



Package Rooftop Units – 60Hz



Quality Assurance
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Manufacturing point: Jeddah, Saudi Arabia
Nearest port of embarkation: Jeddah Islamic port
Product classification: Commercial

Product Data Catalog

50TJM – 60Hz **Unit Size 15 - 30 Tons** **HFC R-410A Refrigerant**

The 50TJM units are single side discharge rooftop cooling unit utilizing electric heat as an option. Units are pre-wired, pre-charged with R-410A refrigerant, and tested at the factory. These units can be placed on the side of a building or can be placed on a roof without roof curbs. Each unit is designed to occupy a minimal space. Piping and drain connections are readily accessible.

Contact your local Carrier representative for additional reference materials.

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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.

Indoor-Air Quality

Non corrosive sloped condensate pans minimize biological growth in rooftop units in accordance with ASHRAE (American Society of Heating, Refrigeration and Air Conditioning Engineers) Standard 62-99 (IAQ). 1" inch filters provide for greater particle reduction in the return air.

Simple, Electrical Connections

Terminal boards, located in the unit control box, facilitate connections to room thermostat, outdoor thermostat(s) and electric heater. 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, color-coded wires permit easy tracing and diagnostics.

Easy Installation

All units feature base rail design with forklift slots and rigging holes for easier maneuvering. Durable packaging protects all units during shipment and storage. Convenient side by side openings permit installation very close to 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 30kW or 40kW.

Installation Features

- Single point electrical service entry
- Side discharge application
- No roof curb needed
- Side by side supply and return air
- Separate panel for control box

Performance Features

- HFC R-410A refrigerant
- ASHRAE Compliant
- EER's up to 11.5
- TXV refrigerant metering device
- Two independent refrigerant circuits, each with a scroll compressor
- Low outdoor temperature cooling operation down to 40° F
- Liquid filter drier standard on each circuit
- Design Series "A" with 10% fresh air intake provision
- Non-corrosive sloped condensate drain pan in accordance to ASHRAE 62 standard
- Thermally protected and permanently lubricated condenser and evaporator fan motors
- Angle type return air section with washable type filters

Environmentally Sound Refrigerant Choice

R410A refrigerant is:

- A chlorine-free refrigerant from the HFC group
- Has zero ozone depletion potential
- High pressure refrigerant, therefore less refrigerant is required
- Thermally efficient and provides high EER (energy efficiency), COP, and part load efficiencies

Superior Reliability, Efficiency and Safety

- Exceptional endurance tests
 - Painted panels tested to ASTM B-117 500 hours salt spray protection
 - Pre-coated fin condenser coil for extra corrosion protection
- Compressor Protection:
 - High and low pressure cutouts
 - Compressor lockout
 - Phase protection relay
 - Crankcase heaters are standard for all units
 - Internal over temperature protection
 - Freeze protection
- Low vibration design:
 - Leak-tight refrigerant circuit
 - Brazed refrigerant connections for increased leak tightness
 - Low-noise scroll compressors with low vibration levels
- Control circuit protected by circuit breaker
- Thermally protected and permanently lubricated condenser and evaporator fan motors
- Angle type return air section with washable type filters
- Transformer for safe 24v control circuit supply included
- High Efficiency, High Static Blower
- State-of-art scroll compressor technology
- Dual, electrically and mechanically independent refrigerant circuit
- Double skin construction, Insulated cabinet

Shipping Information

Unit data with Condenser Al/Cu and Evaporator Cu/Al Coils and Condenser only Pre-coat Al/CU

Unit Model	Unit Size	Approximate Shipping Weight		Approximate Shipping Dimensions (L x D x H)	
Number	Tons	kg	lbs	mm	in
50TJM-18xxAxxxAxAS	15	925	2,017	2,440 x 2,235 x 1,375	96 x 88 x 54
50TJM-24xxAxxxAxAS	20	945	2,050		
50TJM-28AxAxxxAxAS	25	1,190	2,854	3,200 x 2,485 x 1,400	126 x 98 x 55
50TJM-34AxAxxxAxAS	30	1,215	2,877		
50TJM-28BxAxxxAxAS	25	1,190	2,854	2,920 x 2,485 x 1,440	115 x 98 x 55
50TJM-34BxAxxxAxAS	30	1,215	2,877		

Unit data with Condenser Only Cu/Cu Coils

Unit Model	Unit Size	Approximate Shipping Weight		Approximate Shipping Dimensions (L x D x H)	
Number	Tons	kg	lbs	mm	in
50TJM-18AxExxxAxAS	15	990	2,183	2,440 x 2,235 x 1,375	96 x 88 x 54
50TJM-24AxExxxAxAS	20	1,032	2,275		
50TJM-28AxExxxAxAS	25	1,340	2,954	3,200 x 2,485 x 1,400	126 x 98 x 55
50TJM-34AxExxxAxAS	30	1,365	3,009		
50TJM-28BxExxxAxAS	25	1,340	2,954	2,920 x 2,485 x 1,440	115 x 98 x 55
50TJM-34BxExxxAxAS	30	1,365	3,009		

Unit data with Condenser and Evaporator Cu/Cu Coils

Unit Model	Unit Size	Approximate Shipping Weight		Approximate Shipping Dimensions (L x D x H)	
Number	Tons	kg	lbs	mm	in
50TJM-18AxCxxxAxAS	15	1,074	2,367	2,440x2,235x1,375	96x88x54
50TJM-24AxCxxxAxAS	20	1,116	2,460		
50TJM-28AxCxxxAxAS	25	1,452	3,201	3,200x2,485x1,400	126x98x55
50TJM-34AxCxxxAxAS	30	1,477	3,256		
50TJM-28BxCxxxAxAS	25	1,452	3,201	2,920 x 2,485 x 1,440	115 x 98 x 55
50TJM-34BxCxxxAxAS	30	1,477	3,256		

Factory Installed Options

Option	Description
Refrigerant sight glass	Installed on each circuit
Pre-coated	Condenser only
Copper fins	Condenser only
Copper fins	Evaporator and Condenser

NOTE: Please refer to the Product Nomenclature for ordering information.

Field Installed Accessories

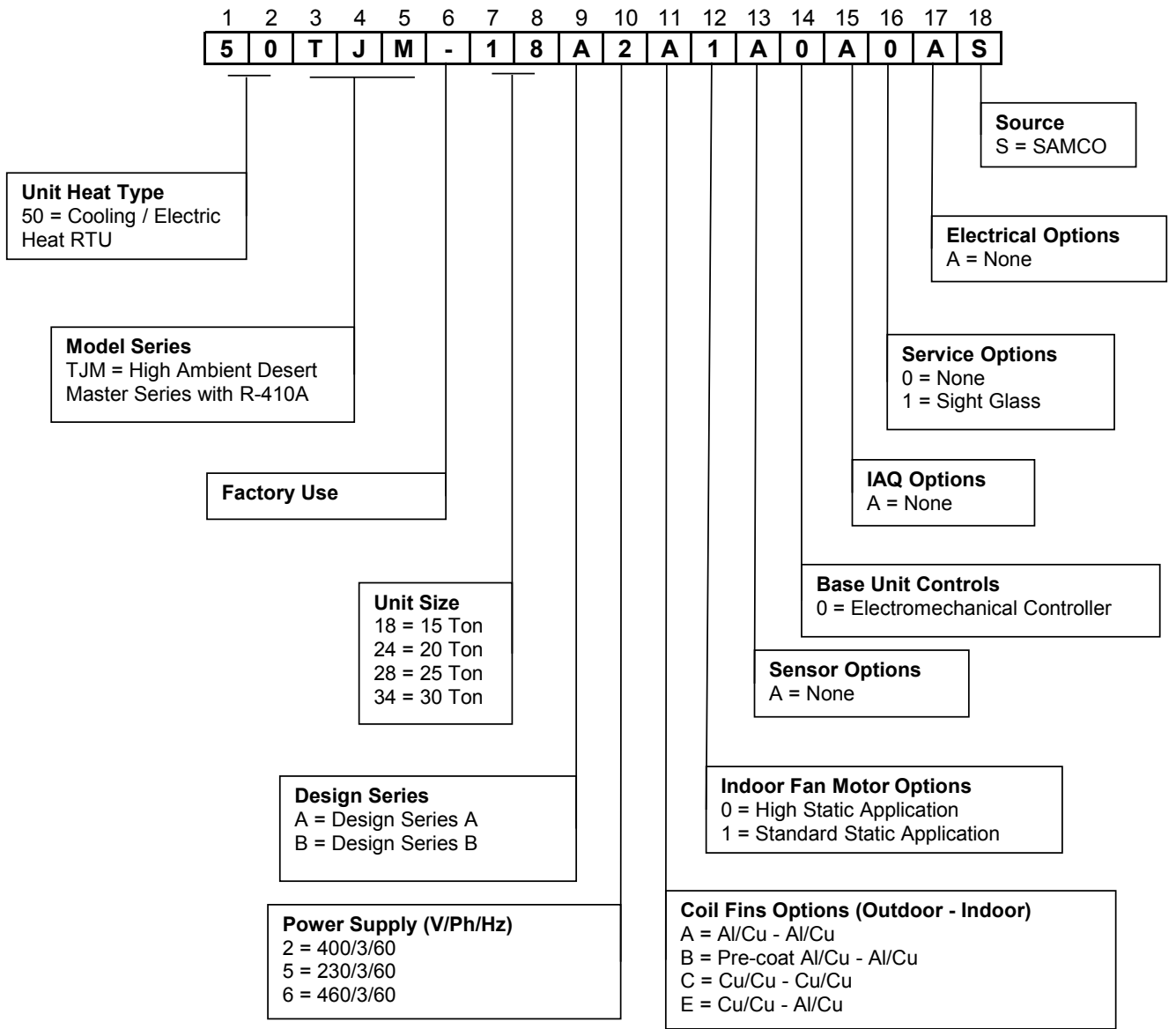
Accessory Soft Bag Filter

50TJM	Part Number
Unit 18 and 24	50TJ600993
Unit 28 and 34	50TJ600992

Accessory Electric Heater

50TJM	230V			400V and 460V		
	Complete Kit P.N.	Casing P.N.	Heater Element P.N.	Complete Kit P.N.	Casing P.N.	Heater Element P.N.
		(1 Per Kit)	(2 Per Kit)		(1 Per Kit)	(2 Per Kit)
18	50TJ600201	50TJ600289	CPHEATER030A00	50TJ600287	50TJ600289	CPHEATER036A00
24	50TJ601161		CPHEATER031A00	50TJ601162		50TJ600727
28	50TJ600729	50TJ600727		50TJ600730		
34						

MODEL NUMBER NOMENCLATURE – 50TJM – R410A SERIES



AHRI Capacity Rating

Unit 50TJM	Unit Size (Ton)	Standard Air Flow Rate (CFM)	Net Cooling Capacity (BTU/hr)	EER	Standard m3/hr	Standard L/s
18	15.0	5500	174000	11.30	9339	2595
24	20.0	6700	206000	11.50	11377	3162
28	25.0	8000	252000	10.85	13584	3775
34	30.0	9200	314000	10.50	15622	4341

Minimum - Maximum Air Flow Rate

Unit 50TJM	Minimum	Maximum	Minimum	Maximum
	CFM	CFM	L/s	L/s
18	4000	6500	1888	3067
24	5000	8000	2360	3775
28	5000	9000	2360	4247
34	7000	9500	3303	4483

Minimum Electric Heating Air Flow Rate

Unit 50TJM	Unit Voltage	Unit Configuration	Minimum	Minimum
			CFM	L/s
18	All	Horizontal	4800	2265
24	All	Horizontal	6000	2831
28	All	Horizontal	7000	3303
34	All	Horizontal	7000	3303

EER - Energy Efficiency Ratio

CFM - Cubic Feet per Minute

L/s - Liters per Second

BTU - British Thermal Unit

*AHRI - Air Conditioning, Heating and Refrigeration Institute

1. Rated in accordance with AHRI Standards 340/360 and SASO 2874/2016
2. Cooling capacities are net and include deductions for indoor fan motor heat
3. Cooling Standard: 80 °F db, 67 °F wb indoor entering-air temperature and 95 °F db air entering outdoor unit

Physical Data - English

50TJM Unit Physical Data (60Hz) (English)

Unit 50TJM Model	18	24	28	34
Unit Size (Tons)	15	20	25	30
Refrigeration System				
Compressor No. / Type	2 / Scroll			
Refrigerant type	Puron® R410A			
Circuits No.#	2			
Charge per Circuit (1-Down / 2-Up) - LBS	16.31 / 15.65	18.74 / 18.74	32.63 / 30.53	28.22 / 30.10
Metering Device	TXV- Adjustable			
Filter Drier Qty/ size	2 / 85		2 / 165	
High Pressure Switch (Trip/ Reset)- PSIG	630 / 480			
Low Pressure Switch (Trip/ Reset)- PSIG	54 / 70			
Freeze Protection Thermostat (Open / Close) ±1.8 °F	-18 / -14			
Condenser Coil				
Coil Type	3/8" Helical Grooved Copper Tube, 0.866" Aluminum Double Wavy Fins			
Standard Coil Material (Pipes/Fins) *	Cu/Al			
Qty x Rows x FPI*	1 x 3 x 16	1 x 4 x 16	2 x 3 x 17	
Qty x Face Area (ft ²)	1 x 26.7		2 x 28.8	
Coil test Pressure (PSIG)	450			
Condenser Fan & Motor				
Approx. Air Flow Rate (CFM)	16000		20000	
Quantity	2			
Diameter (in) / No. of Blades	30 / 3		30 / 4	
Motor Type	Induction Motor- Totally Enclosed			
Motor HP/ RPM	1 / 1140			
Evaporator Coil				
Coil Type	3/8" Helical Grooved Copper Tube, 0.75" Aluminum LSW Fins			
Standard Coil Material (Pipes/Fins) *	Cu/Al			
Qty x Rows x FPI*	2 x 3 x 17	2 x 4 x 17		
Qty x Face Area (ft ²)	2 x 9.75		2 x 10.3	
Coil test Pressure	350			
Drain Pan connection Size (in)	3/4			
Return Air Filter Qty / Size (in)	4 / 33.8 x 21.7		4 / 35.4 x 21.7	
Evaporator FAN & Motor Section				
Fan Quantity / Fan Size (in)	1 / 15.75 x 15.75		1 / 17.7 x 17.7	
Fan Type	Centrifugal - Forward Blade			
Drive Type	Belt			
Motor Type	Induction Motor - TEFC			
Standard Static Application				
Motor BHP (230v /400v)	4.0	5.4	7.4	
Motor BHP (460v)	4.8	6.0	8.8	
Motor Frame Size/ Motor Shaft Diameter (mm)	100 / 28	112 / 28		132 / 38
Motor Pulley Pitch Diameter (Min/Max) (in)	3.1 / 4.1			4.3 / 5.6
Fan RPM Range(RPM)*	1020 - 725	1042 - 732		1002 - 722
Fan Pulley Pitch Diameter (in)	6.9			10.4
Belt, Quantity..Type..Length(mm)	1 ... BX66			1 ... BX74
Pulley Center to Center Distance(in)	24.4 - 27.5			
Movable Pulley Maximum full turns from closed position	6			
Aprox.Speed Change per full turn of movable pulley flange(rpm)	49	52		47
Factory Speed Setting	3.5			2.5
Approx. Factory Belt Standard Deflection (in) @ Force (Lb)	0.4 @ 7.09 Lb	0.4 @ 8.73 Lb		0.39 @ 8.96 Lb
High Static Application				
Motor BHP (230v /400v)	5.4	7.4	10.1	
Motor BHP (460v)	6	8.8	11.5	
Motor Frame Size/ Motor Shaft Diameter (mm)	112 / 28	132 / 38		
Motor Pulley Pitch Diameter (Min/Max) (in)	3.1 / 4.1	4.3 / 5.6		5.4 / 6.6
Fan RPM Range(RPM)*	1042 - 732		1002 - 722	1007 - 763
Fan Pulley Pitch Diameter (in)	6.9	10.4		12.4
Belt, Quantity..Type..Length(mm)	1 ... BX66		1 ... BX74	1 ... BX79
Pulley Center to Center Distance(in)	620 - 699			
Movable Pulley Maximum full turns from closed position	6			
Aprox.Speed Change per full turn of movable pulley flange(rpm)	51.6		46.7	40.6
Factory Speed Setting	3.5	2.5		
Approx. Factory Belt Standard Deflection (in) @ Force (Lb)	0.4 @ 8.73 Lb		0.39 @ 8.96 Lb	0.39 @ 10.25 Lb

* Coils with Copper Fins are available in :

Evaporator Copper Coils : 16 FPI

Condenser Copper Coils : 15 FPI for 50TJM18/24 and 16FPI for 50TJM28/34

Physical Data - SI

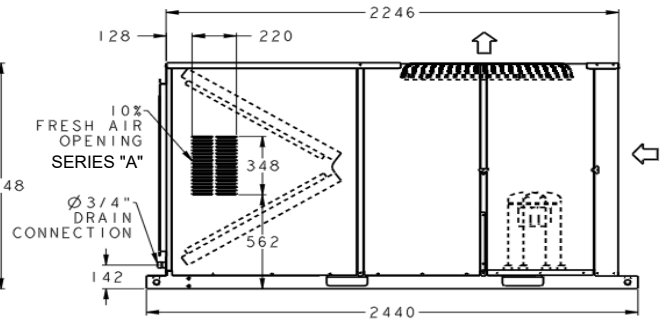
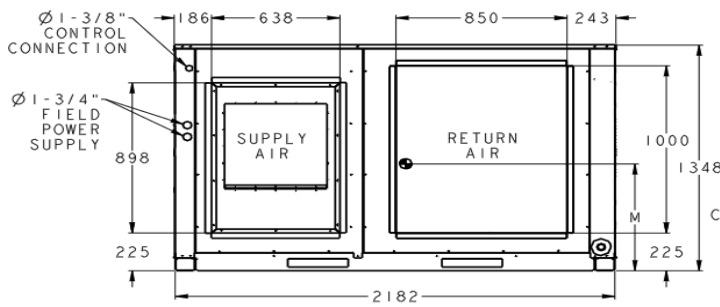
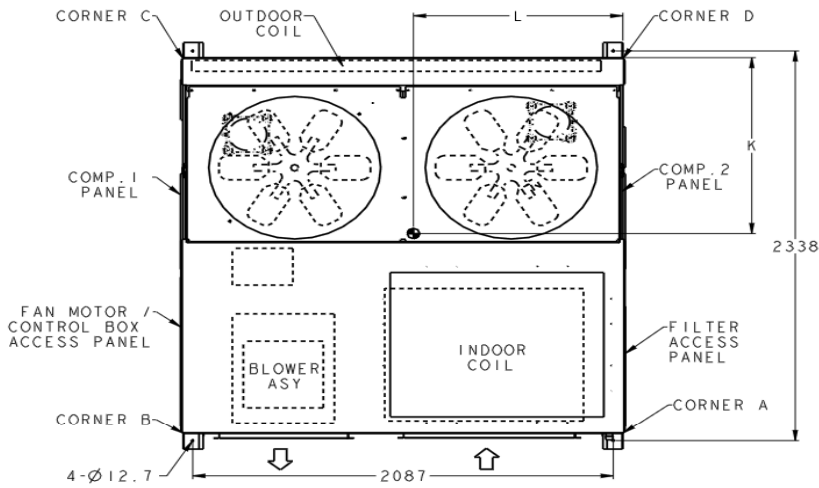
50TJM Unit Physical Data (60Hz) (SI)				
Unit 50TJM Model	18	24	28	34
Unit Size (Tons)	15	20	25	30
Refrigeration System				
Compressor No. / Type	2 / Scroll			
Refrigerant type	Puron ® R410A			
Circuits No.#	2			
Charge per Circuit (1-Down / 2-Up) - kG	7.4 / 7.1	8.5 / 8.5	14.8 / 13.8	12.8 / 13.7
Metering Device	TXV- Adjustable			
Filter Drier Qty/ size	2 / 85		2 / 165	
High Pressure Switch (Trip/ Reset) - bar	43.4 / 33.1			
Low Pressure Switch (Trip/ Reset) - bar	3.7 / 4.8			
Freeze Protection Thermostat (Open / Close) ±1 °C	- 1/7			
Condenser Coil				
Coil Type	10mm Helical Grooved Copper Tube, 22mm Aluminum Double Wavy Fins			
Standard Coil Material (Pipes/Fins) *	Cu/Al			
Qty x Rows x Fins (m)*	1 x 3 x 1280	1 x 4 x 1280	2 x 3 x 1472	
Qty x Face Area (m ²)	1 x 2.5		2 x 2.7	
Coil test Pressure (PSIG)	31.0			
Condenser Fan & Motor				
Approx. Air Flow Rate (m ³ /hr)	27168		33960	
Quantity	2			
Diameter (mm) / No. of Blades	762 / 3		762 / 4	
Motor Type	Induction Motor- Totally Enclosed			
Motor HP/ RPS	1 / 19.0			
Evaporator Coil				
Coil Type	10mm Helical Grooved Copper Tube, 19mm Aluminum LSW Fins			
Standard Coil Material (Pipes/Fins) *	Cu/Al			
Qty x Rows x Fins (m)*	2 x 3 x 663	2 x 4 x 663		
Qty x Face Area (m ²)	2 x 0.91		2 x 0.96	
Coil test Pressure	24.1			
Drain Pan connection Size (mm)	19			
Return Air Filter Qtyx Size (in)	4 / 860 x 550		4 / 900 x 550	
Evaporator FAN & Motor Section				
Fan Quantity / Fan Size (mm)	1 / 400 x 400		1 / 450 x 450	
Fan Type	Centrifugal - Forward Blade			
Drive Type	Belt			
Motor Type	Induction Motor - TEFC			
Standard Static Application				
Motor BkW (230v /400v)	3.0	4.0	5.5	
Motor BkW (460v)	3.6	4.5	6.6	
Motor Frame Size/ Motor Shaft Diameter	100 / 28	112 / 28		132 / 38
Motor Pulley Pitch Diameter (Min/Max) (mm)	78.74 / 104.14			109 / 141.6
Fan RPM Range (r/s)*	17.0 - 12.0	17.4 - 12.2		16.7 - 12.0
Fan Pulley Pitch Diameter (mm)	175.3			264.2
Belt, Quantity..Type..Length(mm)	1 ... BX66			1 ... BX74
Pulley Center to Center Distance(mm)	620 - 699			
Movable Pullley Maximum Full Turns From Closed Position	6			
Aprox.Speed Change Per Full Turn Of Movable Pulley Flange (rps)	0.8	0.9		0.8
Factory Speed Setting	3.5			2.5
Approx. Factory Belt Standarded Deflection (mm) @ Force (N)	10.2 @ 31.5 N	10.2 @ 38.9 N		10 @ 40 N
High Static Application				
Motor BkW (230v /400v)	4.0	5.5	7.5	
Motor BkW (460v)	4.5	6.6	8.6	
Motor Frame Size/ Motor Shaft Diameter (mm)	112 / 28	132 / 38		
Motor Pulley Pitch Diameter (Min/Max) (mm)	78.74 / 104.14	109 / 141.6		137 / 167
Fan RPM Range (r/s)*	17.4 - 12.24		16.7 - 12.0	16.8 - 12.7
Fan Pulley Pitch Diameter (mm)	175.3	264.2		315
Belt, Quantity..Type..Length(mm)	1 ... BX66		1 ... BX74	1 ... BX79
Pulley Center to Center Distance(mm)	620 - 699			
Movable Pullley Maximum Full Turns From Closed Position	6			
Aprox.Speed Change Per Full Turn Of Movable Pulley Flange (rps)	0.9		0.8	0.7
Factory Speed Setting	3.5	2.5		
Approx. Factory Belt Standarded Deflection (mm) @ Force (N)	10.2 @ 38.9 N		10 @ 40 N	10 @ 46 N

* Coils with Copper Fins are available in :

Evaporator Copper Coils : 630 Fins/m

Condenser Copper Coils : 591Fins/m for 50TJM18/24 and 630 Fins/m for 50TJM28/34

Unit Dimensional Drawing: 50TJM - Size 18 and 24 (Design Series A and B)



UNIT	SHIPPING DIMENSIONS (mm)			CORNER WEIGHT (Kg)					CENTER OF GRAVITY (mm)		
	LENGTH	WIDTH	DEPTH	A	B	C	D	TOTAL	K	L	M
50TJM - 18	2440	2235	1375	192	178	236	254	860	1050	1050	450
50TJM - 24				197	182	241	260	880			

NOTES:

1. Dimensions are in millimeters.

2. Center of Gravity.

3. Direction of Airflow

4. Minimum clearance:

REAR: 2134mm for coil removal. This dimension can be reduced to 1219mm if conditions permit coil removal from the top.

TOP: 1829mm to assure proper condenser fan operation.

SIDE: 1219mm for Compressor, Filter and Control boxes access.

- Local codes or jurisdiction may prevail.

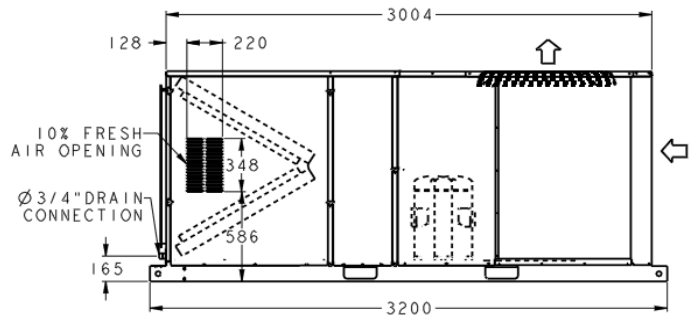
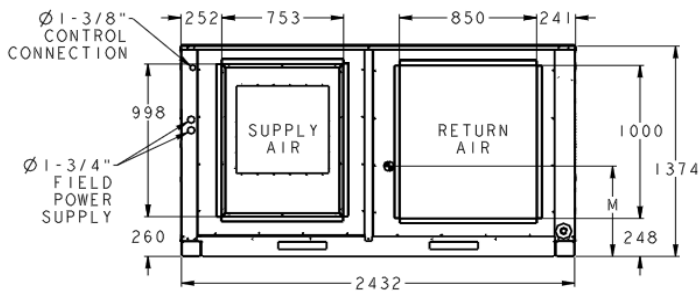
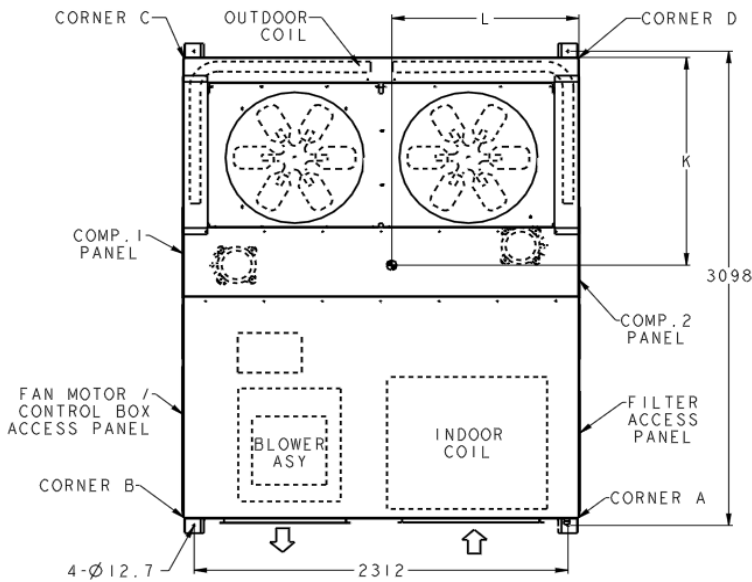
5. With the exception of clearance for the condenser coil and the damper / power exhaust as stated in Note no. 6, a removal fence or barricade requires no

6. Dimensions are from outside of corner post. Allow 8mm on each side for top cover drip edge.

7. Weights are Given for aluminum evaporator and condenser coil plate fins.

8. 10% Fresh air opening provision only on Design Series "A".

Unit Dimensional Drawing: 50TJM - Size 28 and 34 (Design Series A)

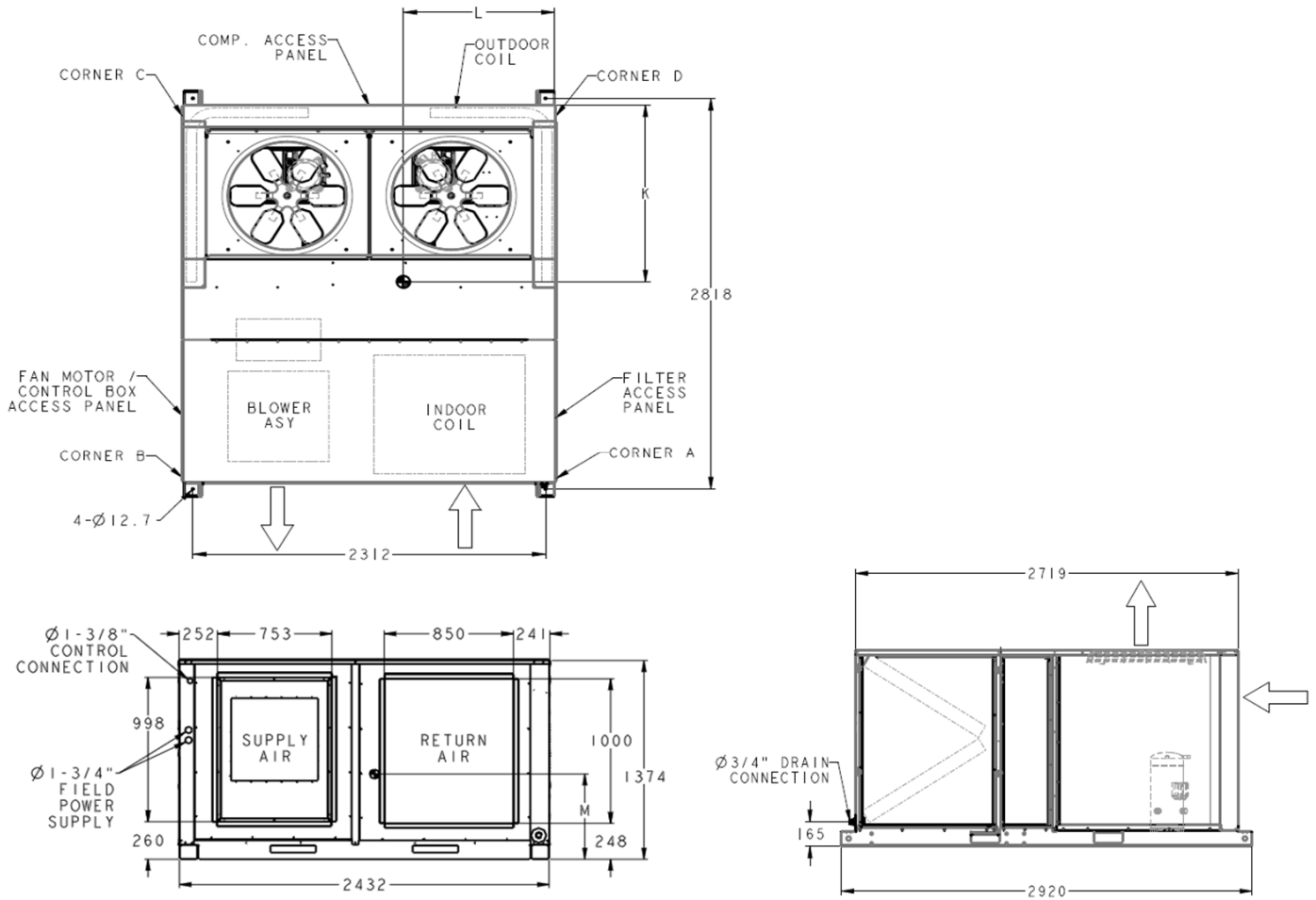


UNIT	SHIPPING DIMENSIONS (mm)			CORNER WEIGHT (Kg)					CENTER OF GRAVITY (mm)		
	LENGTH	WIDTH	DEPTH	A	B	C	D	TOTAL	K	L	M
50TJM - 28	3200	2485	1400	248	226	310	340	1125	1350	1160	450
50TJM - 34				254	231	317	348	1150			

NOTES:

- Dimensions are in millimeters.
- ☉ Center of Gravity.
- ⇨ Direction of Airflow
- Minimum clearance:
 - REAR: 2134mm for coil removal. This dimension can be reduced to 1219mm if conditions permit coil removal from the top.
 - TOP: 1829mm to assure proper condenser fan operation.
 - SIDE: 1219mm for Compressor, Filter and Control boxes access.
 - Local codes or jurisdiction may prevail.
- With the exception of clearance for the condenser coil and the damper / power exhaust as stated in Note no. 6, a removal fence or barricade requires no clearance.
- Dimensions are from outside of corner post. Allow 8mm on each side for top cover drip edge.
- Weights are Given for aluminum evaporator and condenser coil plate fins.

Unit Dimensional Drawing: 50TJM - Size 28 and 34 (Design Series B)



UNIT	SHIPPING DIMENSIONS (mm)			CORNER WEIGHT (Kg)					CENTER OF GRAVITY (mm)		
	LENGTH	WIDTH	DEPTH	A	B	C	D	TOTAL	K	L	M
50TJM - 28	2920	2485	1400	248	226	310	340	1125	1275	990	450
50TJM - 34				254	231	317	348	1150			

NOTES:

- Dimensions are in millimeters.
- ⊕ Center of Gravity.
- ⇨ Direction of Airflow
- Minimum clearance:
 - REAR: 2134mm for coil removal. This dimension can be reduced to 1219mm if conditions permit coil removal from the top.
 - TOP: 1829mm to assure proper condenser fan operation.
 - SIDE: 1219mm for access.
 - Local codes or jurisdiction may prevail.
- With the exception of clearance for the condenser coil and the damper / power exhaust as stated in Note no. 6, a removal fence or barricade requires no clearance.
- Dimensions are from outside of corner post. Allow 8mm on each side for top cover drip edge.
- Weights are Given for aluminum evaporator and condenser coil plate fins.

Cooling Capacities

50TJM18 - 60Hz

Temp (F) Air Entering Condenser (Edb)		Evaporator Air - CFM/BPF														
		4000 / 0.223			4750 / 0.248			5500 / 0.260			6000 / 0.272			6500 / 0.310		
		Evaporator Air - EWB (F)														
		62	67	72	62	67	72	62	67	72	62	67	72	62	67	72
75	TC	167,268	181,845	197,906	173,579	188,953	205,478	178,562	194,367	211,322	181,504	197,228	214,353	183,480	199,739	216,981
	SHC	129,775	111,055	92,710	141,551	120,105	98,668	152,935	128,761	104,239	158,866	134,327	107,732	163,187	139,747	111,108
	kW	8.31	8.51	8.73	8.40	8.61	8.84	8.53	8.69	8.92	8.52	8.73	8.97	8.55	8.77	9.01
85	TC	161,545	175,616	191,098	166,871	181,980	197,890	171,991	186,775	202,947	174,015	189,367	205,725	176,785	191,553	208,040
	SHC	128,331	109,079	90,498	139,224	118,174	96,336	150,581	126,771	101,715	155,123	132,290	105,184	160,568	137,664	108,542
	kW	9.36	9.57	9.79	9.44	9.66	9.89	9.52	9.73	9.97	9.55	9.77	10.01	9.60	9.81	10.05
95	TC	158,153	171,967	186,973	163,664	177,695	193,073	167,401	182,000	197,718	170,182	184,254	200,074	174,450	186,211	202,173
	SHC	126,267	106,907	87,858	138,412	115,862	93,553	146,610	124,383	98,901	151,988	129,831	102,288	157,057	135,158	105,623
	kW	10.49	10.71	10.94	10.58	10.80	11.04	10.65	10.87	11.12	10.70	10.91	11.16	10.76	10.94	11.19
105	TC	148,769	162,150	176,234	153,785	167,054	181,491	157,768	170,683	185,370	161,493	172,672	187,463	165,217	174,318	189,200
	SHC	121,990	103,235	84,079	133,379	111,963	89,572	141,446	120,291	94,768	144,878	125,670	98,125	148,310	130,845	101,381
	kW	12.07	12.30	12.55	12.16	12.39	12.64	12.24	12.46	12.72	12.31	12.50	12.76	12.37	12.53	12.79
115	TC	138,746	150,898	164,041	142,703	155,021	168,376	147,227	158,120	171,609	151,049	159,718	173,312	153,340	161,027	174,813
	SHC	116,456	97,767	78,891	125,493	106,227	84,123	134,373	114,303	89,142	136,123	119,431	92,373	139,952	124,157	95,547
	kW	13.50	13.74	14.00	13.59	13.83	14.08	13.69	13.89	14.15	13.76	13.93	14.19	13.82	13.96	14.22
120	TC	137,377	149,383	162,341	141,625	153,269	166,419	146,436	156,103	169,379	149,557	157,600	170,975	152,303	158,830	172,332
	SHC	111,200	93,392	74,952	119,937	101,587	80,014	126,931	109,353	84,844	129,637	114,182	87,974	132,017	118,711	91,047
	kW	14.21	14.45	14.71	14.31	14.54	14.79	14.41	14.60	14.86	14.48	14.63	14.89	14.54	14.66	14.92
125	TC	132,343	143,925	156,402	136,402	147,507	160,082	141,855	150,083	162,771	144,762	151,372	164,231	147,352	152,601	165,434
	SHC	106,584	89,648	71,551	115,511	97,625	76,456	120,344	105,141	81,166	122,810	109,679	84,233	125,008	114,261	87,222
	kW	14.94	15.18	15.44	15.44	15.26	15.52	15.16	15.32	15.58	15.22	15.35	15.61	15.28	15.38	15.64

50TJM18 - 60Hz

Temp (C) Air Entering Condenser (Edb)		Evaporator Air - (L/s)/BPF														
		1888 / 0.223			2242 / 0.248			2596 / 0.260			2832 / 0.272			3068 / 0.310		
		Evaporator Air - EWB (C)														
		17	19	22	17	19	22	17	19	22	17	19	22	17	19	22
24	TC	49.0	53.3	58.0	50.9	55.4	60.2	52.3	57.0	61.9	53.2	57.8	62.8	53.8	58.5	63.6
	SHC	38.0	32.5	27.2	41.5	35.2	28.9	44.8	37.7	30.6	46.6	39.4	31.6	47.8	41.0	32.6
	kW	8.31	8.51	8.73	8.40	8.61	8.84	8.53	8.69	8.92	8.52	8.73	8.97	8.55	8.77	9.01
29	TC	47.3	51.5	56.0	48.9	53.3	58.0	50.4	54.7	59.5	51.0	55.5	60.3	51.8	56.1	61.0
	SHC	37.6	32.0	26.5	40.8	34.6	28.2	44.1	37.2	29.8	45.5	38.8	30.8	47.1	40.3	31.8
	kW	9.36	9.57	9.79	9.44	9.66	9.89	9.52	9.73	9.97	9.55	9.77	10.01	9.60	9.81	10.05
35	TC	46.4	50.4	54.8	48.0	52.1	56.6	49.1	53.3	57.9	49.9	54.0	58.6	51.1	54.6	59.3
	SHC	37.0	31.3	25.7	40.6	34.0	27.4	43.0	36.5	29.0	44.5	38.1	30.0	46.0	39.6	31.0
	kW	10.49	10.71	10.94	10.58	10.80	11.04	10.65	10.87	11.12	10.70	10.91	11.16	10.76	10.94	11.19
41	TC	43.6	47.5	51.7	45.1	49.0	53.2	46.2	50.0	54.3	47.3	50.6	54.9	48.4	51.1	55.5
	SHC	35.8	30.3	24.6	39.1	32.8	26.3	41.5	35.3	27.8	42.5	36.8	28.8	43.5	38.3	29.7
	kW	12.07	12.30	12.55	12.16	12.39	12.64	12.24	12.46	12.72	12.31	12.50	12.76	12.37	12.53	12.79
46	TC	40.7	44.2	48.1	41.8	45.4	49.3	43.1	46.3	50.3	44.3	46.8	50.8	44.9	47.2	51.2
	SHC	34.1	28.7	23.1	36.8	31.1	24.7	39.4	33.5	26.1	39.9	35.0	27.1	41.0	36.4	28.0
	kW	13.50	13.74	14.00	13.59	13.83	14.08	13.69	13.89	14.15	13.76	13.93	14.19	13.82	13.96	14.22
49	TC	40.3	43.8	47.6	41.5	44.9	48.8	42.9	45.8	49.6	43.8	46.2	50.1	44.6	46.6	50.5
	SHC	32.6	27.4	22.0	35.2	29.8	23.5	37.2	32.0	24.9	38.0	33.5	25.8	38.7	34.8	26.7
	kW	14.21	14.45	14.71	14.31	14.54	14.79	14.41	14.60	14.86	14.48	14.63	14.89	14.54	14.66	14.92
52	TC	38.8	42.2	45.8	45.8	43.2	46.9	41.6	44.0	47.7	42.4	44.4	48.1	43.2	44.7	48.5
	SHC	31.2	26.3	21.0	21.0	28.6	22.4	35.3	30.8	23.8	36.0	32.1	24.7	36.6	33.5	25.6
	kW	14.94	15.18	15.44	15.44	15.26	15.52	15.16	15.32	15.58	15.22	15.35	15.61	15.28	15.38	15.64

LEGEND

BPF — Bypass Factor
 Edb — Entering Dry-Bulb
 Ewb — Entering Wet-Bulb
 SHC — Sensible Heat Capacity (1000 Btuh) Gross
 Boldface - Standard Ratings

Ldb — Leaving Dry-Bulb
 Lwb — Leaving Wet-Bulb
 TC — Total Capacity (1000 Btuh) Gross
 kW — Compressor Motor Power Input

Notes:

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

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

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

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

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

- Cooling capacities are gross and do not include deductions for indoor fan motor heat.
- Variable Air Volume units will operate down to 70 cfm/ton. Performance at 70 cfm/ton is limited to unloaded operation and may be additionally limited to edb and ewb conditions.

- 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.

BF	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	82	83	84	85	over 85
	Correction Factor					
0.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.*
0.10	0.98	1.96	2.94	3.92	4.90	
0.20	0.87	1.74	2.62	3.49	4.36	
0.30	0.76	1.53	2.29	3.05	3.82	

* Interpolation is permissible.

*Correction Factor = 1.10 x (1 - BF) x (edb - 80).

Cooling Capacities (Continued)

50TJM24 - 60Hz

Temp (F) Air Entering Condenser (Edb)		Evaporator Air - CFM/BPF														
		5000 / 0.090			5800 / 0.100			6700 / 0.110			7400 / 0.120			8000 / 0.123		
		Evaporator Air - EWB (F)														
		62	67	72	62	67	72	62	67	72	62	67	72	62	67	72
75	TC	203,851	222,415	242,351	209,920	228,618	248,870	215,308	234,030	254,580	219,288	237,322	258,160	224,758	239,787	260,787
	SHC	162,859	138,687	113,809	175,643	148,637	120,116	188,480	159,393	126,928	196,962	167,515	132,058	199,660	174,277	136,352
	kW	9.56	9.78	10.01	9.64	9.86	10.09	9.71	9.93	10.16	9.76	9.97	10.21	9.83	10.00	10.25
85	TC	195,384	213,207	232,205	200,907	218,845	238,231	206,184	223,654	243,358	210,583	226,709	246,636	216,343	228,895	248,917
	SHC	159,131	135,182	110,233	171,416	145,025	116,495	183,884	155,640	123,198	190,686	163,735	128,338	192,243	170,428	132,589
	kW	10.72	10.95	11.18	10.80	11.02	11.26	10.87	11.09	11.33	10.93	11.13	11.38	11.01	11.16	11.41
95	TC	190,136	207,351	225,882	195,363	212,523	231,313	201,136	217,000	236,090	206,129	219,720	238,982	209,431	221,533	241,110
	SHC	155,100	131,336	106,446	167,029	141,079	112,589	177,392	151,687	119,286	183,309	159,630	124,338	188,613	165,989	128,590
	kW	11.99	12.22	12.46	12.07	12.29	12.54	12.15	12.36	12.60	12.22	12.40	12.65	12.27	12.43	12.68
105	TC	178,424	194,457	211,769	183,221	198,980	216,623	189,679	202,844	220,709	193,661	205,185	223,289	197,329	206,960	225,147
	SHC	149,090	125,984	101,372	160,386	135,569	107,414	169,069	145,927	113,959	175,766	153,534	118,922	179,095	159,862	123,128
	kW	13.36	13.59	13.83	13.44	13.66	13.91	13.53	13.72	13.97	13.60	13.76	14.01	13.65	13.79	14.04
115	TC	165,684	180,381	196,426	170,534	184,315	200,522	176,730	187,592	204,089	181,097	189,661	206,190	184,355	191,104	207,690
	SHC	140,853	118,856	94,861	151,171	128,136	100,676	158,758	138,060	107,020	162,681	145,333	111,816	165,607	151,130	115,854
	kW	14.91	15.14	15.38	14.99	15.20	15.45	15.09	15.26	15.51	15.17	15.30	15.54	15.22	15.32	15.57
120	TC	158,271	172,163	187,428	164,730	175,703	191,145	169,452	178,713	194,365	173,542	180,563	196,250	176,595	181,932	197,720
	SHC	134,460	113,389	90,074	140,777	122,313	95,686	149,810	131,798	101,821	153,426	138,716	106,470	156,125	144,247	110,380
	kW	15.75	15.97	16.22	15.86	16.04	16.28	15.95	16.10	16.34	16.02	16.13	16.37	16.07	16.16	16.40
125	TC	147,691	158,105	172,006	151,466	161,191	175,307	156,453	163,953	178,052	160,085	165,431	179,810	162,849	166,875	181,428
	SHC	125,494	108,799	85,963	135,032	117,428	91,434	141,997	126,648	97,396	145,293	133,100	101,934	147,801	138,394	105,753
	kW	16.56	16.75	16.99	16.64	16.81	17.05	16.74	16.85	17.10	16.81	16.90	17.14	16.86	16.92	17.16

50TJM24 - 60Hz

Temp (C) Air Entering Condenser (Edb)		Evaporator Air - (L/s)/BPF														
		2360 / 0.090			2737 / 0.100			3162 / 0.110			3492 / 0.120			3776 / 0.123		
		Evaporator Air - EWB (C)														
		17	19	22	17	19	22	17	19	22	17	19	22	17	19	22
24	TC	59.7	65.2	71.0	61.5	67.0	72.9	63.1	68.6	74.6	64.3	69.6	75.7	65.9	70.3	76.4
	SHC	47.7	40.6	33.4	51.5	43.6	35.2	55.2	46.7	37.2	57.7	49.1	38.7	58.5	51.1	40.0
	kW	9.56	9.78	10.01	9.64	9.86	10.09	9.71	9.93	10.16	9.76	9.97	10.21	9.83	10.00	10.25
29	TC	57.3	62.5	68.1	58.9	64.1	69.8	60.4	65.5	71.3	61.7	66.4	72.3	63.4	67.1	73.0
	SHC	46.6	39.6	32.3	50.2	42.5	34.1	53.9	45.6	36.1	55.9	48.0	37.6	56.3	49.9	38.9
	kW	10.72	10.95	11.18	10.80	11.02	11.26	10.87	11.09	11.33	10.93	11.13	11.38	11.01	11.16	11.41
35	TC	55.7	60.8	66.2	57.3	62.3	67.8	58.9	63.6	69.2	60.4	64.4	70.0	61.4	64.9	70.7
	SHC	45.5	38.5	31.2	49.0	41.3	33.0	52.0	44.5	35.0	53.7	46.8	36.4	55.3	48.6	37.7
	kW	11.99	12.22	12.46	12.07	12.29	12.54	12.15	12.36	12.60	12.22	12.40	12.65	12.27	12.43	12.68
41	TC	52.3	57.0	62.1	53.7	58.3	63.5	55.6	59.5	64.7	56.8	60.1	65.4	57.8	60.7	66.0
	SHC	43.7	36.9	29.7	47.0	39.7	31.5	49.6	42.8	33.4	51.5	45.0	34.9	52.5	46.9	36.1
	kW	13.36	13.59	13.83	13.44	13.66	13.91	13.53	13.72	13.97	13.60	13.76	14.01	13.65	13.79	14.04
46	TC	48.6	52.9	57.6	50.0	54.0	58.8	51.8	55.0	59.8	53.1	55.6	60.4	54.0	56.0	60.9
	SHC	41.3	34.8	27.8	44.3	37.6	29.5	46.5	40.5	31.4	47.7	42.6	32.8	48.5	44.3	34.0
	kW	14.91	15.14	15.38	14.99	15.20	15.45	15.09	15.26	15.51	15.17	15.30	15.54	15.22	15.32	15.57
49	TC	46.4	50.5	54.9	48.3	51.5	56.0	49.7	52.4	57.0	50.9	52.9	57.5	51.8	53.3	57.9
	SHC	39.4	33.2	26.4	41.3	35.8	28.0	43.9	38.6	29.8	45.0	40.7	31.2	45.8	42.3	32.4
	kW	15.75	15.97	16.22	15.86	16.04	16.28	15.95	16.10	16.34	16.02	16.13	16.37	16.07	16.16	16.40
52	TC	43.3	46.3	50.4	44.4	47.2	51.4	45.9	48.1	52.2	46.9	48.5	52.7	47.7	48.8	53.2
	SHC	36.8	31.9	25.2	39.6	34.4	26.8	41.6	37.1	28.5	42.6	39.0	29.9	43.3	40.6	31.0
	kW	16.56	16.75	16.99	16.64	16.81	17.05	16.74	16.85	17.10	16.81	16.90	17.14	16.86	16.92	17.16

LEGEND

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

Boldface - Standard Ratings

Notes:

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

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

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

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

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

- Cooling capacities are gross and do not include deductions for indoor fan motor heat.
- Variable Air Volume units will operate down to 70 cfm/ton. Performance at 70 cfm/ton is limited to unloaded operation and may be additionally limited to edb and ewb conditions.

- 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.

BF	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	82	83	84	85	over 85
Correction Factor						
0.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.*
0.10	0.98	1.96	2.94	3.92	4.90	
0.20	0.87	1.74	2.62	3.49	4.36	
0.30	0.76	1.53	2.29	3.05	3.82	

- Interpolation is permissible.

*Correction Factor = 1.10 x (1 - BF) x (edb - 80).

Cooling Capacities (Continued)

50TJM28 - 60Hz

Temp (F) Air Entering Condenser (Edb)		Evaporator Air - CFM/BPF														
		5000 / 0.097			6000 / 0.110			7000 / 0.130			8000 / 0.152			9000 / 0.180		
		Evaporator Air - EWB (F)														
		62	67	72	62	67	72	62	67	72	62	67	72	62	67	72
75	TC	236,627	258,925	283,511	246,505	269,903	295,424	254,317	278,243	304,233	260,185	284,708	311,229	265,961	289,876	316,835
	SHC	188,375	161,916	135,533	206,841	176,000	144,803	224,219	189,337	153,286	239,046	202,192	161,426	251,663	214,567	169,275
	kW	11.83	12.06	12.32	11.94	12.18	12.45	12.02	12.27	12.54	12.09	12.34	12.62	12.15	12.40	12.68
85	TC	227,648	249,297	273,130	237,019	259,436	284,053	243,841	267,049	292,175	249,812	272,963	298,550	256,393	277,598	303,651
	SHC	184,411	157,951	131,553	203,082	171,896	140,638	219,172	185,136	149,063	233,607	197,830	157,091	244,431	210,070	164,850
	kW	13.39	13.63	13.90	13.50	13.75	14.03	13.58	13.84	14.12	13.65	13.91	14.20	13.73	13.97	14.26
95	TC	222,409	243,696	267,017	231,139	253,143	277,206	237,539	260,178	284,745	243,642	265,525	290,576	251,843	269,818	295,248
	SHC	180,095	153,620	127,198	198,333	167,446	136,144	213,893	180,540	144,442	227,087	193,057	152,371	234,920	205,203	160,068
	kW	15.11	15.36	15.64	15.22	15.48	15.76	15.30	15.57	15.85	15.38	15.64	15.93	15.48	15.69	15.98
105	TC	209,461	229,831	251,914	217,209	238,181	260,960	223,414	244,329	267,573	229,836	249,133	272,777	238,488	252,695	276,824
	SHC	173,603	147,529	121,355	190,842	160,969	130,001	205,638	173,736	138,079	218,188	186,091	145,881	222,248	197,757	153,413
	kW	16.96	17.23	17.51	17.07	17.34	17.63	17.16	17.43	17.72	17.25	17.50	17.79	17.35	17.55	17.85
115	TC	193,343	212,222	232,711	200,110	219,408	240,426	206,120	224,745	246,239	213,565	228,729	250,636	220,089	231,942	254,126
	SHC	164,523	139,195	113,669	180,526	152,117	121,901	194,087	164,480	129,727	202,925	176,309	137,252	209,424	187,703	144,537
	kW	19.07	19.34	19.64	19.18	19.46	19.75	19.27	19.54	19.83	19.39	19.60	19.90	19.49	19.65	19.95
120	TC	185,017	203,102	222,827	191,510	209,731	229,927	198,045	214,647	235,246	205,112	218,264	239,330	211,317	221,265	242,530
	SHC	157,241	132,759	108,008	172,553	145,235	115,907	184,156	157,181	123,462	192,108	168,552	130,749	197,919	179,470	137,833
	kW	20.22	20.50	20.79	20.33	20.60	20.90	20.44	20.68	20.98	20.55	20.75	21.05	20.65	20.80	21.10
125	TC	172,312	189,148	207,476	178,316	195,062	213,938	185,396	199,435	218,841	191,715	202,704	222,319	197,421	205,368	225,107
	SHC	151,179	127,359	103,130	165,387	139,475	110,845	175,041	151,107	118,166	182,425	162,172	125,271	187,855	172,641	132,154
	kW	21.30	21.58	21.87	21.41	21.68	21.98	21.54	21.76	22.05	21.65	21.82	22.11	21.74	21.87	22.16

50TJM28 - 60Hz

Temp (C) Air Entering Condenser (Edb)		Evaporator Air - (L/s)/BPF														
		2360 / 0.097			2832 / 0.110			3304 / 0.130			3776 / 0.152			4248 / 0.180		
		Evaporator Air - EWB (C)														
		17	19	22	17	19	22	17	19	22	17	19	22	17	19	22
24	TC	69.4	75.9	83.1	72.2	79.1	86.6	74.5	81.5	89.2	76.3	83.4	91.2	77.9	85.0	92.9
	SHC	55.2	47.5	39.7	60.6	51.6	42.4	65.7	55.5	44.9	70.1	59.3	47.3	73.8	62.9	49.6
	kW	11.83	12.06	12.32	11.94	12.18	12.45	12.02	12.27	12.54	12.09	12.34	12.62	12.15	12.40	12.68
29	TC	66.7	73.1	80.0	69.5	76.0	83.3	71.5	78.3	85.6	73.2	80.0	87.5	75.1	81.4	89.0
	SHC	54.0	46.3	38.6	59.5	50.4	41.2	64.2	54.3	43.7	68.5	58.0	46.0	71.6	61.6	48.3
	kW	13.39	13.63	13.90	13.50	13.75	14.03	13.58	13.84	14.12	13.65	13.91	14.20	13.73	13.97	14.26
35	TC	65.2	71.4	78.3	67.7	74.2	81.2	69.6	76.3	83.5	71.4	77.8	85.2	73.8	79.1	86.5
	SHC	52.8	45.0	37.3	58.1	49.1	39.9	62.7	52.9	42.3	66.6	56.6	44.7	68.9	60.1	46.9
	kW	15.11	15.36	15.64	15.22	15.48	15.76	15.30	15.57	15.85	15.38	15.64	15.93	15.48	15.69	15.98
41	TC	61.4	67.4	73.8	63.7	69.8	76.5	65.5	71.6	78.4	67.4	73.0	79.9	69.9	74.1	81.1
	SHC	50.9	43.2	35.6	55.9	47.2	38.1	60.3	50.9	40.5	63.9	54.5	42.8	65.1	58.0	45.0
	kW	16.96	17.23	17.51	17.07	17.34	17.63	17.16	17.43	17.72	17.25	17.50	17.79	17.35	17.55	17.85
46	TC	56.7	62.2	68.2	58.6	64.3	70.5	60.4	65.9	72.2	62.6	67.0	73.5	64.5	68.0	74.5
	SHC	48.2	40.8	33.3	52.9	44.6	35.7	56.9	48.2	38.0	59.5	51.7	40.2	61.4	55.0	42.4
	kW	19.07	19.34	19.64	19.18	19.46	19.75	19.27	19.54	19.83	19.39	19.60	19.90	19.49	19.65	19.95
49	TC	54.2	59.5	65.3	56.1	61.5	67.4	58.0	62.9	68.9	60.1	64.0	70.1	61.9	64.8	71.1
	SHC	46.1	38.9	31.7	50.6	42.6	34.0	54.0	46.1	36.2	56.3	49.4	38.3	58.0	52.6	40.4
	kW	20.22	20.50	20.79	20.33	20.60	20.90	20.44	20.68	20.98	20.55	20.75	21.05	20.65	20.80	21.10
52	TC	50.5	55.4	60.8	52.3	57.2	62.7	54.3	58.5	64.1	56.2	59.4	65.2	57.9	60.2	66.0
	SHC	44.3	37.3	30.2	48.5	40.9	32.5	51.3	44.3	34.6	53.5	47.5	36.7	55.1	50.6	38.7
	kW	21.30	21.58	21.87	21.41	21.68	21.98	21.54	21.76	22.05	21.65	21.82	22.11	21.74	21.87	22.16

LEGEND

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

Boldface - Standard Ratings

Notes:

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

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

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

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

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

- Cooling capacities are gross and do not include deductions for indoor fan motor heat.
- Variable Air Volume units will operate down to 70 cfm/ton. Performance at 70 cfm/ton is limited to unloaded operation and may be additionally limited to edb and ewb conditions.

- 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.

BF	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	82	83	84	85	over 85
Correction Factor						
0.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.*
0.10	0.98	1.96	2.94	3.92	4.90	
0.20	0.87	1.74	2.62	3.49	4.36	
0.30	0.76	1.53	2.29	3.05	3.82	

- Interpolation is permissible.

*Correction Factor = 1.10 x (1 - BF) x (edb - 80).

Cooling Capacities (Continued)

50TJM34 - 60Hz

Temp (F) Air Entering Condenser (Edb)		Evaporator Air - CFM/BPF														
		7000 / 0.105			7700 / 0.130			8500 / 0.151			9200 / 0.177			9500 / 0.181		
		Evaporator Air - EWB (F)														
		62	67	72	62	67	72	62	67	72	62	67	72	62	67	72
75	TC	309,515	338,436	370,128	315,738	345,401	377,580	322,309	352,240	384,660	327,024	357,386	390,117	328,784	359,411	392,347
	SHC	255,310	218,399	181,492	267,713	227,876	187,700	281,897	238,501	194,483	293,092	247,499	200,235	297,678	251,377	202,730
	kW	16.53	16.92	17.35	16.62	17.02	17.45	16.71	17.12	17.55	16.78	17.19	17.63	16.81	17.22	17.66
85	TC	296,571	324,431	354,976	302,543	330,846	361,663	308,234	336,957	368,193	312,354	341,596	373,045	314,221	343,435	374,888
	SHC	249,391	212,596	175,669	262,007	222,021	181,792	275,256	232,392	188,463	285,755	241,302	194,101	290,299	245,171	196,428
	kW	18.49	18.91	19.35	18.59	19.01	19.46	18.68	19.10	19.56	18.75	19.18	19.63	18.78	19.21	19.67
95	TC	288,356	315,588	345,219	293,673	321,388	351,417	298,878	326,996	357,307	303,069	331,183	361,727	304,704	332,890	363,387
	SHC	242,972	206,296	169,420	255,038	215,539	175,396	267,661	225,800	181,906	277,929	234,617	187,476	282,035	238,445	189,779
	kW	20.63	21.06	21.53	20.72	21.16	21.63	20.81	21.25	21.73	20.88	21.33	21.80	111.78	21.36	21.83
105	TC	270,115	295,806	323,625	274,961	300,958	329,018	279,691	305,818	334,186	283,644	309,521	337,957	286,154	310,926	339,387
	SHC	233,547	197,459	161,067	244,980	206,555	166,843	256,760	216,601	173,179	265,975	225,250	178,511	268,765	228,956	180,772
	kW	22.89	23.34	23.82	22.98	23.44	23.92	23.07	23.53	24.02	23.15	23.61	24.09	23.21	23.65	24.12
115	TC	250,331	274,143	299,863	254,658	278,591	304,569	259,322	282,750	308,899	267,810	285,861	312,207	269,074	288,265	314,676
	SHC	225,639	190,265	153,893	236,494	199,228	159,577	247,333	209,145	165,764	248,860	217,644	171,077	255,276	224,890	175,427
	kW	25.42	25.89	26.38	25.52	25.99	26.48	25.62	26.07	26.56	25.80	26.14	26.63	25.83	26.19	26.64
120	TC	238,739	261,488	286,065	242,816	265,521	290,270	247,782	269,309	294,260	255,086	272,199	297,327	256,980	273,117	298,188
	SHC	219,161	184,581	148,636	229,329	193,354	154,168	239,875	203,099	160,238	241,106	211,485	165,493	243,293	215,022	167,641
	kW	26.80	27.28	27.77	26.90	27.37	27.86	27.01	27.45	27.95	27.17	27.52	28.02	27.24	27.57	28.06
125	TC	219,300	239,983	262,373	223,243	243,459	266,096	227,950	246,835	269,752	234,794	249,308	272,466	236,721	250,010	273,353
	SHC	212,544	178,815	143,228	221,862	187,422	148,648	230,848	197,038	154,684	232,056	205,240	159,881	233,591	208,685	162,041
	kW	28.07	28.55	29.05	28.17	28.64	29.14	28.29	28.72	29.23	28.46	28.79	29.29	28.54	28.84	29.34

50TJM34 - 60Hz

Temp (C) Air Entering Condenser (Edb)		Evaporator Air - (L/s)/BPF														
		3304 / 0.105			3634 / 0.130			4012 / 0.151			4342 / 0.177			4484 / 0.181		
		Evaporator Air - EWB (C)														
		17	19	22	17	19	22	17	19	22	17	19	22	17	19	22
24	TC	90.7	99.2	108.5	92.5	101.2	110.7	94.5	103.2	112.7	95.8	104.7	114.3	96.4	105.3	115.0
	SHC	74.8	64.0	53.2	78.5	66.8	55.0	82.6	69.9	57.0	85.9	72.5	58.7	87.2	73.7	59.4
	kW	16.53	16.92	17.35	16.62	17.02	17.45	16.71	17.12	17.55	16.78	17.19	17.63	16.81	17.22	17.66
29	TC	86.9	95.1	104.0	88.7	97.0	106.5	90.3	98.8	107.9	91.5	100.1	109.3	92.1	100.7	109.9
	SHC	73.1	62.3	51.5	76.8	65.1	53.3	80.7	68.1	55.2	83.8	70.7	56.9	85.1	71.9	57.6
	kW	18.49	18.91	19.35	18.59	19.01	19.46	18.68	19.10	19.56	18.75	19.18	19.63	18.78	19.21	19.67
35	TC	84.5	92.5	101.2	86.1	94.2	103.0	87.6	95.8	104.7	88.8	97.1	106.0	89.3	97.6	106.5
	SHC	71.2	60.5	49.7	74.7	63.2	51.4	78.4	66.2	53.3	81.5	68.8	54.9	82.7	69.9	55.6
	kW	20.63	21.06	21.53	20.72	21.16	21.63	20.81	21.25	21.73	20.88	21.33	21.80	111.78	21.36	21.83
41	TC	79.2	86.7	94.8	80.6	88.2	96.4	82.0	89.6	97.9	83.1	90.7	99.0	83.9	91.1	99.5
	SHC	68.4	57.9	47.2	71.8	60.5	48.9	75.3	63.5	50.8	78.0	66.0	52.3	78.8	67.1	53.0
	kW	22.89	23.34	23.82	22.98	23.44	23.92	23.07	23.53	24.02	23.15	23.61	24.09	23.21	23.65	24.12
46	TC	73.4	80.3	87.9	74.6	81.7	89.3	76.0	82.9	90.5	78.5	83.8	91.5	78.9	84.5	92.2
	SHC	66.1	55.8	45.1	69.3	58.4	46.8	72.5	61.3	48.6	72.9	63.8	50.1	74.8	65.9	51.4
	kW	25.42	25.89	26.38	25.52	25.99	26.48	25.62	26.07	26.56	25.80	26.14	26.63	25.83	26.19	26.64
49	TC	70.0	76.6	83.8	71.2	77.8	85.1	72.6	78.9	86.2	74.8	79.8	87.1	75.3	80.0	87.4
	SHC	64.2	54.1	43.6	67.2	56.7	45.2	70.3	59.5	47.0	70.7	62.0	48.5	71.3	63.0	49.1
	kW	26.80	27.28	27.77	26.90	27.37	27.86	27.01	27.45	27.95	27.17	27.52	28.02	27.24	27.57	28.06
52	TC	64.3	70.3	76.9	65.4	71.4	78.0	66.8	72.3	79.1	68.8	73.1	79.9	69.4	73.3	80.1
	SHC	62.3	52.4	42.0	65.0	54.9	43.6	67.7	57.7	45.3	68.0	60.2	46.9	68.5	61.2	47.5
	kW	28.07	28.55	29.05	28.17	28.64	29.14	28.29	28.72	29.23	28.46	28.79	29.29	28.54	28.84	29.34

LEGEND

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

Boldface - Standard Ratings

Notes:

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

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

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

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

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

- Cooling capacities are gross and do not include deductions for indoor fan motor heat.
- Variable Air Volume units will operate down to 70 cfm/ton. Performance at 70 cfm/ton is limited to unloaded operation and may be additionally limited to edb and ewb conditions.

- 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.

BF	ENTERING AIR DRY-BULB TEMP (F)					
	79	78	77	76	75	under 75
	81	82	83	84	85	over 85
Correction Factor						
0.05	1.04	2.07	3.11	4.14	5.18	Use formula shown below.*
0.10	0.98	1.96	2.94	3.92	4.90	
0.20	0.87	1.74	2.62	3.49	4.36	
0.30	0.76	1.53	2.29	3.05	3.82	

- Interpolation is permissible.

*Correction Factor = 1.10 x (1 - BF) x (edb - 80).

Fan Performance Table

Unit 50TJM - 18 - 15 Tons - 230V and 400V - 60Hz

Air flow Rate (CFM)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP
4000	526	0.94	1.04	590	1.15	1.27	650	1.37	1.52	699	1.61	1.78	754	1.86	2.06
4500	559	1.21	1.34	619	1.44	1.59	674	1.68	1.86	728	1.93	2.14	781	2.20	2.43
5000	592	1.53	1.70	647	1.77	1.96	699	2.03	2.25	749	2.30	2.54	798	2.58	2.85
5500	624	1.90	2.10	674	2.16	2.39	725	2.43	2.69	771	2.71	3.00	817	3.00	3.33
6000	659	2.31	2.56	701	2.58	2.86	747	2.87	3.18	792	3.17	3.51	836	3.48	3.85
6500	684	2.79	3.08	726	3.05	3.38	770	3.35	3.71	811	3.66	4.06	853	3.99	4.41

Unit 50TJM - 18 - 15 Tons - 230V and 400V - 60Hz (Continued)

Air flow Rate (CFM)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP
4000	806	2.12	2.35	872	2.46	2.72	894	2.66	2.94	919	2.82	3.12	985	3.23	3.57
4500	830	2.47	2.74	877	2.76	3.05	916	3.01	3.34	964	3.24	3.59	<i>1007</i>	<i>3.65</i>	<i>4.04</i>
5000	845	2.82	3.12	891	3.17	3.51	935	3.48	3.85	977	3.69	4.09	<i>1018</i>	<i>4.11</i>	<i>4.55</i>
5500	862	3.31	3.67	906	3.63	4.02	<i>947</i>	<i>3.94</i>	<i>4.36</i>	<i>989</i>	<i>4.18</i>	<i>4.63</i>	1028	4.62	5.11
6000	878	3.79	4.20	<i>919</i>	<i>4.12</i>	<i>4.57</i>	<i>960</i>	<i>4.46</i>	<i>4.94</i>	<i>1000</i>	<i>4.71</i>	<i>5.22</i>	1038	5.17	5.72
6500	<i>894</i>	<i>4.32</i>	<i>4.78</i>	<i>932</i>	<i>4.66</i>	<i>5.16</i>	<i>971</i>	<i>5.01</i>	<i>5.55</i>	<i>1010</i>	<i>5.27</i>	<i>5.84</i>	1047	5.74	6.36

Unit 50TJM - 18 - 15 Tons - 460V - 60Hz

Air flow Rate (CFM)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP
4000	526	0.94	1.04	590	1.15	1.27	650	1.37	1.52	699	1.61	1.78	754	1.86	2.06
4500	559	1.21	1.34	619	1.44	1.59	674	1.68	1.86	728	1.93	2.14	781	2.20	2.43
5000	592	1.53	1.70	647	1.77	1.96	699	2.03	2.25	749	2.30	2.54	798	2.58	2.85
5500	624	1.90	2.10	674	2.16	2.39	725	2.43	2.69	771	2.71	3.00	817	3.00	3.33
6000	659	2.31	2.56	701	2.58	2.86	747	2.87	3.18	792	3.17	3.51	836	3.48	3.85
6500	684	2.79	3.08	726	3.05	3.38	770	3.35	3.71	811	3.66	4.06	853	3.99	4.41

Unit 50TJM - 18 - 15 Tons - 460V - 60Hz (Continued)

Air flow Rate (CFM)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP
4000	806	2.12	2.35	872	2.46	2.72	894	2.66	2.94	919	2.82	3.12	985	3.23	3.57
4500	830	2.47	2.74	877	2.76	3.05	916	3.01	3.34	964	3.24	3.59	1007	3.65	4.04
5000	845	2.82	3.12	891	3.17	3.51	935	3.48	3.85	977	3.69	4.09	1018	4.11	4.55
5500	862	3.31	3.67	906	3.63	4.02	<i>947</i>	<i>3.94</i>	<i>4.36</i>	<i>989</i>	<i>4.18</i>	<i>4.63</i>	<i>1028</i>	<i>4.62</i>	<i>5.11</i>
6000	878	3.79	4.20	919	4.12	4.57	960	4.46	4.94	<i>1000</i>	<i>4.71</i>	<i>5.22</i>	<i>1038</i>	<i>5.17</i>	<i>5.72</i>
6500	<i>894</i>	<i>4.32</i>	<i>4.78</i>	<i>932</i>	<i>4.66</i>	<i>5.16</i>	<i>971</i>	<i>5.01</i>	<i>5.55</i>	<i>1010</i>	<i>5.27</i>	<i>5.84</i>	<i>1047</i>	<i>5.74</i>	<i>6.36</i>

Legend and Notes:

Normal Font - Field Installed Drive Package

Bold - Standard Static Motor and Drive Package.

Italics - High Static Motor and Drive Package.

RPM - Revolutions Per Minute

KWI - Kilo Watts Input to Motor

in.wg - Inch Water Gage

BHP - Brake Horsepower Input to Fan

CFM - Cubic Feet per Minute

1. Fan performance tables for 230V and 400V are within ±5%

2. Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operatin cfm

3. Static Pressure (i.e Filters) must be added to external static pressure before entering fan performance table

4. Interpolation is permissible. Do not extrapolate

5. Fan performance is based on wet coils, clean filters and casing loses

6. Extensive motor and drive testing on these units ensures that the full brake 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

7. Bold and Italic data shows the range of air flow rate for unit management system, other rpms require field-supplied drive

8. Use of field-supplied motor may affect wiring size. Contact your Carrier representative for details

9. Conversion - Bhp to KWI:

$$KWI = \frac{Bhp \times 0.746}{\text{Motor efficiency}}$$

Fan Performance Table (Continued)

Unit 50TJM - 24 - 20 Tons - 230V and 400V - 60Hz

Air flow Rate (CFM)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP
5000	562	1.38	1.56	619	1.61	1.83	673	1.86	2.11	726	2.12	2.40	776	2.39	2.71
5500	595	1.73	1.96	648	1.98	2.24	698	2.24	2.54	747	2.51	2.85	795	2.80	3.17
6000	631	2.14	2.42	679	2.40	2.72	725	2.67	3.03	771	2.97	3.36	817	3.27	3.70
6500	665	2.60	2.95	709	2.88	3.26	753	3.17	3.59	796	3.48	3.94	839	3.80	4.30
7000	699	3.14	3.55	741	3.43	3.89	782	3.74	4.23	823	4.06	4.60	863	4.39	4.97
7500	734	3.74	4.24	774	4.05	4.59	812	4.37	4.95	851	4.70	5.33	<i>888</i>	<i>5.05</i>	<i>5.72</i>
8000	767	4.31	4.88	809	4.67	5.29	<i>849</i>	<i>5.04</i>	<i>5.71</i>	<i>889</i>	<i>5.42</i>	<i>6.14</i>	<i>929</i>	<i>5.82</i>	<i>6.59</i>

Unit 50TJM - 24 - 20 Tons - 230V and 400V - 60Hz (Continued)

Air flow Rate (CFM)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP
5000	825	2.68	3.04	873	2.98	3.37	919	3.28	3.72	963	3.59	4.06	1005	3.91	4.43
5500	842	3.10	3.51	887	3.41	3.86	932	3.73	4.22	973	4.05	4.59	1014	4.39	4.97
6000	861	3.58	4.06	904	3.91	4.43	945	4.24	4.80	986	4.58	5.19	<i>1026</i>	<i>4.93</i>	<i>5.59</i>
6500	880	4.12	4.67	921	4.46	5.05	963	<i>4.81</i>	<i>5.44</i>	<i>1001</i>	<i>5.16</i>	<i>5.85</i>	<i>1039</i>	<i>5.53</i>	<i>6.27</i>
7000	902	4.72	5.35	<i>941</i>	<i>5.08</i>	<i>5.75</i>	979	<i>5.44</i>	<i>6.16</i>	<i>1017</i>	<i>5.81</i>	<i>6.58</i>	<i>1055</i>	<i>6.19</i>	<i>7.01</i>
7500	925	<i>5.40</i>	<i>6.11</i>	963	<i>5.76</i>	<i>6.53</i>	998	<i>6.14</i>	<i>6.95</i>	<i>1035</i>	<i>6.52</i>	<i>7.39</i>	<i>1070</i>	<i>6.92</i>	<i>7.84</i>
8000	967	<i>6.22</i>	<i>7.05</i>	<i>1006</i>	<i>6.64</i>	<i>7.53</i>	<i>1044</i>	<i>7.08</i>	<i>8.02</i>	<i>1082</i>	<i>7.52</i>	<i>8.52</i>	<i>1118</i>	<i>7.98</i>	<i>9.03</i>

Unit 50TJM - 24 - 20 Tons - 460V - 60Hz

Air flow Rate (CFM)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP
5000	562	1.38	1.56	619	1.61	1.83	673	1.86	2.11	726	2.12	2.40	776	2.39	2.71
5500	595	1.73	1.96	648	1.98	2.24	698	2.24	2.54	747	2.51	2.85	795	2.80	3.17
6000	631	2.14	2.42	679	2.40	2.72	725	2.67	3.03	771	2.97	3.36	817	3.27	3.70
6500	665	2.60	2.95	709	2.88	3.26	753	3.17	3.59	796	3.48	3.94	839	3.80	4.30
7000	699	3.14	3.55	741	3.43	3.89	782	3.74	4.23	823	4.06	4.60	863	4.39	4.97
7500	734	3.74	4.24	774	4.05	4.59	812	4.37	4.95	851	4.70	5.33	<i>888</i>	<i>5.05</i>	<i>5.72</i>
8000	767	4.31	4.88	809	4.67	5.29	<i>849</i>	<i>5.04</i>	<i>5.71</i>	<i>889</i>	<i>5.42</i>	<i>6.14</i>	<i>929</i>	<i>5.82</i>	<i>6.59</i>

Unit 50TJM - 24 - 20 Tons - 460V - 60Hz (Continued)

Air flow Rate (CFM)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP
5000	825	2.68	3.04	873	2.98	3.37	919	3.28	3.72	963	3.59	4.06	1005	3.91	4.43
5500	842	3.10	3.51	887	3.41	3.86	932	3.73	4.22	973	4.05	4.59	1014	4.39	4.97
6000	861	3.58	4.06	904	3.91	4.43	945	4.24	4.80	986	4.58	5.19	1026	4.93	5.59
6500	880	4.12	4.67	921	4.46	5.05	963	4.81	5.44	1001	5.16	5.85	<i>1039</i>	<i>5.53</i>	<i>6.27</i>
7000	902	4.72	5.35	941	5.08	5.75	979	<i>5.44</i>	<i>6.16</i>	<i>1017</i>	<i>5.81</i>	<i>6.58</i>	<i>1055</i>	<i>6.19</i>	<i>7.01</i>
7500	925	<i>5.40</i>	<i>6.11</i>	963	<i>5.76</i>	<i>6.53</i>	998	<i>6.14</i>	<i>6.95</i>	<i>1035</i>	<i>6.52</i>	<i>7.39</i>	<i>1070</i>	<i>6.92</i>	<i>7.84</i>
8000	967	<i>6.22</i>	<i>7.05</i>	<i>1006</i>	<i>6.64</i>	<i>7.53</i>	<i>1044</i>	<i>7.08</i>	<i>8.02</i>	<i>1082</i>	<i>7.52</i>	<i>8.52</i>	<i>1118</i>	<i>7.98</i>	<i>9.03</i>

Legend and Notes:

Normal Font - Field Installed Drive Package

Bold - Standard Static Motor and Drive Package.

Italics - High Static Motor and Drive Package.

RPM - Revolutions Per Minute

KWI - Kilo Watts Input to Motor

in.wg - Inch Water Gage

BHP - Brake Horsepower Input to Fan

CFM - Cubic Feet per Minute

1. Fan performance tables for 230V and 400V are within ±5%

2. Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operatin cfm

3. Static Pressure (i.e Filters) must be added to external static pressure before entering fan performance table

4. Interpolation is permissible. Do not extrapolate

5. Fan performance is based on wet coils, clean filters and casing loses

6. Extensive motor and drive testing on these units ensures that the full brake 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

7. Bold and Italic data shows the range of air flow rate for unit management system, other rpms require field-supplied drive

8. Use of field-supplied motor may affect wiring size. Contact your Carrier representative for details

9. Conversion - Bhp to KWI:

$$\text{KWI} = \frac{\text{Bhp} \times 0.746}{\text{Motor efficiency}}$$

Fan Performance Table (Continued)

Unit 50TJM - 28 - 25 Tons - 230V and 400V - 60Hz

Air flow Rate (CFM)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP
5000	501	1.10	1.25	554	1.32	1.50	606	1.56	1.77	656	1.83	2.07	704	2.11	2.39
5500	529	1.36	1.54	579	1.60	1.81	627	1.85	2.09	673	2.12	2.40	717	2.39	2.71
6000	558	1.66	1.88	603	1.90	2.15	648	2.16	2.45	692	2.45	2.77	733	2.74	3.11
6500	586	2.00	2.27	628	2.25	2.55	670	2.54	2.87	711	2.82	3.19	750	3.13	3.54
7000	614	2.38	2.70	654	2.66	3.01	693	2.94	3.33	732	3.23	3.66	769	3.55	4.02
7500	643	2.82	3.19	680	3.10	3.52	717	3.40	3.85	753	3.70	4.20	789	4.03	4.57
8000	669	3.29	3.73	706	3.58	4.06	740	3.90	4.42	775	4.22	4.78	809	4.56	5.17
8500	696	3.79	4.30	734	4.11	4.65	761	4.44	5.03	796	4.77	5.40	829	5.10	5.78
9000	737	4.37	4.95	777	4.73	5.36	806	5.11	5.79	842	5.49	6.21	877	5.88	6.66

Unit 50TJM - 28 - 25 Tons - 230V and 400V - 60Hz (Continued)

Air flow Rate (CFM)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP
5000	750	2.40	2.72	796	2.72	3.08	841	3.06	3.47	885	3.42	3.87	926	3.80	4.31
5500	762	2.71	3.07	805	3.03	3.43	847	3.38	3.83	888	3.74	4.23	927	4.11	4.65
6000	775	3.06	3.47	815	3.38	3.83	855	3.73	4.22	894	4.09	4.63	933	4.47	5.06
6500	789	3.44	3.90	829	3.78	4.28	866	4.13	4.68	903	4.49	5.09	939	4.87	5.52
7000	806	3.88	4.39	843	4.23	4.79	879	4.58	5.19	914	4.95	5.61	949	5.33	6.04
7500	824	4.37	4.95	859	4.72	5.35	894	5.08	5.76	926	5.45	6.18	960	5.85	6.62
8000	842	4.90	5.55	876	5.26	5.95	908	5.63	6.38	941	6.01	6.81	973	6.42	7.27
8500	861	5.46	6.19	892	5.84	6.61	923	6.22	7.04	953	6.60	7.48	984	7.01	7.94
9000	911	6.29	7.13	944	6.72	7.61	977	7.16	8.11	1009	7.60	8.61	1042	8.07	9.14

Unit 50TJM - 28 - 25 Tons - 460V - 60Hz

Air flow Rate (CFM)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP
5000	501	1.10	1.25	554	1.32	1.50	606	1.56	1.77	656	1.83	2.07	704	2.11	2.39
5500	529	1.36	1.54	579	1.60	1.81	627	1.85	2.09	673	2.12	2.40	717	2.39	2.71
6000	558	1.66	1.88	603	1.90	2.15	648	2.16	2.45	692	2.45	2.77	733	2.74	3.11
6500	586	2.00	2.27	628	2.25	2.55	670	2.54	2.87	711	2.82	3.19	750	3.13	3.54
7000	614	2.38	2.70	654	2.66	3.01	693	2.94	3.33	732	3.23	3.66	769	3.55	4.02
7500	643	2.82	3.19	680	3.10	3.52	717	3.40	3.85	753	3.70	4.20	789	4.03	4.57
8000	669	3.29	3.73	706	3.58	4.06	740	3.90	4.42	775	4.22	4.78	809	4.56	5.17
8500	696	3.79	4.30	734	4.11	4.65	761	4.44	5.03	796	4.77	5.40	829	5.10	5.78
9000	737	4.37	4.95	777	4.73	5.36	806	5.11	5.79	842	5.49	6.21	877	5.88	6.66

Unit 50TJM - 28 - 25 Tons - 460V - 60Hz (Continued)

Air flow Rate (CFM)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP
5000	750	2.40	2.72	796	2.72	3.08	841	3.06	3.47	885	3.42	3.87	926	3.80	4.31
5500	762	2.71	3.07	805	3.03	3.43	847	3.38	3.83	888	3.74	4.23	927	4.11	4.65
6000	775	3.06	3.47	815	3.38	3.83	855	3.73	4.22	894	4.09	4.63	933	4.47	5.06
6500	789	3.44	3.90	829	3.78	4.28	866	4.13	4.68	903	4.49	5.09	939	4.87	5.52
7000	806	3.88	4.39	843	4.23	4.79	879	4.58	5.19	914	4.95	5.61	949	5.33	6.04
7500	824	4.37	4.95	859	4.72	5.35	894	5.08	5.76	926	5.45	6.18	960	5.85	6.62
8000	842	4.90	5.55	876	5.26	5.95	908	5.63	6.38	941	6.01	6.81	973	6.42	7.27
8500	861	5.46	6.19	892	5.84	6.61	923	6.22	7.04	953	6.60	7.48	984	7.01	7.94
9000	911	6.29	7.13	944	6.72	7.61	977	7.16	8.11	1009	7.60	8.61	1042	8.07	9.14

Legend and Notes:

Normal Font - Field Installed Drive Package

Italics - High Static Motor and Drive Package.

RPM - Revolutions Per Minute

KWI - Kilo Watts Input to Motor

Bold - Standard Static Motor and Drive Package.

in.wg - Inch Water Gage

BHP - Brake Horsepower Input to Fan

CFM - Cubic Feet per Minute

1. Fan performance tables for 230V and 400V are within ±5%

2. Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operatin cfm

3. Static Pressure (i.e Filters) must be added to external static pressure before entering fan performance table

4. Interpolation is permissible. Do not extrapolate

5. Fan performance is based on wet coils, clean filters and casing loses

6. Extensive motor and drive testing on these units ensures that the full brake 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

7. Bold and Italic data shows the range of air flow rate for unit management system, other rpms require field-supplied drive

8. Use of field-supplied motor may affect wiring size. Contact your Carrier representative for details

9. Conversion - Bhp to KWI:

$$\text{KWI} = \frac{\text{Bhp} \times 0.746}{\text{Motor efficiency}}$$

Fan Performance Table (Continued)

Unit 50TJM - 34 - 30 Tons - 230V and 400V - 60Hz

Air flow Rate (CFM)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP
7000	602	2.72	3.13	641	3.03	3.49	679	3.35	3.86	717	3.70	4.27	753	4.05	4.67
7500	630	3.22	3.71	667	3.54	4.08	704	3.89	4.48	739	4.23	4.88	773	4.61	5.31
8000	659	3.77	4.35	693	4.11	4.74	727	4.46	5.14	761	4.83	5.57	794	5.22	6.01
8500	687	4.38	5.05	720	4.74	5.47	753	5.12	5.90	784	5.49	6.33	816	5.89	6.78
9000	715	5.05	5.83	746	5.43	6.26	777	5.81	6.70	808	6.21	7.16	838	6.49	7.49
9500	741	5.77	6.66	771	6.16	7.10	800	6.51	7.50	<i>829</i>	<i>6.97</i>	<i>8.03</i>	<i>859</i>	<i>7.39</i>	<i>8.52</i>

Unit - 50TJM - 34 - 30 Tons - 230 & 400V - 60Hz (Continued)

Air flow Rate (CFM)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP
7000	790	4.43	5.11	826	4.82	5.55	861	5.23	6.03	895	5.65	6.51	929	6.08	7.01
7500	808	4.99	5.75	842	5.39	6.21	875	5.80	6.68	907	6.22	7.17	940	6.52	7.52
8000	827	5.61	6.47	860	6.02	6.94	891	6.44	7.43	922	6.88	7.93	953	7.33	8.45
8500	847	6.30	7.26	878	6.72	7.74	908	7.15	8.25	938	7.59	8.75	967	8.05	9.28
9000	867	7.03	8.10	897	7.46	8.60	927	7.91	9.12	955	8.37	9.65	984	8.84	10.19
9500	887	7.82	9.02	914	8.26	9.52	943	8.72	10.05	970	9.18	10.58	998	9.66	11.14

Unit - 50TJM - 34 - 30 Tons - 460V - 60Hz

Air flow Rate (CFM)	Available External Static Pressure (in. wg)														
	0.2			0.4			0.6			0.8			1.0		
	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP
7000	602	2.72	3.13	641	3.03	3.49	679	3.35	3.86	717	3.70	4.27	753	4.05	4.67
7500	630	3.22	3.71	667	3.54	4.08	704	3.89	4.48	739	4.23	4.88	773	4.61	5.31
8000	659	3.77	4.35	693	4.11	4.74	727	4.46	5.14	761	4.83	5.57	794	5.22	6.01
8500	687	4.38	5.05	720	4.74	5.47	753	5.12	5.90	784	5.49	6.33	816	5.89	6.78
9000	715	5.05	5.83	746	5.43	6.26	777	5.81	6.70	808	6.21	7.16	838	6.62	7.63
9500	741	5.77	6.66	771	6.16	7.10	800	6.56	7.56	829	6.97	8.03	859	7.39	8.52

Unit - 50TJM - 34 - 30 Tons - 460V - 60Hz (Continued)

Air flow Rate (CFM)	Available External Static Pressure (in. wg)														
	1.2			1.4			1.6			1.8			2.0		
	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP	RPM	KWI	BHP
7000	790	4.43	5.11	826	4.82	5.55	861	5.23	6.03	895	5.65	6.51	929	6.08	7.01
7500	808	4.99	5.75	842	5.39	6.21	875	5.80	6.68	907	6.22	7.17	940	6.67	7.69
8000	827	5.61	6.47	860	6.02	6.94	891	6.44	7.43	922	6.88	7.93	953	7.33	8.45
8500	847	6.30	7.26	878	6.72	7.74	908	7.15	8.25	938	7.59	8.75	967	8.05	9.28
9000	867	7.03	8.10	897	7.46	8.60	927	7.91	9.12	955	8.37	9.65	984	8.84	10.19
9500	887	7.82	9.02	914	8.26	9.52	943	8.72	10.05	970	9.18	10.58	998	9.66	11.14

Legend and Notes:

Normal Font - Field Installed Drive Package

Bold - Standard Static Motor and Drive Package.

Italics - High Static Motor and Drive Package.

RPM - Revolutions Per Minute

KWI - Kilo Watts Input to Motor

in.wg - Inch Water Gage

BHP - Brake Horsepower Input to Fan

CFM - Cubic Feet per Minute

1. Fan performance tables for 230V and 400V are within ±5%

2. Do not adjust motor rpm such that motor maximum bhp and/or watts is exceeded at the maximum operatin cfm

3. Static Pressure (i.e Filters) must be added to external static pressure before entering fan performance table

4. Interpolation is permissible. Do not extrapolate

5. Fan performance is based on wet coils, clean filters and casing loses

6. Extensive motor and drive testing on these units ensures that the full brake 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

7. Bold and Italic data shows the range of air flow rate for unit management system, other rpms require field-supplied drive

8. Use of field-supplied motor may affect wiring size. Contact your Carrier representative for details

9. Conversion - Bhp to KWI:

$$KWI = \frac{Bhp \times 0.746}{\text{Motor efficiency}}$$

Fan RPM At Motor Pulley Settings

Freq.	50TJM	IFM HP	Motor Pulley Turns Open - English												
			0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6
60Hz	18	3.0	-	-	1020	994	969	934	904	867	841	808	780	749	725
	18 / 24	4.0	-	-	1042	1004	979	944	913	876	850	816	788	757	732
	24 / 28	5.5	-	-	1042	1004	979	944	913	876	850	816	788	757	732
	28 / 34	7.5	1002	968	933	902	876	850	823	806	789	772	756	739	722
	34	10.0	1007	978	943	915	894	871	848	834	820	805	791	777	763

Freq.	50TJM	IFM HP	Motor Pulley Turns Open - SI												
			0	1/2	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6
60Hz	18	3.0	-	-	17.0	16.6	16.1	15.6	15.1	14.5	14.0	13.5	13.0	12.5	12.1
	18 / 24	4.0	-	-	17.4	16.7	16.3	15.7	15.2	14.6	14.2	13.6	13.1	12.6	12.2
	24 / 28	5.5	-	-	17.4	16.7	16.3	15.7	15.2	14.6	14.2	13.6	13.1	12.6	12.2
	28 / 34	7.5	16.7	16.1	15.6	15.0	14.6	14.2	13.7	13.4	13.2	12.9	12.6	12.3	12.0
	34	10.0	16.8	16.3	15.7	15.2	14.9	14.5	14.1	13.9	13.7	13.4	13.2	13.0	12.7

Bold, Italics are RPM is the factory setting . In range of ±5% due to different voltage application (230V, 400V and 460V).

The standard belt size may not cover all the above range. Other RPMs require field supplied drive package.

Air Filter Pressure Drop

50TJM	Air Flow Rate (CFM) - Air Filter Pressure Drop (inch water gage) - Based on Clogging Factor of 25%														
	4000	4500	5000	5500	5700	6000	6300	6700	6900	7500	7600	8000	8500	9000	9500
18-24	0.020	0.025	0.031	0.037	0.040	0.044	0.049	0.055	0.058	0.069	0.071	0.079	-	-	-
28-34	-	-	0.028	0.032	0.034	0.040	0.047	0.050	0.054	0.062	0.064	0.071	0.080	0.090	0.100

50TJM	Air Flow Rate (m³/hr) - Air Filter Pressure Drop (Pascal gage) - Based on Clogging Factor of 25%														
	6790	7640	8490	9085	9340	10190	11035	11380	11890	12735	12905	13585	14435	15280	16130
18-24	5	6	8	9	10	11	12	14	14	17	18	20	-	-	-
28-34	-	-	7	8	8	10	12	12	14	16	16	18	20	22	25

50TJM	Air Flow Rate (CFM) - Air Filter Pressure Drop (inch water gage) - Based on Clogging Factor of 50%														
	4000	4500	5000	5500	5700	6000	6300	6700	6900	7500	7600	8000	8500	9000	9500
18-24	0.024	0.030	0.037	0.045	0.048	0.053	0.058	0.066	0.070	0.083	0.085	0.094	-	-	-
28-34	-	-	0.034	0.039	0.041	0.049	0.057	0.061	0.066	0.076	0.078	0.087	0.098	0.109	0.122

50TJM	Air Flow Rate (m³/hr) - Air Filter Pressure Drop (Pascal gage) - Based on Clogging Factor of 50%														
	6790	7640	8490	9085	9340	10190	11035	11380	11890	12735	12905	13585	14435	15280	16130
18-24	6	7	9	11	12	13	14	16	17	21	21	23	-	-	-
28-34	-	-	8	10	10	12	14	15	16	19	19	22	24	27	30

Soft Bag Filter

50TJM Size 18-24 50TJ600993	(CFM)	4000	4500	5000	5500	6000	6500	7000	7500	8000	
	Pressure Drop "Pa"	60	69	77	86	95	105	114	123	133	
50TJM Size 28-34 50TJ600992	(CFM)	5000	5500	6000	6500	7000	7500	8000	8500	9000	9500
	Pressure Drop "Pa"	49	54	60	66	71	77	83	89	95	102

Motor Efficiency Table

50TJM	HP (kW)	Standard Efficiency				Power Factor - Standard Efficiency			
		100% Rated Power	75% Rated Power	50% Rated Power	Avg.	100% PF	75% PF	50% PF	Avg.
18	4 (3)	82.6	79.0	75.5	79.0	0.819	0.775	0.682	0.76
24 / 28	5.5 (4)	84.0	84.8	82.7	83.8	0.836	0.790	0.642	0.76
28 / 34	7.5 (5.5)	85.9	85.7	82.6	84.7	0.842	0.797	0.738	0.79
34	10.0 (7.5)	87.5	88.0	86.9	87.5	0.844	0.784	0.680	0.77

Sound Rating Data

50TJM	Cooling Stages	Unit Sound (dB) @60hz (Based on cooling mode)								
		A-Weighted	63	125	250	500	1000	2000	4000	8000
18	2	91.2	97.2	88.5	89.4	88.4	86.6	83.4	78.1	72.6
24	2	91.9	98.5	88.7	90.9	89.1	87.9	82.4	78.8	72.5
28	2	91.5	90.8	93.5	89.1	88.7	87.1	82.8	79.8	71.8
34	2	92.0	90.1	93.7	90.7	88.7	87.9	82.9	80.1	71.8

1. Measurements are expressed in terms of sound power. Do not compare these values to sound pressure values because sound pressure accounts for specific environment factors which do not match individual applications. Sound power values are independent of the environment and therefore more accurate.

2. A-Weighted sound ratings filter out very high and very low frequencies, to better approximate the response of an "average" human ear.

3. dB – Decibel

Electrical Data Table

Unit Size	50TJM			Compressor				OFM			IFM Type	IFM		Electric Heater		MCA	MOCP
	Min Voltage	Max Voltage	Power Supply V / Ph / Hz	No.1		No.2		Qty	HP	FLA		HP	FLA	Appl. kW	FLA		
				RLA	LRA	RLA	LRA										
18	207	253	230 / 3 / 60	23.2	164	23.2	164	2	1	6.6	Std. Static	4.0	11.3	-	-	76.7	100
	207	253	230 / 3 / 60	23.2	164	23.2	164	2	1	6.6		4.0	11.3	28	69.0	100.4	100
	342	420	400 / 3 / 60	12.2	73	12.2	73	2	1	3.9		4.0	6.7	-	-	42.0	50
	342	420	400 / 3 / 60	12.2	73	12.2	73	2	1	3.9		4.0	6.7	21	30.3	46.3	50
	414	506	460 / 3 / 60	11.2	75	11.2	75	2	1	3.3		4.8	6.6	-	-	38.4	50
	414	506	460 / 3 / 60	11.2	75	11.2	75	2	1	3.3		4.8	6.6	28	34.5	51.3	60
	High Static	207	253	230 / 3 / 60	23.2	164	23.2	164	2	1	6.6	5.5	15.0	-	-	80.4	100
		207	253	230 / 3 / 60	23.2	164	23.2	164	2	1	6.6	5.5	15.0	28	69.0	105.0	110
		342	420	400 / 3 / 60	12.2	73	12.2	73	2	1	3.9	5.5	8.7	-	-	44.0	50
		342	420	400 / 3 / 60	12.2	73	12.2	73	2	1	3.9	5.5	8.7	21	30.3	46.3	50
		414	506	460 / 3 / 60	11.2	75	11.2	75	2	1	3.3	6.2	8.6	-	-	40.1	50
		414	506	460 / 3 / 60	11.2	75	11.2	75	2	1	3.3	6.2	8.6	28	34.5	53.9	60
24	207	253	230 / 3 / 60	25.0	164	25.0	164	2	1	6.6	Std. Static	5.5	15.0	-	-	84.5	110
	207	253	230 / 3 / 60	25.0	164	25.0	164	2	1	6.6		5.5	15.0	37	92.9	134.9	140
	342	420	400 / 3 / 60	13.9	94	13.9	94.3	2	1	3.9		5.5	8.3	-	-	47.4	60
	342	420	400 / 3 / 60	13.9	94	13.9	94.3	2	1	3.9		5.5	8.3	28	39.7	60.0	60
	414	506	460 / 3 / 60	12.2	100	12.2	100	2	1	3.3		6.1	8.6	-	-	42.7	50
	414	506	460 / 3 / 60	12.2	100	12.2	100	2	1	3.3		6.1	8.6	37	46.4	68.8	70
	High Static	207	253	230 / 3 / 60	25.0	164	25.0	164	2	1	6.6	7.5	20.0	-	-	89.0	110
		207	253	230 / 3 / 60	25.0	164	25.0	164	2	1	6.6	7.5	20.0	37	92.9	150.0	150
		342	420	400 / 3 / 60	13.9	94	13.9	94.3	2	1	3.9	7.5	11.5	-	-	50.5	60
		342	420	400 / 3 / 60	13.9	94	13.9	94.3	2	1	3.9	7.5	11.5	28	39.7	64.0	70
		414	506	460 / 3 / 60	12.2	100	12.2	100	2	1	3.3	8.5	10.3	-	-	44.5	50
		414	506	460 / 3 / 60	12.2	100	12.2	100	2	1	3.3	8.5	10.3	37	46.4	71.0	80
28	207	253	230 / 3 / 60	30.1	225	30.1	225	2	1	6.6	Std. Static	5.5	14.0	-	-	94.9	125
	207	253	230 / 3 / 60	30.1	225	30.1	225	2	1	6.6		5.5	14.0	37	92.9	133.6	140
	342	420	400 / 3 / 60	19.2	140	19.2	140	2	1	3.9		5.5	8.5	-	-	59.5	70
	342	420	400 / 3 / 60	19.2	140	19.2	140	2	1	3.9		5.5	8.5	28	39.7	60.2	70
	414	506	460 / 3 / 60	16.7	114	16.7	114	2	1	3.3		6.6	8.6	-	-	52.7	70
	414	506	460 / 3 / 60	16.7	114	16.7	114	2	1	3.3		6.6	8.6	37	46.4	68.7	70
	High Static	207	253	230 / 3 / 60	30.1	225	30.1	225	2	1	6.6	7.5	20.0	-	-	100.9	130
		207	253	230 / 3 / 60	30.1	225	30.1	225	2	1	6.6	7.5	20.0	37	92.9	141.1	150
		342	420	400 / 3 / 60	19.2	140	19.2	140	2	1	3.9	7.5	11.5	-	-	62.5	80
		342	420	400 / 3 / 60	19.2	140	19.2	140	2	1	3.9	7.5	11.5	28	39.7	64.0	80
		414	506	460 / 3 / 60	16.7	114	16.7	114	2	1	3.3	8.4	10.3	-	-	54.5	70
		414	506	460 / 3 / 60	16.7	114	16.7	114	2	1	3.3	8.4	10.3	37	46.4	71.0	80
34	207	253	230 / 3 / 60	48.1	245	48.1	245	2	1	6.6	Std. Static	7.5	20.0	-	-	140.4	175
	207	253	230 / 3 / 60	48.1	245	48.1	245	2	1	6.6		7.5	20.0	37	92.9	140.4	175
	342	420	400 / 3 / 60	23.7	145	23.7	145	2	1	3.9		7.5	11.5	-	-	72.6	90
	342	420	400 / 3 / 60	23.7	145	23.7	145	2	1	3.9		7.5	11.5	28	39.7	72.6	90
	414	506	460 / 3 / 60	18.6	125	18.6	125	2	1	3.3		8.4	10.3	-	-	60.0	70
	414	506	460 / 3 / 60	18.6	125	18.6	125	2	1	3.3		8.4	10.3	37	46.4	72.4	80
	High Static	207	253	230 / 3 / 60	48.1	245	48.1	245	2	1	6.6	10.0	27.2	-	-	148.6	175
		207	253	230 / 3 / 60	48.1	245	48.1	245	2	1	6.6	10.0	27.2	37	92.9	150.1	175
		342	420	400 / 3 / 60	23.7	145	23.7	145	2	1	3.9	10.0	16.0	-	-	77.1	100
		342	420	400 / 3 / 60	23.7	145	23.7	145	2	1	3.9	10.0	16.0	28	39.7	77.1	100
		414	506	460 / 3 / 60	18.6	125	18.6	125	2	1	3.3	11.5	15.7	-	-	64.2	80
		414	506	460 / 3 / 60	18.6	125	18.6	125	2	1	3.3	11.5	15.7	37	46.4	77.6	80

Legend and Notes for Electrical Data Table

- FLA - Full Load Amps
- IFM - Indoor (Evaporator) Fan Motor
- LRA - Locked Rotor Amps
- MCA - Minimum Circuit Amps
- Application heater kW (Using multiplication factor table in Electric Resistance Heater Data Table)
- OFM - Outdoor (Condenser) Fan Motor
- RLA - Rated Load Amps
- APP - Application power at rated power supply voltage
- MOCP - Maximum Overcurrent Protection

Unbalanced 3-Phase Supply Voltage

Never operate a motor where phase imbalance in supply voltage is greater than 2%.

Use the following formula to determine the percentage of voltage imbalance

$$= 100 \times \frac{\text{Maximum Deviation From Average Voltage}}{\text{Average Voltage}}$$

Determine maximum deviation from average voltage.

(AB) 397 - 392 = 5v

(BC) 404 - 397 = 7v

(AC) 457 - 397 = 2v

Maximum Deviation is 7v.

Determine Percentage Voltage Imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{7}{397} = 1.76\%$$

e: Supply Voltage is 400V - 3ph

AB = 392v	Average Voltage = $\frac{392 + 404 + 395}{3}$
BC = 404v	
AC = 395v	$= \frac{1191}{3} = 397V$

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

Electric Resistance Heater Data

Accessory Heater Part Number

UNIT 50TJM	230V			400V		
	Complete Kit P.N.	Casing P.N.	Heater Element P.N.	Complete Kit P.N.	Casing P.N.	Heater Element P. N.
		(1 Per Kit)	(2 Per Kit)		(1 Per Kit)	(2 Per Kit)
18	50TJ600201	50TJ600289	CPHEATER030A00	50TJ600287	50TJ600289	CPHEATER036A00
24	50TJ601161			50TJ601162		
28	50TJ600729	50TJ600727	CPHEATER031A00	50TJ600730	50TJ600727	CPHEATER037A00
34						

Electric Heater Kits

Kit Ordering No	Description	Stages	Size (KW)
50TJ600201	Duct heater assembly, 50TJM 18, @240 V	2	30
50TJ600287	Duct heater assembly, 50TJM 18, @480 V	2	30
50TJ601161	Duct heater assembly, 50TJM 24, @240 V	2	40
50TJ601162	Duct heater assembly, 50TJM 24, @480 V	2	40
50TJ600729	Duct heater assembly, 50TJM 28 - 34, @240 V	2	40
50TJ600730	Duct heater assembly, 50TJM 28 - 34, @480 V	2	40

NOTE: Heaters are rated at 240 and 480 V. 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	—	—	—	—
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 480 v) heater on 400 v

= 30.0 (0.7 multiplication factor)

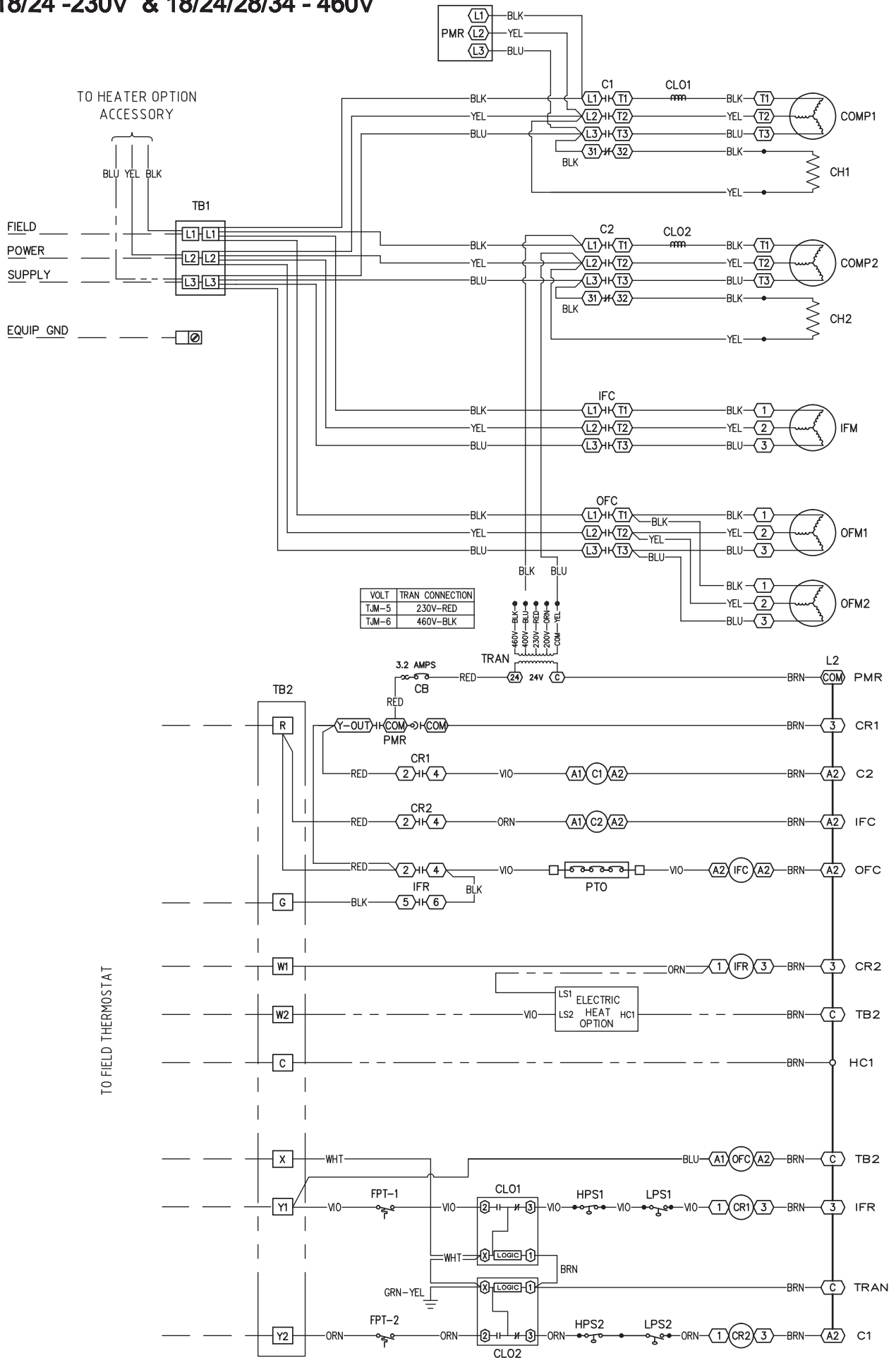
= 21kW

Heater capacity(kW) is based on heater voltage of 240v or 480v. If power distribution voltage to unit varies from heater voltage, heater kW will vary accordingly. To Determine heater capacity at actual unit voltage, multiply 480v capacity by multipliers found in table " Multiplication Factors" above.

MCA calculation for 50TJM 18 - 34 size units with electric heaters over 50 kW = (1.25 x IFM amps) + (1.00 x heater FLA).

Typical Wiring Schematic

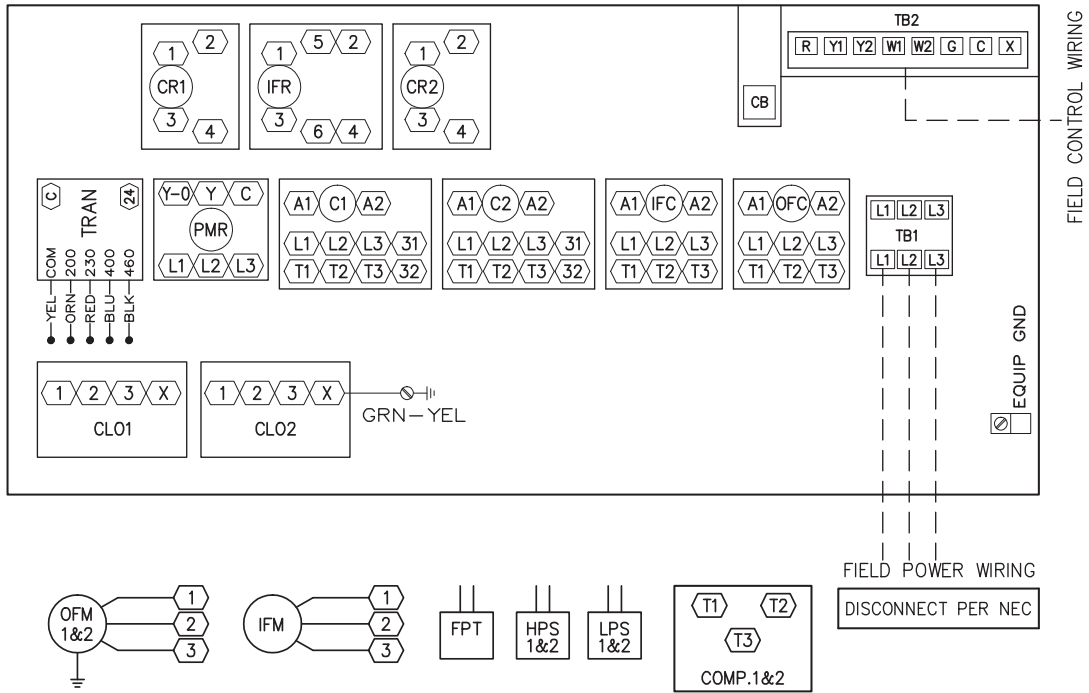
18/24 -230V & 18/24/28/34 - 460V



Typical Wiring Schematic (Continued)

18/24 -230V & 18/24/28/34 - 460V

CONTROL BOX 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

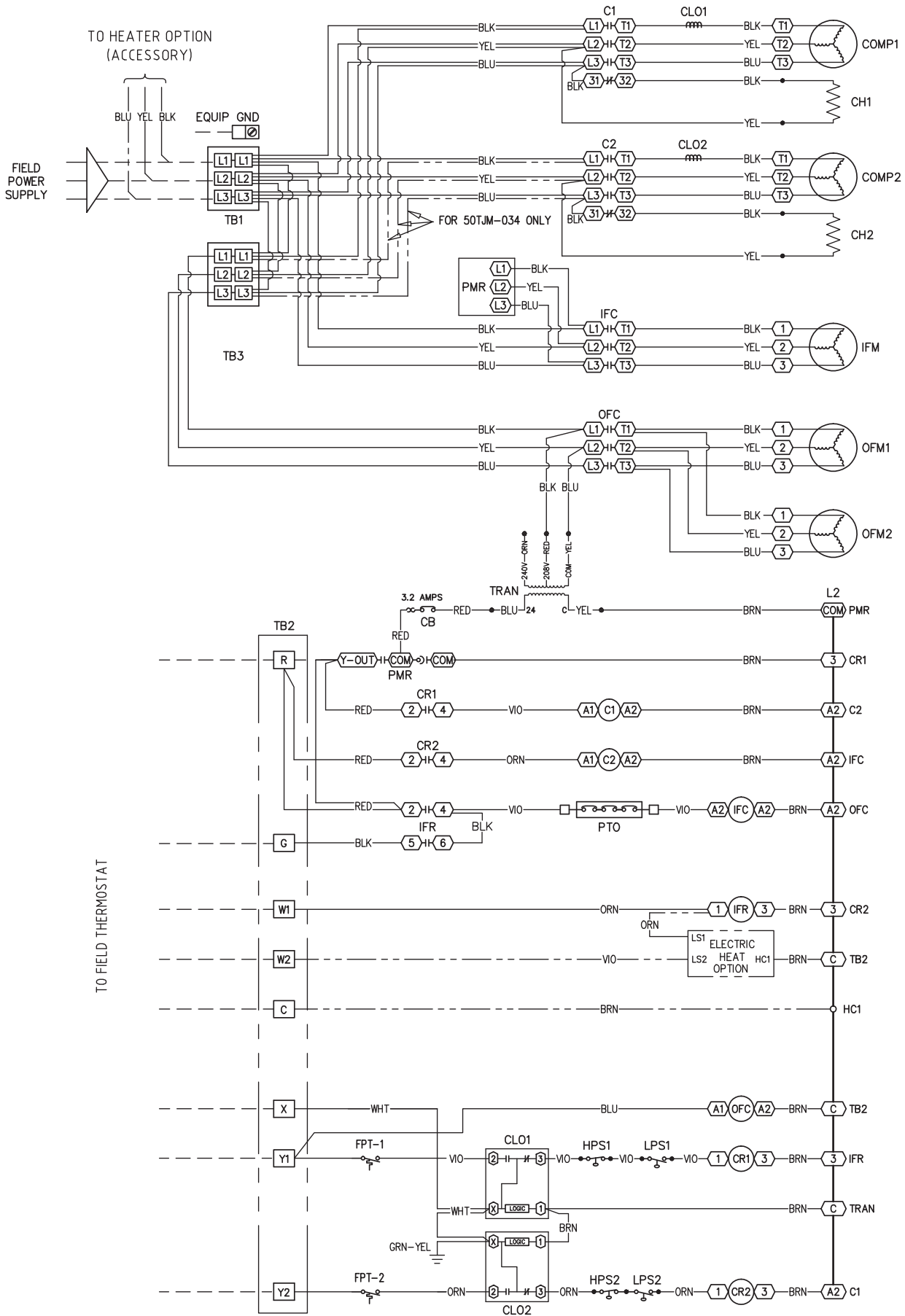
C	CONTACTOR	IFC	INDOOR FAN CONTACTOR
CB	CIRCUIT BREAKER	IFM	INDOOR FAN MOTOR
CH	CRANKCASE HEATER	IFR	INDOOR FAN RELAY
CLO	COMPRESSOR LOCKOUT	L	INDICATOR LAMP
COMP	COMPRESSOR MOTOR	LPS	LOW PRESSURE SWITCH
CR	COMPRESSOR RELAY	OFC	OUTDOOR FAN CONTACTOR
FPT	FREEZE PROTECTION THERMOSTAT	OFM	OUTDOOR FAN MOTOR
FU	FUSE	PMR	PHASE MONITOR RELAY
GND	GROUND	PTO	MOTOR THERMOSTAT (NC)
HC	HEATER CONTACTOR	TB	TERMINAL BLOCK
HPS	HIGH PRESSURE SWITCH	TRAN	TRANSFORMER

NOTES:

- 1) IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 105°C WIRE OR ITS EQUIVALENT.
- 2) USE COPPER, COPPER CLAD, OR ALUMINUM CONNECTORS.
- 3) USE COPPER CONDUCTOR ONLY.
- 4) COMPRESSORS & FAN MOTORS ARE THERMALLY PROTECTED.
THREE PHASE MOTORS ARE PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
- 5) THE CLO LOCKS OUT THE COMPRESSOR TO PREVENT SHORT CYCLING ON THE COMPRESSOR OVERLOAD AND SAFETY DEVICES. BEFORE REPLACING CLO, CHECK THESE DEVICES.

Typical Wiring Schematic (Continued)

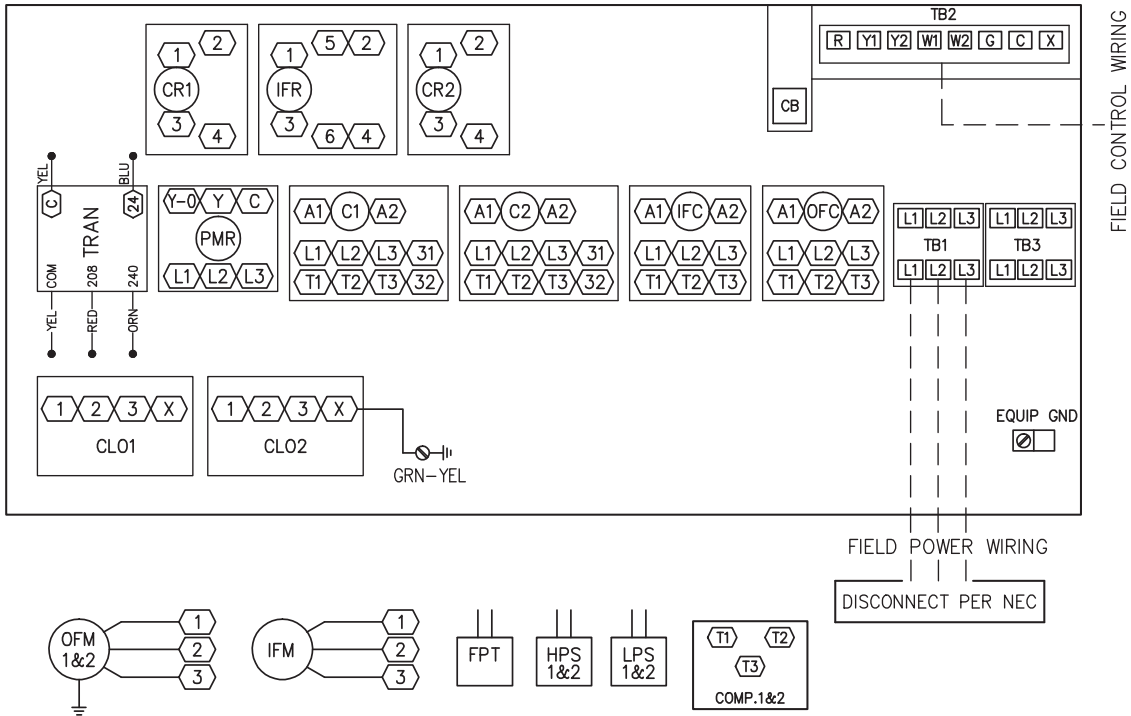
28/34 -230V



Typical Wiring Schematic (Continued)

28/34 -230V

CONTROL BOX 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

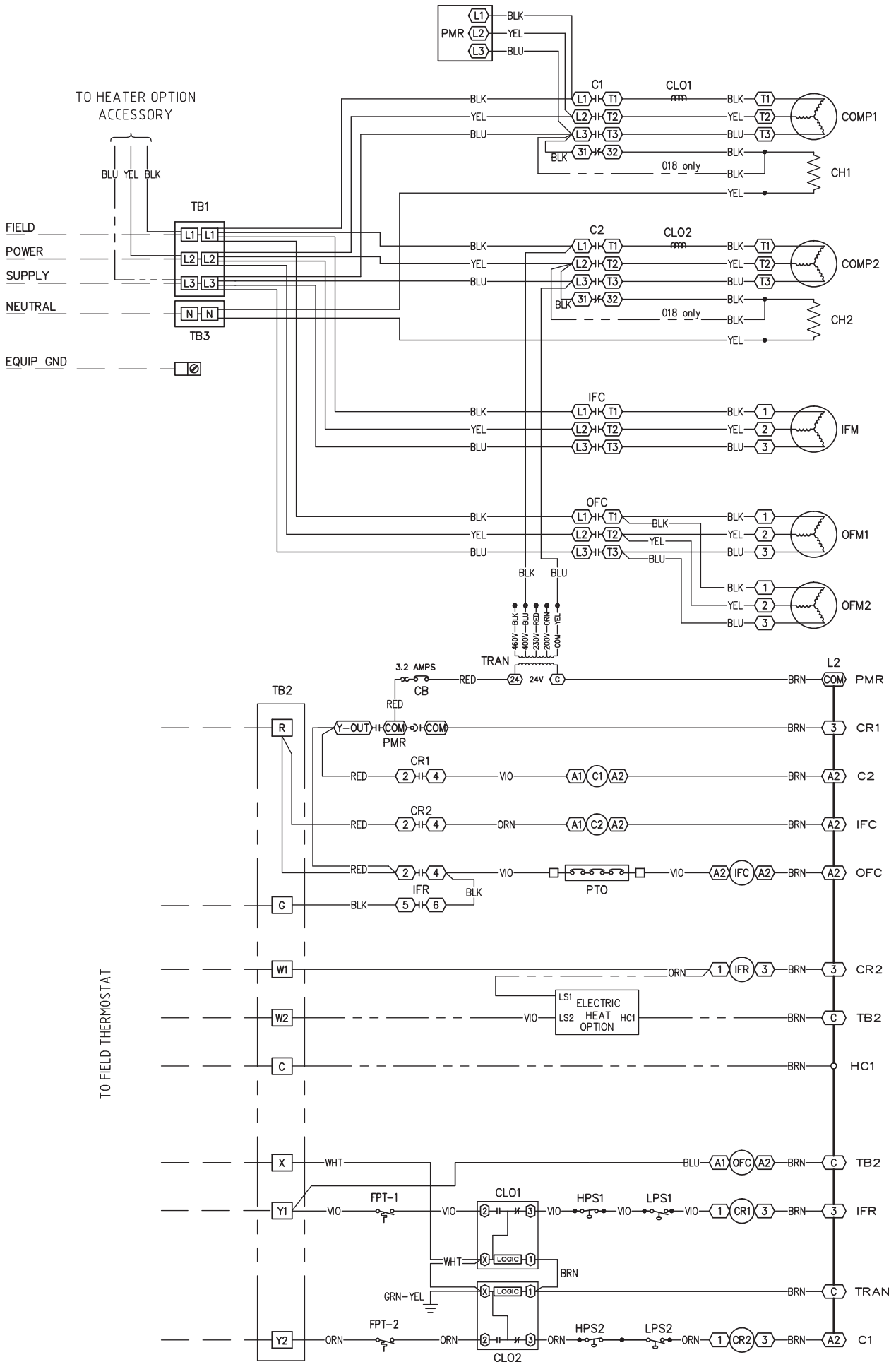
C	CONTACTOR	IFC	INDOOR FAN CONTACTOR
CB	CIRCUIT BREAKER	IFM	INDOOR FAN MOTOR
CH	CRANKCASE HEATER	IFR	INDOOR FAN RELAY
CLO	COMPRESSOR LOCKOUT	L	INDICATOR LAMP
COMP	COMPRESSOR MOTOR	LPS	LOW PRESSURE SWITCH
CR	COMPRESSOR RELAY	OFC	OUTDOOR FAN CONTACTOR
FPT	FREEZE PROTECTION THERMOSTAT	OFM	OUTDOOR FAN MOTOR
FU	FUSE	PMR	PHASE MONITOR RELAY
GND	GROUND	PTO	MOTOR THERMOSTAT (NC)
HC	HEATER CONTACTOR	TB	TERMINAL BLOCK
HPS	HIGH PRESSURE SWITCH	TRAN	TRANSFORMER

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- 5) THE CLO LOCKS OUT THE COMPRESSOR TO PREVENT SHORT CYCLING ON THE COMPRESSOR OVERLOAD AND SAFETY DEVICES. BEFORE REPLACING CLO, CHECK THESE DEVICES.

Typical Wiring Schematic(Continued)

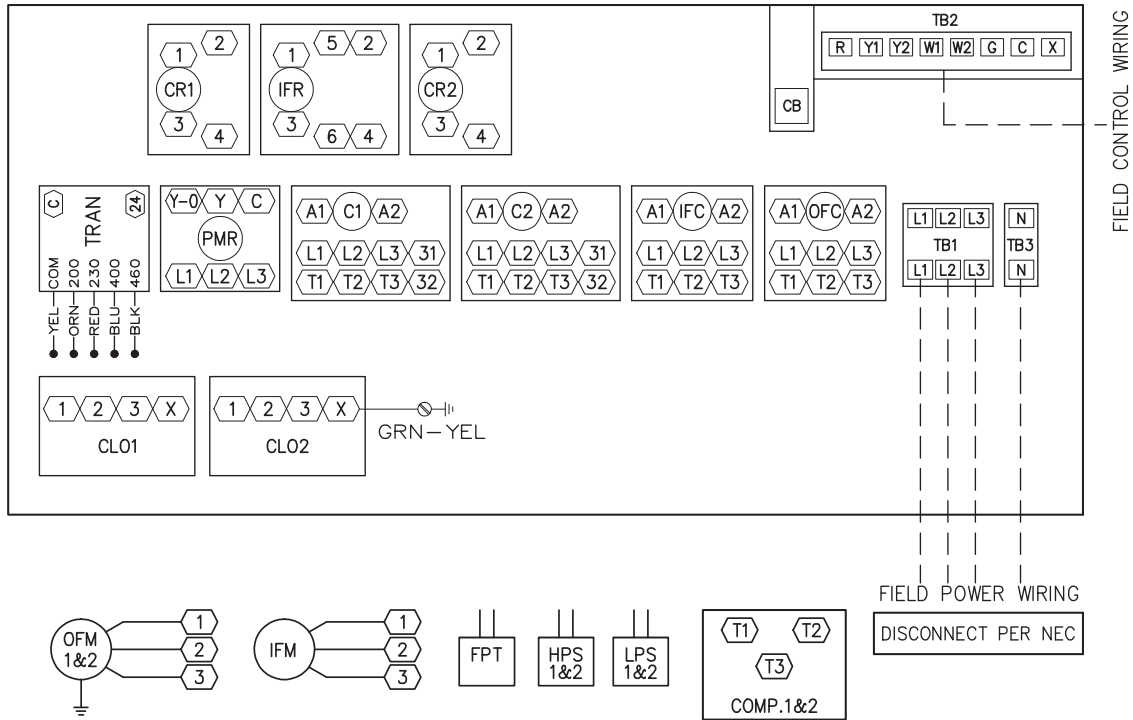
18/24/28/34 - 400V



Typical Wiring Schematic (Continued)

18/24/28/34 - 400V

CONTROL BOX 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

C	CONTACTOR	IFC	INDOOR FAN CONTACTOR
CB	CIRCUIT BREAKER	IFM	INDOOR FAN MOTOR
CH	CRANKCASE HEATER	IFR	INDOOR FAN RELAY
CLO	COMPRESSOR LOCKOUT	L	INDICATOR LAMP
COMP	COMPRESSOR MOTOR	LPS	LOW PRESSURE SWITCH
CR	COMPRESSOR RELAY	OFC	OUTDOOR FAN CONTACTOR
FPT	FREEZE PROTECTION THERMOSTAT	OFM	OUTDOOR FAN MOTOR
FU	FUSE	PMR	PHASE MONITOR RELAY
GND	GROUND	PTO	MOTOR THERMOSTAT (NC)
HC	HEATER CONTACTOR	TB	TERMINAL BLOCK
HPS	HIGH PRESSURE SWITCH	TRAN	TRANSFORMER

NOTES:

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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.

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.

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 accessories for specific applications.

Maximum Operating Outdoor-Air Temperature

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

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

1. 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.
2. The minimum heating CFM must be maintained to ensure proper operation in the Heating mode.
3. The minimum heating CFM value takes precedence over the minimum cooling CFM value.

Guide Specifications



Packaged Rooftop Electric Cooling, Electric Heat 50TJM Side – Discharge Package Units Size Range: 15 to 30 Tons

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 contract drawings. Standard unit shall include a manual outdoor-air inlet.

1.02 QUALITY ASSURANCE

- A. Unit shall achieve ASHRAE 90.1 minimum efficiency requirements (2015 version).
- B. Unit shall be rated in accordance with AHRI Standard 340/360 and SASO 2874/2016.
- C. Unit shall be in compliance with SASO 2874/2016.
- C. Unit shall be designed to conform to ASHRAE 15, 2001.
- 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.
- F. Unit shall be designed and manufactured in a facility in accordance and registered by ISO 9001:2015.
- G. Unit shall have a completely run test on the assembly line with copy of the run test data inside the unit.
- H. Unit shall be designed in accordance with UL Standard 1995.

1.03 DELIVERY, STORAGE, AND HANDLING

- A. Unit shall be stored and handled per manufacturer's recommendations, positioned in upright position.
- B. Lifted by crane requires either shipping top panel or spreader bars.

PART 2 — PRODUCTS

2.01 EQUIPMENT (STANDARD)

A. General:

The 50TJM 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-410a), and special features required prior to field start-up.

B. Unit Cabinet:

1. Unit cabinet shall be constructed of galvanized steel, and shall be bonderized and coated with a pre-painted baked enamel finish on all externally exposed surfaces.
2. Indoor blower compartment interior surfaces shall be insulated with a minimum 1-in thick, 1lb (.45 kg) density neoprene coated. Evaporator panels shall be double skin.
3. Base of unit shall have a minimum of four locations for factory thru-the-base electrical connections; connections shall be internal to the cabinet to protect from environmental issues.
4. Base Rail
 - a. Unit shall have base rails on a minimum of 2 sides.
 - b. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging. Holes also shall be provided in the base rail for moving the rooftop by fork truck.
 - d. Base rail shall be a minimum of 12 gauge thickness.
5. Condensate pan and connections:
 - a. Shall be a sloped condensate drain pan made of a non-corrosive material.
 - b. Shall comply with ASHRAE Standard 62.
 - c. Shall use a 19mm (3/4-in.) -14 NPT drain connection at the end of the drain pan. Connection shall be made per manufacturer's recommendations.
6. Top panel shall be a multi-piece top panel linked with water tight flanges and interlocking systems.
7. Component access panels (standard) shall be easily removable for servicing.

C. Fans:

1. Indoor blower (evaporator fan) shall be belt-driven, double inlet, forward-curved, centrifugal type. Belt drive shall include an adjustable-pitch motor pulley.
2. Indoor blower (evaporator fan) shall be made from steel with a corrosion-resistant finish and shall be dynamically balanced.
3. Bearings shall be of the sealed, permanently lubricated, ball-bearing type for longer life and lower maintenance.

4. Condenser fan shall be of the direct-driven propeller type and shall discharge air vertically.
5. Condenser fan shall have aluminum blades riveted to corrosion-resistant steel spiders and shall be dynamically balanced.

D. Compressor(s):

1. Unit shall use one fully hermetic, scroll compressor for each independent refrigeration circuit.
2. Motors shall be cooled by refrigerant gas passing through motor windings.
3. Internally protected from high discharge temperature conditions.
4. Protected from an over-temperature and over-current conditions by an internal motor overload device.
5. Compressor shall be factory mounted on rubber grommets.

E. Coils:

1. Standard evaporator and condenser coils shall have aluminum fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed.
2. Evaporator coils shall be leak tested to 150 psig, pressure tested to 350 psig. Condenser coils shall be leak tested to 150 psig; pressure tested to 450 psig, and qualified to UL 1995 burst test at 1980 psig.
3. Optional condenser coil only shall be aluminum-fin coils with a durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments fins with copper tubes.
4. Optional condenser coil only shall be constructed of copper-fins mechanically bonded to copper tube, condenser coil available with 15 Fins per Inch (FPI) for the 50TJM-18/24 and 16 FPI for 50TJM-28/34.
5. Optional condenser and evaporator coil shall be constructed of copper-fins bonded to copper tube with evaporator copper coils available with 16 FPI and condenser coils available with 15 FPI for the 50TJM-18/24 and 16 FPI for 50TJM-28/34.
6. Copper fins provide increased corrosion resistance in moderate coastal environments where industrial air pollution is not present, copper-fin coils have extended life compared to standard or pre-coated aluminum-fin coils. All copper coils eliminate bimetallic contact to eliminate the potential for galvanic corrosion. Application in industrial environments is not recommended due to potential attack from sulfur oxide, nitrogen oxides, carbon and several other industrial airborne contaminants.

F. Refrigerant Circuit Components Shall Include:

1. Thermostatic expansion valve (TXV).
2. Refrigerant filter driers.

G. Filter Section:

1. Filters access is specified in the unit cabinet section of this specification.
2. Filters shall be held in place by a preformed filter tray, facilitating easy removal and installation.
3. Shall consist of factory-installed, low velocity, angle type (1-in.) thick washable aluminum filters.
4. Filters shall be standard, commercially available sizes.
5. Only one size filter per unit is allowed.

H. Controls and Safeties:

1. Unit Controls

- a. Shall be complete with self-contained low-voltage control circuit protected by a resettable circuit breaker on the 24-v transformer side.
- b. Shall utilize color-coded wiring.

2. Safeties:

- a. Unit shall incorporate a solid-state compressor lockout which provides reset capability at the space thermostat, should High/Low pressure safety devices trip and shut off compressor.
- b. Low and High-pressure switch.
- c. Phase monitors to protect against phase loss, phase reverse and phase unbalance.
- d. Freeze protection thermostat.
- e. Crankcase heater is standard is for each compressor.
- f. Automatic reset, condenser motor thermal overload protector.
- g. Protection Thermal Overload (PTO) motor thermostat is standard for Indoor Fan Motor (IFM) 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 AHRI Standard 360.
2. Unit with standard controls will operate in cooling down to outdoor ambient temperature of 40°F (4.4°C).

J. Electrical Requirements:

1. Electrical Connections all unit power wiring shall enter unit cabinet at a single location.

K. Motors:

1. Evaporator Motor:

- a. Shall have TEFC motor, IP55 with class F insulation.
- b. Shall use permanently lubricated bearings.
- c. Shall have thermal overload protection with an automatic reset feature.

2. Condenser Motor:

- a. Shall use permanently lubricated bearings.
- b. Shall have thermal overload protection with an automatic reset feature.
- c. TE motor with class F insulation

Field Installed Options

1. Electric Heater Package: The electric heater package is factory supplied for field installation. Heater assemblies are provided with internal fusing for protection of heater circuits not exceeding 25 amps each. All power wiring leads are 8 AWG and control wiring are 18AWG, both rated at 105°C. Auto reset thermo limit controls, magnetic heater contractors (24v coil) and terminal block are mounted in electric heater control box attached to heater assembly.
2. UVC Ready: The unit shall be UVC ready for easy installation. UVC Lamp is field supplied and field installed.
3. Softbag Filters: Softbag filters are factory supplied and field installed. Softbag filters are in compliance of Eurovent EU7.

