F)								
		62	67	72	62	67	72	62	67	72
75	TC	191	211	231	194	213	235	198	218	239
	SHC	165	138	111	173	145	115	187	155	121
	KW	14.3	14.9	14.2	14.4	15.0	15.6	14.6	15.1	15.7
85	TC	184	202	224	187	206	226	191	209	231
	SHC	161	135	108	170	142	112	183	152	119
	KW	15.2	15.6	16.2	15.3	15.8	16.4	15.5	15.9	16.5
95	TC	181	199	220	184	**201**	223	188	205	228
	SHC	162	135	108	170	**142**	112	183	153	118
	KW	15.6	16.0	16.7	15.6	**16.2**	16.7	15.8	16.3	16.9
105	TC	176	194	214	180	196	217	183	201	219
	SHC	162	134	107	170	142	111	183	152	118
	KW	17.8	18.2	18.8	17.8	18.3	19.0	18.0	18.5	19.1
115	TC	171	188	208	173	189	210	179	193	212
	SHC	161	134	106	168	140	109	179	151	116
	KW	19.6	20.1	20.7	19.8	20.3	20.9	20.0	20.4	21.0
120	TC	164	181	200	166	182	202	172	185	204
	SHC	155	129	102	162	135	105	172	146	111
	KW	20.3	20.8	21.5	20.4	20.9	21.5	20.7	21.1	21.7
125	TC	153	169	189	156	170	191	161	173	193
	SHC	146	122	96	153	128	99	160	138	105
	KW	21.3	21.9	22.4	21.5	21.9	22.3	21.7	22.2	22.6

50TJ020 (18 TONS)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF		
		8000/0.140		
		Evaporator Air — Ewb (F)		
		62	67	72
75	TC	202	221	243
	SHC	199	166	128
	KW	14.8	15.3	15.9
85	TC	194	213	234
	SHC	194	162	125
	KW	15.6	16.1	16.7
95	TC	192	208	230
	SHC	192	163	124
	KW	16.0	16.5	17.0
105	TC	189	203	224
	SHC	188	162	124
	KW	18.2	18.6	19.3
115	TC	184	195	214
	SHC	184	162	122
	KW	20.2	20.5	21.1
120	TC	177	187	—
	SHC	177	156	—
	KW	20.9	21.1	—

LEGEND

BF – Bypass factor
Edb – Entering Dry-Bulb
Ewd – Entering Wet-Bulb
KW – Compressor Motor Power Input
Idb – Leaving Dry-Bulb
Iwb – Leaving Wet-Bulb
SHC – Sensible Heat Capacity (1000 Rtuh) Gross
TC – Total Capacity (1000 Btuh) Gross

NOTES:

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

$$tIdb = tedb - \frac{\text{Sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

TIwb = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil.

$$hIdb = hedb - \frac{\text{Total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: hewb = 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 x (1-BF) x (edb – 80)

Performance Data (50 Hz)

COOLING CAPACITIES — ENGLISH (cont)

50TJ024 (20 TONS)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF								
		6,000/0.075			7,000/0.085			8,000/0.100		
		Evaporator Air — Ewb (F)								
		62	67	72	62	67	72	62	67	72
75	TC	220	242	263	225	248	269	229	253	274
	SHC	188	159	126	203	170	133	217	181	139
	kW	15.1	1.6	16.5	15.2	15.8	16.7	15.4	15.9	16.9
85	TC	212	234	254	217	240	260	221	244	265
	SHC	185	155	123	199	167	130	213	177	136
	kW	16.7	17.2	18.2	16.9	17.4	18.5	17.0	17.0	18.6
95	TC	204	225	244	209	230	250	213	**234**	254
	SHC	181	152	199	195	163	126	208	**173**	133
	kW	18.5	19.0	20.1	18.7	19.2	20.3	18.8	**19.3**	20.4
105	TC	195	215	234	200	220	239	204	223	243
	SHC	176	148	116	190	159	123	203	169	129
	kW	20.3	20.8	22.0	20.5	21.0	22.0	20.6	21.1	22.3
115	TC	185	205	223	190	209	227	195	212	231
	SHC	172	143	112	185	155	119	194	165	125
	kW	22.1	22.7	23.9	22.3	22.8	24.1	22.5	23.0	24.2
125	TC	175	193	—	180	197	—	185	200	—
	SHC	166	139	—	179	150	—	185	160	—
	kW	24.0	24.6	—	24.2	24.7	—	24.4	24.9	—

50TJ024 (20 TONS)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF					
		9,000/0.110			10,000/0.120		
		Evaporator Air — Ewb (F)					
		62	67	72	62	67	72
75	TC	233	256	278	238	259	281
	SHC	230	191	146	238	202	152
	kW	15.5	16.0	17.0	15.7	16.1	17.1
85	TC	225	246	268	231	250	271
	SHC	224	187	142	231	198	149
	kW	17.2	17.7	18.7	17.4	17.8	18.8
95	TC	218	237	257	223	239	260
	SHC	217	183	139	222	193	145
	kW	19.0	19.4	20.5	19.1	19.5	20.6
105	TC	210	226	246	214	228	248
	SHC	209	180	135	214	189	141
	kW	20.8	21.2	22.4	21.0	21.3	22.6
115	TC	200	214	233	205	216	235
	SHC	200	174	131	204	183	137
	kW	22.7	23.1	24.3	22.9	23.2	24.4
125	TC	191	201	—	195	203	—
	SHC	190	169	—	194	178	—
	kW	24.6	25.0	—	24.8	25.0	—

LEGEND

BF – Bypass factor
Edb – Entering Dry-Bulb
Ewd – Entering Wet-Bulb
KW – Compressor Motor Power Input
Idb – Leaving Dry-Bulb
Iwb – Leaving Wet-Bulb
SHC – Sensible Heat Capacity (1000 Rtuh) Gross
TC – Total Capacity (1000 Btuh) Gross

NOTES:

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

$$tIdb = tedb - \frac{\text{Sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

TIwb = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil.

$$hIdb = hedb - \frac{\text{Total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: hewb = 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	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 x (1-BF) x (edb – 80)

Performance Data (50 Hz)

COOLING CAPACITIES — ENGLISH (cont)

50TJ028 (25 TONS)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF								
		7,000/0.05			8,000/0.06			9,000/0.07		
		Evaporator Air — Ewb (F)								
		62	67	72	62	67	72	62	67	72
75	TC	271	299	330	277	306	337	282	311	342
	SHC	231	195	159	248	207	165	264	220	175
	kW	20.1	20.8	21.6	20.3	21.0	21.8	20.4	21.2	22.0
85	TC	262	289	318	267	295	324	273	300	330
	SHC	227	191	154	243	203	162	258	215	169
	kW	22.2	23.0	23.8	22.4	23.2	24.0	22.6	23.4	24.2
95	TC	252	277	305	257	283	311	262	**287**	317
	SHC	222	186	150	238	198	157	253	**211**	164
	kW	24.6	25.3	26.1	24.7	25.5	26.3	24.9	**25.7**	26.5
105	TC	241	266	291	246	271	298	251	275	302
	SHC	216	182	145	232	193	153	246	205	159
	kW	27.0	27.8	28.6	27.2	28.0	28.8	27.4	28.1	29.0
115	TC	229	252	277	234	257	282	239	261	285
	SHC	211	177	140	226	188	147	238	199	153
	kW	29.5	30.3	31.1	29.7	30.5	31.3	30.0	30.7	31.5
120	TC	226	248	—	230	252	—	235	255	—
	SHC	210	175	—	224	186	—	235	197	—
	kW	30.3	31.1	—	30.5	31.2	—	30.7	31.4	—
125	TC	223	244	—	227	247	—	234	250	—
	SHC	208	172	—	223	184	—	233	193	—
	kW	30.8	31.9	—	31.0	32.0	—	31.3	32.2	—

50TJ028 (25 TONS)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF					
		10,000/0.08			11,250/0.09		
		Evaporator Air — Ewb (F)					
		62	67	72	62	67	72
75	TC	286	314	347	293	319	350
	SHC	279	235	182	292	248	194
	kW	20.6	21.3	22.2	20.8	21.5	22.3
85	TC	277	304	335	284	308	338
	SHC	272	227	176	283	241	186
	kW	22.8	23.5	24.4	23.0	23.7	24.5
95	TC	266	292	321	374	295	325
	SHC	265	221	171	374	235	181
	kW	25.1	25.8	26.7	25.4	26.0	26.9
105	TC	256	277	306	263	281	309
	SHC	256	216	167	263	230	176
	kW	27.6	28.3	29.2	27.9	28.4	29.3
115	TC	245	264	—	252	267	—
	SHC	245	211	—	252	223	—
	kW	30.2	30.8	—	30.5	31.0	—
120	TC	241	258	—	247	—	—
	SHC	241	209	—	247	—	—
	kW	31.0	31.5	—	31.2	—	—

LEGEND

BF – Bypass factor
Edb – Entering Dry-Bulb
Ewd – Entering Wet-Bulb
KW – Compressor Motor Power Input
Idb – Leaving Dry-Bulb
Iwb – Leaving Wet-Bulb
SHC – Sensible Heat Capacity (1000 Rtuh) Gross
TC – Total Capacity (1000 Btuh) Gross

NOTES:

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

$$tIdb = tedb - \frac{\text{Sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

TIwb = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil.

$$hIdb = hedb - \frac{\text{Total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: hewb = 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 x (1-BF) x (edb – 80)

Performance Data (50 Hz)

COOLING CAPACITIES — ENGLISH (cont)

50TJ0032 (30 TONS)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF								
		8,500/0.07			9,500/0.08			10,500/0.09		
		Evaporator Air — Ewb (F)								
		62	67	72	62	67	72	62	67	72
75	TC	325	359	395	333	367	404	339	373	411
	SHC	266	234	191	297	249	198	317	264	210
	kW	20.2	20.9	21.8	20.4	21.2	21.9	20.5	21.3	22.2
85	TC	314	346	381	321	354	389	327	360	396
	SHC	261	229	184	292	243	194	309	258	203
	kW	22.3	23.2	23.9	22.5	23.4	24.2	22.8	23.5	24.4
95	TC	298	328	361	304	335	368	310	**340**	375
	SHC	251	221	177	281	235	186	299	**249**	194
	kW	24.8	25.5	26.3	24.9	25.7	26.5	25.0	**25.9**	26.7
105	TC	275	303	333	280	309	339	286	314	345
	SHC	236	207	165	264	219	174	280	234	181
	kW	27.5	28.3	29.2	27.7	28.6	29.3	27.9	28.6	29.6
115	TC	250	276	303	255	280	308	261	285	311
	SHC	221	193	153	247	205	161	260	217	167
	kW	30.4	31.2	32.1	30.6	31.5	32.3	31.0	31.6	32.5
120	TC	247	271	298	251	276	302	257	278	305
	SHC	219	191	151	245	203	159	256	216	166
	kW	31.2	32.1	32.9	31.5	32.2	33.0	31.6	32.3	33.3
125	TC	243	268	295	248	273	—	255	274	—
	SHC	217	190	150	243	202	—	255	214	—
	kW	31.7	32.7	33.4	32.0	32.6	—	32.3	32.8	—

50TJ0032 (30 TONS)

Temp (F) Air Entering Condenser (Edb)		Evaporator Air Quantity — Cfm/BF		
		11,500/0.1		
		Evaporator Air — Ewb (F)		
		62	67	72
75	TC	343	376	416
	SHC	321	281	218
	Kw	20.7	21.4	22.3
85	TC	332	365	402
	SHC	313	272	211
	kW	22.9	23.7	24.5
95	TC	316	345	380
	SHC	301	262	202
	kW	25.3	26.0	26.9
105	TC	292	316	349
	SHC	279	246	190
	kW	28.1	28.8	29.8
115	TC	268	288	318
	SHC	257	230	177
	kW	31.1	31.7	32.7
120	TC	263	281	—
	SHC	252	228	—
	kW	32.0	32.5	—

LEGEND
BF – Bypass factor
Edb – Entering Dry-Bulb
Ewd – Entering Wet-Bulb
KW – Compressor Motor Power Input
Idb – Leaving Dry-Bulb
Iwb – Leaving Wet-Bulb
SHC – Sensible Heat Capacity (1000 Rtuh) Gross
TC – Total Capacity (1000 Btuh) Gross

NOTES:
4. Direct interpolation is permissible. Do not extrapolate.
5. the following formulas may be used:

$$tIdb = tedb - \frac{\text{Sensible capacity (Btuh)}}{1.10 \times \text{cfm}}$$

TIwb = Wet-bulb temperature corresponding to enthalpy of air leaving evaporator coil.

$$hIdb = hedb - \frac{\text{Total capacity (Btuh)}}{4.5 \times \text{cfm}}$$

Where: hewb = Enthalpy of air entering evaporator coil

6. 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 x (1-BF) x (edb – 80)

Performance Data (50 Hz)

COOLING CAPACITIES — SI

50TJ016 (51 kW)

Temp (C) Air Entering Condenser (Edb)		Evaporator Air Quantity — L/s/BF								
		2124/0.10			2478/0.12			2832/0.14		
		Evaporator Air — Ewb (C)								
		17	19	22	17	19	22	17	19	22
24	TC	49	53.3	58.7	50.3	54.9	60.3	51.8	56.5	61.3
	SHC	41.6	35.5	82.8	45.1	37.8	30.6	47.5	40.1	32
	kW	11.3	11.7	13.3	11.5	11.9	13.4	11.6	12	13.5
29	TC	47.6	51.7	56.5	49	53.3	58.1	50.2	54.4	59.7
	SHC	40.8	34.7	28.2	44	37.1	29.7	46.7	39.3	31.2
	kW	12.7	13	14.7	12.8	13.2	14.9	12.9	13.3	15
35	TC	46	50.1	54.9	47.4	51.5	56.5	48.5	**52.6**	57.6
	SHC	40	33.8	27.4	43.1	36.2	28.9	45.8	**38.5**	30.3
	kW	14.1	14.5	16.3	14.3	14.6	16.5	14.4	**14.7**	16.6
41	TC	43.2	47.3	51.8	44.7	48.5	52.9	45.7	49.5	53.9
	SHC	38.2	32.4	26.2	41.2	34.7	27.6	44	36.8	28.9
	kW	15.7	16.2	18.1	15.9	16.3	18.3	16	16.4	18.4
46	TC	40.8	44.4	48.7	41.9	45.5	49.9	42.7	46.4	50.5
	SHC	36.5	31	24.9	39.5	33.2	26.3	42.2	35.3	27.6
	kW	17.4	17.9	18.4	17.6	18	18.6	17.7	18.1	18.7
49	TC	39	42.4	46.6	40	43.5	47.7	40.9	44.3	48.4
	SHC	35.4	30	24	38.3	32.1	25.3	40.7	34.3	26.7
	kW	18.4	18.9	19.4	18.5	19	19.6	18.7	19.1	19.8
52	TC	37.2	40.5	44.2	38.1	41.4	—	39.1	42.2	—
	SHC	34.2	29	23.8	36.9	31.1	—	39.2	33.1	—
	kW	19.3	19.7	20.3	19.4	19.9	—	19.6	20.1	—

50TJ016 (51 kW)

Temp (C) Air Entering Condenser (Edb)		Evaporator Air Quantity — L/s/BF					
		3186/0.15			3540/0.16		
		Evaporator Air — Ewb (C)					
		17	19	22	17	19	22
24	TC	52.8	57.1	61.9	53.9	75.6	62.4
	SHC	50.2	43.1	34.7	52.7	45.2	36.6
	kW	11.7	12	13.6	11.7	12.1	13.6
29	TC	51.2	55.5	60.3	52.1	56	61.3
	SHC	49.4	41.4	33.1	51.7	44.2	33.8
	kW	13	13.4	15.1	13.1	13.5	15.2
35	TC	49.4	53.3	58.7	50.4	54.4	59.2
	SHC	48.5	40.6	31.5	50.4	42.8	33
	kW	14.5	14.9	16.7	14.6	15	16.8
41	TC	46.6	50.3	55	47.7	51	55.5
	SHC	46.4	38.9	30	47.9	41	31.4
	kW	16.1	16.5	18.5	16.2	16.6	18.6
46	TC	43.9	47.1	51	44.9	47.6	51.9
	SHC	44.1	37.2	28.7	45.2	39.2	30.5
	kW	17.9	18.3	18.7	18	18.3	18.8
49	TC	42	45	48.8	43	45.5	49.6
	SHC	42.3	36.3	27.8	43.4	37.9	29.5
	kW	18.8	19.2	19.8	18.9	19.3	19.8
52	TC	40.2	42.9	—	41.2	43.3	—
	SHC	40.5	35	—	41.5	36.6	—
	kW	19.7	20.1	—	19.9	20.1	—

LEGEND

BF – Bypass Factor
Edb – Entering Dry Bulb Temperature (C)
Ewd – Entering Wet Bulb Temperature (C)
KW – Compressor Input (kW)
SHC – Sensible Heat Capacity (kW)
TC – Total Capacity (kW)

NOTES:
1. Ratings are gross, and do not account for the effects of the evaporator-fan motor power and heat.
2. Direct interpolation is permissible. Do not extrapolate.
3. SHC is based on 26.7 C db temperature of air entering the unit. At any other temperature, correct the SHC read from the table of cooling capacities as follows:
Corrected SHCkW
= SHC + [1.23 x 10 –3 x (1 – BF) x (Cdb – 26.7) x L/s]
Observe the rule of sign. Above 26.7 C, SHC correction will be positive; add it to SHC. Below 26.7 C, SHC correction will be nega-tive; subtract it from SHC.
4. Formulas:

$$CIdb = Cedb - \frac{\text{Sensible capacity (kW) X 1000}}{1.23 \text{ X L/s}}$$

Leaving wet bulb = wet bulb temperature corresponding to enthalpy of air leaving coil (hlwb).

$$hIdb = hedb - \frac{\text{Total capacity (kW) X 1000}}{1.20 \text{ X L/s}}$$

Where hewb is enthalpy of air entering evaporator coil (kJ/kg).

Performance Data (50 Hz)

COOLING CAPACITIES — SI (cont)

50TJ020 (61 kW)

Temp (C) Air Entering Condenser (Edb)		Evaporator Air Quantity — L/s/BF								
		2548/0.95			2832/0.105			3304/0.120		
		Evaporator Air — Ewb (C)								
		17	19	22	17	19	22	17	19	22
24	TC	55.9	61.7	67.6	56.8	62.3	68.8	57.9	63.8	69.9
	SHC	48.3	40.4	32.5	50.6	42.4	33.6	54.7	45.4	35.4
	KW	14.3	14.9	14.2	14.4	15.0	15.6	14.6	15.1	15.7
29	TC	53.8	59.1	65.5	54.7	60.3	66.1	55.9	61.2	67.6
	SHC	47.1	39.5	31.6	49.7	41.5	32.8	53.5	44.5	34.8
	KW	15.2	15.6	16.2	15.3	15.8	16.4	15.5	15.9	16.5
35	TC	52.8	58.3	64.2	53.8	**58.8**	65.2	54.9	60.0	66.7
	SHC	47.4	39.6	31.5	49.9	**41.5**	32.7	53.5	44.7	34.5
	KW	15.6	16.0	16.7	15.6	**16.2**	16.7	15.8	16.3	16.9
41	TC	51.7	56.8	62.7	52.5	57.4	63.6	53.4	58.7	64.3
	SHC	47.4	39.4	31.3	49.8	41.5	32.6	53.4	44.5	34.4
	kW	17.8	18.2	18.8	17.8	18.3	19.0	18.0	18.5	19.1
46	TC	50.1	55.1	60.8	50.7	55.4	61.3	52.3	56.4	62.0
	SHC	47.0	39.2	31.0	49.1	41.0	31.9	52.3	44.2	33.8
	KW	19.6	20.1	20.7	19.8	20.3	20.9	20.0	20.4	21.0
49	TC	48.0	52.9	58.4	48.7	53.2	59.1	50.2	54.2	59.6
	SHC	45.3	37.8	29.8	47.4	39.5	30.8	50.2	42.6	32.6
	kW	20.3	20.8	21.5	20.4	20.9	21.5	20.7	21.1	21.7
52	TC	44.9	49.5	55.2	45.7	49.8	—	47.2	50.7	—
	SHC	42.6	35.6	28.2	44.9	37.3	—	46.9	40.3	—
	kW	21.3	21.9	22.4	21.5	21.9	—	21.7	22.2	—

50TJ020 (61 kW)

Temp (C) Air Entering Condenser (Edb)		Evaporator Air Quantity — L/s/BF		
		3776/0.140		
		Evaporator Air — Ewb (C)		
		17	19	22
24	TC	59.1	64.7	71.1
	SHC	58.2	48.6	37.5
	kW	14.8	15.3	15.9
29	TC	56.8	62.3	68.5
	SHC	56.8	47.4	36.6
	kW	15.6	16.1	16.7
35	TC	56.1	60.9	67.2
	SHC	56.1	47.7	36.3
	kW	16.0	16.5	17.0
41	TC	55.3	59.3	65.4
	SHC	55.0	47.4	36.2
	kW	18.2	18.6	19.3
46	TC	53.8	57.0	62.6
	SHC	53.8	47.3	35.7
	kW	20.2	20.5	21.1
49	TC	51.7	54.8	—
	SHC	51.7	45.7	—
	kW	20.9	21.1	—

LEGEND

BF – Bypass Factor
Edb – Entering Dry Bulb Temperature (C)
Ewd – Entering Wet Bulb Temperature (C)
KW – Compressor Input (kW)
SHC – Sensible Heat Capacity (kW)
TC – Total Capacity (kW)

NOTES:
1. Ratings are gross, and do not account for the effects of the evaporator-fan motor power and heat.
2. Direct interpolation is permissible. Do not extrapolate.
3. SHC is based on 26.7 C db temperature of air entering the unit. At any other temperature, correct the SHC read from the table of cooling capacities as follows:
Corrected SHCkW
= SHC + [1.23 x 10 –3 x (1 – BF) x (Cdb – 26.7) x L/s]
Observe the rule of sign. Above 26.7 C, SHC correction will be positive; add it to SHC. Below 26.7 C, SHC correction will be nega-tive; subtract it from SHC.
4. Formulas:

$$CIdb = Cedb - \frac{\text{Sensible capacity (kW)} \times 1000}{1.23 \times L/s}$$

Leaving wet bulb = wet bulb temperature corresponding to enthalpy of air leaving coil (hlwb).

$$hIdb = hedb - \frac{\text{Total capacity (kW)} \times 1000}{1.20 \times L/s}$$

Where hewb is enthalpy of air entering evaporator coil (kJ/kg).

Performance data (50 Hz)

COOLING CAPACITIES — SI (cont)

50TJ024 (68 kW)

Temp (C) Air Entering Condenser (Edb)		Evaporator Air Quantity — L/s/BF								
		2832/0.075			3304/0.085			3776/0.100		
		Evaporator Air — Ewb (C)								
		17	19	22	17	19	22	17	19	22
24	TC	64.3	70.9	76.9	65.9	72.7	78.8	67.2	74.1	80.3
	SHC	55.1	46.5	36.9	59.5	49.7	38.9	63.6	53.0	40.8
	kW	15.1	15.6	16.5	15.2	15.8	16.7	15.4	15.9	16.9
29	TC	62.1	68.5	74.3	63.6	70.2	76.1	64.9	71.4	77.5
	SHC	54.0	45.4	36.0	58.4	48.8	38.0	62.4	51.9	39.9
	kW	16.7	17.2	18.2	16.9	17.4	18.5	17.0	17.6	18.6
35	TC	59.8	65.9	71.6	61.2	67.4	73.2	62.4	**68.6**	74.4
	SHC	53.0	44.4	35.0	57.1	47.7	37.0	61.0	**50.7**	38.9
	kW	18.5	19.0	20.1	18.7	19.2	20.3	18.8	**19.3**	20.4
40.5	TC	57.0	63.0	68.5	58.4	64.4	70.0	59.7	65.3	71.1
	SHC	51.6	43.3	33.9	55.8	46.5	35.9	59.3	49.4	37.7
	kW	20.3	20.8	22.0	20.5	21.0	22.2	20.6	21.1	22.3
46	TC	54.2	59.9	65.2	55.6	61.2	66.6	57.1	62.1	67.6
	SHC	50.2	42.0	32.8	54.3	45.3	34.7	56.9	48.3	36.5
	kW	22.1	22.7	23.9	22.3	22.8	24.1	22.5	23.0	24.2
52	TC	51.2	56.6	—	52.7	57.6	—	54.3	58.4	—
	SHC	48.7	40.7	—	52.3	43.8	—	54.2	47.0	—
	kW	24.0	24.6	—	24.2	24.7	—	24.4	24.9	—

50TJ024 (68 kW)

Temp (C) Air Entering Condenser (Edb)		Evaporator Air Quantity — L/s/BF					
		4248/0.110			4720/0.120		
		Evaporator Air — Ewb (C)					
		17	19	22	17	19	22
24	TC	68.4	75.0	81.3	69.7	75.8	82.2
	SHC	67.2	56.0	42.8	69.6	59.1	44.5
	kW	15.5	16.0	17.0	15.7	16.1	17.1
29	TC	66.0	72.3	78.5	67.8	73.1	79.3
	SHC	65.6	54.8	41.7	67.6	57.9	43.5
	kW	17.2	17.7	18.7	17.4	17.8	18.8
35	TC	36.8	69.4	75.3	65.3	70.0	76.1
	SHC	36.7	53.6	40.6	65.1	56.7	42.4
	kW	19.0	19.4	20.5	19.1	19.5	20.6
40.5	TC	61.4	66.1	71.9	62.8	66.7	72.7
	SHC	61.3	52.6	39.5	62.6	55.4	41.3
	kW	20.8	21.2	22.4	21.0	21.3	22.6
46	TC	58.7	62.7	68.3	60	63.2	68.9
	SHC	58.6	15.1	38.3	59.8	53.7	40.0
	kW	22.7	23.1	24.3	22.9	23.2	24.4
52	TC	55.9	59.0	—	57.0	59.4	—
	SHC	55.7	49.6	—	56.9	52.1	—
	kW	24.6	25.0	—	24.8	25.0	—

LEGEND

BF – Bypass Factor
Edb – Entering Dry Bulb Temperature (C)
Ewd – Entering Wet Bulb Temperature (C)
KW – Compressor Input (kW)
SHC – Sensible Heat Capacity (kW)
TC – Total Capacity (kW)

NOTES:
1. Ratings are gross, and do not account for the effects of the evaporator-fan motor power and heat.
2. Direct interpolation is permissible. Do not extrapolate.
3. SHC is based on 26.7 C db temperature of air entering the unit. At any other temperature, correct the SHC read from the table of cooling capacities as follows:
Corrected SHCkW
= SHC + [1.23 x 10 –3 x (1 – BF) x (Cdb – 26.7) x L/s]
Observe the rule of sign. Above 26.7 C, SHC correction will be positive; add it to SHC. Below 26.7 C, SHC correction will be nega-tive; subtract it from SHC.
4. Formulas:

$$CIdb = Cedb - \frac{\text{Sensible capacity (kW) X 1000}}{\text{1.23 X L/s}}$$

Leaving wet bulb = wet bulb temperature corresponding to enthalpy of air leaving coil (hlwb).

$$hIdb = hedb - \frac{\text{Total capacity (kW) X 1000}}{\text{1.20 X L/s}}$$

Where hewb is enthalpy of air entering evaporator coil (kJ/kg).

Performance data (50 Hz)

COOLING CAPACITIES — SI (cont)

50TJ028 (85 kW)

Temp (C) Air Entering Condenser (Edb)		Evaporator Air Quantity — L/s/BF								
		3304/0.05			3776/0.06			4248/0.07		
		Evaporator Air — Ewb (C)								
		17	19	22	17	19	22	17	19	22
24	TC	79.4	87.6	96.5	81.2	89.6	98.6	82.7	91.0	100.3
	SHC	67.7	57.2	46.5	72.6	60.7	48.4	77.5	64.4	51.2
	kW	20.1	20.8	21.6	20.3	21.0	21.8	20.4	21.2	22.0
29	TC	76.6	84.5	93.1	78.3	86.4	95.0	79.8	88.0	96.6
	SHC	66.5	55.9	45.0	71.2	59.4	47.4	75.6	62.9	49.4
	kW	22.2	23.0	23.8	22.4	23.2	24.0	22.6	23.4	24.2
35	TC	73.7	81.2	89.4	75.2	83.0	91.1	76.7	**84.2**	92.7
	SHC	65.0	54.6	44.0	69.7	58.1	46.0	74.1	**61.8**	48.1
	kW	24.6	25.3	26.1	24.7	25.5	26.3	24.9	**25.7**	26.5
40.5	TC	70.5	77.8	85.4	71.9	79.2	87.2	73.5	80.4	88.6
	SHC	63.3	53.3	42.6	68.0	56.5	44.7	72.0	60.1	46.6
	kW	27.0	27.8	28.6	27.2	28.0	28.8	27.4	28.1	29.0
46	TC	67.1	74.0	81.2	68.4	75.3	82.5	70.0	76.4	83.6
	SHC	61.9	51.8	41.0	66.2	55.0	43.1	69.8	58.4	44.9
	kW	29.5	30.3	31.1	29.7	30.5	31.3	30.0	30.7	31.5
49	TC	66.1	72.7	—	67.4	73.9	—	68.9	74.8	—
	SHC	61.4	51.3	—	65.6	54.5	—	68.8	57.8	—
	kW	30.3	31.1	—	30.5	31.2	—	30.7	31.4	—
52	TC	65.2	71.5	—	66.6	72.4	—	68.47	73.3	—
	SHC	60.9	50.4	—	65.2	53.9	—	68.4	56.6	—
	kW	30.8	31.9	—	31.0	32.0	—	31.3	32.2	—

50TJ028 (85 kW)

Temp (C) Air Entering Condenser (Edb)		Evaporator Air Quantity — L/s/BF					
		4720/0.08			5310/0.09		
		Evaporator Air — Ewb (C)					
		17	19	22	17	19	22
24	TC	83.9	91.9	101.6	85.7	93.4	102.6
	SHC	81.7	68.7	53.3	85.6	72.6	56.9
	kW	20.6	21.3	22.2	20.8	21.5	22.3
29	TC	81.0	89.1	98.1	83.1	90.4	99.1
	SHC	79.7	66.4	51.6	83.0	70.5	54.5
	kW	22.8	23.5	24.4	23.0	23.7	24.5
35	TC	78.1	85.5	94.0	80.3	86.6	95.2
	SHC	77.7	64.8	50.1	80.2	68.9	53.0
	kW	25.1	25.8	26.7	25.4	26.0	26.9
40.5	TC	75.0	81.4	86.9	77.2	82.5	90.4
	SHC	75.0	63.3	48.8	77.1	67.2	51.6
	kW	27.6	28.3	29.2	27.9	28.4	29.3
46	TC	71.9	77.3	—	73.8	78.2	—
	SHC	71.8	61.7	—	73.8	65.4	—
	kW	30.2	30.8	—	30.5	31.0	—
49	TC	70.6	75.5	—	72.4	—	—
	SHC	70.5	61.1	—	72.4	—	—
	kW	31.0	31.5	—	31.2	—	—

LEGEND

BF – Bypass Factor
Edb – Entering Dry Bulb Temperature (C)
Ewd – Entering Wet Bulb Temperature (C)
KW – Compressor Input (kW)
SHC – Sensible Heat Capacity (kW)
TC – Total Capacity (kW)

NOTES:
1. Ratings are gross, and do not account for the effects of the evaporator-fan motor power and heat.
2. Direct interpolation is permissible. Do not extrapolate.
3. SHC is based on 26.7 C db temperature of air entering the unit. At any other temperature, correct the SHC read from the table of cooling capacities as follows:

Corrected SHCkW
= SHC + [1.23 x 10 –3 x (1 – BF) x (Cdb – 26.7) x L/s]

Observe the rule of sign. Above 26.7 C, SHC correction will be positive; add it to SHC. Below 26.7 C, SHC correction will be nega-tive; subtract it from SHC.

4. Formulas:

$$CIdb = Cedb - \frac{\text{Sensible capacity (kW) X 1000}}{1.23 \text{ X L/s}}$$

Leaving wet bulb = wet bulb temperature corresponding to enthalpy of air leaving coil (hlwb).

$$hIdb = hedb - \frac{\text{Total capacity (kW) X 1000}}{1.20 \text{ X L/s}}$$

Where hewb is enthalpy of air entering evaporator coil (kJ/kg).

Performance data (50 Hz)

COOLING CAPACITIES — SI (cont)

50TJ032 (105 kW)

Temp (C) Air Entering Condenser (Edb)		Evaporator Air Quantity — L/s/BF								
		4011/0.07			4483/0.08			4955/0.09		
		Evaporator Air — Ewb (C)								
		17	19	22	17	19	22	17	19	22
24	TC	95.3	105.1	115.8	97.4	107.5	118.3	99.2	109.2	120.4
	SHC	77.9	68.6	55.8	87.1	72.8	58.1	93.0	77.3	61.4
	kW	20.2	21.0	21.8	20.5	21.2	22.0	20.6	21.3	22.2
29	TC	91.9	101.4	111.7	94.0	103.7	114.0	95.8	105.6	115.9
	SHC	76.5	67.1	54.0	85.4	71.3	56.9	90.7	75.5	59.3
	kW	22.3	23.2	24.0	22.6	23.4	24.2	22.8	23.6	24.4
35	TC	87.2	96.0	105.8	88.9	98.2	107.8	90.7	**99.6**	109.6
	SHC	73.8	64.6	52.1	82.4	68.7	54.4	87.7	**73.2**	56.9
	kW	24.8	25.5	26.3	24.9	25.7	26.5	25.1	**25.9**	26.7
40.5	TC	80.4	88.7	97.4	82.0	90.3	99.4	83.8	91.7	101.0
	SHC	69.2	60.8	48.5	77.5	64.4	50.9	82.1	68.5	53.1
	kW	27.5	28.4	29.2	27.7	28.6	29.4	28.0	28.6	29.6
46	TC	73.3	80.8	88.6	74.7	82.3	90.1	76.4	83.4	91.3
	SHC	64.8	56.6	44.8	72.3	60.1	47.0	76.3	63.8	49.0
	kW	30.4	31.3	32.1	30.6	31.5	32.3	31.0	31.6	32.5
49	TC	72.2	79.4	87.2	73.6	80.7	88.6	75.3	81.7	89.6
	SHC	64.2	56.1	44.3	71.6	59.5	46.5	75.2	63.2	48.5
	kW	31.3	32.1	32.9	31.5	32.2	33.1	31.6	32.4	33.3
52	TC	71.2	78.4	86.3	72.7	79.7	87.5	74.8	80.6	88.5
	SHC	63.7	55.7	43.9	71.2	59.2	46.2	74.7	62.7	48.1
	kW	31.8	32.6	33.4	32.0	32.6	33.6	32.3	32.9	33.8

50TJ032 (105 kW)

Temp (C) Air Entering Condenser (Edb)		Evaporator Air Quantity — L/s/BF		
		5426/0.10		
		Evaporator Air — Ewb (C)		
		17	19	22
24	TC	100.7	110.3	121.9
	SHC	94.0	82.4	64.0
	kW	20.7	21.5	22.3
29	TC	97.2	106.9	117.7
	SHC	91.7	79.7	61.9
	kW	23.0	23.7	24.6
35	TC	92.4	101.2	111.2
	SHC	88.1	76.7	59.3
	kW	25.3	26.0	26.9
40.5	TC	85.5	92.8	99.1
	SHC	82.0	72.2	55.7
	kW	28.1	28.9	29.8
46	TC	78.5	84.4	—
	SHC	75.2	67.3	—
	kW	31.1	31.8	—
49	TC	77.1	82.4	—
	SHC	73.8	66.7	—
	kW	32.0	32.5	—

LEGEND

BF – Bypass Factor
Edb – Entering Dry Bulb Temperature (C)
Ewd – Entering Wet Bulb Temperature (C)
KW – Compressor Input (kW)
SHC – Sensible Heat Capacity (kW)
TC – Total Capacity (kW)

NOTES:
1. Ratings are gross, and do not account for the effects of the evaporator-fan motor power and heat.
2. Direct interpolation is permissible. Do not extrapolate.
3. SHC is based on 26.7 C db temperature of air entering the unit. At any other temperature, correct the SHC read from the table of cooling capacities as follows:
Corrected SHCkW
= SHC + [1.23 x 10 –3 x (1 – BF) x (Cdb – 26.7) x L/s]
Observe the rule of sign. Above 26.7 C, SHC correction will be positive; add it to SHC. Below 26.7 C, SHC correction will be nega-tive; subtract it from SHC.
4. Formulas:

$$CIdb = Cedb - \frac{\text{Sensible capacity (kW) X 1000}}{1.23 \text{ X L/s}}$$

Leaving wet bulb = wet bulb temperature corresponding to enthalpy of air leaving coil (hlwb).

$$hIdb = hedb - \frac{\text{Total capacity (kW) X 1000}}{1.20 \text{ X L/s}}$$

Where hewb is enthalpy of air entering evaporator coil (kJ/kg).

Performance data (cont)

FAN PERFORMANCE — 50TJ016 UNIT — ENGLISH

50TJ016															
AIR FLOW (CFM)	AVAILABLE EXTERNAL STATIC PRESSURE(iwg)														
	0.2			0.4			0.6			0.8			1		
	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts
4800							682	1.6	1300	736	1.8	1467	789	2.0	1644
5100							705	1.8	1500	757	2.0	1678	807	2.2	1856
5400							728	2.1	1711	777	2.3	1889	825	2.2	1856
5700				704	2.1	1767	752	2.3	1944	799	2.6	2144	845	2.8	2333
6000	686	2.2	1833	732	2.4	2022	778	2.7	2211	823	2.9	2411	***867***	***3.2***	***2611***
6300	715	2.5	2100	759	2.8	2289	803	3.0	2500	846	3.3	2700	***888***	***3.5***	***2911***
6600	745	2.9	2389	788	3.1	2600	830	3.4	2811	***871***	***3.7***	***3022***	***911***	***3.9***	***3244***
6900	774	3.3	2711	815	3.5	2922	856	3.8	3144	***895***	***4.1***	***3367***	***934***	***4.3***	***3600***
7200	805	3.7	3056	844	4.0	3289	***883***	***4.2***	***3511***	***921***	***4.5***	***3744***	***958***	***4.8***	***3978***
7500	836	4.2	3444	***874***	***4.1***	***3368***	***911***	***4.7***	***3911***	***948***	***5.0***	***4156***			

50TJ016									
AIR FLOW (CFM)	AVAILABLE EXTERNAL STATIC PRESSURE(iwg)								
	1.2			1.4			1.6		
	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts
4800	840	2.2	1822	***889***	***2.4***	***2011***	***937***	***2.7***	***2200***
5100	856	2.5	2044	***903***	***2.7***	***2233***	***949***	***2.9***	***2422***
5400	***872***	***2.8***	***2278***	***917***	***3.0***	***2467***	***962***	***3.2***	***2678***
5700	***890***	***3.1***	***2533***	***934***	***3.3***	***2744***			
6000	***910***	***3.4***	***2822***	***952***	***3.7***	***3033***			
6300	***930***	***3.8***	***3133***						
6600	***951***	***4.2***	***3467***						

LEGEND
Bhp — Brake Horsepower.
FIOP — Factory-Installed Option.
Watts — Input Watts to Motor.
Normal face: refers to the Standard Motor & Drive Package.
Bold-Italic face: requires a field supplied drive package.
For the available fan speeds refer to table in page 42.
NOTES:
1. Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering Fan Performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on wet coils, clean filters, and casing losses.
5. Extensive motor and drive testing on these units ensures that the full horsepower and watts range of the motor can be utilized with confidence. Using your fan motors up to the watts or bhp rating shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.
6. Use of a field-supplied motor may affect wiring size. Contact your Carrier representative for details. For additional information on motor performance, refer to Evaporator-Fan Motor Performance table on page 43.
7. Evaporator Motor Efficiency 87%.

Performance data (cont)

FAN PERFORMANCE — 50TJ020 UNIT — ENGLISH

50TJ020															
AIR FLOW (CFM)	AVAILABLE EXTERNAL STATIC PRESSURE(iwg)														
	0.2			0.4			0.6			0.8			1		
	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts
5200							780	2.4	1956	827	2.6	2144	874	2.8	2344
5500							807	2.7	2233	852	2.9	2422	896	3.2	2633
5800				791	2.8	2322	835	3.1	2533	878	3.3	2733	921	3.6	2944
6100	779	3.0	2444	822	3.2	2644	864	3.4	2856	906	3.7	3078	947	4.0	3289
6400	811	3.4	2778	852	3.6	2989	892	3.9	3211	932	4.1	3433	***972***	***4.4***	***3667***
6700	844	3.8	3144	883	4.1	3367	922	4.3	3600	***960***	***4.6***	***3833***	***998***	***4.9***	***4067***
7000	877	4.3	3556	915	4.6	3789	***952***	***4.9***	***4022***	***989***	***5.2***	***4267***			
7300	872	4.5	3744	946	5.1	4222	***982***	***5.4***	***4467***						

50TJ020						
AIR FLOW (CFM)	AVAILABLE EXTERNAL STATIC PRESSURE(iwg)					
	1.2			1.4		
	RPM	Bhp	Watts	RPM	Bhp	Watts
5200	919	3.1	2544	963	3.3	2700
5500	940	3.4	2833	983	3.7	3044
5800	963	3.8	3167			
6100	993	4.0	3322			

LEGEND
Bhp — Brake Horsepower
FIOP — Factory-Installed Option
Watts — Input Watts to Motor
Normal face: refers to the Standard Motor & Drive Package.
Bold-Italic face: requires a field supplied drive package.
For the available fan speeds refer to table in page 42.
NOTES:
1. Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering Fan Performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on wet coils, clean filters, and casing losses.
5. Extensive motor and drive testing on these units ensures that the full horsepower and watts range of the motor can be utilized with confidence. Using your fan motors up to the watts or bhp rating shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.
6. Use of a field-supplied motor may affect wiring size. Contact your Carrier representative for details. For additional information on motor performance, refer to Evaporator-Fan Motor Performance table on page 43.
7. Evaporator Motor Efficiency 87%.

Performance data (cont)

FAN PERFORMANCE — 50TJ024 UNIT — ENGLISH

50TJ024															
AIR FLOW (CFM)	AVAILABLE EXTERNAL STATIC PRESSURE(iwg)														
	0.2			0.4			0.6			0.8			1		
	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts
6000															
6400													691	2.6	2178
6800													707	3.0	2456
7200										683	3.0	2522	724	3.3	2767
7600										703	3.4	2856	742	3.8	3111
8000							686	3.6	2978	725	3.9	3233	762	4.2	3489
8400				672	3.7	3100	709	4.1	3356	746	4.4	3622	782	4.7	3900
8800				696	4.2	3500	731	4.6	3778	767	4.9	4056	801	5.2	4333
9200	687	4.4	3678	722	4.8	3956	757	5.1	4244	790	5.5	4533	824	5.8	4822
9600	712	5.0	4144	746	5.4	4433	779	5.7	4733	812	6.1	5033	***844***	***6.4***	***5333***
10000	740	5.6	4667	773	6.0	4967	805	6.4	5278	***836***	***6.8***	***5589***	***867***	***7.1***	***5900***

50TJ024															
AIR FLOW (CFM)	AVAILABLE EXTERNAL STATIC PRESSURE(iwg)														
	1.2			1.4			1.6			1.8			2		
	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts
6000	722	2.6	2144	767	2.9	2367	810	3.1	2600	***852***	***3.4***	***2844***	***892***	***3.7***	***3089***
6400	735	2.9	2400	778	3.2	2633	819	3.5	2878	***860***	***3.8***	***3122***	***899***	***4.1***	***3378***
6800	750	3.3	2700	791	3.6	2944	***831***	***3.9***	***3189***	***870***	***4.2***	***3444***	***908***	***4.5***	***3711***
7200	764	3.6	3011	804	3.9	3267	***842***	***4.3***	***3522***	***880***	***4.6***	***3789***	***917***	***4.9***	***4067***
7600	781	4.1	3367	819	4.4	3633	***856***	***4.7***	***3900***	***893***	***5.0***	***4178***	***929***	***5.4***	***4456***
8000	799	4.5	3756	***836***	***4.9***	***4033***	***872***	***5.2***	***4311***	***907***	***5.6***	***4600***	***942***	***5.9***	***4889***
8400	818	5.0	4178	***853***	***5.4***	***4456***	***887***	***5.7***	***4744***	***921***	***6.2***	***5100***			

LEGEND
Bhp — Brake Horsepower
FIOP — Factory-Installed Option
Watts — Input Watts to Motor
Normal face: refers to the Standard Motor & Drive Package.
Bold-Italic face: requires a field supplied drive package.
For the available fan speeds refer to table in page 42.
NOTES:
1. Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering Fan Performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on wet coils, clean filters, and casing losses.
5. Extensive motor and drive testing on these units ensures that the full horsepower and watts range of the motor can be utilized with confidence. Using your fan motors up to the watts or bhp rating shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.
6. Use of a field-supplied motor may affect wiring size. Contact your Carrier representative for details. For additional information on motor performance, refer to Evaporator-Fan Motor Performance table on page 43.
7. Evaporator Motor Efficiency 87%.

Performance data (cont)

FAN PERFORMANCE — 50TJ028 UNIT — ENGLISH

50TJ028															
AIR FLOW (CFM)	AVAILABLE EXTERNAL STATIC PRESSURE(iwg)														
	0.2			0.4			0.6			0.8			1		
	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts
6500															
7000															
7500															
8000													***788***	***4.4***	***3678***
8500													815	5.1	4233
9000	***705***	***4.5***	***3700***	***741***	***4.8***	***3978***	***775***	***5.1***	***4256***	809	5.5	4544	843	5.9	4844
9500	***741***	***5.2***	***4322***	***774***	***5.6***	***4611***	807	5.9	4911	839	6.3	5211	871	6.7	5511
10000	***776***	***6.0***	***5000***	808	6.4	5311	839	6.8	5622	864	7.1	5867	901	7.6	6256
10500	811	7.0	5756	842	7.3	6078	872	7.7	6400	901	8.1	6733			

50TJ028															
AIR FLOW (CFM)	AVAILABLE EXTERNAL STATIC PRESSURE(iwg)														
	1.2			1.4			1.6			1.8			2		
	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts
6500				***801***	***3.4***	***2822***	842	3.7	3078	881	4.0	3322	920	4.3	3589
7000	***779***	***3.6***	***2989***	***819***	***3.9***	***3244***	858	4.2	3500	896	4.6	3767			
7500	801	4.2	3444	839	4.5	3711	876	4.8	3978	913	5.1	4256			
8000	825	4.8	3944	861	5.1	4222	896	5.4	4511						
8500	850	5.4	4511	884	5.8	4800	918	6.2	5100						
9000	876	6.2	5133	909	6.6	5444									
9500	903	7.0	5822												

LEGEND
Bhp — Brake Horsepower
FIOP — Factory-Installed Option
Watts — Input Watts to Motor
Normal face: refers to the Standard Motor & Drive Package.
Bold-Italic face: requires a field supplied drive package.
For the available fan speeds refer to table in page 42.
NOTES:
1. Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering Fan Performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on wet coils, clean filters, and casing losses.
5. Extensive motor and drive testing on these units ensures that the full horsepower and watts range of the motor can be utilized with confidence. Using your fan motors up to the watts or bhp rating shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.
6. Use of a field-supplied motor may affect wiring size. Contact your Carrier representative for details. For additional information on motor performance, refer to Evaporator-Fan Motor Performance table on page 43.
7. Evaporator Motor Efficiency 87%.

Performance data (cont)

FAN PERFORMANCE — 50TJ032 UNIT — ENGLISH

50TJ032															
AIR FLOW (CFM)	AVAILABLE EXTERNAL STATIC PRESSURE(iwg)														
	0.2			0.4			0.6			0.8			1		
	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts
7500															
8000															
8500															
9000													833	6.2	5384
9500										830	6.7	5779	861	7.1	6116
10000				810	6.9	6100	828	7.2	6209	858	7.6	6547	888	7.9	6884
10500				829	7.7	6674	859	8.6	7442	888	8.5	7384	916	8.9	7733
11000	834	8.3	7221	863	8.8	7581	891	9.2	7942	919	9.6	8314	946	10.0	8686
11500	868	9.4	8174	895	9.9	8547	922	10.3	8919	949	10.7	9302	976	11.2	9686
12000	902	10.6	9209	928	11.1	9593	954	11.5	9977						

50TJ032															
AIR FLOW (CFM)	AVAILABLE EXTERNAL STATIC PRESSURE(iwg)														
	1.2			1.4			1.6			1.8			2		
	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts	RPM	Bhp	Watts
7500				830	4.8	4174	866	5.2	4465	902	5.5	4767	936	5.9	5070
8000				852	5.5	4744	886	5.8	5047	920	6.2	5349	953	6.5	5663
8500	840	5.8	5035	873	6.2	5349	905	6.5	5663	938	6.9	5988	970	7.3	6314
9000	865	6.6	5709	897	7.0	6035	928	7.3	6360	959	7.7	6698	990	8.1	7035
9500	892	7.4	6442	922	7.8	6779	952	8.2	7128	982	8.6	7477	1011	9.3	8058
10000	918	8.3	7233	947	8.8	7593	976	9.2	7942	1004	9.6	7140	1032	10.0	7460
10500	945	9.4	8105	972	9.8	8465	1000	10.2	8837	1028	10.6	9209	1055	11.1	9593
11000	974	10.5	9058	1000	10.9	9442	1027	11.3	9826						
11500	1002	11.6	10081												

LEGEND
Bhp — Brake Horsepower
FIOP — Factory-Installed Option
Watts — Input Watts to Motor
Normal face: refers to the Standard Motor & Drive Package.
Bold-Italic face: requires a field supplied drive package.
For the available fan speeds refer to table in page 42.
NOTES:
1. Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operating cfm.
2. Static pressure losses must be added to external static pressure before entering Fan Performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on wet coils, clean filters, and casing losses.
5. Extensive motor and drive testing on these units ensures that the full horsepower and watts range of the motor can be utilized with confidence. Using your fan motors up to the watts or bhp rating shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.
6. Use of a field-supplied motor may affect wiring size. Contact your Carrier representative for details. For additional information on motor performance, refer to Evaporator-Fan Motor Performance table on page 43.
7. Evaporator Motor Efficiency 87%..

Performance data (cont)

FAN PERFORMANCE — 50TJ016 UNIT — SI

50TJ016

AIR FLOW (L/s)	AVAILABLE EXTENTION STATIC PRESSURE(Pa)														
	50			100			150			200			250		
	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts
2265							11.4	1.2	1300	12.3	1.3	1467	13.2	1.5	1644
2407							11.8	1.4	1500	12.6	1.5	1678	13.5	1.7	1856
2548							12.1	1.5	1711	13.0	1.7	1889	13.8	1.7	1856
2690				11.7	1.6	1767	12.5	1.8	1944	13.3	1.9	2144	14.1	2.1	2333
2831	11.4	1.6	1833	12.2	1.8	2022	13.0	2.0	2211	13.7	2.2	2411	***14.5***	***2.4***	***2611***
2973	11.9	1.9	2100	12.7	2.1	2289	13.4	2.3	2500	14.1	2.4	2700	***14.8***	***2.6***	***2911***
3115	12.4	2.2	2389	13.1	2.3	2600	13.8	2.5	2811	***14.5***	***2.7***	***3022***	***15.2***	***2.9***	***3244***
3256	12.9	2.4	2711	13.6	2.6	2922	14.3	2.8	3144	***14.9***	***3.0***	***3367***	***15.6***	***3.2***	***3600***
3398	13.4	2.8	3056	14.1	3.0	3289	***14.7***	***3.2***	***3511***	***15.4***	***3.4***	***3744***	***16.0***	***3.6***	***3978***
3539	13.9	3.1	3444	***14.6***	***3.0***	***3368***	***15.2***	***3.5***	***3911***	***15.8***	***3.7***	***4156***			

50TJ016

AIR FLOW (L/s)	AVAILABLE EXTENTION STATIC PRESSURE(Pa)								
	300			350			400		
	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts
2265	14.0	1.6	1822	***14.8***	***1.8***	***2011***	***15.6***	***2.0***	***2200***
2407	14.3	1.8	2044	***15.1***	***2.0***	***2233***	***15.8***	***2.2***	***2422***
2548	***14.5***	***2.1***	***2278***	***15.3***	***2.2***	***2467***			
2690	***14.8***	***2.3***	***2533***	***15.6***	***2.5***	***2744***			
2831	***15.2***	***2.5***	***2822***	***15.9***	***2.7***	***3033***			
2973	***15.5***	***2.8***	***3133***						
3115	***15.9***	***3.1***	***3467***						

LEGEND
BkW — Brake Kilowatts
FIOP — Factory-Installed Option
kW — Input Kilowatts to Motor
Normal face: refers to the Standard Motor & Drive Package.
Bold-Italic face: requires a field supplied drive package.
For the available fan speeds refer to table in page 42.
NOTES:
1. Do not adjust motor r/s such that motor maximum bkW and/or watts is exceeded at the maximum operating L/s.
2. Static pressure losses must be added to external static pressure before entering Fan Performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on wet coils, clean filters, and casing losses.
5. Extensive motor and drive testing on these units ensures that the full Brake Kilowatts and watts range of the motor can be utilized with confidence. Using your fan motors up to the watts or bkW rating shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.
6. Use of a field-supplied motor may affect wiring size. Contact your Carrier representative for details. For additional information on motor performance, refer to Evaporator-Fan Motor Performance table on page 43.
7. Evaporator Motor Efficiency 87%.

Performance data (cont)

FAN PERFORMANCE — 50TJ020 UNIT — SI

50TJ020

AIR FLOW (L/s)	AVAILABLE EXTENTION STATIC PRESSURE(Pa)														
	50			100			150			200			250		
	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts
2453							13.0	1.8	1956	13.8	1.9	2144	14.6	2.1	2344
2595							13.5	2.0	2233	14.2	2.2	2422	14.9	2.4	2633
2737				13.2	2.1	2322	13.9	2.3	2533	14.6	2.5	2733	15.4	2.7	2944
2879	13.0	2.2	2444	13.7	2.4	2644	14.4	2.6	2856	15.1	2.8	3078	15.8	3.0	3289
3020	13.5	2.5	2778	14.2	2.7	2989	14.9	2.9	3211	15.5	3.1	3433			
3162	14.1	2.8	3144	14.7	3.0	3367	15.4	3.2	3600						
3303	14.6	3.2	3556	15.3	3.4	3789									
3445	14.5	3.4	3744	15.8	3.8	4222									

50TJ020

AIR FLOW (L/s)	AVAILABLE EXTENTION STATIC PRESSURE(Pa)					
	300			350		
	r/s	BkW	Watts	r/s	BkW	Watts
2453	15.3	2.3	2544	16.1	2.4	2700
2595	15.7	2.6	2833	16.4	2.7	3044
2737	16.1	2.9	3167			
2879	16.6	3.0	3322			

LEGEND
BkW — Brake Kilowatts
FIOP — Factory-Installed Option
kW — Input Kilowatts to Motor
Normal face: refers to the Standard Motor & Drive Package.
Bold-Italic face: requires a field supplied drive package.
For the available fan speeds refer to table in page 42.
NOTES:
1. Do not adjust motor r/s such that motor maximum bkW and/or watts is exceeded at the maximum operating L/s.
2. Static pressure losses must be added to external static pressure before entering Fan Performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on wet coils, clean filters, and casing losses.
5. Extensive motor and drive testing on these units ensures that the full Brake Kilowatts and watts range of the motor can be utilized with confidence. Using your fan motors up to the watts or bkW rating shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.
6. Use of a field-supplied motor may affect wiring size. Contact your Carrier representative for details. For additional information on motor performance, refer to Evaporator-Fan Motor Performance table on page 43.
7. Evaporator Motor Efficiency 87%.

Performance data (cont)

FAN PERFORMANCE — 50TJ024 UNIT — SI

50TJ024

AIR FLOW (L/s)	AVAILABLE EXTENTION STATIC PRESSURE(Pa)														
	50			100			150			200			250		
	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts
2831															
3020													11.5	2.0	2178
3209													11.8	2.2	2456
3398										11.4	2.3	2522	12.1	2.5	2767
3586										11.7	2.6	2856	12.4	2.8	3111
3775							11.4	2.7	2978	12.1	2.9	3233	12.7	3.1	3489
3964				11.2	2.8	3100	11.8	3.0	3356	12.4	3.3	3622	13.0	3.5	3900
4153				11.6	3.2	3500	12.2	3.4	3778	12.8	3.7	4056	13.4	3.9	4333
4341	11.5	3.3	3678	12.0	3.6	3956	12.6	3.8	4244	13.2	4.1	4533	13.7	4.3	4822
4530	11.9	3.7	4144	12.4	4.0	4433	13.0	4.3	4733	13.5	4.5	5033	***14.1***	***4.8***	***5333***
4719	12.3	4.2	4667	12.9	4.5	4967	13.4	4.8	5278	***13.9***	***5.0***	***5589***	***14.5***	***5.3***	***5900***

50TJ024

AIR FLOW (L/s)	AVAILABLE EXTENTION STATIC PRESSURE(Pa)														
	300			350			400			450			500		
	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts
2831	12.0	1.9	2144	12.8	2.1	2367	13.5	2.3	2600	***14.2***	***2.6***	***2844***	***14.9***	***2.8***	***3089***
3020	12.3	2.2	2400	13.0	2.4	2633	13.7	2.6	2878	***14.3***	***2.8***	***3122***	***15.0***	***3.0***	***3378***
3209	12.5	2.4	2700	13.2	2.7	2944	***13.9***	***2.9***	***3189***	***14.5***	***3.1***	***3444***	***15.1***	***3.3***	***3711***
3398	12.7	2.7	3011	13.4	2.9	3267	***14.0***	***3.2***	***3522***	***14.7***	***3.4***	***3789***			
3586	13.0	3.0	3367	13.7	3.3	3633	***14.3***	***3.5***	***3900***	***14.9***	***3.8***	***4178***			
3775	13.3	3.4	3756	***13.9***	***3.6***	***4033***	***14.5***	***3.9***	***4311***	***15.1***	***4.1***	***4600***			
3964	13.6	3.8	4178	***14.2***	***4.0***	***4456***	***14.8***	***4.3***	***4744***						

LEGEND
BkW — Brake Kilowatts
FIOP — Factory-Installed Option
kW — Input Kilowatts to Motor
Normal face: refers to the Standard Motor & Drive Package.
Bold-Italic face: requires a field supplied drive package.
For the available fan speeds refer to table in page 42.
NOTES:
1. Do not adjust motor r/s such that motor maximum bkW and/or watts is exceeded at the maximum operating L/s.
2. Static pressure losses must be added to external static pressure before entering Fan Performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on wet coils, clean filters, and casing losses.
5. Extensive motor and drive testing on these units ensures that the full Brake Kilowatts and watts range of the motor can be utilized with confidence. Using your fan motors up to the watts or bkW rating shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.
6. Use of a field-supplied motor may affect wiring size. Contact your Carrier representative for details. For additional information on motor performance, refer to Evaporator-Fan Motor Performance table on page 43.
7. Evaporator Motor Efficiency 87%.

Performance data (cont)

FAN PERFORMANCE — 50TJ028 UNIT — SI

50TJ028

AIR FLOW (L/s)	AVAILABLE EXTENTION STATIC PRESSURE(Pa)														
	50			100			150			200			250		
	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts
3067															
3303															
3539															
3775															
4011													13.6	3.8	4233
4247	***11.8***	***3.3***	***3700***	***12.4***	***3.6***	***3978***	***12.9***	***3.8***	***4256***	13.5	4.1	4544	14.1	4.4	4844
4483	***12.4***	***3.9***	***4322***	***12.9***	***4.2***	***4611***	13.5	4.4	4911	14.0	4.7	5211	14.5	5.0	5511
4719	***12.9***	***4.5***	***5000***	13.5	4.8	5311	14.0	5.1	5622	14.4	5.3	5867	15.0	5.6	6256
4955	13.5	5.2	5756	14.0	5.5	6078	14.5	5.8	6400	15.0	6.1	6733			

50TJ028

AIR FLOW (L/s)	AVAILABLE EXTENTION STATIC PRESSURE(Pa)														
	300			350			400			450			500		
	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts
3067							14.0	2.8	3078	14.7	3.0	3322	15.3	3.2	3589
3303							14.3	3.2	3500	14.9	3.4	3767			
3539	13.4	3.1	3444	14.0	3.3	3711	14.6	3.6	3978	15.2	3.8	4256			
3775	13.8	3.6	3944	14.4	3.8	4222	14.9	4.1	4511						
4011	14.2	4.1	4511	14.7	4.3	4800	15.3	4.6	5100						
4247	14.6	4.6	5133	15.2	4.9	5444									
4483	15.1	5.2	5822												

LEGEND
BkW — Brake Kilowatts
FIOP — Factory-Installed Option
kW — Input Kilowatts to Motor
Normal face: refers to the Standard Motor & Drive Package.
Bold-Italic face: requires a field supplied drive package.
For the available fan speeds refer to table in page 42.
NOTES:
1. Do not adjust motor r/s such that motor maximum bkW and/or watts is exceeded at the maximum operating L/s.
2. Static pressure losses must be added to external static pressure before entering Fan Performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on wet coils, clean filters, and casing losses.
5. Extensive motor and drive testing on these units ensures that the full Brake Kilowatts and watts range of the motor can be utilized with confidence. Using your fan motors up to the watts or bkW rating shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.
6. Use of a field-supplied motor may affect wiring size. Contact your Carrier representative for details. For additional information on motor performance, refer to Evaporator-Fan Motor Performance table on page 43.
7. Evaporator Motor Efficiency 87%.

Performance data (cont)

FAN PERFORMANCE — 50TJ032 UNIT — SI

50TJ032															
AIR FLOW (L/s)	AVAILABLE EXTENTION STATIC PRESSURE(Pa)														
	50			100			150			200			250		
	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts
3539															
3775															
4011															
4247													13.9	4.6	5400
4483										13.8	5.0	5800	14.4	5.3	6100
4719							13.8	5.3	6200	14.3	5.6	6500	14.8	5.9	6900
4955				13.8	5.7	6700	14.3	6.4	7400	14.8	6.4	7400	15.3	6.7	7700
5191	13.9	6.2	7200	14.4	6.5	7600	14.9	6.8	7900	15.3	7.2	8300	15.8	7.5	8700
5427	14.5	7.0	8200	14.9	7.4	8500	15.4	7.7	8900	15.8	8.0	9300	16.3	8.3	9700
5663	15.0	7.9	9200	15.5	8.3	9600	15.9	8.6	10000	16.3	8.9	10400	16.8	9.3	10800

50TJ032															
AIR FLOW (L/s)	AVAILABLE EXTENTION STATIC PRESSURE(Pa)														
	300			350			400			450			500		
	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts	r/s	BkW	Watts
3539				13.8	3.6	4200	14.4	3.8	4500	15.0	4.1	4800	15.6	4.4	5100
3775				14.2	4.1	4700	14.8	4.3	5000	15.3	4.6	5300	15.9	4.9	5700
4011	14.0	4.3	5000	14.6	4.6	5300	15.1	4.9	5700	15.6	5.2	6000	16.2	5.4	6300
4247	14.4	4.9	5700	15.0	5.2	6000	15.5	5.5	6400	16.0	5.8	6700	16.5	6.1	7000
4483	14.9	5.5	6400	15.4	5.8	6800	15.9	6.1	7100	16.4	6.4	7500	16.9	6.9	8100
4719	15.3	6.2	7200	15.8	6.5	7600	16.3	6.8	7900	16.7	7.1	7100	17.2	7.5	7500
4955	15.8	7.0	8100	16.2	7.3	8500	16.7	7.6	8800	17.1	7.9	9200	17.6	8.3	9600
5191	16.2	7.8	9100	16.7	8.1	9400	17.1	8.5	9800	17.6	8.8	10200			
5427	16.7	8.7	10100	17.1	9.0	10500									

LEGEND
BkW — Brake Kilowatts
FIOP — Factory-Installed Option
kW — Input Kilowatts to Motor
Normal face: refers to the Standard Motor & Drive Package.
Bold-Italic face: requires a field supplied drive package.
For the available fan speeds refer to table in page 42.
NOTES:
1. Do not adjust motor r/s such that motor maximum bkW and/or watts is exceeded at the maximum operating L/s.
2. Static pressure losses must be added to external static pressure before entering Fan Performance table.
3. Interpolation is permissible. Do not extrapolate.
4. Fan performance is based on wet coils, clean filters, and casing losses.
5. Extensive motor and drive testing on these units ensures that the full Brake Kilowatts and watts range of the motor can be utilized with confidence. Using your fan motors up to the watts or bkW rating shown will not result in nuisance tripping or premature motor failure. Unit warranty will not be affected.
6. Use of a field-supplied motor may affect wiring size. Contact your Carrier representative for details. For additional information on motor performance, refer to Evaporator-Fan Motor Performance table on page 43.
7. Evaporator Motor Efficiency 87%.

Performance data (cont)

OUTDOOR SOUND POWER

UNIT 50TJ	SOUND RATING (60Hz)	A-WEIGHTED (Db)	OCTAVE BANDS							
			63	125	250	500	1000	2000	4000	8000
016	8.8 Bels	87.8	90.8	88.7	86.4	84.3	83.5	78.4	75.6	66.8
020	8.8 Bels	87.8	90.8	88.7	86.4	84.3	83.5	78.4	75.6	66.8
024	9.5 Bels	94.1	98.7	92.3	93.8	90.9	89.6	85.9	80.3	74.3
028	9.5 Bels	94.1	98.7	92.3	93.8	90.9	89.6	85.9	80.3	74.3
032	9.0 Bels	86.7	92.0	87.3	83.7	84.9	82.9	76.9	70.0	61.4

LEGEND
Bels — Sound Levels (1 bel = 10 decibels)

FAN RPM AT MOTOR PULLEY SETTINGS* — ENGLISH

Freq.	Unit 50TJ	MOTOR PULLEY TURNS CLOSE										
		0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5
60 Hz	**016**	690	705	720	735	750	765	780	795	810	825	840
	020	765	780	795	810	825	840	855	870	885	900	915
	024	710	720	730	740	750	760	770	780	790	800	810
	028	810	820	830	840	850	860	870	880	890	900	910
	032	840	865	890	915	940	965	990	1015	1040	1065	1090
50 Hz	**016**	690	705	720	735	750	765	780	795	810	825	840
	020	765	780	795	810	825	840	855	870	885	900	915
	024	710	720	730	740	750	760	770	780	790	800	810
	028	810	820	830	840	850	860	870	880	890	900	910
	032	830	855	880	905	930	955	980	1005	1030	1055	1080

*Approximate fan rpm shown.
*The standard belt size may not cover all the above range.
Other RPMs require a field supplied Drive Package.

FAN R/S AT MOTOR PULLEY SETTINGS* — SI

Freq.	Unit 50TJ	MOTOR PULLEY TURNS CLOSE										
		0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5
60 Hz	**016**	11.5	11.75	12.0	12.25	12.5	12.75	13.0	13.25	13.5	13.75	14
	020	12.8	13.0	13.3	13.5	13.8	14.0	14.3	14.5	14.8	15.0	15.3
	024	11.83	12.0	12.15	12.33	12.5	12.66	12.83	13.0	13.15	13.33	13.5
	028	13.5	13.7	13.8	14.0	14.2	14.3	14.5	14.7	14.8	15.0	15.2
	032	14.0	14.4	14.8	15.3	15.7	16.1	16.5	16.9	17.3	17.8	18.2
50 Hz	**016**	11.5	11.75	12.0	12.25	12.5	12.75	13.0	13.25	13.5	13.75	14
	020	12.8	13.0	13.3	13.5	13.8	14.0	14.3	14.5	14.8	15.0	15.3
	024	11.8	12.0	12.15	12.3	12.5	12.66	12.8	13.0	13.15	13.3	13.5
	028	13.5	13.7	13.8	14.0	14.2	14.3	14.5	14.7	14.8	15.0	15.2
	032	13.8	14.3	14.7	15.1	15.5	15.9	16.3	16.8	17.2	17.6	18.0

*Approximate fan r/s shown.
*The standard belt size may not cover all the above range.
Other RPMs require a field supplied Drive Package.

EVAPORATOR-FAN MOTOR PERFORMANCE

UNIT 50TJ		UNIT VOLTAGE	MAXIMUM ACCEPTABLE CONTINOUS BHP*	MAXIMUM ACCEPTABLE CONTINOUS BkW*	MAXIMUM ACCEPTABLE OPERATING WATTS	MAXIMUM AMP DRAW
016	**Standard**	208 - 230	5.5	4	5,180	15.8
		380 - 460				7.9
020	**Standard**	208 - 230	5.5	4	5,180	15.8
		380 - 460				7.9
024	**Standard**	208 - 230	8.2	6.1	7,900	22.0
		380 - 460				13.0
028	**Standard**	208 - 230	8.2	6.1	7,900	22.0
		380 - 460				13.0
032	**Standard**	208 - 230	11	8.6	9,500	28.0
		380 - 460				14.6

LEGEND

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

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

BHP — Brake Horsepower

BkW — Brake Kilowatts

EVAPORATOR-FAN MOTOR EFFICIENCY

UNIT	MOTOR EFFICIENCY (%)
016(5 Hp)	89.5
020(5 Hp)	89.5
024(7.5 Hp)	89.5
028(7.5 Hp)	89.5
032(10 Hp)	90.0

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.

Electrical data – 50TJ016-032

UNIT	NOMINAL VOLTAGE		VOLTAGE RANGE		COMPRESSOR NO. 1		COMPRESSOR NO. 2		OFM			IFM		ELECTRIC HEAT*			POWER SUPPLY	
	(3PH)	(Hz)	Min	Max	RLA	LRA	RLA	LRA	Qty	Hp	FLA (ea)	Hp	FLA	TOTAL kW	FLA/STAGE	STAGES	MCA	MOCP†
16	230	60	187	253	28.8	195	28.8	195	2	1	6.6	5	12.8	27.5	34.6	2	91	110
	380	60	342	418	15	123	15	123	2	1	3.9	5	7.7	18.6	14.3	2	50	60
	460	60	414	508	14.7	95	14.7	95	2	1	3.3	5	6.4	27.6	17.2	2	47	60
	400	50	360	440	15.5	111	15.5	11	2	1	3.4	5	7.6	21	15	2	50	60
20	230	60	187	253	30.1	225	28.8	195	2	1	6.6	5	12.8	27.5	34.6	2	94	110
	380	60	342	418	15.3	140	15	123	2	1	3.9	5	7.7	18.6	14.3	2	50	60
	460	60	414	508	15.5	114	14.7	95	2	1	3.3	5	6.4	27.6	17.2	2	48	60
	400	50	360	440	19.6	125	15.5	111	2	1	3.4	5	7.6	21	15	2	54	70
24	230	60	187	253	37.8	239	30.1	225	2	1	6.6	7.5	19.4	36.7	47	2	110	130
	380	60	342	418	21.2	145	15.3	140	2	1	3.9	7.5	11.7	24.8	19	2	62	75
	460	60	414	508	17.2	125	15.5	114	2	1	3.3	7.5	9.7	36.8	23	2	54	70
	400	50	360	440	25	167	19.6	125	2	1	3.4	7.5	11.4	28	20	2	69	85
28	230	60	187	253	41	350	37.8	239	2	1	6.6	7.5	19.4	36.7	47	2	123	150
	380	60	342	418	21.8	151	21.2	145	2	1	3.9	7.5	11.7	24.8	19	2	69	80
	460	60	414	508	21.8	158	17.2	125	2	1	3.3	7.5	9.7	36.8	23	2	61	75
	400	50	360	440	27.2	198	25	167	2	1	3.4	7.5	11.4	28	20	2	77	95
032	230	60	187	253	41	350	41	350	2	1	6.6	10	26.8	36.7	47	2	128	150
	380	60	342	418	21.8	151	21.8	151	2	1	3.9	10	16.2	24.8	19	2	74	90
	460	60	414	508	21.8	158	21.8	158	2	1	3.3	10	13.4	36.8	23	2	70	85
	400	50	360	440	27.2	198	27.2	198	2	1	3.4	10	16.1	28	20	2	85	100

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

*Heater capacity (kW) is based on heater voltage of 208 v, 240 v, 380 v, 480 v, and 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 4.
†Fuse or HACR circuit breaker.
NOTES:
1. In compliance with NEC requirements for multi-motor and combination load equipment (refer to NEC Articles 430 and 440), the over current protective device for the unit shall be fuse or HACR breaker. The Canadian units may be fuse or circuit breaker.
2. Unbalanced 3-Phase Supply Voltage *Never operate a motor where a phase imbalance in supply voltage is greater than 2%.* Use the following formula to determine the percent of voltage imbalance.

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

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

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

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

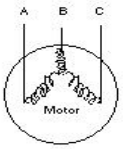
= 457
Determine maximum deviation from average voltage.
(AB) 457 – 452 = 5 v
(BC) 464 – 457 = 7 v
(AC) 457 – 455 = 2 v
Maximum deviation is 7 v.
Determine percent voltage imbalance.

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

= 1.53%
This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

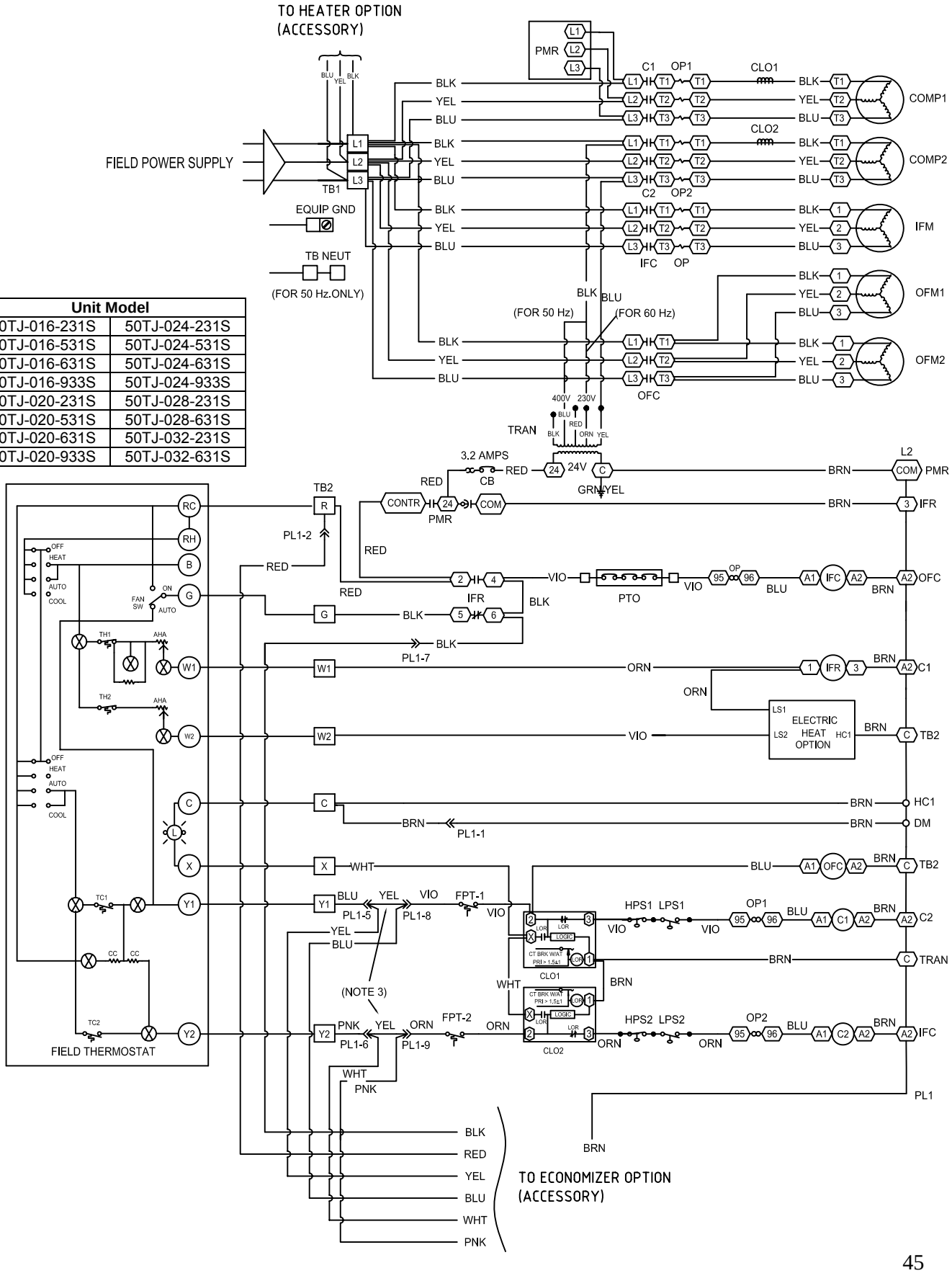
IMPORTANT: If the supply voltage phase imbalance is more than 2% contact your local electric Utility company

3. MCA calculation for 50TJ016-032 units with electric heaters over 50 kW = (1.25 x IFM amps) + (1.00 x heater FLA).

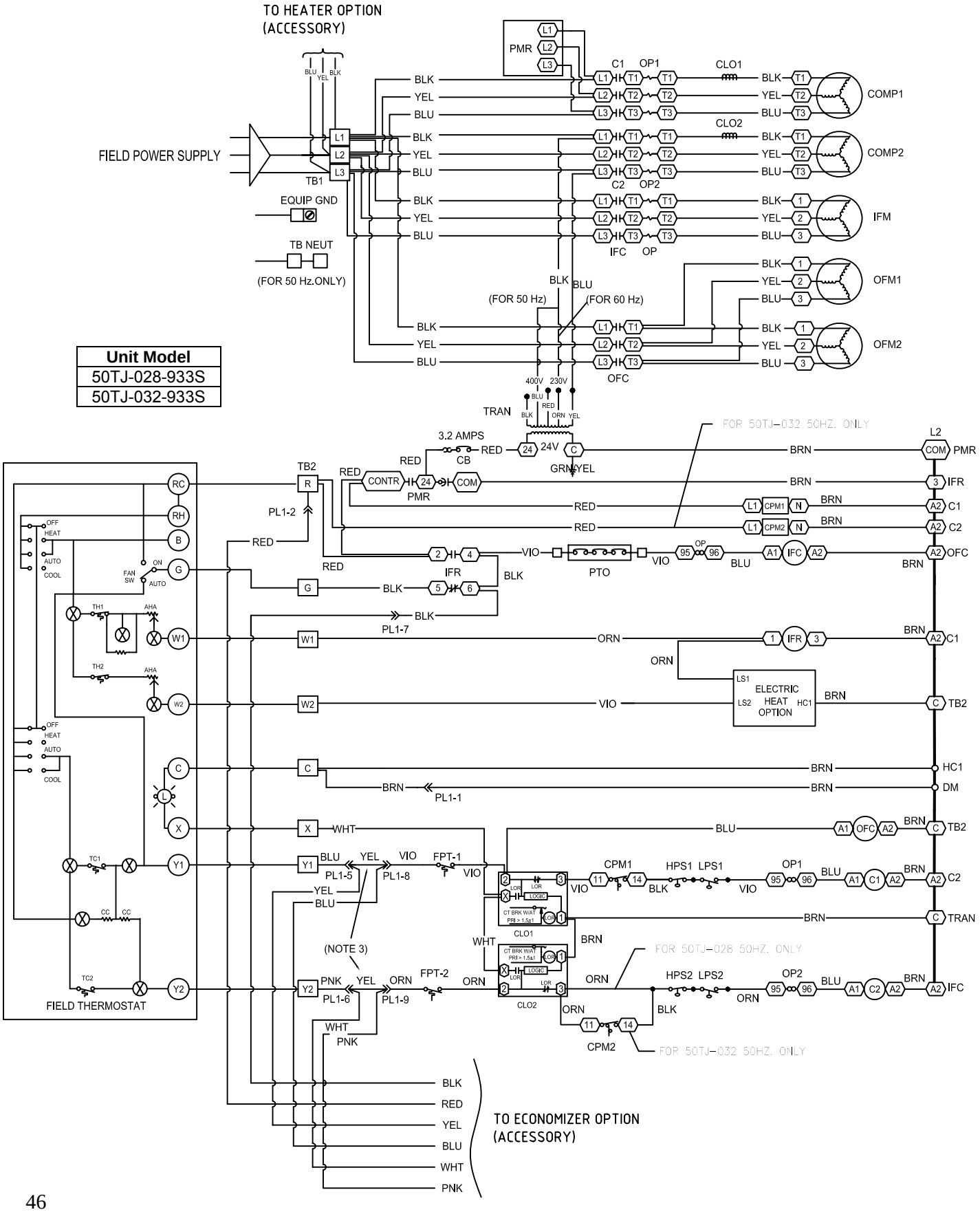


Typical Wiring Schematic

Unit Model	
50TJ-016-231S	50TJ-024-231S
50TJ-016-531S	50TJ-024-531S
50TJ-016-631S	50TJ-024-631S
50TJ-016-933S	50TJ-024-933S
50TJ-020-231S	50TJ-028-231S
50TJ-020-531S	50TJ-028-631S
50TJ-020-631S	50TJ-032-231S
50TJ-020-933S	50TJ-032-631S

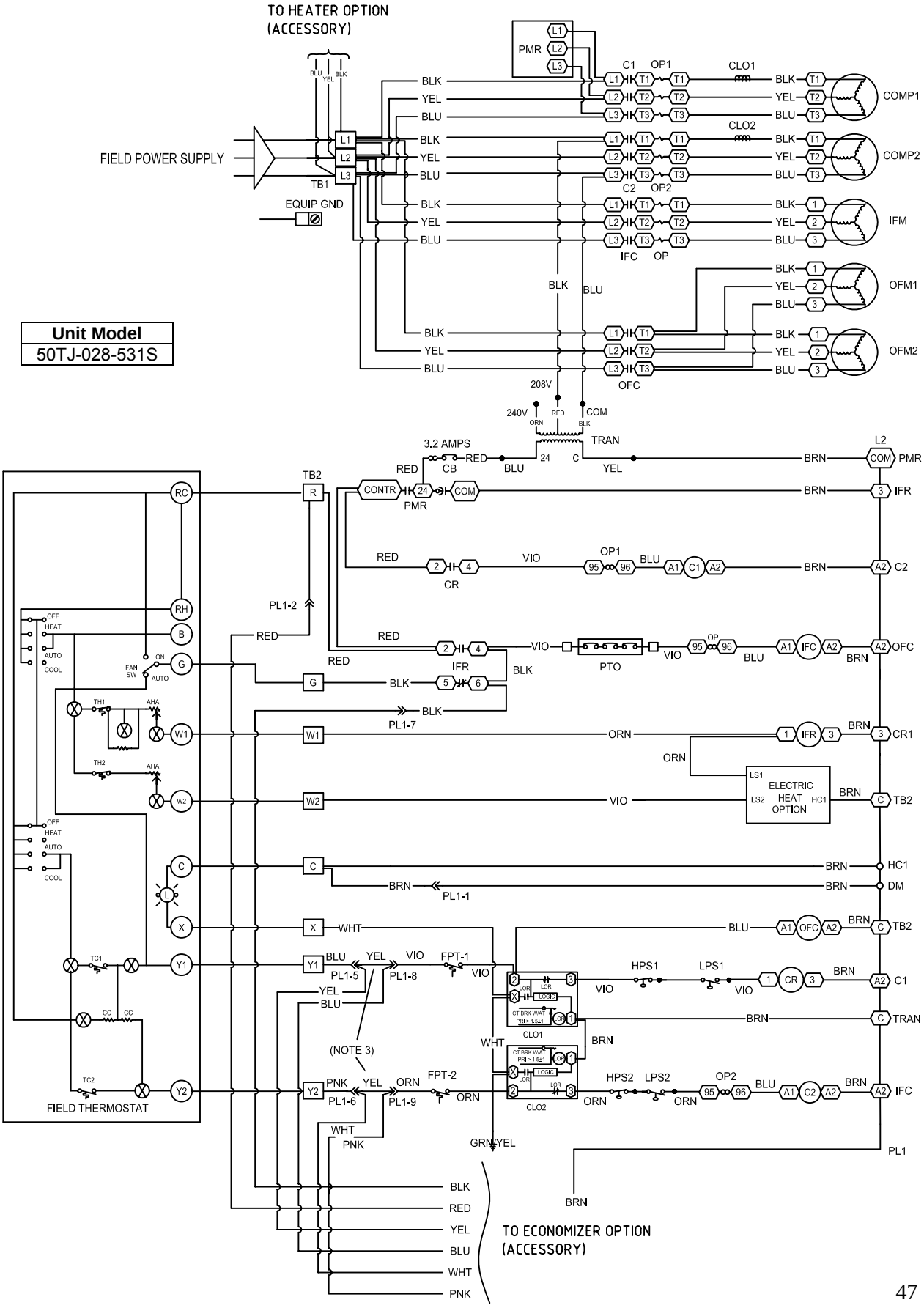


Typical Wiring Schematic



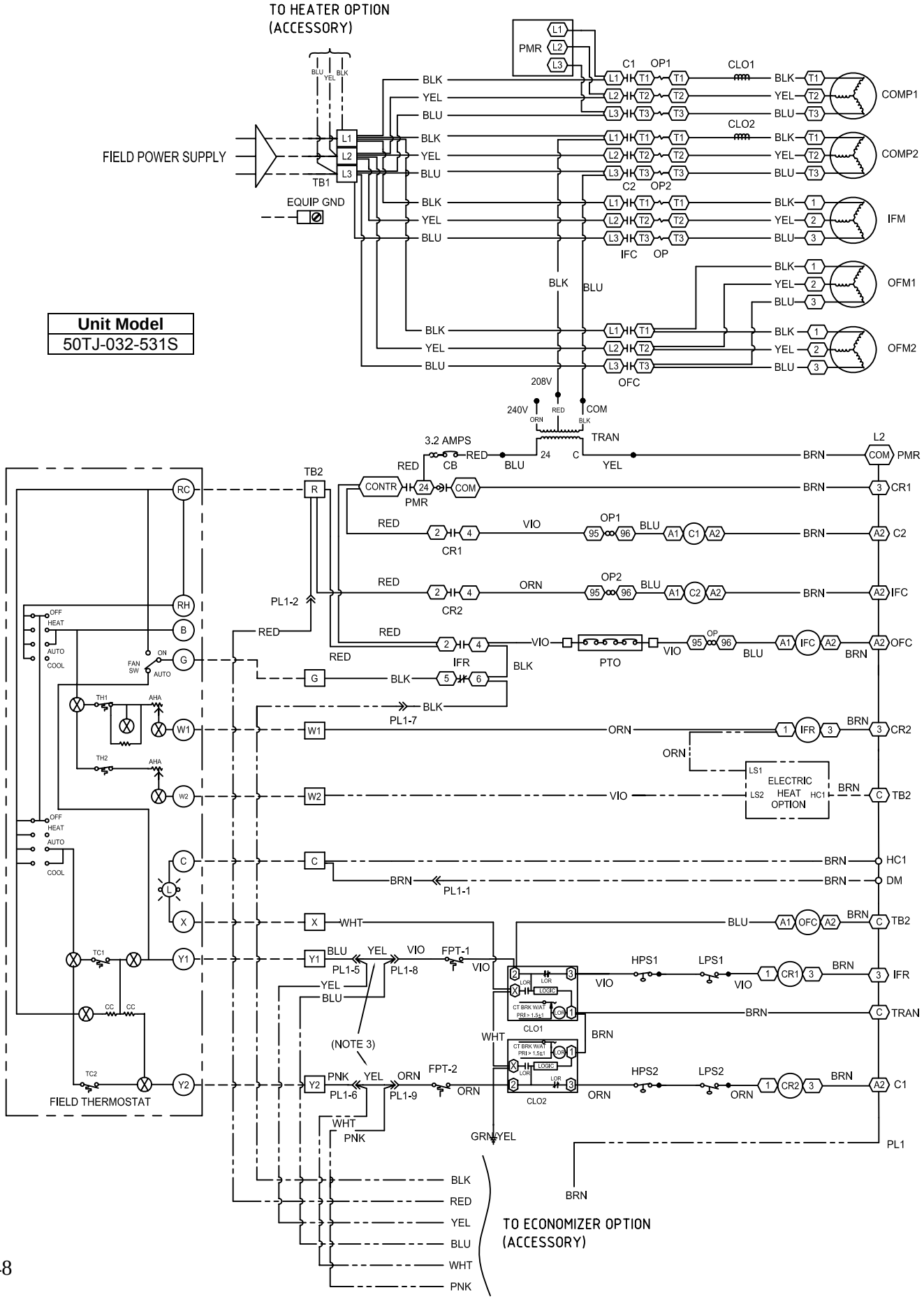
Unit Model
50TJ-028-933S
50TJ-032-933S

Typical Wiring Schematic



Unit Model
50TJ-028-531S

Typical Wiring Schematic

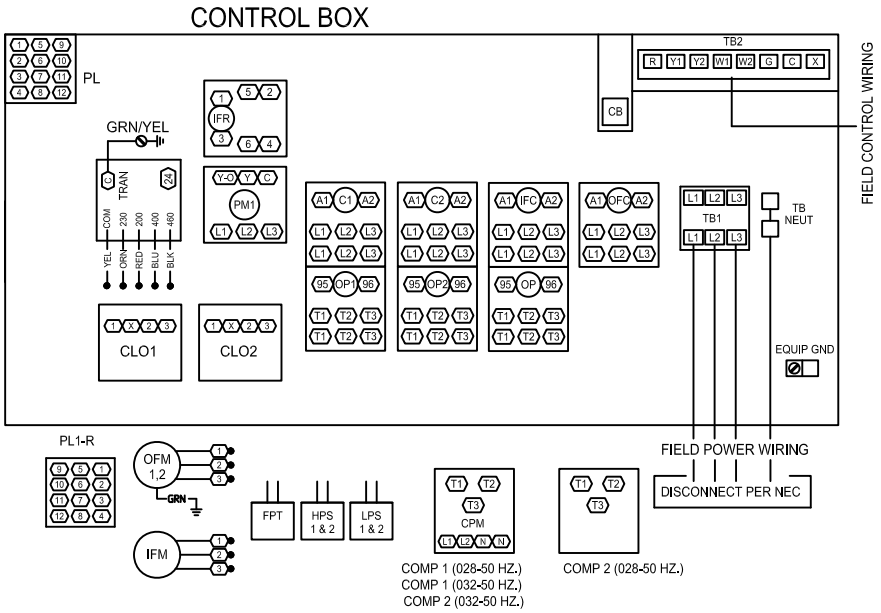


Unit Model
50TJ-032-531S

Typical Wiring Schematic- (Cont.)

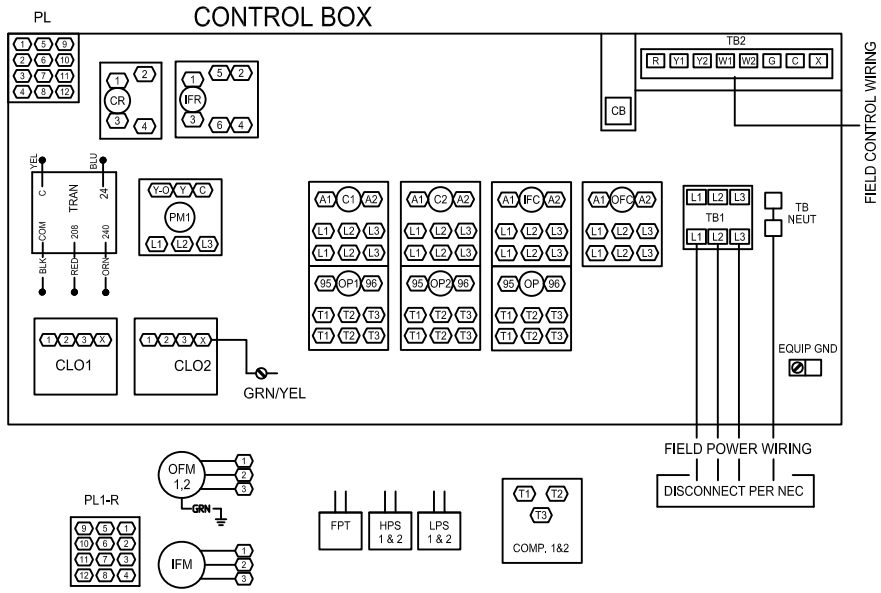
Unit Model	
50TJ-016-231S	50TJ-024-531S
50TJ-016-531S	50TJ-024-631S
50TJ-016-631S	50TJ-024-933S
50TJ-016-933S	50TJ-028-231S
50TJ-020-231S	50TJ-028-631S
50TJ-020-531S	50TJ-028-933S
50TJ-020-631S	50TJ-032-231S
50TJ-020-933S	50TJ-032-631S
50TJ-024-231S	50TJ-032-933S

COMPONENT ARRANGEMENT



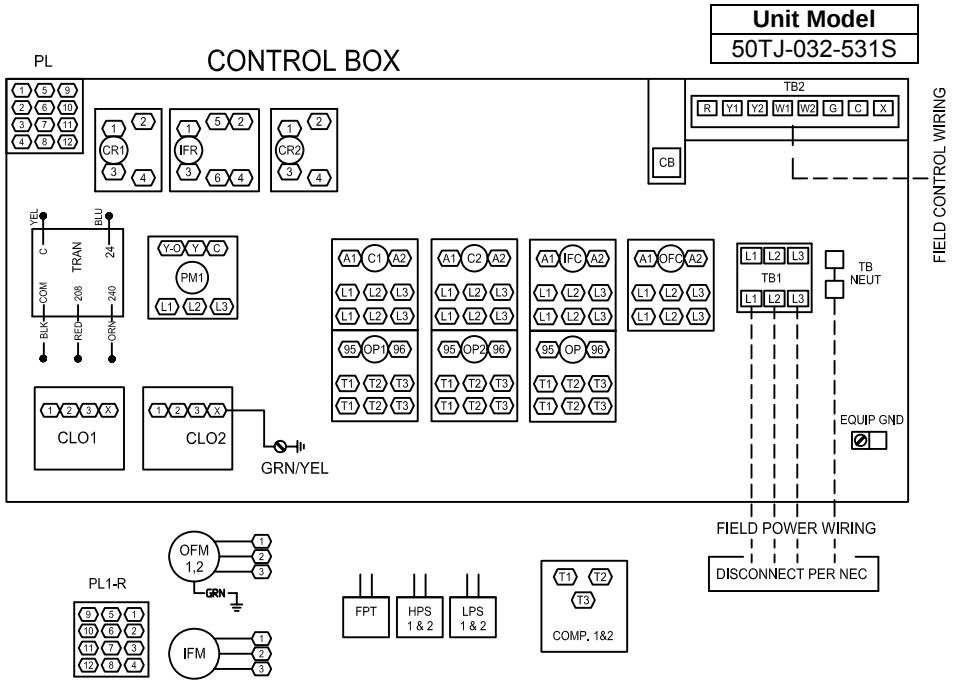
COMPONENT ARRANGEMENT

Unit Model
50TJ-028-531S



Typical Wiring Schematic -(Cont.)

COMPONENT ARRANGEMENT



LEGEND

- TERMINAL (MARKED)
- TERMINAL (UNMARKED)
- TERMINAL BLOCK
- SPLICE
- FACTORY WIRING
- FIELD WIRING
- OPTION/ACCESSORY WIRING
- TO INDICATE COMMON POTENTIAL ONLY: NOT TO REPRESENT WIRING

AHA	ADJUSTABLE HEAT ANTICIPATOR	IFM	INDOOR FAN MOTOR
BRK W/AT	BREAKS WITH AMP TURNS	IFR	INDOOR FAN RELAY
C	CONTACTOR, COMPRESSOR	L	INDICATOR LAMP
CB	CIRCUIT BREAKER	LOR	LOCKOUT RELAY
CC	COOLING COMPENSATOR	LPS	LOW PRESSURE SWITCH
CLO	COMPRESSOR LOCKOUT	LS	LIMIT SWITCH
CLS	COOLING LOCKOUT SWITCH	NEUT	NEUTRAL
COMP	COMPRESSOR MOTOR	OFC	OUTDOOD FAN CONTACTOR
CT	CURRENT TRANSFORMER	OFM	OUTDOOR FAN MOTOR
DM	DAMPER MOTOR	OP	OVERCURRENT PROTECTOR
DU	DUMMY TERMINAL	PL	PLUG ASSEMBLY
EQUIP	EQUIPMENT	PM	PHASE MONITOR
FL	FUSE LINK	PRI	PRIMARY
FPT	FREEZE PROTECTION THERMOSTAT	TB	TERMINAL BLOCK
FU	FUSE	TC	THERMOSTAT COOLING
GND	GROUND	TH	THERMOSTAT HEATING
HC	HEATER CONTACTOR	TRAN	TRANSFORMER
HPS	HIGH PRESSURE SWITCH	SW	SWITCH
HTR	HEATER	PTO	MOTOR THERMOSTAT (NC)
IFC	INDOOR FAN CONTACTOR	CR	COMPRESSOR RELAY

NOTES

1. COMPRESSOR AND/OR FAN MOTOR(S) THERMALLY PROTECTED THREE PHASE MOTORS PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
2. IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 90°C WIRE OR ITS EQUIVALENT.
3. JUMPERS ARE OMITTED WHEN UNIT IS EQUIPPED WITH ECONOMIZER.
4. THE CLO LOCKS OUT THE COMPRESSOR TO PREVENT SHORT CYCLING ON COMPRESSOR OVERLOAD AND SAFETY DEVICES; BEFORE REPLACING CLO, CHECK THESE DEVICES.
5. NUMBER(S) INDICATES THE LINE LOCATION OF USED CONTACTS. A BRACKET OVER (2) NUMBERS SIGNIFIES A SINGLE POLE, DOUBLE THROW CONTACT. AN UNDERLINED NUMBER SIGNIFIES A NORMALLY CLOSED CONTACT. PLAIN (NO LINE) NUMBER SIGNIFIES A NORMALLY OPEN CONTACT.

Controls

Operating sequence

Cooling, units-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 (IFM), compressor no. 1 and condenser fan(s) start. The condenser-fan motor(s) runs continuously while unit is cooling. When 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 (50TJ016-028), if accessory or optional heater is installed) -Upon a call for heating through terminal W1, IFC and heater contactor no. 1 (HC1) are energized. On units equipped for 2 stages of heat, when additional heat is needed, HC2 is energized through W2.

IMPORTANT

Field installed thermostat should include time delay between stages to limit the inrush current during the unit starting and to ensure proper operation of unit control.

Application data

Thermostat

Use of 2-stage cooling thermostat with 3-5 min. time delay for compressor is recommended for all units. A 2-stage cooling thermostat is required on units if the economizer is used to provide integrated cooling.

Heating-to-cooling changeover

All units are automatic changeover from heating to cooling when automatic changeover thermostat and sub-base 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/nominal ton (67.1 L/s per kW) on size 016-024 units, and 375 cfm/nominal ton (50.3 L/s per kW) on size 028-032 units.

Minimum airflow

The minimum airflow for cooling is 300 cfm/nominal ton (40 L/s per kW) on size 016-024 units and 280 nominal cfm/ton (38 L/s per kW) on size 028-032 units.

Refer to Heating Capacities and Efficiencies table on page 4 for minimum airflow cfm for heating on size 016-032 units.

Minimum ambient cooling operation temperature

Units are designed to operate at outdoor temperatures down to 41 F (5 C). To operate at lower outdoor-air temperatures, contact your local Carrier representative for appropriate accessory combinations for specific applications.

IMPORTANT: The minimum heating cfm must be maintained to ensure proper operation in the Heating mode.
The minimum heating cfm value takes precedence over the minimum cooling cfm value.

Maximum operating outdoor-air temperature

For cooling, this temperature is 125 F (52 C) for all sizes.

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

Field-supplied fan drives

If the factory's drive sets must be changed to obtain other wheel speeds, consult the nearest Browning Manufacturing Co. sales office with the required new wheel speed and the data from Physical Data tables (center distances, motor and fan shaft diameters, motor horsepower) for a modified drive set selection. For minor speed changes, the motor sheave should be adjusted. (Do not reduce the size of the motor sheave; this will result in reduced belt horsepower ratings and reduced belt life.)

Copper-fin coils provide increased corrosion rsistance in moderate coastal environments where industrial air pollution is not present. All copper coils eliminate bi-metallic contact to eliminate the potential for galvanic corrosion.

Application in industrial environments is not recommended due to potential attack from sulfur, sulfur oxide, nitrogen oxides, carbon and several other industrial airborne contaminants. In moderate seacoast environments, copper-fin coils have extended life compared to standard or pre-coated aluminum-fin coils.

Guide Specifications — 50TJ016-032 Side-Discharge Packaged Units

Packaged Rooftop Electric Cooling, Electric Heat, Constant Volume Application

HVAC Guide Specifications

Size Range: **15 to 30 Tons, Nominal (Cooling)**
180,000 to 360,000 Btuh, Nominal
20 to 40 kW (Electric Heat)
68,000 to 136,000 Btuh
Carrier Model Numbers: **50TJ-B/S**

Part 1 — General

1.01 SYSTEM DESCRIPTION

Unit is an outdoor rooftop (or building side) mounted, electrically controlled cooling and heating (optional) unit utilizing scroll hermetic compressors for cooling duty and electric heat. Unit is specifically designed for horizontal supply and return ducts, as shown on drawings. Standard unit shall include a manual outdoor-air inlet and aluminum filter.

1.02 QUALITY ASSURANCE

A. Unit (016-024) shall be rated in accordance with ARI Standards 270 and 360 and all units shall be designed in accordance with UL Standard 1995.

NOTE: The 50TJ028,032-S is beyond the scope of the ARI certification program.

B. Unit shall be designed to conform to ASHRAE 15.

C. Unit shall be installed without a roof curb.

D. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

E. Unit casing shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (scribed specimen).

F. Unit shall be manufactured in a facility registered to ISO 9002/BS5750, Part 2.

G. Blower motor and compressor shall have additional external over-current protection.

H. Condenser coil shall be pre-coated aluminum-fin coils shall have a durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments. Coating shall be applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube. Epoxy-phenolic barrier shall minimize galvanic action between dissimilar metals.

I. Evaporator panels shall be double skin.

1.03 DELIVERY, STORAGE, AND HANDLING

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

Part 2 — Products

2.01 EQUIPMENT (STANDARD)

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

B. Unit Cabinet:

1. Unit cabinet shall be constructed of galvanized steel, bonderized and powder painted enamel finish.

2. Indoor blower compartment interior surfaces shall be insulated with a minimum 1-in. (25 mm) thick, 1 lb (.45 kg) density neoprene coated, fiberglass insulation coated on the air side.

Evaporator panels shall be double skin so that no Fiberglass is exposed to air.

3. Cabinet panels shall be easily removable for servicing.

4. Filters shall be accessible through an access panel.

5. Holes shall be provided in the base rails for rigging shackles to facilitate overhead rigging.

6. Unit shall have a factory-installed internal condensate drain connection and a sloped condensate pan.

7. Condensate pan material shall be fabricated of minimum spangle steel with a hot-dipped zinc coating of 5% and will be Polyester Powder Painted.

C. Fans:

1. Indoor blower (evaporator fan):

a. Fan shall be belt driven. Belt drive shall include an adjustable pulley. The standard fan drive shall have a factory-installed low-medium static pressure fan drive.

b. Fan wheel shall be made from steel with a corrosion resistant finish. It shall be a dynamically balanced, double-inlet type with forward-curved blades.

2. Condenser fans shall be of the direct-driven propeller type, with corrosion-resistant blades riveted to corrosion-resistant steel supports. They shall be dynamically balanced and discharge air upwards.

D. Compressor(s):

1. Fully hermetic, scroll type, internally protected.

2. Factory mounted on rubber grommets, internally spring mounted for vibration isolation.

3. On electrically and mechanically independent refrigerant circuits.

E. Coils:

1. Standard evaporator and condenser coils shall have copper or aluminum plate fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed.

F. Refrigerant Components:

Refrigerant circuit components shall include:

1. Thermostatic expansion valve (TXV).

2. Filter driers.

3. Gage port and connections on suction, discharge, and liquid lines.

Guide Specifications — 50TJ016-032 Side-Discharge Packaged Units (Cont.)

G. Filter Section:
Standard filter section shall consist of factory installed washable aluminum filters.
H. Controls and Safeties:
1. Unit Controls:
a. Capacity control (2-step).
b. Unit shall be complete with self-contained low voltage control circuit.
2. Safeties:
a. Unit shall incorporate a solid-state compressor lockout which provides reset capability at the space thermostat, should any of the following safety devices trip and shut off compressor:
1) Compressor lockout protection provided for either internal or external overload.
2) Low-pressure switch.
3) Freeze stats (evaporator coil).
4) High-pressure switch.
5) Phase monitors, prevents scroll compressor from reverse rotation.
6) Blower motor and compressor shall have additional external over-current protection.
I. Operating Characteristics:
1. Unit shall be capable of starting and running at 125 F (52 C) ambient outdoor temperature per maximum load criteria of ARI Standard 360.
2. Unit with standard controls will operate in cooling down to outdoor ambient temperature of 41 F(5 C).
J. Electrical Requirements:
All unit power wiring shall enter unit cabinet at a single location.
K. Motors:
1. Compressor motors shall be cooled by refrigerant gas passing through motor windings and shall have line break thermal and current overload protection.
2. All fan motors shall have permanently lubricated, sealed bearings and inherent automatic-reset thermal overload protection or manual reset calibrated circuit breakers.
3. All indoor-fan motors 5 hp and larger shall meet the minimum efficiency requirements as established by the Energy Policy Act of 1992 (EPACT) effective
October 24, 1997.

Field Installed Options:

1. Head Pressure Control Package:
Consists of an accessory outdoor-air package and a solid-state control with condenser coil temperature sensor for controlling condenser-fan motor speed to maintain condensing temperature between 90 F
(32.2 C) and 100 F (43.3 C) at outdoor ambient temperature down to –20 F (–29.8 C).
2. Low-Ambient Kits:
When used, allows units to operate at lower outdoor ambient temperatures.
3. Service Options:
a. Non-fused disconnect switch: Shall be internally-mounted. The NEC and UL approved non-fuse switch shall provide unit power shutoff. The control access door shall be interlocked with the nonfused disconnect. The disconnect switch must be in the OFF position to open the control box access door. Shall be accessible from outside the unit and shall provide power off lockout capability.
4. Electric Heater Package (Field supplied):
a. Fully assembled for installation.
b. Heater element open coil resistance wire, nickel-chrome alloy, 0.29 inches inside diameter, strung through ceramic insulators mounted on metal frame. Coil ends are staked and welded to terminal screw slots.
c. Heater assemblies are provided with integral fusing for protection of internal heater circuits not exceeding 25 amps each.
d. Auto reset thermo limit controls, magnetic heater contactors (24 v coil) and terminal block all mounted in electric heater control box (minimum 18 ga. galvanized steel) attached to end of heater assembly.
e. All power wiring leads are 10 AWG and control wiring leads are 18 AWG, both rated at 105 deg. C.
5. Hail Guard, Condenser Coil Grille: Shall protect the condenser coil from hail, flying debris, and damage by large objects without increasing unit clearances.

Special Feature (S)

1. Evaporator panels shall be double skin.
2. Condenser coil shall be pre-coated aluminum-fin coils shall have a durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments. Coating shall be applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube. Epoxy-phenolic barrier shall minimize galvanic action between dissimilar metals.

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