

Preferred™ Series

**Gas Heat/Electric Cooling Packaged Rooftop Units
3 to 12.5 Nominal Tons**



Product Data

Preferred™
SERIES



581J Sizes 04 to 14
Packaged Rooftop Units with Gas Heat

Features/Benefits

Easy to install, maintain, and operate Bryant rooftop units are designed by customers for customers.

Preferred™ Series units up to 12.5 tons are specifically designed to fit on Bryant roof curbs that were installed since 1989, which makes replacement easy and eliminates the need for curb adapters or changing utility connections.

Single-stage units deliver SEERs (seasonal energy efficiency ratios) up to 15.6, EERs (energy efficiency ratios) up to 13.0, and IEERs (integrated energy efficiency ratios) up to 13.0. Two-stage units deliver EERs up to 12.2, units with single-speed indoor motors deliver IEERs up to 14.0, and units with 2-speed indoor fan motor deliver IEERs up to 16.0. All models are capable of either vertical or horizontal installation to meet nearly every light commercial application need.

The Bryant rooftop unit (RTU) was designed by customers, for customers. With “no-strip” screw collars, handled access panels, and more, the unit is easy to install, easy to maintain, and easy to use. Your new 3 to 12.5 ton Preferred Series Bryant RTU provides optimum comfort and control from a packaged rooftop.

Value-added features include:

- Optional Perfect Humidity™ adaptive dehumidification system for improved part load humidity performance
- Puron® refrigerant (R-410A)
- Single point gas and electrical connection
- RTU Open controller for BACnet¹, LonWorks², Modbus³ and Johnson Controls N2.
- Optional fully-insulated cabinet, with optional foil-faced insulation
- High energy efficiency ratings may be eligible for local utility rebates (in most territories)
- TXV (thermostatic expansion valve) refrigerant metering system
- Scroll compressors with internal line-break overload protection

Installation Ease

All Preferred Series units are field convertible to horizontal air flow, which

1. BACnet is a trademark of ASHRAE.
2. LonWorks is a registered trademark of Echelon Corporation.
3. Modbus is a registered trademark of Schneider Electric.

makes it easy to adjust to unexpected job-site complications. Lighter units make for easy replacement. Units have simple, fast plug-in connections to the standard integrated terminal board and clearly-labeled connection points to reduce installation time. Also, a large control box provides room to work and room to mount Bryant accessory controls.

Easy to Maintain

Easy access handles by Bryant provide quick and easy access to all normally serviced components. Our “no-strip” screw system has superior holding power and guides screws into position while preventing the screw from stripping the unit’s metal.

Easy to Use

The optimized central terminal board by Bryant puts all connections and troubleshooting points in one convenient place. Most low voltage connections are made to the same board and make it easy to access it. Bryant rooftops have high and low pressure switches, a filter drier, and 2 in. filters standard. Our optional digital controllers allow for seamless and simple integration to the most complex building network.

Streamlined Control and Integration

Bryant controllers make connecting Preferred Series rooftops into existing building automation systems easy. The units are compatible with conventional thermostat controls and Bryant RTU Open multi-protocol controller interface with BACnet, Johnson Controls N2, LonWorks, or Modbus protocols. Preferred Series rooftops also can be integrated with building system options like an existing

third-party zoning system or BAS (building automated system).

Operating Efficiency and Flexibility

The 581J rooftops exceed ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) 90.1-2016, IECC (International Energy Conservation Code) IECC-2015 minimum efficiency requirements.

Field Convertible Airflow (3 to 12.5 ton)

All Preferred Series units are field convertible to horizontal air flow, which makes it easy to adjust to unexpected job-site complications. 12.5 ton models require a simple supply air duct cover to field convert from factory vertical to horizontal.

Two-Speed Indoor Fan Motor System with VFD (Variable Frequency Drive)

Optional 2-Speed Indoor Fan Motor System utilizes a variable frequency drive (VFD) to automatically adjust the indoor fan motor speed between operating modes. Available on 2-stage cooling models 07-14 with electro-mechanical or RTU Open controls.

Comfort Control

Bryant’s patented Perfect Humidity adaptive dehumidification system is an all-inclusive factory-installed option on gas heating/electric cooling and electric heat/electric cooling models. This system provides reliable, flexible operation to meet indoor part load sensible and latent requirements.

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Features/Benefits (cont)

AirXchange¹ Energy Recovery Cassette

UL certified, AHRI listed silica gel enthalpy desiccant wheels >25 in. diameter are segmented for easy cleaning, washable with detergent and water, and have a 5-year standard limited warranty.

Optimum Performance

Thermostatic expansion valve (TXV) on each refrigerant circuit helps provide optimum performance across the entire unit operating range.

Perfect Humidity™ Adaptive Dehumidification System

Bryant's Perfect Humidity adaptive dehumidification system is an all-inclusive, factory-installed option that can be ordered with any Preferred Series 581J*04-14

rooftop unit (with the exception of single-phase voltage 208-230/1/60). This system expands the envelope of operation of Bryant Preferred Series rooftop products to provide unprecedented flexibility that will meet year-round comfort conditions.

Preferred Series is the next generation version of Bryant's Perfect Humidity system and includes modulating refrigerant valves that provide variable flow bypass around the condenser. This innovative feature ensures exact control of the supply-air temperature as the unit lowers the evaporator temperature to increase latent capacity.

The Perfect Humidity adaptive dehumidification system has the industry's only dual dehumidification mode setting. The Preferred Series rooftop, coupled with the Perfect Humidity adaptive dehumidification system, is capable of operating in normal design cooling mode, subcooling mode, and hot gas reheat mode.

In the normal design cooling mode, the unit will operate under the normal sequence of operation. The Humidi-MiZer system is inactive. In the subcooling mode, the controller will control the refrigeration system to satisfy cooling and dehumidification requirements, as well as providing adequate reheat to maintain the desired supply-air temperature.

Hot gas reheat mode will operate when the space requires dehumidification only. The controller will control the refrigeration system to provide latent capacity similar to that provided in the full subcooling mode.

In addition, it can increase hot discharge gas bypass to the Perfect Humidity coil in order to heat the air to the exact neutral state required — no over-cooling or overheating.

1. AirXchange is a trademark of AirXchange, Inc.

Model number nomenclature

581J MODEL NUMBER NOMENCLATURE

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
5	8	1	J	E	0	6	A	0	7	2	A	0	B	0	A	A

Unit Type

High Efficiency
Gas Heat RTU

Model

J – Puron® Refrigerant Model

Voltage

E = 460-3-60
J = 208/230-1-60
P = 208/230-3-60
T = 575-3-60

Cooling Tons

04 - 3 ton 09 - 8.5 ton
05 - 4 ton 11 - 10 ton (12.0 EER)*
06 - 5 ton 12 - (11.5 EER)*
07 - 6 ton 14 - 12.5 ton
08 - 7.5 ton

Refrig. System/Gas Heat Options

A = Standard One Stage cooling models/Nat. Gas Heat
B = Standard One Stage cooling models/Low NO_x Heat
C = Standard One Stage cooling models/SS HX Heat
D = Two stage cooling models
F = Two stage cooling models and Stainless steel gas heat exchanger
G = Standard One Stage cooling models and Perfect Humidity
H = Standard One Stage cooling/Low NO_x Heat and Perfect Humidity
J = Standard One Stage cooling/SS HX Heat and Perfect Humidity
K = Two Stage cooling models and Perfect Humidity
M = Two Stage cooling models/SS HX Heat and Perfect Humidity

Heat Level Input

Standard/Stainless Steel

072 = 72,000 (1 Phase = 65,000) 180 = 180,000
115 = 115,000 (1 Phase = 90,000) 224 = 224,000
125 = 125,000 240 = 240,000
150 = 150,000 (1 Phase = 130,000) 250 = 250,000

Low NO_x

060 = 60,000
090 = 90,000
120 = 120,000

Note: On single phase (-J voltage code) models, the following are not available as a factory installed option:

- Perfect Humidity
- Coated Coils or Cu Fin Coils
- Louvered Hail Guards
- Economizer or 2 Position Damper
- Powered 115 Volt Convenience Outlet

Packaging and 2-Speed Indoor Fan Motor

A = Standard Packaging, electro mech. controls that require W7212 EconoMi\$er IV
B = LTL Packaging, electro mech. controls that require W7212 EconoMi\$er IV
C = Standard Packaging, electro mech. controls that require W7220 EconoMi\$er X
D = Standard Packaging and 2-Speed Indoor Fan Motor (VFD) Controller
E = LTL Packaging, and 2-Speed Indoor Fan Motor (VFD) Controller
F = LTL Packaging, electro mech. controls that require W7220 EconoMi\$er X

Factory Installed Options

Outdoor Air Options

A = None
B = Temp Econo, Baro Relief, Standard Leak (W7212 or W7220)
H = Enthalpy Econo, Baro Relief, Standard Leak (W7212 or W7220)
E = Temp Econo, Baro Relief, Standard Leak w/CO₂ (W7212 or W7220)
L = Enthalpy Econo, Baro Relief, Standard Leak w/CO₂ (W7212 or W7220)
Q = Motorized 2 Position Damper
U = Temp Econo, Baro Relief, Ultra Low Leak, (W7220)
W = Enthalpy Econo, Baro Relief, Ultra Low Leak, (W7220)

Indoor Fan Options 3,4,5 Ton Models Only†

0 = Electric (Direct) Drive x13 Motor
2 = Medium Static Option – Belt Drive
3 = High Static Option – Belt Drive

Indoor Fan Options 6 to 12.5 Ton Models Only†

1 = Standard Static Option – Belt Drive
2 = Medium Static Option – Belt Drive
3 = High Static Option – Belt Drive
C = High Static Option w/ High Effy Motor – Belt Drive (14 only)

See price page details for specific Perfect Humidity

Coil Options (outdoor-indoor-hail guard)

A = Al/Cu - Al/Cu
B = Precoat Al/Cu - Al/Cu
C = E-coat Al/Cu - Al/Cu
D = E-coat Al/Cu - E-coat Al/Cu
E = Cu/Cu - Al/Cu
F = Cu/Cu - Cu/Cu
M = Al/Cu - Al/Cu – Louvered Hail Guards
N = Precoat Al/Cu - Al/Cu – Louvered Hail Guards
P = E-coat Al/Cu - Al/Cu – Louvered Hail Guards
Q = E-coat Al/Cu - E-coat Al/Cu – Louvered Hail Guards
R = Cu/Cu - Al/Cu – Louvered Hail Guards
S = Cu/Cu - Cu/Cu – Louvered Hail Guards



* Two-Speed Indoor Fan Motor System is required on sizes 11 and 12 units to meet DOE-2018 minimum efficiency requirements.

† Units sold in the US require a 2-speed fan.

For California Residents:

For installation in SCAQMD only: This furnace does not meet the SCAQMD Rule 1111 14 ng/J NO_x emission limit, and thus is subject to a mitigation fee of up to \$450. This furnace is not eligible for the Clean Air Furnace Rebate Program: www.CleanAirFurnaceRebate.com.

Capacity ratings

AHRI RATINGS (1-STAGE COOLING) a, b, c, d

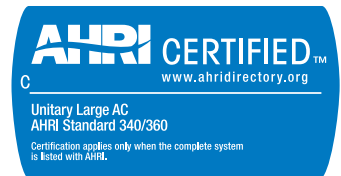
581J* UNIT	COOLING STAGES	NOMINAL CAPACITY (TONS)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	SEER	EER	IEER
04A	1	3	35.4	2.8	15.00	12.50	—
05A	1	4	48.5	3.7	15.60	13.00	—
06A	1	5	57.5	4.6	15.20	12.45	—
07A	1	6	73.0	6.0	—	12.00	13.00

NOTE(S):

- Rated in accordance with AHRI Standards 210/240 (04-06 size) and 340/360 (07-14 size).
- Ratings are based on:
Cooling Standard: 80°F (27°C) db, 67°F (19°C) wb indoor air temperature and 95°F (35°C) db outdoor air temperature.
IEER Standard: A measure that expresses cooling part-load EER efficiency for commercial unitary air-conditioning and heat pump equipment on the basis of weighted operation at various load capacities.
- All 581J units comply with ASHRAE 90.1-2016 (American Society of Heating, Refrigeration, and Air-Conditioning Engineers) and DOE-2018 (Department of Energy) Energy Standard for minimum SEER and EER requirements.
- 581J units comply with US Energy Policy Act (2005). To evaluate code compliance requirements, refer to state and local codes.

LEGEND

- AHRI** — Air-Conditioning, Heating, and Refrigeration Institute
COP — Coefficient of Performance
EER — Energy Efficiency Ratio
IEER — Integrated Energy Efficiency Ratio
SEER — Seasonal Energy Efficiency Ratio



AHRI RATINGS (2-STAGE COOLING) a, b, c, d

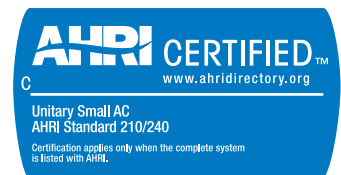
581J* UNIT	COOLING STAGES	NOMINAL CAPACITY (TONS)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	EER	IEER WITH SINGLE-SPEED INDOOR MOTOR	IEER WITH 2-SPEED INDOOR MOTOR
07D	2	6.0	72.0	6.0	12.0	14.0	16.0
08D	2	7.5	89.0	7.4	12.0	13.0	13.8
09D	2	8.5	97.0	8.1	12.0	13.0	13.8
11D *	2	10.0	111.0	9.3	12.0	12.6	14.3
12D *	2	10.5	115.0	10.0	11.5	12.0	12.7
14D	2	12.5	146.0	11.9	12.2	13.0	13.9

NOTE(S):

- Rated in accordance with AHRI Standards 210/240 (04-06 size) and 340/360 (07-14 size).
- Ratings are based on:
Cooling Standard: 80°F (27°C) db, 67°F (19°C) wb indoor air temperature and 95°F (35°C) db outdoor air temperature.
IEER Standard: A measure that expresses cooling part-load EER efficiency for commercial unitary air-conditioning and heat pump equipment on the basis of weighted operation at various load capacities.
- All 581J units comply with ASHRAE 90.1-2016 (American Society of Heating, Refrigeration, and Air-Conditioning Engineers) and DOE-2018 (Department of Energy) Energy Standard for minimum SEER and EER requirements.
- 581J units comply with US Energy Policy Act (2005). To evaluate code compliance requirements, refer to state and local codes.
- Two-speed fan is required to meet DOE-2018 standards.

LEGEND

- AHRI** — Air-Conditioning, Heating, and Refrigeration Institute
COP — Coefficient of Performance
EER — Energy Efficiency Ratio
IEER — Integrated Energy Efficiency Ratio
SEER — Seasonal Energy Efficiency Ratio



Capacity ratings (cont)

SOUND RATINGS TABLE a, b, c

581J* UNIT	COOLING STAGES	OUTDOOR SOUND (dB) AT 60 HZ								
		A-WEIGHTED	63	125	250	500	1000	2000	4000	8000
04A	1	76	78.2	78.0	74.2	73.3	70.6	66.0	62.4	56.9
05A	1	78	84.7	83.6	77.1	74.6	72.3	68.3	64.7	60.9
06A	1	77	87.5	82.5	76.1	73.6	71.3	67.1	64.1	60.0
07A	1	82	90.1	82.6	81.0	79.4	77.0	73.0	70.4	66.7
07D	2	82	90.1	82.6	81.0	79.4	77.0	73.0	70.4	66.7
08D	2	82	90.6	84.3	80.2	79.3	77.1	72.2	67.4	63.7
09D	2	82	88.6	85.0	81.6	79.5	77.4	74.1	71.0	66.3
11D	2	87	85.9	87.9	85.6	84.4	82.8	78.5	74.9	72.5
12D	2	87	85.9	87.9	85.6	84.4	82.8	78.5	74.9	72.5
14D	2	83	89.3	86.0	82.9	80.7	78.5	73.6	69.6	64.5

NOTE(S):

- Outdoor sound data is measured in accordance with AHRI.
- Measurements are expressed in terms of sound power. Do not compare these values to sound pressure values because sound pressure depends on specific environmental factors which normally do not match individual applications. Sound power values are independent of the environment and therefore more accurate.
- A-weighted sound ratings filter out very high and very low frequencies, to better approximate the response of "average" human ear. A-weighted measurements for Bryant units are taken in accordance with AHRI.

LEGEND

dB — Decibel

Capacity ratings (cont)

MINIMUM-MAXIMUM AIRFLOW RATINGS (CFM) — NATURAL GAS AND PROPANE

VOLTAGE	581J* UNIT	HEAT LEVEL	COOLING				HEATING ^a	
			Minimum Single-Speed Fan Motor	Minimum 2-Speed Fan Motor (At High Speed)	Minimum 2-Speed Fan Motor (At Low Speed)	Maximum	Minimum	Maximum
SINGLE-PHASE	04	LOW MED HIGH	900	—	—	1500	900 800 —	1970 1520 —
	05	LOW MED HIGH	1200	—	—	2000	900 1050 1230	2470 2280 2190
	06	LOW MED HIGH	1500	—	—	2500	900 1050 1230	3290 2730 2820
THREE-PHASE	04	LOW MED HIGH	900	—	—	1500	990 1010 —	2190 1550 —
	05	LOW MED HIGH	1200	—	—	2000	990 1330 1390	2190 2460 2220
	06	LOW MED HIGH	1500	—	—	2500	990 1330 1390	2730 2880 2780
	07	LOW MED HIGH	1800	1800	1200	3000	990 1330 1390	3640 4750 3750
	08	LOW MED HIGH	2250	2535	1673	3750	1900 2100 2270	4750 3900 3780
	09	LOW MED HIGH	2550	2550	1683	4250	1900 2100 2270	4750 4560 4250
	11	LOW MED HIGH	3000	3380	2231	5000	1900 2100 2270	4750 4560 4250
	12	LOW MED HIGH	3000	3380	2231	5000	2100 2620 2650	5470 5670 5290
	14	LOW MED HIGH	3750	4225	2789	6250	1880 2450 3000	7500 6750 7200

NOTE(S):

a. Heating rating values are identical for aluminum heat exchangers and stainless steel heat exchangers.

Capacity ratings (cont)

HEAT RATING TABLE — NATURAL GAS AND PROPANE a, b

VOLTAGE	581J* UNIT	GAS HEAT	AL/SS HEAT EXCHANGER		TEMPERATURE RISE (°F)	THERMAL EFFICIENCY (%)	AFUE (%)
			INPUT/OUTPUT STAGE 1 (MBH)	INPUT/OUTPUT STAGE 2 (MBH)			
SINGLE- PHASE	04	LOW	—	65/53	25-55	82	81.0
		MED	—	90/73.5	45-85	82	81.2
		HIGH	—	—	—	—	81.0
	05	LOW	—	65/53	20-55	82	81.0
		MED	—	90/73.5	30-65	82	81.2
		HIGH	—	130/106	45-80	82	81.0
	06	LOW	—	65/53	15-55	82	81.0
		MED	—	90/73.5	25-65	82	81.2
		HIGH	—	130/106	35-80	82	81.0
THREE- PHASE	04	LOW	50/41	72/56	25-25	82	—
		MED	82/66	115/89	55-85	80	—
		HIGH	—	—	—	—	—
	05	LOW	50/41	72/56	25-55	82	—
		MED	82/66	115/90	35-65	81	—
		HIGH	120/96	150/117	50-80	80	—
	06	LOW	50/41	72/56	20-55	82	—
		MED	82/66	115/90	30-65	81	—
		HIGH	120/96	150/117	40-80	80	—
	07	LOW	50/41	72/59	15-55	82	—
		MED	82/66	125/103	20-50	82	—
		HIGH	120/96	150/120	30-60	81	—
	08	LOW	50/41	125/103	20-50	82	—
		MED	90/73	180/148	35-65	82	—
		HIGH	105/84	224/184	45-75	82	—
	09	LOW	90/73	125/103	20-50	82	—
		MED	120/98	180/148	30-65	82	—
		HIGH	180/147	224/184	40-75	82	—
	12	LOW	120/98	180/148	25-65	82	—
		MED	180/147	224/184	30-65	82	—
		HIGH	200/160	250/205	35-70	80	—
	14	LOW	120/96	150/120	15-60	80	—
		MED	144/118	180/146	20-55	81	—
		HIGH	192/156	240/195	25-60	81	—

NOTE(S):

- Heat ratings are for natural gas heat exchangers operated at or below 2000 ft (610 m). For information on Propane or altitudes above 2000 ft (610 m), see the Application Data section of this book. Accessory Propane/High Altitude kits are also available.
- The input rating for altitudes above 2000 ft (610m) must be derated by 4% for each 1000 ft (305 m) above sea level.

LEGEND

AFUE — Annual Fuel Utilization Efficiency

Capacity ratings (cont)

HEAT RATING TABLE — LOW NO_x ^a

VOLTAGE	581J* UNIT	GAS HEAT	AL/SS HEAT EXCHANGER		TEMPERATURE RISE (°F)	THERMAL EFFICIENCY (%)	AFUE (%)
			INPUT/OUTPUT STAGE 1 (MBH)	INPUT/OUTPUT STAGE 2 (MBH)			
SINGLE- PHASE	04	LOW	—	60/49	20-50	81	81.0
		MED	—	90/73.5	30-60	81	81.2
		HIGH	—	—	—	—	—
	05	LOW	—	60/49	20-50	81	81.0
		MED	—	90/73.5	30-60	81	81.2
		HIGH	—	120/98	40-70	81	81.0
	06	LOW	—	60/49	15-50	81	81.0
		MED	—	90/73.5	25-60	80	81.2
		HIGH	—	120/98	35-70	80	81.0
THREE- PHASE	04	LOW	—	60/49	20-50	81	—
		MED	—	90/73.5	30-60	81	—
		HIGH	—	—	—	—	—
	05	LOW	—	60/49	20-50	81	—
		MED	—	90/73.5	30-60	81	—
		HIGH	—	120/98	40-70	81	—
	06	LOW	—	60/49	15-50	81	—
		MED	—	90/73.5	25-60	80	—
		HIGH	—	120/98	35-70	80	—

NOTE(S):

a. Units meet California's South Coast Air Quality Management District (SCAQMD) Low-NO_x emissions requirement of 40 nanograms per joule or less.

LEGEND

AFUE — Annual Fuel Utilization Efficiency

Physical data

581J 3 TO 6 TON PHYSICAL DATA

581J* UNIT	581J*04	581J*05	581J*06	581J*07
NOMINAL TONS	3	4	5	6
BASE UNIT OPERATING WT (lb) ^a	505	590	600	925
REFRIGERATION SYSTEM				
No. Circuits/No. Compressors/Type	1/1/Scroll	1/1/Scroll	1/1/Scroll	1/1/2-Stage Scroll
Puron® Refrigerant Charge (lb-oz)	9-0	12-8	13-8	14-0
Perfect Humidity Puron Refrigerant Charge	11-0	19-12	20-0	22-8
Metering Device	TXV			
High Pressure Trip/Reset (psig)	630/505			
Low Pressure Trip/Reset (psig)	54/117			
EVAPORATOR COIL				
Material (Tube Fin)	Cu/Al			
Coil Type	3/8 in. RTPF			
Rows/FPI	3/15	3/15	4/15	3/15
Total Face Area (ft²)	5.5	7.3	7.3	8.9
Condensate Drain Connection Size	3/4 in.			
PERFECT HUMIDITY COIL				
Material (Tube Fin)	Cu/Al			
Coil Type	3/8 in. RTPF			
Rows/FPI	1/17	2/17	2/17	2/17
Total Face Area (ft²)	3.9	5/2	5/2	5/2
EVAPORATOR FAN MOTOR ^b				
STANDARD STATIC SINGLE-PHASE (DIRECT DRIVE)				
Motor Quantity/Drive Type	1/Direct			—
Max bhp	1.0			—
Range (rpm)	600-1200			—
Motor Frame Size	48			—
Fan Quantity/Type	1/Centrifugal			—
Fan Diameter (in.)	10 x 10			—
STANDARD STATIC SINGLE-PHASE (BELT DRIVE)				
Motor Quantity/Drive Type	1/Belt		1/Belt	—
Max bhp	1.2		1.2	—
Range (rpm)	560-854		770-1175	—
Motor Frame Size	48		48	—
Fan Quantity/Type	1/Centrifugal		1/Centrifugal	—
Fan Diameter (in.)	10 x 10		10 x 10	—
STANDARD STATIC 3-PHASE (DIRECT DRIVE) ^c				
Motor Quantity/Drive Type	1/Direct		1/Direct	1/Belt
Max bhp	1.0		1.0	1.7
Range (rpm)	600-1200		600-1200	489-747
Motor Frame Size	48		48	56
Fan Quantity/Type	1/Centrifugal		1/Centrifugal	1/Centrifugal
Fan Diameter (in.)	10 x 10		11 x 10	15 x 15
STANDARD STATIC 3-PHASE (BELT DRIVE) ^c				
Motor Quantity/Drive Type	1/Belt		1/Belt	—
Max bhp	1.2		1.2	—
Range (rpm)	560-854		770-1175	—
Motor Frame Size	48		48	—
Fan Quantity/Type	1/Centrifugal		1/Centrifugal	—
Fan Diameter (in.)	10 x 10		10 x 10	—

Physical data (cont)

581J 3 TO 6 TON PHYSICAL DATA (cont)

581J* UNIT	581J*04		581J*05		581J*06		581J*07
EVAPORATOR FAN MOTOR ^d							
MEDIUM STATIC SINGLE-PHASE							
Motor Quantity/Drive Type	1/Belt			1/Belt		—	
Max bhp	1.2		1.2		1.2		—
Range (rpm)	770-1175			1035-1466		—	
Motor Frame Size	48			56		—	
Fan Quantity/Type	1/Centrifugal			1/Centrifugal		—	
Fan Diameter (in.)	10 x 10			10 x 10		—	
MEDIUM STATIC 3-PHASE							
Motor Quantity/Drive Type	1/Belt						
Max bhp	1.7	1.7		2.4		2.9	
Range (rpm)	770-1175	920-1303		1035-1466		733-949	
Motor Frame Size	48	56		56		56	
Fan Quantity/Type	1/Centrifugal						
Fan Diameter (in.)	10x10	10x10		10x10		15x15	
HIGH STATIC 3-PHASE							
Motor Quantity/Drive Type	1/Belt						
Max bhp	2.4	2.9		2.9		4.7	
Range (rpm)	1035-1466	1208-1639		1303-1687		909-1102	
Motor Frame Size	56	56		56		14	
Fan Quantity/Type	1/Centrifugal						
Fan Diameter (in.)	10x10	10x10		10x10		15x15	
CONDENSER COIL							
Material (Tube/Fin)	Cu/Al		Cu/Al		Cu/Al		Cu/Al
Coil Type	3/8 in. RTPF		3/8 in. RTPF		3/8 in. RTPF		3/8 in. RTPF
Rows/FPI	2/17		2/17		2/17		2/17
Total Face Area (ft²)	12.7		21.3		21.3		20.5
CONDENSER FAN/MOTOR							
Quantity/Motor Drive Type	1/Direct						
Motor hp/rpm	1/8 / 825		1/4 / 1100		1/4 / 1100		1/4 / 1100
Fan Diameter (in.)	22		22		22		22
FILTERS							
RA Filter Qty / Size (in.)	2 / 16x25x2		1 / 16x16x2		4 / 16x16x2		4 / 16x20x2
OA Inlet Screen Qty/Size (in.)	1 / 20x24x1		1 / 20x24x1		1 / 20x24x1		1 / 20x36x1
GAS CONNECTION							
Number of Gas Valves	1						
Natural Gas Supply Line Pressure (in. wg)/(psig)	4-13 / 0.18-0.47						
Propane Supply Line Pressure (in. wg)/(psig)	11-13 / 0.40-0.47						
HEAT ANTICIPATOR SETTING (AMPS)							
First Stage	0.14						
Second Stage	0.14						
NATURAL GAS HEAT							
LOW							
Number of Stages / Number of Burners (total)	1 or 2 / 2					2 / 2	
Connection Size	1/2 in. NPT					1/2 in. NPT	
Rollout Switch Opens / Closes (°F)	195/115					195/115	
Temperature Rise Range (°F)	25-55	20-55	25-55 ^e	15-55	20-55 ^d	15-55	
MEDIUM							
Number of Stages / Number of Burners (total)	1 or 2 / 3					2 / 3	
Connection Size	1/2 in. NPT					1/2 in. NPT	
Rollout Switch Opens / Closes (°F)	195/115					195/115	
Temperature Rise Range (°F)	45-85	25-55 ^b	30-65	25-55 ^d	25-65	20-55 ^d	20-50
HIGH							
Number of Stages / Number of Burners (total)	—		1 or 2 / 3			2/4	
Connection Size	—		1/2 in. NPT			3/4 in. NPT	
Rollout Switch Opens / Closes (°F)	—		195 / 115			195 / 115	
Temperature Rise Range (°F)	—		45-80	50-80 ^d	35-80	40-80 ^d	30-60

Physical data (cont)

581J 3 TO 6 TON PHYSICAL DATA (cont)

581J* UNIT	581J*04		581J*05		581J*06		581J*07
LIQUID PROPANE HEAT							
LOW							
Number of Stages / Number of Burners (total)	1 or 2 / 2						2 / 2
Connection Size	1/2 in. NPT						1/2 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115						195 / 115
Temperature Rise Range (°F)	25-55	25-55 ^d	20-55	25-55 ^d	15-55	20-55 ^d	15-55
MEDIUM							
Number of Stages / Number of Burners (total)	1 or 2 / 3						2 / 3
Connection Size	1/2 in. NPT						1/2 in. NPT
Rollout Switch Opens / Closes (°F)	195/115						195 / 115
Temperature Rise Range (°F)	45-85	55-85 ^d	30-65	35-65 ^d	25-65	30-65 ^d	20-50
HIGH							
Number of Stages / Number of Burners (total)	—		1 or 2/3				2 / 4
Connection Size	—		1/2 in. NPT				1/2 in. NPT
Rollout Switch Opens / Closes (°F)	—		195/115				195/115
Temperature Rise Range (°F)	—		45-80	50-80 ^d	35-80	40-80 ^d	30-60
LOW NO _x GAS HEAT							
LOW							
Number of Stages / Number of Burners (total)	1 or 2/2						—
Connection Size	1/2 in. NPT						—
Rollout Switch Opens / Closes (°F)	195 / 115						—
Temperature Rise Range (°F)	25-55		20-55		15-55		—
MEDIUM							
Number of Stages / Number of Burners (total)	1 or 2/2						—
Connection Size	1/2 in. NPT						—
Rollout Switch Opens / Closes (°F)	195 / 115						—
Temperature Rise Range (°F)	30-60		30-60		25-60		—
HIGH							
Number of Stages / Number of Burners (total)	—		1 or 2/3				—
Connection Size	—		1/2 in. NPT				—
Rollout Switch Opens / Closes (°F)	—		195 / 115				—
Temperature Rise Range (°F)	—		40-70		35-70		—

NOTE(S):

- Base unit operating weight does not include weight of options.
- Perfect Humidity system requires belt drive type.
- Models with the Perfect Humidity system only.
- Perfect Humidity system requires belt drive type.
- Three-phase units only.

LEGEND

bhp	— Brake Horsepower
FPI	— Fins Per Inch
OA	— Outdoor Air
RA	— Return Air
RTPF	— Round Tube, Plate Fin
TXV	— Thermostatic Expansion Valve

Physical data (cont)

581J 7.5 TO 12.5 TON PHYSICAL DATA

581J* UNIT	581J*08	581J*09	581J*11	581J*12	581J*14
NOMINAL TONS	7.5	8.5	10	10	12.5
BASE UNIT OPERATING WT (lb) ^a	925	925	1090	1090	1430
REFRIGERATION SYSTEM					
No. Circuits/No. Compressors/Type	2 / 2 / Scroll	2 / 2 / Scroll	2 / 2 / Scroll	2 / 2 / Scroll	2 / 2 / Scroll
Puron® Refrigerant Charge A/B (lb-oz)	9-10 / 9-10	9-14 / 9-14	12-10 / 13-0	12-11 / 12-5	16-7 / 15-5
Perfect Humidity Puron Refrigerant Charge A/B	17-0 / 17-0	15-2 / 15-2	18-0 / 18-0	18-3 / 17-3	25-8 / 22-8
Metering Device	TXV				
High Pressure Trip/Reset (psig)	630 / 505				
Low Pressure Trip/Reset (psig)	54 / 117				
Compressor Capacity Staging (%)	50% / 100%				
EVAPORATOR COIL					
Material (Tube Fin)	Cu / Al	Cu / Al	Cu / Al	Cu / Al	Cu / Al
Coil Type	3/8 in. RTPF	3/8 in. RTPF	3/8 in. RTPF	3/8 in. RTPF	3/8 in. RTPF
Rows/FPI	4 / 15	4 / 15	4 / 15	4 / 15	4 / 15
Total Face Area (ft²)	11.1	11.1	11.1	11.1	17.5
Condensate Drain Connection Size	3/4 in.	3/4 in.	3/4 in.	3/4 in.	3/4 in.
PERFECT HUMIDITY COIL					
Material (Tube Fin)	Cu / Al	Cu / Al	Cu / Al	Cu / Al	Cu / Al
Coil Type	3/8 in. RTPF	3/8 in. RTPF	3/8 in. RTPF	3/8 in. RTPF	3/8 in. RTPF
Rows/FPI	2 / 17	2 / 17	2 / 17	2 / 17	1 / 17
Total Face Area (ft²)	6.3	8.4	8.6	8.6	13.8
EVAPORATOR FAN MOTOR					
STANDARD STATIC 3-PHASE					
Motor Quantity/Drive Type	1 / Belt	1 / Belt	1 / Belt	1 / Belt	1 / Belt
Max bhp	1.7	1.7	2.4	2.4	2.9
Range (rpm)	518-733	518-733	591-838	591-838	591-838
Motor Frame Size	56	56	56	56	56Y
Fan Quantity/Type	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal	1 / Centrifugal
Fan Diameter (in.)	15 x 15	15 x 15	15 x 15	15 x 15	18 x 18
MEDIUM STATIC 3-PHASE					
Motor Quantity/Drive Type	1 / Belt		1 / Belt		1 / Belt
Max bhp	2.4		2.4		3.7
Range (rpm)	690-936		690-936		838-1084
Motor Frame Size	56		56		56HZ
Fan Quantity/Type	1 / Centrifugal		1 / Centrifugal		1 / Centrifugal
Fan Diameter (in.)	15 x 15		15 x 15		15 x 15
HIGH STATIC 3 PHASE ^b					
Motor Quantity/Drive Type	1 / Belt				
Max bhp	3.7				4.9
Range (rpm)	838-1084				1022-1240
Motor Frame Size	56				145TY
Fan Quantity/Type	1 / Centrifugal				1 / Centrifugal
Fan Diameter (in.)	15 x 15				15 x 15
HIGH STATIC – HIGH EFFICIENCY 3 PHASE					
Motor Quantity/Drive Type	—				
Max bhp	—				
Range (rpm)	—				
Motor Frame Size	—				
Fan Quantity/Type	—				
Fan Diameter (in.)	—				

Physical data (cont)

581J 7.5 TO 12.5 TON PHYSICAL DATA (cont)

581J* UNIT	581J*08	581J*09	581J*11	581J*12	581J*14
CONDENSER COIL					
Material (Tube/Fin)	Cu / Al				
Coil Type	3/8 in. RTPF				
Rows/FPI	2 / 17		3 / 17		2 / 17
Total Face Area (ft²)	25.1		25.1		2 at 23.1
CONDENSER FAN/MOTOR					
Quantity/Motor Drive Type	2 / direct	1 / direct ECM	1 / direct		3 / direct
Motor hp/rpm	1/4 / 1100	1 / 1050	1 / 1175		3/4 / 1100
Fan Diameter	22	30	30		22
FILTERS					
RA Filter Qty / Size (in.)	4 / 20 x 20 x 2				6 / 18 x 24 x 2
OA Inlet Screen Qty / Size (in.)	1 / 20 x 24 x 1				V - 2 / 24 x 27 x 1 H - 1 / 30 x 39 x 1
GAS CONNECTION					
Number of Gas Valves	1				
Natural Gas Supply Line Pressure (in. wg)/(psig)	4-13 / 0.18-0.47				5-13 / 0.18-0.47
Propane Supply Line Pressure (in. wg)/(psig)	11-13 / 0.40-0.46				
HEAT ANTICIPATOR SETTING (AMPS)					
First Stage	0.14				
Second Stage	0.14				
NATURAL GAS HEAT					
LOW					
Number of Stages / Number of Burners (total)	2 / 3		2 / 4		2 / 5
Connection Size	1/2 in. NPT		3/4 in. NPT		3/4 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115		195 / 115		225 / 145
Temperature Rise Range (°F)	20-50		20-50		20-50
MEDIUM					
Number of Stages / Number of Burners (total)	2 / 4		2 / 5		2 / 6
Connection Size	3/4 in. NPT		3/4 in. NPT		3/4 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115		195 / 115		225 / 145
Temperature Rise Range (°F)	35-65		35-65		20-55
HIGH					
Number of Stages / Number of Burners (total)	2 / 5		2 / 5		2 / 8
Connection Size	3/4 in. NPT		3/4 in. NPT		3/4 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115		195 / 115		225 / 145
Temperature Rise Range (°F)	45-75		35-70		25-60
LIQUID PROPANE HEAT					
LOW					
Number of Stages / Number of Burners (total)	2 / 3		2 / 4		2 / 5
Connection Size	1/2 in. NPT		3/4 in. NPT		3/4 in. NPT
Rollout Switch Opens / Closes (°F)	195/115		195/115		195/115
Temperature Rise Range (°F)	20-50		25-65		20-60
MEDIUM					
Number of Stages / Number of Burners (total)	2 / 4		2 / 5		2 / 6
Connection Size	3/4 in. NPT		3/4 in. NPT		3/4 in. NPT
Rollout Switch Opens / Closes (°F)	195/115		195/115		225/145
Temperature Rise Range (°F)	35-65	30-65	30-65		20-55
HIGH					
Number of Stages / Number of Burners (total)	2 / 5				2/8
Connection Size	3/4 in. NPT				3/4 in. NPT
Rollout Switch Opens / Closes (°F)	195/115				225/145
Temperature Rise Range (°F)	45-75	40-75	35-70		25-60

NOTE(S):

- a. Base unit operating weight does not include weight of options.
- b. Models with the Perfect Humidity system only.

LEGEND

- bhp** — Brake Horsepower
- EAT** — Entering Air Temperature
- FPI** — Fins Per Inch
- OA** — Outdoor Air
- RA** — Return Air

Options and accessories

ITEM	FACTORY- INSTALLED OPTION	FIELD- INSTALLED ACCESSORY
Filter Maintenance Sensor		X
Motor Status Sensor		X
Thru-the-Base Electrical or Gas-Line Connections	X	X
Hinged Access Panels	X	
Supply Duct Cover (Size 14 Only)		X
Cu/Cu (Indoor) Coils ^a	X	
Premium, E-coated Outdoor Coils ^a	X	
Pre-coated (outdoor and indoor) Coils ^a	X	
Perfect Humidity Adaptive Dehumidification System ^a	X	
RTU Open Multi-Protocol Controller	X	
Condenser Coil Louvered Hail Guard ^a	X	X
Thermostats, Temperature Sensors, and Subbase		X
Smoke Detector (Supply and/or Return Air)	X	
Horn/Strobe Annunciator ^b		X
Timeguard II Compressor Delay Control Circuit		X
Phase Monitor		X
Condensate Overflow Switch	X	X
EconoMi\$er® IV for Electromechanical Controls — Non-FDD (Standard Air Leak Damper Models) ^{a, c}	X	X
EconoMi\$er 2 for DDC Controls (Standard and Ultra Low Leak Air Damper Models) ^{b, d}	X	X
Motorized Two-Position Outdoor-Air Damper	X	X
Manual Outdoor-Air Damper (25% and 50%)	X	X
Barometric Relief ^e	X	X
Power Exhaust (Prop Design)		X
EconoMi\$er X for Electromechanical Controls, Complies with FDD (Standard and Ultra Low Leak Air Damper Models)	X	X
Single Enthalpy Sensors ^f	X	X
Differential Enthalpy Sensors ^f		X
Single Dry Bulb Temperature Sensor ^f	X	X
Differential Dry Bulb Temperature Sensor ^f		X
Wall or Duct Mounted CO ₂ Temperature Sensor		X
Unit Mounted CO ₂ Sensor	X	X

ITEM	FACTORY- INSTALLED OPTION	FIELD- INSTALLED ACCESSORY
Propane Conversion Kit		X
Stainless Steel Heat Exchanger	X	
High Altitude Conversion Kit		X
Flue Shield (04-12 Models Only)		X
Flue Discharge Deflector		X
Multiple Motor and Drive Packages	X	
Two-Speed Indoor Fan Motor System with VFD Controller (2-Stage Cooling Models Only)	X	
Display Kit or 2-Speed Indoor Fan Motor System with VFD		X
Winter Start Kit ^g		X
Motormaster Head Pressure Controller to -2°F ^g	X	X
Powered Convenience Outlet ^{a, h}	X	
Unpowered Convenience Outlet (15 amp Factory Installed; 20 amp Field Installed)	X	X
Non-Fused Disconnect ⁱ	X	
Roof Curb 14 in. (356 mm)		X
Roof Curb 24 in. (610 mm)		X

NOTE(S):

- Not available as factory-installed option on single-phase (208-230/1/60) models. Use field-installed accessory where available.
- Requires a field-supplied 24V transformer for each application. See price pages for details.
- FDD (Fault Detection and Diagnostic) per California Title 24-2015 section 120.2.
- Models with RTU Open DDC controllers comply with ASHRAE 90.1-2016 and California Title 24-2015 Fault Detection and Diagnostic (FDD).
- Included with economizer.
- Sensors used to optimize economizer performance.
- See application data for assistance.
- Powered convenience outlet is not available on single-phase models and size 11 models with 460 and 575 voltage.
- Non-fused disconnect switch (04-12 sizes) cannot be used when unit FLA electrical rating exceeds 80 amps (all voltages). Non-fused disconnect switch (14 size) cannot be used when unit FLA electrical rating exceeds 100 amps (all voltages). Bryant RTUBuilder automatically selects the amp limitations.

Options and accessories (cont)

Factory-Installed Options

Optional Perfect Humidity Adaptive Dehumidification System

Bryant's Perfect Humidity adaptive dehumidification system is an all-inclusive factory-installed option that can be ordered with any Preferred Series 581J*04-14 rooftop unit, with the exception of single phase voltage (208-230/1/60) units.

This system expands the envelope of operation of Bryant's Preferred Series rooftop products to provide unprecedented flexibility to meet year round comfort conditions.

The Perfect Humidity adaptive dehumidification system has a unique dual operational mode setting. The Perfect Humidity system provides greater dehumidification of the occupied space by 2 modes of dehumidification operations in addition to its normal design cooling mode.

The Preferred Series 581J*04-14 rooftop coupled with the Perfect Humidity system is capable of operating in normal design cooling mode, subcooling mode, and hot gas reheat mode. Normal design cooling mode is when the unit will operate under its normal sequence of operation by cycling compressors to maintain comfort conditions.

Subcooling mode will operate to satisfy part load type conditions when the space requires combined sensible and a higher proportion of latent load control. Hot Gas Reheat mode will operate when outdoor temperatures diminish and the need for latent capacity is required for sole humidity control. Hot Gas Reheat mode will provide neutral air for maximum dehumidification operation.

Thru-the-Base Connections

Thru-the-base connections, available as a factory option, are necessary to ensure proper connection and seal when routing wire and piping through the rooftop's basepan and curb. These couplings eliminate roof penetration and should be considered for gas lines, main power lines, as well as control power.

Hinged Access Panels

Allows access to unit's major components with specifically designed hinged access panels. Panels are filter, control box, and indoor fan motor.

Cu/Cu (Indoor) Coils

Copper fins and copper tubes are mechanically bonded to copper tubes and copper tube sheets. A polymer strip prevents coil assembly from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan.

E-coated (Outdoor and Indoor) Coils

A flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins. Coating process shall ensure complete coil encapsulation of tubes, fins and headers.

Pre-Coated Outdoor Coils

A durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments. The coating minimizes galvanic action between dissimilar metals. Coating is applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube.

Condenser Coil Hail Guard

Sleek, louvered panels protect the condenser coil from hail damage, foreign objects, and incidental contact.

Smoke Detector (Supply and/or Return Air)

Trust the experts. Smoke detectors make your application safer and your job easier. Bryant smoke detectors immediately shut down the rooftop unit when smoke is detected. They are available, installed by the factory, for supply air, return air, or both.

Unit Mounted CO₂ Sensor

Improves productivity and saves money by working with the economizer to intake only the correct amount of outside air for ventilation. As occupants fill your building, the CO₂ sensor detects their presence through increasing CO₂ levels, and opens the economizer appropriately. When the occupants leave, the CO₂ levels decrease, and the sensor appropriately closes the economizer. This intelligent control of the ventilation air, called demand controlled ventilation (DCV) reduces the overall load on the rooftop, saving money.

Stainless Steel Heat Exchanger

The stainless steel heat exchanger option provides the tubular heat exchanger be made out of a minimum 20 gauge type 409 stainless steel for applications where the mixed air to the heat exchanger is expected to drop below 45°F (7°C). Stainless steel may be specified on applications where the presence of airborne contaminants require its use (applications such as paper mills) or in area with very high outdoor humidity that may result in severe condensation in the heat exchanger during cooling operation.

Convenience Outlet (Powered or Unpowered)

Reduce service and/or installation costs by including a convenience outlet in your specification. Bryant will install this service feature at our factory. Provides a convenient, 15 amp, 115v GFCI receptacle with "Wet in Use" cover. The "powered" option allows the installer to power the outlet from the line side of the disconnect or load side as required by code. The "unpowered" option is to be powered from a separate 115/120v power source.

The unpowered convenience outlet is available as a 15 amp factory-installed option or a 20 amp field-installed accessory.

Non-Fused Disconnect

This OSHA-compliant, factory-installed, safety switch allows a service technician to locally secure power to the rooftop.

RTU Open, Multi-Protocol Controller

Connect the rooftop to an existing BAS (building automation system) without needing complicated translators or adapter modules using the RTU Open controller. The RTU Open controller speaks the 4 most common building automation system languages (BACnet, Modbus, Johnson Controls N2, and Lon-Works). Use this controller when you have an existing BAS.

Time Guard II Control Circuit

This accessory protects your compressor by preventing short-cycling in the event of some other failure, prevents the compressor from restarting for 30 seconds after stopping. Not required with RTU Open controller or authorized commercial thermostats.

Options and accessories (cont)

Condensate Overflow Switch

This sensor and related controller monitors the condensate level in the drain pan and shuts down compression operation when overflow conditions occur. It includes:

- Indicator light — solid red (more than 10 seconds on water contact — compressors disabled), blinking red (sensor disconnected)
- 10-second delay to break — eliminates nuisance trips from splashing or waves in pan (sensor needs 10 seconds of constant water contact before tripping)
- Disables the compressor(s) operation when condensate plug is detected, but still allows fans to run for economizer.

Power Exhaust with Barometric Relief

Superior internal building pressure control. This field-installed accessory may eliminate the need for costly, external pressure control fans.

Low Ambient Controller

The low ambient controller is a head pressure controller kit that is designed to maintain the unit's condenser head pressure during periods of low ambient cooling operation. This device should be used as an alternative to economizer free cooling when economizer usage is either not appropriate or desired. The low ambient controller will either cycle the outdoor fan motors or operate them at reduced speed to maintain the unit operation, depending on the model. This controller allows cooling operation down to 0°F (–18°C) ambient conditions. (Not available on size 11 models as standard unit cooling operation is down to 0°F /–18°C.)

Field-Installed Accessories

Filter Maintenance Indicator

When the optional factory-installed filter maintenance indicator is used, a factory-installed differential pressure switch measures pressure drop across the outside air filter and activates a field-supplied dry contact indicator when the pressure differential exceeds the adjustable switch set point.

Condenser Coil Hail Guard

Sleek, louvered panels protect the condenser coil from hail damage, foreign objects, and incidental contact. This can be purchased as a factory-installed option or as a field-installed accessory.

Differential Enthalpy Sensor

The differential enthalpy sensor is comprised of an outdoor and return air enthalpy sensors to provide differential.

Wall or Duct-Mounted CO₂ Sensor

The IAQ sensor shall be available in duct or wall mount. The sensor provides demand ventilation indoor air quality (IAQ) control.

Propane Conversion Kit

Convert your gas heat rooftop from standard natural gas operation to Propane using this field-installed kit.

High Altitude Conversion Kit

High altitudes have less oxygen, which affects the fuel/air mixture in heat exchangers. In order to maintain a proper fuel/air

mixture, heat exchangers operating in altitudes above 2000 ft (610 m) require different orifices. To select the correct burner orifices or determine the heat capacity for a high altitude application, use either the selection software, or the unit's service manual. High altitudes have less oxygen, which means heat exchangers need less fuel. The new gas orifices in this field-installed kit make the necessary adjustment for high altitude applications. They restore the optimal fuel to air mixture and maintain healthy combustion on altitudes above 2000 ft (610 m).

NOTE: Typical natural gas heating value ranges from 975 to 1050 Btu/ft³ at sea level nationally. The heating value goes down approximately 1.7% per every thousand feet elevation. Standard factory orifices can typically be used up to 2000 ft (610 m) elevation without any operational issues.

Flue Discharge Deflector

The flue discharge deflector is a useful accessory when flue gas recirculation is a concern. By venting the flue discharge upwards, the deflector minimizes the chance for a neighboring unit to intake the flue exhaust.

Display Kit for 2-Speed Indoor Fan Motor System with VFD

Allows the ability to access the VFD controller programs to provide special setup capabilities and diagnostics. The kit contains a display module, mounting bracket, and communication cable. The display kit can be permanently installed in the unit or used on any 2-Speed Indoor Fan Motor System VFD controller as needed.

Winter Start Kit

The winter start kit by Bryant extends the low ambient limit of your rooftop to 25°F (–4°C). The kit bypasses the low pressure switch, preventing nuisance tripping of the low pressure switch. Other low ambient precautions may still be prudent.

Motormaster® Head Pressure Controller

The Motormaster motor controller is a low ambient, head pressure controller kit that is designed to maintain the unit's condenser head pressure during periods of low ambient cooling operation. This device should be used as an alternative to economizer free cooling not when economizer usage is either not appropriate or desired. The Motormaster controller will either cycle the outdoor-fan motors or operate them at reduced speed to maintain the unit operation, depending on the model. This controller allows cooling operation down to 0°F (–18°C) ambient conditions.

Roof Curb (14 in./356 mm or 24 in./610 mm)

Full perimeter roof curb with exhaust capability provides separate air streams for energy recovery from the exhaust air without supply air contamination.

Filter Status Indicator Accessory

Monitors static pressure across supply and exhaust filters and provides indication when filters become clogged.

Motorized Exhaust Damper Accessory

Replaces the standard barometric exhaust damper blades with motorized (open/shut) damper.

Options and accessories (cont)

OPTIONS AND ACCESSORY WEIGHTS ^a

OPTION / ACCESSORY NAME	581J* UNIT WEIGHT																	
	04		05		06		07		08		09		11		12		14	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
Perfect Humidity System ^b	50	23	55	25	55	25	80	36	80	36	80	36	85	39	85	39	90	41
Power Exhaust, Vertical	50	23	50	23	50	23	75	34	75	34	75	34	75	34	75	34	85	39
Power Exhaust, Horizontal	30	14	30	14	30	14	30	14	30	14	30	14	30	14	30	14	75	34
EconoMi\$er® (X, IV or 2)	50	23	50	23	50	23	50	23	74	34	74	34	74	34	74	34	103	47
Two-Position Damper	39	18	39	18	39	18	58	26	58	26	58	26	58	26	58	26	65	29
Manual Dampers	12	5	12	5	12	5	18	8	18	8	18	8	18	8	18	8	25	11
Medium Gas Heat	12	5	9	4	9	4	15	7	15	7	15	7	18	8	18	8	18	8
High Gas Heat	—	—	17	8	17	8	29	13	29	13	29	13	35	16	35	16	42	19
Hail Guard (Louvered)	16	7	16	7	16	7	34	15	34	15	34	15	34	15	34	15	45	20
Cu/Cu Condenser Coil	35	16	35	16	35	16	95	43	95	43	95	43	170	77	170	77	190	86
Cu/Cu Cond. and Evap. Coils	60	27	60	27	90	41	140	64	140	64	195	88	270	122	270	122	280	127
Roof Curb (14 in. curb)	115	52	115	52	115	52	143	65	143	65	143	65	143	65	143	65	180	82
Roof Curb (24 in. curb)	197	89	197	89	197	89	245	111	245	111	245	111	245	111	245	111	255	116
CO ₂ Sensor	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2
Flue Discharge Deflector	7	3	7	3	7	3	7	3	7	3	7	3	7	3	7	3	—	—
Optional Indoor Motor/Drive	10	5	10	5	10	5	15	7	15	7	15	7	15	7	15	7	45	20
Motormaster® Controller	35	16	35	16	35	16	35	16	35	16	35	16	35	16	35	16	40	18
Low Ambient Controller	5	2	5	2	5	2	5	2	5	2	5	2	8	3	10	5	30	14
Return Smoke Detector	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2
Supply Smoke Detector	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2
Fan/Filter Status Switch	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1
Non-Fused Disconnect	15	7	15	7	15	7	15	7	15	7	15	7	15	7	15	7	15	7
Powered Convenience Outlet	35	16	35	16	35	16	35	16	35	16	35	16	35	16	35	16	35	16
Non-Powered Convenience Outlet	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2
Enthalpy Sensor	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1
Differential Enthalpy Sensor	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1
2-Speed Indoor Fan Motor System with VFD	—	—	—	—	—	—	20	9	20	9	20	9	20	9	20	9	20	9

NOTE(S):

a. Where multiple variations are available, the heaviest combination is listed.

b. For Perfect Humidity system and Motormaster® controller.

LEGEND

— Not Available

581J*04-06 BASE UNIT DIMENSIONS (UNITS BUILT ON AND AFTER 4/15/2019)

bryant®

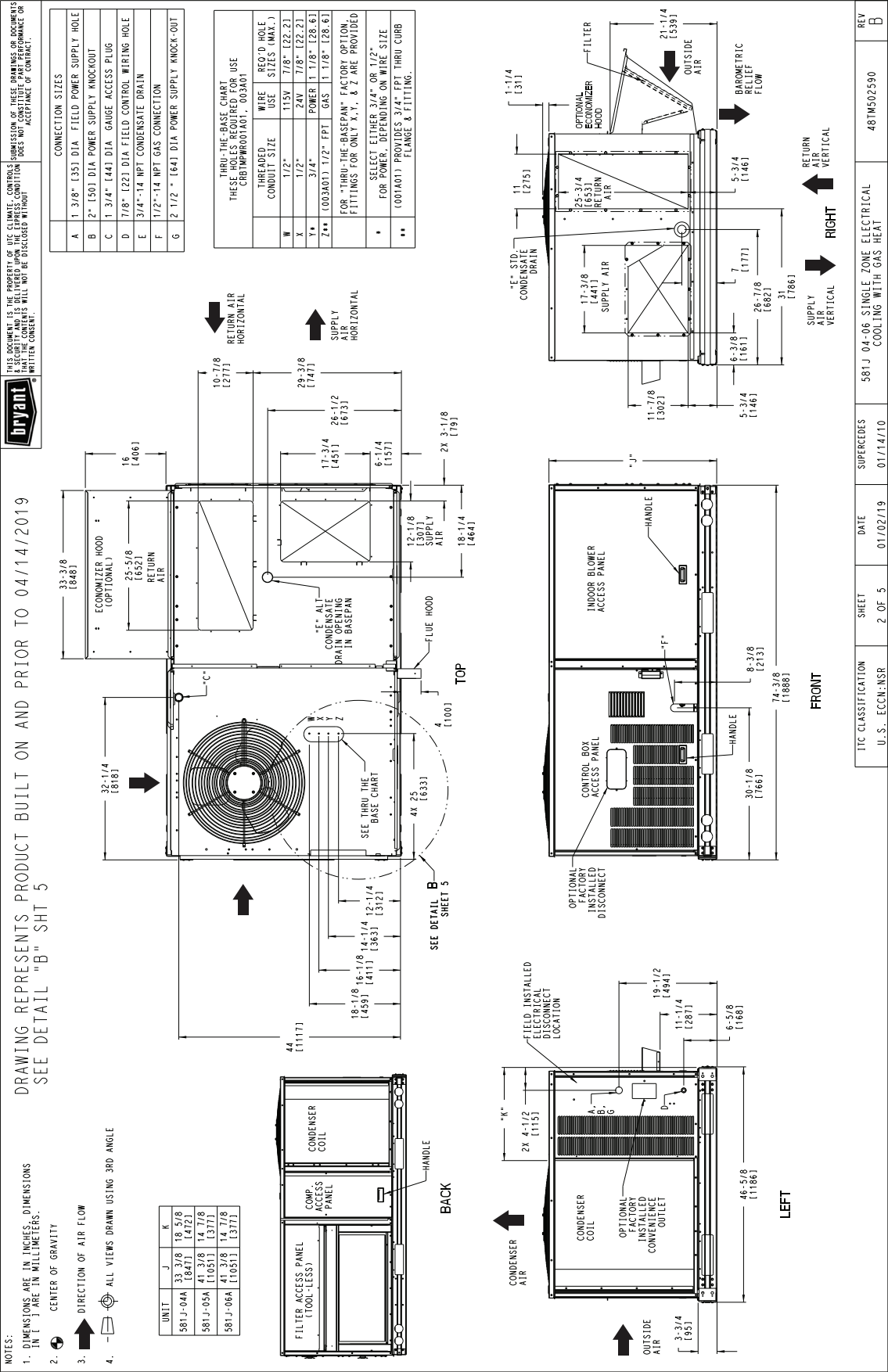
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ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	REV
II S. ECCN: NCD	1 OF 5	01/02/19	581 J 04-06 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	481W502590

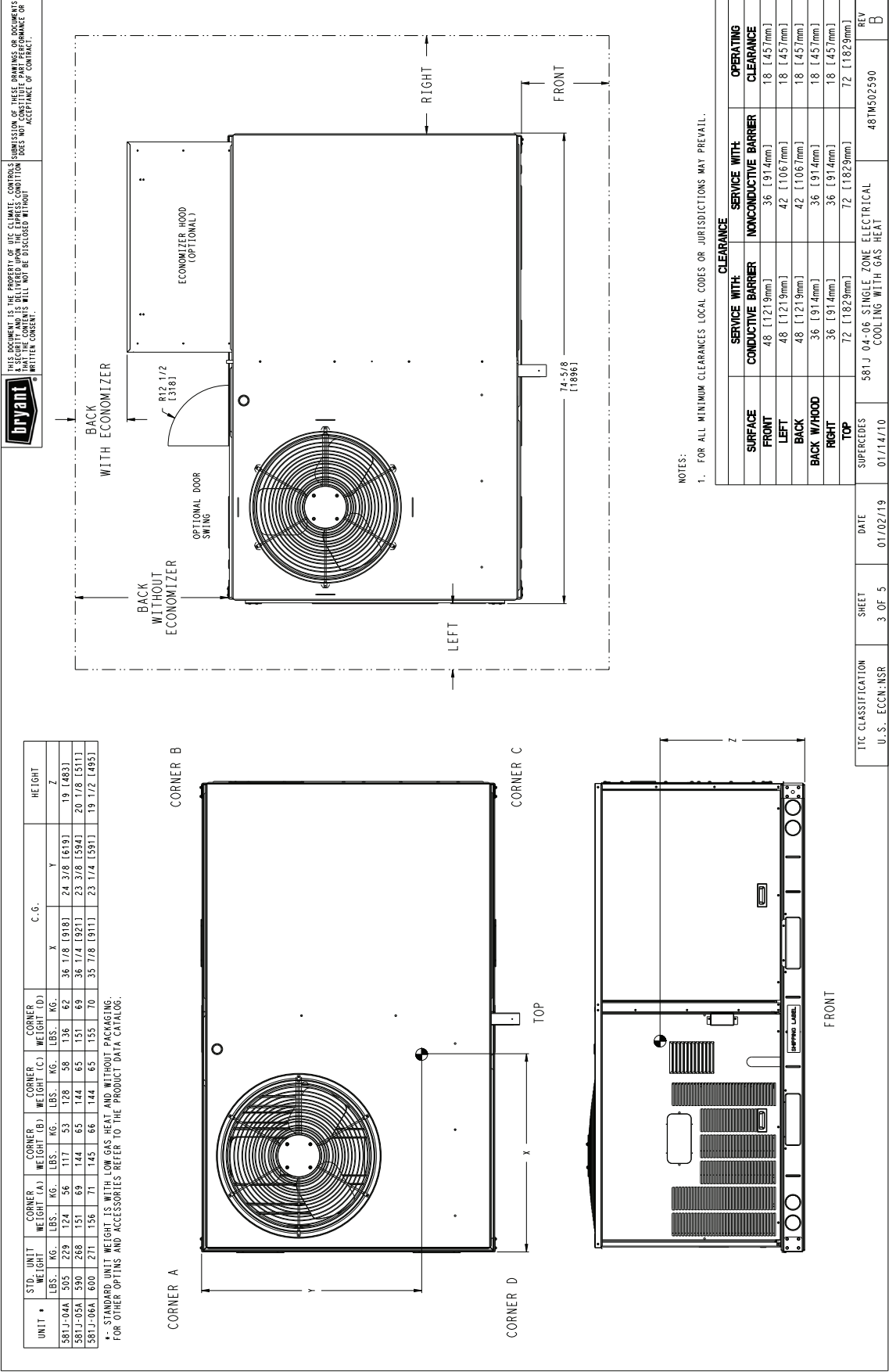
Base unit dimensions (cont)

581J*04-06 BASE UNIT DIMENSIONS (UNITS BUILT ON AND PRIOR TO 4/14/2019)



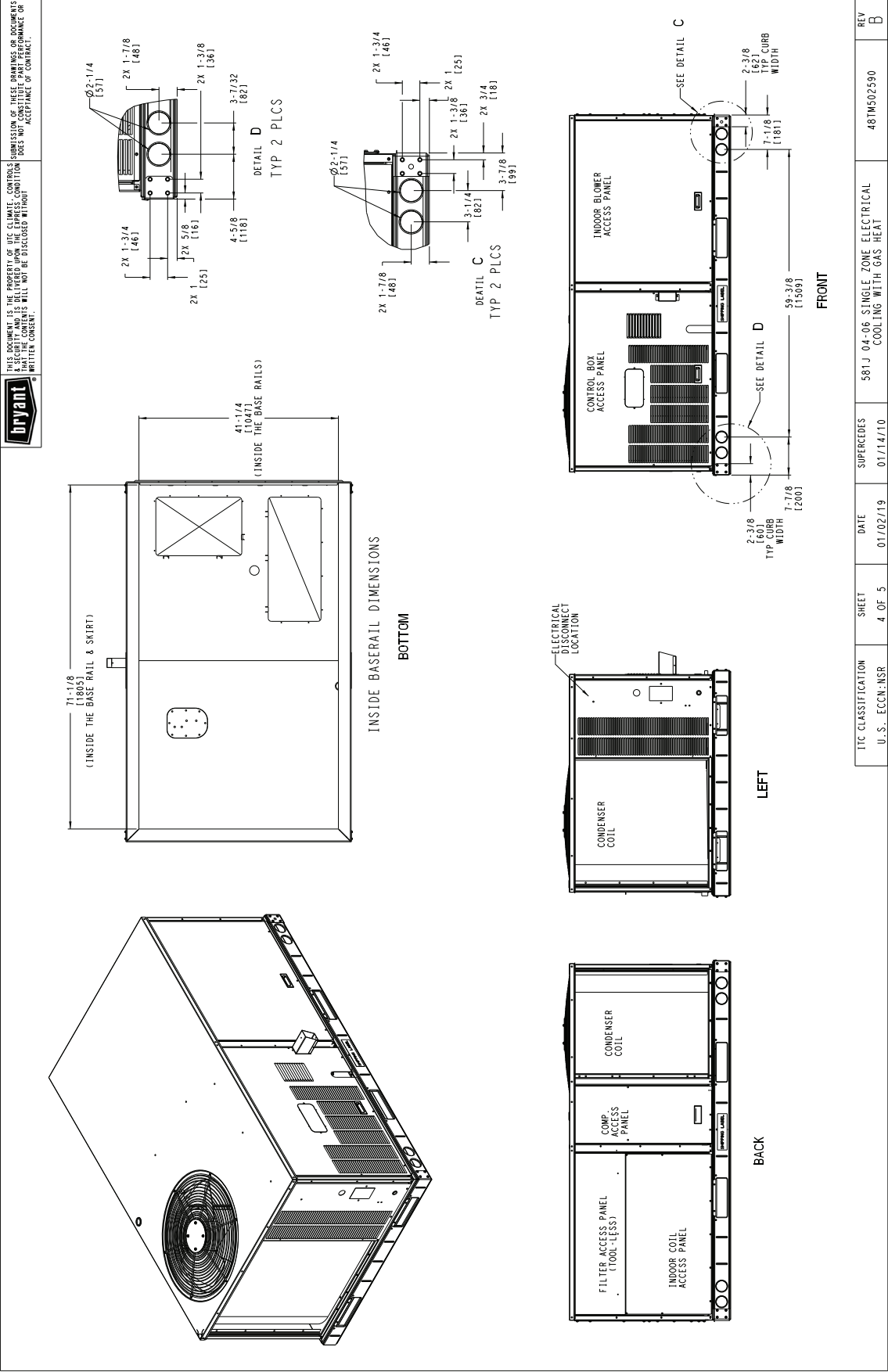
Base unit dimensions (cont)

581J*04-06 BASE UNIT CORNER WEIGHTS AND CLEARANCES



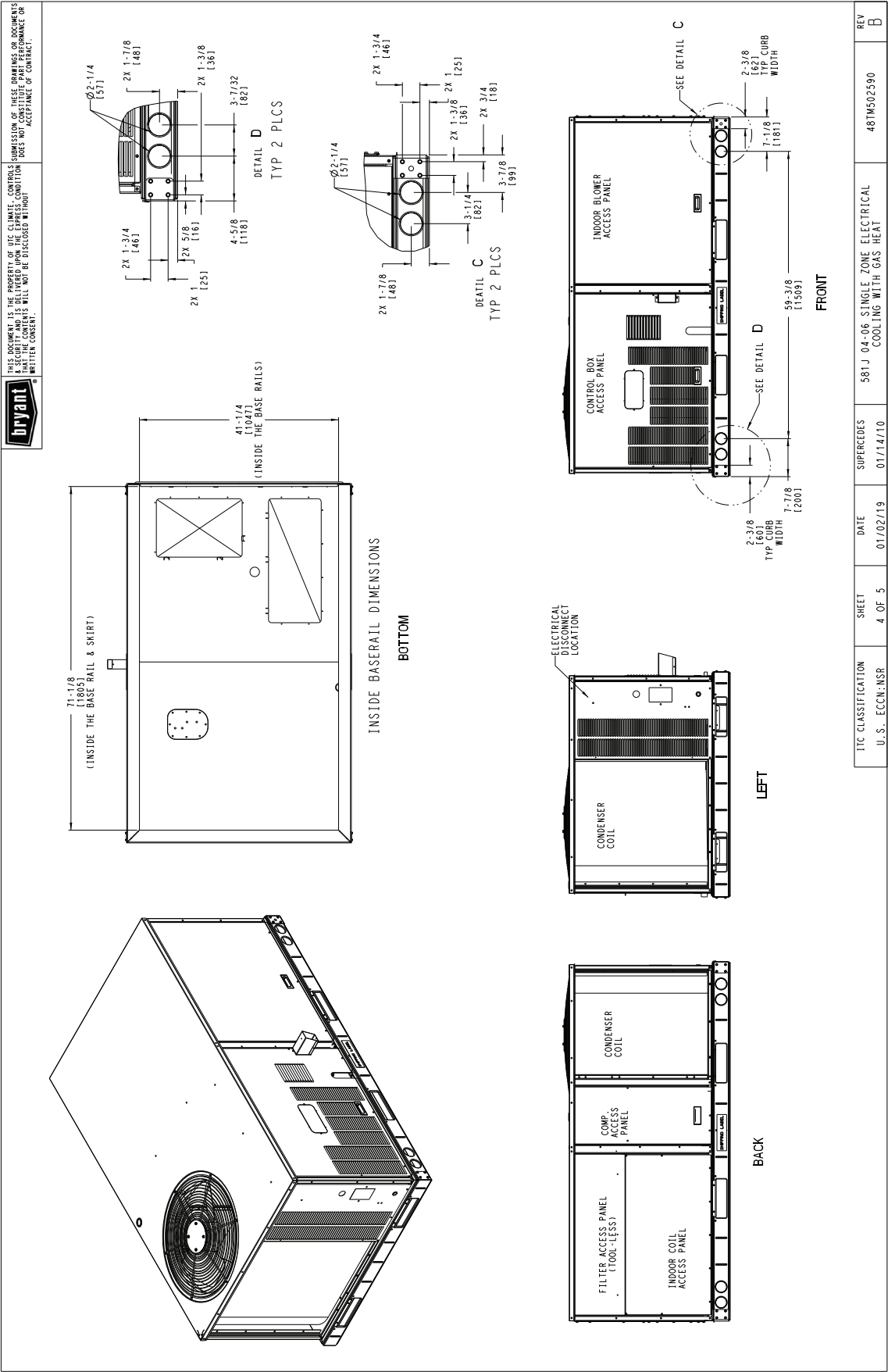
Base unit dimensions (cont)

581J*04-06 BACK VIEW AND BASERAIL DIMENSIONS



Base unit dimensions (cont)

581J*04-06 THRU-THE-BASE ELECTRICAL CONNECTIONS REQUIRED HOLE SIZE



24

[illegible]

581J*07-09 BASE UNIT DIMENSIONS (cont)

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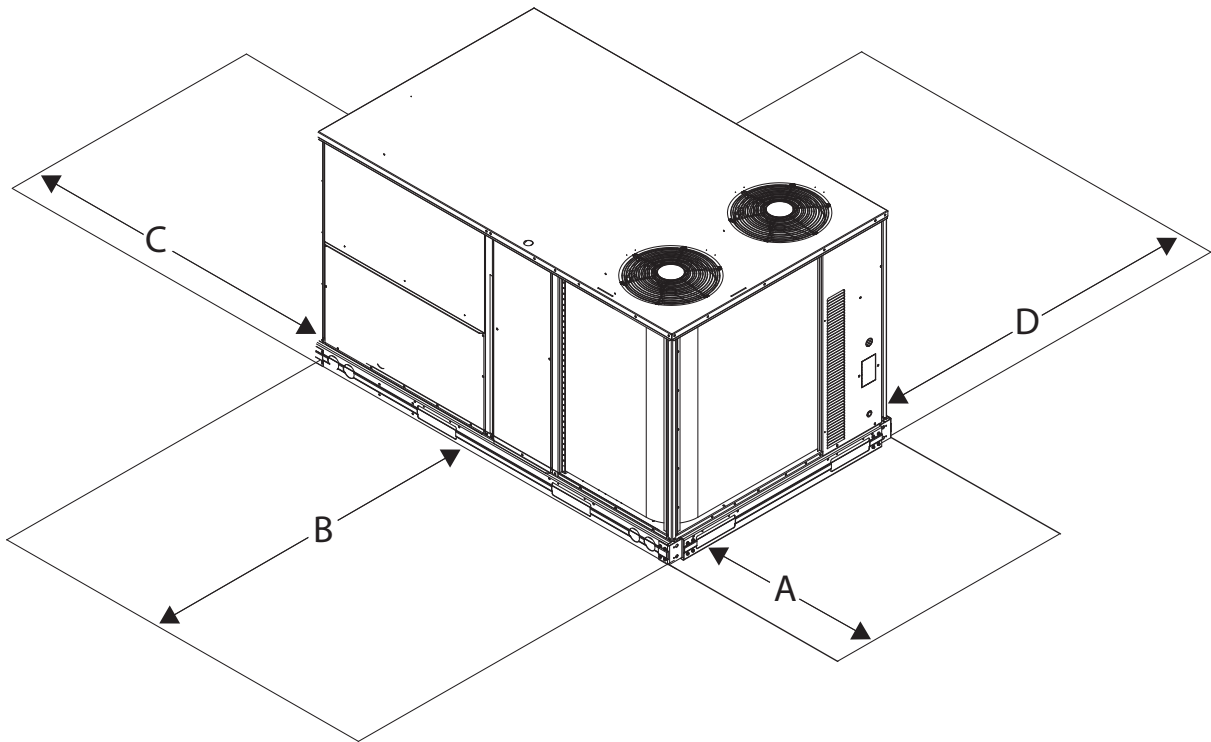
* STANDARD UNIT WEIGHT IS WITH LOW GAS HEAT AND WITHOUT PACKAGING.
FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.



ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	REV
II S EFCW-NSP	2 OF 2	10-03-16	581J 07 - 09 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	B
				48TM502710

Base unit dimensions (cont)

581J*07-09 BASE UNIT — SERVICE CLEARANCES

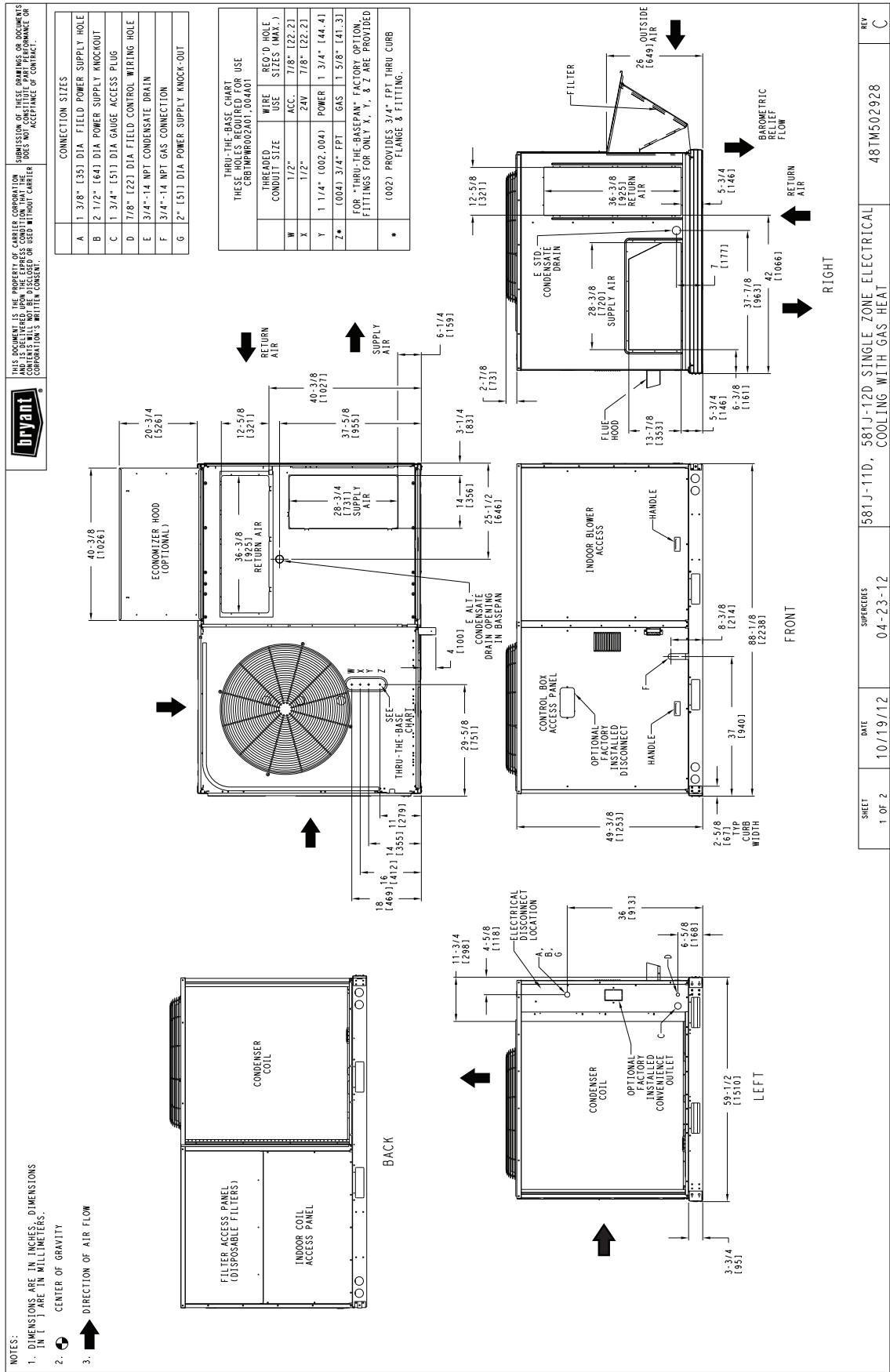


LOCATION	DIMENSION in. (mm)	CONDITION
A	48 (1219) 18 (457) 18 (457) 12 (305)	Unit disconnect is mounted on panel. No disconnect, convenience outlet option. Recommended service clearance. Minimum clearance.
B	42 (1067) 36 (914) Special	Surface behind servicer is grounded (e.g., metal, masonry wall). Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass). Check for sources of flue products within 10 ft (3 m) of unit fresh air intake hood.
C	36 (914) 18 (457)	Side condensate drain is used. Minimum clearance.
D	48 (1219) 42 (1067) 36 (914) Special	No flue discharge accessory installed, surface is combustible material. Surface behind servicer is grounded (e.g., metal, masonry wall, another unit). Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass). Check for adjacent units or building fresh air intakes within 10 ft (3 m) of this unit's flue outlet.

NOTE: Unit is not designed to have overhead obstruction. Contact Application Engineering for guidance on any application planning overhead obstruction or for vertical clearances.

Base unit dimensions (cont)

581J*11-12 BASE UNIT DIMENSIONS



Base unit dimensions (cont)

581J*11-12 BASE UNIT DIMENSIONS (cont)

UNIT

STD. UNIT WEIGHT

581J-120 1090

581J-110 1090

CORNER WEIGHT (A)

LBS. KG.

311 142

311 142

CORNER WEIGHT (B)

LBS. KG.

162 74

162 74

CORNER WEIGHT (C)

LBS. KG.

211 96

211 96

CORNER WEIGHT (D)

LBS. KG.

405 184

405 184

C.G.

X

30 1/8 [766]

Y

33 5/8 [855]

Z

20 3/4 [528]

581J-120 1090

581J-110 1090

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* STANDARD UNIT WEIGHT IS WITH LOW GAS HEAT AND WITHOUT PACKAGING. FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.

CORNER A

CORNER B

CORNER C

CORNER D

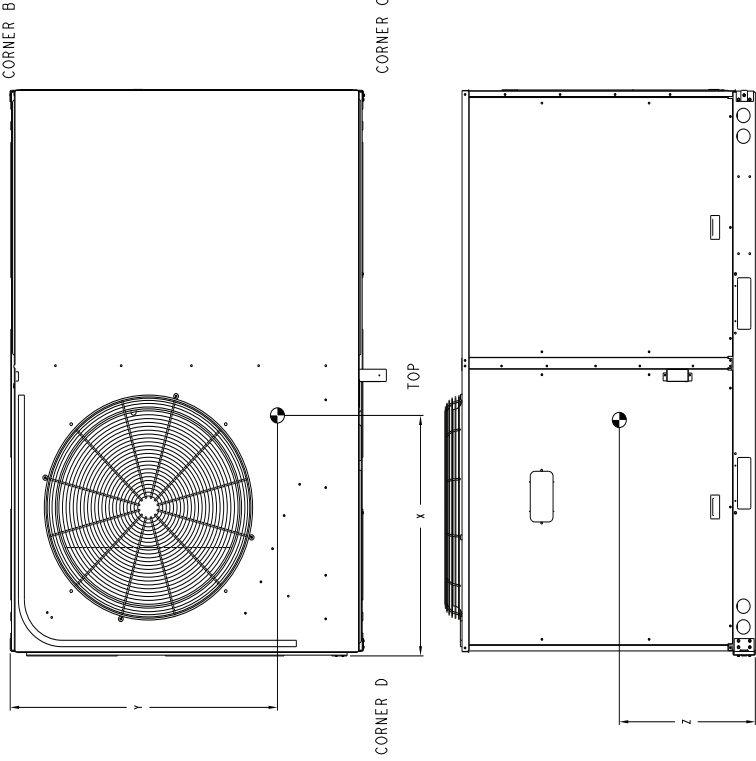
Y

X

TOP

Z

FRONT



SHEET

2 OF 2

DATE

10/19/12

SUPPLEMENTS

04-23-12

581J-11D, 581J-12D SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT

48TW502928

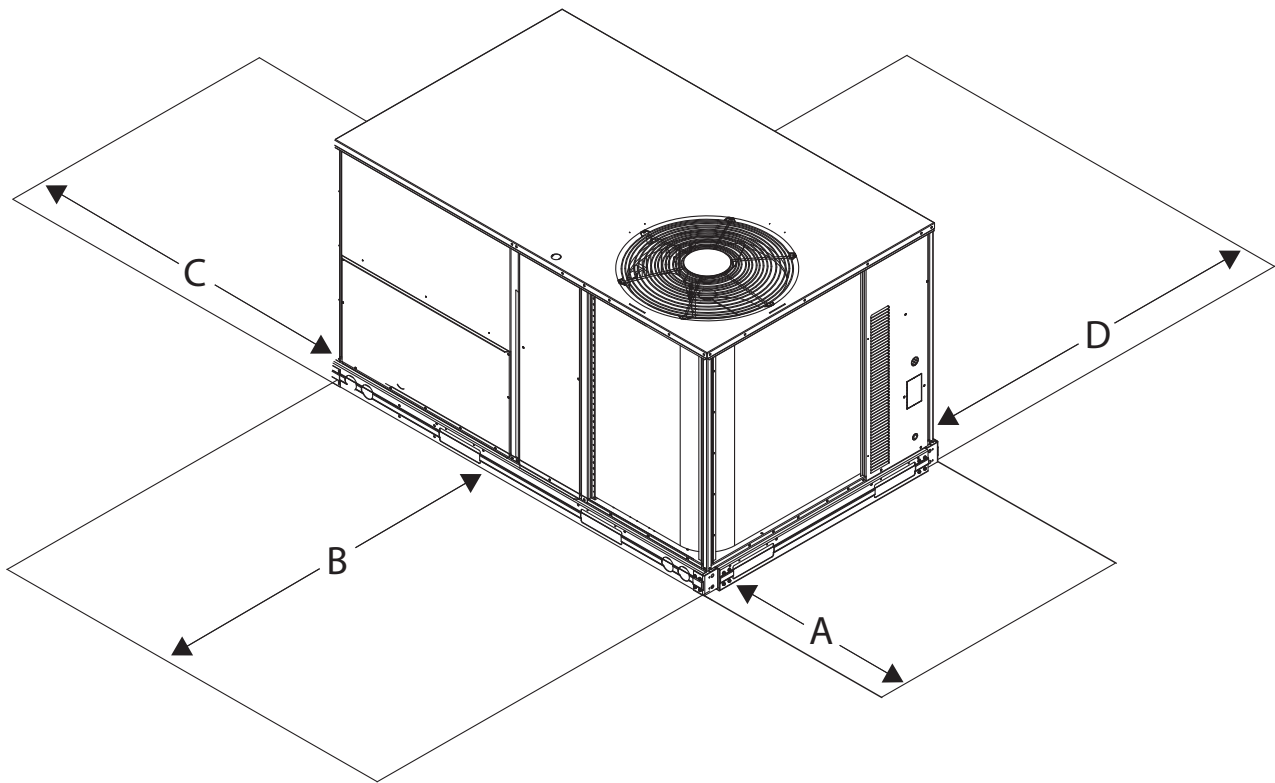
REV

C

28

Base unit dimensions (cont)

581J*11-12 BASE UNIT SERVICE CLEARANCES



LOCATION	DIMENSION in. (mm)	CONDITION
A	48 (1219) 18 (457) 18 (457) 12 (305)	Unit disconnect is mounted on panel. No disconnect, convenience outlet option. Recommended service clearance. Minimum clearance.
B	42 (1067) 36 (914) Special	Surface behind servicer is grounded (e.g., metal, masonry wall). Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass). Check for sources of flue products within 10 ft (3 m) of unit fresh air intake hood.
C	36 (914) 18 (457)	Side condensate drain is used. Minimum clearance.
D	48 (1219) 42 (1067) 36 (914) Special	No flue discharge accessory installed, surface is combustible material. Surface behind servicer is grounded (e.g., metal, masonry wall, another unit). Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass). Check for adjacent units or building fresh air intakes within 10 ft (3 m) of this unit's flue outlet.

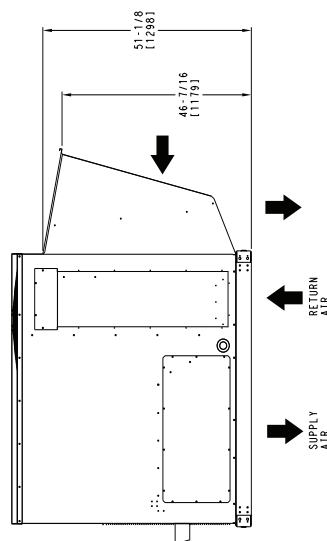
NOTE: Unit is not designed to have overhead obstruction. Contact Application Engineering for guidance on any application planning overhead obstruction or for vertical clearances.

581J*14 BASE UNIT DIMENSIONS



581J*14 BASE UNIT DIMENSIONS (cont)

STANDARD UNIT WEIGHT IS WITH LOW HEAT & WITHOUT PACKAGING.
FOR OPTIONS & ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.

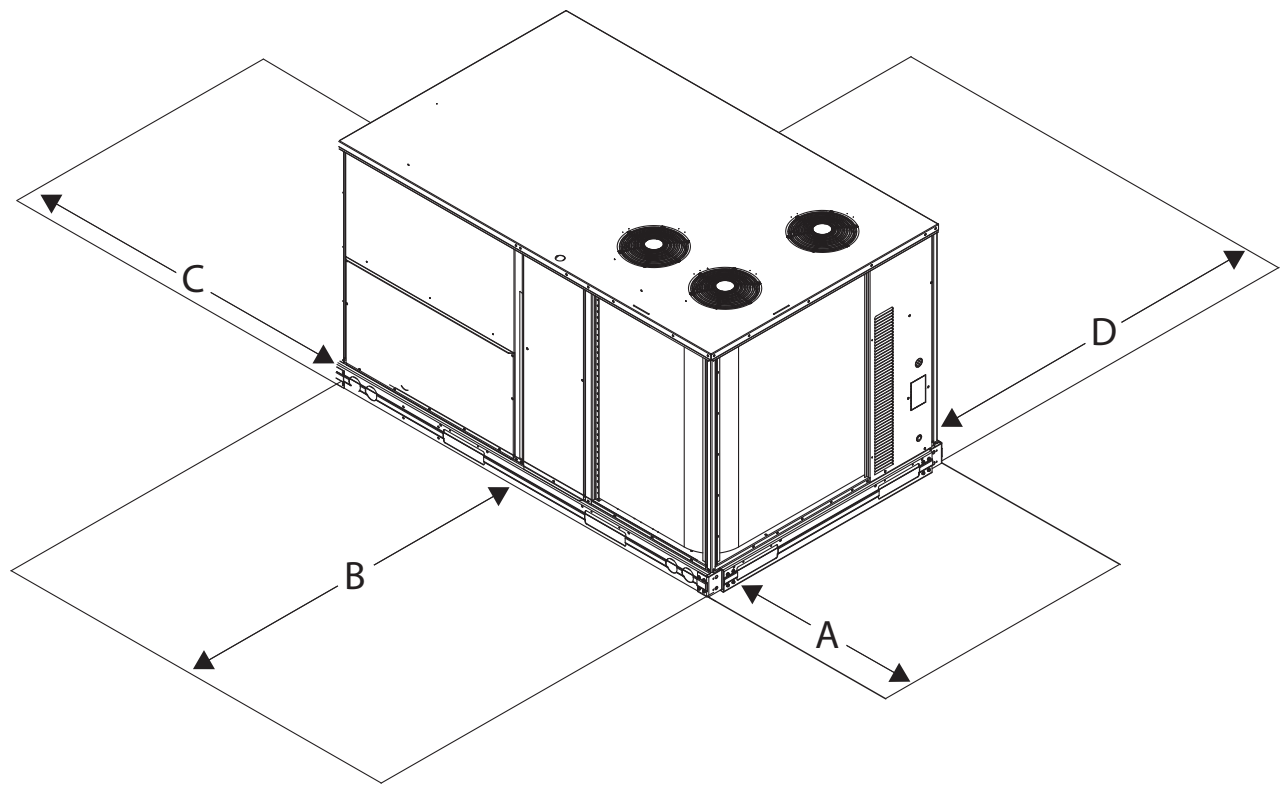


HORIZONTAL ECONOMIZER

DATE	SUPERCEDES	REV
06/15/11	-	C

Base unit dimensions (cont)

581J*14 BASE UNIT SERVICE CLEARANCES



LOCATION	DIMENSION in. (mm)	CONDITION
A	48 (1219)	Unit disconnect is mounted on panel
	18 (457)	No disconnect, convenience outlet option
	18 (457)	Recommended service clearance
	12 (305)	Minimum clearance
B	42 (1067)	Surface behind servicer is grounded (e.g., metal, masonry wall).
	36 (914)	Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass).
	Special	Check for sources of flue products within 10 ft (3 m) of unit fresh air intake hood.
C	36 (914)	Side condensate drain is used.
	18 (457)	Minimum clearance.
D	48 (1219)	No flue discharge accessory installed, surface is combustible material.
	42 (1067)	Surface behind servicer is grounded (e.g., metal, masonry wall, another unit).
	36 (914)	Surface behind servicer is electrically non-conductive (e.g., wood, fiberglass).
	Special	Check for adjacent units or building fresh air intakes within 10 ft (3 m) of this unit's flue outlet.

NOTE: Unit is not designed to have overhead obstruction. Contact Application Engineering for guidance on any application planning overhead obstruction or for vertical clearances.

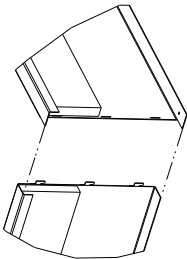
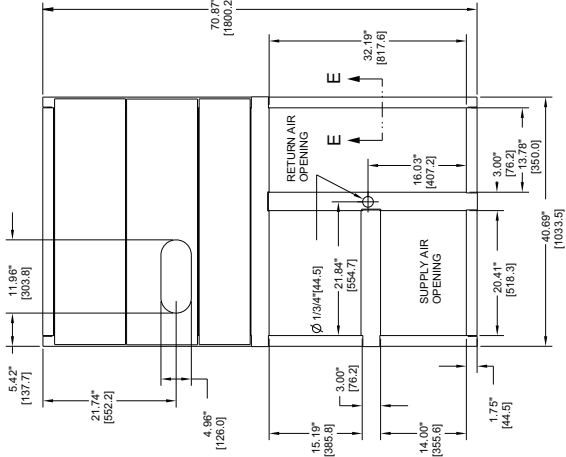
Accessory dimensions

ROOF CURB DIMENSIONS — SIZE 581J*04-06

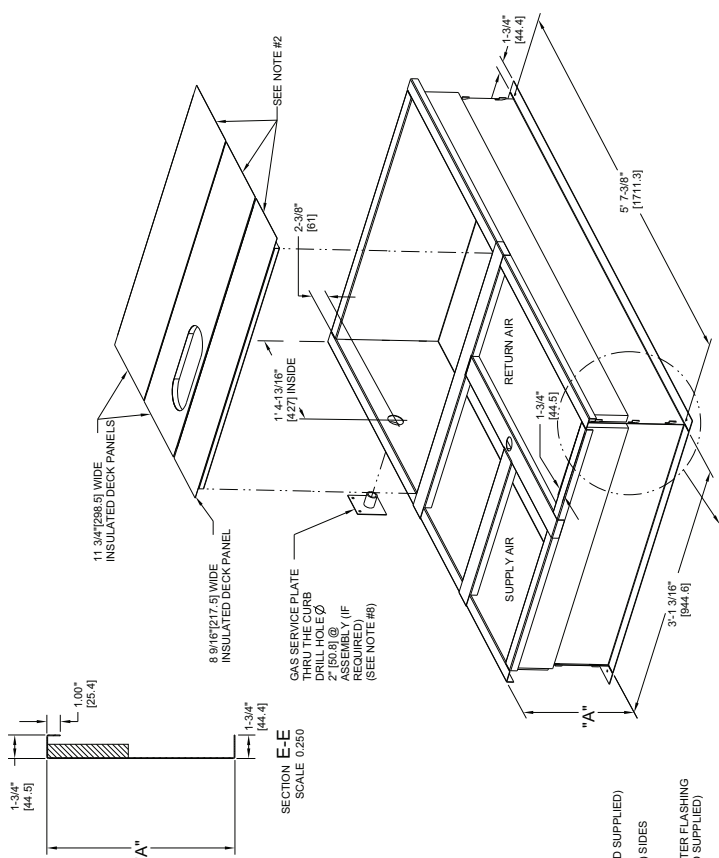
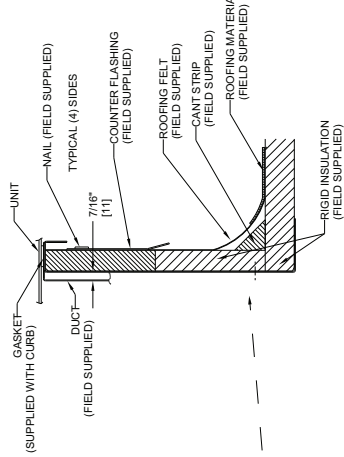
ROOF CURB ACCESSORY #	A
CRRCURB001A01	14" [356]
CRRCURB002A01	24" [610]

- NOTES:
1. ROOF CURB ACCESSORY IS SHIPPED DISASSEMBLED.
 2. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
 3. DIMENSIONS IN [] ARE IN MILLIMETERS.
 4. ROOF CURB: 18 GAGE STEEL.
 5. ATTACH DUCTWORK TO CURB: (FLANGES OF DUCT REST ON CURB).
 6. SERVICE CLEARANCE 4 FEET ON EACH SIDE.
 7. CONNECTOR PACKAGE CRBTMPWR003A01 IS FOR THRU-THE-CURB GAS TYPE PACKAGE CRBTMPWR003A01 IS FOR THRU-THE-BOTTOM TYPE GAS CONNECTIONS.

CONNECTOR PKG. ACC.	GAS CONNECTION TYPE	GAS FITTING	POWER WIRING FITTING	CONTROL WIRING FITTING	ACCESSORY CONVENIENCE OUTLET WIRING CONNECTOR
CRBTMPWR001A01	THRU THE CURB	3/4" [19] NPT	3/4" [19] NPT	1/2" [12.7] NPT	1/2" [12.7] NPT
CRBTMPWR003A01	THRU THE BOTTOM	1/2" [12.7] NPT			



VIEW "B" CORNER DETAIL



CERTIFIED DRAWING

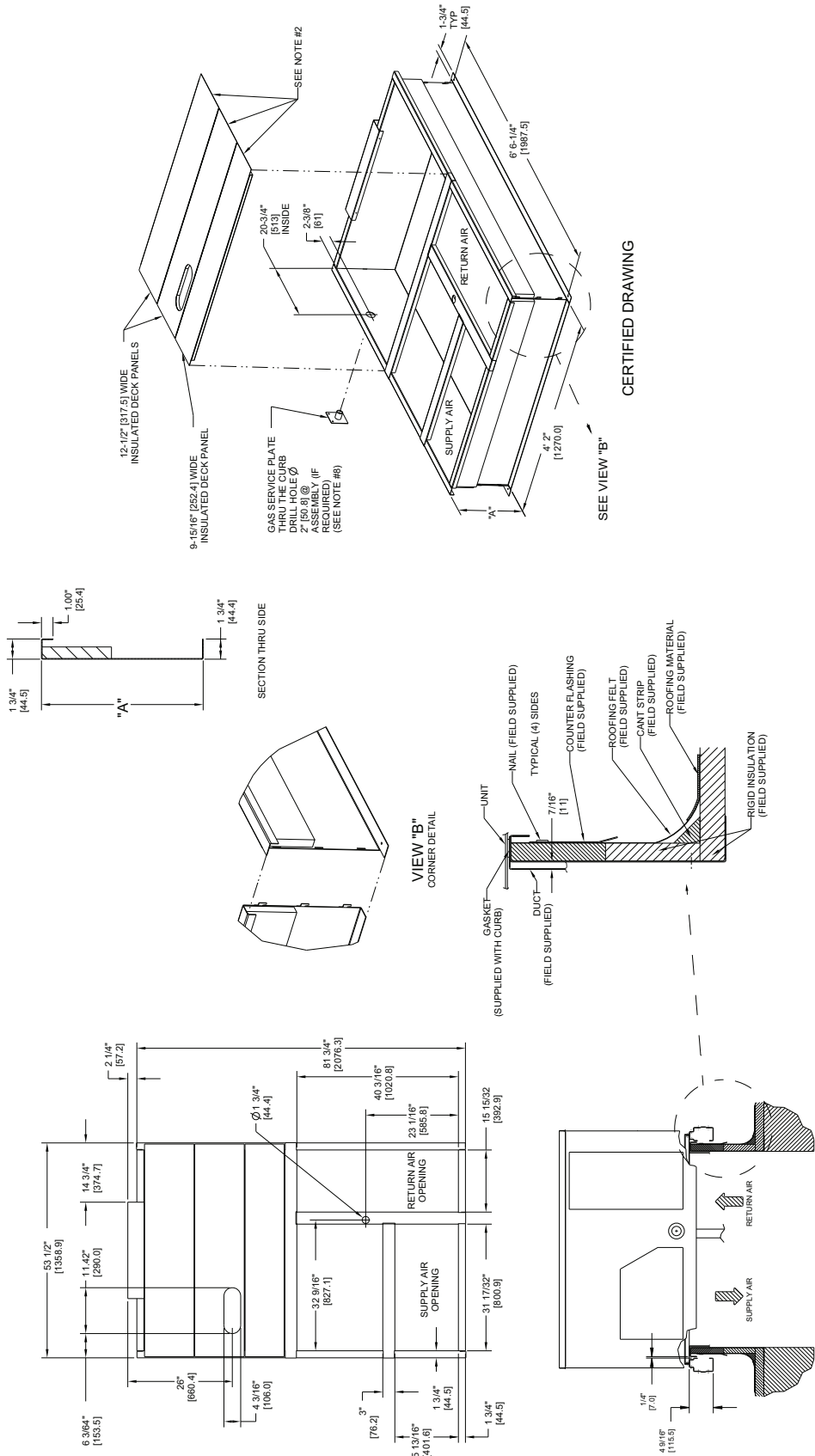
Accessory dimensions (cont)

ROOF CURB DIMENSIONS — SIZE 581J*07-12

ROOF CURB ACCESSORY #	A
CRRFCURB003A01	14" [356]
CRRFCURB004A01	24" [610]

- NOTES:
1. ROOF CURB ACCESSORY IS SHIPPED DISASSEMBLED.
 2. DIMENSIONS ARE IN INCHES AND MILLIMETERS. UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.
 3. DIMENSIONS IN [] ARE IN MILLIMETERS.
 4. ROOF CURB: 18 GAGE STEEL.
 5. ATTACH DUCTWORK TO CURB: (FLANGES OF DUCT REST ON CURB).
 6. SERVICE CLEARANCE: 4 FEET ON EACH SIDE.
 7. DIMENSIONS ARE FOR THE PACKAGE.
 8. CONNECTOR PACKAGE: CRRTMPWR002A01 IS FOR THRU-THE-CURB GAS TYPE PACKAGE. CRRTMPWR004A01 IS FOR THRU-THE-BOTTOM TYPE GAS CONNECTIONS.

CONNECTOR PKG. ACC.	GAS CONNECTION TYPE	GAS FITTING	POWER WIRING FITTING	CONTROL WIRING FITTING	ACCESSORY CONVENIENCE OUTLET WIRING CONNECTOR
CRRTMPWR002A01	THRU THE CURB	3/4" [1.9] NPT	1 1/4" [31.7] NPT	1/2" [12.7] NPT	1/2" [12.7] NPT
CRRTMPWR004A01	THRU THE BOTTOM				

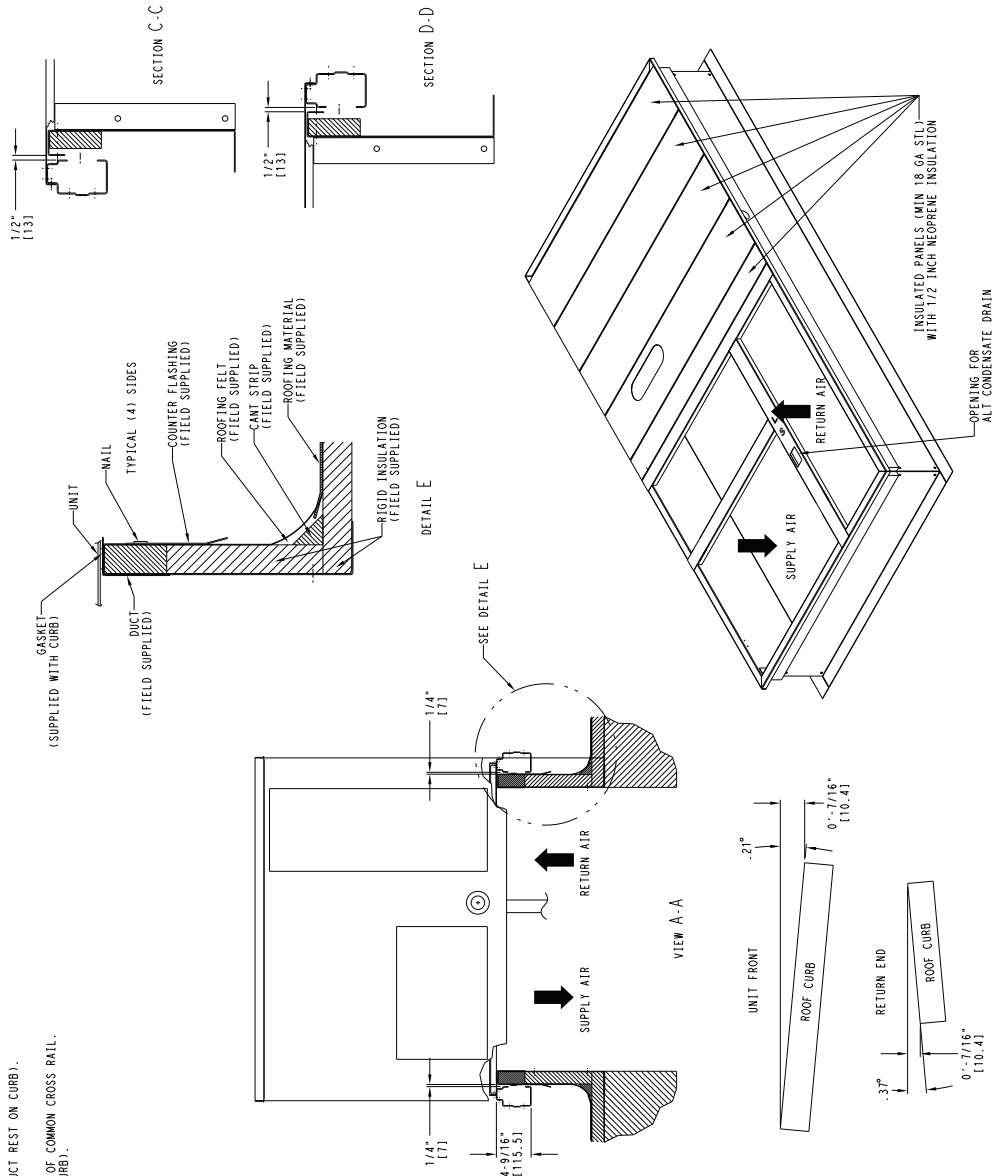
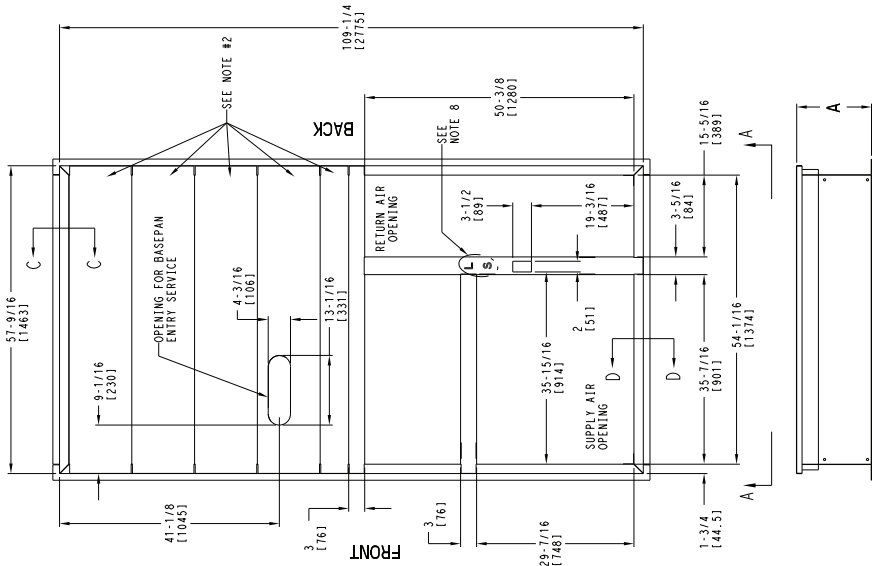


Accessory dimensions (cont)

ROOF CURB DIMENSIONS — SIZE 581J*14

- NOTES:
1. ROOFCURB ACCESSORY IS SHIPPED DISASSEMBLED.
 2. INSULATED PANELS: 1/2" THK. NEOPRENE FOAM, 1.0# DENSITY.
 3. INSULATED PANELS: 1/2" THK. NEOPRENE FOAM, 1.0# DENSITY.
 4. ROOFCURB SIDING: 1/2" THK. NEOPRENE FOAM, 1.0# DENSITY.
 5. ATTACH DUCTWORK TO CURB. (FLANGES OF DUCT REST ON CURB).
 6. SERVICE CLEARANCE 4 FT ON EACH SIDE.
 7. "A" = DIRECTION OF AIR FLOW.
 8. "B" = DIRECTION OF AIR FLOW.
 9. "C" = DIRECTION OF AIR FLOW.
 10. "D" = DIRECTION OF AIR FLOW.
 11. "E" = DIRECTION OF AIR FLOW.
 12. "F" = DIRECTION OF AIR FLOW.
 13. "G" = DIRECTION OF AIR FLOW.
 14. "H" = DIRECTION OF AIR FLOW.
 15. "I" = DIRECTION OF AIR FLOW.
 16. "J" = DIRECTION OF AIR FLOW.
 17. "K" = DIRECTION OF AIR FLOW.
 18. "L" = DIRECTION OF AIR FLOW.
 19. "M" = DIRECTION OF AIR FLOW.
 20. "N" = DIRECTION OF AIR FLOW.
 21. "O" = DIRECTION OF AIR FLOW.
 22. "P" = DIRECTION OF AIR FLOW.
 23. "Q" = DIRECTION OF AIR FLOW.
 24. "R" = DIRECTION OF AIR FLOW.
 25. "S" = DIRECTION OF AIR FLOW.
 26. "T" = DIRECTION OF AIR FLOW.
 27. "U" = DIRECTION OF AIR FLOW.
 28. "V" = DIRECTION OF AIR FLOW.
 29. "W" = DIRECTION OF AIR FLOW.
 30. "X" = DIRECTION OF AIR FLOW.
 31. "Y" = DIRECTION OF AIR FLOW.
 32. "Z" = DIRECTION OF AIR FLOW.

ROOF CURB ACCESSORY #	A
CRRCURB074A00	14" [356]
CRRCURB075A00	24" [610]



Selection procedure

Base Unit Selection Procedure (With 581J*07A Example)

NOTE: Selection software by Bryant saves time by performing many of the steps below. Contact your Bryant sales representative for assistance.

1. Determine Heating and Cooling Loads

GIVEN:

Mixed air dry bulb	80°F (27°C)
Mixed air wet bulb	67°F (19°C)
Ambient dry bulb	95°F (35°C)
TC _{LOAD} (Total Capacity Load)	72.0 MBH
SHC _{LOAD} (Sensible Heat Capacity Load)	54.0 MBH
Vertical air supply	2100 cfm
Heating load	85.0 MBH
External static pressure	0.67 in. wg
Electrical characteristics	230-3-60

2. Make an Initial Guess at Cooling Tons:

Refrigerant tons =
Total Capacity Load / 12 MBH per ton
EXAMPLE: Refrigerant tons = 72 / 12 = 6 tons

3. Look Up the RTU (Rooftop Unit) TC and SHC:

Page 43 shows that at the application's supply air cfm, mixed air and ambient temperatures, the 581J*07A supplies:
TC = 73.6 MBH ^a
SHC = 53.3 MBH ^a

4. Calculate the Building Latent Heat Load

LC LOAD = TC LOAD – SHC LOAD
EXAMPLE: 72.0 MBH – 54 MBH = 18 MBH

5. Calculate RTU Latent Heat Capacity

LC = TC – SHC
LC = 73.6 MBH – 53.3 MBH = 20.3 MBH

6. Compare RTU Capacities to Loads ^b

Compare the rooftop's SHC and LC to the building's sensible and latent heat loads.

7. Select Factory-Installed Options (FIOP)

Local code requires an economizer for any unit with TC greater than 65.0 MBH.

8. Calculate the Total Static Pressure

External static pressure,	0.67 in. wg
Sum of FIOP / Accessory static,	<u>+0.13 in. wg</u>
Total Static Pressure,	0.80 in. wg

9. Look Up the Indoor Fan rpm and bhp (Breaker Horsepower)

Page 72 shows size 07 3-phase vertical fan performance, at 2100 cfm and ESP= 0.8,
Rpm = 712 and bhp = 1.17

10. Convert bhp into Fan Motor Heat

Fan motor heat = 2.546 ^a bhp/Motor Eff. ^c
Fan motor heat = 3.7 MBH

11. Calculate RTU Heating Capacity

Building heating load,	85.0 MBH
Fan motor heat,	<u>-3.7 MBH</u>
Required heating capacity,	81.3 MBH

12. Select a Gas Heater

The heat ratings table on page 8 shows the heating capacities of the 581J*07A. The 581J*07A = 103.0 MBH. Select the 581J*07A.

13. Determine Electrical Requirements

MCA (Minimum Circuit Amps)/MOCP (Maximum Overcurrent Protection) tables show the MCA and Breaker Size of a 581J*07A (without convenience outlet) as:
MCA = 32.0 amps and MOCP = 50.0 amps
Min. disconnect size: FLA (Full Load Amps) = 31.0 and LRA (Lock Rotor Amp) = 148.

NOTE(S):

- Unit ratings are gross capacities and do not include the effect of evaporator fan motor heat. See Step 11 for determining amount of evaporator fan motor heat to subtract from total and sensible capacities to obtain net cooling and net sensible capacities.
- Selecting a unit with an SHC slightly lower than the SHC LOAD is often better than oversizing. Slightly lower SHC's will help control indoor humidity and prevent temperature swings.
- Indoor fan motor efficiency available in Electrical Information Tables. Use the decimal form in the equation, e.g. 80% = .8.

Performance data

581J*04A — 3 TON — SINGLE STAGE COOLING CAPACITIES ^a

581J*04A				AMBIENT TEMPERATURE (°F)														
				85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
900 cfm	EAT (wb)	58	TC	32.1	32.1	36.3	30.8	30.8	34.9	29.4	29.4	33.4	28.0	28.0	31.7	26.3	26.3	29.8
			SHC	27.8	32.1	36.3	26.7	30.8	34.9	25.5	29.4	33.4	24.2	28.0	31.7	22.8	26.3	29.8
		62	TC	34.0	34.0	34.3	32.3	32.3	33.5	30.6	30.6	32.6	28.7	28.7	31.7	26.6	26.6	30.6
			SHC	25.0	29.7	34.3	24.2	28.9	33.5	23.4	28.0	32.6	22.5	27.1	31.7	21.5	26.0	30.6
		67	TC	37.3	37.3	37.3	35.5	35.5	35.5	33.6	33.6	33.6	31.5	31.5	31.5	29.2	29.2	29.2
			SHC	20.7	25.4	30.0	20.0	24.6	29.3	19.2	23.8	28.4	18.3	22.9	27.6	17.4	22.0	26.6
		72	TC	40.8	40.8	40.8	38.9	38.9	38.9	36.9	36.9	36.9	34.6	34.6	34.6	32.2	32.2	32.2
			SHC	16.3	21.0	25.7	15.6	20.3	25.0	14.8	19.5	24.1	13.9	18.6	23.3	13.0	17.7	22.3
		76	TC	—	43.9	43.9	—	41.8	41.8	—	39.6	39.6	—	37.2	37.2	—	34.6	34.6
			SHC	—	17.4	22.4	—	16.7	21.7	—	15.9	20.8	—	15.1	19.9	—	14.2	19.0
1050 cfm	EAT (wb)	58	TC	33.8	33.8	38.4	32.5	32.5	36.8	31.0	31.0	35.1	29.4	29.4	33.3	27.6	27.6	31.3
			SHC	29.3	33.8	38.4	28.1	32.5	36.8	26.9	31.0	35.1	25.5	29.4	33.3	23.9	27.6	31.3
		62	TC	35.1	35.1	37.5	33.3	33.3	36.6	31.5	31.5	35.7	29.6	29.6	34.5	27.7	27.7	32.6
			SHC	26.9	32.2	37.5	26.0	31.3	36.6	25.1	30.4	35.7	24.1	29.3	34.5	22.7	27.7	32.6
		67	TC	38.4	38.4	38.4	36.5	36.5	36.5	34.5	34.5	34.5	32.3	32.3	32.3	29.9	29.9	29.9
			SHC	22.0	27.3	32.7	21.2	26.5	31.9	20.3	25.7	31.0	19.4	24.8	30.1	18.5	23.8	29.1
		72	TC	42.0	42.0	42.0	40.0	40.0	40.0	37.8	37.8	37.8	35.5	35.5	35.5	32.9	32.9	32.9
			SHC	16.9	22.3	27.6	16.1	21.5	26.9	15.3	20.7	26.0	14.4	19.8	25.1	13.5	18.8	24.2
		76	TC	—	45.0	45.0	—	42.9	42.9	—	40.6	40.6	—	38.0	38.0	—	35.3	35.3
			SHC	—	18.1	23.8	—	17.4	23.0	—	16.6	22.2	—	15.7	21.3	—	14.8	20.3
1200 cfm	EAT (wb)	58	TC	35.3	35.3	40.0	33.9	33.9	38.4	32.3	32.3	36.6	30.6	30.6	34.7	28.7	28.7	32.5
			SHC	30.6	35.3	40.0	29.4	33.9	38.4	28.0	32.3	36.6	26.5	30.6	34.7	24.9	28.7	32.5
		62	TC	35.9	35.9	40.5	34.2	34.2	39.4	32.4	32.4	38.1	30.6	30.6	36.1	28.7	28.7	33.9
			SHC	28.6	34.5	40.5	27.7	33.6	39.4	26.6	32.4	38.1	25.2	30.6	36.1	23.6	28.7	33.9
		67	TC	39.3	39.3	39.3	37.3	37.3	37.3	35.2	35.2	35.2	32.9	32.9	32.9	30.5	30.5	31.6
			SHC	23.1	29.1	35.2	22.3	28.3	34.4	21.4	27.5	33.5	20.5	26.6	32.6	19.5	25.6	31.6
		72	TC	42.9	42.9	42.9	40.8	40.8	40.8	38.5	38.5	38.5	36.1	36.1	36.1	33.4	33.4	33.4
			SHC	17.3	23.4	29.5	16.6	22.6	28.7	15.7	21.8	27.9	14.8	20.9	27.0	13.9	19.9	26.0
		76	TC	—	45.9	45.9	—	43.7	43.7	—	41.3	41.3	—	38.7	38.7	—	35.9	35.9
			SHC	—	18.8	25.1	—	18.0	24.3	—	17.2	23.4	—	16.3	22.5	—	15.4	21.5
1350 cfm	EAT (wb)	58	TC	36.6	36.6	41.5	35.1	35.1	39.7	33.4	33.4	37.9	31.6	31.6	35.8	29.6	29.6	33.6
			SHC	31.7	36.6	41.5	30.4	35.1	39.7	28.9	33.4	37.9	27.4	31.6	35.8	25.7	29.6	33.6
		62	TC	36.7	36.7	43.2	35.1	35.1	41.3	33.4	33.4	39.4	31.6	31.6	37.3	29.6	29.6	34.9
			SHC	30.2	36.7	43.2	28.8	35.1	41.3	27.5	33.4	39.4	26.0	31.6	37.3	24.4	29.6	34.9
		67	TC	39.9	39.9	39.9	37.9	37.9	37.9	35.8	35.8	35.9	33.4	33.4	34.9	30.9	30.9	33.9
			SHC	24.2	30.9	37.6	23.4	30.1	36.8	22.5	29.2	35.9	21.6	28.3	34.9	20.6	27.2	33.9
		72	TC	43.6	43.6	43.6	41.4	41.4	41.4	39.1	39.1	39.1	36.6	36.6	36.6	33.9	33.9	33.9
			SHC	17.8	24.5	31.3	17.0	23.7	30.5	16.1	22.9	29.6	15.2	22.0	28.7	14.3	21.0	27.7
		78	TC	—	46.7	46.7	—	44.4	44.4	—	41.9	41.9	—	39.2	39.2	—	36.3	36.3
			SHC	—	19.4	26.3	—	18.6	25.5	—	17.8	24.6	—	16.9	23.7	—	15.9	22.7
1500 cfm	EAT (wb)	58	TC	37.7	37.7	42.7	36.1	36.1	40.9	34.3	34.3	38.9	32.5	32.5	36.8	30.4	30.4	34.4
			SHC	32.6	37.7	42.7	31.3	36.1	40.9	29.8	34.3	38.9	28.1	32.5	36.8	26.3	30.4	34.4
		62	TC	37.7	37.7	44.4	36.1	36.1	42.5	34.4	34.4	40.5	32.5	32.5	38.3	30.4	30.4	35.8
			SHC	31.0	37.7	44.4	29.7	36.1	42.5	28.3	34.4	40.5	26.7	32.5	38.3	25.0	30.4	35.8
		67	TC	40.5	40.5	40.5	38.4	38.4	39.1	36.2	36.2	38.2	33.8	33.8	37.2	31.2	31.2	36.1
			SHC	25.2	32.6	40.0	24.4	31.7	39.1	23.5	30.8	38.2	22.5	29.9	37.2	21.5	28.8	36.1
		72	TC	44.2	44.2	44.2	41.9	41.9	41.9	39.6	39.6	39.6	37.0	37.0	37.0	34.2	34.2	34.2
			SHC	18.2	25.6	33.0	17.4	24.8	32.2	16.5	23.9	31.3	15.6	23.0	30.4	14.7	22.0	29.4
		76	TC	—	47.2	47.2	—	44.9	44.9	—	42.3	42.3	—	39.6	39.6	—	36.7	36.7
			SHC	—	19.9	27.5	—	19.1	26.7	—	18.3	25.8	—	17.4	24.9	—	16.4	23.9

NOTE(S):

a. See minimum-maximum airflow ratings on page 7.

LEGEND

—	Do Not Operate
cfm	Cubic Feet Per Minute (Supply Air)
EAT (db)	Entering Air Temperature (Dry Bulb)
EAT (wb)	Entering Air Temperature (Wet Bulb)
SHC	Sensible Heat Capacity (1000 Btuh) Gross
TC	Total Capacity (1000 Btuh) Gross

Performance data (cont)

581J*04A — UNIT WITH PERFECT HUMIDITY SYSTEM IN SUBCOOLING MODE — SINGLE STAGE COOLING CAPACITIES ^{a, b}

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM								
		900			1200			1500		
		Air Entering Evaporator — Ewb (°F)								
		72	67	62	72	67	62	72	67	62
75	TC	44.60	40.30	36.50	47.00	43.00	39.10	48.80	44.30	40.80
	SHC	19.80	24.50	29.30	22.60	29.10	35.30	25.40	33.00	40.40
	kW	2.02	1.97	1.93	1.96	2.00	2.05	2.08	2.02	1.98
85	TC	42.10	38.10	34.40	44.60	40.50	36.90	46.10	41.90	38.60
	SHC	17.50	22.50	27.40	20.40	26.80	33.20	22.90	30.80	38.20
	kW	2.28	2.23	2.19	2.22	2.26	2.31	2.33	2.28	2.24
95	TC	39.60	35.80	32.30	41.90	38.00	34.50	43.20	39.30	36.20
	SHC	15.20	20.30	25.50	17.80	24.50	31.10	20.20	28.40	35.90
	kW	2.56	2.51	2.47	2.50	2.54	2.60	2.62	2.56	2.52
105	TC	36.80	33.20	30.00	38.90	35.30	32.00	40.20	36.50	33.60
	SHC	12.70	18.10	23.40	15.10	22.00	28.80	17.50	25.80	33.60
	kW	2.88	2.83	2.79	2.82	2.86	2.91	2.93	2.88	2.84
115	TC	33.90	30.50	27.50	35.80	32.40	29.40	37.00	33.50	30.90
	SHC	10.10	15.70	21.20	12.30	19.50	26.40	14.50	23.10	30.90
	kW	3.23	3.19	3.15	3.17	3.21	3.26	3.28	3.23	3.19
125	TC	30.80	27.70	24.90	32.50	29.30	26.50	33.50	30.30	27.90
	SHC	7.30	13.10	18.90	9.40	16.70	23.90	11.40	20.30	27.90
	kW	3.62	3.59	3.56	3.57	3.60	3.65	3.66	3.62	3.59

581J*04A — UNIT WITH PERFECT HUMIDITY SYSTEM IN HOT GAS REHEAT MODE — SINGLE STAGE COOLING CAPACITIES ^{a, b}

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM								
		75 Dry Bulb			75 Dry Bulb			75 Dry Bulb		
		62.5 Wet Bulb			64 Wet Bulb			65.3 Wet Bulb		
		(50% Relative Humidity)			(56% Relative Humidity)			(60% Relative Humidity)		
		Air Entering Evaporator — Ewb (°F)								
		900	1200	1500	900	1200	1500	900	1200	1500
80	TC	16.46	17.15	17.74	16.66	17.23	17.79	16.85	17.74	18.29
	SHC	5.10	6.60	8.15	3.21	4.33	5.61	1.59	2.75	3.83
	kW	1.94	2.01	2.02	2.04	2.13	2.15	2.12	2.14	2.16
75	TC	16.61	17.52	18.09	17.18	18.09	18.67	17.69	18.61	19.19
	SHC	5.24	6.96	8.48	3.71	5.15	6.45	2.40	3.59	4.69
	kW	1.98	2.00	2.01	1.99	2.01	2.02	2.00	2.02	2.03
70	TC	17.00	18.06	18.63	17.56	18.46	19.40	18.41	19.35	20.10
	SHC	5.62	7.47	9.00	4.08	5.50	7.16	3.09	4.31	5.58
	kW	1.96	1.94	1.96	1.97	2.00	1.94	1.91	1.94	1.92
60	TC	17.63	18.49	19.37	18.17	19.38	19.95	18.66	19.52	20.46
	SHC	6.21	7.89	9.71	4.66	6.39	7.68	3.31	4.45	5.90
	kW	1.93	1.96	1.92	1.95	1.92	1.94	1.97	2.00	1.96
50	TC	17.82	18.59	19.72	18.31	19.73	20.26	18.76	20.21	20.73
	SHC	6.40	7.99	10.05	4.79	6.71	7.97	3.40	5.11	6.16
	kW	1.98	2.03	1.94	2.01	1.94	1.97	2.03	1.96	1.99
40	TC	17.70	19.38	19.85	19.10	20.30	20.34	19.53	20.76	21.26
	SHC	6.30	8.74	10.17	5.54	7.26	8.05	4.13	5.64	6.67
	kW	2.07	1.95	1.99	1.93	1.91	2.02	1.96	1.94	1.97

NOTE(S):

- a. Direct interpolation is permissible. Do not extrapolate.
b. 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.

LEGEND

- Edb** — Entering Wet-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

581J*05A — SINGLE STAGE COOLING CAPACITIES ^a

581J*05A				AMBIENT TEMPERATURE (°F)														
				85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
1200 cfm	EAT (wb)	58	TC	43.2	43.2	49.1	41.5	41.5	47.2	39.7	39.7	45.1	37.7	37.7	42.9	35.6	35.6	40.4
			SHC	37.3	43.2	49.1	35.9	41.5	47.2	34.3	39.7	45.1	32.6	37.7	42.9	30.7	35.6	40.4
		62	TC	45.9	45.9	46.0	43.7	43.7	45.0	41.3	41.3	43.8	38.8	38.8	42.6	36.0	36.0	41.2
			SHC	33.5	39.8	46.0	32.5	38.7	45.0	31.3	37.6	43.8	30.1	36.3	42.6	28.8	35.0	41.2
		67	TC	50.5	50.5	50.5	48.0	48.0	48.0	45.4	45.4	45.4	42.6	42.6	42.6	39.6	39.6	39.6
			SHC	27.9	34.1	40.4	26.8	33.1	39.4	25.7	32.0	38.2	24.5	30.8	37.1	23.2	29.5	35.8
		72	TC	55.4	55.4	55.4	52.7	52.7	52.7	49.9	49.9	49.9	46.8	46.8	46.8	43.5	43.5	43.5
			SHC	22.0	28.4	34.7	21.0	27.3	33.7	19.9	26.2	32.5	18.7	25.0	31.3	17.4	23.8	30.1
		76	TC	—	59.7	59.7	—	56.8	56.8	—	53.7	53.7	—	50.4	50.4	—	46.8	46.8
			SHC	—	23.6	30.2	—	22.6	29.2	—	21.5	28.1	—	20.3	26.8	—	19.1	25.5
1400 cfm	EAT (wb)	58	TC	45.6	45.6	51.9	43.8	43.8	49.8	41.9	41.9	47.6	39.7	39.7	45.1	37.3	37.3	42.4
			SHC	39.4	45.6	51.9	37.9	43.8	49.8	36.2	41.9	47.6	34.3	39.7	45.1	32.3	37.3	42.4
		62	TC	47.4	47.4	50.5	45.1	45.1	49.3	42.6	42.6	48.0	40.0	40.0	46.5	37.4	37.4	44.2
			SHC	36.0	43.2	50.5	34.9	42.1	49.3	33.7	40.9	48.0	32.4	39.5	46.5	30.6	37.4	44.2
		67	TC	52.1	52.1	52.1	49.5	49.5	49.5	46.7	46.7	46.7	43.7	43.7	43.7	40.5	40.5	40.5
			SHC	29.5	36.8	44.0	28.4	35.7	42.9	27.3	34.5	41.8	26.0	33.3	40.5	24.7	32.0	39.2
		72	TC	57.1	57.1	57.1	54.3	54.3	54.3	51.2	51.2	51.2	48.0	48.0	48.0	44.5	44.5	44.5
			SHC	22.8	30.1	37.4	21.7	29.0	36.3	20.5	27.8	35.1	19.3	26.6	33.9	18.0	25.3	32.6
		76	TC	—	61.4	61.4	—	58.3	58.3	—	55.1	55.1	—	51.6	51.6	—	47.8	47.8
			SHC	—	24.6	32.2	—	23.5	31.1	—	22.4	29.9	—	21.2	28.7	—	19.9	27.4
1600 cfm	EAT (wb)	58	TC	47.7	47.7	54.2	45.8	45.8	52.0	43.7	43.7	49.6	41.3	41.3	47.0	38.8	38.8	44.1
			SHC	41.2	47.7	54.2	39.5	45.8	52.0	37.7	43.7	49.6	35.7	41.3	47.0	33.5	38.8	44.1
		62	TC	48.7	48.7	54.5	46.3	46.3	53.2	43.7	43.7	51.7	41.4	41.4	48.9	38.8	38.8	45.9
			SHC	38.3	46.4	54.5	37.1	45.2	53.2	35.8	43.7	51.7	33.9	41.4	48.9	31.8	38.8	45.9
		67	TC	53.3	53.3	53.3	50.6	50.6	50.6	47.7	47.7	47.7	44.6	44.6	44.6	41.2	41.2	42.6
			SHC	31.0	39.2	47.5	29.9	38.1	46.3	28.7	37.0	45.2	27.5	35.7	43.9	26.2	34.4	42.6
		72	TC	58.4	58.4	58.4	55.4	55.4	55.4	52.3	52.3	52.3	48.9	48.9	48.9	45.2	45.2	45.2
			SHC	23.4	31.7	39.9	22.3	30.6	38.8	21.1	29.4	37.6	19.9	28.2	36.4	18.6	26.8	35.1
		76	TC	—	62.7	62.7	—	59.5	59.5	—	56.1	56.1	—	52.5	52.5	—	48.6	48.6
			SHC	—	25.5	34.0	—	24.4	32.9	—	23.2	31.7	—	22.0	30.4	—	20.7	29.1
1800 cfm	EAT (wb)	58	TC	49.5	49.5	56.2	47.4	47.4	53.9	45.2	45.2	51.3	42.7	42.7	48.5	40.1	40.1	45.5
			SHC	42.8	49.5	56.2	41.0	47.4	53.9	39.0	45.2	51.3	36.9	42.7	48.5	34.6	40.1	45.5
		62	TC	49.8	49.8	58.1	47.5	47.5	56.1	45.2	45.2	53.4	42.8	42.8	50.5	40.1	40.1	47.4
			SHC	40.4	49.2	58.1	38.8	47.5	56.1	37.0	45.2	53.4	35.0	42.8	50.5	32.8	40.1	47.4
		67	TC	54.3	54.3	54.3	51.5	51.5	51.5	48.5	48.5	48.5	45.3	45.3	47.1	41.8	41.8	45.7
			SHC	32.5	41.7	50.8	31.4	40.5	49.7	30.2	39.3	48.5	28.9	38.0	47.1	27.5	36.6	45.7
		72	TC	59.4	59.4	59.4	56.3	56.3	56.3	53.1	53.1	53.1	49.6	49.6	49.6	45.8	45.8	45.8
			SHC	24.0	33.2	42.4	22.9	32.1	41.3	21.7	30.9	40.1	20.4	29.6	38.8	19.1	28.3	37.5
		78	TC	—	63.8	63.8	—	60.5	60.5	—	57.0	57.0	—	53.2	53.2	—	49.2	49.2
			SHC	—	26.3	35.8	—	25.2	34.6	—	24.0	33.4	—	22.8	32.1	—	21.5	30.8
2000 cfm	EAT (wb)	58	TC	51.0	51.0	58.0	48.8	48.8	55.5	46.5	46.5	52.8	43.9	43.9	49.9	41.1	41.1	46.7
			SHC	44.1	51.0	58.0	42.2	48.8	55.5	40.2	46.5	52.8	37.9	43.9	49.9	35.5	41.1	46.7
		62	TC	51.1	51.1	60.4	48.9	48.9	57.8	46.5	46.5	55.0	44.0	44.0	51.9	41.1	41.1	48.6
			SHC	41.8	51.1	60.4	40.0	48.9	57.8	38.1	46.5	55.0	36.0	44.0	51.9	33.7	41.1	48.6
		67	TC	55.1	55.1	55.1	52.1	52.1	52.9	49.1	49.1	51.6	45.8	45.8	50.2	42.3	42.3	48.7
			SHC	33.9	44.0	54.1	32.7	42.8	52.9	31.5	41.5	51.6	30.2	40.2	50.2	28.8	38.8	48.7
		72	TC	60.3	60.3	60.3	57.1	57.1	57.1	53.7	53.7	53.7	50.1	50.1	50.1	46.3	46.3	46.3
			SHC	24.5	34.7	44.8	23.4	33.5	43.6	22.2	32.3	42.4	21.0	31.1	41.2	19.6	29.7	39.8
		76	TC	—	64.6	64.6	—	61.2	61.2	—	57.6	57.6	—	53.8	53.8	—	49.7	49.7
			SHC	—	27.1	37.5	—	26.0	36.3	—	24.8	35.1	—	23.5	33.8	—	22.2	32.4

NOTE(S):

a. See minimum-maximum airflow ratings on page 7.

LEGEND

—	Do Not Operate
cfm	Cubic Feet Per Minute (Supply Air)
EAT (db)	Entering Air Temperature (Dry Bulb)
EAT (wb)	Entering Air Temperature (Wet Bulb)
SHC	Sensible Heat Capacity (1000 Btuh) Gross
TC	Total Capacity (1000 Btuh) Gross

Performance data (cont)

581J*05A — UNIT WITH PERFECT HUMIDITY SYSTEM IN SUBCOOLING MODE — SINGLE STAGE COOLING CAPACITIES a, b

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM								
		1200			1600			2000		
		Air Entering Evaporator — Ewb (°F)								
		72	67	62	72	67	62	72	67	62
75	TC	57.80	52.30	47.20	61.50	55.60	50.60	63.70	57.90	0.00
	SHC	24.20	30.50	36.80	27.90	35.90	44.00	31.20	40.90	0.00
	kW	2.50	2.47	2.44	2.46	2.48	2.51	2.53	2.50	0.00
85	TC	54.10	48.90	44.10	57.10	52.00	47.00	59.60	54.00	49.50
	SHC	20.70	27.30	33.90	23.90	32.60	41.00	27.30	37.30	47.10
	kW	2.81	2.78	2.76	2.78	2.80	2.82	2.84	2.81	2.79
95	TC	50.10	45.30	40.80	53.30	48.20	43.70	55.20	50.10	45.80
	SHC	17.00	24.00	30.90	20.40	29.10	37.70	23.30	33.60	43.60
	kW	3.16	3.14	3.12	3.13	3.15	3.18	3.19	3.16	3.14
105	TC	45.70	41.10	37.20	48.60	43.80	39.80	50.50	45.50	41.80
	SHC	12.90	20.10	27.60	16.00	25.00	34.10	19.00	29.40	39.90
	kW	3.56	3.54	3.52	3.54	3.55	3.58	3.59	3.56	3.55
115	TC	41.10	37.00	33.20	43.50	39.20	35.50	45.40	41.10	37.50
	SHC	8.70	16.40	23.90	11.30	20.70	30.10	14.30	25.40	35.80
	kW	4.02	4.01	4.00	4.00	4.01	4.03	4.04	4.03	4.01
125	TC	36.30	32.50	29.00	38.60	34.70	31.20	40.20	36.10	32.90
	SHC	4.30	12.20	20.10	6.80	16.60	26.20	9.40	20.80	31.50
	kW	4.54	4.53	4.53	4.53	4.54	4.54	4.55	4.54	4.54

581J*05A — UNIT WITH PERFECT HUMIDITY SYSTEM IN HOT GAS REHEAT MODE — SINGLE STAGE COOLING CAPACITIES a, b

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM								
		75 Dry Bulb			75 Dry Bulb			75 Dry Bulb		
		62.5 Wet Bulb			64 Wet Bulb			65.3 Wet Bulb		
		(50% Relative Humidity)			(56% Relative Humidity)			(60% Relative Humidity)		
		Air Entering Evaporator — Ewb (°F)								
		900	1200	1500	900	1200	1500	900	1200	1500
80	TC	18.64	19.95	20.78	19.35	20.71	21.51	20.00	21.37	22.33
	SHC	0.78	4.36	8.24	−1.95	1.01	4.29	−4.33	−1.91	0.99
	kW	2.66	2.68	2.69	2.67	2.69	2.69	2.68	2.69	2.68
75	TC	19.37	21.21	22.15	20.47	21.97	22.92	21.15	22.78	23.65
	SHC	1.48	5.52	9.49	−0.91	2.18	5.57	−3.26	−0.61	2.20
	kW	2.62	2.54	2.54	2.56	2.55	2.55	2.56	2.55	2.56
70	TC	19.92	21.63	22.64	20.77	22.52	23.61	21.70	23.39	24.26
	SHC	2.01	5.94	9.98	−0.61	2.70	6.23	−2.72	−0.02	2.78
	kW	2.60	2.56	2.54	2.58	2.54	2.53	2.54	2.52	2.54
60	TC	20.11	21.27	22.23	20.75	23.15	23.43	22.49	23.78	24.55
	SHC	2.24	5.70	9.70	−0.57	3.35	6.15	−1.95	0.40	3.13
	kW	2.69	2.74	2.73	2.72	2.58	2.68	2.56	2.60	2.63
50	TC	21.56	22.70	23.37	22.18	23.33	24.01	22.75	23.90	25.40
	SHC	3.61	7.03	10.76	0.78	3.57	6.73	−1.67	0.57	3.96
	kW	2.57	2.63	2.66	2.60	2.66	2.69	2.63	2.69	2.62
40	TC	21.67	23.23	24.04	22.76	23.82	25.57	23.28	24.34	26.13
	SHC	3.74	7.56	9.89	1.35	4.06	8.17	−1.15	1.01	4.67
	kW	2.64	2.64	2.69	2.61	2.67	2.58	2.64	2.70	2.61

NOTE(S):

- a. Direct interpolation is permissible. Do not extrapolate.
b. 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.

LEGEND

- Edb** — Entering Wet-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

581J*06A — SINGLE STAGE COOLING CAPACITIES ^a

581J*06A				AMBIENT TEMPERATURE (°F)														
				85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
1500 cfm	EAT (wb)	58	TC	53.4	53.4	60.6	51.3	51.3	58.2	49.0	49.0	55.6	46.5	46.5	52.7	43.7	43.7	49.5
			SHC	46.3	53.4	60.6	44.5	51.3	58.2	42.5	49.0	55.6	40.3	46.5	52.7	37.9	43.7	49.5
		62	TC	55.6	55.6	58.2	52.9	52.9	56.9	50.0	50.0	55.5	46.9	46.9	53.9	43.8	43.8	51.6
			SHC	42.0	50.1	58.2	40.7	48.8	56.9	39.4	47.4	55.5	37.9	45.9	53.9	36.0	43.8	51.6
		67	TC	60.8	60.8	60.8	57.8	57.8	57.8	54.6	54.6	54.6	51.1	51.1	51.1	47.4	47.4	47.4
			SHC	34.4	42.6	50.7	33.2	41.3	49.4	31.8	39.9	48.1	30.4	38.5	46.6	28.9	37.0	45.1
		72	TC	66.6	66.6	66.6	63.2	63.2	63.2	59.7	59.7	59.7	55.9	55.9	55.9	51.8	51.8	51.8
			SHC	26.7	34.8	43.0	25.4	33.6	41.7	24.1	32.2	40.4	22.6	30.8	38.9	21.1	29.3	37.4
		76	TC	—	71.4	71.4	—	67.9	67.9	—	64.0	64.0	—	59.9	59.9	—	55.5	55.5
			SHC	—	28.5	36.7	—	27.2	35.5	—	25.9	34.2	—	24.5	32.7	—	23.0	31.3
1750 cfm	EAT (wb)	58	TC	56.3	56.3	63.8	54.0	54.0	61.2	51.5	51.5	58.3	48.7	48.7	55.2	45.7	45.7	51.8
			SHC	48.8	56.3	63.8	46.8	54.0	61.2	44.6	51.5	58.3	42.2	48.7	55.2	39.6	45.7	51.8
		62	TC	57.3	57.3	64.0	54.5	54.5	62.5	51.6	51.6	60.7	48.8	48.8	57.5	45.8	45.8	53.9
			SHC	45.3	54.7	64.0	44.0	53.3	62.5	42.4	51.6	60.7	40.1	48.8	57.5	37.6	45.8	53.9
		67	TC	62.5	62.5	62.5	59.3	59.3	59.3	55.9	55.9	55.9	52.3	52.3	52.3	48.3	48.3	49.7
			SHC	36.6	46.0	55.4	35.3	44.7	54.1	33.9	43.3	52.7	32.4	41.8	51.3	30.9	40.3	49.7
		72	TC	68.3	68.3	68.3	64.8	64.8	64.8	61.0	61.0	61.0	57.0	57.0	57.0	52.7	52.7	52.7
			SHC	27.5	37.0	46.5	26.2	35.7	45.2	24.9	34.4	43.8	23.4	32.9	42.4	21.9	31.4	40.8
		76	TC	—	73.2	73.2	—	69.4	69.4	—	65.4	65.4	—	61.1	61.1	—	56.5	56.5
			SHC	—	29.7	39.3	—	28.4	38.0	—	27.1	36.7	—	25.6	35.2	—	24.1	33.7
2000 cfm	EAT (wb)	58	TC	58.7	58.7	66.5	56.2	56.2	63.7	53.5	53.5	60.6	50.6	50.6	57.3	47.3	47.3	53.7
			SHC	50.9	58.7	66.5	48.7	56.2	63.7	46.4	53.5	60.6	43.8	50.6	57.3	41.0	47.3	53.7
		62	TC	58.8	58.8	69.2	56.3	56.3	66.3	53.6	53.6	63.1	50.6	50.6	59.6	47.4	47.4	55.8
			SHC	48.3	58.8	69.2	46.3	56.3	66.3	44.0	53.6	63.1	41.6	50.6	59.6	39.0	47.4	55.8
		67	TC	63.8	63.8	63.8	60.4	60.4	60.4	56.9	56.9	57.3	53.1	53.1	55.8	49.1	49.1	54.1
			SHC	38.6	49.3	60.1	37.3	48.0	58.7	35.9	46.6	57.3	34.4	45.1	55.8	32.8	43.4	54.1
		72	TC	69.6	69.6	69.6	65.9	65.9	65.9	62.1	62.1	62.1	57.9	57.9	57.9	53.5	53.5	53.5
			SHC	28.4	39.1	49.9	27.0	37.8	48.6	25.7	36.4	47.2	24.2	35.0	45.7	22.6	33.4	44.2
		76	TC	—	74.5	74.5	—	70.6	70.6	—	66.5	66.5	—	62.0	62.0	—	—	—
			SHC	—	30.8	41.8	—	29.5	40.4	—	28.2	39.0	—	26.7	37.6	—	—	—
2250 cfm	EAT (wb)	58	TC	60.7	60.7	68.8	58.1	58.1	65.8	55.2	55.2	62.6	52.1	52.1	59.1	48.7	48.7	55.2
			SHC	52.6	60.7	68.8	50.3	58.1	65.8	47.9	55.2	62.6	45.2	52.1	59.1	42.2	48.7	55.2
		62	TC	60.8	60.8	71.6	58.1	58.1	68.5	55.3	55.3	65.1	52.2	52.2	61.4	48.7	48.7	57.4
			SHC	50.0	60.8	71.6	47.8	58.1	68.5	45.4	55.3	65.1	42.9	52.2	61.4	40.1	48.7	57.4
		67	TC	64.7	64.7	64.7	61.3	61.3	63.2	57.7	57.7	61.7	53.8	53.8	60.1	49.7	49.7	58.3
			SHC	40.6	52.6	64.5	39.2	51.2	63.2	37.8	49.7	61.7	36.2	48.2	60.1	34.6	46.5	58.3
		72	TC	70.6	70.6	70.6	66.8	66.8	66.8	62.8	62.8	62.8	58.6	58.6	58.6	54.0	54.0	54.0
			SHC	29.1	41.2	53.3	27.8	39.9	51.9	26.4	38.4	50.5	24.9	37.0	49.0	23.3	35.4	47.4
		78	TC	—	75.6	75.6	—	71.6	71.6	—	67.3	67.3	—	—	—	—	—	—
			SHC	—	31.9	44.1	—	30.6	42.8	—	29.2	41.4	—	—	—	—	—	—
2500 cfm	EAT (wb)	58	TC	62.5	62.5	70.8	59.7	59.7	67.6	56.7	56.7	64.2	53.4	53.4	60.5	49.9	49.9	56.5
			SHC	54.1	62.5	70.8	51.7	59.7	67.6	49.1	56.7	64.2	46.3	53.4	60.5	43.2	49.9	56.5
		62	TC	62.5	62.5	73.6	59.7	59.7	70.3	56.7	56.7	66.8	53.5	53.5	63.0	49.9	49.9	58.8
			SHC	51.4	62.5	73.6	49.1	59.7	70.3	46.6	56.7	66.8	43.9	53.5	63.0	41.0	49.9	58.8
		67	TC	65.5	65.5	68.9	62.0	62.0	67.4	58.3	58.3	65.9	54.4	54.4	64.2	50.2	50.2	62.2
			SHC	42.5	55.7	68.9	41.1	54.3	67.4	39.6	52.7	65.9	38.0	51.1	64.2	36.3	49.2	62.2
		72	TC	71.4	71.4	71.4	67.5	67.5	67.5	63.4	63.4	63.4	59.1	59.1	59.1	54.4	54.4	54.4
			SHC	29.9	43.2	56.5	28.5	41.8	55.2	27.1	40.4	53.7	25.6	38.9	52.2	24.0	37.3	50.6
		76	TC	—	76.4	76.4	—	72.3	72.3	—	—	—	—	—	—	—	—	—
			SHC	—	33.0	46.4	—	31.6	45.1	—	—	—	—	—	—	—	—	—

NOTE(S):

a. See minimum-maximum airflow ratings on page 7.

LEGEND

—	Do Not Operate
cfm	Cubic Feet Per Minute (Supply Air)
EAT (db)	Entering Air Temperature (Dry Bulb)
EAT (wb)	Entering Air Temperature (Wet Bulb)
SHC	Sensible Heat Capacity (1000 Btuh) Gross
TC	Total Capacity (1000 Btuh) Gross

Performance data (cont)

581J*06A — UNIT WITH PERFECT HUMIDITY SYSTEM IN SUBCOOLING MODE — SINGLE STAGE COOLING CAPACITIES ^{a, b}

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM								
		1500			2000			2500		
		Air Entering Evaporator — Ewb (°F)								
		72	67	62	72	67	62	72	67	62
75	TC	66.90	60.30	54.80	71.00	64.40	58.60	73.50	66.90	61.60
	SHC	25.80	34.10	43.00	30.50	41.70	52.60	35.00	48.60	61.20
	kW	3.11	3.06	3.03	3.05	3.09	3.16	3.16	3.11	3.07
85	TC	62.40	56.50	51.20	66.30	60.10	54.70	68.20	62.30	57.50
	SHC	21.50	30.60	39.60	26.10	37.60	49.00	29.90	44.20	57.20
	kW	3.47	3.43	3.39	3.42	3.46	3.51	3.52	3.48	3.44
95	TC	57.80	52.30	47.30	61.30	55.60	50.60	63.50	57.70	53.20
	SHC	17.20	26.60	35.90	21.40	33.30	45.10	25.60	39.90	53.20
	kW	3.89	3.85	3.80	3.83	3.88	3.93	3.95	3.90	3.86
105	TC	52.80	47.50	42.90	55.40	50.00	45.30	58.00	52.20	47.90
	SHC	12.50	22.10	31.70	15.80	28.10	40.10	20.40	34.70	47.90
	kW	4.36	4.31	4.26	4.29	4.33	4.38	4.42	4.36	4.32
115	TC	47.40	42.80	38.60	50.10	45.20	41.10	51.80	47.10	43.40
	SHC	7.40	17.70	27.80	11.00	23.60	36.10	14.70	30.00	43.40
	kW	4.88	4.83	4.78	4.81	4.86	4.91	4.93	4.88	4.84
125	TC	41.60	37.50	33.80	44.00	39.70	35.80	45.80	41.30	38.00
	SHC	2.10	12.80	23.30	5.30	18.60	31.20	9.10	24.70	38.00
	kW	5.44	5.39	5.35	5.37	5.42	5.47	5.49	5.44	5.40

581J*06A — UNIT WITH PERFECT HUMIDITY SYSTEM IN HOT GAS REHEAT MODE — SINGLE STAGE COOLING CAPACITIES ^{a, b}

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM								
		75 Dry Bulb			75 Dry Bulb			75 Dry Bulb		
		62.5 Wet Bulb			64 Wet Bulb			65.3 Wet Bulb		
		(50% Relative Humidity)			(56% Relative Humidity)			(60% Relative Humidity)		
		Air Entering Evaporator — Ewb (°F)								
		900	1200	1500	900	1200	1500	900	1200	1500
80	TC	25.29	27.61	28.72	26.81	28.62	29.71	27.68	29.53	30.63
	SHC	5.06	10.68	15.86	2.37	6.73	11.22	-0.40	3.30	7.17
	kW	3.23	3.12	3.13	3.12	3.13	3.14	3.12	3.14	3.15
75	TC	26.69	28.45	29.73	27.65	29.64	30.73	28.53	30.55	31.65
	SHC	6.39	11.52	16.85	3.20	7.72	12.20	0.43	4.29	8.16
	kW	3.08	3.11	3.09	3.10	3.09	3.11	3.11	3.10	3.12
70	TC	27.04	29.08	30.15	28.29	30.04	31.09	29.13	30.91	31.97
	SHC	6.76	12.14	17.28	3.82	8.14	12.60	1.02	4.67	8.51
	kW	3.15	3.12	3.15	3.11	3.14	3.17	3.13	3.16	3.18
60	TC	27.99	29.57	31.33	28.86	30.46	32.25	29.63	32.44	33.81
	SHC	7.70	12.66	18.45	4.41	8.60	13.74	1.54	6.16	10.28
	kW	3.17	3.23	3.15	3.21	3.26	3.18	3.23	3.12	3.10
50	TC	30.09	31.66	32.64	30.93	32.57	33.53	31.73	33.38	34.35
	SHC	9.72	14.66	19.72	6.40	10.61	14.99	3.56	7.10	10.85
	kW	3.01	3.07	3.11	3.04	3.10	3.15	3.07	3.14	3.18
40	TC	28.39	30.78	32.67	31.13	32.60	34.40	31.86	33.33	36.07
	SHC	8.17	13.89	19.80	6.63	10.69	15.85	3.72	7.10	12.51
	kW	3.39	3.32	3.24	3.14	3.23	3.15	3.18	3.27	3.08

NOTE(S):

- a. Direct interpolation is permissible. Do not extrapolate.
b. 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.

LEGEND

- Edb** — Entering Wet-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

581J*07A — SINGLE STAGE COOLING CAPACITIES ^a

581J*07A				AMBIENT TEMPERATURE (°F)														
				85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
1800 cfm	EAT (wb)	58	TC	64.1	64.1	72.5	61.8	61.8	69.9	59.2	59.2	67.0	56.3	56.3	63.7	53.2	53.2	60.2
			SHC	55.7	64.1	72.5	53.7	61.8	69.9	51.4	59.2	67.0	48.9	56.3	63.7	46.2	53.2	60.2
		62	TC	67.9	67.9	68.5	64.9	64.9	67.0	61.5	61.5	65.3	57.9	57.9	63.5	54.0	54.0	61.4
			SHC	50.2	59.4	68.5	48.8	57.9	67.0	47.1	56.2	65.3	45.4	54.4	63.5	43.4	52.4	61.4
		67	TC	74.8	74.8	74.8	71.5	71.5	71.5	67.8	67.8	67.8	63.8	63.8	63.8	59.5	59.5	59.5
			SHC	41.8	50.9	60.1	40.3	49.5	58.7	38.8	47.9	57.1	37.1	46.2	55.4	35.3	44.4	53.6
		72	TC	82.2	82.2	82.2	78.7	78.7	78.7	74.7	74.7	74.7	70.4	70.4	70.4	65.6	65.6	65.6
			SHC	33.0	42.3	51.6	31.6	40.9	50.2	30.1	39.3	48.6	28.4	37.7	46.9	26.7	35.9	45.1
		76	TC	—	88.7	88.7	—	84.8	84.8	—	80.6	80.6	—	76.0	76.0	—	70.9	70.9
			SHC	—	35.3	45.2	—	33.9	43.7	—	32.4	42.0	—	30.7	40.3	—	28.9	38.5
2100 cfm	EAT (wb)	58	TC	67.6	67.6	76.5	65.1	65.1	73.7	62.3	62.3	70.5	59.3	59.3	67.1	55.9	55.9	63.2
			SHC	58.7	67.6	76.5	56.6	65.1	73.7	54.1	62.3	70.5	51.5	59.3	67.1	48.5	55.9	63.2
		62	TC	70.1	70.1	74.9	67.0	67.0	73.2	63.5	63.5	71.3	59.7	59.7	69.1	56.0	56.0	65.8
			SHC	53.9	64.4	74.9	52.4	62.8	73.2	50.6	61.0	71.3	48.7	58.9	69.1	46.2	56.0	65.8
		67	TC	77.1	77.1	77.1	73.6	73.6	73.6	69.7	69.7	69.7	65.5	65.5	65.5	60.9	60.9	60.9
			SHC	44.2	54.8	65.3	42.7	53.3	63.9	41.2	51.7	62.3	39.4	50.0	60.5	37.6	48.1	58.6
		72	TC	84.7	84.7	84.7	80.9	80.9	80.9	76.8	76.8	76.8	72.2	72.2	72.2	67.2	67.2	67.2
			SHC	34.2	44.8	55.5	32.7	43.4	54.0	31.1	41.8	52.4	29.5	40.1	50.7	27.6	38.2	48.8
		76	TC	—	91.3	91.3	—	87.2	87.2	—	82.7	82.7	—	77.8	77.8	—	72.5	72.5
			SHC	—	36.7	47.8	—	35.3	46.3	—	33.7	44.7	—	32.0	43.0	—	30.2	41.1
2400 cfm	EAT (wb)	58	TC	70.6	70.6	79.9	68.0	68.0	76.9	65.0	65.0	73.5	61.7	61.7	69.8	58.1	58.1	65.8
			SHC	61.3	70.6	79.9	59.0	68.0	76.9	56.4	65.0	73.5	53.6	61.7	69.8	50.5	58.1	65.8
		62	TC	72.0	72.0	80.6	68.7	68.7	78.7	65.2	65.2	76.6	61.8	61.8	72.6	58.2	58.2	68.4
			SHC	57.3	69	80.6	55.6	67.2	78.7	53.7	65.2	76.6	50.9	61.8	72.6	48.0	58.2	68.4
		67	TC	78.9	78.9	78.9	75.2	75.2	75.2	71.2	71.2	71.2	66.8	66.8	66.8	62.0	62.0	63.4
			SHC	46.5	58.4	70.3	45.0	56.9	68.8	43.4	55.3	67.2	41.6	53.5	65.4	39.7	51.6	63.4
		72	TC	86.6	86.6	86.6	82.7	82.7	82.7	78.3	78.3	78.3	73.6	73.6	73.6	68.4	68.4	68.4
			SHC	35.2	47.2	59.2	33.7	45.7	57.7	32.1	44.1	56.0	30.4	42.3	54.3	28.5	40.5	52.4
		76	TC	—	93.3	93.3	—	89.0	89.0	—	84.4	84.4	—	79.3	79.3	—	73.7	73.7
			SHC	—	38.0	50.4	—	36.6	48.9	—	35.0	47.3	—	33.3	45.5	—	31.4	43.6
2700 cfm	EAT (wb)	58	TC	73.2	73.2	82.8	70.4	70.4	79.6	67.3	67.3	76.1	63.8	63.8	72.2	60.0	60.0	67.9
			SHC	63.6	73.2	82.8	61.1	70.4	79.6	58.4	67.3	76.1	55.4	63.8	72.2	52.1	60.0	67.9
		62	TC	73.7	73.7	85.5	70.5	70.5	82.8	67.3	67.3	79.1	63.9	63.9	75.1	60.1	60.1	70.6
			SHC	60.2	72.9	85.5	58.1	70.5	82.8	55.5	67.3	79.1	52.7	63.9	75.1	49.5	60.1	70.6
		67	TC	80.3	80.3	80.3	76.5	76.5	76.5	72.4	72.4	72.4	67.8	67.8	70.0	62.9	62.9	67.9
			SHC	48.7	61.9	75.1	47.1	60.4	73.6	45.5	58.7	71.9	43.7	56.8	70.0	41.7	54.8	67.9
		72	TC	88.2	88.2	88.2	84.0	84.0	84.0	79.6	79.6	79.6	74.6	74.6	74.6	69.3	69.3	69.3
			SHC	36.1	49.4	62.7	34.6	47.9	61.2	33.0	46.2	59.5	31.2	44.5	57.7	29.3	42.6	55.8
		78	TC	—	94.9	94.9	—	90.4	90.4	—	85.6	85.6	—	80.4	80.4	—	74.7	74.7
			SHC	—	39.2	52.9	—	37.7	51.4	—	36.1	49.7	—	34.4	47.9	—	32.5	46.0
3000 cfm	EAT (wb)	58	TC	75.4	75.4	85.3	72.5	72.5	82.0	69.2	69.2	78.3	65.6	65.6	74.2	61.7	61.7	69.8
			SHC	65.5	75.4	85.3	62.9	72.5	82.0	60.1	69.2	78.3	57.0	65.6	74.2	53.5	61.7	69.8
		62	TC	75.5	75.5	88.7	72.5	72.5	85.3	69.3	69.3	81.4	65.7	65.7	77.2	61.7	61.7	72.5
			SHC	62.2	75.5	88.7	59.8	72.5	85.3	57.1	69.3	81.4	54.1	65.7	77.2	50.9	61.7	72.5
		67	TC	81.4	81.4	81.4	77.5	77.5	78.1	73.3	73.3	76.4	68.7	68.7	74.4	63.7	63.7	72.2
			SHC	50.7	65.2	79.7	49.2	63.7	78.1	47.5	61.9	76.4	45.6	60.0	74.4	43.6	57.9	72.2
		72	TC	89.4	89.4	89.4	85.2	85.2	85.2	80.5	80.5	80.5	75.5	75.5	75.5	70.1	70.1	70.1
			SHC	36.9	51.5	66.1	35.4	50	64.6	33.8	48.3	62.9	32.0	46.5	61.1	30.1	44.6	59.1
		76	TC	—	96.1	96.1	—	91.6	91.6	—	86.7	86.7	—	81.3	81.3	—	75.5	75.5
			SHC	—	40.4	55.3	—	38.9	53.8	—	37.2	52.1	—	35.5	50.3	—	33.6	48.3

NOTE(S):

a. See minimum-maximum airflow ratings on page 7.

LEGEND

—	Do Not Operate
cfm	Cubic Feet Per Minute (Supply Air)
EAT (db)	Entering Air Temperature (Dry-Bulb)
EAT (wb)	Entering Air Temperature (Wet-Bulb)
SHC	Sensible Heat Capacity (1000 Btuh) Gross
TC	Total Capacity (1000 Btuh) Gross

Performance data (cont)

581J*07A — UNIT WITH PERFECT HUMIDITY SYSTEM IN SUBCOOLING MODE — SINGLE STAGE COOLING CAPACITIES a, b

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM								
		1800			2400			3000		
		Air Entering Evaporator — Ewb (°F)								
		72	67	62	72	67	62	72	67	62
75	TC	85.70	77.40	70.00	91.10	82.60	74.90	94.50	85.70	78.40
	SHC	38.20	47.10	56.10	43.90	55.60	67.10	49.00	63.10	76.40
	kW	4.05	4.01	3.97	4.00	4.04	4.08	4.09	4.05	4.02
85	TC	80.90	73.10	66.00	85.90	77.90	70.60	89.20	80.90	73.90
	SHC	33.50	42.90	52.30	38.80	51.10	63.00	43.90	58.60	72.10
	kW	4.46	4.43	4.39	4.42	4.45	4.48	4.51	4.47	4.43
95	TC	75.70	68.40	61.70	80.60	72.90	66.00	83.60	75.70	69.10
	SHC	28.70	38.50	48.30	33.80	46.40	58.70	38.60	53.70	67.60
	kW	4.92	4.89	4.86	4.88	4.91	4.95	4.96	4.92	4.90
105	TC	70.20	63.30	57.00	74.70	67.50	61.10	77.50	70.10	64.00
	SHC	23.60	33.90	44.10	28.40	41.40	54.20	32.90	48.60	62.70
	kW	5.43	5.40	5.37	5.39	5.42	5.45	5.47	5.43	5.41
115	TC	64.30	57.80	52.00	68.40	61.70	55.70	71.00	64.10	58.30
	SHC	18.20	28.90	39.60	22.70	36.20	49.40	27.00	43.10	58.20
	kW	5.99	5.96	5.93	5.95	5.98	6.01	6.02	5.99	5.97
125	TC	57.90	52.00	46.60	61.60	55.40	49.90	64.00	57.50	52.40
	SHC	12.40	23.80	34.90	16.60	30.70	44.30	20.70	37.30	52.40
	kW	6.59	6.57	6.55	6.56	6.59	6.61	6.62	6.60	6.58

581J*07A — UNIT WITH PERFECT HUMIDITY SYSTEM IN HOT GAS REHEAT MODE — SINGLE STAGE COOLING CAPACITIES a, b

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM								
		75 Dry Bulb			75 Dry Bulb			75 Dry Bulb		
		62.5 Wet Bulb			64 Wet Bulb			65.3 Wet Bulb		
		(50% Relative Humidity)			(56% Relative Humidity)			(60% Relative Humidity)		
		Air Entering Evaporator — Ewb (°F)								
		1800	2400	3000	1800	2400	3000	1800	2400	3000
80	TC	24.17	25.88	26.92	25.35	27.08	28.15	26.39	28.18	29.25
	SHC	−1.44	2.99	7.86	−5.08	−1.55	2.50	−8.25	−5.47	−2.14
	kW	4.15	4.16	4.17	4.17	4.18	4.18	4.18	4.19	4.20
75	TC	26.03	27.87	28.95	27.27	29.11	30.21	28.36	30.24	31.35
	SHC	0.43	4.97	9.86	−3.12	0.49	4.56	−6.19	−3.36	−0.03
	kW	3.96	3.97	3.98	3.98	3.99	4.00	4.00	4.01	4.01
70	TC	26.50	28.76	30.07	27.92	29.99	31.34	29.45	31.67	33.23
	SHC	0.87	5.84	10.97	−2.49	1.35	5.68	−5.06	−1.85	1.94
	kW	3.97	3.93	3.91	3.96	3.95	3.93	3.92	3.89	3.87
60	TC	27.59	29.22	30.17	28.70	30.33	31.30	31.50	31.32	32.91
	SHC	1.91	6.25	11.02	−1.79	1.63	5.57	−3.31	−2.39	1.45
	kW	3.95	3.99	4.01	3.99	4.02	4.04	4.09	4.05	4.01
50	TC	27.77	29.18	30.03	28.75	30.18	32.02	29.63	32.07	32.96
	SHC	2.03	6.18	10.85	−1.80	1.43	6.25	−5.14	−1.69	1.45
	kW	4.03	4.08	4.11	4.07	4.12	4.05	4.12	4.06	4.09
40	TC	29.02	30.38	31.46	29.96	31.32	32.09	30.79	33.49	34.34
	SHC	3.26	7.34	10.07	−0.63	2.54	6.29	−4.01	−0.30	2.80
	kW	3.96	4.02	4.08	4.01	4.08	4.11	4.06	4.00	4.03

NOTE(S):

- a. Direct interpolation is permissible. Do not extrapolate.
b. 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.

LEGEND

- Edb** — Entering Dry-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

581J*07D — 2-STAGE COOLING CAPACITIES ^a

581J*07D				AMBIENT TEMPERATURE (°F)														
				85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
1800 cfm	EAT (wb)	58	THC	64.6	64.6	72.9	62.0	62.0	70.1	59.3	59.3	67.0	56.3	56.3	63.6	53.0	53.0	60.0
			SHC	56.3	64.6	72.9	54.0	62.0	70.1	51.6	59.3	67.0	49.0	56.3	63.6	46.1	53.0	60.0
		62	THC	68.3	68.3	68.9	65.0	65.0	67.1	61.5	61.5	65.2	57.8	57.8	63.2	53.8	53.8	60.9
			SHC	50.8	59.8	68.9	49.1	58.1	67.1	47.3	56.3	65.2	45.3	54.3	63.2	43.2	52.1	60.9
		67	THC	74.8	74.8	74.8	71.2	71.2	71.2	67.4	67.4	67.4	63.4	63.4	63.4	58.9	58.9	58.9
			SHC	42.0	51.0	60.1	40.3	49.4	58.4	38.5	47.6	56.6	36.7	45.7	54.8	34.7	43.7	52.8
		72	THC	82.0	82.0	82.0	78.1	78.1	78.1	73.9	73.9	73.9	69.4	69.4	69.4	64.7	64.7	64.7
			SHC	33.0	42.1	51.3	31.3	40.5	49.6	29.6	38.7	47.9	27.7	36.8	46.0	25.8	34.9	44.0
		76	THC	—	88.0	88.0	—	83.8	83.8	—	79.4	79.4	—	74.6	74.6	—	69.4	69.4
			SHC	—	34.9	44.8	—	33.3	43.1	—	31.5	41.2	—	29.7	39.3	—	27.7	37.3
2100 cfm	EAT (wb)	58	THC	68.1	68.1	76.8	65.3	65.3	73.7	62.3	62.3	70.3	59.1	59.1	66.7	55.6	55.6	62.8
			SHC	59.3	68.1	76.8	56.9	65.3	73.7	54.2	62.3	70.3	51.4	59.1	66.7	48.3	55.6	62.8
		62	THC	70.4	70.4	75.2	66.9	66.9	73.3	63.3	63.3	71.2	59.5	59.5	68.8	55.6	55.6	65.3
			SHC	54.5	64.9	75.2	52.7	63.0	73.3	50.8	61	71.2	48.6	58.7	68.8	45.9	55.6	65.3
		67	THC	77.1	77.1	77.1	73.2	73.2	73.2	69.2	69.2	69.2	64.9	64.9	64.9	60.3	60.3	60.3
			SHC	44.5	54.9	65.4	42.8	53.2	63.6	41.0	51.4	61.7	39.1	49.4	59.8	37.0	47.4	57.8
		72	THC	84.3	84.3	84.3	80.2	80.2	80.2	75.8	75.8	75.8	71.1	71.1	71.1	66.1	66.1	66.1
			SHC	34.1	44.6	55.2	32.4	42.9	53.4	30.6	41.1	51.6	28.8	39.2	49.6	26.8	37.2	47.6
		76	THC	—	90.4	90.4	—	86.0	86.0	—	81.3	81.3	—	76.3	76.3	—	70.9	70.9
			SHC	—	36.3	47.4	—	34.6	45.7	—	32.8	43.8	—	31.0	41.8	—	29.0	39.8
2400 cfm	EAT (wb)	58	THC	70.9	70.9	80.0	68.0	68.0	76.7	64.8	64.8	73.1	61.4	61.4	69.3	57.7	57.7	65.2
			SHC	61.8	70.9	80.0	59.2	68.0	76.7	56.4	64.8	73.1	53.4	61.4	69.3	50.2	57.7	65.2
		62	THC	72.1	72.1	80.9	68.6	68.6	78.6	64.9	64.9	76.1	61.4	61.4	72.1	57.7	57.7	67.8
			SHC	57.9	69.4	80.9	55.9	67.3	78.6	53.7	64.9	76.1	50.8	61.4	72.1	47.7	57.7	67.8
		67	THC	78.7	78.7	78.7	74.7	74.7	74.7	70.5	70.5	70.5	66.1	66.1	66.1	61.3	61.3	62.5
			SHC	46.8	58.6	70.3	45.1	56.8	68.5	43.2	54.9	66.6	41.3	53.0	64.7	39.2	50.9	62.5
		72	THC	86.0	86.0	86.0	81.7	81.7	81.7	77.2	77.2	77.2	72.3	72.3	72.3	67.1	67.1	67.1
			SHC	35.2	47.0	58.8	33.4	45.2	57.0	31.6	43.4	55.1	29.7	41.4	53.1	27.7	39.4	51.1
		76	THC	—	92.2	92.2	—	87.6	87.6	—	82.7	82.7	—	77.5	77.5	—	72.0	72.0
			SHC	—	37.6	49.9	—	35.9	48.1	—	34.1	46.2	—	32.2	44.2	—	30.1	42.1
2700 cfm	EAT (wb)	58	THC	73.3	73.3	82.7	70.2	70.2	79.3	66.9	66.9	75.5	63.3	63.3	71.5	59.4	59.4	67.1
			SHC	64.0	73.3	82.7	61.2	70.2	79.3	58.3	66.9	75.5	55.1	63.3	71.5	51.7	59.4	67.1
		62	THC	73.6	73.6	86.1	70.3	70.3	82.3	67.0	67.0	78.5	63.4	63.4	74.3	59.5	59.5	69.8
			SHC	61.0	73.6	86.1	58.2	70.3	82.3	55.4	67.0	78.5	52.4	63.4	74.3	49.1	59.5	69.8
		67	THC	80.0	80.0	80.0	75.9	75.9	75.9	71.6	71.6	71.6	67.0	67.0	69.3	62.1	62.1	67.0
			SHC	49.0	62.0	75.0	47.2	60.2	73.2	45.4	58.3	71.3	43.4	56.3	69.3	41.3	54.1	67.0
		72	THC	87.4	87.4	87.4	83.0	83.0	83.0	78.3	78.3	78.3	73.3	73.3	73.3	68.0	68.0	68.0
			SHC	36.1	49.2	62.2	34.3	47.4	60.4	32.5	45.5	58.5	30.6	43.5	56.5	28.5	41.4	54.3
		78	THC	—	93.6	93.6	—	88.9	88.9	—	83.9	83.9	—	78.5	78.5	—	72.8	72.8
			SHC	—	38.8	52.3	—	37.0	50.5	—	35.2	48.5	—	33.2	46.5	—	31.2	44.3
3000 cfm	EAT (wb)	58	THC	75.6	75.6	85.2	72.2	72.2	81.5	68.7	68.7	77.6	65.0	65.0	73.4	60.9	60.9	68.8
			SHC	65.9	75.6	85.2	62.9	72.2	81.5	59.9	68.7	77.6	56.6	65.0	73.4	53.0	60.9	68.8
		62	THC	75.6	75.6	88.5	72.3	72.3	84.6	68.8	68.8	80.6	65.0	65.0	76.3	60.9	60.9	71.5
			SHC	62.7	75.6	88.5	59.9	72.3	84.6	57.0	68.8	80.6	53.8	65.0	76.3	50.4	60.9	71.5
		67	THC	81.1	81.1	81.1	76.9	76.9	77.7	72.4	72.4	75.7	67.7	67.7	73.5	62.8	62.8	71.1
			SHC	51.1	65.4	79.6	49.3	63.5	77.7	47.4	61.6	75.7	45.4	59.4	73.5	43.2	57.1	71.1
		72	THC	88.6	88.6	88.6	84.0	84.0	84.0	79.2	79.2	79.2	74.1	74.1	74.1	68.7	68.7	68.7
			SHC	37.0	51.3	65.5	35.2	49.4	63.7	33.3	47.5	61.7	31.4	45.5	59.7	29.3	43.4	57.5
		76	THC	—	94.8	94.8	—	89.9	89.9	—	84.8	84.8	—	79.3	79.3	—	73.5	73.5
			SHC	—	39.9	54.6	—	38.1	52.7	—	36.2	50.8	—	34.3	48.7	—	32.2	46.5

NOTE(S):

a. See minimum-maximum airflow ratings on page 7.

LEGEND

—	Do Not Operate
cfm	Cubic Feet Per Minute (Supply Air)
EAT (db)	Entering Air Temperature (Dry-Bulb)
EAT (wb)	Entering Air Temperature (Wet-Bulb)
SHC	Sensible Heat Capacity (1000 Btuh) Gross
THC	Total Heat Capacity (1000 Btuh) Gross

Performance data (cont)

581J*07D — UNIT WITH PERFECT HUMIDITY SYSTEM IN SUBCOOLING MODE — 2-STAGE COOLING CAPACITIES a, b

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM								
		1800			2400			3000		
		Air Entering Evaporator — Ewb (°F)								
		72	67	62	72	67	62	72	67	62
75	TC	83.50	75.60	68.50	88.50	76.00	72.90	91.70	83.40	76.20
	SHC	37.00	47.00	55.40	43.60	51.90	65.60	47.90	62.00	74.20
	kW	3.49	3.50	3.45	3.57	3.53	3.48	3.58	3.56	3.50
85	TC	79.00	71.50	64.70	83.60	75.50	68.70	86.40	78.50	71.80
	SHC	32.90	43.20	51.90	39.50	50.60	61.70	43.70	57.30	70.10
	kW	3.94	3.94	3.90	4.03	3.97	3.91	4.08	3.97	3.95
95	TC	73.50	67.10	60.70	70.20	71.20	64.60	81.30	73.70	67.10
	SHC	26.60	39.30	48.20	31.50	46.70	57.90	39.50	53.30	65.60
	kW	4.39	4.44	4.40	4.54	4.48	4.43	4.56	4.50	4.44
105	TC	68.60	62.60	56.50	73.30	66.30	60.10	75.70	68.40	62.60
	SHC	25.50	35.30	44.40	30.50	42.30	53.80	34.60	48.60	61.50
	kW	5.05	5.02	4.98	5.10	5.05	5.00	4.56	5.06	5.02
115	TC	64.20	57.80	55.00	67.80	61.20	55.30	75.70	63.20	57.60
	SHC	21.70	31.10	40.50	25.80	37.80	49.50	34.60	44.00	57.60
	kW	5.05	5.68	5.64	5.74	5.70	5.66	5.12	5.72	5.67
125	TC	58.80	52.80	47.40	62.10	55.80	50.30	63.60	57.60	52.40
	SHC	17.10	26.70	36.30	20.80	33.00	45.00	24.10	39.10	52.40
	kW	6.46	6.43	6.41	6.48	6.44	6.41	6.48	6.45	6.42

581J*07D — UNIT WITH PERFECT HUMIDITY SYSTEM IN HOT GAS REHEAT MODE — 2-STAGE COOLING CAPACITIES a, b

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM								
		75 Dry Bulb			75 Dry Bulb			75 Dry Bulb		
		62.5 Wet Bulb			64 Wet Bulb			65.3 Wet Bulb		
		(50% Relative Humidity)			(56% Relative Humidity)			(60% Relative Humidity)		
		Air Entering Evaporator — Ewb (°F)								
		1800	2400	3000	1800	2400	3000	1800	2400	3000
80	TC	27.93	28.67	29.02	28.32	29.87	30.25	29.63	30.24	31.31
	SHC	6.95	10.60	14.71	2.87	6.41	9.76	0.19	2.12	5.43
	kW	3.80	3.79	3.78	3.79	3.78	3.78	3.79	3.78	3.77
75	TC	28.78	30.12	30.68	29.82	30.63	31.42	30.45	31.77	32.14
	SHC	7.76	12.01	16.31	4.30	7.17	10.89	1.00	3.59	6.24
	kW	3.80	3.79	3.78	3.79	3.78	3.78	3.79	3.78	3.77
70	TC	29.64	30.80	31.85	30.48	31.97	32.67	31.55	32.79	33.12
	SHC	8.60	12.69	17.46	4.95	8.46	12.12	2.06	4.59	7.21
	kW	3.80	3.79	3.78	3.79	3.78	3.78	3.79	3.78	3.77
60	TC	31.14	32.55	33.57	32.03	33.49	34.38	32.98	34.50	35.39
	SHC	10.05	14.38	19.13	6.45	9.96	13.79	3.45	6.26	9.41
	kW	3.80	3.79	3.78	3.79	3.78	3.78	3.79	3.78	3.77
50	TC	32.23	33.83	34.70	33.47	34.97	35.86	34.42	35.95	36.90
	SHC	11.11	15.63	20.24	7.83	11.39	15.24	4.84	7.67	10.88
	kW	3.80	3.79	3.78	3.79	3.78	3.78	3.79	3.78	3.77
40	TC	33.41	35.02	35.91	34.52	36.20	37.25	35.66	37.22	38.32
	SHC	12.24	16.78	21.43	8.85	12.58	16.58	6.03	8.90	12.27
	kW	3.80	3.79	3.78	3.79	3.78	3.78	3.79	3.78	3.77

NOTE(S):

- a. Direct interpolation is permissible. Do not extrapolate.
b. 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.

LEGEND

- Edb — Entering Wet-Bulb
- Ewb — Entering Wet-Bulb
- kW — Compressor Motor Power Input
- ldb — Leaving Dry-Bulb
- lwb — Leaving Wet-Bulb
- SHC — Sensible Heat Capacity (1000 Btuh) Gross
- TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

581J*08D — 2-STAGE COOLING CAPACITIES ^a

581J*08D				AMBIENT TEMPERATURE (°F)														
				85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
2250 cfm	EAT (wb)	58	THC	81.0	81.0	91.8	77.9	77.9	88.4	74.7	74.7	84.6	71.1	71.1	80.6	67.3	67.3	76.3
			SHC	70.2	81.0	91.8	67.5	77.9	88.4	64.7	74.7	84.6	61.6	71.1	80.6	58.3	67.3	76.3
		62	THC	85.1	85.1	87.2	81.1	81.1	85.3	76.9	76.9	83.2	72.5	72.5	81.0	67.8	67.8	78.5
			SHC	63.3	75.3	87.2	61.4	73.4	85.3	59.5	71.3	83.2	57.3	69.2	81.0	55.0	66.7	78.5
		67	THC	93.3	93.3	93.3	89.0	89.0	89.0	84.3	84.3	84.3	79.4	79.4	79.4	74.1	74.1	74.1
			SHC	52.3	64.2	76.2	50.4	62.4	74.4	48.4	60.4	72.4	46.4	58.3	70.3	44.2	56.2	68.1
		72	THC	102.3	102.3	102.3	97.5	97.5	97.5	92.5	92.5	92.5	87.1	87.1	87.1	81.3	81.3	81.3
			SHC	40.9	53.0	65.0	39.0	51.1	63.1	37.1	49.2	61.2	35.1	47.1	59.1	32.9	44.9	57.0
		76	THC	—	110.0	110.0	—	104.8	104.8	—	99.4	99.4	—	93.5	93.5	—	87.3	87.3
			SHC	—	43.7	56.1	—	41.9	54.2	—	39.9	52.2	—	37.9	50.2	—	35.8	48.0
2625 cfm	EAT (wb)	58	THC	85.4	85.4	96.9	82.1	82.1	93.1	78.6	78.6	89.1	74.7	74.7	84.7	70.5	70.5	80.0
			SHC	74.0	85.4	96.9	71.2	82.1	93.1	68.1	78.6	89.1	64.7	74.7	84.7	61.1	70.5	80.0
		62	THC	87.8	87.8	95.7	83.7	83.7	93.6	79.3	79.3	91.3	75.0	75.0	87.8	70.6	70.6	83.2
			SHC	68.2	82.0	95.7	66.2	79.9	93.6	64.1	77.7	91.3	61.3	74.6	87.8	58.0	70.6	83.2
		67	THC	96.0	96.0	96.0	91.4	91.4	91.4	86.5	86.5	86.5	81.3	81.3	81.3	75.8	75.8	75.8
			SHC	55.4	69.3	83.2	53.5	67.4	81.2	51.5	65.4	79.2	49.4	63.2	77.1	47.2	61.0	74.8
		72	THC	105.2	105.2	105.2	100.1	100.1	100.1	94.8	94.8	94.8	89.1	89.1	89.1	83.0	83.0	83.0
			SHC	42.3	56.2	70.2	40.4	54.3	68.2	38.4	52.3	66.2	36.3	50.2	64.1	34.1	48.0	61.9
		76	THC	—	112.9	112.9	—	107.5	107.5	—	101.7	101.7	—	95.6	95.6	—	89.1	89.1
			SHC	—	45.5	59.8	—	43.6	57.8	—	41.7	55.8	—	39.6	53.7	—	37.4	51.5
3000 cfm	EAT (wb)	58	THC	89.2	89.2	101.1	85.6	85.6	97.1	81.8	81.8	92.8	77.7	77.7	88.1	73.2	73.2	83.0
			SHC	77.3	89.2	101.1	74.2	85.6	97.1	70.9	81.8	92.8	67.3	77.7	88.1	63.5	73.2	83.0
		62	THC	90.1	90.1	103.5	86.1	86.1	100.3	81.9	81.9	96.5	77.8	77.8	91.6	73.3	73.3	86.4
			SHC	72.7	88.1	103.5	70.1	85.2	100.3	67.3	81.9	96.5	63.9	77.8	91.6	60.2	73.3	86.4
		67	THC	98.1	98.1	98.1	93.3	93.3	93.3	88.2	88.2	88.2	82.8	82.8	83.6	77.0	77.0	81.3
			SHC	58.4	74.1	89.9	56.5	72.2	87.9	54.4	70.1	85.8	52.3	67.9	83.6	50.0	65.6	81.3
		72	THC	107.3	107.3	107.3	102.1	102.1	102.1	96.5	96.5	96.5	90.6	90.6	90.6	84.3	84.3	84.3
			SHC	43.5	59.3	75.1	41.6	57.3	73.1	39.5	55.3	71.1	37.4	53.2	69	35.2	50.9	66.7
		76	THC	—	115.2	115.2	—	109.5	109.5	—	103.5	103.5	—	97.2	97.2	—	90.4	90.4
			SHC	—	47.2	63.2	—	45.3	61.3	—	43.3	59.3	—	41.2	57.1	—	38.9	54.8
3375 cfm	EAT (wb)	58	THC	92.4	92.4	104.7	88.6	88.6	100.4	84.6	84.6	95.9	80.2	80.2	90.9	75.5	75.5	85.6
			SHC	80.0	92.4	104.7	76.8	88.6	100.4	73.3	84.6	95.9	69.5	80.2	90.9	65.4	75.5	85.6
		62	THC	92.5	92.5	109.0	88.7	88.7	104.5	84.6	84.6	99.7	80.3	80.3	94.6	75.6	75.6	89.0
			SHC	76.0	92.5	109.0	72.9	88.7	104.5	69.6	84.6	99.7	66.0	80.3	94.6	62.1	75.6	89.0
		67	THC	99.7	99.7	99.7	94.8	94.8	94.8	89.5	89.5	92.2	84.0	84.0	89.9	78.0	78.0	87.4
			SHC	61.3	78.8	96.4	59.3	76.8	94.3	57.2	74.7	92.2	55.0	72.4	89.9	52.6	70.0	87.4
		72	THC	109.0	109.0	109.0	103.6	103.6	103.6	97.8	97.8	97.8	91.8	91.8	91.8	85.3	85.3	85.3
			SHC	44.6	62.2	79.9	42.7	60.3	77.9	40.6	58.2	75.8	38.5	56.1	73.6	36.2	53.8	71.3
		76	THC	—	116.9	116.9	—	111.1	111.1	—	104.9	104.9	—	98.4	98.4	—	91.5	91.5
			SHC	—	48.8	66.6	—	46.8	64.6	—	44.8	62.6	—	42.7	60.4	—	40.4	58.1
3750 cfm	EAT (wb)	58	THC	95.1	95.1	107.8	91.2	91.2	103.3	86.9	86.9	98.5	82.3	82.3	93.3	77.4	77.4	87.8
			SHC	82.4	95.1	107.8	79.0	91.2	103.3	75.3	86.9	98.5	71.3	82.3	93.3	67.1	77.4	87.8
		62	THC	95.2	95.2	112.2	91.2	91.2	107.5	87.0	87.0	102.5	82.4	82.4	97.1	77.5	77.5	91.3
			SHC	78.2	95.2	112.2	75.0	91.2	107.5	71.5	87.0	102.5	67.7	82.4	97.1	63.7	77.5	91.3
		67	THC	101.1	101.1	102.6	96.0	96.0	100.5	90.6	90.6	98.3	84.9	84.9	95.9	78.9	78.9	93.2
			SHC	64.0	83.3	102.6	62.0	81.2	100.5	59.8	79.1	98.3	57.6	76.7	95.9	55.1	74.2	93.2
		72	THC	110.4	110.4	110.4	104.8	104.8	104.8	98.9	98.9	98.9	92.7	92.7	92.7	86.1	86.1	86.1
			SHC	45.7	65.1	84.5	43.7	63.1	82.5	41.7	61.0	80.4	39.5	58.8	78.2	37.2	56.5	75.9
		76	THC	—	118.3	118.3	—	112.4	112.4	—	106.0	106.0	—	99.4	99.4	—	92.3	92.3
			SHC	—	50.3	69.9	—	48.3	67.9	—	46.2	65.8	—	44.1	63.6	—	41.8	61.3

NOTE(S):

a. See minimum-maximum airflow ratings on page 7.

LEGEND

—	Do Not Operate
cfm	Cubic Feet Per Minute (Supply Air)
EAT (db)	Entering Air Temperature (Dry-Bulb)
EAT (wb)	Entering Air Temperature (Wet-Bulb)
SHC	Sensible Heat Capacity (1000 Btuh) Gross
TC	Total Capacity (1000 Btuh) Gross

Performance data (cont)

581J*08D — UNIT WITH PERFECT HUMIDITY SYSTEM IN SUBCOOLING MODE — 2-STAGE COOLING CAPACITIES a, b

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM								
		2250			3000			3750		
		Air Entering Evaporator — Ewb (°F)								
		72	67	62	72	67	62	72	67	62
75	TC	101.90	92.90	84.00	109.60	96.30	89.90	113.60	103.00	94.50
	SHC	43.90	54.60	66.70	50.20	62.70	80.90	56.80	75.80	93.00
	kW	4.60	4.54	4.48	4.65	4.50	4.52	4.68	4.60	4.55
85	TC	96.60	87.30	78.90	102.80	92.90	84.50	106.50	96.70	88.70
	SHC	36.80	49.30	61.90	43.80	59.70	75.90	50.20	69.80	87.40
	kW	5.15	5.09	5.04	5.20	5.13	5.08	5.22	5.16	5.11
95	TC	90.20	81.40	73.50	95.70	86.80	78.80	99.40	90.10	82.70
	SHC	30.80	43.90	56.90	37.20	54.10	70.50	43.60	63.80	81.60
	kW	5.78	5.72	5.67	5.82	5.76	5.71	5.85	5.79	5.74
105	TC	83.50	75.20	67.80	88.80	80.20	72.70	92.00	83.20	76.40
	SHC	24.60	38.20	51.70	30.80	48.00	64.90	36.70	57.40	75.50
	kW	6.50	6.45	6.40	6.54	6.48	6.43	6.57	6.50	6.46
115	TC	76.30	68.70	61.80	81.10	73.20	66.30	84.10	76.00	69.70
	SHC	17.90	32.10	46.20	23.70	41.50	59.00	29.40	50.70	69.00
	kW	7.32	7.28	7.24	7.35	7.31	7.27	7.38	7.32	7.29
125	TC	68.60	61.60	55.40	73.00	65.70	59.30	75.80	68.20	62.60
	SHC	10.90	25.60	40.30	16.20	34.70	52.60	21.70	43.60	62.10
	kW	8.24	8.22	8.20	8.27	8.23	8.21	8.29	8.25	8.22

581J*08D — UNIT WITH PERFECT HUMIDITY SYSTEM IN HOT GAS REHEAT MODE — 2-STAGE COOLING CAPACITIES a, b

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM								
		75 Dry Bulb			75 Dry Bulb			75 Dry Bulb		
		62.5 Wet Bulb			64 Wet Bulb			65.3 Wet Bulb		
		(50% Relative Humidity)			(56% Relative Humidity)			(60% Relative Humidity)		
		Air Entering Evaporator — Ewb (°F)								
		2250	3000	3750	2250	3000	3750	2250	3000	3750
80	TC	24.06	26.14	27.48	25.50	27.56	28.78	26.59	28.71	29.96
	SHC	−5.55	1.16	8.38	−10.20	−4.69	1.40	−14.39	−9.85	−4.68
	kW	4.43	4.42	4.41	4.40	4.41	4.42	4.42	4.43	4.44
75	TC	24.87	27.26	28.47	26.06	28.53	30.02	27.67	29.77	31.02
	SHC	−4.77	2.23	9.32	−9.65	−3.76	2.59	−13.35	−8.83	−3.66
	kW	4.42	4.36	4.38	4.45	4.38	4.36	4.36	4.39	4.40
70	TC	25.16	27.88	28.56	26.72	29.10	30.26	28.17	30.20	31.83
	SHC	−4.48	2.84	9.45	−9.02	−3.19	2.85	−12.88	−8.40	−2.87
	kW	4.49	4.38	4.48	4.44	4.41	4.44	4.40	4.44	4.40
60	TC	26.43	28.14	29.14	27.49	29.24	30.27	28.50	30.24	32.33
	SHC	−3.25	3.14	10.05	−8.26	−2.99	2.94	−12.54	−8.29	−2.32
	kW	4.48	4.55	4.59	4.53	4.60	4.65	4.58	4.65	4.54
50	TC	27.19	29.55	31.26	28.94	30.59	32.36	30.54	31.54	32.52
	SHC	−2.50	4.50	12.05	−6.87	−1.69	4.92	−10.60	−7.02	−2.07
	kW	4.53	4.51	4.46	4.48	4.57	4.52	4.43	4.63	4.70
40	TC	27.92	31.58	32.82	28.81	32.60	33.54	31.82	33.50	34.44
	SHC	−1.79	6.42	10.84	−6.94	0.23	6.05	−9.36	−5.15	−0.25
	kW	4.57	4.37	4.46	4.65	4.45	4.51	4.40	4.51	4.58

NOTE(S):

- a. Direct interpolation is permissible. Do not extrapolate.
b. 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.

LEGEND

- Edb** — Entering Wet-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

581J*09D — 2-STAGE COOLING CAPACITIES ^a

581J*09D				AMBIENT TEMPERATURE (°F)														
				85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
2550 cfm	EAT (wb)	58	TC	90.5	90.5	102.4	87.0	87.0	98.5	83.2	83.2	94.2	79.1	79.1	89.6	74.7	74.7	84.6
			SHC	78.6	90.5	102.4	75.5	87.0	98.5	72.2	83.2	94.2	68.7	79.1	89.6	64.8	74.7	84.6
		62	TC	94.8	94.8	98.1	90.2	90.2	95.8	85.4	85.4	93.4	80.3	80.3	90.8	74.9	74.9	87.8
			SHC	71.2	84.6	98.1	69.1	82.4	95.8	66.8	80.1	93.4	64.3	77.5	90.8	61.6	74.7	87.8
		67	TC	104.0	104.0	104.0	99.0	99.0	99.0	93.7	93.7	93.7	88.0	88.0	88.0	81.9	81.9	81.9
			SHC	58.7	72.2	85.7	56.6	70.0	83.5	54.3	67.8	81.3	52.0	65.4	78.9	49.5	62.9	76.4
		72	TC	114.0	114.0	114.0	108.5	108.5	108.5	102.7	102.7	102.7	96.5	96.5	96.5	89.8	89.8	89.8
			SHC	45.8	59.3	72.9	43.7	57.2	70.8	41.4	55.0	68.5	39.1	52.7	66.2	36.7	50.2	63.7
		76	TC	—	122.4	122.4	—	116.5	116.5	—	110.3	110.3	—	103.7	103.7	—	96.5	96.5
			SHC	—	48.8	62.8	—	46.7	60.6	—	44.5	58.4	—	42.2	56.0	—	39.8	53.5
2975 cfm	EAT (wb)	58	TC	95.4	95.4	108.0	91.6	91.6	103.7	87.5	87.5	99.0	83.1	83.1	94.0	78.3	78.3	88.6
			SHC	82.8	95.4	108.0	79.5	91.6	103.7	75.9	87.5	99.0	72.1	83.1	94.0	68.0	78.3	88.6
		62	TC	97.7	97.7	107.4	93.0	93.0	104.9	88.1	88.1	102.1	83.2	83.2	97.9	78.4	78.4	92.2
			SHC	76.7	92.0	107.4	74.3	89.6	104.9	71.8	86.9	102.1	68.6	83.2	97.9	64.6	78.4	92.2
		67	TC	106.9	106.9	106.9	101.6	101.6	101.6	96.0	96.0	96.0	90.1	90.1	90.1	83.7	83.7	83.9
			SHC	62.3	77.8	93.4	60.1	75.6	91.2	57.8	73.3	88.9	55.4	70.9	86.5	52.8	68.3	83.9
		72	TC	117.0	117.0	117.0	111.2	111.2	111.2	105.1	105.1	105.1	98.6	98.6	98.6	91.7	91.7	91.7
			SHC	47.3	62.9	78.6	45.1	60.8	76.4	42.9	58.5	74.1	40.5	56.1	71.7	38.0	53.6	69.2
		76	TC	—	125.6	125.6	—	119.4	119.4	—	112.8	112.8	—	105.9	105.9	—	98.4	98.4
			SHC	—	50.8	66.8	—	48.7	64.6	—	46.4	62.3	—	44.1	59.9	—	41.6	57.4
3400 cfm	EAT (wb)	58	TC	99.5	99.5	112.7	95.4	95.4	108.0	91.0	91.0	103.0	86.3	86.3	97.7	81.2	81.2	91.9
			SHC	86.4	99.5	112.7	82.8	95.4	108.0	79.0	91.0	103.0	74.9	86.3	97.7	70.5	81.2	91.9
		62	TC	100.3	100.3	115.8	95.6	95.6	112.4	91.2	91.2	107.2	86.4	86.4	101.6	81.3	81.3	95.6
			SHC	81.5	98.6	115.8	78.7	95.6	112.4	75.1	91.2	107.2	71.2	86.4	101.6	67.0	81.3	95.6
		67	TC	109.1	109.1	109.1	103.6	103.6	103.6	97.8	97.8	97.8	91.6	91.6	93.7	85.0	85.0	90.9
			SHC	65.6	83.2	100.8	63.4	81.0	98.6	61.0	78.6	96.2	58.6	76.1	93.7	55.9	73.4	90.9
		72	TC	119.3	119.3	119.3	113.3	113.3	113.3	107.0	107.0	107.0	100.3	100.3	100.3	93.0	93.0	93.0
			SHC	48.7	66.4	84.1	46.5	64.2	81.8	44.2	61.8	79.5	41.8	59.4	77.1	39.2	56.9	74.5
		76	TC	—	128.0	128.0	—	121.5	121.5	—	114.7	114.7	—	107.5	107.5	—	99.8	99.8
			SHC	—	52.6	70.6	—	50.5	68.4	—	48.2	66.1	—	45.8	63.6	—	43.3	61.1
3825 cfm	EAT (wb)	58	TC	103.0	103.0	116.6	98.7	98.7	111.7	94.0	94.0	106.4	89.0	89.0	100.8	83.6	83.6	94.7
			SHC	89.4	103.0	116.6	85.6	98.7	111.7	81.6	94.0	106.4	77.3	89.0	100.8	72.6	83.6	94.7
		62	TC	103.1	103.1	121.3	98.8	98.8	116.1	94.1	94.1	110.7	89.1	89.1	104.8	83.7	83.7	98.4
			SHC	85.0	103.1	121.3	81.4	98.8	116.1	77.5	94.1	110.7	73.4	89.1	104.8	69.0	83.7	98.4
		67	TC	110.9	110.9	110.9	105.2	105.2	105.7	99.2	99.2	103.2	92.9	92.9	100.5	86.1	86.1	97.6
			SHC	68.8	88.4	108.0	66.5	86.1	105.7	64.1	83.7	103.2	61.6	81.1	100.5	58.9	78.3	97.6
		72	TC	121.2	121.2	121.2	114.9	114.9	114.9	108.4	108.4	108.4	101.5	101.5	101.5	94.1	94.1	94.1
			SHC	50.0	69.7	89.4	47.7	67.4	87.1	45.4	65.1	84.7	43.0	62.6	82.3	40.4	60.0	79.6
		78	TC	—	129.8	129.8	—	123.2	123.2	—	116.2	116.2	—	108.8	108.8	—	100.9	100.9
			SHC	—	54.4	74.3	—	52.2	72.1	—	49.9	69.7	—	47.5	67.3	—	44.9	64.7
4250 cfm	EAT (wb)	58	TC	106.0	106.0	119.9	101.4	101.4	114.8	96.6	96.6	109.3	91.3	91.3	103.4	85.7	85.7	97.0
			SHC	92.0	106.0	119.9	88.0	101.4	114.8	83.8	96.6	109.3	79.3	91.3	103.4	74.4	85.7	97.0
		62	TC	106.1	106.1	124.7	101.5	101.5	119.4	96.6	96.6	113.6	91.4	91.4	107.5	85.7	85.7	100.8
			SHC	87.4	106.1	124.7	83.6	101.5	119.4	79.6	96.6	113.6	75.3	91.4	107.5	70.6	85.7	100.8
		67	TC	112.3	112.3	114.9	106.5	106.5	112.5	100.4	100.4	109.9	93.9	93.9	107.0	87.1	87.1	103.8
			SHC	71.8	93.4	114.9	69.5	91.0	112.5	67.0	88.5	109.9	64.4	85.7	107.0	61.6	82.7	103.8
		72	TC	122.6	122.6	122.6	116.2	116.2	116.2	109.5	109.5	109.5	102.5	102.5	102.5	94.9	94.9	94.9
			SHC	51.2	72.8	94.5	48.9	70.5	92.2	46.6	68.2	89.8	44.1	65.7	87.3	41.5	63.1	84.6
		76	TC	—	131.3	131.3	—	124.5	124.5	—	117.4	117.4	—	109.8	109.8	—	101.8	101.8
			SHC	—	56.0	77.9	—	53.8	75.6	—	51.5	73.3	—	49.1	70.8	—	46.5	68.1

NOTE(S):

a. See minimum-maximum airflow ratings on page 7.

LEGEND

—	Do Not Operate
cfm	Cubic Feet Per Minute (Supply Air)
EAT (db)	Entering Air Temperature (Dry-Bulb)
EAT (wb)	Entering Air Temperature (Wet-Bulb)
SHC	Sensible Heat Capacity (1000 Btuh) Gross
TC	Total Capacity (1000 Btuh) Gross

Performance data (cont)

581J*09D — UNIT WITH PERFECT HUMIDITY SYSTEM IN SUBCOOLING MODE — 2-STAGE COOLING CAPACITIES a, b

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM								
		2550			3400			4250		
		Air Entering Evaporator — Ewb (°F)								
		72	67	62	72	67	62	72	67	62
75	TC	114.70	103.90	93.90	104.30	110.60	100.50	122.90	114.60	105.50
	SHC	48.70	62.20	75.70	84.70	74.20	91.40	60.60	85.10	103.90
	kW	5.17	5.09	5.01	5.10	5.14	5.07	5.20	5.18	5.11
85	TC	107.80	97.40	88.00	114.20	102.90	94.20	116.20	107.60	98.70
	SHC	42.30	56.30	70.30	49.70	67.00	85.60	61.10	78.70	97.30
	kW	5.79	5.71	5.63	5.85	5.75	5.69	5.88	5.80	5.72
95	TC	100.50	90.80	82.00	106.60	96.20	87.70	110.20	100.10	92.20
	SHC	35.60	50.20	64.80	42.80	61.00	79.60	49.20	71.90	91.00
	kW	6.50	6.42	6.34	6.56	6.46	6.40	6.59	6.50	6.44
105	TC	92.70	83.80	75.70	98.50	89.00	80.90	102.10	92.40	85.10
	SHC	28.50	43.90	59.10	35.40	54.60	73.40	41.90	64.90	84.20
	kW	7.30	7.23	7.16	7.36	7.28	7.21	7.40	7.31	7.25
115	TC	85.00	76.50	69.00	90.00	81.30	73.80	93.30	84.40	77.70
	SHC	21.50	37.40	53.10	27.70	47.60	66.90	34.00	57.70	77.00
	kW	8.23	8.16	8.10	8.27	8.20	8.14	8.31	8.23	8.18
125	TC	76.50	68.80	61.80	81.10	72.90	66.20	84.10	75.80	69.80
	SHC	13.80	30.40	46.70	19.70	40.00	60.10	25.60	50.00	69.80
	kW	9.25	9.20	9.16	9.28	9.22	9.19	9.31	9.25	9.21

581J*09D — UNIT WITH PERFECT HUMIDITY SYSTEM IN HOT GAS REHEAT MODE — 2-STAGE COOLING CAPACITIES a, b

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM								
		75 Dry Bulb			75 Dry Bulb			75 Dry Bulb		
		62.5 Wet Bulb			64 Wet Bulb			65.3 Wet Bulb		
		(50% Relative Humidity)			(56% Relative Humidity)			(60% Relative Humidity)		
		Air Entering Evaporator — Ewb (°F)								
		2550	3400	4250	2550	3400	4250	2550	3400	4250
80	TC	27.53	29.56	30.72	28.95	31.03	32.22	30.26	32.33	33.58
	SHC	−3.84	3.82	11.92	−9.25	−2.92	4.09	−13.93	−8.77	−2.82
	kW	5.09	5.11	5.13	5.11	5.14	5.15	5.14	5.15	5.17
75	TC	29.09	31.60	32.81	30.77	33.10	34.33	32.30	34.45	35.73
	SHC	−2.34	5.72	13.84	−7.51	−0.98	6.04	−11.95	−6.78	−0.82
	kW	4.97	4.91	4.93	4.95	4.94	4.95	4.94	4.96	4.97
70	TC	29.58	32.45	33.63	31.48	34.12	35.55	33.12	35.65	37.38
	SHC	−1.88	6.54	14.63	−6.83	0.00	7.20	−11.16	−5.63	0.75
	kW	4.99	4.90	4.92	4.96	4.90	4.89	4.93	4.90	4.86
60	TC	30.71	33.44	34.52	32.90	34.79	35.86	34.07	36.02	37.09
	SHC	−0.78	7.52	15.54	−5.47	0.68	7.57	−10.28	−5.24	0.55
	kW	5.03	4.95	5.00	4.94	5.01	5.05	4.99	5.06	5.09
50	TC	32.63	34.31	35.26	33.81	35.53	36.51	34.90	36.66	37.65
	SHC	1.05	8.38	16.29	−4.60	1.42	8.24	−9.49	−4.59	1.14
	kW	4.92	5.01	5.06	4.99	5.07	5.13	5.05	5.14	5.19
40	TC	31.94	33.26	35.77	32.96	35.70	37.86	35.17	38.01	38.92
	SHC	0.45	7.47	13.75	−5.35	1.63	9.52	−9.20	−3.29	2.36
	kW	5.16	5.27	5.20	5.25	5.19	5.10	5.16	5.11	5.17

NOTE(S):

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

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

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

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

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

LEGEND

- Edb** — Entering Wet-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

581J*11D — 2-STAGE COOLING CAPACITIES ^a

581J*11D				AMBIENT TEMPERATURE (°F)														
				85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
3000 cfm	EAT (wb)	58	TC	105.6	105.6	118.0	101.7	101.7	114.1	97.5	97.5	109.9	92.9	92.9	105.2	87.8	87.8	100.2
			SHC	93.3	105.6	118.0	89.4	101.7	114.1	85.1	97.5	109.9	80.5	92.9	105.2	75.4	87.8	100.2
		62	TC	110.6	110.6	110.6	105.5	105.5	108.0	100.1	100.1	105.5	94.4	94.4	102.7	88.5	88.5	98.5
			SHC	85.6	98.0	110.3	83.3	95.7	108.0	80.7	93.1	105.5	77.9	90.3	102.7	73.8	86.1	98.5
		67	TC	120.5	120.5	120.5	115.0	115.0	115.0	109.0	109.0	109.0	102.7	102.7	102.7	95.7	95.7	95.7
			SHC	70.0	82.3	94.7	67.7	80.1	92.5	65.4	77.8	90.1	63.1	75.5	87.9	60.0	72.4	84.8
		72	TC	131.4	131.4	131.4	125.4	125.4	125.4	118.8	118.8	118.8	111.7	111.7	111.7	104.2	104.2	104.2
			SHC	53.9	66.3	78.7	51.8	64.2	76.6	49.5	61.9	74.3	47.0	59.4	71.7	44.3	56.7	69.1
		76	TC	—	140.8	140.8	—	134.2	134.2	—	127.0	127.0	—	119.4	119.4	—	111.5	111.5
			SHC	—	52.5	64.9	—	50.8	63.2	—	48.7	61.1	—	46.4	58.7	—	44.0	56.4
3500 cfm	EAT (wb)	58	TC	110.9	110.9	125.3	106.7	106.7	121.1	102.1	102.1	116.5	97.0	97.0	111.5	91.6	91.6	106.0
			SHC	96.4	110.9	125.3	92.2	106.7	121.1	87.6	102.1	116.5	82.6	97.0	111.5	77.1	91.6	106.0
		62	TC	113.6	113.6	120.7	108.4	108.4	118.1	103.1	103.1	114.5	97.9	97.9	109.5	92.0	92.0	105.3
			SHC	91.9	106.3	120.7	89.3	103.7	118.1	85.7	100.1	114.5	80.6	95.0	109.5	76.4	90.8	105.3
		67	TC	123.5	123.5	123.5	117.8	117.8	117.8	111.5	111.5	111.5	104.7	104.7	104.7	97.6	97.6	97.6
			SHC	74.2	88.6	103.1	72.2	86.6	101.0	69.8	84.3	98.7	67.0	81.4	95.9	64.3	78.8	93.2
		72	TC	134.6	134.6	134.6	128.2	128.2	128.2	121.3	121.3	121.3	113.9	113.9	113.9	106.1	106.1	106.1
			SHC	55.9	70.3	84.8	53.7	68.1	82.6	51.4	65.8	80.2	48.8	63.2	77.7	46.1	60.6	75.0
		76	TC	—	144.0	144.0	—	137.1	137.1	—	129.7	129.7	—	121.8	121.8	—	113.5	113.5
			SHC	—	55.3	69.7	—	53.1	67.6	—	50.9	65.4	—	48.6	63.0	—	46.0	60.5
4000 cfm	EAT (wb)	58	TC	115.3	115.3	131.8	110.7	110.7	127.2	105.8	105.8	122.3	100.4	100.4	116.9	94.6	94.6	111.1
			SHC	98.8	115.3	131.8	94.2	110.7	127.2	89.3	105.8	122.3	83.9	100.4	116.9	78.1	94.6	111.1
		62	TC	116.5	116.5	129.1	112.0	112.0	124.0	106.5	106.5	120.9	100.9	100.9	116.1	94.7	94.7	111.2
			SHC	96.1	112.6	129.1	91.0	107.5	124.0	87.9	104.4	120.9	83.1	99.6	116.1	78.2	94.7	111.2
		67	TC	125.9	125.9	125.9	119.8	119.8	119.8	113.3	113.3	113.3	106.4	106.4	106.4	99.1	99.1	101.1
			SHC	78.2	94.7	111.2	76.0	92.5	109.0	73.5	90.0	106.5	70.9	87.4	103.9	68.1	84.6	101.1
		72	TC	137.0	137.0	137.0	130.3	130.3	130.3	123.2	123.2	123.2	115.6	115.6	115.6	107.5	107.5	107.5
			SHC	57.7	74.2	90.7	55.4	71.9	88.4	53.0	69.5	86.0	50.6	67.1	83.6	47.7	64.2	80.7
		76	TC	—	146.5	146.5	—	139.3	139.3	—	131.6	131.6	—	123.5	123.5	—	115.0	115.0
			SHC	—	57.4	73.9	—	55.3	71.8	—	53.0	69.5	—	50.6	67.1	—	48.0	64.5
4500 cfm	EAT (wb)	58	TC	118.9	118.9	137.5	114.1	114.1	132.7	108.9	108.9	127.5	103.3	103.3	121.8	97.2	97.2	115.8
			SHC	100.3	118.9	137.5	95.5	114.1	132.7	90.3	108.9	127.5	84.7	103.3	121.8	78.6	97.2	115.8
		62	TC	119.9	119.9	135.3	115.0	115.0	130.8	109.2	109.2	126.7	103.3	103.3	121.9	97.2	97.2	115.8
			SHC	98.2	116.8	135.3	93.7	112.3	130.8	89.6	108.2	126.7	84.8	103.3	121.9	78.7	97.2	115.8
		67	TC	127.7	127.7	127.7	121.4	121.4	121.4	114.8	114.8	114.8	107.7	107.7	111.5	100.1	100.1	108.5
			SHC	82.1	100.7	119.3	79.8	98.3	116.9	77.2	95.8	114.4	74.4	92.9	111.5	71.4	89.9	108.5
		72	TC	138.9	138.9	138.9	132.1	132.1	132.1	124.7	124.7	124.7	116.9	116.9	116.9	108.6	108.6	108.6
			SHC	59.3	77.9	96.5	57.2	75.7	94.3	54.8	73.3	91.9	52.1	70.6	89.2	49.3	67.9	86.5
		78	TC	—	148.4	148.4	—	141.1	141.1	—	133.2	133.2	—	124.9	124.9	—	116.1	116.1
			SHC	—	59.4	78.0	—	57.2	75.8	—	54.9	73.5	—	52.5	71.0	—	49.9	68.4
5000 cfm	EAT (wb)	58	TC	122.0	122.0	142.6	117.0	117.0	137.6	111.6	111.6	132.2	105.7	105.7	126.3	99.3	99.3	119.9
			SHC	101.4	122.0	142.6	96.4	117.0	137.6	90.9	111.6	132.2	85.0	105.7	126.3	78.7	99.3	119.9
		62	TC	122.7	122.7	141.4	117.1	117.1	137.7	111.6	111.6	132.2	105.7	105.7	126.3	99.4	99.4	120.0
			SHC	100.2	120.8	141.4	96.4	117.1	137.7	91.0	111.6	132.2	85.1	105.7	126.3	78.8	99.4	120.0
		67	TC	129.2	129.2	129.2	122.8	122.8	124.6	115.9	115.9	121.9	108.7	108.7	119.0	101.1	101.1	115.7
			SHC	85.7	106.4	127.0	83.3	104.0	124.6	80.7	101.3	121.9	77.8	98.4	119.0	74.4	95.1	115.7
		72	TC	140.5	140.5	140.5	133.4	133.4	133.4	125.9	125.9	125.9	118.0	118.0	118.0	109.6	109.6	109.6
			SHC	61.0	81.6	102.3	58.7	79.3	99.9	56.3	76.9	97.5	53.7	74.3	94.9	50.9	71.5	92.1
		76	TC	—	150.1	150.1	—	142.6	142.6	—	134.5	134.5	—	126.0	126.0	—	117.1	117.1
			SHC	—	61.4	82.0	—	59.2	79.8	—	56.8	77.4	—	54.3	74.9	—	51.7	72.3

NOTE(S):

a. See minimum-maximum airflow ratings on page 7.

LEGEND

—	Do Not Operate
cfm	Cubic Feet Per Minute (Supply Air)
EAT (db)	Entering Air Temperature (Dry-Bulb)
EAT (wb)	Entering Air Temperature (Wet-Bulb)
SHC	Sensible Heat Capacity (1000 Btuh) Gross
TC	Total Capacity (1000 Btuh) Gross

Performance data (cont)

581J*11D — UNIT WITH PERFECT HUMIDITY SYSTEM IN SUBCOOLING MODE — 2-STAGE COOLING CAPACITIES a, b

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM								
		3000			4000			5000		
		Air Entering Evaporator — Ewb (°F)								
		72	67	62	72	67	62	72	67	62
75	TC	121.34	110.46	99.60	139.20	125.18	111.17	157.20	140.10	110.50
	SHC	58.86	72.03	85.20	67.31	80.25	93.18	74.00	86.80	72.00
	kW	6.61	6.54	6.45	6.65	6.58	6.50	6.67	6.62	6.53
85	TC	115.30	105.01	94.73	128.03	114.90	101.77	140.90	124.90	105.00
	SHC	45.81	62.19	78.57	55.02	71.16	87.29	62.30	78.30	62.20
	kW	6.76	6.88	6.78	6.80	6.73	6.83	6.82	6.77	6.87
95	TC	109.26	99.57	89.89	116.87	104.62	92.38	124.60	109.70	99.60
	SHC	32.76	52.35	71.93	42.70	62.07	81.40	50.60	69.80	52.30
	kW	7.55	7.49	7.39	7.58	7.51	7.45	7.60	7.56	7.49
105	TC	103.21	94.13	85.04	105.71	94.34	82.98	108.20	94.60	84.10
	SHC	19.71	42.51	65.30	30.45	52.98	75.51	39.00	61.30	42.50
	kW	8.47	8.42	8.32	8.51	8.44	8.37	8.53	8.49	8.41
115	TC	97.17	88.68	80.20	94.54	84.06	73.58	91.90	79.40	88.70
	SHC	6.67	32.66	58.66	18.16	43.89	69.62	27.30	52.80	32.60
	kW	9.42	9.37	9.27	9.46	9.39	9.32	9.48	9.44	9.36
125	TC	91.12	83.24	75.36	83.38	73.78	64.19	75.60	64.20	83.20
	SHC	-6.40	22.82	52.03	5.87	34.80	63.73	15.60	44.30	22.80
	kW	10.35	10.30	10.20	10.39	10.32	10.25	10.41	10.37	10.29

581J*11D — UNIT WITH PERFECT HUMIDITY SYSTEM IN HOT GAS REHEAT MODE — 2-STAGE COOLING CAPACITIES a, b

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM								
		75 Dry Bulb			75 Dry Bulb			75 Dry Bulb		
		62.5 Wet Bulb			64 Wet Bulb			65.3 Wet Bulb		
		(50% Relative Humidity)			(56% Relative Humidity)			(60% Relative Humidity)		
		Air Entering Evaporator — Ewb (°F)								
		3000	4000	5000	3000	4000	5000	3000	4000	5000
75	TC	46.00	49.70	52.50	50.20	52.60	55.00	51.40	55.60	57.90
	SHC	8.50	18.40	26.50	3.60	11.90	18.50	−1.10	5.20	11.70
	kW	6.56	6.50	6.42	6.55	6.48	6.40	6.53	6.49	6.40
85	TC	47.80	51.30	54.10	51.70	54.20	56.80	53.30	57.50	59.70
	SHC	10.20	20.00	28.20	5.30	13.40	20.10	0.50	6.80	13.20
	kW	6.51	6.45	6.36	6.50	6.44	6.35	6.47	6.44	6.35
95	TC	50.00	53.60	56.20	54.00	56.30	58.80	55.30	59.60	61.80
	SHC	12.00	21.60	29.80	6.90	15.00	21.70	2.20	8.50	14.70
	kW	6.45	6.40	6.29	6.45	6.39	6.28	6.42	6.39	6.28
105	TC	54.00	57.50	60.10	57.90	60.20	62.70	59.30	63.50	65.70
	SHC	15.20	24.70	31.90	10.20	18.30	24.90	5.40	11.80	18.00
	kW	6.33	6.28	6.19	6.33	6.27	6.17	6.30	6.27	6.17
115	TC	58.00	61.40	64.20	61.80	64.40	66.50	63.30	67.20	69.50
	SHC	18.50	28.00	36.20	13.50	21.50	28.20	8.70	15.10	21.30
	kW	6.22	6.17	6.10	6.22	6.16	6.08	6.19	6.16	6.08
125	TC	61.90	65.30	68.00	65.70	68.10	70.50	67.20	71.30	73.50
	SHC	21.70	31.10	39.30	16.70	24.90	31.20	12.00	18.30	24.60
	kW	6.10	6.05	5.98	6.10	6.04	5.96	6.07	6.04	5.96

NOTE(S):

- a. Direct interpolation is permissible. Do not extrapolate.
b. 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.

LEGEND

- Edb** — Entering Wet-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

581J*12D — 2-STAGE COOLING CAPACITIES ^a

581J*12D				AMBIENT TEMPERATURE (°F)														
				85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
3000 cfm	EAT (wb)	58	TC	104.3	104.3	118.5	99.5	99.5	113.0	93.4	93.4	106.1	86.7	86.7	98.6	79.7	79.7	90.6
			SHC	90.2	104.3	118.5	86.0	99.5	113.0	80.6	93.4	106.1	74.9	86.7	98.6	68.8	79.7	90.6
		62	TC	109.7	109.7	112.4	103.6	103.6	109.5	95.9	95.9	105.9	87.6	87.6	101.2	79.8	79.8	94.4
			SHC	80.8	96.6	112.4	78.0	93.8	109.5	74.5	90.2	105.9	70.3	85.7	101.2	65.2	79.8	94.4
		67	TC	121.5	121.5	121.5	115.4	115.4	115.4	107.8	107.8	107.8	98.7	98.7	98.7	89.1	89.1	89.1
			SHC	65.2	81.0	96.9	62.7	78.6	94.5	59.7	75.6	91.5	56.2	72.0	87.9	52.5	68.3	84.2
		72	TC	133.0	133.0	133.0	127.1	127.1	127.1	120.5	120.5	120.5	112.0	112.0	112.0	102.1	102.1	102.1
			SHC	48.7	64.5	80.4	46.5	62.4	78.3	44.1	60.0	75.9	41.2	57.1	73.0	37.8	53.7	69.6
		76	TC	—	140.9	140.9	—	135.1	135.1	—	128.4	128.4	—	121.3	121.3	—	112.5	112.5
			SHC	—	50.6	67.1	—	48.7	65.2	—	46.6	63.1	—	44.3	60.7	—	41.4	57.7
3500 cfm	EAT (wb)	58	TC	109.9	109.9	124.9	104.9	104.9	119.3	98.7	98.7	112.2	91.6	91.6	104.2	84.2	84.2	95.8
			SHC	94.9	109.9	124.9	90.6	104.9	119.3	85.2	98.7	112.2	79.0	91.6	104.2	72.6	84.2	95.8
		62	TC	112.8	112.8	123.1	106.7	106.7	120.0	99.5	99.5	115.3	91.7	91.7	108.5	84.3	84.3	99.8
			SHC	86.8	104.9	123.1	83.9	102.0	120.0	80.0	97.6	115.3	74.9	91.7	108.5	68.8	84.3	99.8
		67	TC	124.2	124.2	124.2	118.0	118.0	118.0	110.3	110.3	110.3	101.0	101.0	101.0	91.0	91.0	92.5
			SHC	68.4	86.7	104.9	66.1	84.3	102.6	63.2	81.5	99.8	59.6	78.0	96.3	55.9	74.2	92.5
		72	TC	135.2	135.2	135.2	129.1	129.1	129.1	122.4	122.4	122.4	114.2	114.2	114.2	104.2	104.2	104.2
			SHC	49.2	67.3	85.4	47.1	65.3	83.4	44.8	63.0	81.2	42.0	60.4	78.7	38.7	57.1	75.5
		76	TC	—	142.4	142.4	—	136.5	136.5	—	129.6	129.6	—	122.4	122.4	—	114.0	114.0
			SHC	—	51.7	70.9	—	49.7	68.7	—	47.5	66.3	—	45.2	63.8	—	42.6	61.2
4000 cfm	EAT (wb)	58	TC	114.3	114.3	130.0	109.2	109.2	124.2	102.9	102.9	117.0	95.4	95.4	108.7	87.7	87.7	99.9
			SHC	98.6	114.3	130.0	94.2	109.2	124.2	88.7	102.9	117.0	82.2	95.4	108.7	75.5	87.7	99.9
		62	TC	115.3	115.3	132.4	109.6	109.6	128.3	102.9	102.9	121.9	95.5	95.5	113.2	87.8	87.8	104.1
			SHC	91.9	112.2	132.4	88.7	108.5	128.3	84.0	102.9	121.9	77.9	95.5	113.2	71.5	87.8	104.1
		67	TC	125.8	125.8	125.8	119.5	119.5	119.5	111.9	111.9	111.9	102.4	102.4	104.2	92.2	92.2	100.4
			SHC	71.3	91.8	112.3	69.0	89.6	110.2	66.2	86.9	107.6	62.8	83.5	104.2	59.1	79.7	100.4
		72	TC	136.3	136.3	136.3	130.2	130.2	130.2	123.4	123.4	123.4	115.4	115.4	115.4	105.3	105.3	105.3
			SHC	49.5	69.7	89.8	47.4	67.7	87.9	45.1	65.5	85.9	42.5	63.1	83.7	39.3	60.1	80.9
		76	TC	—	143.1	143.1	—	137.1	137.1	—	130.1	130.1	—	122.6	122.6	—	114.5	114.5
			SHC	—	52.2	73.2	—	50.2	71.1	—	48.0	68.7	—	45.7	66.4	—	43.3	64.1
4500 cfm	EAT (wb)	58	TC	117.5	117.5	133.8	112.4	112.4	127.9	106.0	106.0	120.7	98.4	98.4	112.1	90.3	90.3	103.0
			SHC	101.3	117.5	133.8	96.8	112.4	127.9	91.2	106.0	120.7	84.6	98.4	112.1	77.7	90.3	103.0
		62	TC	117.6	117.6	139.4	112.5	112.5	133.3	106.1	106.1	125.8	98.5	98.5	116.8	90.4	90.4	107.4
			SHC	95.9	117.6	139.4	91.6	112.5	133.3	86.4	106.1	125.8	80.1	98.5	116.8	73.5	90.4	107.4
		67	TC	126.6	126.6	126.6	120.2	120.2	120.2	112.8	112.8	114.8	103.2	103.2	111.6	93.0	93.0	107.6
			SHC	73.7	96.4	119.2	71.5	94.3	117.2	68.9	91.8	114.8	65.6	88.6	111.6	61.8	84.7	107.6
		72	TC	136.7	136.7	136.7	130.5	130.5	130.5	123.6	123.6	123.6	115.7	115.7	115.7	105.7	105.7	105.7
			SHC	49.4	71.6	93.7	47.4	69.7	91.9	45.1	67.5	89.9	42.7	65.4	88.2	39.5	62.6	85.8
		78	TC	—	143.1	143.1	—	137.0	137.0	—	129.9	129.9	—	122.4	122.4	—	114.3	114.3
			SHC	—	52.4	75.1	—	50.5	73.1	—	48.2	70.8	—	46.0	68.5	—	43.7	66.5
5000 cfm	EAT (wb)	58	TC	119.9	119.9	136.7	114.7	114.7	130.7	108.4	108.4	123.6	100.6	100.6	114.8	92.3	92.3	105.4
			SHC	103.2	119.9	136.7	98.6	114.7	130.7	93.2	108.4	123.6	86.4	100.6	114.8	79.2	92.3	105.4
		62	TC	120.0	120.0	142.4	114.7	114.7	136.2	108.5	108.5	128.8	100.7	100.7	119.7	92.4	92.4	109.9
			SHC	97.6	120.0	142.4	93.3	114.7	136.2	88.1	108.5	128.8	81.7	100.7	119.7	74.9	92.4	109.9
		67	TC	126.8	126.8	126.8	120.4	120.4	123.6	113.2	113.2	121.3	103.8	103.8	118.4	93.6	93.6	114.0
			SHC	75.7	100.6	125.4	73.6	98.6	123.6	71.2	96.2	121.3	68.0	93.2	118.4	64.2	89.1	114.0
		72	TC	136.5	136.5	136.5	130.2	130.2	130.2	123.2	123.2	123.2	115.5	115.5	115.5	105.6	105.6	105.6
			SHC	49.1	73.1	97.0	47.1	71.3	95.4	44.9	69.2	93.5	42.5	67.3	92.0	39.5	64.9	90.2
		76	TC	—	142.7	142.7	—	136.5	136.5	—	129.4	129.4	—	121.6	121.6	—	113.6	113.6
			SHC	—	52.2	76.7	—	50.4	74.7	—	48.2	72.4	—	45.9	70.1	—	43.7	68.3

NOTE(S):

a. See minimum-maximum airflow ratings on page 7.

LEGEND

—	Do not operate
cfm	Cubic feet per minute (supply air)
EAT (db)	Entering air temperature (dry bulb)
EAT (wb)	Entering air temperature (wet bulb)
SHC	Sensible heat capacity (1000 Btuh) gross
TC	Total capacity (1000 Btuh) gross

Performance data (cont)

581J*12D — UNIT WITH PERFECT HUMIDITY SYSTEM IN SUBCOOLING MODE — 2-STAGE COOLING CAPACITIES a, b

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM								
		3000			4000			5000		
		Air Entering Evaporator — Ewb (°F)								
		72	67	62	72	67	62	72	67	62
75	TC	135.80	123.10	111.60	144.00	130.90	119.20	148.70	135.70	122.90
	SHC	56.70	72.80	88.90	66.10	86.90	107.40	74.40	100.10	121.00
	kW	6.42	6.26	6.13	6.54	6.37	6.22	6.61	6.43	6.26
85	TC	127.30	115.40	104.50	134.90	120.10	111.70	139.30	126.90	116.80
	SHC	48.60	65.40	82.10	57.50	76.60	100.20	65.40	91.80	115.00
	kW	7.20	7.04	6.90	7.31	7.11	7.00	7.38	7.21	7.07
95	TC	118.10	106.50	96.90	125.20	113.60	103.60	129.50	117.80	108.40
	SHC	39.90	57.00	74.90	48.30	70.50	92.40	56.20	83.10	106.80
	kW	8.06	7.89	7.76	8.17	8.00	7.86	8.24	8.07	7.93
105	TC	107.30	97.80	87.80	114.50	103.80	94.50	117.60	107.30	99.00
	SHC	29.60	48.70	66.20	38.10	61.30	83.80	44.90	73.10	97.50
	kW	8.99	8.85	8.72	9.11	8.95	8.82	9.16	9.01	8.88
115	TC	95.70	86.30	78.20	102.10	91.30	83.40	105.70	95.80	88.20
	SHC	18.60	37.80	57.10	26.40	49.40	73.20	33.60	62.30	87.00
	kW	10.03	9.89	9.79	10.14	9.97	9.86	10.20	10.05	9.94
125	TC	83.70	75.20	67.70	87.50	80.10	72.50	92.10	83.10	75.20
	SHC	7.30	27.40	47.20	12.50	38.80	62.90	20.60	50.30	74.20
	kW	11.17	11.06	10.98	11.23	11.13	11.03	11.30	11.17	11.07

581J*12D — UNIT WITH PERFECT HUMIDITY SYSTEM IN HOT GAS REHEAT MODE — 2-STAGE COOLING CAPACITIES a, b

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM								
		75 Dry Bulb			75 Dry Bulb			75 Dry Bulb		
		62.5 Wet Bulb			64 Wet Bulb			65.3 Wet Bulb		
		(50% Relative Humidity)			(56% Relative Humidity)			(60% Relative Humidity)		
		Air Entering Evaporator — Ewb (°F)								
		3000	4000	5000	3000	4000	5000	3000	4000	5000
80	TC	45.83	49.08	50.90	47.62	50.84	52.72	49.16	52.45	54.33
	SHC	4.82	14.45	24.36	−1.60	6.39	14.99	−7.27	−0.59	6.73
	kW	7.33	7.46	7.55	7.40	7.53	7.62	7.46	7.60	7.68
75	TC	48.52	51.89	53.81	50.31	53.74	55.73	51.92	55.47	57.43
	SHC	7.37	17.08	27.08	0.95	9.11	17.81	−4.65	2.25	9.63
	kW	6.93	7.07	7.15	7.00	7.14	7.23	7.06	7.21	7.29
70	TC	51.15	54.66	56.69	52.96	56.60	58.66	54.65	58.34	60.43
	SHC	9.87	19.70	29.80	3.47	11.82	20.57	−2.05	4.98	12.45
	kW	6.56	6.69	6.78	6.62	6.76	6.85	6.68	6.83	6.91
60	TC	52.89	56.41	59.04	55.63	59.10	62.68	58.00	62.31	64.50
	SHC	11.58	21.44	32.07	6.06	14.26	24.41	1.21	8.78	16.36
	kW	6.60	6.80	6.72	6.53	6.71	6.51	6.46	6.48	6.58
50	TC	55.13	59.53	62.75	58.04	62.61	64.69	59.64	64.34	66.41
	SHC	13.77	24.43	35.63	8.41	17.62	26.38	2.80	10.77	18.23
	kW	6.57	6.53	6.44	6.43	6.41	6.54	6.52	6.50	6.64
40	TC	57.08	60.11	64.35	58.75	63.63	65.58	60.16	65.23	69.04
	SHC	15.67	25.05	33.55	9.13	18.64	27.28	3.34	11.67	20.76
	kW	6.51	6.77	6.62	6.64	6.54	6.70	6.75	6.65	6.50

NOTE(S):

- a. Direct interpolation is permissible. Do not extrapolate.
b. 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.

LEGEND

- Edb** — Entering Wet-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

581J*14D — 2-STAGE COOLING CAPACITIES ^a

581J*14D				AMBIENT TEMPERATURE (°F)														
				85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
3750 cfm	EAT (wb)	58	TC	131.9	131.9	149.8	127.0	127.0	144.1	121.5	121.5	137.9	115.4	115.4	131.0	108.7	108.7	123.4
			SHC	114.1	131.9	149.8	109.8	127.0	144.1	105.0	121.5	137.9	99.8	115.4	131.0	94.0	108.7	123.4
		62	TC	138.0	138.0	143.4	131.7	131.7	140.4	124.7	124.7	136.9	117.1	117.1	133.1	109.4	109.4	127.4
			SHC	103.4	123.4	143.4	100.4	120.4	140.4	97.1	117.0	136.9	93.4	113.2	133.1	88.8	108.1	127.4
		67	TC	151.5	151.5	151.5	144.5	144.5	144.5	136.9	136.9	136.9	128.5	128.5	128.5	119.4	119.4	119.4
			SHC	85.1	105.2	125.3	82.1	102.2	122.3	78.9	99.0	119.0	75.4	95.5	115.5	71.7	91.8	111.8
		72	TC	166.1	166.1	166.1	158.5	158.5	158.5	150.2	150.2	150.2	141.1	141.1	141.1	131.3	131.3	131.3
			SHC	66.2	86.5	106.7	63.3	83.6	103.8	60.2	80.4	100.6	56.8	76.9	97.1	53.1	73.3	93.4
		76	TC	—	178.6	178.6	—	170.5	170.5	—	161.6	161.6	—	151.8	151.8	—	141.3	141.3
			SHC	—	71.1	91.8	—	68.3	88.9	—	65.2	85.8	—	61.8	82.5	—	58.2	78.7
4375 cfm	EAT (wb)	58	TC	139.2	139.2	158.0	133.8	133.8	151.9	127.9	127.9	145.2	121.3	121.3	137.7	114.1	114.1	129.5
			SHC	120.4	139.2	158.0	115.7	133.8	151.9	110.6	127.9	145.2	104.9	121.3	137.7	98.7	114.1	129.5
		62	TC	142.4	142.4	157.6	135.8	135.8	154.1	128.9	128.9	149.2	121.7	121.7	142.9	114.2	114.2	134.8
			SHC	111.5	134.5	157.6	108.2	131.2	154.1	104.2	126.7	149.2	99.4	121.1	142.9	93.6	114.2	134.8
		67	TC	155.8	155.8	155.8	148.5	148.5	148.5	140.4	140.4	140.4	131.6	131.6	131.6	122.1	122.1	123.0
			SHC	90.3	113.6	136.8	87.3	110.5	133.8	84.0	107.2	130.5	80.4	103.6	126.8	76.6	99.8	123.0
		72	TC	170.6	170.6	170.6	162.7	162.7	162.7	154.0	154.0	154.0	144.4	144.4	144.4	134.1	134.1	134.1
			SHC	68.5	91.9	115.3	65.5	88.9	112.3	62.3	85.6	109.0	58.8	82.1	105.4	55.1	78.4	101.7
		76	TC	—	183.3	183.3	—	174.8	174.8	—	165.4	165.4	—	155.2	155.2	—	144.3	144.3
			SHC	—	74.3	98.3	—	71.3	95.2	—	68.0	91.9	—	64.6	88.3	—	60.9	84.5
5000 cfm	EAT (wb)	58	TC	145.3	145.3	164.9	139.5	139.5	158.4	133.2	133.2	151.2	126.2	126.2	143.2	118.5	118.5	134.5
			SHC	125.6	145.3	164.9	120.7	139.5	158.4	115.2	133.2	151.2	109.1	126.2	143.2	102.5	118.5	134.5
		62	TC	146.5	146.5	169.3	140.2	140.2	163.9	133.3	133.3	157.4	126.3	126.3	149.1	118.6	118.6	140.0
			SHC	118.3	143.8	169.3	114.1	139.0	163.9	109.3	133.3	157.4	103.5	126.3	149.1	97.2	118.6	140.0
		67	TC	159.1	159.1	159.1	151.5	151.5	151.5	143.1	143.1	143.1	134.0	134.0	137.7	124.2	124.2	133.7
			SHC	95.2	121.6	148.0	92.2	118.5	144.9	88.8	115.1	141.5	85.1	111.4	137.7	81.3	107.5	133.7
		72	TC	174.1	174.1	174.1	165.9	165.9	165.9	156.8	156.8	156.8	146.9	146.9	146.9	136.2	136.2	136.2
			SHC	70.5	97.0	123.5	67.5	94.0	120.5	64.2	90.7	117.1	60.6	87.1	113.5	56.9	83.3	109.6
		76	TC	—	187.0	187.0	—	178.1	178.1	—	168.3	168.3	—	157.7	157.7	—	146.4	146.4
			SHC	—	77.0	104.0	—	74.0	100.9	—	70.7	97.5	—	67.2	93.9	—	63.4	90.0
5625 cfm	EAT (wb)	58	TC	150.4	150.4	170.8	144.4	144.4	163.9	137.7	137.7	156.3	130.3	130.3	147.9	122.2	122.2	138.7
			SHC	130.1	150.4	170.8	124.9	144.4	163.9	119.0	137.7	156.3	112.7	130.3	147.9	105.7	122.2	138.7
		62	TC	150.7	150.7	177.9	144.5	144.5	170.6	137.8	137.8	162.7	130.4	130.4	153.9	122.3	122.3	144.4
			SHC	123.5	150.7	177.9	118.4	144.5	170.6	112.9	137.8	162.7	106.8	130.4	153.9	100.2	122.3	144.4
		67	TC	161.7	161.7	161.7	153.9	153.9	155.6	145.3	145.3	152.1	135.9	135.9	148.2	125.9	125.9	143.9
			SHC	100.0	129.4	158.8	96.8	126.2	155.6	93.4	122.7	152.1	89.7	118.9	148.2	85.6	114.8	143.9
		72	TC	176.9	176.9	176.9	168.3	168.3	168.3	159.0	159.0	159.0	148.8	148.8	148.8	137.9	137.9	137.9
			SHC	72.3	101.9	131.5	69.3	98.8	128.4	66.0	95.5	125.0	62.4	91.8	121.3	58.6	88.0	117.4
		78	TC	—	189.8	189.8	—	180.6	180.6	—	170.6	170.6	—	159.7	159.7	—	148.1	148.1
			SHC	—	79.6	109.7	—	76.5	106.5	—	73.2	103.0	—	69.6	99.2	—	65.7	95.1
6250 cfm	EAT (wb)	58	TC	154.8	154.8	175.8	148.5	148.5	168.6	141.5	141.5	160.6	133.7	133.7	151.8	125.3	125.3	142.3
			SHC	133.9	154.8	175.8	128.4	148.5	168.6	122.3	141.5	160.6	115.6	133.7	151.8	108.4	125.3	142.3
		62	TC	155.0	155.0	183.0	148.6	148.6	175.5	141.6	141.6	167.2	133.9	133.9	158.0	125.4	125.4	148.1
			SHC	127.0	155.0	183.0	121.8	148.6	175.5	116.0	141.6	167.2	109.7	133.9	158.0	102.8	125.4	148.1
		67	TC	163.8	163.8	169.3	155.8	155.8	166.0	147.0	147.0	162.3	137.5	137.5	158.1	127.4	127.4	153.3
			SHC	104.5	136.9	169.3	101.3	133.6	166.0	97.8	130.0	162.3	93.9	126.0	158.1	89.7	121.5	153.3
		72	TC	179.1	179.1	179.1	170.3	170.3	170.3	160.8	160.8	160.8	150.3	150.3	150.3	139.2	139.2	139.2
			SHC	74.1	106.7	139.3	71.0	103.6	136.1	67.7	100.2	132.7	64.1	96.5	128.9	60.2	92.6	124.9
		76	TC	—	192.1	192.1	—	182.7	182.7	—	172.3	172.3	—	161.2	161.2	—	149.4	149.4
			SHC	—	82.1	115.1	—	79.0	111.8	—	75.6	108.2	—	71.9	104.3	—	67.9	100.0

NOTE(S):

a. See minimum-maximum airflow ratings on page 7.

LEGEND

—	Do Not Operate
cfm	Cubic Feet Per Minute (Supply Air)
EAT (db)	Entering Air Temperature (Dry-Bulb)
EAT (wb)	Entering Air Temperature (Wet-Bulb)
SHC	Sensible Heat Capacity (1000 Btuh) Gross
TC	Total Capacity (1000 Btuh) Gross

Performance data (cont)

581J*14D — UNIT WITH PERFECT HUMIDITY SYSTEM IN SUBCOOLING MODE — 2-STAGE COOLING CAPACITIES a, b

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM								
		3750			5000			6250		
		Air Entering Evaporator — Ewb (°F)								
		72	67	62	72	67	62	72	67	62
75	TC	162.0	147.4	132.8	185.6	167.2	148.8	209.5	187.2	164.9
	SHC	85.0	101.4	117.4	96.9	113.0	129.0	106.5	122.4	138.4
	kW	7.7	7.6	7.3	7.9	7.7	7.4	8.1	7.8	7.5
85	TC	154.8	140.9	127.0	171.7	154.4	137.1	188.8	168.0	147.2
	SHC	70.2	90.4	110.6	83.1	103.2	123.2	93.4	113.4	133.3
	kW	8.8	8.7	8.3	8.9	8.7	8.4	9.1	8.8	8.5
95	TC	147.5	134.4	121.2	157.8	141.6	125.4	168.1	148.8	129.6
	SHC	55.5	79.7	103.9	69.3	93.4	117.5	80.4	104.3	128.3
	kW	9.8	9.7	9.3	9.9	9.7	9.5	10.1	9.8	9.6
105	TC	140.3	127.8	115.4	143.8	128.7	113.7	147.4	129.7	111.9
	SHC	40.9	69.0	97.2	55.5	83.6	111.7	67.3	95.3	111.9
	kW	10.8	10.7	10.3	10.9	10.7	10.5	11.1	10.8	10.6
115	TC	133.0	121.3	109.5	129.9	115.9	101.9	126.7	110.5	94.2
	SHC	26.2	58.3	90.4	41.8	73.8	101.9	54.2	86.2	94.2
	kW	11.8	11.7	11.4	11.9	11.7	11.6	12.1	11.8	11.7
125	TC	125.8	114.7	103.7	115.9	103.1	90.2	106.0	91.3	76.6
	SHC	11.5	47.6	83.7	28.0	64.0	90.2	41.2	77.2	76.6
	kW	12.8	12.7	12.4	12.9	12.7	12.6	13.1	12.8	12.7

581J*14D — UNIT WITH PERFECT HUMIDITY SYSTEM IN HOT GAS REHEAT MODE — 2-STAGE COOLING CAPACITIES a, b

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — CFM								
		75 Dry Bulb			75 Dry Bulb			75 Dry Bulb		
		62.5 Wet Bulb			64 Wet Bulb			65.3 Wet Bulb		
		(50% Relative Humidity)			(56% Relative Humidity)			(60% Relative Humidity)		
		Air Entering Evaporator — Ewb (°F)								
		3750	5000	6250	3750	5000	6250	3750	5000	6250
80	TC	57.70	60.00	66.40	60.20	66.80	69.50	64.30	69.10	72.30
	SHC	21.30	27.00	44.00	12.80	22.40	32.50	8.60	16.20	25.50
	kW	8.08	8.15	8.23	8.28	8.34	8.37	8.36	8.43	8.52
75	TC	59.00	61.20	67.90	61.40	68.10	71.00	65.80	70.70	73.70
	SHC	22.40	28.10	44.80	13.50	23.50	33.70	9.30	17.10	26.30
	kW	8.06	8.13	8.21	8.25	8.31	8.34	8.33	8.40	8.49
70	TC	60.40	62.90	69.20	63.10	69.40	72.50	67.00	72.00	75.00
	SHC	23.20	28.90	46.00	14.50	24.30	34.40	10.30	17.90	27.40
	kW	8.04	8.11	8.18	8.23	8.29	8.32	8.31	8.38	8.47
60	TC	63.40	65.70	72.00	65.90	72.30	75.20	70.00	74.80	77.80
	SHC	24.80	30.50	47.80	16.10	25.90	36.00	11.90	19.60	29.00
	kW	8.00	8.07	8.15	8.20	8.25	8.29	8.28	8.35	8.44
50	TC	66.20	68.60	74.30	68.80	74.60	78.20	72.80	77.80	80.70
	SHC	26.60	32.30	49.40	17.70	27.70	37.80	13.50	21.20	30.60
	kW	7.94	8.01	8.08	8.13	8.20	8.23	8.22	8.29	8.38
40	TC	69.10	71.60	77.80	71.80	78.00	81.00	75.70	80.60	83.70
	SHC	28.20	33.90	50.10	19.40	29.30	39.80	15.20	22.90	32.20
	kW	7.90	7.97	8.04	8.09	8.15	8.17	8.16	8.23	8.32

NOTE(S):

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

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

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

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

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

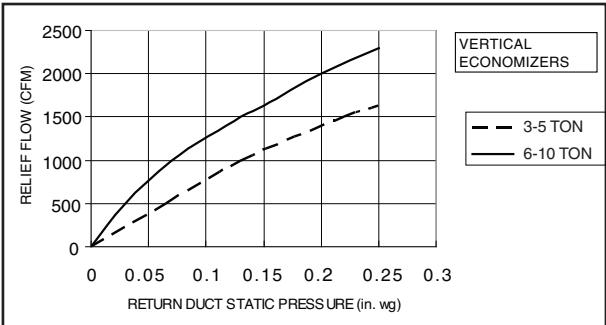
LEGEND

- Edb** — Entering Wet-Bulb
Ewb — Entering Wet-Bulb
kW — Compressor Motor Power Input
ldb — Leaving Dry-Bulb
lwb — Leaving Wet-Bulb
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

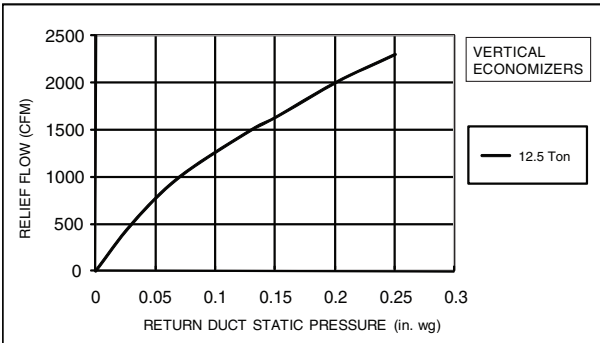
Performance data (cont)

ECONOMIZER, BAROMETRIC RELIEF AND POWER EXHAUST PERFORMANCE — VERTICAL APPLICATIONS

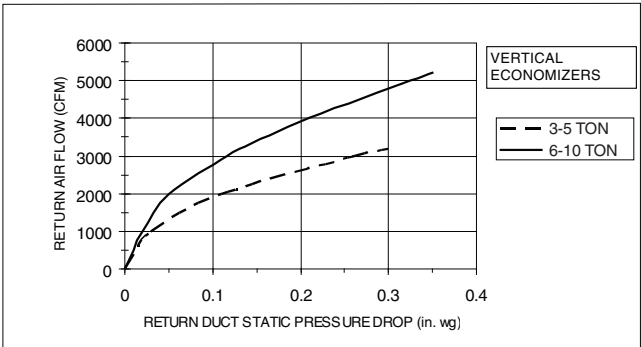
BAROMETRIC RELIEF FLOW — VERTICAL 3-10 TON



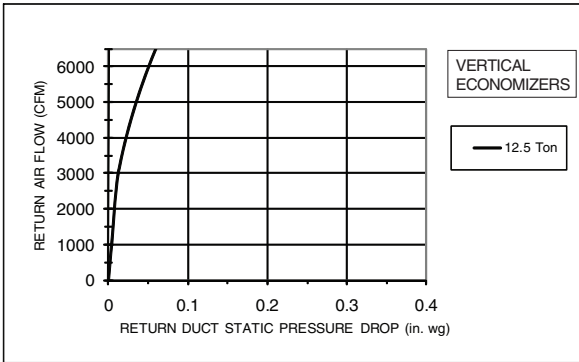
BAROMETRIC RELIEF FLOW — VERTICAL 12.5 TON



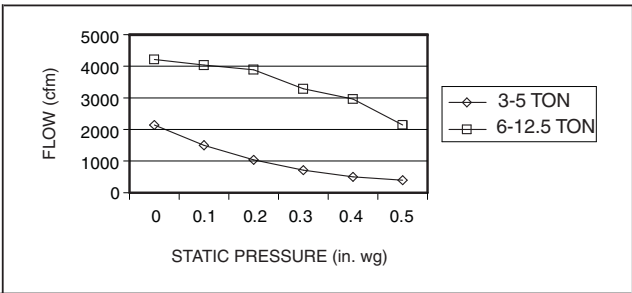
RETURN AIR PRESSURE DROP — VERTICAL 3-10 TON



RETURN AIR PRESSURE DROP — VERTICAL 12.5 TON



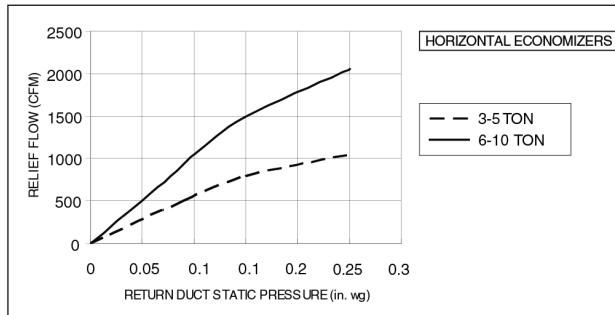
VERTICAL POWER EXHAUST PERFORMANCE



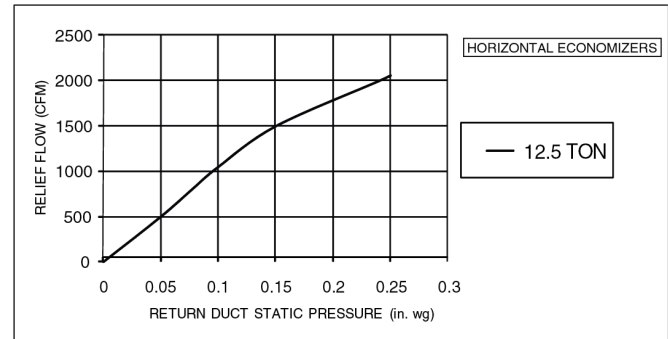
Performance data (cont)

ECONOMIZER, BAROMETRIC RELIEF AND POWER EXHAUST PERFORMANCE — HORIZONTAL APPLICATIONS

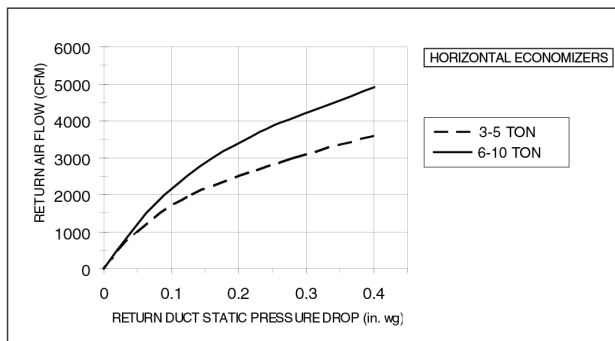
**BAROMETRIC RELIEF FLOW —
HORIZONTAL 3-10 TON**



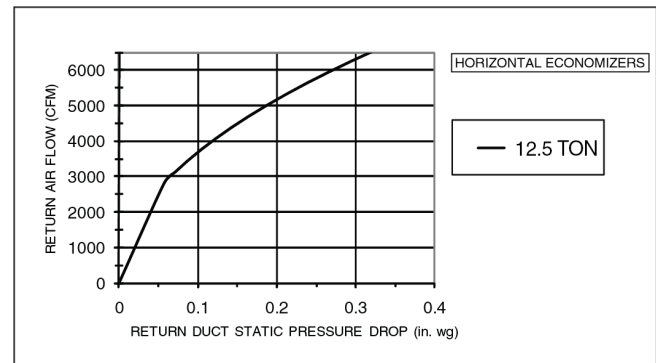
**BAROMETRIC RELIEF FLOW —
HORIZONTAL 12.5 TON**



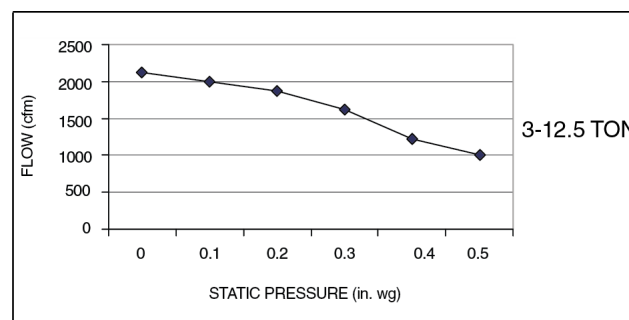
**RETURN AIR PRESSURE DROP —
HORIZONTAL 3-10 TON**



**RETURN AIR PRESSURE DROP —
HORIZONTAL 12.5 TON**



HORIZONTAL POWER EXHAUST PERFORMANCE



Fan data

GENERAL FAN PERFORMANCE NOTES

1. Interpolation is permissible. Do not extrapolate.
2. External static pressure is the static pressure difference between the return duct and the supply duct plus the static pressure caused by any FIOPs or accessories.
3. Tabular data accounts for pressure loss due to clean filters, unit casing, and wet coils. Factory options and accessories may add static pressure losses. Selection software is available, through your salesperson, to help you select the best motor/drive combination for your application.
4. The Fan Performance tables offer motor/drive recommendations. In cases when 2 motor/drive combinations would work, Bryant recommended the lower horsepower option.
5. For information on the electrical properties of Bryant motors, please see the Electrical Data section of this book.
6. For more information on the performance limits of Bryant motors, see the Application Data section of this book.
7. The EPACT (Energy Policy Act of 1992) regulates energy requirements for specific types of indoor fan motors. Motors regulated by EPACT include any general purpose, T-frame (3-digit, 143 and larger), single-speed, foot mounted, polyphase, squirrel cage induction motors of NEMA (National Electrical Manufacturers Association) design A and B, manufactured for use in the United States. Ranging from 1 to 200 Hp, these continuous-duty motors operate on 230 and 460 volt, 60 Hz power. If a motor does not fit into these specifications, the motor does not have to be replaced by an EPACT compliant energy-efficient motor. Variable-speed motors are exempt from EPACT compliance requirements.

Fan data (cont)

**581J*04A VERTICAL UNIT —
DIRECT DRIVE FAN PERFORMANCE**

SPEED (TORQUE) TAP	CFM	ESP	BHP
1	900	0.30	0.19
	975	0.17	0.17
	1050	0.06	0.16
	1125	—	—
	1200	—	—
	1275	—	—
	1350	—	—
	1425	—	—
	1500	—	—
2	900	0.48	0.25
	975	0.34	0.23
	1050	0.20	0.22
	1125	0.07	0.20
	1200	—	—
	1275	—	—
	1350	—	—
	1425	—	—
	1500	—	—
3	900	0.84	0.38
	975	0.69	0.36
	1050	0.53	0.33
	1125	0.38	0.32
	1200	0.24	0.31
	1275	0.10	0.31
	1350	—	—
	1425	—	—
	1500	—	—
4	900	0.99	0.43
	975	0.88	0.43
	1050	0.75	0.43
	1125	0.61	0.43
	1200	0.47	0.42
	1275	0.33	0.40
	1350	0.19	0.38
	1425	—	—
	1500	—	—
5	900	1.10	0.47
	975	1.02	0.49
	1050	0.75	0.51
	1125	0.61	0.54
	1200	0.81	0.56
	1275	0.74	0.58
	1350	0.67	0.61
	1425	0.60	0.63
	1500	0.52	0.66

**581J*04A HORIZONTAL UNIT —
DIRECT DRIVE FAN PERFORMANCE**

SPEED (TORQUE) TAP	CFM	ESP	BHP
1	900	0.45	0.23
	975	0.33	0.22
	1050	0.22	0.20
	1125	0.12	0.19
	1200	0.05	0.17
	1275	—	—
	1350	—	—
	1425	—	—
	1500	—	—
2	900	0.66	0.30
	975	0.52	0.28
	1050	0.39	0.27
	1125	0.27	0.26
	1200	0.16	0.24
	1275	0.05	0.23
	1350	—	—
	1425	—	—
	1500	—	—
3	900	1.01	0.43
	975	0.88	0.41
	1050	0.73	0.39
	1125	0.59	0.38
	1200	0.46	0.36
	1275	0.33	0.36
	1350	0.21	0.33
	1425	0.09	0.31
	1500	—	—
4	900	1.13	0.46
	975	1.03	0.46
	1050	0.92	0.46
	1125	0.81	0.46
	1200	0.69	0.46
	1275	0.57	0.45
	1350	0.44	0.44
	1425	0.31	0.42
	1500	0.18	0.40
5	900	1.20	0.49
	975	1.14	0.51
	1050	0.92	0.53
	1125	0.81	0.55
	1200	0.95	0.57
	1275	0.90	0.60
	1350	0.84	0.62
	1425	0.78	0.65
	1500	0.72	0.68

LEGEND

BHP — Brake Horsepower
ESP — External Static Pressure

Fan data (cont)

**581J*05A VERTICAL UNIT —
DIRECT DRIVE FAN PERFORMANCE**

SPEED (TORQUE) TAP	CFM	ESP	BHP
1	1200	0.38	0.30
	1300	0.24	0.28
	1400	0.12	0.27
	1500	0.01	0.26
	1600	—	—
	1700	—	—
	1800	—	—
	1900	—	—
	2000	—	—
2	1200	0.49	0.34
	1300	0.34	0.32
	1400	0.20	0.31
	1500	0.05	0.29
	1600	—	—
	1700	—	—
	1800	—	—
	1900	—	—
	2000	—	—
3	1200	0.87	0.56
	1300	0.74	0.57
	1400	0.60	0.59
	1500	0.44	0.56
	1600	0.29	0.50
	1700	0.14	0.47
	1800	0.02	0.46
	1900	—	—
	2000	—	—
4	1200	0.93	0.57
	1300	0.83	0.60
	1400	0.72	0.63
	1500	0.60	0.63
	1600	0.48	0.62
	1700	0.35	0.62
	1800	0.21	0.61
	1900	0.06	0.58
	2000	—	—
5	1200	0.97	0.58
	1300	0.89	0.61
	1400	0.72	0.65
	1500	0.60	0.68
	1600	0.64	0.72
	1700	0.55	0.75
	1800	0.46	0.79
	1900	0.35	0.82
	2000	0.25	0.86

LEGEND

BHP — Brake Horsepower
ESP — External Static Pressure

**581J*05A HORIZONTAL UNIT —
DIRECT DRIVE FAN PERFORMANCE**

SPEED (TORQUE) TAP	CFM	ESP	BHP
1	1200	0.49	0.35
	1300	0.34	0.33
	1400	0.20	0.31
	1500	0.06	0.29
	1600	—	—
	1700	—	—
	1800	—	—
	1900	—	—
	2000	—	—
2	1200	0.60	0.40
	1300	0.45	0.38
	1400	0.30	0.36
	1500	0.16	0.34
	1600	0.01	0.32
	1700	—	—
	1800	—	—
	1900	—	—
	2000	—	—
3	1200	0.94	0.59
	1300	0.83	0.61
	1400	0.71	0.63
	1500	0.59	0.61
	1600	0.46	0.59
	1700	0.33	0.56
	1800	0.19	0.53
	1900	0.07	0.49
	2000	—	—
4	1200	0.98	0.59
	1300	0.89	0.62
	1400	0.81	0.65
	1500	0.72	0.66
	1600	0.62	0.67
	1700	0.52	0.68
	1800	0.40	0.68
	1900	0.27	0.66
	2000	0.12	0.61
5	1200	1.02	0.60
	1300	0.95	0.63
	1400	0.81	0.67
	1500	0.72	0.70
	1600	0.74	0.74
	1700	0.67	0.78
	1800	0.59	0.82
	1900	0.51	0.86
	2000	0.42	0.89

Fan data (cont)

**581J*06A VERTICAL UNIT —
DIRECT DRIVE FAN PERFORMANCE**

SPEED (TORQUE) TAP	CFM	ESP	BHP
1	1500	0.27	0.45
	1625	0.08	0.43
	1750	—	—
	1875	—	—
	2000	—	—
	2125	—	—
	2250	—	—
	2375	—	—
2	2500	—	—
	1500	0.48	0.57
	1625	0.26	0.55
	1750	0.08	0.53
	1875	—	—
	2000	—	—
	2125	—	—
	2250	—	—
3	2375	—	—
	2500	—	—
	1500	0.91	0.82
	1625	0.72	0.82
	1750	0.52	0.81
	1875	0.31	0.78
	2000	0.11	0.77
	2125	—	—
4	2250	—	—
	2375	—	—
	2500	—	—
	1500	0.98	0.85
	1625	0.82	0.89
	1750	0.66	0.92
	1875	0.50	0.90
	2000	0.32	0.92
5	2125	0.13	0.86
	2250	—	—
	2375	—	—
	2500	—	—
	1500	1.00	—
	1625	0.86	0.91
	1750	0.66	0.95
	1875	0.50	0.98
	2000	0.41	1.01
	2125	0.25	0.88
	2250	0.06	1.01
	2375	—	—
	2500	—	—

**581J*06A HORIZONTAL UNIT —
DIRECT DRIVE FAN PERFORMANCE**

SPEED (TORQUE) TAP	CFM	ESP	BHP
1	1500	0.40	0.50
	1625	0.20	0.48
	1750	0.04	0.45
	1875	—	—
	2000	—	—
	2125	—	—
	2250	—	—
	2375	—	—
2	2500	—	—
	1500	0.62	0.62
	1625	0.39	0.60
	1750	0.19	0.57
	1875	0.03	0.53
	2000	—	—
	2125	—	—
	2250	—	—
3	2375	—	—
	2500	—	—
	1500	1.04	0.87
	1625	0.87	0.88
	1750	0.68	0.88
	1875	0.48	0.84
	2000	0.28	0.84
	2125	0.07	0.84
4	2250	—	—
	2375	—	—
	2500	—	—
	1500	1.10	0.90
	1625	0.96	0.94
	1750	0.81	0.98
	1875	0.65	0.95
	2000	0.47	1.00
5	2125	0.27	0.94
	2250	0.05	0.96
	2375	—	—
	2500	—	—
	1500	1.12	0.92
	1625	1.00	0.96
	1750	0.81	1.00
	1875	0.65	1.04
	2000	0.56	1.08
	2125	0.39	0.95
	2250	0.19	1.09
	2375	—	—
	2500	—	—

LEGEND

BHP — Brake Horsepower
ESP — External Static Pressure

Fan data (cont)

581J*04 3 PHASE WITHOUT PERFECT HUMIDITY, 3 TON, HORIZONTAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
900	582	0.14	715	0.24	825	0.35	921	0.48	1007	0.63
975	606	0.16	735	0.26	843	0.38	938	0.51	1023	0.66
1050	630	0.18	756	0.29	862	0.41	955	0.55	1040	0.70
1125	655	0.21	778	0.32	882	0.45	974	0.58	1057	0.74
1200	681	0.24	800	0.35	902	0.48	992	0.63	1074	0.78
1275	708	0.27	823	0.39	923	0.53	1012	0.67	1093	0.83
1350	735	0.31	847	0.43	945	0.57	1032	0.72	1112	0.88
1425	762	0.35	871	0.48	967	0.62	1053	0.77	1131	0.94
1500	790	0.40	896	0.53	990	0.67	1074	0.83	1151	1.00

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
900	1086	0.79	1159	0.96	1228	1.14	1293	1.33	1354	1.53
975	1101	0.82	1174	0.99	1242	1.18	1306	1.37	1367	1.57
1050	1117	0.86	1189	1.03	1256	1.22	1320	1.41	1381	1.62
1125	1133	0.90	1204	1.08	1271	1.26	1335	1.46	1395	1.67
1200	1150	0.95	1221	1.13	1287	1.31	1350	1.51	1410	1.72
1275	1168	1.00	1237	1.18	1303	1.37	1365	1.57	1425	1.78
1350	1186	1.05	1255	1.24	1320	1.43	1382	1.63	1441	1.84
1425	1204	1.11	1272	1.30	1337	1.49	1398	1.70	1457	1.91
1500	1223	1.18	1291	1.36	1355	1.56	1415	1.77	1473	1.99

581J*04 3 PHASE WITHOUT PERFECT HUMIDITY, 3 TON, VERTICAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
900	592	0.14	721	0.25	826	0.38	916	0.69	997	0.69
975	616	0.17	744	0.28	847	0.41	936	0.72	1016	0.72
1050	641	0.19	766	0.30	868	0.44	957	0.76	1036	0.76
1125	667	0.22	790	0.33	890	0.47	978	0.80	1056	0.80
1200	693	0.25	813	0.37	913	0.51	999	0.84	1077	0.84
1275	720	0.29	837	0.41	935	0.55	1021	0.88	1098	0.88
1350	747	0.33	862	0.45	958	0.60	1043	0.94	1119	0.94
1425	775	0.37	887	0.50	982	0.65	1066	0.99	1141	0.99
1500	802	0.42	912	0.55	1006	0.70	1088	1.05	1163	1.05

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
900	1070	0.88	1137	1.07	1201	1.29	1260	1.51	1317	1.75
975	1089	0.91	1156	1.11	1219	1.32	1279	1.54	1335	1.78
1050	1108	0.94	1175	1.14	1238	1.36	1297	1.58	1353	1.82
1125	1128	0.98	1195	1.18	1257	1.40	1316	1.62	1372	1.86
1200	1148	1.03	1214	1.23	1276	1.44	1335	1.67	1391	1.91
1275	1169	1.07	1235	1.28	1296	1.50	1354	1.72	1410	1.97
1350	1190	1.13	1255	1.33	1316	1.55	1374	1.78	1429	2.03
1425	1211	1.19	1276	1.39	1337	1.61	1394	1.85	1449	2.09
1500	1232	1.25	1297	1.46	1357	1.68	1415	1.91	1469	2.16

Medium static 770-1175 rpm, 1.7 bhp max
 High static 1035-1466 rpm, 2.4 bhp max
Boldface Indicates field-supplied drive is required.

Fan data (cont)

581J*04 3 PHASE WITH PERFECT HUMIDITY, 3 TON, HORIZONTAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
900	582	0.14	715	0.24	825	0.35	921	0.48	1007	0.63
975	606	0.16	735	0.26	843	0.38	938	0.51	1023	0.66
1050	630	0.18	756	0.29	862	0.41	955	0.55	1040	0.70
1125	655	0.21	778	0.32	882	0.45	974	0.58	1057	0.74
1200	681	0.24	800	0.35	902	0.48	992	0.63	1074	0.78
1275	708	0.27	823	0.39	923	0.53	1012	0.67	1093	0.83
1350	735	0.31	847	0.43	945	0.57	1032	0.72	1112	0.88
1425	762	0.35	871	0.48	967	0.62	1053	0.77	1131	0.94
1500	790	0.40	896	0.53	990	0.67	1074	0.83	1151	1.00

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
900	1086	0.79	1159	0.96	1228	1.14	1293	1.33	1354	1.53
975	1101	0.82	1174	0.99	1242	1.18	1306	1.37	1367	1.57
1050	1117	0.86	1189	1.03	1256	1.22	1320	1.41	1381	1.62
1125	1133	0.90	1204	1.08	1271	1.26	1335	1.46	1395	1.67
1200	1150	0.95	1221	1.13	1287	1.31	1350	1.51	1410	1.72
1275	1168	1.00	1237	1.18	1303	1.37	1365	1.57	1425	1.78
1350	1186	1.05	1255	1.24	1320	1.43	1382	1.63	1441	1.84
1425	1204	1.11	1272	1.30	1337	1.49	1398	1.70	1457	1.91
1500	1223	1.18	1291	1.36	1355	1.56	1415	1.77	1473	1.99

581J*04 3 PHASE WITH PERFECT HUMIDITY, 3 TON, VERTICAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
900	592	0.14	721	0.25	826	0.38	916	0.53	997	0.69
975	616	0.17	744	0.28	847	0.41	936	0.56	1016	0.72
1050	641	0.19	766	0.30	868	0.44	957	0.59	1036	0.76
1125	667	0.22	790	0.33	890	0.47	978	0.63	1056	0.80
1200	693	0.25	813	0.37	913	0.51	999	0.67	1077	0.84
1275	720	0.29	837	0.41	935	0.55	1021	0.71	1098	0.88
1350	747	0.33	862	0.45	958	0.60	1043	0.76	1119	0.94
1425	775	0.37	887	0.50	982	0.65	1066	0.81	1141	0.99
1500	802	0.42	912	0.55	1006	0.70	1088	0.87	1163	1.05

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
900	1070	0.88	1137	1.07	1201	1.29	1260	1.51	1317	1.75
975	1089	0.91	1156	1.11	1219	1.32	1279	1.54	1335	1.78
1050	1108	0.94	1175	1.14	1238	1.36	1297	1.58	1353	1.82
1125	1128	0.98	1195	1.18	1257	1.40	1316	1.62	1372	1.86
1200	1148	1.03	1214	1.23	1276	1.44	1335	1.67	1391	1.91
1275	1169	1.07	1235	1.28	1296	1.50	1354	1.72	1410	1.97
1350	1190	1.13	1255	1.33	1316	1.55	1374	1.78	1429	2.03
1425	1211	1.19	1276	1.39	1337	1.61	1394	1.85	1449	2.09
1500	1232	1.25	1297	1.46	1357	1.68	1415	1.91	1469	2.16

 Standard static 560-854 rpm, 1.7 bhp max
 Medium static 770-1175 rpm, 1.7 bhp max
 High static 1035-1466 rpm, 2.4 bhp max
Boldface Indicates field-supplied drive is required.

Fan data (cont)

581J*04 1 PHASE WITHOUT PERFECT HUMIDITY, 3 TON, HORIZONTAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
900	582	0.14	715	0.24	825	0.35	921	0.48	1007	0.63
975	606	0.16	735	0.26	843	0.38	938	0.51	1023	0.66
1050	630	0.18	756	0.29	862	0.41	955	0.55	1040	0.70
1125	655	0.21	778	0.32	882	0.45	974	0.58	1057	0.74
1200	681	0.24	800	0.35	902	0.48	992	0.63	1074	0.78
1275	708	0.27	823	0.39	923	0.53	1012	0.67	1093	0.83
1350	735	0.31	847	0.43	945	0.57	1032	0.72	1112	0.88
1425	762	0.35	871	0.48	967	0.62	1053	0.77	1131	0.94
1500	790	0.40	896	0.53	990	0.67	1074	0.83	1151	1.00

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
900	1086	0.79	1159	0.96	1228	1.14	—	—	—	—
975	1101	0.82	1174	0.99	1242	1.18	—	—	—	—
1050	1117	0.86	1189	1.03	—	—	—	—	—	—
1125	1133	0.90	1204	1.08	—	—	—	—	—	—
1200	1150	0.95	1221	1.13	—	—	—	—	—	—
1275	1168	1.00	1237	1.18	—	—	—	—	—	—
1350	1186	1.05	—	—	—	—	—	—	—	—
1425	1204	1.11	—	—	—	—	—	—	—	—
1500	1223	1.18	—	—	—	—	—	—	—	—

581J*04 1 PHASE WITHOUT PERFECT HUMIDITY, 3 TON, VERTICAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
900	592	0.14	721	0.25	826	0.38	916	0.53	997	0.69
975	616	0.17	744	0.28	847	0.41	936	0.56	1016	0.72
1050	641	0.19	766	0.30	868	0.44	957	0.59	1036	0.76
1125	667	0.22	790	0.33	890	0.47	978	0.63	1056	0.80
1200	693	0.25	813	0.37	913	0.51	999	0.67	1077	0.84
1275	720	0.29	837	0.41	935	0.55	1021	0.71	1098	0.88
1350	747	0.33	862	0.45	958	0.60	1043	0.76	1119	0.94
1425	775	0.37	887	0.50	982	0.65	1066	0.81	1141	0.99
1500	802	0.42	912	0.55	1006	0.70	1088	0.87	1163	1.05

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
900	1070	0.88	1137	1.07	—	—	—	—	—	—
975	1089	0.91	1156	1.11	—	—	—	—	—	—
1050	1108	0.94	1175	1.14	—	—	—	—	—	—
1125	1128	0.98	1195	1.18	—	—	—	—	—	—
1200	1148	1.03	—	—	—	—	—	—	—	—
1275	1169	1.07	—	—	—	—	—	—	—	—
1350	1190	1.13	—	—	—	—	—	—	—	—
1425	1211	1.19	—	—	—	—	—	—	—	—
1500	—	—	—	—	—	—	—	—	—	—

 Standard static 560-854 rpm 1.2 bhp max
 Medium static 770-1175 rpm, 1.2 bhp max
Boldface Indicates field-supplied drive is required.

Fan data (cont)

581J*05 3 PHASE WITHOUT PERFECT HUMIDITY, 4 TON, HORIZONTAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1200	681	0.24	800	0.35	902	0.48	992	0.63	1074	0.78
1300	717	0.29	831	0.41	930	0.54	1019	0.69	1099	0.85
1400	753	0.34	863	0.46	959	0.60	1046	0.75	1125	0.92
1500	790	0.40	896	0.53	990	0.67	1074	0.83	1151	1.00
1600	828	0.46	930	0.60	1021	0.75	1103	0.91	1179	1.09
1700	866	0.54	964	0.68	1053	0.84	1133	1.01	1207	1.18
1800	905	0.62	1000	0.77	1085	0.94	1164	1.11	1236	1.29
1900	944	0.71	1036	0.87	1119	1.04	1195	1.22	1266	1.41
2000	984	0.82	1072	0.98	1153	1.15	1227	1.34	1297	1.53

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1200	1150	0.95	1221	1.13	1287	1.31	1350	1.51	1410	1.72
1300	1173	1.02	1243	1.20	1309	1.39	1371	1.59	1430	1.80
1400	1198	1.09	1266	1.28	1331	1.47	1393	1.68	1451	1.89
1500	1223	1.18	1291	1.36	1355	1.56	1415	1.77	1473	1.99
1600	1249	1.27	1316	1.46	1379	1.66	1439	1.87	1496	2.09
1700	1277	1.37	1342	1.57	1404	1.77	1463	1.99	1520	2.21
1800	1305	1.48	1369	1.68	1430	1.89	1489	2.11	1545	2.34
1900	1333	1.60	1397	1.81	1457	2.02	1514	2.25	—	—
2000	1363	1.73	1425	1.94	1484	2.16	1541	2.39	—	—

581J*05 3 PHASE WITHOUT PERFECT HUMIDITY, 4 TON, VERTICAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1200	693	0.25	813	0.37	913	0.51	999	0.67	1077	0.84
1300	729	0.30	846	0.42	943	0.57	1028	0.73	1105	0.90
1400	765	0.35	879	0.48	974	0.63	1058	0.79	1134	0.97
1500	802	0.42	912	0.55	1006	0.70	1088	0.87	1163	1.05
1600	840	0.49	947	0.63	1038	0.78	1119	0.95	1193	1.14
1700	878	0.57	982	0.71	1071	0.87	1151	1.05	1224	1.24
1800	917	0.65	1017	0.81	1105	0.97	1183	1.15	1255	1.35
1900	956	0.75	1053	0.91	1139	1.08	1216	1.27	1287	1.47
2000	995	0.86	1090	1.02	1173	1.20	1249	1.39	1319	1.59

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1200	1148	1.03	1214	1.23	1276	1.44	1335	1.67	1391	1.91
1300	1176	1.09	1241	1.30	1303	1.51	1361	1.74	1416	1.98
1400	1204	1.17	1269	1.37	1330	1.59	1388	1.82	1442	2.07
1500	1232	1.25	1297	1.46	1357	1.68	1415	1.91	1469	2.16
1600	1262	1.34	1325	1.55	1385	1.78	1442	2.01	1496	2.26
1700	1291	1.44	1354	1.66	1414	1.89	1470	2.12	1524	2.37
1800	1322	1.55	1384	1.77	1443	2.00	1499	2.25	—	—
1900	1352	1.68	1414	1.90	1472	2.13	1528	2.38	—	—
2000	1384	1.81	1445	2.04	1502	2.27	—	—	—	—

 Medium static 920-1303 rpm, 1.7 bhp max
 High static 1208-1550 rpm, 2.9 bhp max
Boldface Indicates field-supplied drive is required.

Fan data (cont)

581J*05 3 PHASE WITH PERFECT HUMIDITY, 4 TON, HORIZONTAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1200	681	0.24	800	0.35	902	0.48	992	0.63	1074	0.78
1300	717	0.29	831	0.41	930	0.54	1019	0.69	1099	0.85
1400	753	0.34	863	0.46	959	0.60	1046	0.75	1125	0.92
1500	790	0.40	896	0.53	990	0.67	1074	0.83	1151	1.00
1600	828	0.46	930	0.60	1021	0.75	1103	0.91	1179	1.09
1700	866	0.54	964	0.68	1053	0.84	1133	1.01	1207	1.18
1800	905	0.62	1000	0.77	1085	0.94	1164	1.11	1236	1.29
1900	944	0.71	1036	0.87	1119	1.04	1195	1.22	1266	1.41
2000	984	0.82	1072	0.98	1153	1.15	1227	1.34	1297	1.53

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1200	1150	0.95	1221	1.13	1287	1.31	1350	1.51	1410	1.72
1300	1173	1.02	1243	1.20	1309	1.39	1371	1.59	1430	1.80
1400	1198	1.09	1266	1.28	1331	1.47	1393	1.68	1451	1.89
1500	1223	1.18	1291	1.36	1355	1.56	1415	1.77	1473	1.99
1600	1249	1.27	1316	1.46	1379	1.66	1439	1.87	1496	2.09
1700	1277	1.37	1342	1.57	1404	1.77	1463	1.99	1520	2.21
1800	1305	1.48	1369	1.68	1430	1.89	1489	2.11	1545	2.34
1900	1333	1.60	1397	1.81	1457	2.02	1514	2.25	—	—
2000	1363	1.73	1425	1.94	1484	2.16	1541	2.39	—	—

581J*05 3 PHASE WITH PERFECT HUMIDITY, 4 TON, VERTICAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1200	693	0.25	813	0.37	913	0.51	999	0.67	1077	0.84
1300	729	0.30	846	0.42	943	0.57	1028	0.73	1105	0.90
1400	765	0.35	879	0.48	974	0.63	1058	0.79	1134	0.97
1500	802	0.42	912	0.55	1006	0.70	1088	0.87	1163	1.05
1600	840	0.49	947	0.63	1038	0.78	1119	0.95	1193	1.14
1700	878	0.57	982	0.71	1071	0.87	1151	1.05	1224	1.24
1800	917	0.65	1017	0.81	1105	0.97	1183	1.15	1255	1.35
1900	956	0.75	1053	0.91	1139	1.08	1216	1.27	1287	1.47
2000	995	0.86	1090	1.02	1173	1.20	1249	1.39	1319	1.59

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1200	1148	1.03	1214	1.23	1276	1.44	1335	1.67	1391	1.91
1300	1176	1.09	1241	1.30	1303	1.51	1361	1.74	1416	1.98
1400	1204	1.17	1269	1.37	1330	1.59	1388	1.82	1442	2.07
1500	1232	1.25	1297	1.46	1357	1.68	1415	1.91	1469	2.16
1600	1262	1.34	1325	1.55	1385	1.78	1442	2.01	1496	2.26
1700	1291	1.44	1354	1.66	1414	1.89	1470	2.12	1524	2.37
1800	1322	1.55	1384	1.77	1443	2.00	1499	2.25	—	—
1900	1352	1.68	1414	1.90	1472	2.13	1528	2.38	—	—
2000	1384	1.81	1445	2.04	1502	2.27	—	—	—	—

Standard static 560-854 rpm, 1.7 bhp max
Medium static 770-1175 rpm, 1.7 bhp max
High static 1208-1550 rpm, 2.9 bhp max

Fan data (cont)

581J*05 1 PHASE WITHOUT PERFECT HUMIDITY, 4 TON, HORIZONTAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1200	681	0.24	800	0.35	902	0.48	992	0.63	1074	0.78
1300	717	0.29	831	0.41	930	0.54	1019	0.69	1099	0.85
1400	753	0.34	863	0.46	959	0.60	1046	0.75	1125	0.92
1500	790	0.40	896	0.53	990	0.67	1074	0.83	1151	1.00
1600	828	0.46	930	0.60	1021	0.75	1103	0.91	1179	1.09
1700	866	0.54	964	0.68	1053	0.84	1133	1.01	1207	1.18
1800	905	0.62	1000	0.77	1085	0.94	1164	1.11	—	—
1900	944	0.71	1036	0.87	1119	1.04	—	—	—	—
2000	984	0.82	1072	0.98	1153	1.15	—	—	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1200	1150	0.95	1221	1.13	—	—	—	—	—	—
1300	1173	1.02	1243	1.20	—	—	—	—	—	—
1400	1198	1.09	—	—	—	—	—	—	—	—
1500	1223	1.18	—	—	—	—	—	—	—	—
1600	—	—	—	—	—	—	—	—	—	—
1700	—	—	—	—	—	—	—	—	—	—
1800	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—

581J*05 1 PHASE WITHOUT PERFECT HUMIDITY, 4 TON, VERTICAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1200	693	0.25	813	0.37	913	0.51	999	0.67	1077	0.84
1300	729	0.30	846	0.42	943	0.57	1028	0.73	1105	0.90
1400	765	0.35	879	0.48	974	0.63	1058	0.79	1134	0.97
1500	802	0.42	912	0.55	1006	0.70	1088	0.87	1163	1.05
1600	840	0.49	947	0.63	1038	0.78	1119	0.95	1193	1.14
1700	878	0.57	982	0.71	1071	0.87	1151	1.05	—	—
1800	917	0.65	1017	0.81	1105	0.97	1183	1.15	—	—
1900	956	0.75	1053	0.91	1139	1.08	—	—	—	—
2000	995	0.86	1090	1.02	1173	1.20	—	—	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1200	1148	1.03	—	—	—	—	—	—	—	—
1300	1176	1.09	—	—	—	—	—	—	—	—
1400	1204	1.17	—	—	—	—	—	—	—	—
1500	—	—	—	—	—	—	—	—	—	—
1600	—	—	—	—	—	—	—	—	—	—
1700	—	—	—	—	—	—	—	—	—	—
1800	—	—	—	—	—	—	—	—	—	—
1900	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—

Standard static 560-854 rpm, 1.2 bhp max
Medium static 770-1175 rpm, 1.2 bhp max
Boldface Indicates field-supplied drive is required.

Fan data (cont)

581J*06 3 PHASE WITHOUT PERFECT HUMIDITY, 5 TON, HORIZONTAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1500	798	0.41	906	0.55	1002	0.71	1088	0.87	1167	1.05
1625	845	0.50	949	0.65	1041	0.81	1125	0.98	1202	1.17
1750	893	0.60	993	0.76	1081	0.93	1163	1.11	1238	1.30
1875	942	0.71	1037	0.88	1123	1.06	1202	1.25	1275	1.44
2000	992	0.84	1083	1.02	1166	1.21	1242	1.40	1313	1.61
2125	1043	0.98	1129	1.17	1209	1.37	1283	1.57	1353	1.79
2250	1093	1.14	1177	1.34	1254	1.55	1325	1.76	1393	1.98
2375	1145	1.32	1225	1.53	1299	1.74	1369	1.97	1434	2.20
2500	1196	1.51	1273	1.73	1345	1.96	1413	2.19	1477	2.43

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1500	1241	1.23	1310	1.42	1375	1.63	1438	1.84	1497	2.06
1625	1274	1.36	1342	1.56	1406	1.77	1467	1.98	1526	2.21
1750	1308	1.50	1375	1.70	1438	1.92	1498	2.14	—	—
1875	1344	1.65	1409	1.86	1471	2.09	1530	2.32	—	—
2000	1380	1.82	1444	2.04	1505	2.27	—	—	—	—
2125	1418	2.01	1481	2.24	1540	2.47	—	—	—	—
2250	1457	2.21	1518	2.45	—	—	—	—	—	—
2375	1497	2.43	—	—	—	—	—	—	—	—
2500	1538	2.68	—	—	—	—	—	—	—	—

581J*06 3 PHASE WITHOUT PERFECT HUMIDITY, 5 TON, VERTICAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1500	847	0.41	966	0.55	1067	0.68	1158	0.81	1240	0.93
1625	896	0.50	1010	0.65	1109	0.79	1198	0.93	1278	1.07
1750	947	0.59	1056	0.76	1152	0.92	1238	1.07	1318	1.22
1875	998	0.70	1103	0.88	1196	1.05	1280	1.22	1358	1.38
2000	1049	0.82	1151	1.02	1241	1.20	1323	1.38	1399	1.56
2125	1102	0.96	1199	1.17	1287	1.37	1367	1.56	1441	1.75
2250	1154	1.11	1248	1.33	1333	1.55	1411	1.75	1484	1.96
2375	1208	1.28	1298	1.52	1381	1.74	1457	1.96	1528	2.18
2500	1261	1.47	1349	1.72	1429	1.96	1503	2.19	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1500	1316	1.05	1387	1.17	1454	1.28	1517	1.39	—	—
1625	1353	1.20	1423	1.33	1489	1.46	—	—	—	—
1750	1391	1.36	1460	1.51	1525	1.65	—	—	—	—
1875	1430	1.54	1498	1.70	—	—	—	—	—	—
2000	1470	1.73	1537	1.90	—	—	—	—	—	—
2125	1511	1.93	—	—	—	—	—	—	—	—
2250	—	—	—	—	—	—	—	—	—	—
2375	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—

Medium static 906-1466 rpm, 2.4 bhp max
 High static 1303-1550 rpm, 2.9 bhp max
Boldface Indicates field-supplied drive is required.

Fan data (cont)

581J*06 3 PHASE WITH PERFECT HUMIDITY, 5 TON, HORIZONTAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1500	798	0.41	906	0.55	1002	0.71	1088	0.87	1167	1.05
1625	845	0.50	949	0.65	1041	0.81	1125	0.98	1202	1.17
1750	893	0.60	993	0.76	1081	0.93	1163	1.11	1238	1.30
1875	942	0.71	1037	0.88	1123	1.06	1202	1.25	1275	1.44
2000	992	0.84	1083	1.02	1166	1.21	1242	1.40	1313	1.61
2125	1043	0.98	1129	1.17	1209	1.37	1283	1.57	1353	1.79
2250	1093	1.14	1177	1.34	1254	1.55	1325	1.76	1393	1.98
2375	1145	1.32	1225	1.53	1299	1.74	1369	1.97	1434	2.20
2500	1196	1.51	1273	1.73	1345	1.96	1413	2.19	1477	2.43

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1500	1241	1.23	1310	1.42	1375	1.63	1438	1.84	1497	2.06
1625	1274	1.36	1342	1.56	1406	1.77	1467	1.98	1526	2.21
1750	1308	1.50	1375	1.70	1438	1.92	1498	2.14	—	—
1875	1344	1.65	1409	1.86	1471	2.09	1530	2.32	—	—
2000	1380	1.82	1444	2.04	1505	2.27	—	—	—	—
2125	1418	2.01	1481	2.24	1540	2.47	—	—	—	—
2250	1457	2.21	1518	2.45	—	—	—	—	—	—
2375	1497	2.43	—	—	—	—	—	—	—	—
2500	1538	2.68	—	—	—	—	—	—	—	—

581J*06 3 PHASE WITH PERFECT HUMIDITY, 5 TON, VERTICAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1500	847	0.41	966	0.55	1067	0.68	1158	0.81	1240	0.93
1625	896	0.50	1010	0.65	1109	0.79	1198	0.93	1278	1.07
1750	947	0.59	1056	0.76	1152	0.92	1238	1.07	1318	1.22
1875	998	0.70	1103	0.88	1196	1.05	1280	1.22	1358	1.38
2000	1049	0.82	1151	1.02	1241	1.20	1323	1.38	1399	1.56
2125	1102	0.96	1199	1.17	1287	1.37	1367	1.56	1441	1.75
2250	1154	1.11	1248	1.33	1333	1.55	1411	1.75	1484	1.96
2375	1208	1.28	1298	1.52	1381	1.74	1457	1.96	1528	2.18
2500	1261	1.47	1349	1.72	1429	1.96	1503	2.19	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1500	1316	1.05	1387	1.17	1454	1.28	1517	1.39	—	—
1625	1353	1.20	1423	1.33	1489	1.46	—	—	—	—
1750	1391	1.36	1460	1.51	1525	1.65	—	—	—	—
1875	1430	1.54	1498	1.70	—	—	—	—	—	—
2000	1470	1.73	1537	1.90	—	—	—	—	—	—
2125	1511	1.93	—	—	—	—	—	—	—	—
2250	—	—	—	—	—	—	—	—	—	—
2375	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—

Standard static 770-1175 rpm, 1.7 bhp max
Medium static 1035-1466 rpm, 2.4 bhp max
High static 1303-1550 rpm, 2.9 bhp max

Fan data (cont)

581J*06 1 PHASE WITHOUT PERFECT HUMIDITY, 5 TON, HORIZONTAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1500	798	0.41	906	0.55	1002	0.71	1088	0.87	1167	1.05
1625	845	0.50	949	0.65	1041	0.81	1125	0.98	1202	1.17
1750	893	0.60	993	0.76	1081	0.93	1163	1.11	1238	1.30
1875	942	0.71	1037	0.88	1123	1.06	1202	1.25	1275	1.44
2000	992	0.84	1083	1.02	1166	1.21	1242	1.40	—	—
2125	1043	0.98	1129	1.17	1209	1.37	—	—	—	—
2250	1093	1.14	1177	1.34	—	—	—	—	—	—
2375	1145	1.32	1225	1.53	—	—	—	—	—	—
2500	1196	1.51	—	—	—	—	—	—	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1500	1241	1.23	1310	1.42	—	—	—	—	—	—
1625	1274	1.36	—	—	—	—	—	—	—	—
1750	1308	1.50	—	—	—	—	—	—	—	—
1875	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—
2125	—	—	—	—	—	—	—	—	—	—
2250	—	—	—	—	—	—	—	—	—	—
2375	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—

581J*06 1 PHASE WITHOUT PERFECT HUMIDITY, 5 TON, VERTICAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1500	847	0.41	966	0.55	1067	0.68	1158	0.81	1240	0.93
1625	896	0.50	1010	0.65	1109	0.79	1198	0.93	1278	1.07
1750	947	0.59	1056	0.76	1152	0.92	1238	1.07	1318	1.22
1875	998	0.70	1103	0.88	1196	1.05	1280	1.22	1358	1.38
2000	1049	0.82	1151	1.02	1241	1.20	1323	1.38	—	—
2125	1102	0.96	1199	1.17	1287	1.37	—	—	—	—
2250	1154	1.11	1248	1.33	—	—	—	—	—	—
2375	1208	1.28	1298	1.52	—	—	—	—	—	—
2500	1261	1.47	—	—	—	—	—	—	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1500	1316	1.05	1387	1.17	1454	1.28	1517	1.39	1578	1.50
1625	1353	1.20	1423	1.33	1489	1.46	—	—	—	—
1750	1391	1.36	1460	1.51	—	—	—	—	—	—
1875	—	—	—	—	—	—	—	—	—	—
2000	—	—	—	—	—	—	—	—	—	—
2125	—	—	—	—	—	—	—	—	—	—
2250	—	—	—	—	—	—	—	—	—	—
2375	—	—	—	—	—	—	—	—	—	—
2500	—	—	—	—	—	—	—	—	—	—

Standard static 770-1175 rpm, 1.2 bhp max
Medium static 1035-1466 rpm, 1.5 bhp max
Boldface Indicates field-supplied drive is required.

Fan data (cont)

581J*07 3 PHASE, 6 TON, HORIZONTAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1800	441	0.33	533	0.51	611	0.72	681	0.96	745	1.23
1950	462	0.38	550	0.58	626	0.80	694	1.04	757	1.31
2100	483	0.45	567	0.65	641	0.88	708	1.13	769	1.40
2250	505	0.52	586	0.73	657	0.97	722	1.22	782	1.50
2400	528	0.60	605	0.82	674	1.07	738	1.33	796	1.62
2550	550	0.69	625	0.92	692	1.17	754	1.45	811	1.74
2700	574	0.80	645	1.03	710	1.29	770	1.57	826	1.88
2850	597	0.91	666	1.16	729	1.43	788	1.71	843	2.02
3000	621	1.03	688	1.29	749	1.57	806	1.87	859	2.18

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1800	804	1.51	860	1.82	912	2.15	961	2.49	1008	2.85
1950	815	1.60	869	1.91	920	2.24	969	2.59	1016	2.96
2100	826	1.70	880	2.01	930	2.35	978	2.70	1024	3.07
2250	838	1.81	891	2.12	941	2.46	988	2.82	1033	3.19
2400	851	1.92	903	2.25	952	2.59	999	2.95	1043	3.33
2550	865	2.05	916	2.38	964	2.73	1010	3.10	1054	3.48
2700	879	2.19	929	2.53	976	2.88	1022	3.25	1066	3.64
2850	894	2.35	943	2.69	990	3.05	1035	3.43	1078	3.82
3000	910	2.51	958	2.86	1004	3.23	1048	3.61	1090	4.01

581J*07 3 PHASE, 6 TON, VERTICAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1800	449	0.34	539	0.53	615	0.75	681	0.99	742	1.26
1950	470	0.40	557	0.60	631	0.83	696	1.08	756	1.35
2100	491	0.47	576	0.68	648	0.91	712	1.17	771	1.45
2250	513	0.54	595	0.76	665	1.01	728	1.27	786	1.56
2400	536	0.63	615	0.86	684	1.11	745	1.39	802	1.68
2550	558	0.72	635	0.97	702	1.23	763	1.51	818	1.81
2700	582	0.83	656	1.08	721	1.35	781	1.65	835	1.95
2850	605	0.94	677	1.21	741	1.49	799	1.79	853	2.11
3000	629	1.07	699	1.35	761	1.64	818	1.95	871	2.28

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1800	797	1.54	848	1.84	896	2.16	942	2.49	985	2.84
1950	810	1.64	861	1.94	909	2.26	954	2.60	997	2.96
2100	824	1.74	875	2.06	922	2.38	967	2.73	1009	3.09
2250	839	1.86	889	2.18	935	2.52	980	2.87	1022	3.23
2400	854	1.99	903	2.32	950	2.66	993	3.02	1035	3.39
2550	870	2.13	918	2.46	964	2.81	1008	3.18	1049	3.55
2700	886	2.28	934	2.62	979	2.98	1022	3.35	1063	3.74
2850	903	2.44	950	2.79	995	3.16	1037	3.54	1078	3.93
3000	920	2.62	966	2.98	1010	3.35	1052	3.74	1093	4.14

Standard static 489-747 rpm 1.7 bhp max

Medium static 733-949 rpm, 2.9 bhp max

High static 909-1102 rpm, 4.7 bhp max

Fan data (cont)

581J*08 3 PHASE, 7.5 TON, HORIZONTAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2250	482	0.36	577	0.51	659	0.66	732	0.82	799	0.98
2438	505	0.43	597	0.59	676	0.75	748	0.92	813	1.09
2625	529	0.51	617	0.68	694	0.85	764	1.03	827	1.22
2813	554	0.60	638	0.78	713	0.97	781	1.16	843	1.35
3000	579	0.70	660	0.89	732	1.09	799	1.29	860	1.50
3188	604	0.81	683	1.02	753	1.23	817	1.44	877	1.65
3375	630	0.94	706	1.15	774	1.37	836	1.60	895	1.82
3563	657	1.08	729	1.31	795	1.54	856	1.77	913	2.01
3750	683	1.23	753	1.47	817	1.71	877	1.96	933	2.21

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2250	860	1.14	917	1.31	971	1.48	1022	1.66	1071	1.84
2438	873	1.27	929	1.45	983	1.63	1033	1.81	1081	2.00
2625	887	1.40	942	1.59	995	1.78	1045	1.98	1092	2.18
2813	901	1.55	956	1.75	1008	1.95	1057	2.15	1104	2.36
3000	917	1.70	970	1.91	1021	2.13	1070	2.34	1117	2.56
3188	933	1.87	986	2.09	1036	2.32	1084	2.54	1130	2.77
3375	950	2.05	1002	2.29	1051	2.52	1098	2.76	1144	3.00
3563	967	2.25	1018	2.49	1067	2.74	1113	2.99	1158	3.24
3750	985	2.46	1035	2.71	1083	2.97	1129	3.23	1173	3.49

581J*08 3 PHASE, 7.5 TON, VERTICAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2250	505	0.39	595	0.54	676	0.69	750	0.86	819	1.03
2438	532	0.47	617	0.63	694	0.79	766	0.97	833	1.15
2625	559	0.56	640	0.73	714	0.90	783	1.08	848	1.28
2813	588	0.67	664	0.84	735	1.03	801	1.22	864	1.42
3000	616	0.79	689	0.97	757	1.16	821	1.36	882	1.57
3188	646	0.92	715	1.11	780	1.31	842	1.52	901	1.74
3375	675	1.06	742	1.27	804	1.48	864	1.70	920	1.93
3563	705	1.23	769	1.44	829	1.66	886	1.89	941	2.13
3750	736	1.41	797	1.63	855	1.86	910	2.10	963	2.35

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2250	884	1.21	945	1.40	1003	1.60	1059	1.80	1112	2.01
2438	896	1.34	955	1.54	1012	1.74	1066	1.95	1118	2.17
2625	909	1.47	967	1.68	1022	1.89	1075	2.11	1126	2.34
2813	923	1.62	980	1.84	1034	2.06	1086	2.29	1136	2.52
3000	939	1.79	994	2.01	1047	2.24	1098	2.47	1147	2.71
3188	956	1.97	1010	2.20	1061	2.43	1111	2.68	1159	2.93
3375	975	2.16	1027	2.40	1077	2.65	1125	2.90	1172	3.15
3563	994	2.37	1044	2.62	1093	2.87	1141	3.13	1186	3.40
3750	1014	2.60	1063	2.86	1111	3.12	1157	3.39	1202	3.66

Standard static 518-733 rpm 1.7 bhp max
 Medium static 690-936 rpm, 2.4 bhp max
 High static 838-1084 rpm, 3.7 bhp max
Boldface Indicates field-supplied drive is required.

Fan data (cont)

581J*09 3 PHASE, 8.5 TON, HORIZONTAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2550	520	0.47	609	0.64	687	0.81	757	0.99	821	1.16
2750	545	0.57	631	0.75	707	0.93	775	1.11	838	1.30
3000	579	0.70	660	0.89	732	1.09	799	1.29	860	1.50
3200	606	0.82	684	1.03	754	1.24	818	1.45	878	1.66
3400	634	0.95	709	1.17	777	1.40	839	1.62	897	1.85
3600	662	1.10	734	1.34	800	1.57	860	1.81	917	2.05
3850	698	1.32	766	1.56	829	1.81	888	2.07	943	2.32
4050	726	1.50	792	1.76	854	2.03	911	2.29	965	2.56
4250	756	1.71	819	1.98	879	2.26	934	2.53	987	2.81

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2550	881	1.35	937	1.53	990	1.72	1040	1.91	1088	2.11
2750	896	1.50	951	1.69	1003	1.89	1053	2.09	1100	2.30
3000	917	1.70	970	1.91	1021	2.13	1070	2.34	1117	2.56
3200	934	1.88	987	2.10	1037	2.33	1085	2.56	1131	2.79
3400	952	2.08	1004	2.31	1053	2.55	1100	2.79	1145	3.03
3600	971	2.29	1022	2.53	1070	2.78	1116	3.03	1161	3.29
3850	995	2.58	1045	2.84	1092	3.10	1138	3.36	1181	3.63
4050	1016	2.83	1064	3.10	1111	3.37	1156	3.65	1199	3.93
4250	1037	3.09	1084	3.38	1130	3.66	1174	3.95	1216	4.24

581J*09 3 PHASE, 8.5 TON, VERTICAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2550	548	0.52	631	0.69	706	0.86	776	1.04	841	1.22
2750	578	0.63	656	0.80	728	0.98	795	1.17	858	1.37
3000	616	0.79	689	0.97	757	1.16	821	1.36	882	1.57
3200	648	0.93	717	1.12	782	1.32	843	1.53	902	1.75
3400	679	1.09	745	1.29	808	1.50	867	1.72	923	1.95
3600	711	1.26	774	1.48	834	1.70	891	1.93	945	2.17
3850	752	1.51	812	1.74	868	1.98	923	2.22	975	2.47
4050	785	1.73	842	1.97	896	2.22	949	2.47	999	2.74
4250	818	1.98	873	2.23	925	2.49	976	2.75	1025	3.02

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2550	903	1.42	962	1.62	1018	1.83	1072	2.05	1123	2.27
2750	918	1.57	975	1.78	1030	2.00	1082	2.23	1133	2.46
3000	939	1.79	994	2.01	1047	2.24	1098	2.47	1147	2.71
3200	957	1.98	1011	2.21	1062	2.45	1112	2.69	1160	2.94
3400	977	2.19	1029	2.43	1079	2.67	1127	2.93	1174	3.19
3600	998	2.41	1048	2.66	1097	2.92	1144	3.18	1189	3.45
3850	1025	2.73	1074	2.99	1121	3.26	1166	3.53	1210	3.81
4050	1048	3.00	1095	3.27	1141	3.55	1185	3.83	1228	4.12
4250	1072	3.30	1118	3.58	1162	3.87	1205	4.16	1247	4.46

Standard static 518-733 rpm, 1.7 bhp max
 Medium static 690-936 rpm, 2.4 bhp max
 High static 838-1084 rpm, 3.7 bhp max
Boldface Indicates field-supplied drive is required.

Fan data (cont)

581J*11 3 PHASE, 10 TON, HORIZONTAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3000	579	0.70	660	0.89	732	1.09	799	1.29	860	1.50
3250	613	0.85	690	1.06	760	1.27	823	1.49	883	1.71
3500	648	1.03	721	1.25	788	1.48	850	1.71	907	1.95
3750	683	1.23	753	1.47	817	1.71	877	1.96	933	2.21
4000	719	1.45	786	1.71	848	1.97	905	2.23	959	2.50
4250	756	1.71	819	1.98	879	2.26	934	2.53	987	2.81
4500	792	1.99	853	2.28	910	2.57	964	2.87	1015	3.16
4750	830	2.31	888	2.62	943	2.92	995	3.23	1044	3.54
5000	867	2.66	923	2.98	976	3.30	1026	3.63	1074	3.95

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3000	917	1.70	970	1.91	1021	2.13	1070	2.34	1117	2.56
3250	938	1.93	991	2.16	1041	2.38	1089	2.61	1134	2.85
3500	961	2.18	1013	2.42	1062	2.66	1108	2.91	1153	3.15
3750	985	2.46	1035	2.71	1083	2.97	1129	3.23	1173	3.49
4000	1011	2.76	1059	3.03	1106	3.30	1151	3.58	1194	3.85
4250	1037	3.09	1084	3.38	1130	3.66	1174	3.95	1216	4.24
4500	1064	3.46	1110	3.76	1155	4.06	1198	4.36	1239	4.66
4750	1091	3.85	1137	4.16	1180	4.48	—	—	—	—
5000	1120	4.28	1164	4.61	—	—	—	—	—	—

581J*11 3 PHASE, 10 TON, VERTICAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3000	616	0.79	689	0.97	757	1.16	821	1.36	882	1.57
3250	655	0.96	724	1.16	788	1.37	849	1.58	907	1.80
3500	695	1.17	760	1.38	821	1.60	879	1.83	934	2.06
3750	736	1.41	797	1.63	855	1.86	910	2.10	963	2.35
4000	777	1.68	834	1.91	889	2.16	942	2.41	993	2.67
4250	818	1.98	873	2.23	925	2.49	976	2.75	1025	3.02
4500	860	2.32	912	2.58	962	2.85	1010	3.13	1057	3.41
4750	902	2.69	951	2.97	999	3.26	1046	3.55	1091	3.84
5000	944	3.11	991	3.40	1037	3.70	1082	4.00	1125	4.31

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3000	939	1.79	994	2.01	1047	2.24	1098	2.47	1147	2.71
3250	962	2.03	1015	2.26	1066	2.50	1115	2.75	1163	3.00
3500	987	2.30	1038	2.54	1088	2.80	1135	3.05	1181	3.32
3750	1014	2.60	1063	2.86	1111	3.12	1157	3.39	1202	3.66
4000	1042	2.93	1090	3.20	1136	3.48	1180	3.76	1224	4.04
4250	1072	3.30	1118	3.58	1162	3.87	1205	4.16	1247	4.46
4500	1103	3.70	1147	4.00	1190	4.29	1232	4.60	—	—
4750	1135	4.14	1177	4.45	—	—	—	—	—	—
5000	1167	4.63	—	—	—	—	—	—	—	—

Standard static 591-838 rpm, 2.4 bhp max
 Medium static 838-1084 rpm, 3.7 bhp max
 High static 1022-1240 rpm, 4.9 bhp max
Boldface Indicates field-supplied drive is required.

Fan data (cont)

581J*12 3 PHASE, 10 TON, HORIZONTAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3000	579	0.70	660	0.89	732	1.09	799	1.29	860	1.50
3250	613	0.85	690	1.06	760	1.27	823	1.49	883	1.71
3500	648	1.03	721	1.25	788	1.48	850	1.71	907	1.95
3750	683	1.23	753	1.47	817	1.71	877	1.96	933	2.21
4000	719	1.45	786	1.71	848	1.97	905	2.23	959	2.50
4250	756	1.71	819	1.98	879	2.26	934	2.53	987	2.81
4500	792	1.99	853	2.28	910	2.57	964	2.87	1015	3.16
4750	830	2.31	888	2.62	943	2.92	995	3.23	1044	3.54
5000	867	2.66	923	2.98	976	3.30	1026	3.63	1074	3.95

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3000	917	1.70	970	1.91	1021	2.13	1070	2.34	1117	2.56
3250	938	1.93	991	2.16	1041	2.38	1089	2.61	1134	2.85
3500	961	2.18	1013	2.42	1062	2.66	1108	2.91	1153	3.15
3750	985	2.46	1035	2.71	1083	2.97	1129	3.23	1173	3.49
4000	1011	2.76	1059	3.03	1106	3.30	1151	3.58	1194	3.85
4250	1037	3.09	1084	3.38	1130	3.66	1174	3.95	1216	4.24
4500	1064	3.46	1110	3.76	1155	4.06	1198	4.36	1239	4.66
4750	1091	3.85	1137	4.16	1180	4.48	—	—	—	—
5000	1120	4.28	1164	4.61	—	—	—	—	—	—

581J*12 3 PHASE, 10 TON, VERTICAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3000	616	0.79	689	0.97	757	1.16	821	1.36	882	1.57
3250	655	0.96	724	1.16	788	1.37	849	1.58	907	1.80
3500	695	1.17	760	1.38	821	1.60	879	1.83	934	2.06
3750	736	1.41	797	1.63	855	1.86	910	2.10	963	2.35
4000	777	1.68	834	1.91	889	2.16	942	2.41	993	2.67
4250	818	1.98	873	2.23	925	2.49	976	2.75	1025	3.02
4500	860	2.32	912	2.58	962	2.85	1010	3.13	1057	3.41
4750	902	2.69	951	2.97	999	3.26	1046	3.55	1091	3.84
5000	944	3.11	991	3.40	1037	3.70	1082	4.00	1125	4.31

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3000	939	1.79	994	2.01	1047	2.24	1098	2.47	1147	2.71
3250	962	2.03	1015	2.26	1066	2.50	1115	2.75	1163	3.00
3500	987	2.30	1038	2.54	1088	2.80	1135	3.05	1181	3.32
3750	1014	2.60	1063	2.86	1111	3.12	1157	3.39	1202	3.66
4000	1042	2.93	1090	3.20	1136	3.48	1180	3.76	1224	4.04
4250	1072	3.30	1118	3.58	1162	3.87	1205	4.16	1247	4.46
4500	1103	3.70	1147	4.00	1190	4.29	1232	4.60	—	—
4750	1135	4.14	1177	4.45	—	—	—	—	—	—
5000	1167	4.63	—	—	—	—	—	—	—	—

Standard static 591-838 rpm, 2.4 bhp max

Medium static 838-1084 rpm, 3.7 bhp max

High static 1022-1240 rpm, 4.9 bhp max

Boldface Indicates field-supplied drive is required.

Fan data (cont)

581J*14 3 PHASE, 12.5 TON, HORIZONTAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3438	421	0.57	493	0.78	561	1.02	627	1.30	688	1.62
3750	445	0.69	512	0.91	576	1.17	638	1.45	697	1.77
4063	470	0.84	533	1.07	593	1.33	651	1.62	707	1.94
4375	496	1.00	555	1.25	612	1.52	666	1.82	720	2.14
4688	522	1.19	579	1.46	632	1.74	683	2.04	734	2.37
5000	549	1.41	602	1.68	653	1.98	702	2.29	750	2.62
5313	576	1.64	627	1.94	675	2.24	721	2.57	767	2.91
5625	603	1.91	652	2.22	698	2.54	742	2.87	786	3.23
5938	630	2.20	677	2.53	721	2.87	764	3.21	805	3.57
6250	657	2.53	702	2.87	745	3.22	786	3.58	826	3.96

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3438	746	1.96	799	2.32	849	2.70	896	3.09	940	3.50
3750	753	2.12	806	2.48	856	2.88	903	3.28	947	3.70
4063	761	2.29	813	2.67	862	3.07	909	3.48	953	3.92
4375	771	2.50	821	2.88	869	3.28	916	3.70	960	4.15
4688	783	2.73	831	3.11	878	3.52	923	3.95	966	4.40
5000	797	2.99	843	3.37	888	3.78	931	4.22	974	4.67
5313	812	3.28	856	3.67	899	4.08	941	4.52	983	4.98
5625	828	3.60	870	3.99	912	4.41	953	4.85	993	5.31
5938	846	3.95	886	4.36	926	4.78	965	5.22	1004	5.69
6250	865	4.35	904	4.75	942	5.18	979	5.63	—	—

581J*14 3 PHASE, 12.5 TON, VERTICAL SUPPLY — BELT DRIVE FAN PERFORMANCE

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3438	431	0.59	504	0.81	574	1.08	643	1.40	706	1.74
3750	456	0.71	524	0.95	589	1.22	653	1.54	715	1.90
4063	481	0.86	546	1.11	606	1.39	666	1.71	725	2.07
4375	507	1.03	569	1.30	626	1.59	681	1.91	736	2.27
4688	533	1.22	593	1.51	647	1.81	698	2.13	750	2.49
5000	560	1.44	617	1.74	669	2.05	718	2.39	766	2.75
5313	587	1.68	642	2.00	691	2.33	738	2.67	784	3.04
5625	614	1.95	667	2.29	715	2.63	760	2.99	804	3.36
5938	642	2.25	692	2.60	739	2.97	782	3.34	824	3.72
6250	670	2.58	718	2.95	763	3.33	805	3.72	846	4.11

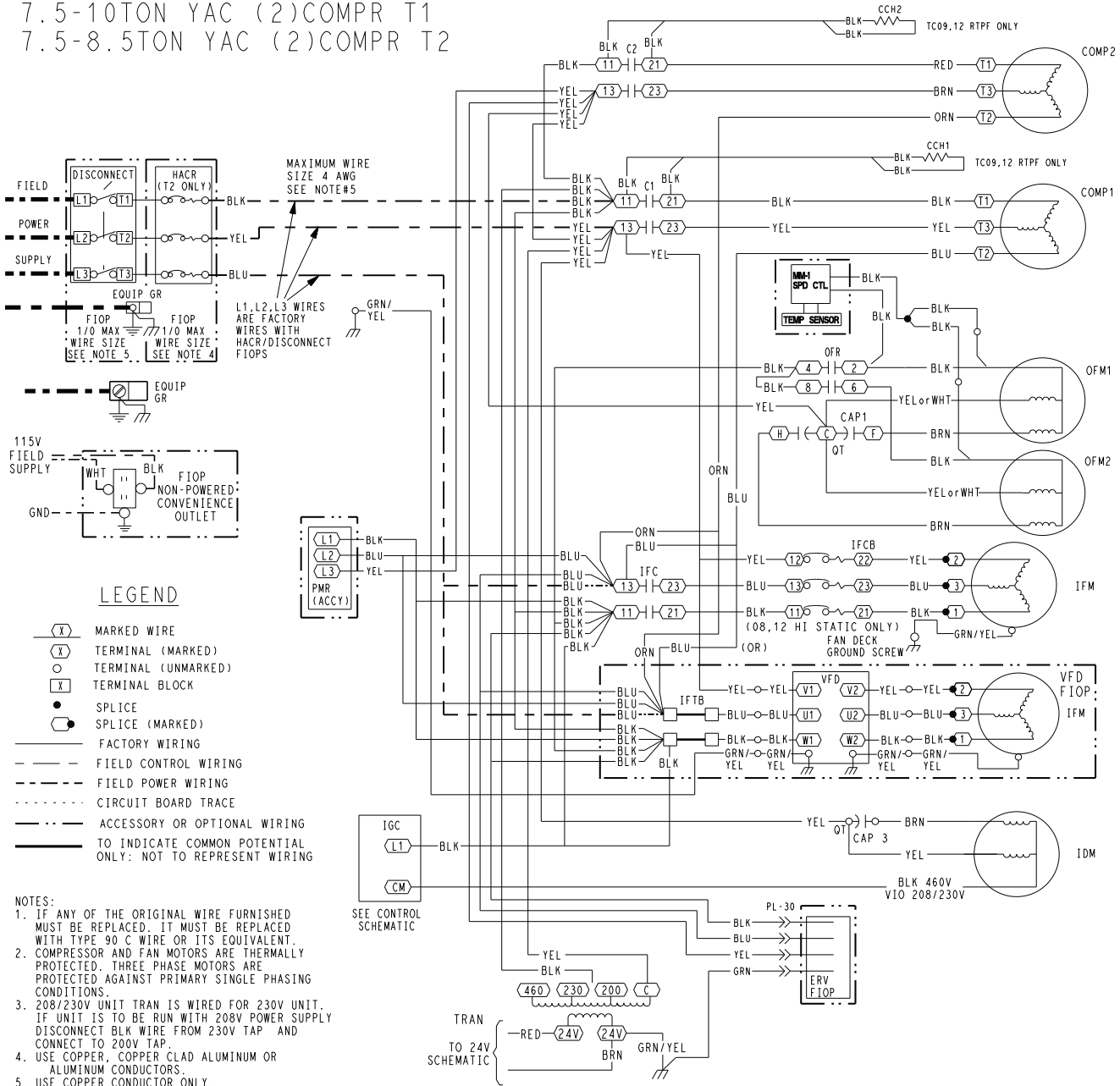
CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3438	763	2.10	815	2.46	862	2.82	905	3.18	946	3.55
3750	772	2.28	825	2.66	873	3.05	918	3.45	959	3.84
4063	781	2.46	834	2.87	883	3.29	929	3.71	971	4.14
4375	790	2.66	843	3.09	892	3.53	938	3.98	982	4.43
4688	801	2.89	852	3.32	901	3.78	947	4.25	991	4.73
5000	814	3.15	863	3.58	910	4.04	956	4.53	999	5.03
5313	830	3.44	875	3.87	920	4.33	965	4.83	1008	5.34
5625	847	3.77	890	4.20	933	4.66	975	5.15	1017	5.67
5938	865	4.13	906	4.56	947	5.03	987	5.52	1028	6.04
6250	885	4.53	924	4.97	962	5.43	1001	5.92	—	—

 Standard static 440-609 rpm, 2.9 bhp max
 Medium static 609-778 rpm, 3.7 bhp max
 High static 776-955 rpm, 6.1 bhp max
Boldface Indicates field-supplied drive is required.

Typical wiring diagrams

581J*08, 09 TYPICAL POWER WIRING DIAGRAM, 208/230V AND 460V

YAC POWER 208/230V, 460V 3 PH
7.5-10TON YAC (2)COMPR T1
7.5-8.5TON YAC (2)COMPR T2



48TM501326 N

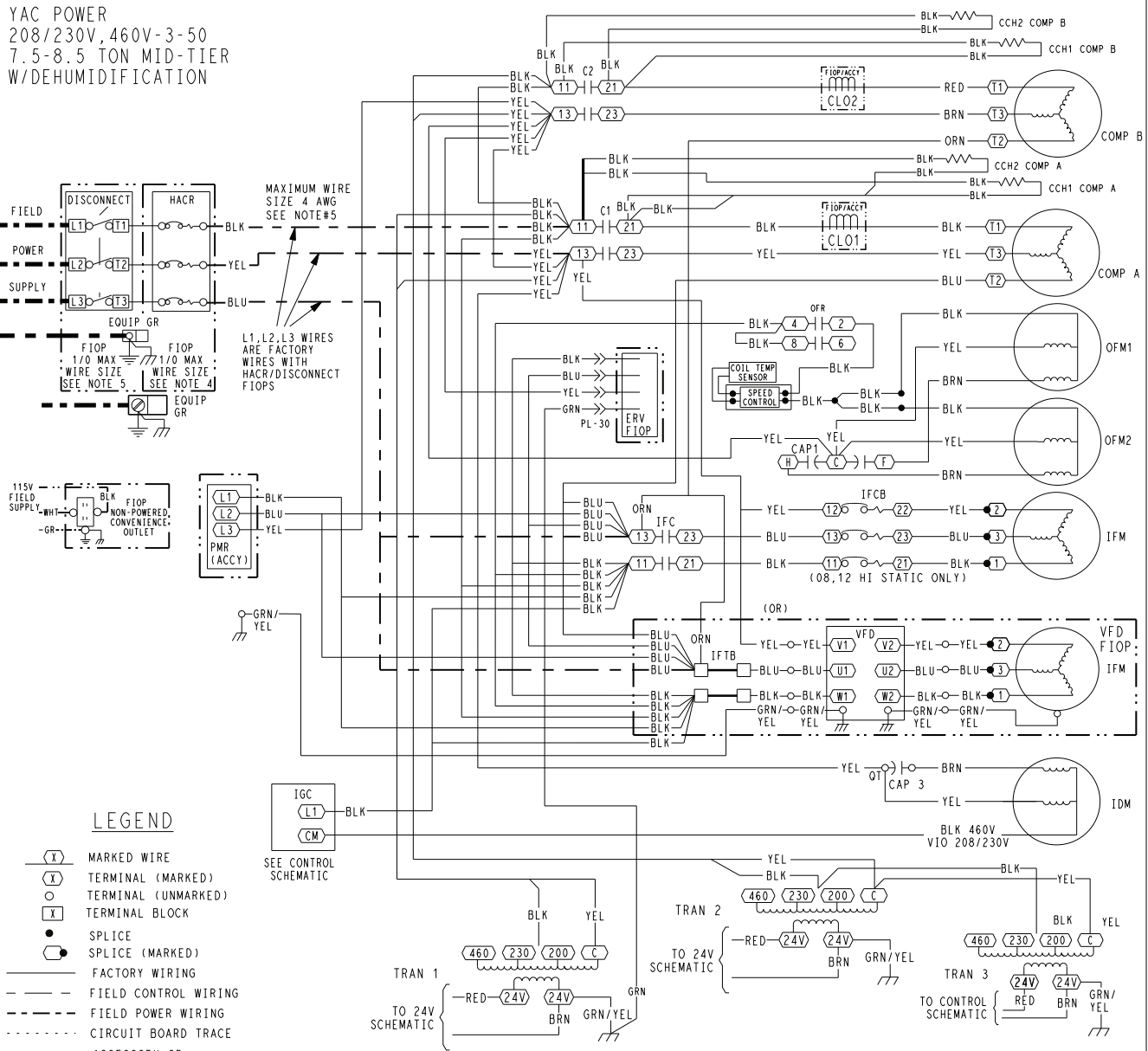
581J*08, 09 TYPICAL CONTROL WIRING DIAGRAM



Typical wiring diagrams (cont)

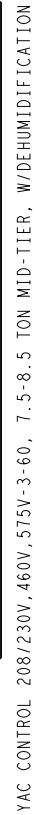
581J*08, 09 TYPICAL POWER WIRING DIAGRAM, 208/230V AND 460V WITH OPTIONAL PERFECT HUMIDITY™ SYSTEM

YAC POWER
208/230V, 460V-3-50
7.5-8.5 TON MID-TIER
W/DEHUMIDIFICATION



48TM503252 E

581J*08, 09 CONTROL WIRING DIAGRAM WITH OPTIONAL PERFECT HUMIDITY SYSTEM



Electrical data

581J*04A-14A COOLING ELECTRICAL DATA ^a

581J* UNIT ^b	V-Ph-Hz	UNIT VOLTAGE RANGE		COMP 1		OFM (EA)		IFM			CMBST. FAN MOTOR	PE	
				RLA	LRA	WATTS	FLA	TYPE	EFFCY AT FULL LOAD	FLA		KIT QTY	FLA (EA KIT)
		MIN	MAX								FLA		
04	208/230-1-60	187	253	16.6	79	190	1.0	DD-STD	78%	7.4	0.48	1	1.9
								STD	67%	4.9			
								MED	67%	4.9			
	208-3-60	187	253	10.4	73	190	1.0	DD-STD	78%	7.4	0.48	1	1.9
								STD	67%	4.9			
								MED	67%	4.9			
								HIGH	78%	7.4			
	230-3-60	187	253	10.4	73	190	1.0	DD-STD	75%	5.2	0.48	1	1.9
								STD	87%	5.2			
								MED	89%	8.4			
								HIGH	78%	7.4			
	460-3-60	414	506	5.8	38	190	0.5	DD-STD	75%	5.2	0.25	1	1.0
								STD	87%	4.9			
								MED	89%	8.3			
								HIGH	78%	4.0			
	575-3-60	518	633	3.8	37	190	0.5	DD-STD	75%	2.6	0.24	1	1.9
								STD	87%	2.5			
								MED	89%	4.2			
								HIGH	78%	4.0			
05	208/230-1-60	187	253	21.8	117	325	1.4	DD-STD	73%	1.2	0.48	1	1.9
								STD	73%	1.2			
								MED	78%	2.0			
								HIGH	78%	2.0			
	208-3-60	187	253	13.7	83	325	1.4	DD-STD	78%	7.4	0.48	1	1.9
								STD	67%	4.9			
								MED	67%	4.9			
								HIGH	78%	7.4			
	230-3-60	187	253	13.7	83	325	1.4	DD-STD	67%	4.9	0.48	1	1.9
								STD	67%	4.9			
								MED	78%	7.4			
								HIGH	75%	5.2			
	460-3-60	414	506	6.2	41	325	0.9	DD-STD	87%	5.2	0.25	1	1.0
								STD	89%	8.4			
								MED	78%	7.4			
								HIGH	75%	5.2			
	575-3-60	518	633	4.8	33	325	0.9	DD-STD	87%	4.9	0.24	1	1.9
								STD	89%	8.3			
								MED	78%	4.0			
								HIGH	75%	2.6			
06	208/230-1-60	187	253	25.0	134	325	1.4	DD-STD	87%	2.5	0.48	1	1.9
								STD	89%	4.2			
								MED	78%	4.0			
	208-3-60	187	253	15.9	110	325	1.4	DD-STD	73%	1.2	0.48	1	1.9
								STD	72%	1.6			
								MED	77%	2.8			
								HIGH	78%	7.4			
	230-3-60	187	253	15.9	110	325	1.4	DD-STD	67%	4.9	0.48	1	1.9
								STD	76%	7.0			
								MED	78%	7.4			
								HIGH	67%	4.9			
	460-3-60	414	506	7.0	52	325	0.9	DD-STD	76%	7.0	0.25	1	1.0
								STD	78%	7.4			
								MED	75%	5.2			
								HIGH	89%	8.4			
	575-3-60	518	633	5.1	40	325	0.9	DD-STD	89%	8.4	0.24	1	1.9
								STD	78%	7.4			
								MED	75%	5.2			
								HIGH	89%	8.3			

Electrical data (cont)

581J*04A-14A COOLING ELECTRICAL DATA (cont) ^a

581J* UNIT SIZE ^b	V-Ph-Hz	UNIT VOLTAGE RANGE		COMP 1		COMP 2		OFM (EA)		IFM			CMBST FAN MOTOR	PE	
				RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFFCY AT FULL LOAD	FLA		FLA	KIT QTY
		MIN	MAX												
07A	208-3-60	187	253	19.6	136	—	—	325	1.5	STD	75%	5.2	0.48	1	3.8
										MED	89%	8.4			
										HIGH	83%	13.6			
	208-3-60	187	253	19.6	136	—	—	325	1.5	STD	75%	5.2	0.48	1	3.8
										MED	89%	8.3			
										HIGH	83%	12.7			
	460-3-60	414	506	8.2	66	—	—	325	0.8	STD	75%	2.6	0.25	1	1.8
										MED	89%	4.2			
										HIGH	83%	6.4			
	575-3-60	518	633	6.6	55	—	—	325	0.6	STD	72%	1.6	0.24	1	3.8
										MED	77%	2.8			
										HIGH	81%	5.6			
07D	208-3-60	187	253	17.5	136	—	—	325	1.5	STD	75%	5.2	0.48	1	3.8
										MED	89%	8.4			
										HIGH	83%	13.6			
	230-3-60	187	253	17.5	136	—	—	325	1.5	STD	75%	5.2	0.48	1	3.8
										MED	89%	8.3			
										HIGH	83%	12.7			
	460-3-60	414	506	8.4	66	—	—	325	0.8	STD	75%	2.6	0.25	1	1.8
										MED	89%	4.2			
										HIGH	83%	6.4			
	575-3-60	518	633	6.3	55	—	—	325	0.6	STD	72%	1.6	0.24	1	3.8
										MED	77%	2.8			
										HIGH	81%	5.6			
08	208-3-60	187	253	13.6	83	13.6	83	325	1.5	STD	75%	5.2	0.48	1	3.8
										MED	87%	6.9			
										HIGH	87%	10.6			
	230-3-60	187	253	13.6	83	13.6	83	325	1.5	STD	75%	5.2	0.48	1	3.8
										MED	87%	6.7			
										HIGH	87%	10.6			
	460-3-60	414	506	6.1	41	6.1	41	325	0.8	STD	75%	2.6	0.25	1	1.8
										MED	87%	3.4			
										HIGH	87%	5.3			
	575-3-60	518	633	4.2	33	4.2	33	325	0.6	STD	72%	1.6	0.24	1	3.8
										MED	78%	2.0			
										HIGH	77%	2.8			
09	208-3-60	187	253	13.7	83	13.7	83	325	1.5	STD	75%	5.2	0.48	1	3.8
										MED	87%	6.9			
										HIGH	87%	10.6			
	230-3-60	187	253	13.7	83	13.7	83	325	1.5	STD	75%	5.2	0.48	1	3.8
										MED	87%	6.7			
										HIGH	87%	10.6			
	460-3-60	414	506	6.2	41	6.2	41	325	0.8	STD	75%	2.6	0.25	1	1.8
										MED	87%	3.4			
										HIGH	87%	5.3			
	575-3-60	518	633	4.8	33	4.8	33	325	0.6	STD	72%	1.6	0.24	1	3.8
										MED	78%	2.0			
										HIGH	77%	2.8			
11	208-3-60	187	253	15.9	110	15.9	110	610	7.4	STD	69%	5.2	0.48	1	3.8
										MED	87%	10.6			
										HIGH	83%	13.6			
	230-3-60	187	253	15.9	110	15.9	110	610	7.4	STD	69%	5.2	0.48	1	3.8
										MED	87%	10.6			
										HIGH	83%	12.7			
	460-3-60	414	506	7.0	52	7.0	52	610	3.6	STD	69%	2.6	0.25	1	1.8
										MED	87%	5.3			
										HIGH	83%	6.4			
	575-3-60	518	633	5.1	40	5.1	40	610	3.6	STD	78%	2.0	0.24	1	3.8
										MED	77%	2.8			
										HIGH	81%	5.6			

Electrical data (cont)

581J*04A-14A COOLING ELECTRICAL DATA (cont) ^a

581J* UNIT SIZE ^b	V-Ph-Hz	UNIT VOLTAGE RANGE		COMP 1		COMP 2		OFM (EA)		IFM			CMBST FAN MOTOR	PE	
				RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFFCY AT FULL LOAD	FLA		FLA	KIT QTY
		MIN	MAX												
12	208-3-60	187	253	15.9	110	15.9	110	1070	6.2	STD	69%	5.2	0.48	1	3.8
										MED	87%	10.6			
										HIGH	83%	13.6			
	230-3-60	187	253	15.9	110	15.9	110	1070	6.2	STD	69%	5.2	0.48	1	3.8
										MED	87%	10.6			
										HIGH	83%	12.7			
	460-3-60	414	506	7.7	52	7.7	52	1070	3.1	STD	69%	2.6	0.25	1	1.8
										MED	87%	5.3			
										HIGH	83%	6.4			
	575-3-60	518	633	5.7	39	5.7	39	1070	2.5	STD	78%	2.0	0.24	1	3.8
										MED	77%	2.8			
										HIGH	81%	5.6			
14	208-3-60	187	253	19.6	136	19.6	136	280	1.5	STD	79%	7.5	0.48	1	3.8
										MED	87%	10.6			
										HIGH	87%	17.0			
										HIGH-HE	90%	20.4			
	230-3-60	187	253	19.6	136	19.6	136	280	1.5	STD	79%	7.5	0.48	1	3.8
										MED	87%	10.6			
										HIGH	87%	15.0			
										HIGH-HE	90%	20.4			
	460-3-60	414	506	8.2	66	8.2	66	280	0.8	STD	79%	3.4	0.25	1	1.8
										MED	87%	5.3			
										HIGH	87%	7.6			
										HIGH-HE	90%	10.2			
	575-3-60	518	633	6.6	55	6.6	55	280	0.7	STD	77%	2.8	0.24	1	3.8
										MED	77%	2.8			
										HIGH	90%	6.1			
										HIGH-HE	94%	9.0			

NOTE(S):

a. Refer to Packaged Rooftop Builder (Selection Software) for additional electrical data.

b. 581J*04A-581J*07A — One-Stage Cooling

581J*07D-581J*14D — Two-Stage Cooling

See Legend and Notes on page 90.

Electrical data (cont)

581J*07-14 2-SPEED BLOWER COOLING ELECTRICAL DATA ^a

581J* UNIT	V-Ph-Hz	VOLTAGE		COMP 1		COMP 2		OFM (EA)		IFM			CMBST FAN MOTOR	PE	
		RANGE													
		MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF AT FULL LOAD	FLA	FLA	QTY	FLA
07D	208-3-60	187	253	17.5	136	—	—	325	1.5	STD	84%	5.8	0.48	1	3.8
										MED	85%	8.6			
										HIGH	84%	13.6			
	230-3-60	187	253	17.5	136	—	—	325	1.5	STD	84%	5.6	0.48	1	3.8
										MED	85%	7.8			
										HIGH	84%	12.7			
	460-3-60	414	506	8.4	66	—	—	325	0.8	STD	79%	2.9	0.25	1	1.8
										MED	85%	3.8			
										HIGH	84%	6.4			
	575-3-60	518	633	6.3	55	—	—	325	0.6	STD	81%	2.8	0.24	1	3.8
										MED	84%	4.5			
										HIGH	83%	6.2			
08	208-3-60	187	253	13.6	83	13.6	83	325	1.5	STD	84%	5.8	0.48	1	3.8
										MED	77%	7.1			
										HIGH	82%	10.8			
	230-3-60	187	253	13.6	83	13.6	83	325	1.5	STD	84%	5.6	0.48	1	3.8
										MED	77%	6.8			
										HIGH	82%	9.8			
	460-3-60	414	506	6.1	41	6.1	41	325	0.8	STD	79%	2.9	0.25	1	1.8
										MED	77%	3.4			
										HIGH	82%	4.9			
	575-3-60	518	633	4.2	33	4.2	33	325	0.6	STD	81%	2.8	0.24	1	3.8
										MED	80%	3.5			
										HIGH	84%	4.5			
09	208-3-60	187	253	13.7	83	13.7	83	325	1.5	STD	84%	5.8	0.48	1	3.8
										MED	77%	7.1			
										HIGH	82%	10.8			
	230-3-60	187	253	13.7	83	13.7	83	325	1.5	STD	84%	5.6	0.48	1	3.8
										MED	77%	6.8			
										HIGH	82%	9.8			
	460-3-60	414	506	6.2	41	6.2	41	325	0.8	STD	79%	2.9	0.25	1	1.8
										MED	77%	3.4			
										HIGH	82%	4.9			
	575-3-60	518	633	4.8	33	4.8	33	325	0.6	STD	81%	2.8	0.24	1	3.8
										MED	80%	3.5			
										HIGH	84%	4.5			
11	208-3-60	187	253	15.9	110	15.9	110	610	7.4	STD	77%	7.1	0.48	1	3.8
										MED	82%	10.8			
										HIGH	84%	13.6			
	230-3-60	187	253	15.9	110	15.9	110	610	7.4	STD	77%	6.8	0.48	1	3.8
										MED	82%	9.8			
										HIGH	84%	12.7			
	460-3-60	414	506	7.0	52	7.0	52	610	3.6	STD	77%	3.4	0.25	1	1.8
										MED	82%	4.9			
										HIGH	84%	6.4			
	575-3-60	518	633	5.1	40	5.1	40	610	3.6	STD	80%	3.5	0.24	1	3.8
										MED	84%	4.5			
										HIGH	83%	6.2			

Electrical data (cont)

581J*07-14 2-SPEED BLOWER COOLING ELECTRICAL DATA (cont) ^a

581J* UNIT	V-Ph-Hz	VOLTAGE		COMP 1		COMP 2		OFM (EA)		IFM			CMBST FAN MOTOR	PE	
		RANGE													
		MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF AT FULL LOAD	FLA	FLA	QTY	FLA
12	208-3-60	187	253	15.9	110	15.9	110	1070	6.2	STD	77%	7.1	0.48	1	3.8
										MED	82%	10.8			
										HIGH	84%	13.6			
	230-3-60	187	253	15.9	110	15.9	110	1070	6.2	STD	77%	6.8	0.48	1	3.8
										MED	82%	9.8			
										HIGH	84%	12.7			
	460-3-60	414	506	7.7	52	7.7	52	1070	3.1	STD	77%	3.4	0.25	1	1.8
										MED	82%	4.9			
										HIGH	84%	6.4			
	575-3-60	518	633	5.7	39	5.7	39	1070	2.5	STD	80%	3.5	0.24	1	3.8
										MED	84%	4.5			
										HIGH	83%	6.2			
14	208-3-60	187	253	19.6	136	19.6	136	280	1.5	STD	85%	8.6	0.48	1	3.8
										MED	82%	10.8			
										HIGH	90%	20.4			
	230-3-60	187	253	19.6	136	19.6	136	280	1.5	STD	85%	7.8	0.48	1	3.8
										MED	82%	9.8			
										HIGH	90%	20.4			
	460-3-60	414	506	8.2	66	8.2	66	280	0.8	STD	85%	3.8	0.25	1	1.8
										MED	82%	4.9			
										HIGH	90%	10.2			
	575-3-60	518	633	6.6	55	6.6	55	280	0.7	STD	84%	4.5	0.24	1	3.8
										MED	84%	4.5			
										HIGH	94%	9.0			

NOTE(S):

a. Refer to Packaged Rooftop Builder (Selection Software) for additional electrical data.

See Legend and Notes on page 90.

Electrical data (cont)

581J*04-14 MCA MOCP ELECTRICAL DATA ^a

581J* UNIT SIZE ^b	NOM. V-Ph-Hz	IFM TYPE	NO CO OR UNPWR CO								WITH PWRD CO							
			NO PE				WITH PE (PWRD FR/UNIT)				NO PE				WITH PE (PWRD FR/UNIT)			
			MCA	FUSE OR HACR BRKR	DISC. SIZE		MCA	FUSE OR HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
					FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
04A	208/230-1-60	DD-STD	30	45	29	88	32	45	31	90	34	50	34	93	36	50	36	95
		STD	27	40	26	93	29	45	28	95	32	45	31	98	34	45	34	100
		MED	27	40	26	93	29	45	28	95	32	45	31	98	34	45	34	100
	208/230-3-60	DD-STD	22	30	22	82	24	30	24	84	27	30	27	87	29	35	29	89
		STD	20	25	19	94	22	30	21	96	24	30	25	99	26	30	27	101
		MED	20/19	25/25	19/19	111	22/21	30/30	21/21	113	24/24	30/30	25/24	116	26/26	30/30	27/26	118
		HIGH	23/23	30/30	23/23	147	25/25	30/30	25/25	149	28/28	30/30	28/28	152	30/29	35/35	30/30	154
	460-3-60	DD-STD	12	15	12	43	13	15	13	44	14	20	14	45	15	20	16	46
		STD	11	15	10	48	12	15	11	49	13	15	13	50	14	20	14	51
		MED	11	15	10	57	12	15	11	58	13	15	13	59	14	15	14	60
		HIGH	12	15	12	75	13	15	13	76	15	20	15	77	16	20	16	78
	575-3-60	DD-STD	10	15	10	42	12	15	12	44	11	15	12	44	13	15	14	46
		STD	7	15	6	45	9	15	9	47	9	15	8	47	11	15	10	49
		MED	7	15	6	45	9	15	9	47	9	15	8	47	11	15	10	49
		HIGH	8	15	7	49	10	15	9	51	9	15	9	51	11	15	11	53
05A	208/230-1-60	DD-STD	37	50	35	127	38	50	37	129	41	60	41	132	43	60	43	134
		STD	34	50	32	132	36	50	35	134	39	60	38	137	41	60	40	139
		MED	34	50	32	132	36	50	35	134	39	60	38	137	41	60	40	139
	208/230-3-60	DD-STD	26	30	26	93	28	40	28	95	31	40	31	98	33	45	34	100
		STD	24	30	23	105	26	30	26	107	29	40	29	110	31	40	31	112
		MED	24/24	30/30	23/23	122	26/26	30/30	26/25	124	29/29	40/40	29/29	127	31/31	40/40	31/31	129
		HIGH	27/27	40/40	27/27	158	29/29	40/40	29/29	160	32/32	45/45	33/32	163	34/34	45/45	35/35	165
	460-3-60	DD-STD	13	15	13	47	14	20	14	48	15	20	15	49	16	20	16	50
		STD	12	15	11	52	13	15	12	53	14	20	14	54	15	20	15	55
		MED	12	15	11	61	13	15	12	62	14	15	14	63	15	20	15	64
		HIGH	13	15	13	79	14	20	14	80	16	20	16	81	17	20	17	82
	575-3-60	DD-STD	11	15	11	39	13	15	13	41	13	15	13	41	15	20	15	43
		STD	9	15	8	42	10	15	10	44	10	15	10	44	12	15	12	46
		MED	9	15	8	42	11	15	11	44	11	15	10	44	13	15	13	46
		HIGH	10	15	10	57	12	15	12	59	12	15	12	59	14	15	14	61
06A	208/230-1-60	DD-STD	41	60	39	144	42	60	41	146	45	60	44	149	47	60	47	151
		STD	38	60	36	149	40	60	38	151	43	60	42	154	45	60	44	156
		MED	40	60	38	174	42	60	41	176	45	60	44	179	47	60	46	181
	208/230-3-60	DD-STD	29	40	28	120	31	45	31	122	34	45	34	125	36	50	36	127
		STD	27	40	26	132	29	40	28	134	32	45	31	137	34	45	34	139
		MED	30/30	45/45	30/29	185	32/32	45/45	32/32	187	35/35	50/50	35/35	190	37/37	50/50	37/37	192
		HIGH	30/30	45/45	30/29	185	32/32	45/45	32/32	187	35/35	50/50	35/35	190	37/37	50/50	37/37	192
	460-3-60	DD-STD	14	20	14	58	15	20	15	59	16	20	16	60	17	20	17	61
		STD	13	15	12	63	14	20	13	64	15	20	15	65	16	20	16	66
		MED	14	20	14	90	15	20	15	91	17	20	16	92	18	20	18	93
		HIGH	14	20	14	90	15	20	15	91	17	20	16	92	18	20	18	93
	575-3-60	DD-STD	12	15	12	46	14	15	14	48	13	15	13	48	15	20	16	50
		STD	9	15	8	49	11	15	10	51	11	15	10	51	13	15	12	53
		MED	10	15	9	53	12	15	11	55	11	15	11	55	13	15	13	57
		HIGH	11	15	10	64	12	15	12	66	12	15	12	66	14	15	14	68
07A	208/230-3-60	STD	33	50	32	161	37	50	36	165	38	50	37	166	42	60	42	170
		MED	36/36	50/50	36/36	214	40/40	50/50	40/40	218	41/41	60/60	41/41	219	45/45	60/60	46/45	223
		HIGH	42/41	60/50	42/41	230	45/44	60/60	46/45	234	46/45	60/60	47/46	235	50/49	60/60	52/50	239
	460-3-60	STD	15	20	14	79	17	20	16	81	17	20	17	81	19	25	19	83
		MED	17	20	16	106	18	25	18	108	19	25	19	108	21	25	21	110
		HIGH	19	25	19	114	21	25	21	116	21	25	21	116	23	30	23	118
	575-3-60	STD	12	15	11	66	15	20	15	70	13	15	13	68	17	20	17	72
		MED	13	15	12	81	17	20	17	85	14	20	14	83	18	20	19	87
		HIGH	16	20	15	95	19	25	20	99	17	20	17	97	21	25	22	101

Electrical data (cont)

581J*04-14 MCA MOCP ELECTRICAL DATA (cont) ^a

581J* UNIT SIZE ^b	NOM. V-Ph-Hz	IFM TYPE	NO CO OR UNPWR CO								WITH PWRD CO							
			NO PE				WITH PE (PWRD FR/UNIT)				NO PE				WITH PE (PWRD FR/UNIT)			
			MCA	FUSE OR HACR BRKR	DISC. SIZE		MCA	FUSE OR HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
					FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
07D	208/230-3-60	STD	31	45	30	161	34	50	34	165	35	50	35	166	39	50	39	170
		MED	34/34	50/50	33/33	214	38/37	50/50	38/37	218	39/38	50/50	39/39	219	42/42	50/50	43/43	223
		HIGH	39/38	50/50	39/38	230	43/42	50/50	44/43	234	44/43	60/50	45/44	235	48/47	60/60	49/48	239
	460-3-60	STD	15	20	14	79	17	20	17	81	17	25	17	81	19	25	19	83
		MED	17	20	16	106	19	25	18	108	19	25	19	108	21	25	21	110
		HIGH	19	25	19	114	21	25	21	116	21	25	21	116	23	30	23	118
	575-3-60	STD	11	15	10	66	15	20	15	70	13	15	12	68	17	20	17	72
		MED	12	15	12	81	16	20	16	85	14	20	14	83	18	20	18	87
		HIGH	15	20	15	95	19	25	19	99	17	20	17	97	21	25	21	101
08D	208/230-3-60	STD	39	50	41	191	43	50	45	195	44	50	46	196	48	60	51	200
		MED	41/41	50/50	43/42	229	45/45	50/50	47/47	233	46/46	50/50	48/48	234	50/49	60/60	53/52	238
		HIGH	45	50	47	258	48	60	51	262	49	60	52	263	53	60	57	267
	460-3-60	STD	18	20	19	95	20	25	21	97	21	25	21	97	22	25	23	99
		MED	19	25	20	114	21	25	22	116	21	25	22	116	23	25	24	118
		HIGH	21	25	22	129	23	25	24	131	23	25	24	131	25	30	27	133
	575-3-60	STD	13	15	13	77	17	20	17	81	14	15	15	79	18	20	19	83
		MED	13	15	13	81	17	20	18	85	15	20	15	83	19	20	20	87
		HIGH	14	15	14	92	18	20	19	96	16	20	16	94	19	25	21	98
09D	208/230-3-60	STD	39	50	41	191	43	50	45	195	44	50	46	196	48	60	51	200
		MED	41/41	50/50	43/43	229	45/45	50/50	47/47	233	46/46	50/50	48/48	234	50/50	60/60	53/53	238
		HIGH	45	50	47	258	49	60	52	262	50	60	53	263	53	60	57	267
	460-3-60	STD	19	20	19	95	20	25	21	97	21	25	22	97	23	25	24	99
		MED	19	25	20	114	21	25	22	116	22	25	23	116	23	25	25	118
		HIGH	21	25	22	129	23	25	24	131	24	25	25	131	25	30	27	133
	575-3-60	STD	14	15	14	77	18	20	19	81	16	20	16	79	20	25	21	83
		MED	14	20	15	81	18	20	19	85	16	20	17	83	20	25	21	87
		HIGH	15	20	16	92	19	20	20	96	17	20	18	94	21	25	22	98
11D	208/230-3-60	STD	49	60	51	257	53	60	55	261	54	60	57	262	57	70	61	266
		MED	54	60	57	313	58	70	62	317	59	70	63	318	63	70	67	322
		HIGH	57/56	70/60	61/60	315	61/60	70/70	65/64	319	62/61	70/70	66/65	320	66/65	80/80	71/70	324
	460-3-60	STD	22	25	23	123	24	30	25	125	25	30	26	125	26	30	28	127
		MED	25	30	26	151	27	30	28	153	27	30	29	153	29	35	31	155
		HIGH	26	30	28	152	28	30	30	154	28	30	30	154	30	35	32	156
	575-3-60	STD	18	20	18	95	21	25	23	99	19	25	20	97	23	25	24	101
		MED	18	20	19	106	22	25	23	110	20	25	21	108	24	25	25	112
		HIGH	21	25	22	120	25	30	27	124	23	25	24	122	27	30	29	126

Electrical data (cont)

581J*04-14 MCA MOCOP ELECTRICAL DATA (cont) ^a

581J* UNIT SIZE ^b	NOM. V-Ph-Hz	IFM TYPE	NO CO OR UNPWR CO								WITH PWRD CO							
			NO PE				WITH PE (PWRD FR/UNIT)				NO PE				WITH PE (PWRD FR/UNIT)			
			MCA	FUSE OR HACR BRKR	DISC. SIZE		MCA	FUSE OR HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
					FLA	LRA			FLA	LRA			FLA	LRA			FLA	LRA
12D	208/230-3-60	STD	48	60	50	282	51	60	54	286	52	60	55	287	56	60	60	291
		MED	53	60	56	338	57	70	60	342	58	70	61	343	62	70	66	347
		HIGH	56/55	60/60	59/58	340	60/59	70/70	64/63	344	61/60	70/70	65/64	345	65/64	80/70	69/68	349
	460-3-60	STD	23	30	24	135	25	30	26	137	26	30	27	137	27	30	29	139
		MED	26	30	27	163	28	30	29	165	28	30	30	165	30	35	32	167
		HIGH	27	30	29	164	29	35	31	166	29	35	31	166	31	35	33	168
	575-3-60	STD	18	20	18	105	22	25	23	109	19	25	20	107	23	25	25	111
		MED	19	20	19	116	22	25	24	120	20	25	21	118	24	30	26	122
		HIGH	21	25	22	130	25	30	27	134	23	25	24	132	27	30	29	136
14D	208/230-3-60	STD	57	70	59	340	60	70	63	344	61	80	64	345	65	80	69	349
		MED	60	70	62	370	63	80	67	374	64	80	68	375	68	80	72	379
		HIGH	66/64	80/80	70/68	368	70/68	80/80	74/72	372	71/69	80/80	75/73	373	75/73	80/80	80/77	377
		HIGH- HE	70	80	74	376	73	80	78	380	74	80	79	381	78	90	84	385
	460-3-60	STD	25	30	26	166	27	30	28	168	27	30	28	168	29	35	30	170
		MED	27	30	28	181	28	35	30	183	29	35	30	183	31	35	32	185
		HIGH	29	35	30	180	31	35	32	182	31	35	33	182	33	40	35	184
		HIGH- HE	32	40	33	184	34	40	35	186	34	40	36	186	36	45	38	188
	575-3-60	STD	20	25	21	138	24	30	25	142	22	25	23	140	26	30	27	144
		MED	20	25	21	138	24	30	25	142	22	25	23	140	26	30	27	144
		HIGH	24	25	25	141	27	30	29	145	25	30	27	143	29	35	31	147
		HIGH- HE	27	30	28	150	31	35	32	154	29	35	30	152	33	40	34	156

NOTE(S):

a. Refer to Packaged Rooftop Builder (Selection Software) for additional electrical data.

b. 581J*04A-581J*07A — One-Stage Cooling
581J*07D-581J*14D — Two-Stage Cooling

See Legend and Notes on page 90.

Electrical data (cont)

Legend and notes for electrical data tables, pages 82-89

LEGEND

BRKR	— Circuit Breaker
CO	— Convenience Outlet
COMP	— Compressor
DD-STD	— Direct Drive Standard
DISC	— Disconnect
FLA	— Full Load Amps
HIGH-HE	— High High-Efficiency
IFM	— Indoor Fan Motor
LRA	— Locked Rotor Amps
MCA	— Minimum Circuit Amps
OFM	— Outdoor Fan Motor
PE	— Power Exhaust
PWRD CO	— Powered Convenience Outlet
PWRD FR/UNIT	— Powered From Unit
RLA	— Rated Load Amps
UNPWR CO	— Unpowered Convenience Outlet

NOTES:

1. In compliance with NEC requirements for multimotor and combination load equipment (refer to NEC Articles 430 and 440), the over-current protective device for the unit shall be fuse or breaker. 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 percentage of voltage imbalance.

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

Example: Supply voltage is 230-3-60



AB = 224 v

BC = 231 v

AC = 226 v

$$\text{Average Voltage} = \frac{(224 + 231 + 226)}{3} = \frac{681}{3} = 227$$

Determine maximum deviation from average voltage.

(AB) 227-224 = 3 v

(BC) 231-227 = 4 v

(AC) 227-226 = 1 v

Maximum deviation is 4 v.

Determine percent of voltage imbalance.

$$\% \text{ Voltage Imbalance} = 100 \times \frac{4}{227} = 1.78\%$$

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

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

Sequence of operation

General

The sequence below describes the sequence of operation for an electro-mechanical unit with and without a factory-installed EconoMiSer® IV and X (called “economizer” in this sequence). For information regarding a direct digital controller, see the Control, Start-Up, Operations, and Troubleshooting manual for the applicable controller.

Electromechanical Units with No Economizer Cooling (Single Speed Indoor Fan Motor)

When the thermostat calls for cooling, terminals G and Y1 are energized. As a result, the indoor fan contactor (IFC) and the compressor contactor (C1) are energized, causing the indoor-fan motor (IFM), compressor no. 1, and outdoor fan to start. If the unit has 2 stages of cooling, the thermostat will additionally energize Y2. On 2 compressor units, the Y2 signal will energize compressor contactor no. 2 (C2), causing compressor no. 2 to start. On 2-Stage 07 units, the Y1 signal energizes the IFC and C1 contactor, causing the indoor fan and outdoor fan to start and the compressor to operate at 66% capacity. The Y2 signal will energize the compressor loader plug, allowing the compressor to operate at 100% capacity. Regardless of the number of stages, the outdoor fan motor runs continuously while unit is cooling.

Cooling (2-Speed Indoor Fan Motor)

Per ASHRAE 90.1-2016 and IECC-2015 standards, during the first stage of cooling operation, the VFD will adjust the fan motor to provide 66% of the total cfm established for the unit. When a call for the second stage of cooling is required, the VFD will allow the total cfm established for the unit (100%).

Heating

NOTE: Preferred Series units have either 1 or 2 stages of gas heat.

When the thermostat calls for heating, power is sent to W on the Integrated Gas Controller (IGC) board. An LED (light-emitting diode) on the IGC board turns on and remains on during normal operation. A check is made to ensure that the roll-out switch and limit switch are closed. If the check was successful, the induced-draft motor is energized, and when its speed is satisfactory, as proven by the flue gas pressure switch, the ignition activation period begins. The burners will ignite within 5 seconds. If the burners do not light, there is a 22 second delay before another 5 second attempt. This sequence is repeated for 15 minutes or until the burners light. If, after the 15 minutes, the burners still have not lit, heating is locked out. To reset the control, break 24v power to the thermostat.

When ignition occurs, the IGC board will continue to monitor the condition of the roll-out switch, the limit switches, the flue gas pressure switch, and the flame sensor. Forty-five seconds after ignition occurs, assuming the unit is controlled through a room thermostat set for fan auto, the indoor-fan motor will energize (and the outdoor-air dampers will open to their minimum position). If, for some reason, the over-temperature limit opens prior to the start of the indoor fan blower, the unit will shorten the 45-second delay to 5 seconds less than the time from initiation of heat to when the limit tripped. Gas will not be interrupted to the burners and heating will continue. Once the fan-on delay has been modified, it will not change back to 45 seconds until power is reset to the control. On units with 2 stages of heat, when additional heat is required, W2 closes and initiates power to the second stage of the main gas valve. When the thermostat is satisfied, W1 and W2 open and the gas valve closes, interrupting the flow of gas to the main burners. If the call for W1 lasted less than 1 minute, the heating cycle will

not terminate until 1 minute after W1 became active. If the unit is controlled through a room thermostat set for fan auto, the indoor-fan motor will continue to operate for an additional 45 seconds, then stop. If the over-temperature limit opens after the indoor motor is stopped, but within 10 minutes of W1 becoming inactive, then on the next cycle, the time will be extended by 15 seconds. The maximum delay is 3 minutes. Once modified, the fan off delay will not change back to 45 seconds unless power is reset to the control. A LED indicator is provided on the IGC to monitor operation.

Electromechanical Units with Factory-Installed EconoMiSer Cooling (Single Speed Indoor Fan Motor)

Cooling

When free cooling is not available, the compressors will be controlled by the zone thermostat. When free cooling is available, the outdoor-air damper is modulated by the EconoMiSer IV and X control to provide a 50°F (10°C) to 55°F (13°C) mixed-air temperature into the zone. As the mixed air temperature fluctuates above 55°F (13°C) or below 50°F (10°C) dampers will be modulated (open or close) to bring the mixed-air temperature back within control. If mechanical cooling is utilized with free cooling, the outdoor-air damper will maintain its current position at the time the compressor is started. If the increase in cooling capacity causes the mixed-air temperature to drop below 45°F (7°C), then the outdoor-air damper position will be decreased to the minimum position. If the mixed-air temperature continues to fall, the outdoor-air damper will close. Control returns to normal once the mixed-air temperature rises above 48°F (9°C). The power exhaust fans will be energized and de-energized, if installed, as the outdoor-air damper opens and closes.

If field-installed accessory CO₂ sensors are connected to the EconoMiSer IV and X control, a demand-controlled ventilation strategy will begin to operate. As the CO₂ level in the zone increases above the CO₂ set-point, the minimum position of the damper will be increased proportionally. As the CO₂ level decreases because of the increase in fresh air, the outdoor-air damper will be proportionally closed. For EconoMiSer IV and X operation, there must be a thermostat call for the fan (G). If the unit is occupied and the fan is on, the damper will operate at minimum position. Otherwise, the damper will be closed.

When the EconoMiSer IV and X control is in the occupied mode and a call for cooling exists (Y1 on the thermostat), the control will first check for indoor fan operation. If the fan is not on, then cooling will not be activated. If the fan is on, then the control will open the EconoMiSer IV and X damper to the minimum position.

On the initial power to the EconoMiSer IV and X control, it will take the damper up to 2-1/2 minutes before it begins to position itself. After the initial power-up, further changes in damper position can take up to 30 seconds to initiate. Damper movement from full closed to full open (or vice versa) will take between 1-1/2 and 2-1/2 minutes. If free cooling can be used, as determined from the appropriate changeover command (switch, dry bulb, enthalpy curve, differential dry bulb, or differential enthalpy), then the control will modulate the dampers open to maintain the mixed-air temperature set-point at 50°F (10°C) to 55°F (13°C). If there is a further demand for cooling (cooling second stage — Y2 is energized), then the control will bring on compressor stage 1 to maintain the mixed-air temperature set-point. The EconoMiSer IV and X damper will be open at maximum position.

Sequence of operation (cont)

Two-Speed Note: When operating in ventilation mode only, the indoor fan motor will automatically adjust to 66% of the total cfm established.

Heating

The sequence of operation for the heating is the same as an electro-mechanical unit with no economizer. The only difference is how the economizer acts. The economizer will stay at the Economizer Minimum Position while the evaporator fan is operating. The outdoor-air damper is closed when the indoor fan is not operating. Refer to Service and Maintenance Manual for further details.

Optional Perfect Humidity™ Dehumidification System

Units with the factory-equipped Perfect Humidity system option are capable of providing multiple modes of improved dehumidification as a variation of the normal cooling cycle. The Perfect Humidity system option includes additional valves in the liquid line and discharge line of each refrigerant circuit, a small reheat condenser coil downstream of the evaporator, and Motormaster® variable-speed control of some or all outdoor fans. Operation of the revised refrigerant circuit for each mode is described below.

The Perfect Humidity system provides 3 sub-modes of operation: Cool, Reheat1, and Reheat2.

Cool mode — Provides a normal ratio of Sensible and Latent Cooling effect from the evaporator coil.

Reheat1 — Provides increased Latent Cooling while slightly reducing the Sensible Cooling effect.

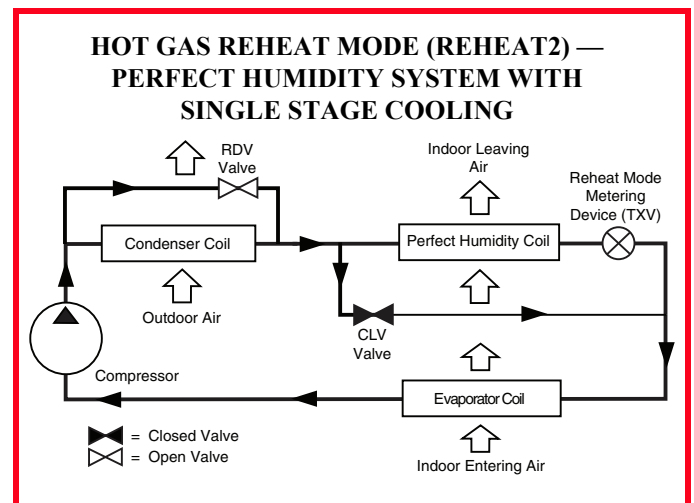
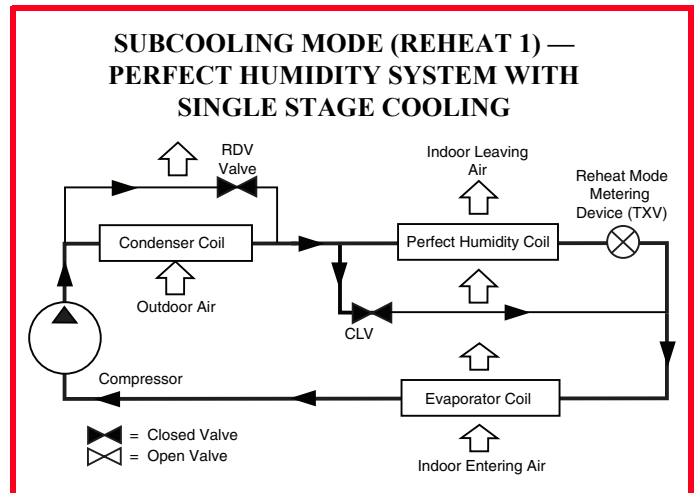
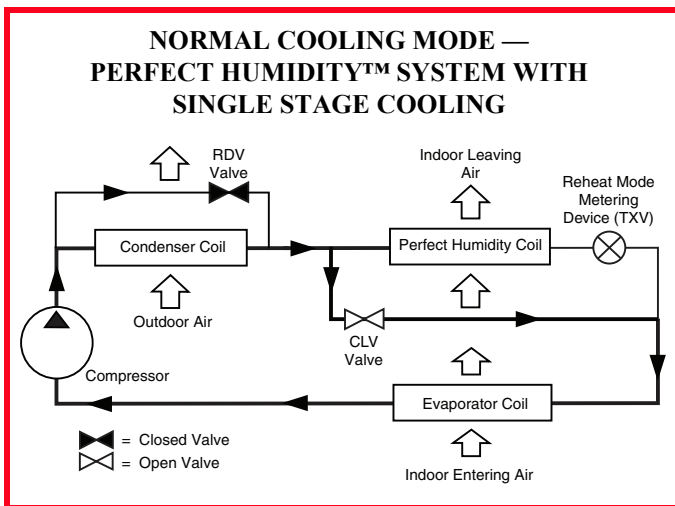
Reheat2 — Provides normal Latent Cooling but with null or minimum Sensible Cooling effect delivered to the space.

The Reheat1 and Reheat2 modes are available when the unit is not in a Heating mode and when the Low Ambient Lockout switch is closed.

The figures on this page depict piping for single stage cooling units.

RTU Open Controller (Factory Option)

For details on operating 581J units equipped with the factory-installed RTU Open controller option, refer to Factory-Installed RTU Open Multi-Protocol Controller Controls, Start-Up, Operation, and Troubleshooting manual.



Application data

BASE UNIT APPLICATION DATA

Minimum Operating Ambient Temperature (Cooling)

In mechanical cooling mode, your Bryant rooftop unit can safely operate down to an outdoor ambient temperature of 35°F (2°C). It is possible to provide cooling at lower outdoor ambient temperatures by using less outside air, economizers, and/or accessory low ambient kits.

Maximum Operating Ambient Temp (Cooling)

The maximum operating ambient temperature for cooling mode is 125°F (52°C). While cooling operation above 125°F (52°C) may be possible, it could cause either a reduction in performance or reliability or a protective action by the unit's internal safety devices.

Multiple Motor and Drive Packages

Some applications need larger horsepower motors, some need more airflow, and some need both. Regardless of the case, your Bryant expert has a factory-installed combination to meet your application. A wide selection of motors and pulleys (drives) are available, factory installed, to handle nearly any application.

Stainless Steel Heat Exchanger

The stainless steel heat exchanger option provides the tubular heat exchanger be made out of a minimum 20 gauge type 409 stainless steel for applications where the mixed air to the heat exchanger is expected to drop below 45°F (7°C). Stainless steel may be specified on applications where the presence of airborne contaminants require its use (applications such as paper mills) or in area with very high outdoor humidity that may result in severe in the heat exchanger during cooling operation.

Minimum Mixed Air Temperature (Heating)

Using the factory settings, the minimum temperatures for the mixed air (the combined temperature of the warm return air and the cold outdoor air) entering the dimpled gas heat exchangers are shown in the table below.

MINIMUM TEMPERATURE FOR MIXED AIR TEMPERATURE

ALUMINIZED	STAINLESS STEEL
50°F (10°C) Continuous	40°F (4°C) Continuous
45°F (7°C) Intermittent	35°F (2°C) Intermittent

Operating at lower mixed-air temperatures may be possible if a field-supplied, outdoor air thermostat initiates both heat stages when the temperature is less than the minimum temperatures listed above. Please contact your local Bryant representative for assistance.

Minimum and Maximum Airflow (Heating and Cooling)

To maintain safe and reliable operation of your rooftop, operate within the heating airflow limits during heating mode and cooling airflow limits during cooling mode. Operating above the maximum may cause blow-off, undesired airflow noise, or airflow related problems with the rooftop unit. Operating below the minimum may cause problems with coil freeze-up and unsafe heating operation. Heating and cooling limitations differ

when evaluating operating cfm: the minimum value is the HIGHER of the cooling and heating minimum cfm values published on page 7 and the maximum value is the LOWER of the cooling and heating minimum values published on page 7.

Heating-to-Cooling Changeover

Your unit will automatically change from heating to cooling mode when using a thermostat with an auto-changeover feature.

Airflow

All units are draw-through in cooling mode and blow-through in heating mode.

Outdoor Air Application Strategies

Economizers reduce operating expenses and compressor run time by providing a free source of cooling and a means of ventilation to match the application's changing needs. In fact, they should be considered for most applications. Also, consider the various economizer control methods and their benefits, as well as sensors required to accomplish your application goals. Please contact your local Bryant representative for assistance.

Motor Limits, Break Horsepower (bhp)

Due to internal design of Bryant units, the air path, and specially designed motors, the full horsepower (maximum continuous bhp) band, as listed in the Fan Performance tables, can be used with the utmost confidence. There is no need for extra safety factors, as Bryant motors are designed and rigorously tested to use the entire listed bhp range without either nuisance tripping or premature motor failure.

Propane Heating

Propane has different physical qualities than natural gas. As a result, propane requires different fuel to air mixture. To optimize the fuel/air mixture for propane, Bryant sells different burner orifices in an easy to install accessory kit. To select the correct burner orifices or determine the heat capacity for a propane application, use either the selection software or the unit's service manual.

High Altitude Heating

High altitudes have less oxygen, which affects the fuel/air mixture in heat exchangers. In order to maintain a proper fuel/air mixture, heat exchangers operating in altitudes above 2000 ft (610 m) require different orifices. To select the correct burner orifices or determine the heat capacity for a high altitude application, use either the selection software, or the unit's service manual.

High altitudes have less oxygen, which means heat exchangers need less fuel. The new gas orifices in this field-installed kit make the necessary adjustment for high altitude applications. They restore the optimal fuel to air mixture and maintain healthy combustion on altitudes above 2000 ft (610 m).

NOTE: Typical natural gas heating value ranges from 975 to 1050 Btu/ft³ at sea level nationally. The heating value goes down approximately 1.7% per every thousand feet elevation. Standard factory orifices can typically be used up to 2000 ft (610 m) elevation without any operational issues.

Application data (cont)

Sizing a Rooftop

Bigger is not necessarily better. While an air conditioner needs to have enough capacity to meet the design loads, it does not need excess capacity. In fact, excess capacity typically results in very poor part load performance and humidity control.

Using higher design temperatures than ASHRAE recommends for your location and adding “safety factors” to the calculated load are signs of oversizing air conditioners. Oversizing the air conditioner leads to poor humidity control, reduced efficiency, higher utility bills, larger indoor temperature swings, excessive noise, and increased wear and tear on the air conditioner.

Rather than oversizing an air conditioner, engineers should “right-size” or even slightly “under-size” air conditioners. Correctly sizing an air conditioner controls humidity better, promotes efficiency, reduces utility bills, extends equipment life, and maintains even, comfortable temperatures. Please contact your local Bryant representative for assistance.

Low Ambient Applications

The optional Bryant economizer can adequately cool your space by bringing in fresh, cool outside air. In fact, when so equipped, an accessory low-ambient kit may not be necessary. In low ambient conditions, unless the outdoor air is excessively humid or contaminated, economizer-based “free cooling” is the preferred, less costly and energy-conscious method. In low ambient applications where outside air might not be desired (such as contaminated or excessively humid outdoor environments), your Bryant rooftop can operate to ambient temperatures down to -20°F (-29°C) using the recommended accessory Motormaster® low ambient controller.

Two-Speed Indoor Fan Motor System with VFD Controller (2-Stage Cooling Models Only)

Bryant’s 2-speed indoor fan motor system saves energy and installation time by utilizing a variable frequency drive (VFD) to automatically adjust the indoor fan motor speed in sequence with the unit’s cooling operation. Per ASHRAE 90.1-2016 and IECC-2015, during the first stage of cooling operation, the VFD will adjust the fan motor to provide 2/3 of the total cfm established for the unit. When a call for the second stage of cooling is required, the VFD will allow the total cfm for the unit to be established (100%). During the heating mode, the VFD will allow total design cfm (100%) operation, and during the ventilation mode, the VFD will allow operation to 2/3 of total cfm.

Compared to single speed indoor fan motor systems, Bryant’s 2-Speed Indoor Fan Motor System can save substantial energy, 25%+, versus single speed indoor fan motor systems.

IMPORTANT: Data based on .10 (\$/kWh) in an office application utilizing Bryant’s HAP 4.6 simulation software program.

The VFD used in Bryant’s 2-Speed Indoor Fan Motor System has soft start capabilities to slowly ramp up speeds, thus eliminating any high inrush air volume during initial start-up. It also has internal overcurrent protection for the fan motor and a field-installed display kit that allows adjustment and in-depth diagnostics of the VFD.

This 2-Speed Indoor Fan Motor System is available on models with 2-stage cooling operation.

The 2-Speed Indoor Fan Motor System is very flexible for initial fan performance set up and adjustment. The standard factory-shipped VFD is pre-programmed to automatically stage the fan speed between the first and second stage of cooling. The unit fan performance static pressure and cfm can be easily adjusted using the traditional means of pulley adjustments. The other means to adjust the unit static and cfm performance is to utilize the field-installed display kit and adjust the frequency and voltage in the VFD to required performance requirements. In either case, once set-up, the VFD will automatically adjust the speed between the cooling stage operations.

581J 2-SPEED INDOOR FAN MOTOR SYSTEM — VARIABLE FREQUENCY DRIVE (VFD) HP RATING

581J* UNIT	VOLTAGE	STATIC OPTION	VFD HP RATING
07	208/230, 460, 575	STD	3.0
	208/230, 460	MED	3.0
	575	MED	5.0
	208/230, 460, 575	HIGH	7.5
08	208/230, 460, 575	STD	3.0
	208/230, 460, 575	MED	3.0
	208/230, 460, 575	HIGH	5.0
09	208/230, 460, 575	STD	3.0
	208/230, 460, 575	MED	5.0
	208/230, 460, 575	HIGH	3.0
11	208/230, 460, 575	STD	3.0
	208/230, 460, 575	MED	5.0
	208/230, 460, 575	HIGH	7.5
12	208/230, 460, 575	STD	3.0
	208/230, 460, 575	MED	5.0
	208/230, 460, 575	HIGH	7.5
14	208/230, 460	STD	3.0
	575	STD	5.0
	208/230, 460, 575	MED	5.0
	208/230, 460, 575	HIGH	7.5

Guide specifications

Note about this specification:

This specification is in the “Masterformat” as published by the Construction Specification Institute. Please feel free to copy this specification directly into your building spec.



Preferred™ Series Gas Heat/Electric Cooling Packaged Rooftop HVAC guide specifications

Size range: **3 to 12.5 Nominal Tons**

Bryant Model Number: **581J*04-14**

Part 1 — (23 06 80) Schedules for decentralized HVAC equipment

1.01 (23 06 80.13) Decentralized Unitary HVAC Equipment Schedule

A. (23 06 80.13.A.) Rooftop unit (RTU) schedule

1. Schedule is per the project specification requirements.

Part 2 — (23 07 16) HVAC equipment insulation

2.01 (23 07 16.13) Decentralized, Rooftop Units:

A. (23 07 16.13.A.) Evaporator fan compartment:

1. Interior cabinet surfaces shall be insulated with a minimum 1/2 in. thick, minimum 1-1/2 lb density, flexible fiberglass insulation bonded with a phenolic binder, neoprene coated on the air side.
2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
3. Unit internal insulation linings shall be resistant to mold growth in accordance with “mold growth and humidity” test in ASTM C1338, G21, and UL 181 or comparable test method. Air stream surfaces shall be evaluated in accordance with the “Erosion Test” in UL 181, as part of ASTM C1071.

B. (23 07 16.13.B.) Gas Heat Compartment:

1. Aluminum foil-faced fiberglass insulation shall be used.
2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

Part 3 — (23 09 13) Instrumentation and control devices for HVAC

3.01 (23 09 13.23) Sensors and Transmitters

A. (23 09 13.23.A.) Thermostats

1. Thermostat must
 - a. energize both “W” and “G” when calling for heat.
 - b. have capability to energize 2 different stages of cooling, and 2 different stages of heating.
 - c. include capability for occupancy scheduling.

Part 4 — (23 09 23) Direct-digital control system for HVAC

4.01 (23 09 23.13) Decentralized, Rooftop Units:

A. (23 09 23.13.B.) RTU Open Protocol, Direct Digital Controller:

1. Shall be ASHRAE 62 compliant.
2. Shall accept 18-30VAC, 50-60Hz, and consume 15VA or less power.

3. Shall have an operating temperature range from –40°F (–40°C) to 130°F (54°C), 10% to 90% RH (non-condensing).
4. Shall include built-in protocol for BACnet¹ (MS/TP and PTP modes), Modbus² (RTU and ASCII), Johnson N2 and LonWorks³. LonWorks Echelon processor required for all Lon applications shall be contained in separate communication board.
5. Shall allow access of up to 62 network variables (SNVT). Shall be compatible with all open controllers.
6. Baud rate controller shall be selectable using a dip switch.
7. Shall have an LED display independently showing the status of serial communication, running, errors, power, all digital outputs, and all analog inputs.
8. Shall accept the following inputs: space temperature, set point adjustment, outdoor air temperature, indoor air quality, outdoor air quality, compressor lockout, fire shutdown, enthalpy switch, and fan status / filter status / humidity / remote occupancy.
9. Shall provide the following outputs: economizer, variable frequency drive, fan, cooling stage 1, cooling stage 2, heat stage 1, heat stage 2, exhaust reversing valve/high fan speed.
10. Shall have built-in surge protection circuitry through solid-state polyswitches. Polyswitches shall be used on incoming power and network connections. Polyswitches will return to normal when the “trip” condition clears.
11. Shall have a battery backup capable of a minimum of 10,000 hours of data and time clock retention during power outages.
12. Shall have built-in support for Bryant technician tool.
13. Shall include an RS-485 protocol communication port, an access port for connection of either a computer or a Bryant technician tool, an RS-485 port for network communication to intelligent space sensors and displays, and a port to connect an optional LonWorks communications card.
14. Software upgrades will be accomplished by either local or remote download. No software upgrades through chip replacements are allowed.

Part 5 — (23 09 33) Electric and electronic control system for HVAC

5.01 (23 09 33.13) Decentralized, Rooftop Units

A. (23 09 33.13.A) General:

1. Shall be complete with self-contained low-voltage control circuit protected by a resettable circuit breaker on the 24v transformer side. Transformer shall have 75VA capability.
2. Shall utilize color-coded wiring.

1. BACnet is a trademark of ASHRAE.

2. Modbus is a registered trademark of Schneider Electric.

3. LonWorks is a registered trademark of Echelon Corporation.

Guide specifications (cont)

3. Shall include a central control terminal board to conveniently and safely provide connection points for vital control functions such as: smoke detectors, phase monitor, economizer, thermostat, DDC control options, loss of charge, freeze switch, high pressure switches.
4. The heat exchanger shall be controlled by an integrated gas controller (IGC) microprocessor. See heat exchanger section of this specification.
5. Unit shall include a minimum of one 8-pin screw terminal connection board for connection of control wiring.

B. (23 09 33.23.B) Safeties:

1. Compressor over-temperature, over-current.
2. Low-pressure switch.
 - a. Units with 2 compressors shall have different sized connectors for the circuit 1 and circuit 2 loss of charge switches. They shall physically prevent the cross-wiring of the safety switches between circuits 1 and 2.
 - b. Loss of charge switch shall use different color wire than the high pressure switch. The purpose is to assist the installer and service technician to correctly wire and/or troubleshoot the rooftop unit.
3. High-pressure switch.
 - a. Units with 2 compressors shall have different sized connectors for the circuit 1 and circuit 2 high pressure switches. They shall physically prevent the cross-wiring of the safety switches between circuits 1 and 2.
 - b. High-pressure switch shall use different color wire than the low-pressure switch. The purpose is to assist the installer and service technician to correctly wire and/or troubleshoot the rooftop unit.
4. Automatic reset, motor thermal overload protector.
5. Heating section shall be provided with the following minimum protections.
 - a. High-temperature limit switches.
 - b. Induced draft motor speed sensor.
 - c. Flame rollout switch.
 - d. Flame proving controls.

Part 6 — (23 09 93) Sequence of operations for HVAC controls

6.01 (23 09 93.13) Decentralized, Rooftop Units:

A. (23 09 93.13.A) INSERT SEQUENCE OF OPERATION

Part 7 — (23 40 13) Panel air filters

7.01 (23 40 13 13) Decentralized Rooftop Units:

A. (23 40 13 13.A) Standard Filter Section

1. Shall consist of factory-installed, low velocity, throw-away 2 in. thick fiberglass filters of commercially available sizes.
2. Unit shall use only one filter size. Multiple sizes are not acceptable.

3. Filters shall be accessible through an access panel with “no-tool” removal as described in the unit cabinet section of this specification (23 81 19.13.G).

Part 8 — (23 81 19) Self-contained air conditioners

8.01 (23 81 19.13) Small-Capacity Self-Contained Air Conditioners (581J*04-14)

A. (23 81 19.13.A) General

1. Outdoor, rooftop mounted, electrically controlled, heating and cooling unit utilizing hermetic scroll compressor(s) for cooling duty and gas combustion for heating duty.
2. Factory assembled, single piece heating and cooling rooftop unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, and special features required prior to field start-up.
3. Unit shall use Puron® refrigerant.
4. Unit shall be installed in accordance with the manufacturer's instructions.
5. Unit must be selected and installed in compliance with local, state, and federal codes.

B. (23 81 19.13.B.) Quality Assurance

1. Unit meets ASHRAE 90.1-2016 and IECC-2015 minimum efficiency requirements.
2. 3-phase units are ENERGY STAR¹ qualified.
3. Unit shall be rated in accordance with AHRI Standards 210/240 and 340/360.
4. Unit shall be designed to conform to ASHRAE 15.
5. Unit shall be UL-tested and certified in accordance with ANSI Z21.47 Standards and UL or ETL-listed and certified under Canadian standards as a total package for safety requirements.
6. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
7. Unit internal insulation linings shall be resistant to mold growth in accordance with “mold growth and humidity” test in ASTM C1338, G21, and UL 181 or comparable test method. Air stream surfaces shall be evaluated in accordance with the “Erosion Test” in UL 181, as part of ASTM C1071.
8. Unit casing shall be capable of withstanding 500 hour salt spray exposure per ASTM B117 (scribed specimen).
9. Roof curb shall be designed to conform to NRCA Standards.
10. Unit shall be subjected to a completely automated run test on the assembly line. The data for each unit will be stored at the factory, and must be available upon request.
11. Unit shall be designed in accordance with UL Standard 1995, including tested to withstand rain.
12. Unit shall be constructed to prevent intrusion of snow and tested to prevent snow intrusion into the control box up to 40 mph.

1. ENERGY STAR is a registered trademark of the U.S. Environmental Protection Agency.

Guide specifications (cont)

13. Unit shake tested to assurance level 1, ASTM D4169 to ensure shipping reliability.
14. High Efficiency Motors listed shall meet section 313 of the Energy Independence and Security Act of 2007 (EISA 2007).
- C. (23 81 19.13.C) Delivery, Storage, and Handling
 1. Unit shall be stored and handled per manufacturer's recommendations.
 2. Lifted by crane requires either shipping top panel or spreader bars.
 3. Unit shall only be stored or positioned in the upright position.
- D. (23 81 19.13.D) Project Conditions
 1. As specified in the contract.
- E. (23 81 19.13.E) Operating Characteristics
 1. Unit shall be capable of starting and running at 125°F (52°C) ambient outdoor temperature, meeting maximum load criteria of AHRI Standard 340/360 at ± 10% voltage.
 2. Compressor with standard controls shall be capable of operation from 35°F (2°C), ambient outdoor temperatures. Accessory kits are necessary if mechanically cooling at ambient temperatures below 35°F (2°C).
 3. Unit shall discharge supply air vertically as shown on contract drawings.
 4. Unit shall be factory configured and ordered for vertical supply and return configurations.
 5. Unit shall be factory furnished in vertical configurations.
 6. Unit shall be capable of mixed operation: vertical supply with horizontal return or horizontal supply with vertical return.
- F. (23 81 19.13.F) Electrical Requirements
 1. Main power supply voltage, phase, and frequency must match those required by the manufacturer.
 2. Control Panel SCCR (short circuit current rating): 5kA RMS at Rated Symmetrical Voltage.
- G. (23 81 19.13.G) 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. Unit cabinet exterior paint shall be: film thickness, (dry) 0.003 inches minimum, gloss (per ASTM D523, 60°): 60, Hardness: H-2H Pencil hardness.
 3. Evaporator fan compartment interior cabinet insulation shall conform to AHRI Standards 340/360 minimum exterior sweat criteria. Interior surfaces shall be insulated with a minimum 1/2 in. thick, 1 lb density, flexible fiberglass insulation, neoprene coated on the air side. Aluminum foil-faced fiberglass insulation shall be used in the heat compartment.
 4. Unit internal insulation linings shall be resistant to mold growth in accordance with "mold growth and humidity" test in ASTM C1338, G21, and UL 181 or comparable test method. Air stream surfaces shall be evaluated in accordance with the "Erosion Test" in UL 181, as part of ASTM C1071.
5. Base of unit shall have a minimum of 4 locations for factory thru-the-base gas and electrical connections (factory-installed or field-installed) standard. Connections shall be internal to the cabinet to protect from environmental issues.
6. 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.
 - c. Holes shall be provided in the base rail for moving the rooftop by fork truck.
 - d. Base rail shall be a minimum of 16 gauge thickness.
7. 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 3/4 in. 14 NPT drain connection at the end of the drain pan. Connection shall be made per manufacturer's recommendations.
8. Top Panel:
 - a. Shall be a multi-piece top panel linked with water tight flanges and interlocking systems.
9. Gas Connections:
 - a. All gas piping connecting to unit gas valve shall enter the unit cabinet at a single location on side of unit (horizontal plane).
 - b. Thru-the-base capability
 - 1) Standard unit shall have a thru-the-base gas-line location using a raised, embossed portion of the unit basepan.
 - 2) Optional, factory-approved, water-tight connection method must be used for thru-the-base gas connections.
 - 3) No basepan penetration, other than those authorized by the manufacturer, is permitted.
10. Electrical Connections:
 - a. All unit power wiring shall enter unit cabinet at a single, factory-prepared, knockout location.
 - b. Thru-the-base capability
 - 1) Standard unit shall have a thru-the-base electrical location(s) using a raised, embossed portion of the unit basepan.
 - 2) Optional, factory-approved, water-tight connection method must be used for thru-the-base electrical connections.
 - 3) No basepan penetration, other than those authorized by the manufacturer, is permitted.

Guide specifications (cont)

11. Component Access Panels (standard):

- a. Cabinet panels shall be easily removable for servicing.
- b. Unit shall have one factory installed, tool-less, removable, filter access panel.
- c. Panels covering control box and filters shall have molded composite handles while the blower access door shall have an integrated flange for easy removal.
- d. Handles shall be UV modified, composite, permanently attached, and recessed into the panel.
- e. Screws on the vertical portion of all removable access panel shall engage into heat resistant, molded composite collars.
- f. Collars shall be removable and easily replaceable using manufacturer recommended parts.

H. (23 81 19.13.H.) Gas Heat

1. General:

- a. Heat exchanger shall be an induced draft design. Positive pressure heat exchanger designs shall not be allowed.
- b. Shall incorporate a direct-spark ignition system and redundant main gas valve.
- c. Gas supply pressure at the inlet to the rooftop unit gas valve must match that required by the manufacturer.

2. The heat exchanger shall be controlled by an integrated gas controller (IGC) microprocessor.

- a. IGC board shall notify users of fault using an LED (light-emitting diode).
- b. The LED shall be visible without removing the control box access panel.
- c. IGC board shall contain algorithms that modify evaporator-fan operation to prevent future cycling on high temperature limit switch.
- d. Unit shall be equipped with anti-cycle protection with one short cycle on unit flame roll-out switch or 4 continuous short cycles on the high temperature limit switch. Fault indication shall be made using an LED.

3. Standard Heat Exchanger Construction:

- a. Heat exchanger shall be of the tubular-section type constructed of a minimum of 20 gauge steel coated with a nominal 1.2 mil aluminum-silicone alloy for corrosion resistance.
- b. Burners shall be of the in-shot type constructed of aluminum-coated steel.
- c. Burners shall incorporate orifices for rated heat output up to 2000 ft (610m) elevation. Additional accessory kits may be required for applications above 2000 ft (610m) elevation, depending on local gas supply conditions.
- d. Each heat exchanger tube shall contain multiple dimples for increased heating effectiveness.

4. Optional Stainless Steel Heat Exchanger Construction:

- a. Use energy saving, direct-spark ignition system.
- b. Use a redundant main gas valve.
- c. Burners shall be of the in-shot type constructed of aluminum-coated steel.
- d. All gas piping shall enter the unit cabinet at a single location on side of unit (horizontal plane).
- e. The optional stainless steel heat exchanger shall be of the tubular-section type, constructed of a minimum of 20 gauge type 409 stainless steel.
- f. Type 409 stainless steel shall be used in heat exchanger tubes and vestibule plate.
- g. Complete stainless steel heat exchanger allows for greater application flexibility.

5. Optional Low NO_x Heat Exchanger Construction:

- a. Low NO_x reduction shall be provided to reduce nitrous oxide emissions to meet California's Air Quality Management District (SCAQMD) low-NO_x emissions requirement of 40 nanograms per joule or less.
- b. Primary tubes and vestibule plates on low NO_x units shall be 409 stainless steel. Other components shall be aluminized steel.

6. Induced Draft Combustion Motor and Blower:

- a. Shall be a direct-drive, single inlet, forward-curved centrifugal type.
- b. Shall be made from steel with a corrosion-resistant finish.
- c. Shall have permanently lubricated sealed bearings.
- d. Shall have inherent thermal overload protection.
- e. Shall have an automatic reset feature.

I. (23 81 19.13.I.) Coils

1. Standard Aluminum Fin/Copper Tube Coils:

- a. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internally grooved copper tubes with all joints brazed.
- b. Evaporator coils shall be leak tested to 150 psig, pressure tested to 450 psig, and qualified to UL 1995 burst test at 1775 psig.
- c. Condenser coils shall be leak tested to 150 psig, pressure tested to 650 psig, and qualified to UL 1995 burst test at 1980 psig.

2. Optional Pre-Coated Aluminum-Fin Condenser Coils (3-phase models only):

- a. Shall have a durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments.
- b. 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.
- c. Epoxy-phenolic barrier shall minimize galvanic action between dissimilar metals.

Guide specifications (cont)

- d. Corrosion durability of fin stock shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90.
 - e. Corrosion durability of fin stock shall be confirmed through testing to have no visible corrosion after 48 hour immersion in a room temperature solution of 5% salt, 1% acetic acid.
 - f. Fin stock coating shall pass 2000 hours of the following: one week exposure in the prohesion chamber followed by one week of accelerated ultraviolet light testing. Prohesion chamber: the solution shall contain 3.5% sodium chloride and 0.35% ammonium sulfate. The exposure cycle is one hour of salt fog application at ambient followed by one hour drying at 95°F (35°C).
3. Optional Copper-Fin Evaporator and Condenser Coils (3-phase models only):
- a. Shall be constructed of copper fins mechanically bonded to copper tubes and copper tube sheets.
 - b. Galvanized steel tube sheets shall not be acceptable.
 - c. A polymer strip shall prevent coil assembly from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan.
4. Optional E-Coated Aluminum-Fin Evaporator and Condenser Coils (3-phase models only):
- a. Shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins.
 - b. Coating process shall ensure complete coil encapsulation of tubes, fins and headers.
 - c. Color shall be high gloss black with gloss per ASTM D523-89.
 - d. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges.
 - e. Superior hardness characteristics of 2H per ASTM D3363-92A and cross-hatch adhesion of 4B-5B per ASTM D3359-93.
 - f. Impact resistance shall be up to 160 in.-lb (ASTM D2794-93).
 - g. Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D224-92 and ASTM D870-92).
 - h. Corrosion durability shall be confirmed through testing to be no less than 6000 hours salt spray per ASTM B117-90.
- J. (23 81 19.13.J) Refrigerant Components
- 1. Refrigerant circuit shall include the following control, safety, and maintenance features:
 - a. Thermostatic Expansion Valve (TXV) shall help provide optimum performance across the entire operating range. Shall contain removable power element to allow change out of power element and bulb without removing the valve body.
 - b. Refrigerant filter drier.
 - c. Service gauge connections on suction and discharge lines.
 - d. Pressure gauge access through a specially designed access port in the top panel of the unit.
 - 2. There shall be gauge line access port in the skin of the rooftop, covered by a black, removable plug.
 - a. The plug shall be easy to remove and replace.
 - b. When the plug is removed, the gauge access port shall enable maintenance personnel to route their pressure gauge lines.
 - c. This gauge access port shall facilitate correct and accurate condenser pressure readings by enabling the reading with the compressor access panel on.
 - d. The plug shall be made of a leak proof, UV-resistant, composite material.
 - 3. Compressors:
 - a. Unit shall use one fully hermetic, scroll compressor for each independent refrigeration circuit.
 - b. Models shall be available with single compressor/single stage cooling designs on 04-07 models, single compressor/2-stage cooling on 07 size, and 2 compressor/2-stage cooling models on 08-12 sizes.
 - c. Compressor motors shall be cooled by refrigerant gas passing through motor windings.
 - d. Compressors shall be internally protected from high discharge temperature conditions.
 - e. Compressors shall be protected from an over-temperature and over-ampere conditions by an internal, motor overload device.
 - f. Compressor shall be factory mounted on rubber grommets.
 - g. Compressor motors shall have internal line break thermal, current overload and high pressure differential protection.
 - h. Crankcase heaters shall be utilized on all models to protect compressor with specific refrigerant charge.
- K. (23 81 19.13.K) 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 slide out filter tray, facilitating easy removal and installation.
 - 3. Shall consist of factory-installed, low velocity, throw-away 2 in. thick fiberglass filters.
 - 4. Filters shall be standard, commercially available sizes.
 - 5. Only one size filter per unit is allowed.
- L. (23 81 19.13.L) Evaporator Fan and Motor
- 1. Evaporator fan motor:
 - a. Shall have permanently lubricated bearings.
 - b. Shall have inherent automatic-reset thermal overload protection or circuit breaker.

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- c. Shall have a maximum continuous bhp rating for continuous duty operation; no safety factors above that rating shall be required.
- 2. Belt-driven evaporator fan:
 - a. Belt drive shall include an adjustable-pitch motor pulley and belt break protection system.
 - b. Shall use rigid pillow block bearing system with lubricate fittings at are accessible or lubrication line.
 - c. Blower fan shall be double-inlet type with forward-curved blades.
 - d. Shall be constructed from steel with a corrosion resistant finish and dynamically balanced.
 - e. Standard on all 04-14 size models with Perfect Humidity option.
- M. (23 81 19.13.M) Condenser Fans and Motors
 - 1. Condenser fan motors:
 - a. Shall be a totally enclosed motor.
 - b. Shall use permanently lubricated bearings.
 - c. Shall have inherent thermal overload protection with an automatic reset feature.
 - d. Shall use a shaft down design on all sizes.
 - 2. Condenser fans:
 - a. Shall be a direct driven propeller type fan.
 - b. Shall have aluminum blades riveted to corrosion resistant steel spiders and shall be dynamically balanced.
- N. (23 81 19.13.N) Special Features Options and Accessories
 - 1. Two-Speed Indoor Fan Motor System for 2-stage cooling models only:
 - a. Evaporator fan motor:
 - 1) Shall have permanently lubricated bearings.
 - 2) Shall have a maximum continuous bhp rating for continuous duty operation; no safety factors above that rating.
 - 3) Shall be Variable Frequency duty and 2-speed control.
 - 4) Shall contain motor shaft grounding ring to prevent electrical bearing fluting damage by safely diverting harmful shaft voltages and bearing currents to ground.
 - 2. Variable Frequency Drive (VFD). Only available on 2-Speed Indoor Fan Motor System:
 - a. Factory-supplied VFDs qualify, through ABB for a 12-month warranty from date of commissioning or 18 months from date of sale, whichever occurs first.
 - b. Shall be installed inside the unit cabinet, mounted, wired and tested.
 - c. Shall contain Electromagnetic Interference (EMI) frequency protection.
 - d. Insulated Gate Bi-Polar Transistors (IGBT) used to produce the output pulse width modulated (PWM) waveform, allowing for quiet motor operation.
 - e. Self diagnostics with fault and power code LED indicator. Field accessory Display Kit available for further diagnostics and special setup applications.
 - f. RS485 capability standard.
 - g. Electronic thermal overload protection.
 - h. 5% swinging chokes for harmonic reduction and improved power factor.
 - i. All printed circuit boards shall be conformal coated.
- 3. Integrated EconoMi\$er® IV, EconoMi\$er 2, and EconoMi\$er X Low Leak Rate Models. (Factory-installed on 3-phase models only. Field-installed on all 3 and 1-phase models.)
 - a. Integrated, gear driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.
 - b. Independent modules for vertical or horizontal return configuration shall be available. Vertical return modules shall be available as a factory-installed option.
 - c. Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.
 - d. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below set-points.
 - e. Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
 - f. Low leak rate models shall be equipped with dampers not to exceed 2% leakage at 1 in. wg pressure differential.
 - g. Economizer controller on EconoMi\$er IV models shall be Honeywell W7212 that provides:
 - 1) Combined minimum and DCV maximum damper position potentiometers with compressor staging relay.
 - 2) Functions with solid state analog enthalpy or dry bulb changeover control sensing.
 - 3) LED indicators for: when free cooling is available, when module is in DCV mode, when exhaust fan contact is closed.
 - h. Economizer controller on EconoMi\$er X models shall be the Honeywell W7220 that provides:
 - 1) 2-line LCD interface screen for setup, configuration and troubleshooting.
 - 2) On-board Fault Detection and Diagnostics (FDD) that senses and alerts when the economizer is not operating properly, per California Title 24.
 - 3) Sensor failure loss of communication identification.
 - 4) Automatic sensor detection.

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- 5) Capabilities for use with multiple-speed indoor fan systems.
 - 6) Utilize digital sensors: Dry bulb and Enthalpy.
 - i. Economizer controller on EconoMiSer 2 models with RTU Open controller shall be a 4-20mA design controlled directly by the RTU Open controller. RTU Open controller meets California Title 24 Fault Detection and Diagnostic (FDD) requirements.
 - j. Shall be capable of introducing up to 100% outdoor air.
 - k. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air and contain seals that meet ASHRAE 90.1-2016 and IECC-2015 requirements.
 - l. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
 - m. Dry bulb outdoor air temperature sensor shall be provided as standard. Enthalpy sensor is also available on factory-installed only. Outdoor air sensor set point shall be adjustable and shall range from 40 to 100°F (4 to 38°C). Additional sensor options shall be available as accessories.
 - n. The economizer controller shall also provide control of an accessory power exhaust unit function. Factory set at 100%, with a range of 0% to 100%.
 - o. The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy.
 - p. Dampers shall be completely closed when the unit is in the unoccupied mode.
 - q. Economizer controller shall accept a 2 to 10 vdc CO₂ sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor air damper to provide ventilation based on the sensor input.
 - r. Compressor lockout temperature on W7220 is adjustable from -45°F to 80°F, set at a factory default of 32°F. Others shall open at 35°F (2°C) and close at 50°F (10°C).
 - s. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
 - t. Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.
4. Integrated EconoMiSer2, and EconoMiSer X Ultra Low Leak Rate Models. (Factory-installed on 3-phase models only. Field-installed on all 3 and single-phase models):
- a. Integrated, gear driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.
 - b. Independent modules for vertical or horizontal return configuration shall be available. Vertical return modules shall be available as a factory-installed option.
 - c. Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.
 - d. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below set points.
 - e. Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
 - f. Ultra low leak design meets California Title 24 section 140.4 and, ASHRAE 90.1-2016 and IECC-2015 requirements for 4 cfm per sq ft on the outside air dampers and 10 cfm per sq ft on the return dampers.
 - g. Economizer controller on EconoMiSer X models shall be the Honeywell W7220 that provides:
 - 1) 2-line LCD interface screen for setup, configuration and troubleshooting.
 - 2) On-board Fault Detection and Diagnostics (FDD) that senses and alerts when the economizer is not operating properly, per California Title 24.
 - 3) Sensor failure loss of communication identification.
 - 4) Automatic sensor detection.
 - 5) Capabilities for use with multiple-speed indoor fan systems.
 - 6) Utilize digital sensors: Dry bulb and Enthalpy.
 - h. Economizer controller on EconoMiSer 2 models with RTU Open controller shall be a 4-20mA design controlled directly by the RTU Open controller. RTU Open controller meets California Title 24 Fault Detection and Diagnostic (FDD) requirements.
 - i. Shall be capable of introducing up to 100% outdoor air.
 - j. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air and contain seals that meet ASHRAE 90.1-2016 and IECC-2015 requirements.
 - k. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
 - l. Dry bulb outdoor air temperature sensor shall be provided as standard. Enthalpy sensor is also available on factory-installed only. Outdoor air sensor set point shall be adjustable and shall range from 40°F to 100°F (4°F to 38°C). Additional sensor options shall be available as accessories.
 - m. The economizer controller shall also provide control of an accessory power exhaust unit function. Factory set at 100%, with a range of 0% to 100%.

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- n. The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy.
 - o. Dampers shall be completely closed when the unit is in the unoccupied mode.
 - p. Economizer controller shall accept a 2-10 vdc CO₂ sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor air damper to provide ventilation based on the sensor input.
 - q. Compressor lockout temperature on W7220 is adjustable from -45°F to 80°F, set at a factory default of 32°F. Others shall open at 35°F (2°C) and closes at 50°F (10°C).
 - r. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
 - s. Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.
5. Two-Position Damper (Factory-installed on 3 Phase Models Only. Field-installed on all 3 and Single Phase Models)
- a. Damper shall be a Two-Position Damper. Damper travel shall be from the full closed position to the field adjustable %-open set-point.
 - b. Damper shall include adjustable damper travel from 25% to 100% (full open).
 - c. Damper shall include single or dual blade, gear driven dampers and actuator motor.
 - d. Actuator shall be direct coupled to damper gear. No linkage arms or control rods shall be acceptable.
 - e. Damper will admit up to 100% outdoor air for applicable rooftop units.
 - f. Damper shall close upon indoor (evaporator) fan shutoff and/or loss of power.
 - g. The damper actuator shall plug into the rooftop unit's wiring harness plug. No hard wiring shall be required.
 - h. Outside air hood shall include aluminum water entrainment filter.
 - i. Not available with Two-Speed Indoor Fan Motor System models.
6. Manual Damper:
- a. Manual damper package shall consist of damper, air inlet screen, and rain hood which can be preset to admit up to 25 or 50% outdoor air for year round ventilation.
 - b. Not available with Two-Speed Indoor Fan Motor System models.
7. Perfect Humidity™ Adaptive Dehumidification System (3-phase models only):
- a. The Perfect Humidity adaptive dehumidification system shall be factory-installed and shall provide greater dehumidification of the occupied space by 2 modes of dehumidification operations in addition to its normal design cooling mode:
 - 1) Subcooling mode further sub cools the hot liquid refrigerant leaving the condenser coil when both temperature and humidity in the space are not satisfied.
 - 2) Hot gas reheat mode shall mix a portion of the hot gas from the discharge of the compressor with the hot liquid refrigerant leaving the condenser coil to create a 2-phase heat transfer in the system, resulting in a neutral leaving air temperature when only humidity in the space is not satisfied.
 - 3) Includes head pressure controller.
8. Head Pressure Control Package (Motormaster®):
- a. Controller shall control coil head pressure by condenser-fan speed modulation or condenser-fan cycling and wind baffles.
 - b. Shall consist of solid-state control and condenser-coil temperature sensor to maintain condensing temperature at outdoor ambient temperatures down to -20°F (-29°C).
9. Low Ambient Controller (Factory-installed only):
- a. Controller shall control coil head pressure by condenser-fan speed modulation or condenser-fan cycling and wind baffles.
 - b. Shall consist of solid-state control and condenser-coil temperature sensor to maintain condensing temperature at outdoor ambient temperatures down to 0°F (-18°C). (Not available on 11 size models as standard unit cooling operation down to 0°F/-18°C).
10. Propane Conversion Kit:
- a. Package shall contain all the necessary hardware and instructions to convert a standard natural gas unit for use with liquefied propane, up to 2000 ft (610m) elevation.
 - b. Additional accessory kits may be required for applications above 2000 ft (610m) elevation.
11. Flue Shield (04-12 models only):
- a. Flue shield shall provide protection from the hot sides of the gas flue hood.
12. Condenser Coil Hail Guard Assembly (Factory-installed option on 3-phase models. Field-installed on all 3 and single phase models):
- a. Shall protect against damage from hail.
 - b. Shall be of louvered style.
13. Unit-Mounted, Non-Fused Disconnect Switch:
- a. Switch shall be factory-installed, internally mounted.
 - b. National Electric Code (NEC) and UL or ETL approved non-fused switch shall provide unit power shutoff.
 - c. Shall be accessible from outside the unit.

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- d. Shall provide local shutdown and lockout capability.
 - e. Sized only for the unit as ordered from the factory. Does not accommodate field-installed devices.
14. Convenience Outlet:
- a. Powered convenience outlet. (Not available on single phase models):
 - 1) Outlet shall be powered from main line power to the rooftop unit.
 - 2) Outlet shall be powered from line side or load side of disconnect by installing contractor, as required by code. If outlet is powered from load side of disconnect, unit electrical ratings shall be UL certified and rated for additional outlet amperage.
 - 3) Outlet shall be factory-installed and internally mounted with easily accessible 115v female receptacle.
 - 4) Outlet shall include 15 amp GFI receptacles with independent fuse protection.
 - 5) Voltage required to operate convenience outlet shall be provided by a factory-installed step down transformer.
 - 6) Outlet shall be accessible from outside the unit.
 - 7) Outlet shall include a field-installed “Wet in Use” cover.
 - b. Factory-installed non-powered convenience outlet:
 - 1) Outlet shall be powered from a separate 115-120v power source.
 - 2) A transformer shall not be included.
 - 3) Outlet shall be factory-installed and internally mounted with easily accessible 115v female receptacle.
 - 4) Outlet shall include 15 amp GFI receptacles.
 - 5) Outlet shall be accessible from outside the unit.
 - 6) Outlet shall include a field-installed “Wet in Use” cover.
 - c. Field-installed non-powered convenience outlet:
 - 1) Outlet shall be powered from a separate 115-120v power source.
 - 2) A transformer shall not be included.
 - 3) Outlet shall be field-installed and internally mounted with easily accessible 115v female receptacle.
 - 4) Outlet shall include 20 amp GFI receptacles. This kit provides a flexible installation method which allows code compliance for height requirements of the GFCI outlet from the finished roof surface as well as the capability to relocate the outlet to a more convenient location.
- 5) Outlet shall be accessible from outside the unit.
 - d. Outlet shall include a field-installed “Wet in Use” cover.
15. Flue Discharge Deflector:
- a. Flue discharge deflector shall direct unit exhaust vertically instead of horizontally.
 - b. Deflector shall be defined as a “natural draft” device by the National Fuel and Gas (NFG) code.
16. Thru-the-Base Connectors:
- a. Kits shall provide connectors to permit gas and electrical connections to be brought to the unit through the unit basepan.
 - b. Minimum of 4 connection locations per unit.
17. Propeller Power Exhaust:
- a. Power exhaust shall be used in conjunction with an integrated economizer.
 - b. Independent modules for vertical or horizontal return configurations shall be available.
 - c. Horizontal power exhaust shall be mounted in return ductwork.
 - d. Power exhaust shall be controlled by economizer controller operation. Exhaust fans shall be energized when dampers open past the 0 to 100% adjustable set point on the economizer control.
18. Roof Curbs (Vertical):
- a. Full perimeter roof curb with exhaust capability providing separate air streams for energy recovery from the exhaust air without supply air contamination.
 - b. Formed galvanized steel with wood nailer strip and shall be capable of supporting entire unit weight.
 - c. Permits installation and securing of ductwork to curb prior to mounting unit on the curb.
19. High Altitude Gas Conversion Kit:
- Package shall contain all the necessary hardware and instructions to convert a standard natural gas unit to operate from 2000 to 7000 ft (610 to 2134m) elevation with natural gas or from 0 to 7000 ft (900 to 2134m) elevation with liquefied propane.
20. Outdoor Air Enthalpy Sensor:
- The outdoor air enthalpy sensor shall be used to provide single enthalpy control. When used in conjunction with a return air enthalpy sensor, the unit will provide differential enthalpy control. The sensor allows the unit to determine if outside air is suitable for free cooling.
21. Return Air Enthalpy Sensor:
- The return air enthalpy sensor shall be used in conjunction with an outdoor air enthalpy sensor to provide differential enthalpy control.
22. Indoor Air Quality (CO₂) Sensor:
- a. Shall be able to provide demand ventilation indoor air quality (IAQ) control.

Guide specifications (cont)

- b. The IAQ sensor shall be available in duct mount, wall mount, or wall mount with LED display. The set point shall have adjustment capability.
23. Smoke Detectors (factory-installed only):
- a. Shall be a 4-wire controller and detector.
 - b. Shall be environmental compensated with differential sensing for reliable, stable, and drift-free sensitivity.
 - c. Shall use magnet-activated test/reset sensor switches.
 - d. Shall have tool-less connection terminal access.
 - e. Shall have a recessed momentary switch for testing and resetting the detector.
 - f. Controller shall include:
 - 1) One set of normally open alarm initiation contacts for connection to an initiating device circuit on a fire alarm control panel.
 - 2) Two Form-C auxiliary alarm relays for interface with rooftop unit or other equipment.
 - 3) One Form-C supervision (trouble) relay to control the operation of the Trouble LED on a remote test/reset station.
 - 4) Capable of direct connection to 2 individual detector modules.
 - 5) Can be wired to up to 14 other duct smoke detectors for multiple fan shutdown applications.
24. Horn/Strobe Annunciator:
- a. Provides an audible/visual signaling device for use with factory-installed option or field-installed accessory smoke detectors.
 - 1) Requires installation of a field-supplied 24v transformer suitable for 4.2 VA (AC) or 3.0 VA (DC) per horn/strobe accessory.
 - 2) Requires field-supplied electrical box, North American 1-gang box, 2 in. (51 mm) x 4 in. (102 mm).
 - 3) Shall have a clear colored lens.
25. Winter Start Kit:
- a. Shall contain a bypass device around the low pressure switch.
 - b. Shall be required when mechanical cooling is required down to 25°F (−4°C).
 - c. Shall not be required to operate on an economizer when below an outdoor ambient of 40°F (4°C).
26. Time Guard:
- a. Shall prevent compressor short cycling by providing a 5-minute delay (±2 minutes) before restarting a compressor after shutdown for any reason.
 - b. One device shall be required per compressor.
27. Condensate Overflow Switch (for units with electro-mechanical controls only):
- This sensor and related controller monitors the condensate level in the drain pan and shuts down compression operation when overflow conditions occur. It includes:
- a. Indicator light — solid red (more than 10 seconds on water contact — compressors disabled), blinking red (sensor disconnected).
 - b. 10 second delay to break — eliminates nuisance trips from splashing or waves in pan (sensor needs 10 seconds of constant water contact before tripping).
 - c. Disables the compressor(s) operation when condensate plug is detected, but still allows fans to run for economizer.
28. Hinged Access Panels:
- a. Shall provide easy access through integrated quarter turn latches.
 - b. Shall be on major panels of — filter, control box, fan motor and compressor
29. Display Kit for Variable Frequency Drive:
- a. Kit allows the ability to access the VFD controller programs to provide special setup capabilities and diagnostics.
 - b. Kit contains display module and communication cable.
 - c. Display Kit can be permanently installed in the unit or used on any 2-Speed Indoor Fan Motor System VFD controller as needed.