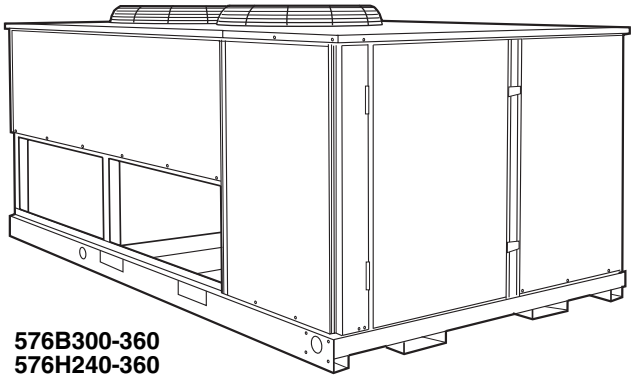
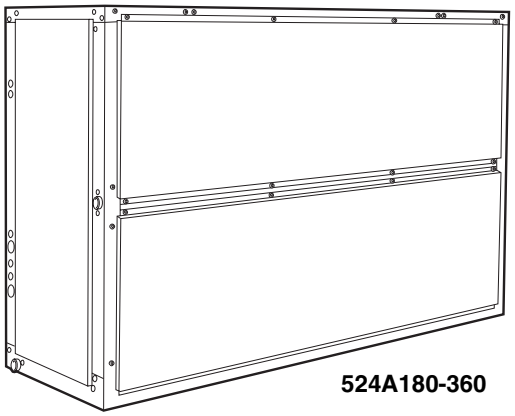
COMMERCIAL AIR-COOLED CONDENSING UNITS WITH 524A AIR-HANDLING UNITS

Models 576B, 576H with 524A
Sizes 240-360
20 to 30 Tons



576B300-360
576H240-360



524A180-360

ASHRAE 90.1 COMPLIANT

FEATURES/BENEFITS

Building owners will appreciate the high unit EERs (Energy Efficiency Ratios) offered by the 576B and 576H units. These units provide greater efficiency than similar units in the marketplace, which translates into year-round operating savings. Latest safety standards for 576B and 576H units are assured through UL and UL, Canada approvals.

CONSTRUCTED FOR LONG LIFE — The 576B and 576H units are designed and built to last. Cabinets are constructed of pre-painted galvanized steel, delivering unparalleled protection against the environment. Inside and outside surfaces are protected to ensure long life, good looks and reliable performance. The copper tube-aluminum fin outdoor coil construction provides long term reliability and improved heat transfer. Where conditions require them, copper fin coils are available. For corrosive or coastal environments an epoxy barrier is available to provide superior coil durability.

RELIABILITY — The 576B and 576H condensing units offer the building owner components and operating controls designed for performance dependability. These condensing units feature the time proven highly reliable 06D and 06E compressors. Unloading capability for superior part load performance is a standard feature of these compressors.

The compressor mounting system has vibration isolation to provide quiet operation and reduce component stress.

Each compressor is equipped with a crankcase heater to eliminate the occurrence of liquid slugging at start-up. The compressors also include an oil level sight glass for maintenance ease.

The following safety features are included in each unit:

- Anti short cycling control
- Low oil pressure safety
- Low refrigerant pressure safety
- High refrigerant pressure safety
- Calibrated circuit breakers

576H SERIES — The 576H condensing units feature 2 compressors and 2 refrigeration circuits. These units can be matched with a single air handler or two separate air handlers. Units are designed for constant volume control.

EASE OF INSTALLATION AND SERVICE — These units are equipped with hinged control box access panels, control interface terminal boards, liquid line shut off valves and compressor service valves.

INNOVATIVE BRYANT 524A AIR-HANDLING UNITS — IDEAL MATCHES FOR 576B AND 576H CONDENSING UNITS — The 524A Series has excellent fan performance, efficient direct-expansion (DX) coils, a unique combination of indoor air quality features, and easy installation. Its versatility and state-of-the-art features help to ensure that your split system provides economical performance now and in the future.

Indoor Air Quality (IAQ) Features — The unique combination of IAQ features in the 524A Series air handlers helps to make sure that only clean, fresh, conditioned air is delivered to the occupied space.

Direct-expansion (DX) cooling coils prevent the build-up of humidity in the room, even during part-load conditions. The 524A180-360 sizes feature dual-circuit coils.

Standard 2-in. disposable filters remove dust and airborne particles from the occupied space.

The pitched PVC drain pan can be adjusted for a right-hand or left-hand connection to provide positive drainage and to prevent standing condensate.

The 524A accessory economizer can provide ventilation air to improve indoor-air quality. When used with CO_2 sensors and field-supplied actuator adapter, the economizer admits fresh outdoor air to replace stale, recirculated indoor air.

Economy — The 524A Series packaged air handlers have low initial costs, and they continue to save money by providing reduced installation expense and energy-efficient performance.

Quick installation is ensured by the multipoise design. Units can be installed in either the horizontal or vertical configuration without modifications. All units have drain-pan connections on both sides, and pans can be pitched for right-hand or left-hand operation with a simple adjustment. Fan motors and contactors are prewired and thermostatic expansion valves (TXVs) are factory-installed on all 524A models.

High efficiency, precision-balanced fans minimize air turbulence, surging, and unbalanced operation, cutting operating expenses.

The economizer accessory precisely controls the blend of outdoor air and room air to achieve comfort levels. When the outside air enthalpy is suitable, outside air dampers can fully open to provide “free” cooling.

Rugged Dependability — The 524A units are made to last. The die-formed galvanized steel panels ensure structural integrity under all operating conditions. Galvanized steel fan housings are securely mounted to a die-formed galvanized steel deck. Mechanically bonded coil fins provide improved heat transfer. Rugged pillow-block bearings are securely fastened to the solid steel fan shaft with split collets and clamp locking devices.

Coil Flexibility — Model 524A direct-expansion coils have galvanized steel casings; inlet and outlet connections are on the same end. The coils are designed for use with Refrigerant 22 and have $^{3}/_{8}$-in. diameter copper tubes mechanically bonded to aluminum sine-wave fins. The coils include matched, factory-installed TXVs with matching distributor nozzles. Accessory hot water and steam coils and electric heaters are also available.

Easier Installation and Service — The multipoise design and component layout help you to get the unit installed and running quickly. The DX coils have factory-installed TXVs with matching distributor nozzles. Units can be converted from horizontal to vertical operation by simply repositioning the unit. Drain pan connections are duplicated on both sides of the unit. The filters, motor drive, TXVs, and coil connections are all easily accessed by removing a single side panel.

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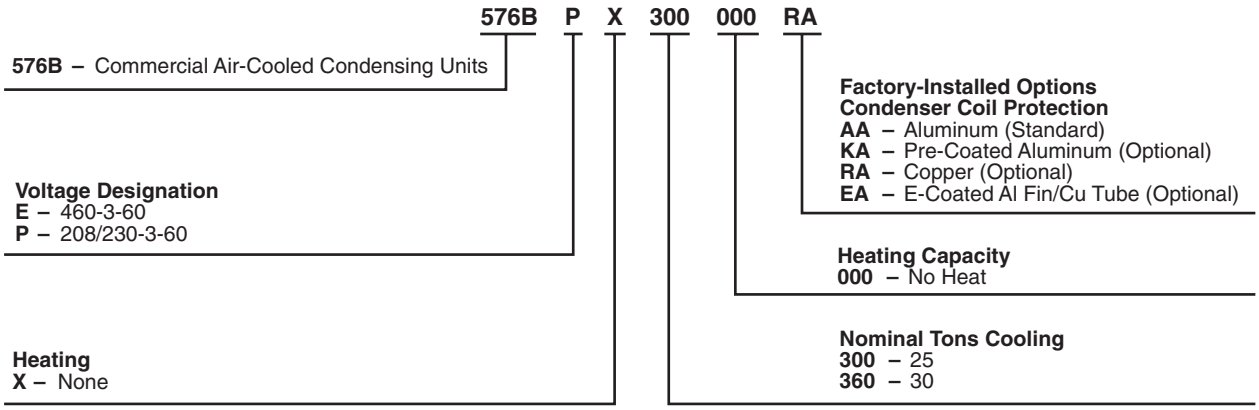
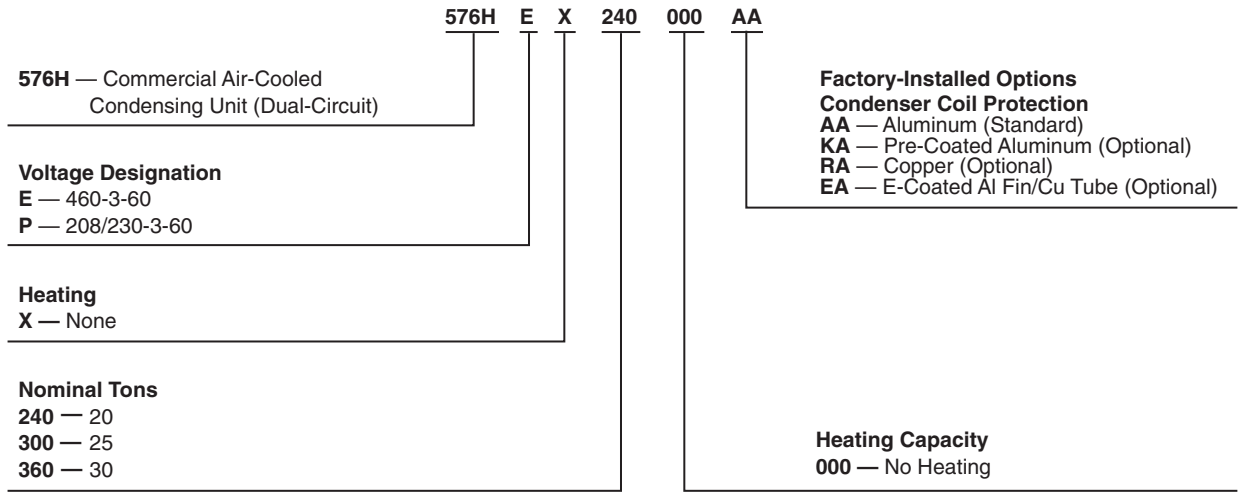
MODEL NUMBER NOMENCLATURE — 576B



Quality Assurance

Certified to ISO 9001:2000

MODEL NUMBER NOMENCLATURE — 576H



LEGEND

Al — Aluminum
Cu — Copper

Quality Assurance

Certified to ISO 9001:2000

MODEL NUMBER NOMENCLATURE — 524A

524A P B 240 000 GC

524A — Fan Coil

Voltage
T — 575-3-60
P — 208/230-3-60
E — 460-3-60*

Coil Option
B — DX Cooling Coil with TXVs
C — DX High Capacity Cooling with TXVs

Nominal Cooling (Tons)
180 — 15
240 — 20
300 — 25
360 — 30

Nominal Heating (Btuh)
(Not applicable to 524A-B)
000 — 524A-B units

GC — Unpainted, Standard Motor and Standard Drive

HC — Unpainted, Standard Motor and Medium-Static Drive (not available for 300 size)

TC — Unpainted, Alternate Motor and Medium-Static Drive (300 size only)

YC — Unpainted, Alternate Motor and High-Static Drive†

ED — Painted, Standard Motor and Standard Drive

FD — Painted, Standard Motor and Medium-Static Drive (not available for 300 size)

RD — Painted, Alternate Motor and Medium-Static Drive (300 size only)

WD — Painted, Alternate Motor and High-Static Drive†

Quality Assurance

Certified to ISO 9001:2000

LEGEND

DX — Direct Expansion
TXV — Thermostatic Expansion Valve

*Size 524A180 units with an "E" voltage designation are triple voltage (i.e., 208-230/460-3-60), unless the alternate motor (YC or WD) option is used.

†The YC and WD option codes for 360 size unit designate standard motor and high-static drive.

ARI* CAPACITY RATINGS

CONDENSING UNIT 576	AIR HANDLER/ INDOOR COIL	SYSTEM†			CONDENSING UNIT ONLY**		
		Net Capacity (Btuh)	EER	IPLV	Capacity (Btuh)	EER	IPLV
576B300	524A-C240 524A-C300 524A-C360	282,000 300,000 316,000	8.8 9.0 8.9	11.0 11.2 11.0	330,000	10.2	12.1
576B360	524A-C300 524A-C360	332,000 345,000	8.6 8.8	10.6 10.6	370,000	10.1	13.1
576H240	524A-C180 524A-C240 524A-C300	222,000 240,000 250,000	9.8†† 9.6†† 10.2††	9.4 9.7†† 10.3††	250,000	11.7	13.7
576H300	524A-C240 524A-C300 524A-C360	268,000 282,000 290,000	9.4*** 9.6*** 9.4	9.5*** 9.5*** 9.3	290,000	11.2	12.9
576H360	524A-C300 524A-C360	324,000 332,000	9.4 9.5	9.2 8.9	344,000	11.1	12.9

LEGEND

EER — Energy Efficiency Ratio
IPLV — Integrated Part Load Value
SST — Saturated Suction Temperature

*Air Conditioning and Refrigeration Institute.
†Ratings in accordance with ARI Standard 360/365.
**Condensing unit only ratings are at 45 F SST and 95 F entering-air temperature.
††System ratings meet or exceed ASHRAE 90.1-1999 efficiency requirements.
***Ratings meet or exceed ASHRAE 90.1-1999 efficiency requirements for systems with a heating section other than electric resistance heat.

SOUND LEVELS, dB — 576B AND 576H

UNIT	OCTAVE BAND								
	63	125	250	500	1000	2000	4000	8000	dBA
576B300	95	95	93	90	89	84	82	81	93.5
576B360	96	96	94	91	90	85	83	83	94.6
576H240	95	95	93	90	89	84	82	81	93.5
576H300	95	95	93	90	89	84	82	81	93.5
576H360	96	96	94	91	90	85	83	83	94.6

NOTES:
1. Estimated sound power levels, dB re 1 Picowatt.
2. This data is based upon a limited amount of actual testing with the estimated sound power data being generated from this data in accordance with ARI standard 370 for large outdoor refrigerating and air-conditioning equipment.
3. Since this data is estimated, the sound power levels should not be guaranteed or certified as being the actual sound power levels.
4. The acoustic center of the unit is located at the geometric center of the unit.

ESTIMATED SOUND POWER LEVELS (Lw) — 524A180-360

UNIT	OCTAVE BAND CENTER FREQUENCY								
	Cfm	dB(A)	63	125	250	500	1000	2000	4000
524A180	6,000	92.7	98.9	94.9	90.9	91.9	85.9	83.9	79.9
524A240	8,000	96.4	102.6	98.6	94.6	95.6	89.6	87.6	83.6
524A300	10,000	96.2	102.5	98.5	94.5	95.5	89.5	87.5	83.5
524A360	12,000	98.5	104.7	100.7	96.7	97.7	91.7	89.7	85.7

NOTE: Since this data is calculated, these sound power levels may be different than the actual sound power levels.
The acoustic center of the unit is located at the geometric center of the unit.

PHYSICAL DATA

576B300,360 UNITS

UNIT 576B	300	360
NOMINAL CAPACITY (tons)	25	30
OPERATING WEIGHTS (lb)		
With Aluminum-Fin Coils (standard)	1650	1803
With Copper-Fin Coils (optional)	1804	2009
REFRIGERANT*	R-22	
Operating Charge, Typical (lb)†	30.5	43.5
Shipping Charge (lb)	3	4
COMPRESSOR	Reciprocating, Semi-Hermetic	
Qty...Model	1...06E9265	1...06E9275
Oil Charge (pt)	20	20
No. Cylinders	6	6
Speed (rpm)	1750	
Capacity Steps (%)	100, 66, 33	
Unloader Setting (psig)		
Unloader No. 1 Load	76	
Unload	58	
Unloader No. 2 Load	78	
Unload	60	
Crankcase Heater Watts	180	
CONDENSER FANS	Propeller Type — Direct Drive	
Qty...Rpm	2...1140	
Diameter (in.)	30	
Nominal Hp	1.0	
Nominal Airflow (cfm total)	15,700	
Watts (total)	1490	1750
CONDENSER COIL	Enhanced Copper Tubes, Lanced Aluminum Fins	
Rows...Fins/in.	2...19	3...17
Face Area (sq ft)	39.2	39.2
Storage Capacity (lb)**	37.7	56.6
CONTROLS		
Pressurestat (psig)		
High-Pressure		
Open	426 ± 7	
Close	320 ± 20	
Low-Pressure		
Open	27 ± 3	
Close	44 ± 5	
Oil Pressure (psi)		
Open	6.0	
Close	9.0	
FAN CYCLING CONTROLS		
Operating Pressure (psig)		
No. 2 Fan, Close	255 ± 10	
Open	160 ± 10	
PRESSURE RELIEF	Fusible Plug	
Location	Liquid and Suction Line	
Temperature (F)	210	
PIPING CONNECTIONS (in. ODM)		
Suction	$1\frac{5}{8}$	$2\frac{1}{8}$
Liquid	$\frac{7}{8}$	
Hot Gas Stub	$\frac{5}{8}$	

*Unit is factory-supplied with holding charge only.
†Typical operating charge with 25 ft of interconnected piping. Operating charge is approximate for maximum system capacity.
**Storage capacity is 80% full at liquid saturated temperature of 125 F.

PHYSICAL DATA (cont)

576H240-360 UNITS

UNIT 576H	240		300		360	
	Ckt 1	Ckt 2	Ckt 1	Ckt 2	Ckt 1	Ckt 2
NOMINAL CAPACITY (tons)*	20		25		30	
OPERATING WEIGHT (lb)						
With Aluminum-Fin Coil (standard)	1760		1820		1880	
With Copper-Fin Coil (optional)	1923		1982		2097	
REFRIGERANT, TYPE	R-22					
Operating Charge, Typical (lb)†	20	20	20	20	25	25
Shipping Charge (lb)	3	3	3	3	3	3
COMPRESSOR	Reciprocating Semi-Hermetic					
Qty...Model	1...06DH824	1...06DA824	1...06DH328	1...06DA328	1...06DH328	1...06DA537
No. Cylinders (per circuit)	6	6	6	6	6	6
Speed (rpm)	1750	1750	1750	1750	1750	1750
Oil Charge Per Circuit (pt)	10					
Capacity Steps (%)	67	—	67	—	67	—
Unloader Setting (psig)	Factory Installed					
Load	76	—	76	—	76	—
Unload	58	—	58	—	58	—
CONDENSER FANS	Propeller Type — Direct Driven					
Qty...Rpm	2...1140					
Diameter (in.)	30		30		30	
Nominal Hp	1.0		1.0		1.0	
Nominal Airflow (cfm)	16,700		16,700		15,700	
Watts (total)	1550					
CONDENSER COIL	Enhanced Copper Tubes, Lanced Aluminum Fins					
Rows...Fins/in.	2...19		2...19		3...17	
Face Area (sq ft)	39.20		39.20		39.20	
Storage Cap. (lb)**	37.7		37.7		56.6	
CONTROLS						
Pressurestat (psig)						
High Pressure						
Open	426 ± 7					
Close	320 ± 20					
Low Pressure						
Open	27 ± 3					
Close	44 ± 5					
Oil Pressure (psi)						
Open	6.0					
Close	9.0					
FAN CYCLING CONTROLS						
No. 2 Fan:						
Temp Close (F)	70 ± 3					
Temp Open (F)	60 ± 3					
PRESSURE RELIEF						
Location	Liquid Line, Suction Line, Compressor					
Temperature (F)	210					
PIPING CONNECTIONS (in. ODM)						
Suction	$1\frac{3}{8}$					
Liquid	$\frac{5}{8}$					
Hot Gas Bypass	$\frac{5}{8}$					

*Standard unit — single suction pressure-actuated unloader on compressor no. 1.
†Typical operating charge with 25 ft of interconnecting piping. Operating charge is approximate for maximum system capacity.
**Storage capacity is 80% full at liquid saturated temperature of 120 F.

NOTE: Refer to Loading Sequences table, page 40 for additional capacity step data.

PHYSICAL DATA (cont)

524A180-360 UNITS

UNIT 524A	180	240	300	360
NOMINAL CAPACITY (tons)	15	20	25	30
OPERATING WEIGHTS (lb)				
Base Unit with TXV (3-Row/4-Row)	685/713	690/730	1020/1050	1030/1062
Plenum	225	225	325	325
FANS				
Qty...Diam. (in.)	2...15	2...15	2...18	2...18
Nominal Airflow (cfm)	6000	8000	10,000	12,000
Airflow Range (cfm)	4500-7500	6000-10,000	7500-12,500	9000-15,000
Nominal Hp (Standard Motor)				
208/230-3-60 and 460-3-60	3.7	5.0	7.5	10.0
575-3-60	3.0	5.0	7.5	10.0
Speed (rpm)				
208/230-3-60 and 460-3-60	1725	1745	1745	1745
575-3-60	1725	1745	1755	1755
REFRIGERANT	R-22			
Operating charge (lb) (approx per circuit)*	2.5/2.5	3.5/3.5	4.5/4.5	5.0/5.0
DIRECT-EXPANSION COIL	Enhanced Copper Tubes; Aluminum Sine-Wave Fins			
Max Working Pressure (psig)	435			
Face Area (sq ft total)	17.67	19.88	24.86	29.83
No. of Splits	2	2	2	2
Split Type...Percentage	Face...50/50			
No. of Circuits per Split (3 Row/4 Row)	12/16	13/18	15/20	18/24
Fins/in.	15	17	15	15
STEAM COIL				
Max Working Pressure (psig)	175			
Face Area (sq ft total)	13.33	13.33	15.0	15.0
Rows...Fins/in.	1...10	1...10	1...10	1...10
HOT WATER COIL				
Max Working Pressure (psig)	150			
Face Area (sq ft total)	13.33	13.33	15.0	15.0
Rows...Fins/in.	2...8.5	2...8.5	2...12.5	2...12.5
Water Volume				
(gal)	13.9		14.3	
(ft^3)	1.85		1.90	
PIPING CONNECTIONS				
Qty...Size (in.)				
DX Coil — Suction (ODF)	2...1 1/8	2...1 1/8	2...1 3/8	2...1 3/8
DX Coil — Liquid Refrigerant (ODF)	2...5/8			
Steam Coil, In (MPT)	1...2 1/2			
Steam Coil, Out (MPT)	1...1 1/2			
Hot Water Coil, In (MPT)	1...2			
Hot Water Coil, Out (MPT)	1...2			
Condensate (PVC)	1...1 1/4			
FILTERS	Throwaway — Factory Supplied			
Qty...Size (in.)	4...16 x 20 x 2 4...16 x 24 x 2		4...16 x 24 x 2 4...20 x 25 x 2	
Access Location	Either Side			

LEGEND

DX — Direct Expansion
TXV — Thermostatic Expansion Valve

*Units are shipped without refrigerant charge.

OPTIONS AND ACCESSORIES

576B/576H FACTORY-INSTALLED OPTIONS

Dura-Shield **Condenser Options** are available to match coil protection to site conditions for optimum durability. See table below and refer to the Application Data for selection guidance. Consult your Bryant representative for further information.

576B/576H FIELD-INSTALLED ACCESSORIES

Electric Unloader Package includes hardware and solenoid valve to convert a pressure-operated unloader to electric unloading.

Pressure Unloader Package includes the unloader valve and hardware.

–**20 F Low-Ambient Temperature Kit (Motormaster®)** controls outdoor-fan motor operation to maintain the correct head pressure at low outdoor ambient temperatures. Only one low ambient temperature kit is required per unit.

Hot-Gas Bypass Kit (576B only) prevents the indoor coil from freezing up during low airflow or low return-air temperature applications by maintaining minimum suction pressure.

Bryant Thermostats provide both programmable and non-programmable capability.

Part-Winding-Start Timing Relay (576B) reduces inrush current and locked rotor amps on start-up. This accessory may require a special-order unit. See table below.

PART-WINDING-START TABLE

UNIT SIZE 576B	VOLTAGE (60 Hz)	
	208/230	460
300 360	Note 1	Note 2

NOTES:
1. Can be field modified to part winding start by adding a time delay relay (part no. HN67ZA001).
2. Requires **special order** to change circuit breakers and contactors, and cannot use triple-voltage compressor.

CONDENSER COIL OPTIONS

COPPER-TUBE COILS WITH *DURA-SHIELD* OPTION	ENVIRONMENT					
	Standard	Mild Coastal	Moderate Coastal	Severe Coastal	Industrial	Combined Industrial/Coastal
Al Fins (Standard Coils)	X					
Cu Fins			X			
Al Fins, E-Coating				X	X	X
Al Fins, Pre-Coated		X				

LEGEND

Al — Aluminum
Cu — Copper
Dura-Shield — Family of Coil Protection Options
E-Coated — Epoxy Coating Applied to Entire Coil Assembly
Pre-Coated — Epoxy Coating Applied to Fin Stock Material

OPTIONS AND ACCESSORIES (cont)

524A FACTORY-INSTALLED OPTIONS

Prepainted Steel Units are available from the factory for applications that require painted units. Units are painted with American Sterling Gray color.

High Capacity 4-Row Coils are available to provide increased latent/sensible capacities and efficiencies.

Alternate Fan Motors and Drives are available to provide the widest possible range of performance.

524A FIELD-INSTALLED ACCESSORIES

Discharge Plenum directs the air discharge into the occupied space; integral horizontal and vertical louvers enable redirection of airflow. Accessory is available unpainted or painted.

Two-Row Hot Water Coils have $^{5}/_{8}$-in. diameter copper tubes mechanically bonded to aluminum plate fins. Coils have nonferrous headers.

One-Row Steam Coil has 1-in. OD copper tube and aluminum fins. The Inner Distributing Tube (IDT) design provides uniform temperatures across the coil face. The steam coil has a broad operating pressure range; up to 20 psig at 260 F. IDT steam coils are especially suited to applications where sub-freezing air enters the unit.

Electric Resistance Heat Coils have an open-wire design and are mounted in a rigid frame. Safety cutouts for high temperature conditions are standard.

Economizer (Enthalpy Controlled) provides ventilation air and "free" cooling if outside ambient temperature and humidity are suitable. Can also be used with field-supplied CO_2 sensor and actuator adapter to help meet indoor air quality requirements.

Return-Air Grille provides a protective barrier over the return-air opening and gives a finished appearance to units installed in the occupied space. Accessory is available unpainted or painted.

Subbase provides a stable, raised platform and room for condensate drain connection for floor-mounted units. Accessory is available unpainted or painted.

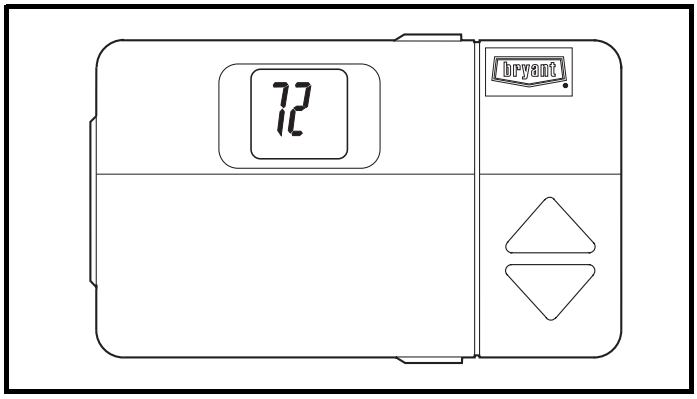
Overhead Suspension Package includes necessary brackets to support units in horizontal ceiling installations.

Bryant Thermostats provide both programmable and non-programmable capability.

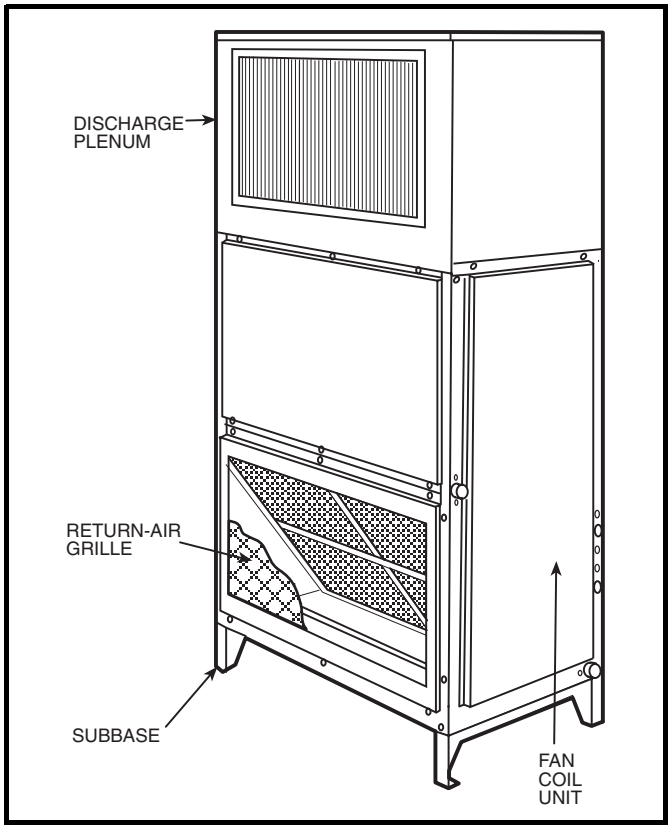
CO_2 Sensors can be used in conjunction with the economizer accessory to help meet indoor air quality requirements. The sensor signals the economizer to open when the CO_2 level in the space exceeds the set point.

Condensate Drain Trap includes an overflow shutoff switch that can be wired to turn off the unit if the trap becomes plugged. The kit also includes a wire harness that can be connected to an alarm if desired. The transparent trap is designed for easy service and maintenance.

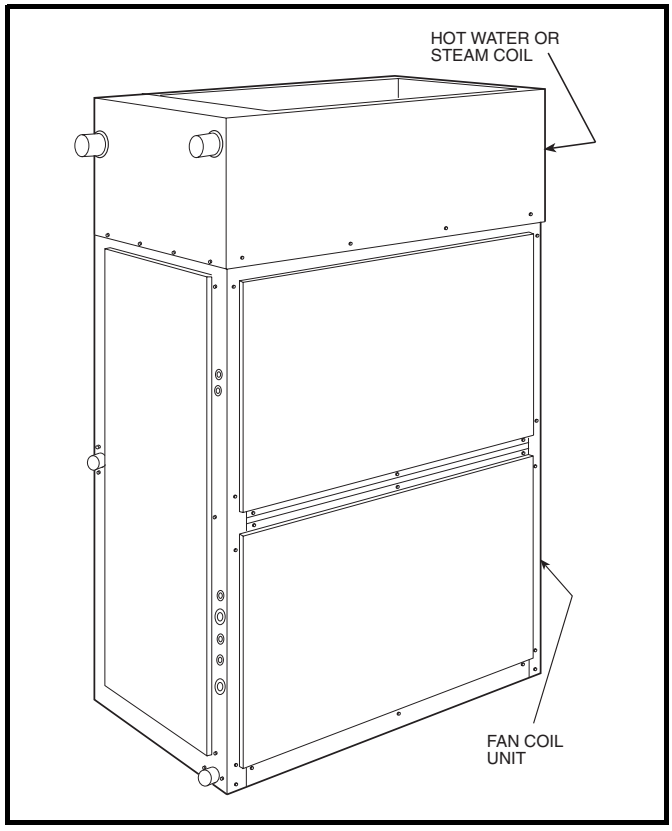
UV-C Germicidal Lamps kill mold and fungus, which may grow on evaporator coil and condensate pan surfaces. The use of UV-C germicidal lamps eliminates the foul odors that result from this growth of mold and fungus. It also provides a self-cleaning function for the evaporator coil and drain pan.



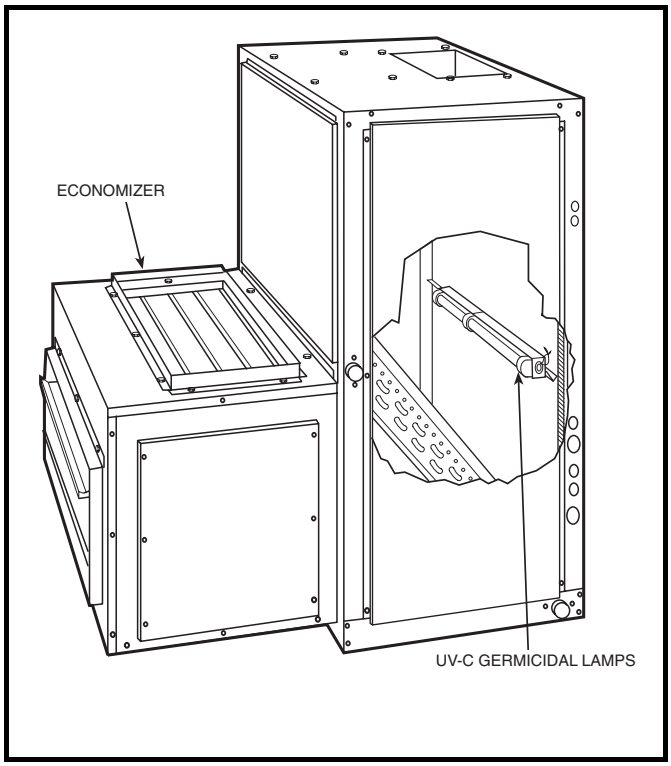
Programmable and Non-Programmable Thermostat



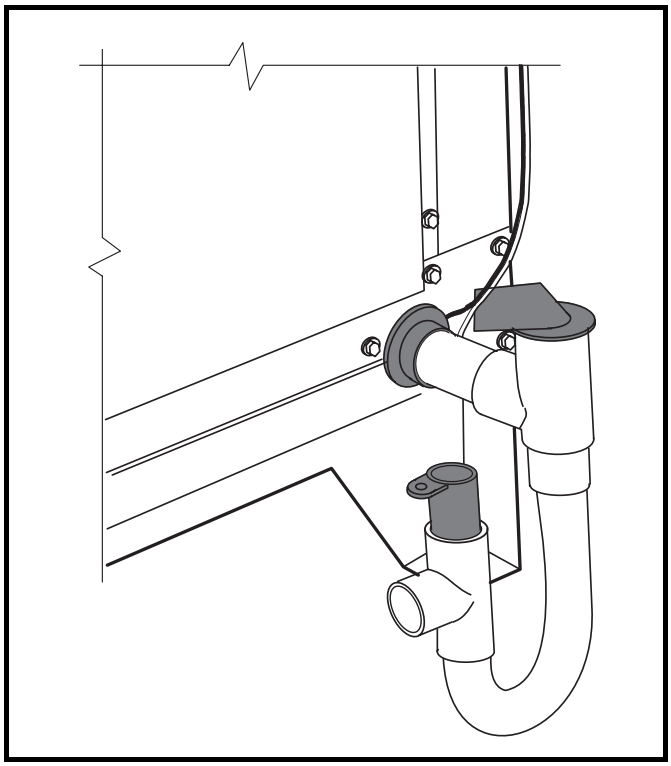
524A with Discharge Plenum, Return-Air Grille and Subbase



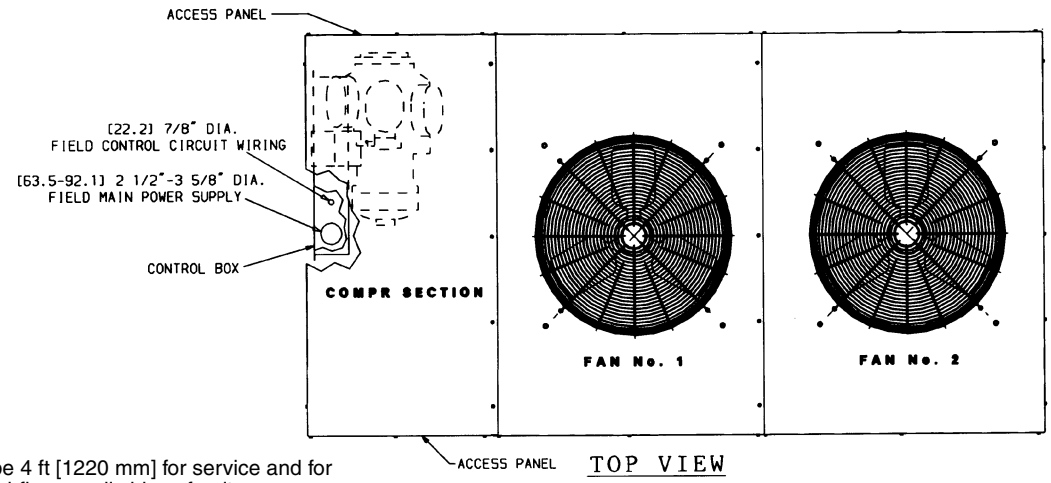
524A with Hot Water or Steam Coil



524A with Economizer and UV-C Germicidal Lamps



524A with Condensate Drain Trap



TOP VIEW

NOTES:
1. There must be 4 ft [1220 mm] for service and for unrestricted airflow on all sides of unit.
2. There must be minimum 8 ft [2440 mm] clear air space above unit.
3. The approximate operating weight of the unit is:

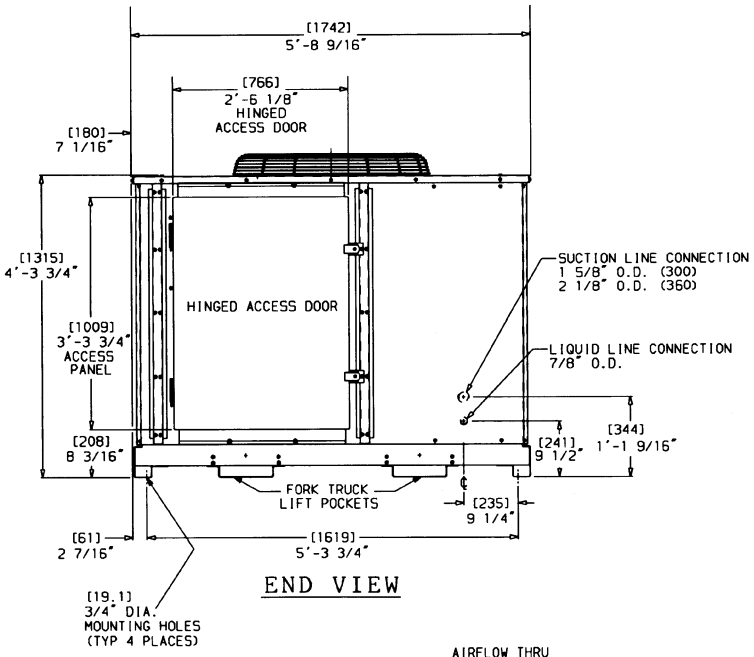
UNIT 576B	WEIGHT (lb)	WEIGHT (kg)
300	1650	748
300RA	1804	818
360	1803	818
360RA	2009	911

NOTE: "RA" in model number indicates unit has optional factory-installed copper-fin coil.

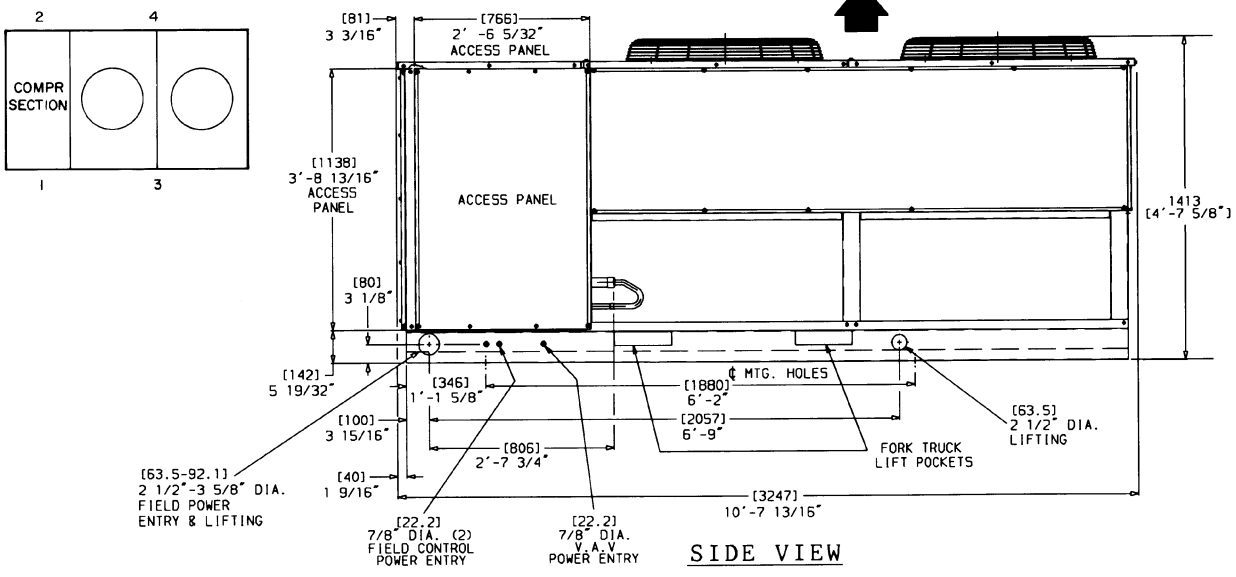
APPROX. OPER. WT (lb) AT SUPPORT POINTS*

UNIT 576B	1	2	3	4	TOTAL
300	418	626	242	364	1650
360	459	673	272	399	1803

*Standard copper tube aluminum-fin coil.

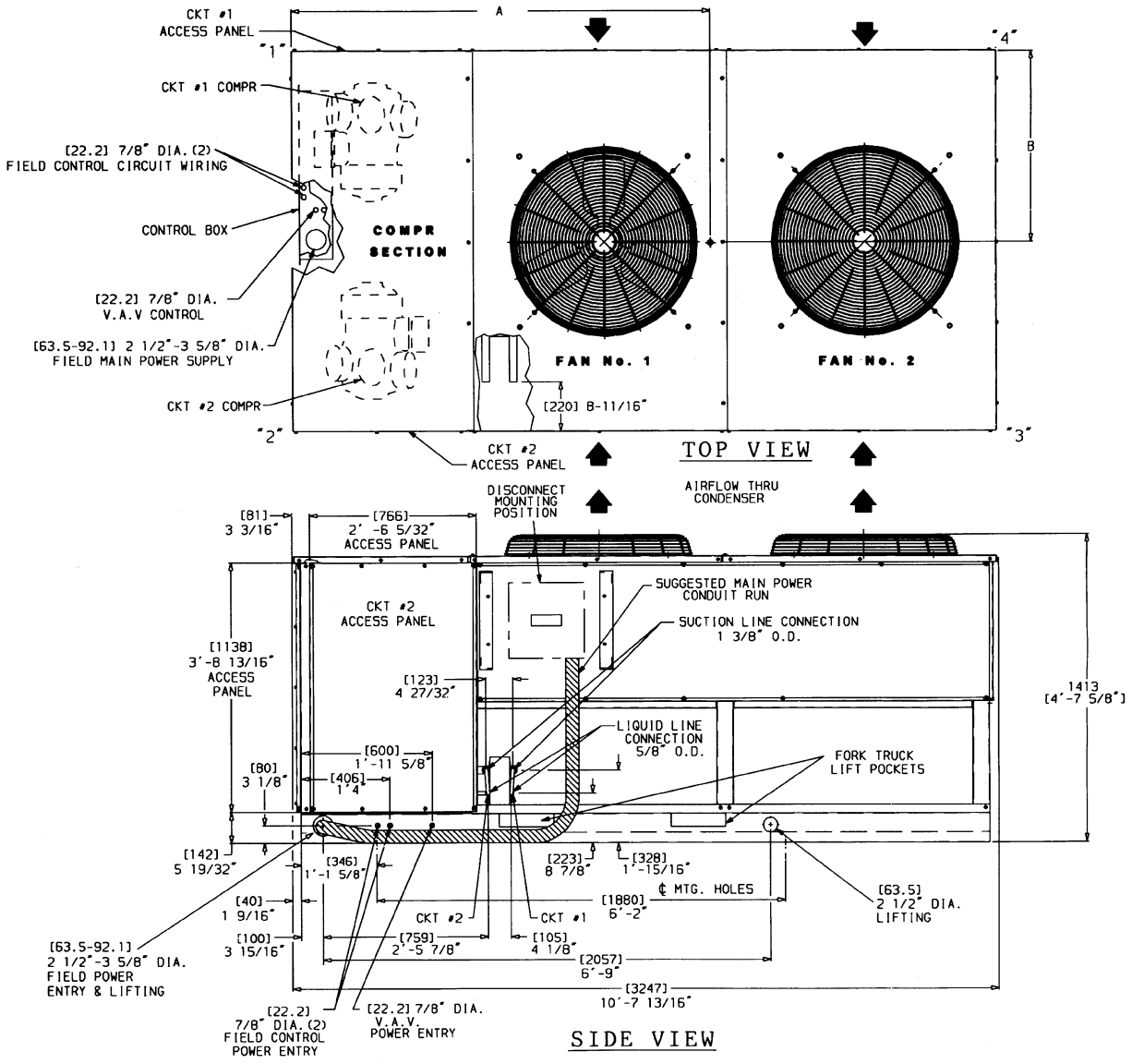


END VIEW



SIDE VIEW

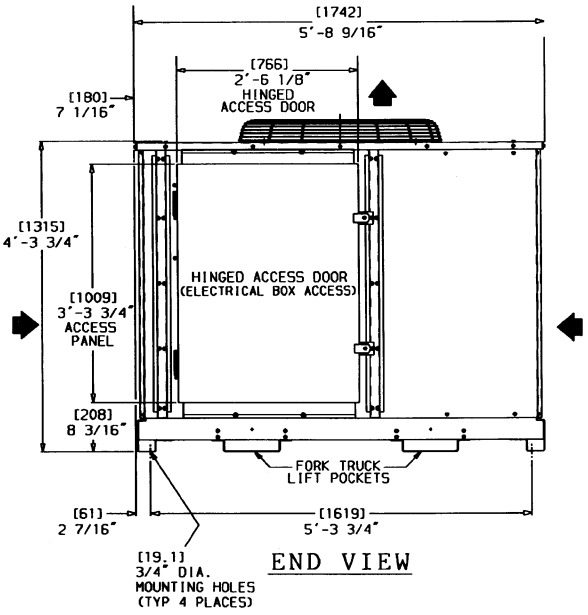
DIMENSIONS (cont)



NOTES:

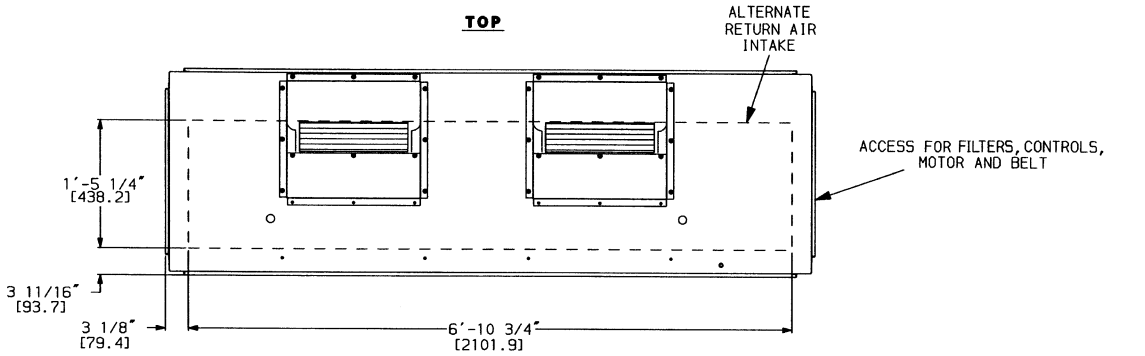
1. There must be 4 ft [1220 mm] for service and for unrestricted airflow on all sides of unit.
2. There must be minimum 8 ft [2440 mm] clear air space above unit.
3. "RA" in the model number indicates copper coils.
4. Dimensions in [ ] are in millimeters.
5. The approximate operating weight of the unit is shown below.
6. Certified dimensional drawing is available on request.

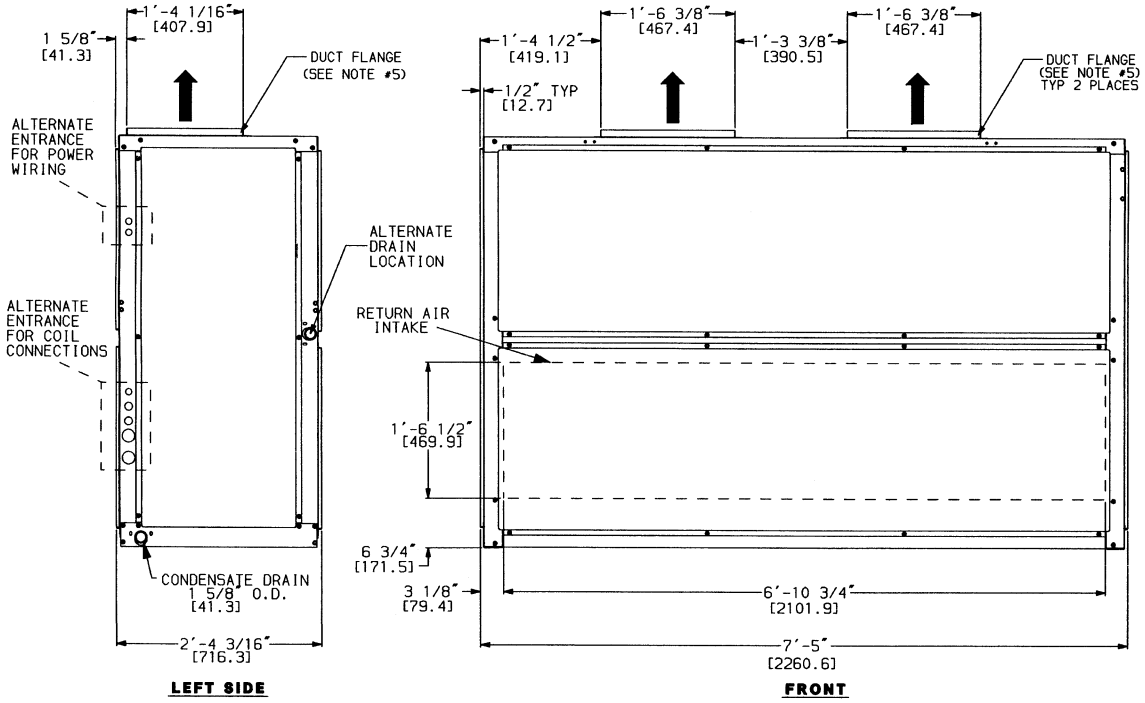
UNIT 576H	CORNER WEIGHT — lb [kg]				CENTER OF GRAVITY		TOTAL UNIT WT lb [kg]
	"1"	"2"	"3"	"4"	A Dim. in. [mm]	B Dim. in. [mm]	
240	631.6 [286.5]	577.6 [262.0]	263.1 [119.3]	287.7 [130.5]	40.00 [1016]	32.75 [832]	1760 [798.3]
240RA	666.5 [302.3]	609.5 [276.5]	309.0 [140.2]	337.9 [153.3]	43.00 [1092]		1923 [872.3]
300	658.7 [298.8]	602.4 [273.3]	267.0 [121.1]	291.9 [132.4]	39.25 [997]		1820 [825.6]
300RA	693.0 [314.3]	633.8 [287.5]	313.0 [142.0]	342.2 [155.2]	42.25 [1073]		1982 [899.0]
360	667.0 [302.5]	610.0 [276.7]	288.0 [130.7]	315.0 [142.9]	41.00 [1041]		1880 [853.0]
360RA	718.3 [325.8]	656.8 [297.9]	344.8 [156.4]	377.0 [171.0]	44.00 [1117]		2097 [951.2]

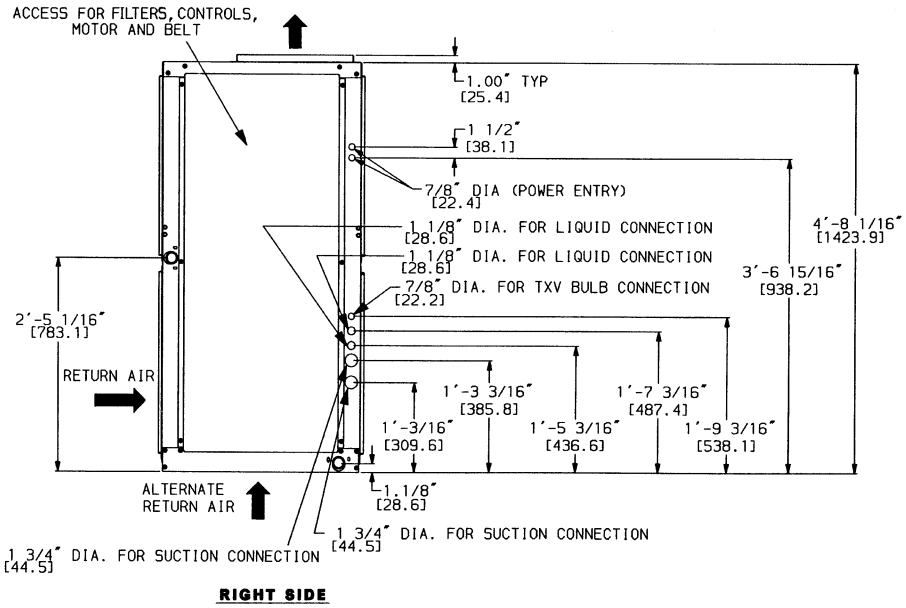


576H240-360

DIMENSIONS (cont)







LEGEND

TXV — Thermostatic Expansion Valve

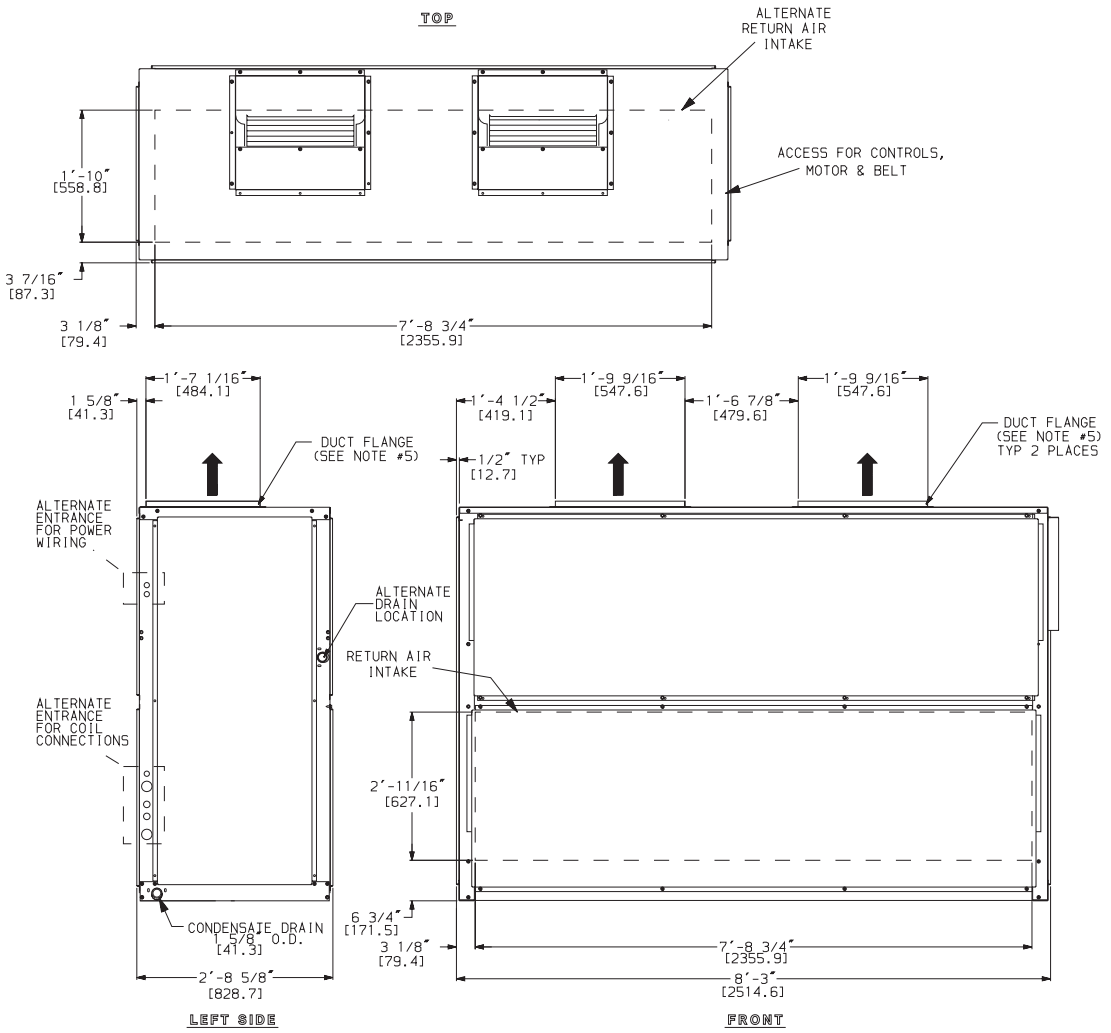
NOTES:

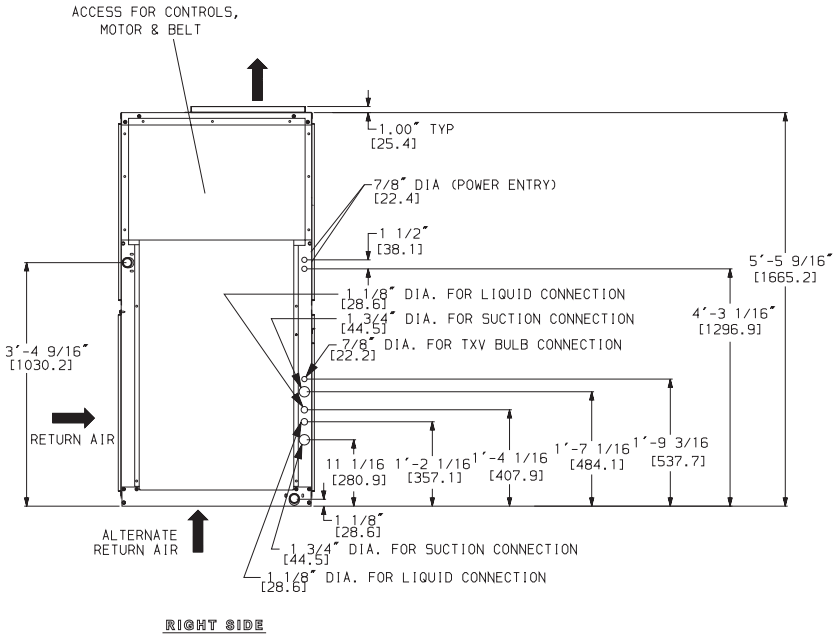
1. Dimensions in [ ] are in millimeters.
2. ➡ Direction of airflow.
3. Recommended clearance:
   - Rear: 3″
   - Front: 2′-6″
   - Right Side: 2′-6″
   - Left Side: 2′-6″
   - Local codes or jurisdiction may prevail.
4. Liquid piping not supplied by Bryant.
5. Duct flange is factory supplied and field installed.

UNIT 524A		UNIT WEIGHT (lb)
STANDARD 3-ROW COIL	180	685
	240	690
HIGH-CAPACITY 4-ROW COIL	180	713
	240	730

524A180,240

DIMENSIONS (cont)





LEGEND

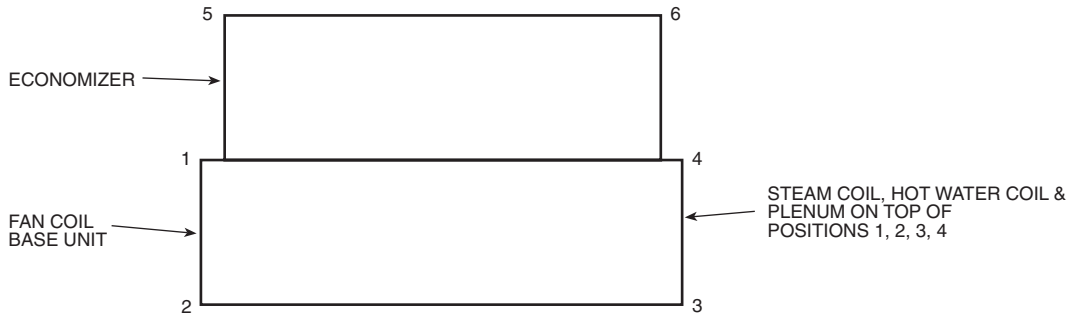
TXV — Thermostatic Expansion Valve

NOTES:

1. Dimensions in [ ] are in millimeters.
2. ➡ Direction of airflow.
3. Recommended clearance:
   - Rear: 3″
   - Front: 2′-6″
   - Right Side: 2′-6″
   - Left Side: 2′-6″
   - Local codes or jurisdiction may prevail.
4. Liquid piping not supplied by Bryant.
5. Duct flange is factory supplied and field installed.

UNIT 524A		UNIT WEIGHT (lb)
STANDARD 3-ROW COIL	300	1020
	360	1030
HIGH-CAPACITY 4-ROW COIL	300	1050
	360	1062

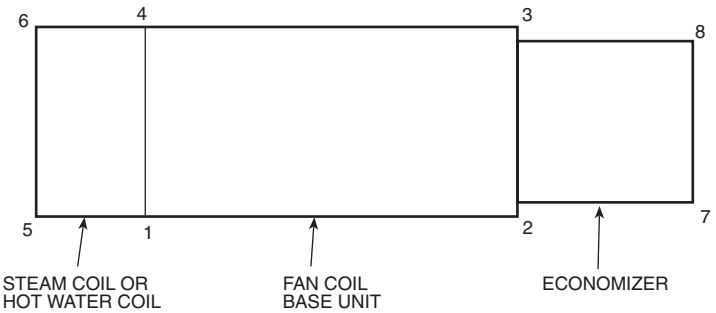
524A300,360



524A UNIT		WEIGHT	CORNER WEIGHTS					
			1	2	3	4	5	6
180,240	FAN COIL BASE UNIT (180, 240)	685, 690	188.2	207.2	151.4	137.6	—	—
	Steam Coil	239	60.0	60.0	59.5	59.5	0.0	0.0
	Hot Water Coil	245	61.0	61.0	61.6	61.6	0.0	0.0
	Plenum	225	72.5	40.0	40.0	72.5	0.0	0.0
	Economizer	217	42.7	0.0	0.0	39.6	70.1	65.1
	Economizer and Steam Coil	456	102.7	60.0	59.5	99.1	70.1	65.1
	Economizer and Water Coil	463	103.7	61.0	61.6	101.2	70.1	65.1
300,360	FAN COIL BASE UNIT (300, 360)	1020, 1030	249.1	342.5	251.3	182.8	—	—
	Steam Coil	263	66.1	66.1	65.6	65.6	0.0	0.0
	Hot Water Coil	314	78.6	78.6	78.2	78.2	0.0	0.0
	Plenum	325	102.0	60.6	60.6	102.0	0.0	0.0
	Economizer	306	61.3	0.0	0.0	56.4	98.3	90.5
	Economizer and Steam Coil	570	127.4	66.1	65.6	122.0	98.3	90.5
	Economizer and Water Coil	620	139.8	78.6	78.2	134.6	98.3	90.5

NOTES:
1. Total weight is determined by adding fan coil base unit weight to factory-installed option weight.
2. Corner weights are based on 3-row coil units.

Corner Weights — Vertical Position 524A180-360 Units



524A UNIT		WEIGHT	CORNER WEIGHTS							
			1	2	3	4	5	6	7	8
180,240	FAN COIL BASE UNIT (180, 240)	685, 690	220.5	174.9	127.8	161.1	—	—	—	—
	Steam Coil	239	43.2	0.0	0.0	43.6	75.8	76.5	0.0	0.0
	Hot Water Coil	245	44.5	0.0	0.0	44.1	78.7	77.9	0.0	0.0
	Economizer	217	0.0	42.7	39.6	0.0	0.0	0.0	70.1	65.1
	Economizer and Steam Coil	456	43.2	42.7	39.6	43.6	75.8	76.5	70.1	65.1
	Economizer and Water Coil	463	44.5	42.7	39.6	44.1	78.7	77.9	70.1	65.1
300,360	FAN COIL BASE UNIT (300, 360)	1020, 1030	346.4	245.2	179.9	254.2	—	—	—	—
	Steam Coil	263	47.5	0.0	0.0	47.9	83.7	84.4	0.0	0.0
	Hot Water Coil	314	54.6	0.0	0.0	54.8	101.9	102.3	0.0	0.0
	Economizer	306	0.0	61.3	56.4	0.0	0.0	0.0	98.3	90.5
	Economizer and Steam Coil	570	47.5	61.3	56.4	47.9	83.7	84.4	98.3	90.5
	Economizer and Water Coil	620	54.6	61.3	56.4	54.8	101.9	102.3	98.3	90.5

NOTES:
1. Total weight is determined by adding fan coil base unit weight to factory-installed option weight.
2. Corner weights are based on 3-row coil units.

Corner Weights — Horizontal Position 524A180-360 Units

SELECTION PROCEDURE WITH 576H240/524A-B240 EXAMPLE

NOTE: See the Performance Data section for combination ratings for 576H240-360 units and matching 524A air handlers. If the 576H condensing units are matched with 2 independent 524A units, cross-plot for performance ratings or contact Bryant Application Engineering for assistance.

I DETERMINE COOLING LOAD, EVAPORATOR-AIR TEMPERATURE AND QUANTITY.

Given:

Total Cooling Capacity Required (TC). . . . . 235,000 Btuh

Sensible Heat Capacity Required (SHC) . . . . . 185,000 Btuh

Temperature Air Entering Condenser (Edb) . . . . . 95 F

Temperature Air Entering Evaporator (db/wb). . . . . .80 F db, 67 F wb

Evaporator Air Quantity . . . . . .8000 cfm

External Static Pressure . . . . . 0.80 in. wg

Length of Interconnecting Refrigerant Piping . . . . . .30 ft (Linear)

II SELECT CONDENSING UNIT AIR-HANDLER COMBINATION.

For this example, select a 576H240 matched with a 524A-B240. (See Combination Ratings table.) This 576H240/524A-B240 condensing unit-air handler combination provides 237,200 Btuh of total cooling capacity and 188,600 Btuh of sensible capacity at the given conditions. If other temperatures or airflow values are required, interpolate the values from the combination ratings.

III DETERMINE SIZES OF LIQUID AND SUCTION LINES.

Enter the Refrigerant Pipe Sizes table. The sizes shown are based on an equivalent length of pipe. This equivalent length is equal to the linear length of pipe indicated at the top of each sizing column, plus a 50% allowance for fitting losses. For this example, note in the linear length column that the proper pipe size is $^5/_8$ in. for the liquid lines and $1^3/_8$ in. for the suction lines.

IV DETERMINE FAN RPM AND BHP (Brake Horsepower).

In the 524A Fan Performance table, enter the 524A-B240 section at 8000 cfm and move to the External Static Pressure (ESP) column. Note that the conditions require 876 rpm at 4.21 bhp.

V DETERMINE MOTOR AND DRIVE.

Enter the Fan Motor Data tables and find that the standard motor for a 524A-B240 unit is rated at 5 hp. Since the bhp required is 4.21, a standard motor satisfies the requirement and should be used.

Next, find the type of drive that satisfies the 876 rpm requirement in the Drive Data tables. For a 524A-B240 unit, the Medium-Static Drive table shows an rpm range of 798 to 984. Since the rpm required is 876, the medium-static drive satisfies the requirement and should be used. Select the standard motor and medium-static drive combination (option code HC or FD).

PERFORMANCE DATA

CONDENSING UNIT RATINGS

576B300

SST (F)		Air Temperature Entering Condenser (F)					
		80	85	95	100	105	115
25	TC	238	230	213	204	196	180
	kW	21.9	22.2	23.2	23.7	24.1	24.9
	SDT	107	111	120	124	129	138
30	TC	269	261	242	233	224	206
	kW	23.3	23.6	24.8	25.4	25.9	26.8
	SDT	110	114	123	127	131	140
35	TC	300	292	271	261	252	232
	kW	24.7	25.0	26.4	27.0	27.6	28.7
	SDT	112	117	125	130	134	143
40	TC	333	323	301	290	279	258
	kW	26.1	26.4	28.0	28.7	29.3	30.6
	SDT	115	120	128	133	137	145
45	TC	365	354	330	319	307	284
	kW	27.3	27.8	29.5	30.3	31.1	32.4
	SDT	118	123	131	135	140	148
50	TC	398	386	361	348	336	312
	kW	28.8	29.3	31.2	32.0	32.9	34.4
	SDT	121	126	134	138	142	151

576B360

SST (F)		Air Temperature Entering Condenser (F)					
		80	85	95	100	105	115
25	TC	268	260	241	232	223	205
	kW	25.0	25.1	26.2	26.6	27.0	27.7
	SDT	106	110	119	124	128	137
30	TC	302	293	273	264	254	234
	kW	26.5	26.6	27.9	28.4	28.9	29.8
	SDT	109	113	122	126	131	140
35	TC	337	326	305	295	284	263
	kW	27.9	28.1	29.6	30.2	30.8	31.9
	SDT	112	116	125	129	133	142
40	TC	371	359	337	326	314	292
	kW	29.3	29.6	31.3	32.1	32.8	34.0
	SDT	115	119	128	132	136	145
45	TC	405	393	369	357	345	321
	kW	30.7	31.1	33.0	33.9	34.7	36.1
	SDT	117	122	130	135	139	147
50	TC	440	428	402	390	377	351
	kW	32.3	32.7	34.8	35.7	36.6	38.2
	SDT	120	125	133	138	142	150

LEGEND

kW — Compressor Power
SDT — Saturated Discharge Temperature at Compressor (F)
SST — Saturated Suction Temperature (F)
TC — Gross Cooling Capacity (1000 Btuh)

PERFORMANCE DATA (cont)

CONDENSING UNIT RATINGS (cont)

576H240

SST (F)		Air Temp Ent Condenser (F)				
		85	95	100	105	115
20	TC	157	143	136	129	115
	kW	14.1	14.9	15.2	15.5	16.0
	SDT	105	115	120	125	135
25	TC	178	163	156	149	134
	kW	14.7	15.6	16.0	16.4	17.0
	SDT	106	116	121	126	135
30	TC	198	183	176	168	153
	kW	15.3	16.3	16.8	17.3	18.1
	SDT	107	117	121	126	135
35	TC	221	205	197	189	173
	kW	15.9	17.1	17.6	18.1	19.1
	SDT	109	118	123	128	137
40	TC	244	227	219	210	193
	kW	16.6	17.9	18.5	19.0	20.1
	SDT	111	120	125	129	138
45	TC	270	251	243	233	215
	kW	17.2	18.6	19.3	19.9	21.1
	SDT	113	122	127	131	140
50	TC	295	276	266	257	237
	kW	17.8	19.4	20.1	20.8	22.1
	SDT	116	125	129	133	142

576H300

SST (F)		Air Temp Ent Condenser (F)				
		85	95	100	105	115
20	TC	187	173	167	160	147
	kW	17.1	18.1	18.6	19.1	19.9
	SDT	107	116	121	126	135
25	TC	209	194	187	180	166
	kW	17.9	19.1	19.6	20.1	21.1
	SDT	109	118	123	127	137
30	TC	231	216	208	200	185
	kW	18.7	20.0	20.6	21.2	22.2
	SDT	111	120	124	129	138
35	TC	256	239	231	223	206
	kW	19.5	20.9	21.6	22.2	23.4
	SDT	113	122	126	131	140
40	TC	282	263	254	245	228
	kW	20.3	21.9	22.6	23.3	24.6
	SDT	115	124	128	133	142
45	TC	310	290	280	271	252
	kW	21.1	22.8	23.6	24.4	25.9
	SDT	118	126	131	135	144
50	TC	338	317	306	296	275
	kW	22.0	23.8	24.6	25.5	27.1
	SDT	120	129	133	138	146

576H360

SST (F)		Air Temp Ent Condenser (F)				
		85	95	100	105	115
20	TC	223	206	199	190	175
	kW	21.2	22.5	23.1	23.7	24.8
	SDT	107	117	122	127	137
25	TC	249	232	224	215	209
	kW	22.2	23.6	24.2	24.9	26.2
	SDT	109	118	123	128	137
30	TC	276	258	249	241	222
	kW	23.1	24.7	25.4	26.2	27.6
	SDT	110	119	124	129	138
35	TC	307	287	277	267	248
	kW	24.2	25.9	26.7	27.6	29.0
	SDT	112	121	126	130	140
40	TC	336	314	305	294	274
	kW	25.3	27.1	28.0	28.9	30.5
	SDT	115	123	128	132	141
45	TC	369	346	335	324	302
	kW	26.3	28.3	29.3	30.3	32.0
	SDT	117	126	136	135	144
50	TC	402	378	366	354	330
	kW	27.4	29.6	30.6	31.7	33.6
	SDT	120	128	133	137	146

LEGEND

kW — Compressor Power
SDT — Saturated Discharge Temperature at Compressor (F)
SST — Saturated Suction Temperature (F)
TC — Gross Cooling Capacity (1000 Btuh)

PERFORMANCE DATA (cont)

CONDENSING UNIT RATINGS (cont)

576H240 — CIRCUIT NO. 1 OR 2*

SST (F)		Air Temp Ent Condenser (F)				
		85	95	100	105	115
20	TC	78	71	68	65	58
	kW	7.03	7.44	7.61	7.76	8.01
	SDT	105	115	120	125	135
25	TC	89	82	78	74	67
	kW	7.34	7.80	8.01	8.20	8.52
	SDT	106	116	121	126	135
30	TC	99	92	88	84	77
	kW	7.65	8.17	8.41	8.63	9.03
	SDT	107	117	121	126	135
35	TC	111	103	99	95	87
	kW	7.96	8.55	8.82	9.07	9.54
	SDT	109	118	123	128	137
40	TC	122	114	109	105	97
	kW	8.28	8.93	9.23	9.52	10.0
	SDT	111	120	125	129	138
45	TC	135	126	121	117	108
	kW	8.59	9.30	9.64	9.96	10.6
	SDT	113	122	127	131	140
50	TC	148	138	133	128	119
	kW	8.90	9.68	10.0	10.4	11.1
	SDT	116	125	129	133	142

576H300 — CIRCUIT NO. 1 OR 2*

SST (F)		Air Temp Ent Condenser (F)				
		85	95	100	105	115
20	TC	93	87	83	80	74
	kW	8.55	9.07	9.31	9.54	9.97
	SDT	107	116	121	126	135
25	TC	104	97	94	90	83
	kW	8.95	9.53	9.80	10.1	10.5
	SDT	109	118	123	127	137
30	TC	116	108	104	100	93
	kW	9.35	9.99	10.3	10.6	11.1
	SDT	111	120	124	129	138
35	TC	128	120	116	111	103
	kW	9.76	10.5	10.8	11.1	11.7
	SDT	113	122	126	131	140
40	TC	141	132	127	123	114
	kW	10.2	10.9	11.3	11.6	12.3
	SDT	115	124	128	133	142
45	TC	155	145	140	135	126
	kW	10.6	11.4	11.8	12.2	12.9
	SDT	118	126	131	135	144
50	TC	169	158	153	148	138
	kW	11.0	11.9	12.3	12.7	13.5
	SDT	120	129	133	138	146

576H360 — CIRCUIT NO. 1

SST (F)		Air Temp Ent Condenser (F)				
		85	95	100	105	115
20	TC	93	85	82	78	71
	kW	8.69	9.26	9.53	9.78	10.2
	SDT	105	115	120	125	135
25	TC	105	97	93	89	81
	kW	9.02	9.64	9.94	10.2	10.8
	SDT	106	116	121	125	135
30	TC	117	109	105	101	92
	kW	9.34	10.0	10.3	10.7	11.3
	SDT	107	116	121	126	135
35	TC	131	122	117	113	104
	kW	9.70	10.5	10.8	11.2	11.8
	SDT	109	118	123	127	137
40	TC	144	134	130	125	116
	kW	10.1	10.9	11.3	11.7	12.4
	SDT	111	120	124	129	138
45	TC	159	148	143	138	128
	kW	10.4	11.3	11.7	12.2	12.9
	SDT	113	122	127	131	140
50	TC	174	163	157	152	141
	kW	10.8	11.8	12.2	12.7	13.5
	SDT	116	124	129	133	142

576H360 — CIRCUIT NO. 2

SST (F)		Air Temp Ent Condenser (F)				
		85	95	100	105	115
20	TC	130	121	117	112	104
	kW	12.5	13.2	13.6	13.9	14.6
	SDT	109	118	123	128	138
25	TC	144	135	131	126	117
	kW	13.2	14.0	14.3	14.7	15.4
	SDT	111	120	124	129	139
30	TC	159	149	144	140	130
	kW	13.8	14.7	15.1	15.5	16.3
	SDT	113	122	126	131	140
35	TC	176	165	160	154	144
	kW	14.5	15.4	15.9	16.4	17.2
	SDT	115	124	128	133	142
40	TC	192	180	175	169	158
	kW	15.2	16.2	16.7	17.2	18.1
	SDT	118	126	131	135	144
45	TC	210	198	192	186	174
	kW	15.9	17.0	17.6	18.1	19.1
	SDT	120	129	133	138	147
50	TC	228	215	209	202	189
	kW	16.6	17.8	18.4	19.0	20.1
	SDT	123	132	136	140	149

LEGEND

kW — Compressor Power
SDT — Saturated Discharge Temperature at Compressor (F)
SST — Saturated Suction Temperature (F)
TC — Gross Cooling Capacity (1000 Btuh)

*Circuits no. 1 and 2 on 576H240 and 300 have identical capacities.

PERFORMANCE DATA (cont)

COMBINATION RATINGS

576B300/524A-C240 WITH HIGH-CAPACITY 4-ROW COIL

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm								
		6000			8000			10,000		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	341.7	312.2	284.6	364.1	333.8	304.9	377.8	347.4	318.6
	SHC	133.1	175.5	216.7	149.5	203.1	255.5	164.0	228.6	290.8
	kW	28.00	26.64	25.34	29.05	27.67	26.34	29.67	28.31	26.97
95	TC	327.7	299.3	272.7	347.9	318.9	291.2	360.7	331.7	303.8
	SHC	128.9	170.8	211.9	144.6	198.3	250.0	159.7	223.9	284.9
	kW	29.94	28.46	27.02	31.03	29.51	28.04	31.68	30.19	28.73
100	TC	320.6	292.8	266.6	339.7	311.4	284.4	352.3	323.8	296.9
	SHC	126.7	168.7	209.4	142.6	196.0	247.7	157.7	221.7	282.1
	kW	30.92	29.38	27.88	32.01	30.43	28.91	32.71	31.14	29.64
105	TC	313.3	286.0	260.4	331.5	303.9	277.5	343.6	315.8	289.8
	SHC	124.6	166.3	207.0	140.4	193.6	245.1	155.5	219.3	278.9
	kW	31.91	30.29	28.72	33.00	31.37	29.78	33.73	32.09	30.54
115	TC	298.4	272.2	247.5	315.0	288.7	267.1	326.2	299.3	274.4
	SHC	120.2	161.6	202.0	136.1	189.0	240.9	151.4	214.7	274.4
	kW	33.79	32.01	30.30	34.90	331.6	31.22	35.66	33.87	32.16

576B300/524A-B240 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm								
		6000			8000			10,000		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	305.1	279.8	—	320.3	295.8	—	330.3	305.7	279.5
	SHC	150.5	184.8	—	167.6	213.3	—	183.0	239.4	279.5
	kW	25.59	24.45	—	26.28	25.17	—	26.73	25.62	24.44
95	TC	292.8	268.8	—	306.8	283.5	257.9	315.7	292.9	269.6
	SHC	145.8	180.3	—	162.7	208.1	257.9	177.8	233.6	269.6
	kW	27.58	26.34	—	28.30	27.09	25.77	28.76	27.58	26.38
100	TC	286.3	262.5	237.6	300.0	276.8	252.2	308.6	286.1	263.9
	SHC	143.3	177.7	227.0	160.3	205.3	252.2	175.3	230.5	263.9
	kW	28.50	27.18	25.81	29.25	27.97	26.61	29.72	28.49	27.26
105	TC	279.8	256.7	232.8	292.9	270.3	247.1	300.9	279.4	258.6
	SHC	140.8	175.3	222.8	157.7	202.5	247.1	172.6	227.4	258.6
	kW	29.35	27.86	26.33	30.19	28.74	27.25	30.71	29.32	27.99
115	TC	266.8	245.0	223.2	278.7	257.4	236.9	285.7	265.9	248.0
	SHC	135.9	170.5	214.4	152.6	197.1	236.9	167.3	221.3	248.0
	kW	31.21	29.70	28.19	32.03	30.56	29.14	32.52	31.15	29.91

576B300/524A-C300 WITH HIGH-CAPACITY 4-ROW COIL

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm								
		7500			10,000			12,500		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	348.1	319.4	292.1	365.9	336.7	309.1	377.1	347.9	320.4
	SHC	175.1	191.4	240.3	159.4	222.4	283.2	176.6	251.7	320.4
	kW	28.21	26.89	25.61	29.06	27.71	26.42	29.55	28.22	26.94
95	TC	333.1	305.7	282.5	349.1	321.3	294.5	359.6	331.8	307.1
	SHC	137.2	187.0	236.4	155.2	217.9	277.2	172.5	247.2	307.1
	kW	30.13	28.70	27.14	30.98	29.52	28.10	31.52	30.08	28.78
100	TC	325.6	298.6	272.9	340.7	313.8	287.7	350.8	323.7	301.0
	SHC	135.2	184.7	233.1	153.1	215.6	274.5	170.5	245.0	301.0
	kW	31.11	29.61	28.12	31.95	30.47	28.97	32.52	31.01	29.75
105	TC	318.0	291.4	266.0	332.3	305.8	281.0	342.1	315.5	294.3
	SHC	133.2	182.4	230.4	151.1	213.4	271.3	168.5	242.8	294.3
	kW	32.10	30.50	28.94	32.94	31.37	29.86	33.53	31.97	30.66
115	TC	301.6	276.8	252.8	315.2	290.1	266.4	324.3	298.7	281.4
	SHC	128.6	177.8	225.3	147.0	209.0	266.4	164.5	238.0	281.4
	kW	33.93	32.22	30.56	34.83	33.14	31.51	35.45	33.73	32.52

576B300/524A-B300 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm								
		7500			10,000			12,500		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	330.8	305.4	277.1	344.8	318.8	293.3	353.4	329.1	307.4
	SHC	168.9	212.4	270.1	189.8	245.6	293.3	209.5	275.9	307.3
	kW	26.75	25.61	24.33	27.39	26.21	25.06	27.77	26.67	25.69
95	TC	316.6	292.0	266.5	329.6	304.5	282.3	337.3	314.4	295.9
	SHC	163.7	207.0	260.4	184.4	239.8	282.3	204.1	269.5	295.9
	kW	28.81	27.54	26.22	29.48	28.18	27.03	29.88	28.69	27.73
100	TC	309.7	285.0	260.4	322.5	297.3	276.3	329.8	307.2	289.9
	SHC	161.2	204.2	254.8	181.9	236.8	276.3	201.6	266.4	289.9
	kW	29.79	28.42	27.07	30.49	29.10	27.94	30.90	29.65	28.69
105	TC	302.3	277.9	254.8	314.5	289.8	270.4	321.4	299.5	283.8
	SHC	158.4	201.3	249.7	179.1	233.7	270.4	198.8	263.0	283.7
	kW	30.80	29.23	27.75	31.58	29.99	28.75	32.03	30.62	29.61
115	TC	287.5	264.0	243.6	298.6	274.9	258.7	304.6	284.3	271.5
	SHC	153.0	195.7	239.4	173.5	227.6	258.7	193.2	256.4	271.5
	kW	32.64	31.01	29.60	33.41	31.77	30.65	33.83	32.42	31.53

576B300/524A-C360 WITH HIGH-CAPACITY 4-ROW COIL

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm								
		9000			12,000			15,000		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	371.5	341.2	312.3	387.9	357.4	328.9	398.8	368.1	345.4
	SHC	156.7	216.0	273.5	178.5	253.1	320.9	199.3	288.0	345.4
	kW	29.39	28.01	26.68	30.14	28.78	27.45	30.66	29.27	28.19
95	TC	354.9	325.8	298.2	370.2	341.0	314.4	380.1	350.5	331.7
	SHC	152.3	211.2	268.2	174.3	248.5	314.4	195.2	283.0	331.7
	kW	31.39	29.87	28.42	32.18	30.69	29.27	32.69	31.18	30.17
100	TC	346.6	318.1	291.3	361.3	332.5	306.7	370.6	341.7	324.8
	SHC	150.2	208.9	265.5	172.3	246.2	306.7	193.1	280.5	324.8
	kW	32.39	30.82	29.31	33.23	31.64	30.17	33.72	32.15	31.18
105	TC	338.1	310.4	283.7	352.2	324.0	300.6	361.0	332.7	318.0
	SHC	148.1	206.7	262.0	170.2	243.8	300.6	190.8	277.8	318.0
	kW	33.40	31.76	30.17	34.24	32.58	31.16	34.75	33.09	32.21
115	TC	321.1	294.7	269.6	333.7	306.8	287.6	341.8	314.9	303.4
	SHC	143.7	201.8	256.8	165.9	238.8	287.6	186.7	272.7	303.4
	kW	35.31	33.57	31.85	36.14	34.37	33.07	36.69	34.91	34.12

576B300/524A-B360 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm								
		9000			12,000			15,000		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	353.9	325.8	300.2	367.2	339.2	318.4	374.7	350.2	378.8
	SHC	186.0	238.4	293.9	212.4	276.3	318.4	234.9	311.5	272.3
	kW	27.80	26.53	25.37	28.40	27.13	26.19	28.74	27.63	28.92
95	TC	337.9	310.6	288.0	350.0	323.1	305.6	356.7	333.7	327.6
	SHC	179.9	232.4	282.8	206.6	269.8	305.6	228.9	304.2	309.3
	kW	29.91	28.50	27.33	30.53	29.14	28.24	30.88	29.69	29.37
100	TC	330.6	303.1	281.4	342.4	315.4	299.1	348.8	326.0	305.6
	SHC	177.2	229.4	276.8	204.0	266.7	299.1	226.3	300.9	325.3
	kW	30.94	29.42	28.23	31.59	30.10	29.20	31.94	30.69	29.56
105	TC	322.2	295.2	274.9	333.4	307.1	292.3	339.4	317.4	283.3
	SHC	174.0	226.2	270.9	210.0	263.4	292.3	223.1	297.1	341.4
	kW	32.08	30.34	29.04	32.80	31.10	30.15	33.19	31.77	29.57
115	TC	305.6	279.5	262.0	315.7	290.5	278.7	—	300.4	244.7
	SHC	167.7	220.0	259.2	195.0	256.7	278.7	—	289.6	369.4
	kW	33.90	32.09	30.88	34.59	32.85	32.04	—	33.54	29.68

LEGEND

— — Out of Range
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. Evaporator fan heat not deducted from ratings.
3. Ratings based on approximately 12 F superheat leaving coil.
4. Formulas:

$$\text{Leaving db} = \text{entering db} - \frac{\text{sensible heat capacity (Btuh)}}{1.1 \times \text{cfm}}$$

Leaving wb = wet-bulb temperature corresponding to enthalpy of air leaving coil (h_{lwb}).

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

Where h_{ewb} = enthalpy of air entering coil.

5. SHC is based on 80 F db temperature of air-entering evaporator coil.

PERFORMANCE DATA (cont)

COMBINATION RATINGS (cont)

576B360/524A-C300 WITH HIGH-CAPACITY 4-ROW COIL

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm								
		7500			10,000			12,500		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	368.7	338.3	309.5	387.9	357.4	328.0	401.1	370.3	340.7
	SHC	147.1	197.7	247.2	165.2	229.0	290.7	182.6	258.3	328.6
	kW	30.30	28.87	27.47	31.20	29.77	28.38	31.83	30.38	28.99
95	TC	353.9	324.5	299.7	371.8	342.6	314.2	383.7	354.0	325.2
	SHC	142.9	193.1	243.2	161.1	224.3	285.4	178.3	253.6	3252
	kW	32.14	30.57	28.88	33.09	31.57	30.02	33.72	32.15	30.61
100	TC	346.0	317.4	290.1	363.4	334.7	307.1	374.7	345.7	318.5
	SHC	140.7	190.8	239.7	158.9	221.9	282.5	176.2	251.2	318.5
	kW	33.07	31.42	29.84	34.05	32.43	30.84	34.67	33.05	31.49
105	TC	338.2	310.3	283.5	354.8	326.6	299.5	365.6	337.3	311.5
	SHC	138.6	188.4	237.2	156.7	219.5	279.5	174.0	248.8	311.5
	kW	34.00	32.30	30.65	35.00	33.30	31.64	35.63	33.95	32.37
115	TC	326.3	300.2	269.7	337.0	310.2	284.6	347.0	320.1	298.1
	SHC	135.6	185.1	231.9	152.3	214.7	273.2	169.8	244.2	298.1
	kW	36.68	33.80	32.15	36.79	34.96	33.19	37.47	35.65	34.14

576B360/524A-B300 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm								
		7500			10,000			12,500		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	352.5	326.2	—	368.2	341.0	310.1	378.3	351.7	324.8
	SHC	176.9	220.8	—	198.0	254.7	310.1	217.8	285.8	324.8
	kW	29.31	28.15	—	30.01	28.81	27.44	30.45	29.28	28.09
95	TC	339.4	313.7	283.7	354.1	327.7	300.1	363.2	338.1	314.4
	SHC	172.1	215.8	276.1	193.0	249.3	300.1	212.7	279.9	314.4
	kW	31.43	30.06	28.47	32.21	30.80	29.34	32.69	31.36	30.10
100	TC	332.6	307.3	278.7	346.8	320.8	294.9	355.4	331.0	308.9
	SHC	169.6	213.2	271.5	190.4	246.4	294.9	210.1	276.8	308.9
	kW	32.48	31.01	29.35	33.30	31.80	30.29	33.81	32.39	31.11
105	TC	325.3	299.8	272.2	339.1	313.1	288.5	347.5	323.3	302.6
	SHC	166.9	210.2	265.6	187.8	243.3	288.5	207.5	273.4	302.6
	kW	33.49	31.93	30.24	34.34	32.74	31.24	34.85	33.37	32.10
115	TC	311.0	286.2	261.5	323.8	298.6	277.4	331.2	308.5	291.0
	SHC	161.6	204.7	255.8	182.4	237.3	277.4	202.1	267.0	290.9
	kW	35.38	33.58	31.79	36.30	34.48	32.94	36.84	35.20	33.92

576B360/524A-C360 WITH HIGH-CAPACITY 4-ROW COIL

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm								
		9000			12,000			15,000		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	392.5	360.8	330.6	410.5	378.6	348.0	422.4	390.3	362.6
	SHC	162.3	221.7	279.7	183.6	258.3	329.0	204.0	292.9	362.6
	kW	31.43	29.95	28.53	32.26	30.78	29.35	32.80	31.34	30.03
95	TC	376.4	345.9	316.5	392.9	362.3	333.5	403.9	373.2	349.2
	SHC	157.8	217.0	274.5	179.2	253.6	322.5	199.7	288.3	349.2
	kW	33.35	31.75	30.17	34.23	32.60	31.08	34.80	33.19	31.92
100	TC	368.0	338.0	309.4	383.9	353.9	325.7	394.5	364.6	342.2
	SHC	155.5	214.5	271.7	177.0	251.2	318.6	197.7	285.8	342.2
	kW	34.32	32.64	30.99	35.19	33.52	31.93	35.81	34.14	32.87
105	TC	359.2	330.1	302.1	374.7	345.4	317.9	385.1	355.5	335.2
	SHC	153.2	212.0	268.9	174.9	248.8	317.9	195.6	283.3	335.2
	kW	35.26	33.53	31.82	36.18	34.45	32.79	36.81	35.05	33.84
115	TC	341.5	313.7	287.3	355.9	328.0	303.4	365.1	336.8	320.5
	SHC	148.6	207.0	263.2	170.5	244.0	303.4	191.0	278.0	320.5
	kW	37.09	35.20	33.39	38.06	36.19	34.50	38.66	36.78	35.67

576B360/524A-B360 WITH STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm								
		9000			12,000			15,000		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	378.5	349.4	319.1	393.6	364.1	338.1	402.6	375.7	354.0
	SHC	195.3	247.7	311.0	221.4	286.4	338.1	244.2	322.7	354.0
	kW	30.46	29.18	27.84	31.13	29.83	28.68	31.52	30.34	29.38
95	TC	363.6	335.2	307.9	377.5	349.0	326.3	385.6	360.2	341.7
	SHC	189.7	242.1	300.8	215.9	280.3	326.3	238.5	315.9	341.7
	kW	32.71	31.20	29.75	33.45	31.94	30.73	33.88	32.53	31.55
100	TC	355.9	327.8	302.0	369.2	341.3	320.2	376.8	352.2	335.3
	SHC	186.7	239.2	295.5	213.1	277.1	320.2	235.6	312.4	335.3
	kW	33.83	32.21	30.71	34.61	32.99	31.76	35.05	33.62	32.64
105	TC	348.1	319.8	295.0	361.1	333.1	313.3	368.4	344.1	328.4
	SHC	183.8	236.0	289.2	210.4	273.8	313.3	232.8	308.8	328.4
	kW	34.89	33.16	31.64	35.69	33.97	32.75	36.14	34.64	33.70
115	TC	331.9	304.5	282.6	343.8	316.8	300.3	350.2	327.4	314.8
	SHC	177.7	229.9	277.9	204.5	267.3	300.3	226.7	301.5	314.8
	kW	36.89	34.90	33.32	37.75	35.80	34.60	38.22	36.57	35.65

LEGEND

— — Out of Range
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. Evaporator fan heat not deducted from ratings.
3. Ratings based on approximately 12 F superheat leaving coil.
4. Formulas:

$$\text{Leaving db} = \text{entering db} - \frac{\text{sensible heat capacity (Btuh)}}{1.1 \times \text{cfm}}$$

Leaving wb = wet-bulb temperature corresponding to enthalpy of air leaving coil (h_{lwb}).

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

Where h_{ewb} = enthalpy of air entering coil.

5. SHC is based on 80 F db temperature of air-entering evaporator coil.

PERFORMANCE DATA (cont)

COMBINATION RATINGS (cont)

576H240/524A-C180 HIGH-CAPACITY 4-ROW COILS

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm								
		4500			6000			7500		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	247.3	247.3	225.7	262.2	240.8	220.7	273.0	251.1	230.1
	SHC	117.0	117.0	140.5	128.9	159.5	189.5	139.3	176.7	211.9
	kW	16.43	16.43	15.89	16.77	16.27	15.77	17.02	16.52	16.00
95	TC	236.5	215.9	196.4	250.6	230.0	212.4	260.3	239.4	219.4
	SHC	112.5	136.1	158.6	123.9	154.8	185.2	134.8	172.1	206.1
	kW	17.90	17.27	16.64	18.34	17.72	17.13	18.59	17.99	17.38
100	TC	233.0	212.9	191.9	244.7	226.5	206.8	253.8	233.5	213.9
	SHC	111.1	135.0	156.5	121.7	153.6	183.7	132.2	169.6	203.2
	kW	18.95	18.22	17.26	19.09	18.74	17.98	19.37	18.72	18.05
105	TC	225.4	205.9	187.3	240.9	218.8	199.8	247.3	227.5	208.4
	SHC	108.1	131.5	154.3	120.4	150.0	179.4	130.0	167.2	200.3
	kW	19.35	18.62	17.88	20.14	19.10	18.38	20.13	19.42	18.71
115	TC	218.0	202.5	177.8	226.1	207.3	196.3	234.2	215.4	197.3
	SHC	105.2	130.3	149.9	114.8	145.6	178.7	125.4	162.5	193.4
	kW	21.36	19.93	19.10	21.27	20.46	19.60	21.61	20.82	20.02

576H240/524A-B180 STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm/BF								
		4500/0.03			6000/0.05			7500/0.08		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	231.9	209.9	—	244.2	223.5	203.7	252.5	232.4	213.2
	SHC	113.4	139.3	—	127.0	161.0	203.7	138.6	179.7	213.2
	kW	16.32	15.81	—	16.61	16.13	15.67	16.80	16.33	15.89
95	TC	222.4	202.0	—	233.6	214.6	196.4	241.3	222.8	205.5
	SHC	110.0	135.8	—	123.0	156.7	196.3	134.6	174.9	205.5
	kW	17.77	17.17	—	18.09	17.54	17.01	18.32	17.78	17.27
100	TC	217.8	197.6	179.2	228.6	210.0	192.1	236.2	218.0	201.3
	SHC	108.4	133.8	171.6	121.1	154.4	192.1	132.8	172.5	201.3
	kW	18.46	17.79	17.17	18.82	18.20	17.60	19.07	18.47	17.91
105	TC	212.4	193.1	175.3	222.6	204.9	187.9	229.9	212.5	196.8
	SHC	106.5	131.8	168.2	118.9	152.0	187.9	130.5	169.7	196.8
	kW	19.09	18.34	17.64	19.49	18.80	18.13	19.78	19.10	18.48
115	TC	202.0	183.9	167.1	211.3	194.8	179.0	218.2	201.9	187.8
	SHC	102.8	127.6	161.0	114.6	147.1	179.0	126.4	164.4	187.7
	kW	20.51	19.68	18.92	20.93	20.18	19.46	21.25	20.50	19.86

576H240/524A-C240 HIGH-CAPACITY 4-ROW COILS

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm								
		6000			8000			10,000		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	275.6	252.5	230.6	289.0	265.9	244.2	298.1	274.5	254.5
	SHC	132.9	166.6	298.6	148.2	191.3	231.4	162.5	214.1	254.5
	kW	17.12	16.60	16.07	17.40	16.91	16.42	17.61	17.11	16.64
95	TC	263.1	241.1	220.0	275.7	253.5	232.8	289.8	261.1	244.3
	SHC	128.2	161.5	193.8	143.4	186.4	225.4	159.6	208.9	244.3
	kW	18.72	18.10	17.45	19.06	18.47	17.85	19.99	18.67	18.19
100	TC	256.7	235.2	214.7	269.0	247.0	226.7	276.4	254.4	239.0
	SHC	125.7	159.2	191.3	141.1	183.9	222.2	155.1	206.5	239.0
	kW	19.49	18.82	18.13	19.88	19.21	18.54	20.08	19.43	18.95
105	TC	250.3	229.3	209.3	261.9	240.3	220.7	269.0	247.5	233.8
	SHC	123.4	156.8	188.8	138.6	181.3	220.7	152.6	203.8	233.8
	kW	20.27	19.53	18.79	20.66	19.93	19.21	20.88	20.18	18.70
115	TC	237.4	217.2	197.7	247.6	227.0	210.1	254.0	233.7	222.7
	SHC	118.5	151.9	183.3	133.6	176.3	210.1	147.6	198.5	222.7
	kW	21.78	20.95	20.07	22.18	21.35	20.62	22.43	21.63	21.16

576H240/524A-B240 STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm/BF								
		6000/0.03			8000/0.06			10,000/0.07		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	258.1	236.6	215.6	269.7	248.5	229.3	276.2	257.0	240.4
	SHC	132.6	167.1	207.7	149.3	193.3	229.3	163.9	217.2	240.4
	kW	16.93	16.43	15.94	17.19	16.70	16.26	17.34	16.90	16.52
95	TC	246.6	226.4	207.2	257.1	237.2	220.4	262.7	245.2	231.0
	SHC	128.2	162.9	200.5	144.8	188.6	220.4	159.2	211.8	230.9
	kW	18.47	17.88	17.32	18.78	18.20	17.71	18.94	18.43	18.02
100	TC	241.5	221.5	202.7	251.9	232.0	215.9	257.2	239.9	226.4
	SHC	126.2	160.9	196.5	142.8	186.4	215.9	157.3	209.4	226.4
	kW	19.25	18.58	17.96	19.59	18.93	18.40	19.77	19.20	18.75
105	TC	235.1	215.8	197.9	244.9	225.7	210.8	249.8	233.3	221.1
	SHC	123.8	158.5	192.4	140.3	183.7	210.8	154.6	206.4	221.1
	kW	19.98	19.23	18.53	20.37	19.61	19.03	20.56	19.91	19.43
115	TC	223.2	204.7	188.3	232.3	213.8	200.8	236.5	221.1	210.9
	SHC	119.3	154.0	184.0	135.8	178.7	200.8	150.0	200.8	210.9
	kW	21.47	20.63	19.89	21.89	21.04	20.45	22.08	21.38	20.91

LEGEND

— — Out of Range
BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
SHC — Sensible Heating Capacity (1000 Btuh)
TC — Total Capacity (1000 Btuh)

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. Evaporator fan heat not deducted from ratings.
3. Ratings based on approximately 12 F superheat leaving coil.
4. Formulas:

$$\text{Leaving db} = \text{entering db} - \frac{\text{sensible heat capacity (Btuh)}}{1.1 \times \text{cfm}}$$

Leaving wb = wet-bulb temperature corresponding to enthalpy of air leaving coil (h_{lwb}).

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

Where h_{ewb} = enthalpy of air entering coil.

5. SHC is based on 80 F db temperature of air-entering evaporator coil.

PERFORMANCE DATA (cont)

COMBINATION RATINGS (cont)

576H240/524A-C300 HIGH-CAPACITY 4-ROW COILS

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm								
		7500			10,000			12,500		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	299.4	275.5	245.2	309.9	285.9	258.0	311.2	287.3	272.9
	SHC	157.5	204.4	225.2	177.5	236.5	258.0	180.7	241.5	272.9
	kW	17.65	17.15	16.46	17.86	17.37	16.74	17.88	17.40	17.08
95	TC	291.4	262.2	233.1	295.0	271.9	247.6	296.4	273.2	261.4
	SHC	154.7	199.1	219.3	172.3	230.9	247.6	175.6	235.9	261.4
	kW	20.15	18.72	17.91	19.58	18.99	18.31	19.62	19.03	18.71
100	TC	278.1	255.5	227.4	287.6	265.0	242.4	288.9	266.3	255.6
	SHC	150.1	196.8	216.7	169.7	228.2	242.4	173.1	233.2	255.6
	kW	20.16	19.49	18.59	20.43	19.78	19.08	20.46	19.82	19.48
105	TC	270.8	248.7	221.6	280.0	257.9	237.0	281.2	259.1	249.7
	SHC	147.6	194.1	213.8	167.5	225.7	237.0	170.7	230.6	249.7
	kW	20.96	20.24	19.28	21.25	20.56	19.84	21.29	20.60	20.26
115	TC	256.2	235.0	209.6	264.8	243.4	225.8	265.7	244.1	237.9
	SHC	142.5	188.8	206.8	162.1	219.9	225.8	165.3	224.5	237.9
	kW	22.53	21.71	20.64	22.87	22.05	21.30	22.91	22.08	21.84

576H300/524A-C240 HIGH-CAPACITY 4-ROW COILS

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm								
		6000			8000			10,000		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	302.4	277.4	253.6	318.8	293.3	269.1	329.4	303.6	279.9
	SHC	143.6	177.3	209.7	159.1	202.7	243.6	173.3	225.5	272.3
	kW	20.63	19.94	19.25	21.07	20.40	19.71	21.33	20.68	20.02
95	TC	290.0	266.0	243.1	304.9	280.5	257.5	320.2	290.1	267.4
	SHC	138.7	172.3	204.6	154.0	197.1	238.1	170.5	219.9	267.4
	kW	22.43	21.63	20.83	22.91	22.11	21.33	24.02	22.44	21.68
100	TC	283.8	260.1	237.5	298.0	274.1	251.1	307.3	283.3	261.9
	SHC	136.2	169.7	202.1	151.5	194.5	234.9	165.7	217.5	261.9
	kW	23.32	22.45	21.58	23.82	22.96	22.11	24.14	23.31	22.51
105	TC	277.3	258.7	231.9	290.9	267.4	245.4	300.0	276.4	255.9
	SHC	133.6	169.2	199.5	148.9	192.0	232.2	163.1	214.9	255.9
	kW	24.19	22.96	22.33	24.71	23.80	22.90	25.06	24.15	23.32
115	TC	263.8	241.8	226.3	276.4	254.2	233.6	284.5	262.0	244.9
	SHC	128.5	162.0	197.5	143.7	186.8	226.1	157.9	209.5	244.9
	kW	25.94	24.91	23.87	26.53	25.51	24.53	26.90	25.87	25.05

576H240/524A-B300 STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm/BF								
		7500/0.04			10,000/0.06			12,500/0.08		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	278.4	254.6	235.5	289.1	265.4	250.7	294.9	274.8	263.5
	SHC	149.6	191.9	232.0	170.2	223.7	250.7	190.0	252.2	263.5
	kW	17.39	16.85	16.40	17.64	17.09	16.75	17.77	17.31	17.05
95	TC	265.2	242.4	225.7	275.0	252.3	240.3	279.9	261.3	252.5
	SHC	144.8	187.0	223.0	165.2	218.3	240.3	185.0	246.4	252.2
	kW	19.01	18.35	17.86	19.30	18.64	18.29	19.44	18.90	18.64
100	TC	259.8	237.0	220.9	269.4	246.7	235.6	274.2	255.7	247.8
	SHC	142.8	184.8	218.6	163.2	216.0	235.6	183.1	243.9	247.8
	kW	19.86	19.10	18.56	20.18	19.42	19.05	20.34	19.72	19.46
105	TC	252.5	230.2	215.4	261.6	239.5	229.7	266.1	248.3	241.6
	SHC	140.1	182.1	213.5	160.5	213.1	229.7	180.4	240.7	241.6
	kW	20.66	19.79	19.21	21.02	20.15	19.77	21.19	20.50	20.24
115	TC	239.5	217.6	204.7	248.0	226.4	218.8	251.8	235.0	230.3
	SHC	135.4	177.0	203.7	155.7	207.7	218.7	175.6	234.9	230.3
	kW	22.21	21.22	20.63	22.60	21.62	21.27	22.77	22.01	21.80

576H300/524A-B240 STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm/BF								
		6000/0.03			8000/0.06			10,000/0.07		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	281.6	258.4	—	294.8	272.1	248.7	302.9	281.2	260.2
	SHC	141.5	176.0	—	158.4	203.3	248.7	173.3	228.3	260.2
	kW	20.29	19.63	—	20.66	20.02	19.35	20.90	20.28	19.68
95	TC	270.0	247.7	225.1	282.4	260.5	239.2	289.7	269.3	250.5
	SHC	137.1	171.6	216.1	153.9	198.4	239.2	168.7	222.8	250.5
	kW	22.13	21.39	20.64	22.55	21.82	21.11	22.79	22.11	21.48
100	TC	264.3	242.6	221.0	276.1	254.8	234.7	283.0	263.4	245.8
	SHC	134.9	169.5	212.5	151.6	196.0	234.7	166.3	220.1	245.8
	kW	23.00	22.16	21.33	23.45	22.63	21.86	23.71	22.96	22.28
105	TC	258.7	237.2	216.1	270.4	249.1	229.9	276.9	257.6	240.9
	SHC	132.8	167.3	208.2	149.5	193.6	229.8	164.2	217.5	240.9
	kW	23.88	22.97	22.08	24.37	23.47	22.66	24.65	23.83	23.13
115	TC	247.3	227.1	207.8	257.8	237.8	220.9	263.4	245.8	231.5
	SHC	128.4	163.2	201.0	145.0	188.8	220.9	159.4	212.1	231.5
	kW	25.64	24.55	23.50	26.21	25.13	24.22	26.52	25.57	24.79

LEGEND

— — Out of Range
BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
SHC — Sensible Heating Capacity (1000 Btuh)
TC — Total Capacity (1000 Btuh)

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. Evaporator fan heat not deducted from ratings.
3. Ratings based on approximately 12 F superheat leaving coil.
4. Formulas:

$$\text{Leaving db} = \text{entering db} - \frac{\text{sensible heat capacity (Btuh)}}{1.1 \times \text{cfm}}$$

Leaving wb = wet-bulb temperature corresponding to enthalpy of air leaving coil (h_{lwb}).

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

Where h_{ewb} = enthalpy of air entering coil.

5. SHC is based on 80 F db temperature of air-entering evaporator coil.

PERFORMANCE DATA (cont)

COMBINATION RATINGS (cont)

576H300/524A-C300 HIGH-CAPACITY 4-ROW COILS

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm								
		7500			10,000			12,500		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	321.7	295.1	270.3	336.2	309.9	285.1	346.1	319.6	297.8
	SHC	156.6	197.5	236.7	174.2	226.5	274.6	190.8	253.4	297.8
	kW	21.19	20.49	19.79	21.56	20.90	20.23	21.83	21.16	20.55
95	TC	307.6	282.6	258.5	321.4	296.3	281.0	330.3	304.8	286.4
	SHC	151.0	191.9	231.1	168.9	221.1	272.5	185.7	247.5	286.4
	kW	23.04	22.24	21.42	23.49	22.71	21.99	23.76	22.98	22.36
100	TC	300.4	276.2	252.6	314.0	289.2	265.9	322.5	297.4	280.7
	SHC	148.4	189.3	228.4	166.4	218.4	265.9	183.0	245.0	280.7
	kW	23.95	23.10	22.22	24.43	23.58	22.71	24.71	23.86	23.26
105	TC	293.5	274.5	246.8	306.3	282.0	260.1	314.4	289.8	274.9
	SHC	145.8	188.5	225.7	163.8	215.7	260.1	180.3	242.1	274.9
	kW	24.86	23.67	23.01	25.34	24.44	23.55	25.63	24.74	24.15
115	TC	279.3	256.5	234.4	290.7	267.5	248.8	298.1	274.8	262.8
	SHC	140.5	181.5	219.8	158.4	210.2	248.8	174.9	236.3	262.8
	kW	26.71	25.68	24.64	27.22	26.19	25.30	27.54	26.52	25.96

576H300/524A-B300 STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm/BF								
		7500/0.04			10,000/0.06			12,500/0.08		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	304.2	279.9	256.5	316.4	291.8	272.1	323.5	301.5	285.4
	SHC	159.1	202.1	251.2	179.8	234.5	272.1	199.5	263.9	285.4
	kW	20.93	20.24	19.57	21.28	20.58	20.02	21.48	20.86	20.40
95	TC	291.5	267.4	246.2	303.0	278.7	261.6	309.3	288.3	274.6
	SHC	154.4	197.1	241.7	175.0	229.2	261.6	194.8	258.2	274.6
	kW	22.85	22.05	21.34	23.23	22.42	21.85	23.44	22.74	22.29
100	TC	284.9	261.3	241.3	295.9	272.2	256.4	301.9	281.6	269.2
	SHC	152.0	194.6	237.3	172.6	226.5	256.4	192.3	255.2	269.2
	kW	23.79	22.88	22.11	24.21	23.30	22.69	24.44	23.66	23.18
105	TC	279.0	255.3	236.1	289.8	266.0	251.3	295.6	275.4	264.0
	SHC	149.9	192.2	232.5	170.4	224.0	251.3	190.2	252.5	264.0
	kW	27.74	23.74	22.92	25.20	24.19	23.57	25.44	24.59	24.11
115	TC	265.8	243.1	226.3	275.7	253.0	240.9	280.7	262.0	253.1
	SHC	145.0	187.3	223.5	165.4	218.6	240.9	185.2	246.7	253.1
	kW	26.65	25.42	24.51	27.18	25.95	25.30	27.45	26.44	25.96

576H300/524A-C360 HIGH-CAPACITY 4-ROW COILS

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm								
		9000			12,000			15,000		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	341.1	313.9	288.0	354.8	327.1	303.5	363.5	323.2	320.5
	SHC	170.3	219.8	266.7	191.9	254.3	303.5	211.1	280.6	320.5
	kW	21.75	21.06	20.38	22.10	21.41	20.75	22.31	20.07	21.22
95	TC	326.4	299.9	274.8	338.7	312.1	292.1	347.0	320.4	307.8
	SHC	165.1	214.3	260.7	186.2	248.6	292.1	205.9	279.6	307.8
	kW	23.72	22.89	22.07	24.08	23.27	22.62	24.34	23.54	23.11
100	TC	318.7	292.7	268.4	330.6	304.6	286.4	338.6	312.6	301.4
	SHC	162.3	211.5	257.6	183.5	245.8	286.4	203.1	276.8	301.4
	kW	24.65	23.77	22.89	25.05	24.18	23.53	25.32	24.46	24.05
105	TC	310.9	291.1	262.1	322.4	297.0	280.3	330.2	304.9	294.9
	SHC	159.6	210.8	254.3	180.5	242.9	280.3	200.5	273.8	294.9
	kW	25.59	24.32	23.70	26.00	25.08	24.43	26.30	25.38	24.98
115	TC	295.2	271.0	248.8	306.0	281.6	268.0	313.1	288.2	282.0
	SHC	154.2	203.3	248.8	175.4	237.2	268.0	195.0	267.0	282.0
	kW	27.49	26.44	25.40	27.96	26.92	26.27	28.27	27.21	26.91

576H300/524A-B360 STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm/BF								
		9000/0.04			12,000/0.06			15,000/0.08		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	324.3	297.3	276.8	335.5	309.2	294.1	341.6	319.6	289.1
	SHC	174.8	227.1	272.6	201.7	264.2	294.1	223.9	298.0	337.2
	kW	21.51	20.74	20.15	21.83	21.08	20.65	22.00	21.37	20.50
95	TC	310.3	283.6	265.2	320.8	295.0	282.3	326.2	305.1	253.1
	SHC	169.4	221.6	262.1	196.7	258.5	282.3	218.7	291.7	363.3
	kW	23.48	22.59	21.97	23.83	22.96	22.54	24.01	23.30	21.57
100	TC	302.8	276.7	259.5	312.8	287.6	276.3	317.9	297.5	237.4
	SHC	166.6	218.9	257.0	194.0	255.5	276.3	216.0	288.4	374.6
	kW	24.48	23.47	22.81	24.86	23.89	23.46	25.06	24.27	21.96
105	TC	296.6	270.3	253.9	306.4	281.1	270.7	311.3	291.1	221.1
	SHC	164.3	216.4	251.9	191.9	252.9	270.7	213.8	285.5	386.4
	kW	25.48	24.37	23.68	25.90	24.83	24.39	26.10	25.25	22.29
115	TC	281.8	256.6	242.6	290.5	266.6	258.6	294.7	276.0	195.2
	SHC	158.6	210.9	241.6	186.5	247.0	258.6	208.2	278.9	405.2
	kW	27.51	26.15	25.39	27.99	26.69	26.26	28.21	27.20	22.83

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
SHC — Sensible Heating Capacity (1000 Btuh)
TC — Total Capacity (1000 Btuh)

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. Evaporator fan heat not deducted from ratings.
3. Ratings based on approximately 12 F superheat leaving coil.
4. Formulas:

$$\text{Leaving db} = \text{entering db} - \frac{\text{sensible heat capacity (Btuh)}}{1.1 \times \text{cfm}}$$

Leaving wb = wet-bulb temperature corresponding to enthalpy of air leaving coil (h_{lwb}).

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

Where h_{ewb} = enthalpy of air entering coil.

5. SHC is based on 80 F db temperature of air-entering evaporator coil.

PERFORMANCE DATA (cont)

COMBINATION RATINGS (cont)

576H360/524A-C300 HIGH-CAPACITY 4-ROW COILS

Temp (F) Air Entering Condenser (Edb		Evaporator Air — Cfm								
		7500			10,000			12,500		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	376.4	346.1	317.3	393.3	362.8	334.3	404.4	373.6	350.1
	SHC	185.9	234.4	281.1	207.1	269.0	322.7	226.9	300.8	350.1
	kW	26.61	25.60	24.61	27.19	26.18	25.21	27.55	26.55	25.72
95	TC	361.0	335.7	307.7	376.4	347.0	321.1	386.5	357.1	336.8
	SHC	180.1	230.3	276.8	201.2	262.9	313.4	220.8	294.4	336.8
	kW	28.71	27.60	26.33	29.32	28.19	27.14	29.71	28.60	27.75
100	TC	353.0	324.4	297.3	367.7	339.0	314.5	377.6	348.8	330.1
	SHC	177.2	225.4	271.3	198.2	259.8	308.5	217.9	291.3	330.1
	kW	29.75	28.55	27.37	30.36	29.18	28.11	30.79	29.60	28.76
105	TC	344.9	317.0	290.5	359.0	331.0	307.9	368.5	340.3	326.4
	SHC	174.2	222.5	267.9	195.2	256.7	303.7	214.9	288.0	326.3
	kW	30.80	29.55	28.30	31.44	30.20	29.10	31.87	30.63	29.50
115	TC	328.2	301.8	276.7	341.3	320.1	294.0	350.0	323.0	312.6
	SHC	168.0	216.4	262.1	189.1	253.1	294.0	208.7	281.1	312.6
	kW	32.88	31.50	30.14	33.55	32.23	31.05	33.99	32.63	31.78

576H360/524A-B300 STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb		Evaporator Air — Cfm/BF								
		7500/0.04			10,000/0.06			12,500/0.08		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	338.9	312.7	282.3	353.8	326.9	299.0	363.1	337.4	313.5
	SHC	171.9	215.4	274.9	192.9	248.9	299.0	212.7	279.6	313.5
	kW	25.39	24.59	23.67	25.84	25.02	24.18	26.12	25.34	24.62
95	TC	325.5	299.5	271.5	339.6	313.0	288.1	348.2	323.5	302.4
	SHC	167.0	210.0	265.0	187.9	243.3	288.1	207.7	273.5	302.4
	kW	27.53	26.56	25.51	28.06	27.06	26.13	28.38	27.46	26.66
100	TC	319.5	294.4	268.1	332.8	307.2	284.1	340.8	317.3	297.9
	SHC	164.7	208.0	261.8	185.5	240.9	284.1	205.3	270.8	297.9
	kW	28.63	27.54	26.40	29.21	28.10	27.09	29.55	28.53	27.69
105	TC	312.6	287.4	262.1	325.7	300.0	278.2	333.4	310.2	292.0
	SHC	162.2	205.2	256.3	183.1	237.9	278.2	202.8	267.7	292.0
	kW	29.77	28.59	27.41	30.38	29.18	28.16	30.74	29.66	28.81
115	TC	281.0	257.3	237.8	291.8	268.1	253.0	297.7	277.5	265.8
	SHC	150.6	193.0	234.1	171.1	224.8	253.0	190.9	253.4	265.8
	kW	32.40	31.04	29.91	33.03	31.66	30.79	33.37	32.20	31.52

576H360/524A-C360 HIGH-CAPACITY 4-ROW COILS

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm								
		9000			12,000			15,000		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	385.1	353.5	323.6	402.4	370.6	342.0	413.9	381.8	358.4
	SHC	188.1	238.2	286.2	210.3	274.3	330.0	230.9	307.4	358.4
	kW	26.95	25.92	24.91	27.52	26.50	25.52	27.90	26.89	26.05
95	TC	369.4	352.8	310.0	385.2	354.6	329.8	395.8	365.3	344.7
	SHC	182.2	243.8	279.9	204.3	268.0	321.7	224.8	301.2	344.7
	kW	29.08	28.20	26.76	29.68	28.53	27.45	30.09	28.97	28.09
100	TC	365.2	346.0	303.2	376.3	346.5	321.8	386.7	356.9	337.8
	SHC	180.6	241.9	276.7	201.1	265.0	315.4	221.8	298.0	337.8
	kW	29.73	29.28	27.69	30.76	29.55	28.48	31.20	30.00	29.13
105	TC	356.5	337.7	296.3	367.6	338.4	315.0	377.6	348.2	331.1
	SHC	177.6	238.7	273.3	198.2	261.8	310.5	218.8	294.7	331.1
	kW	30.99	30.30	28.63	31.85	30.57	29.48	32.30	31.03	30.18
115	TC	335.8	311.7	282.5	349.7	324.0	300.7	358.7	332.7	317.4
	SHC	169.9	221.3	266.8	192.1	254.0	300.7	212.6	288.7	317.4
	kW	33.27	31.09	30.50	33.99	32.59	31.43	34.44	33.05	32.30

576H360/524A-B360 STANDARD 3-ROW COIL

Temp (F) Air Entering Condenser (Edb)		Evaporator Air — Cfm/BF								
		9000/0.04			12,000/0.06			15,000/0.08		
		Evaporator Air — Ewb (F)								
		72	67	62	72	67	62	72	67	62
85	TC	363.5	334.5	306.8	377.7	348.6	325.5	385.9	360.0	417.3
	SHC	189.6	241.8	299.8	216.0	280.1	325.5	238.6	315.8	244.4
	kW	26.13	25.25	24.41	26.56	25.68	24.98	26.81	26.03	27.76
95	TC	348.8	319.9	294.7	362.1	333.5	313.2	369.6	344.7	362.7
	SHC	184.0	236.0	288.8	210.7	274.0	313.2	233.2	309.1	283.9
	kW	28.40	27.32	26.37	28.90	27.83	27.07	29.19	28.25	28.93
100	TC	341.4	313.6	290.1	353.9	326.4	308.0	360.8	337.2	337.8
	SHC	181.3	233.5	284.7	207.9	271.2	308.0	230.3	305.8	302.0
	kW	29.58	28.37	27.35	30.12	28.93	28.13	30.42	29.40	29.42
105	TC	334.2	306.1	283.6	346.4	318.8	301.6	353.1	329.6	315.0
	SHC	178.5	230.6	278.8	205.4	268.1	301.6	227.7	302.5	318.5
	kW	30.77	29.47	28.41	31.34	30.06	29.25	31.66	30.56	29.88
115	TC	298.7	272.4	255.8	308.5	283.3	272.6	313.5	293.2	226.5
	SHC	165.1	217.2	253.6	192.6	253.8	272.6	214.5	286.5	382.5
	kW	33.42	31.91	30.95	33.99	32.54	31.92	34.28	33.11	29.26

LEGEND

BF — Bypass Factor
Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Motor Power Input
SHC — Sensible Heating Capacity (1000 Btuh)
TC — Total Capacity (1000 Btuh)

NOTES:
1. Direct interpolation is permissible. Do not extrapolate.
2. Evaporator fan heat not deducted from ratings.
3. Ratings based on approximately 12 F superheat leaving coil.
4. Formulas:

$$\text{Leaving db} = \text{entering db} - \frac{\text{sensible heat capacity (Btuh)}}{1.1 \times \text{cfm}}$$

Leaving wb = wet-bulb temperature corresponding to enthalpy of air leaving coil (h_{lwb}).

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

Where h_{ewb} = enthalpy of air entering coil.

5. SHC is based on 80 F db temperature of air-entering evaporator coil.

PERFORMANCE DATA (cont)

524A WITH STANDARD 3-ROW COIL FAN PERFORMANCE DATA — 0.0-2.4 ESP

UNIT 524A	AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)													
		0.0		0.2		0.4		0.6		0.8		1.0		1.2	
		Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
180	**4,500**	**428**	**0.59**	**475**	**0.70**	570	0.99	656	1.33	730	1.68	796	2.02	856	2.38
	5,300	**488**	**0.92**	**528**	**1.04**	609	1.34	689	1.71	762	2.11	827	2.51	886	2.92
	6,000	542	1.29	578	1.43	649	1.74	721	2.11	791	2.55	855	3.00	914	3.46
	6,800	604	1.83	637	1.99	700	2.32	763	2.70	826	3.15	888	3.64	946	4.15
	7,500	660	2.42	690	2.59	747	2.95	804	3.34	861	3.79	919	4.29	975	4.83
240	**6,000**	**532**	**1.25**	**569**	**1.39**	**639**	**1.69**	711	2.06	781	2.48	846	2.93	905	3.39
	7,000	**608**	**1.93**	**641**	**2.09**	702	2.42	763	2.80	824	3.23	885	3.71	943	4.23
	8,000	686	2.83	716	3.01	770	3.38	823	3.77	876	4.21	930	4.70	983	5.24
	9,000	764	3.97	791	4.18	841	4.59	888	5.02	935	5.47	982	5.96	1030	6.51
	10,000	843	5.38	868	5.62	914	6.09	957	6.55	1000	7.02	1042	7.53	1084	8.08
300	**7,500**	**456**	**1.29**	**490**	**1.47**	**556**	**1.85**	**621**	**2.25**	**678**	**2.64**	729	3.06	778	3.60
	8,750	**521**	**1.98**	**551**	**2.18**	**608**	**2.61**	**664**	**3.07**	720	3.53	770	3.99	816	4.45
	10,000	**587**	**2.88**	**614**	**3.11**	**664**	**3.59**	714	4.09	763	4.62	812	5.15	857	5.68
	11,250	**653**	**4.03**	**678**	**4.29**	724	4.82	768	5.37	812	5.95	856	6.54	899	7.14
	12,500	720	5.46	743	5.75	785	6.33	825	6.93	865	7.55	904	8.20	944	8.86
360	**9,000**	**521**	**1.99**	**550**	**2.25**	**616**	**2.77**	676	3.23	731	3.72	782	4.20	829	4.70
	10,500	**596**	**3.16**	**623**	**3.40**	**672**	**3.89**	720	4.40	767	4.94	814	5.50	859	6.05
	12,000	**673**	**4.63**	698	4.90	743	5.45	785	6.02	826	6.62	867	7.23	908	7.87
	13,500	751	6.51	773	6.82	815	7.44	853	8.06	890	8.71	927	9.38	963	10.07
	15,000	829	8.84	850	9.19	888	9.88	924	10.57	958	11.27	991	11.99	1024	12.73

UNIT 524A	AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)											
		1.4		1.6		1.8		2.0		2.2		2.4	
		Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
180	**4,500**	912	2.75	967	3.13	1019	3.52	1070	3.92	1120	4.35	1168	4.79
	5,300	940	3.33	992	3.75	1041	4.18	1088	4.61	1134	5.06	**1179**	**5.52**
	6,000	968	3.92	1018	4.38	1066	4.85	1112	5.32	1156	5.80	**1198**	**6.29**
	6,800	1000	4.67	1050	5.19	1097	5.71	1142	6.23	**1185**	**6.76**	—	—
	7,500	1028	5.39	1078	5.97	1125	6.54	1170	7.11	—	—	—	—
240	**6,000**	954	3.83	1005	4.27	1052	4.72	1098	5.22	1142	5.67	—	—
	7,000	990	4.74	1040	5.24	1090	5.80	1135	6.30	1176	6.84	—	—
	8,000	1028	5.79	1078	6.38	1130	7.00	1173	7.60	—	—	—	—
	9,000	1073	7.11	1120	7.72	1169	8.37	—	—	—	—	—	—
	10,000	1126	8.75	1166	9.37	—	—	—	—	—	—	—	—
300	**7,500**	831	4.41	870	5.10	913	5.90	950	6.88	985	7.70	—	—
	8,750	859	4.97	901	5.59	944	6.42	980	7.20	1020	8.10	—	—
	10,000	900	6.20	939	6.74	976	7.33	1013	8.00	1050	8.82	—	—
	11,250	941	7.73	980	8.32	1017	8.90	1052	9.51	**1086**	**10.16**	—	—
	12,500	984	9.53	1022	10.19	1058	10.84	**1093**	**11.49**	—	—	—	—
360	**9,000**	866	5.20	899	5.85	950	6.65	989	7.38	1029	8.32	**1077**	**9.74**
	10,500	902	6.60	942	7.14	980	7.70	1016	8.31	1051	8.99	**1085**	**9.77**
	12,000	949	8.50	988	9.14	1026	9.76	1062	10.38	**1095**	**11.01**	—	—
	13,500	1000	10.78	1036	11.49	1073	12.21	—	—	—	—	—	—
	15,000	1057	13.49	**1090**	**14.28**	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
ESP — External Static Pressure

Bold indicates special field-supplied drive is required.
Plain type indicates standard drive and standard motor.
Underline indicates a different motor and drive combination is required. Refer to the fan motor and drive tables, pages 44 and 45, to complete the selection.

NOTES:
1. Maximum allowable fan speed is 1100 rpm for unit sizes 300 and 360; 1200 rpm for all other sizes.
2. Fan performance is based on deductions for wet coil, clean 2-in. filters, and unit casing. See right for factory-supplied filter pressure drop.
3. Factory-supplied motor for 360 size is standard 10 Hp motor only; alternate motor not available.

FACTORY-SUPPLIED FILTER PRESSURE DROP (in. wg)

UNIT 524A	AIRFLOW (Cfm)	PRESSURE DROP (in. wg)
180	**4,500**	0.08
	6,000	0.12
	7,500	0.17
240	**6,000**	0.12
	8,000	0.19
	10,000	0.26
300	**7,500**	0.15
	10,000	0.22
	12,500	0.30
360	**9,000**	0.19
	12,000	0.29
	15,000	0.40

PERFORMANCE DATA (cont)

524A WITH HIGH CAPACITY 4-ROW COIL FAN PERFORMANCE DATA — 0.0-2.4 ESP

UNIT 524A	AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)													
		0.0		0.2		0.4		0.6		0.8		1.0		1.2	
		Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
180	**4,500**	**437**	**0.61**	**483**	**0.72**	576	1.01	660	1.35	732	1.69	797	2.03	856	2.38
	5,300	**499**	**0.95**	538	1.07	617	1.37	696	1.74	767	2.13	830	2.53	888	2.94
	6,000	**555**	**1.34**	590	1.48	659	1.79	730	2.17	798	2.59	860	3.04	918	3.49
	6,800	620	1.91	651	2.06	712	2.39	774	2.78	836	3.22	896	3.71	952	4.21
	7,500	677	2.52	706	2.69	761	3.04	817	3.44	873	3.89	929	4.39	984	4.93
240	**6,000**	**542**	**1.29**	**577**	**1.42**	**646**	**1.72**	716	2.09	785	2.51	849	2.95	907	3.40
	7,000	**620**	**1.99**	**652**	**2.15**	711	2.48	771	2.85	831	3.28	890	3.76	947	4.27
	8,000	700	2.92	728	3.10	781	3.46	833	3.85	885	4.29	938	4.78	990	5.32
	9,000	781	4.10	806	4.30	854	4.71	900	5.13	946	5.58	993	6.08	1039	6.62
	10,000	862	5.56	885	5.79	929	6.24	971	6.70	1012	7.18	1054	7.69	1096	8.24
300	**7,500**	**476**	**1.39**	**510**	**1.58**	**579**	**1.99**	**644**	**2.40**	701	2.81	752	3.29	804	3.96
	8,750	**545**	**2.14**	**574**	**2.35**	**633**	**2.81**	691	3.29	747	3.77	797	4.25	842	4.76
	10,000	**615**	**3.12**	**641**	**3.36**	692	3.87	743	4.41	794	4.96	843	5.51	888	6.05
	11,250	685	4.37	709	4.64	754	5.20	800	5.79	845	6.40	891	7.02	935	7.64
	12,500	756	5.92	778	6.22	819	6.83	860	7.47	901	8.14	942	8.83	983	9.52
360	**9,000**	**539**	**2.18**	**569**	**2.39**	**626**	**2.85**	683	3.34	739	3.83	791	4.32	837	4.82
	10,500	**620**	**3.37**	**646**	**3.62**	695	4.13	744	4.68	793	5.25	842	5.83	888	6.41
	12,000	701	4.94	724	5.22	769	5.80	811	6.40	854	7.04	897	7.69	940	8.36
	13,500	783	6.95	804	7.27	844	7.91	883	8.57	920	9.26	958	9.97	996	10.71
	15,000	865	9.45	884	9.81	921	10.52	956	11.24	991	11.98	1025	12.75	1059	13.54

UNIT 524A	AIRFLOW (Cfm)	EXTERNAL STATIC PRESSURE (in. wg)											
		1.4		1.6		1.8		2.0		2.2		2.4	
		Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp	Rpm	Bhp
180	**4,500**	912	2.75	967	3.12	1019	3.52	1070	3.92	1120	4.35	1168	4.79
	5,300	942	3.34	992	3.76	1041	4.18	1088	4.61	1134	5.06	**1179**	**5.52**
	6,000	971	3.95	1020	4.40	1067	4.86	1112	5.33	1156	5.81	**1198**	**6.29**
	6,800	1005	4.72	1054	5.23	1101	5.75	1145	6.27	**1187**	**6.79**	—	—
	7,500	1036	5.48	1084	6.04	1131	6.61	**1174**	**7.17**	—	—	—	—
240	**6,000**	961	3.86	1011	4.31	1058	4.77	1104	5.24	1147	5.71	—	—
	7,000	1000	4.79	1050	5.32	1097	5.85	1142	6.38	1184	6.91	—	—
	8,000	1041	5.88	1090	6.47	1137	7.07	1181	7.67	—	—	—	—
	9,000	1086	7.21	1133	7.82	1178	8.47	—	—	—	—	—	—
	10,000	1138	8.83	1180	9.46	—	—	—	—	—	—	—	—
300	**7,500**	874	5.33	897	5.91	940	6.80	990	7.50	—	—	—	—
	8,750	886	5.36	930	6.13	982	7.32	1020	8.10	—	—	—	—
	10,000	930	6.60	969	7.20	1007	7.89	1045	8.71	—	—	—	—
	11,250	976	8.25	1014	8.86	1051	9.49	**1086**	**10.17**	—	—	—	—
	12,500	1023	10.20	1061	10.88	**1097**	**11.56**	—	—	—	—	—	—
360	**9,000**	881	5.37	923	6.03	967	6.89	1020	8.25	—	—	—	—
	10,500	930	6.97	970	7.55	1008	8.17	1045	8.86	—	—	—	—
	12,000	981	9.02	1021	9.67	1058	10.32	**1094**	**10.97**	—	—	—	—
	13,500	1035	11.45	1072	12.20	—	—	—	—	—	—	—	—
	15,000	1093	14.35	—	—	—	—	—	—	—	—	—	—

LEGEND

Bhp — Brake Horsepower Input to Fan
ESP — External Static Pressure

Bold indicates special field-supplied drive is required.
Plain type indicates standard drive and standard motor.
Underline indicates a different motor and drive combination is required. Refer to the fan motor and drive tables, pages 44 and 45, to complete the selection.

NOTES:
1. Maximum allowable fan speed is 1100 rpm for unit sizes 300 and 360; 1200 rpm for all other sizes.
2. Fan performance is based on deductions for wet coil, clean 2-in. filters, and unit casing. See right for factory-supplied filter pressure drop.
3. Factory-supplied motor for 360 size is standard 10 Hp motor only; alternate motor not available.

FACTORY-SUPPLIED FILTER PRESSURE DROP (in. wg)

UNIT 524A	AIRFLOW (Cfm)	PRESSURE DROP (in. wg)
180	**4,500**	0.08
	6,000	0.12
	7,500	0.17
240	**6,000**	0.12
	8,000	0.19
	10,000	0.26
300	**7,500**	0.15
	10,000	0.22
	12,500	0.30
360	**9,000**	0.19
	12,000	0.29
	15,000	0.40

PERFORMANCE DATA (cont)

524A ACCESSORY PLENUM AIR THROW DATA (ft)

UNIT 524A	AIRFLOW (Cfm)	VANE DEFLECTION		
		Straight	22½°	45°
180	6,000	50	43	31
240	8,000	60	51	37
300	10,000	76	65	47
360	12,000	85	72	52

NOTE: Throw distances shown are for 75 fpm terminal velocity. Use the following multipliers to determine throw values for other terminal velocities.

TERMINAL VELOCITY (Fpm)	THROW FACTOR
50	X 1.50
100	X 0.75
150	X 0.50

524A ACCESSORY PRESSURE DROP (in. wg)

UNIT 524A	AIRFLOW (Cfm)	DISCHARGE PLENUM	RETURN AIR GRILLE	HEATING COILS			ECONOMIZER
				Hot Water	Steam	Electric	
180	4,500	0.10	0.01	0.15	0.15	0.06	0.06
	6,000	0.16	0.02	0.23	0.23	0.10	0.09
	7,500	0.23	0.03	0.33	0.33	0.15	0.15
240	6,000	0.16	0.02	0.23	0.23	0.10	0.09
	8,000	0.26	0.04	0.37	0.37	0.17	0.17
	10,000	0.37	0.06	0.53	0.53	0.26	0.28
300	7,500	0.15	0.02	0.28	0.28	0.09	0.06
	10,000	0.24	0.03	0.44	0.44	0.16	0.09
	12,500	0.34	0.05	0.63	0.63	0.24	0.14
360	9,000	0.20	0.03	0.37	0.37	0.13	0.08
	12,000	0.32	0.05	0.59	0.59	0.22	0.14
	15,000	0.46	0.07	0.85	0.85	0.34	0.21

524A HYDRONIC HEATING CAPACITIES

UNIT 524A	AIRFLOW (Cfm)	1-ROW STEAM*		2-ROW HOT WATER COIL†			
		Cap.	Ldb	Cap.	Ldb	Gpm	PD
180	4,500	402	141	412.0	145	41.2	4.5
	6,000	458	129	471.0	133	47.1	5.5
	7,500	479	118	529.0	125	52.9	6.6
240	6,000	458	129	506.0	138	50.6	5.1
	8,000	487	115	584.0	128	58.4	6.3
	10,000	499	105	652.0	120	65.2	7.5
300	7,500	511	122	649.0	140	64.9	5.7
	10,000	575	112	752.0	130	75.2	7.1
	12,500	626	106	842.0	122	84.2	8.5
360	9,000	560	117	735.0	136	73.5	6.2
	12,000	621	107	850.0	126	85.0	7.8
	15,000	670	101	950.0	119	95.0	9.3

LEGEND

Cap. — Capacity (Btuh in thousands)
Ldb — Leaving-Air Dry-Bulb Temp (F)
PD — Pressure Drop (ft water)

*Based on 5 psig steam, 60 F entering-air temperature. All steam coils are non-freeze type.
†Based on 200 F entering water, 20 F water temperature drop, 60 F entering-air temperature.

NOTES:
1. Maximum operating limits for steam heating coils: 175 psig at 400 F.
2. Maximum operating limit for hot water heating coils is 150 psig.
3. Leaving db = ent db (F) + $\frac{\text{Capacity (Btuh)}}{1.1 \times \text{cfm}}$
4. See Heating Correction Factors table.

524A HEATING CORRECTION FACTORS

HOT WATER COIL						
Water Temp Drop (F)	Ent Water Temp (F)	Entering-Air Temp (F)				
		40	50	60	70	80
10	140	0.72	0.64	0.57	0.49	0.41
	160	0.89	0.81	0.74	0.66	0.58
	180	1.06	0.98	0.90	0.83	0.75
	200	1.22	1.15	1.07	1.00	0.92
	220	1.39	1.32	1.24	1.17	1.09
20	140	0.64	0.57	0.49	0.41	0.33
	160	0.81	0.74	0.66	0.58	0.51
	180	0.98	0.91	0.83	0.75	0.68
	200	1.15	1.08	1.00	0.93	0.85
	220	1.32	1.25	1.17	1.10	1.02
30	140	0.56	0.49	0.41	0.33	0.24
	160	0.74	0.66	0.58	0.51	0.43
	180	0.91	0.83	0.76	0.68	0.60
	200	1.08	1.00	0.93	0.85	0.78
	220	1.25	1.18	1.10	1.03	0.95

STEAM COIL					
Steam Pressure (psig)	Entering-Air Temp (F)				
	40	50	60	70	80
0	1.06	0.98	0.91	0.85	0.78
2	1.09	1.02	0.95	0.89	0.82
5	1.13	1.06	1.00	0.93	0.87

NOTE: Multiply capacity given in the Hydronic Heating Capacities table by the correction factor for conditions at which unit is actually operating. Correct leaving-air temperature using formula in Note 3 of Hydronic Heating Capacities table.

ELECTRICAL DATA

576B300-360

UNIT 576B	NOMINAL VOLTAGE	VOLTAGE RANGE*		COMPRESSOR			FAN MOTORS		POWER SUPPLY		
	(3 Ph, 60-Hz)	Min	Max	FLA	RLA	LRA	Qty	FLA (ea)	MCA	MOCP†	ICF
300	208/230 460	187 414	254 508	102.2 49.8	89.8 43.6	446 223	2	6.2 3.1	124.6 60.7	200 100	452.2 226.1
360	208/230 460	187 414	254 508	118.4 56.2	106.5 50.0	506 253	2	6.2 3.1	145.5 68.7	250 110	512.2 256.1

LEGEND

FLA — Full Load Amps
HACR — Heating, Air Conditioning, and Refrigeration
ICF — Maximum Instantaneous Current Flow during starting. (The point in the starting sequence where the sum of the LRA for the starting compressor, plus the total RLA for all running compressors, plus the total FLA for all running motors is maximum.)
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps (Complies with National Electrical Code [NEC], Section 430-24)
MOCP — Maximum Overcurrent Protection
RLA — Rated Load Amps

*Units are suitable for use on electrical systems where voltage supplied to the unit terminals is not below or above the listed minimum and maximum limits.
†Fuse or HACR circuit breaker.

576H240-360

UNIT 576H	NOMINAL VOLTAGE	VOLTAGE RANGE*		COMPRESSOR				FAN MOTORS**		POWER SUPPLY		
				RLA		LRA		Qty	FLA (ea)	MCA	MOCP†	ICF
	3 Ph, 60 Hz	Min	Max	Ckt 1	Ckt 2	Ckt 1	Ckt 2					
240	208/230 460	187 414	254 508	39.3 19.6	39.3 19.6	198 99	198 99	2	(1) 5.5 (2) 6.6 (1) 2.8 (2) 3.3	100.5 50.2	125 60	249.7 124.8
300	208/230 460	187 414	254 508	43.6 22.1	43.6 22.1	228 114	228 114	2	(1) 5.5 (2) 6.6 (1) 2.8 (2) 3.3	110.2 55.8	150 70	284.0 142.3
360	208/230 460	187 414	254 508	43.6 22.1	63.6 30.0	228 114	266 120	2	(1) 5.5 (2) 6.6 (1) 2.9 (2) 3.3	135.2 65.7	175 90	322.0 148.3

LEGEND

FLA — Full Load Amps
ICF — Maximum Instantaneous Current Flow during starting (the point in the starting sequence where the sum of the LRA for the starting compressor, plus the total RLA for all running compressors, plus the total FLA for all running fan motors is maximum).
LRA — Locked Rotor Amps
MCA — Minimum Circuit Amps (complies with National Electrical Code [NEC], Section 430-24)
MOCP— Maximum Overcurrent Protection
RLA — Rated Load Amps
UL — Underwriters' Laboratories

*Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed minimum and maximum limits.
†Fuse or HACR circuit breaker.
**All fans are protected by a single circuit breaker.

NOTE: The 208/230-v, and 460-v base units are UL and UL, Canada approved.

ELECTRICAL DATA (cont)

524A STANDARD MOTORS

UNIT 524A	V*-PH-Hz	VOLTAGE LIMITS	FAN MOTOR		POWER SUPPLY	
			Hp	FLA	MCA	MOCP
180	208/230-3-60 460-3-60 575-3-60	187-253 414-506 518-632	3.7 3.7 3.0	10.2 4.8 3.8	12.8 6.0 4.8	20 15 15
240	208/230-3-60 460-3-60 575-3-60	187-253 414-506 518-632	5.0 5.0 5.0	15.3/12.8 6.4 5.1	19.1/16.0 8.0 6.4	30/25 15 15
300	208/230-3-60 460-3-60 575-3-60	187-253 414-506 518-632	7.5 7.5 7.5	21.5/19.4 9.7 7.8	28.0/24.3 12.1 9.8	50/40 20 15
360	208/230-3-60 460-3-60 575-3-60	187-253 414-506 518-632	10.0 10.0 10.0	28.2/26.8 13.4 10.3	35.3/33.5 16.8 12.9	60/60 30 20

524A ALTERNATE MOTORS

UNIT 524A	V*-PH-Hz	VOLTAGE LIMITS	FAN MOTOR		POWER SUPPLY	
			Hp	FLA	MCA	MOCP
180	208/230-3-60 460-3-60 575-3-60	187-253 414-506 518-632	5.0 5.0 5.0	15.3/12.8 6.4 5.1	19.1/16.0 8.0 6.4	30/25 15 15
240	208/230-3-60 460-3-60 575-3-60	187-253 414-506 518-632	7.5 7.5 7.5	22.5/19.4 9.7 7.8	20.8/24.3 12.1 9.8	50/40 20 15
300	208/230-3-60 460-3-60 575-3-60	187-253 414-506 518-632	10.0 10.0 10.0	28.2/26.8 13.4 10.3	35.3/33.5 16.8 12.9	60/60 30 20

LEGEND

FLA — Full Load Amps
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection

*Motors are designed for satisfactory operation within 10% of nominal voltages shown. Voltages should not exceed the limits shown in the Voltage Limits column.

ELECTRICAL DATA (cont)

524A ELECTRIC HEATER DATA

HEATER PART NO.	UNIT	V-PH-Hz	FAN MOTOR			ELECTRIC HEATER(S)					MCA*	MOCP*
						Nominal Capacity (kW)	Actual Capacity (kW)			FLA		
			Hp	kW	FLA		Stage 1	Stage 2	Total			
CAELHEAT016A00	524A180,240	208-3-60	3.7	2.76	10.2	10	7.5	—	7.5	20.8	38.8	40
			5.0	3.73	14.6	10	7.5	—	7.5	20.8	41.3	50
			7.5	5.59	21.5	10	7.5	—	7.5	20.8	52.9	60
		240-3-60	3.7	2.76	10.2	10	10.0	—	10.0	24.1	42.8	50
			5.0	3.73	12.8	10	10.0	—	10.0	24.1	46.1	50
			7.5	5.59	19.4	10	10.0	—	10.0	24.1	54.4	60
CAELHEAT017A00		480-3-60	3.7	2.76	4.8	10	10.0	—	10.0	12.0	21.0	25
			5.0	3.73	6.4	10	10.0	—	10.0	12.0	23.0	25
			7.5	5.59	9.7	10	10.0	—	10.0	12.0	27.2	30
CAELHEAT018A00		575-3-60	3.0	2.24	3.8	10	10.0	—	10.0	10.0	17.3	20
			5.0	3.73	5.1	10	10.0	—	10.0	10.0	19.6	20
			7.5	5.59	7.8	10	10.0	—	10.0	10.0	22.1	25
CAELHEAT019A00		208-3-60	3.7	2.76	10.2	20	14.9	—	14.9	41.5	64.6	70
			5.0	3.73	14.6	20	14.9	—	14.9	41.5	70.1	80
			7.5	5.59	21.5	20	14.9	—	14.9	41.5	78.7	80
		240-3-60	3.7	2.76	10.2	20	19.9	—	19.9	47.9	72.6	80
			5.0	3.73	12.8	20	19.9	—	19.9	47.9	75.8	80
			7.5	5.59	19.4	20	19.9	—	19.9	47.9	84.1	80
CAELHEAT020A00		480-3-60	3.7	2.76	4.8	20	20.0	—	20.0	24.1	36.1	40
			5.0	3.73	6.4	20	20.0	—	20.0	24.1	39.1	40
			7.5	5.59	9.7	20	20.0	—	20.0	24.1	43.2	50
CAELHEAT021A00		575-3-60	3.0	2.24	3.8	20	20.0	—	20.0	20.1	29.9	30
			5.0	3.73	5.1	20	20.0	—	20.0	20.1	31.5	35
			7.5	5.59	7.8	20	20.0	—	20.0	20.1	34.9	35
CAELHEAT022A00		208-3-60	3.7	2.76	10.2	30	15.0	7.5	22.5	62.5	90.9	100
			5.0	3.73	14.6	30	15.0	7.5	22.5	62.5	96.4	100
			7.5	5.59	21.5	30	15.0	7.5	22.5	62.5	105.0	110
		240-3-60	3.7	2.76	10.2	30	20.0	10.0	30.0	72.2	103.0	110
			5.0	3.73	12.8	30	20.0	10.0	30.0	72.2	106.2	110
			7.5	5.59	19.4	30	20.0	10.0	30.0	72.2	114.5	125
CAELHEAT023A00		480-3-60	3.7	2.76	4.8	30	20.0	10.0	30.0	36.1	51.1	60
			5.0	3.73	6.4	30	20.0	10.0	30.0	36.1	53.1	60
			7.5	5.59	9.7	30	20.0	10.0	30.0	36.1	57.2	60
CAELHEAT024A00		575-3-60	3.0	2.24	3.8	30	20.0	10.0	30.0	30.1	42.4	50
			5.0	3.73	5.1	30	20.0	10.0	30.0	30.1	44.0	50
			7.5	5.59	7.8	30	20.0	10.0	30.0	30.1	47.4	50

ELECTRICAL DATA (cont)

524A ELECTRIC HEATER DATA (cont)

HEATER PART NO.	UNIT	V-PH-Hz	FAN MOTOR			ELECTRIC HEATER(S)					MCA*	MOCP*
						Nominal Capacity (kW)	Actual Capacity (kW)			FLA		
			Hp	kW	FLA		Stage 1	Stage 2	Total			
CAELHEAT025A00	524A180,240	208-3-60	3.7	2.76	10.2	50	22.6	15.0	37.6	104.3	143.1	150
			5.0	3.73	14.6	50	22.6	15.0	37.6	104.3	148.6	150
			7.5	5.59	21.5	50	22.6	15.0	37.6	104.3	157.2	175
		240-3-60	3.7	2.76	10.2	50	30.0	20.0	50.0	120.3	163.1	175
			5.0	3.73	12.8	50	30.0	20.0	50.0	120.3	166.4	175
			7.5	5.59	19.4	50	30.0	20.0	50.0	120.3	174.6	200
CAELHEAT026A00		480-3-60	3.7	2.76	4.8	50	30.0	20.0	50.0	60.1	81.2	90
			5.0	3.73	6.4	50	30.0	20.0	50.0	60.1	83.2	90
			7.5	5.59	9.7	50	30.0	20.0	50.0	60.1	87.3	90
CAELHEAT027A00		575-3-60	3.0	2.24	3.8	50	30.0	20.0	50.0	50.2	67.5	70
			5.0	3.73	5.1	50	30.0	20.0	50.0	50.2	69.1	70
			7.5	5.59	7.8	50	30.0	20.0	50.0	50.2	72.5	80
CAELHEAT028A00	524A300,360	208-3-60	7.5	5.59	19.8	20	14.9	—	14.9	41.5	78.7	80
			10.0	7.46	28.2	20	14.9	—	14.9	41.5	87.1	100
		240-3-60	7.5	5.59	19.4	20	19.9	—	19.9	47.9	81.4	90
			10.0	7.46	26.8	20	19.9	—	19.9	47.9	93.3	110
CAELHEAT029A00		480-3-60	7.5	5.59	9.7	20	20.0	—	20.0	24.1	42.2	50
			10.0	7.46	13.4	20	20.0	—	20.0	24.1	46.8	50
CAELHEAT030A00		575-3-60	7.5	5.59	7.8	20	20.0	—	20.0	20.1	34.9	35
			10.0	7.46	10.3	20	20.0	—	20.0	20.1	38.0	40
CAELHEAT031A00		208-3-60	7.5	5.59	19.8	40	15.0	15.0	30.0	83.4	131.1	150
			10.0	7.46	28.0	40	15.0	15.0	30.0	83.4	139.5	150
		240-3-60	7.5	5.59	19.4	40	20.0	20.0	40.0	96.2	144.5	150
			10.0	7.46	26.8	40	20.0	20.0	40.0	96.2	153.8	175
CAELHEAT032A00		480-3-60	7.5	5.59	9.7	40	20.0	20.0	40.0	47.9	71.9	80
			10.0	7.46	13.4	40	20.0	20.0	40.0	47.9	76.6	80
CAELHEAT033A00		575-3-60	7.5	5.59	7.8	40	20.0	20.0	40.0	40.2	60.0	60
			10.0	7.46	10.3	40	20.0	20.0	40.0	40.2	63.1	70

LEGEND

FLA — Full Load Amps
Hp — Horsepower
MCA — Minimum Circuit Amps
MOCP — Maximum Overcurrent Protection (Amps)

*Values shown are for single-point connection of electric heat accessory and air handler.

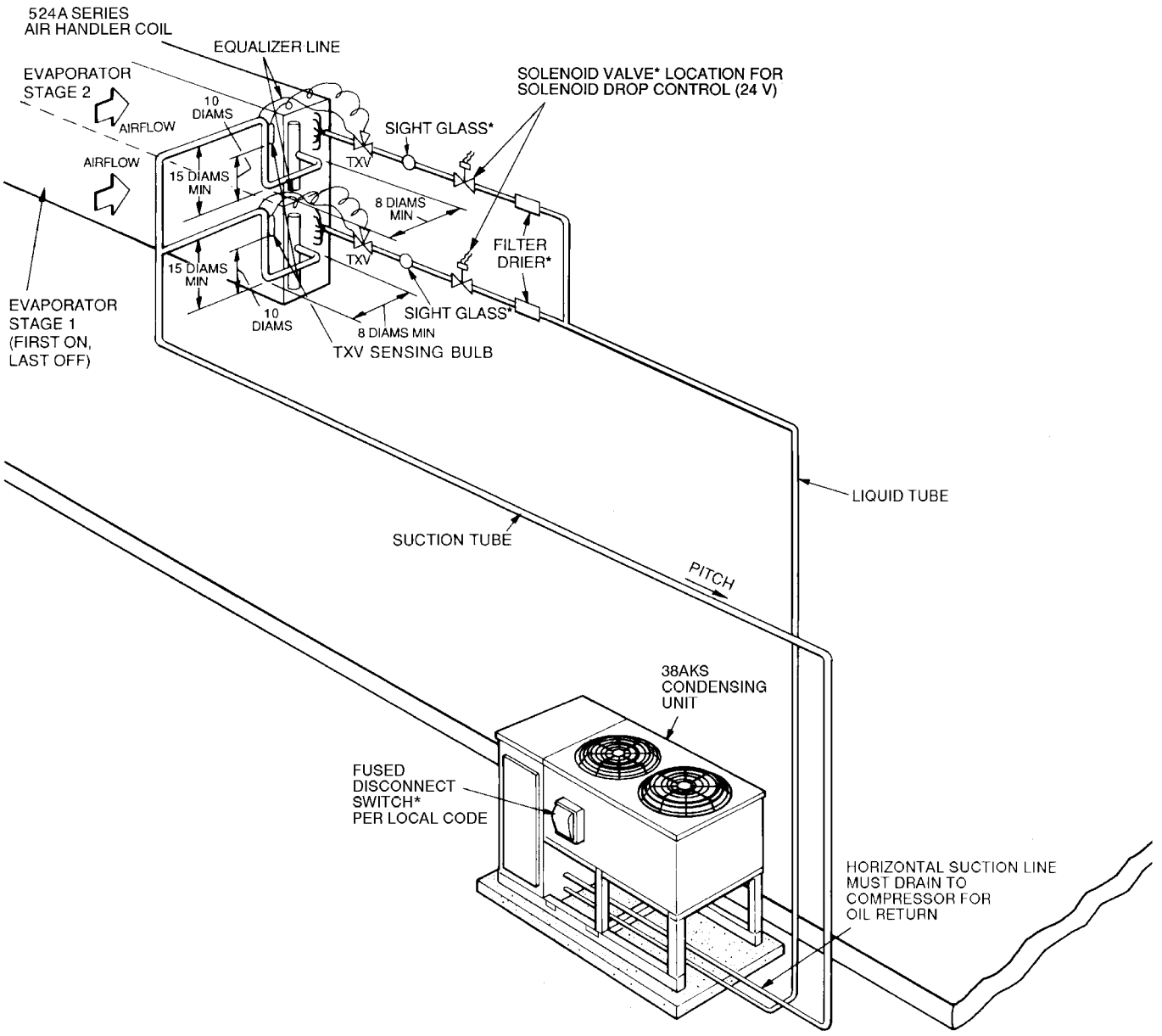
NOTES:

1. Electrical resistance heaters are rated at 240 v, 480 v, or 575 v. To determine heater capacity (kW) at unit nameplate multiply the 240-v, 480-v, or 575-v capacity (kW) by the factor shown in the table below for the unit voltage.

HEATER RATING VOLTAGE	ACTUAL HEATER VOLTAGE										
	200	208	230	240	400	440	460	480	550	575	600
240	0.694	0.751	0.918	1	—	—	—	—	—	—	—
480	—	—	—	—	0.694	0.84	0.918	1	—	—	—
575	—	—	—	—	—	—	—	—	0.915	1	1.089

2. The following equation converts kW of heat energy to Btuh: kW x 3,412 = Btuh.
3. Heater contactor coils are 24 v and require 8 va holding current.
4. Electric heaters are tested and ETL approved at maximum total external static pressure of 1.9 in. wg.
5. MCA and MOCP values apply to both standard and alternate factory-supplied motors.
6. Approximate shipping weight for CAELHEAT016A00-027A00 is 60 lb each. Approximate shipping weight for CAELHEAT028A00-033A00 is 75 lb each.

TYPICAL PIPING AND WIRING



LEGEND

TXV — Thermostatic Expansion Valve

Piping

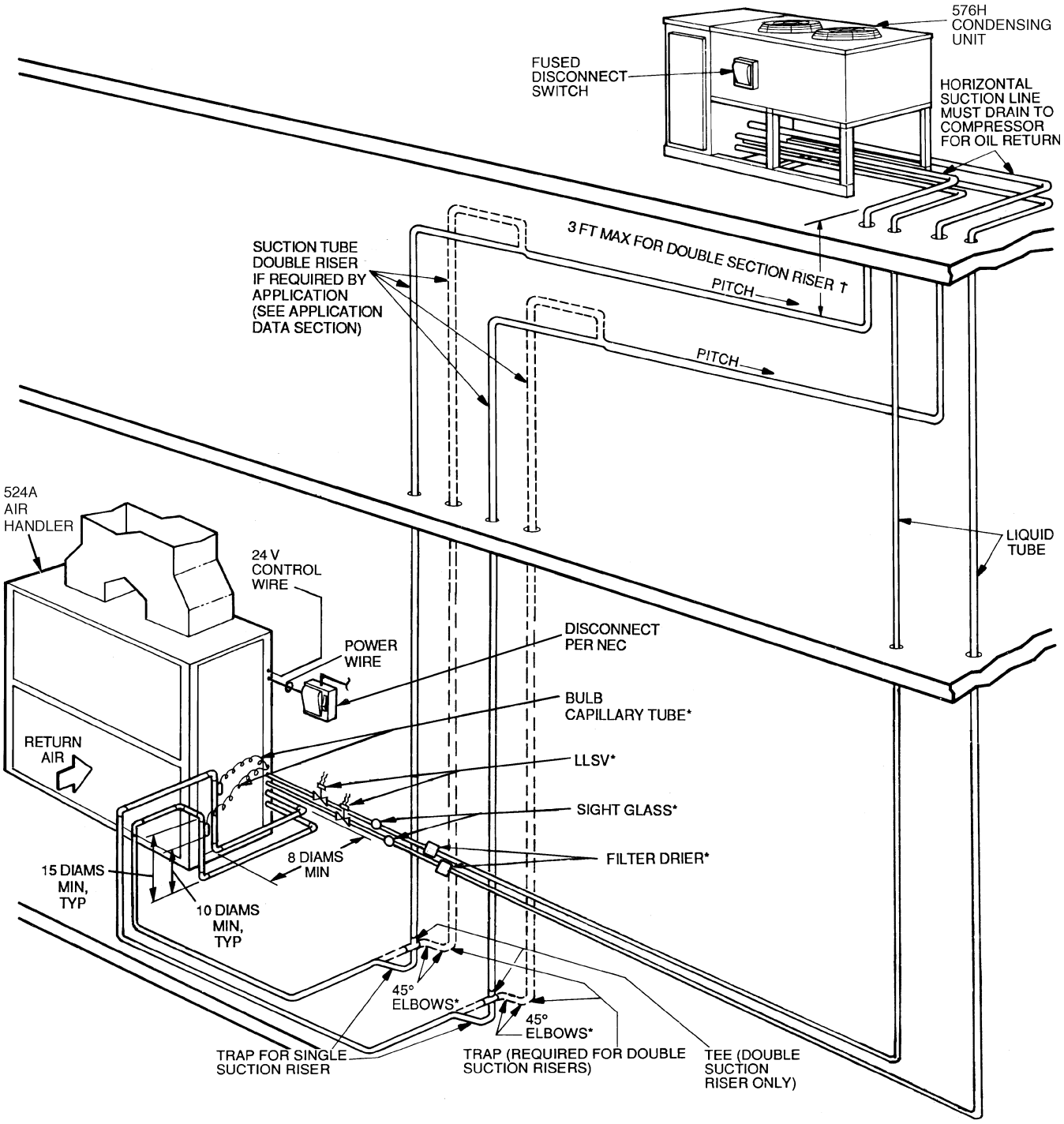
*Field supplied.

NOTES:

1. All piping must follow standard refrigerant piping techniques.
2. All wiring must comply with the applicable local and national codes.
3. Wiring and piping shown are general points-of-connection guides only and are not intended for, or to include all details for, a specific installation.
4. Liquid line solenoid valve (solenoid drop control) is recommended to prevent refrigerant migration to the compressor.

Ground-Level Installation — 576B300,360

TYPICAL PIPING AND WIRING (cont)



LEGEND

LLSV — Liquid Line Solenoid Valve
NEC — National Electrical Code
TXV — Thermostatic Expansion Valve
Piping
Double Riser Piping (if required)

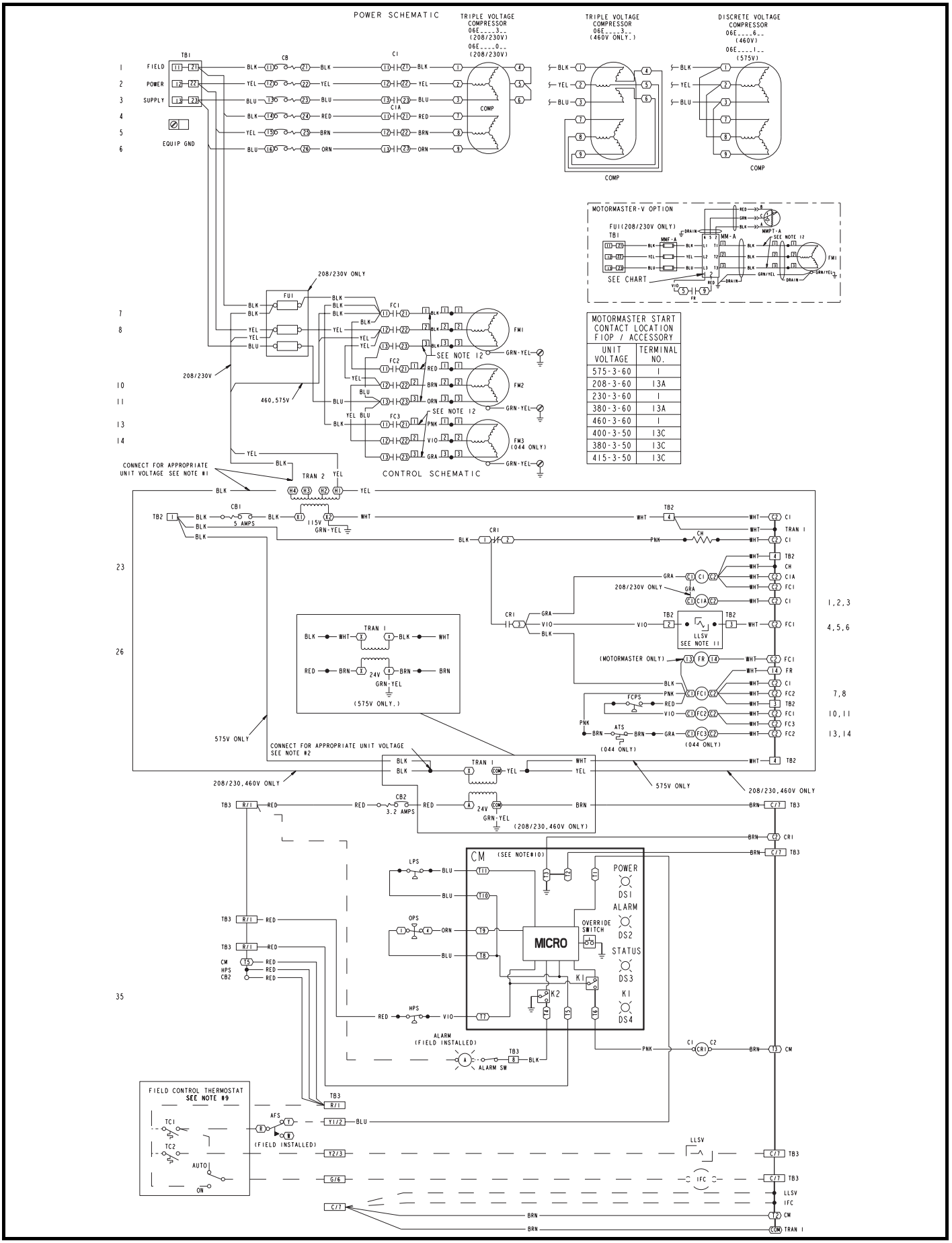
*Field supplied.
†If double suction riser is required for piping system, size pipe diameter of 3 ft (maximum) riser according to application data on page 42.

NOTES:

1. All piping must follow standard refrigerant piping techniques.
2. All wiring must comply with the applicable local and national codes.
3. Wiring and piping shown are general points-of-connection guides only and are not intended for, or to include all details for, a specific installation.
4. Liquid line solenoid valve (solenoid drop control) is recommended to prevent refrigerant migration to the compressor.
5. Internal factory-supplied TXVs not shown.

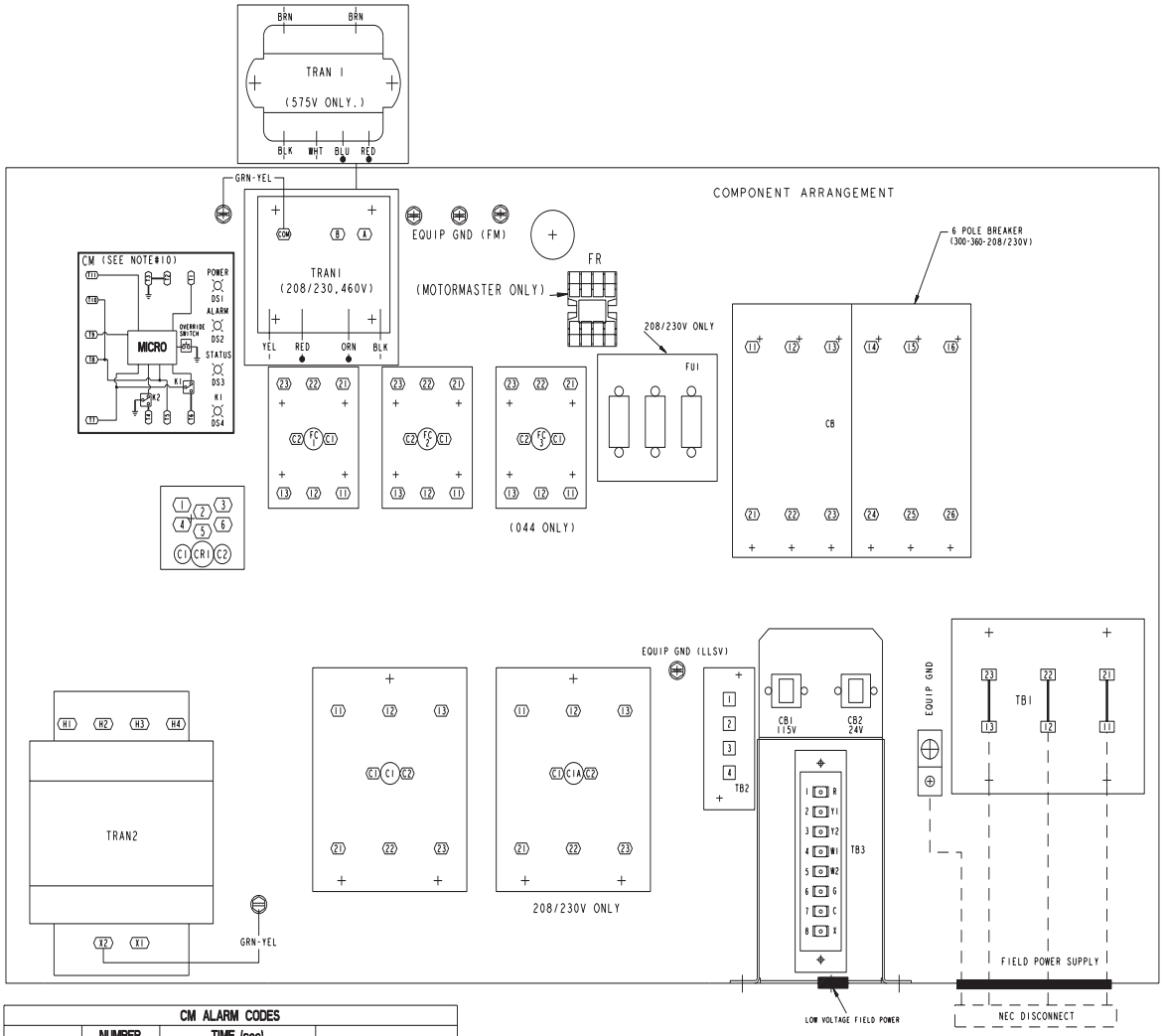
Rooftop Installation — 576H240-360

TYPICAL WIRING SCHEMATIC



576B300,360

TYPICAL WIRING SCHEMATIC (cont)



CM ALARM CODES				
LED	NUMBER OF BLINKS *	TIME (sec) ON	TIME (sec) OFF	STATUS
DS1 POWER LED				
	1	1/4	1/4	NORMAL OPERATION
		STEADY		LOCKOUT STATE
DS2 ALARM LED				
		STEADY		HPS OR COTP OPEN
	1	1/4	1	LPS OPEN
	2	1/4	1	OPS OPEN
	3	1/4	1	LPS/OPS OPEN
DS3 STATUS LED				
			STEADY	NO CALL FOR COOLING
		STEADY		COOLING
	1	1/4	1/4	3 MIN. CMP DELAY
DS4 "K1" LED				
		STEADY		RELAY K1 CLOSED

* - MULTIPLE BLINKS ARE A SERIES OF ON/OFF FLASHES OF EQUAL DURATION FOLLOWED BY 1 SECOND OFF.

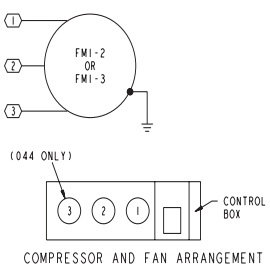
NOTES:

1. CONNECT TRAN2 TO TERMINAL H3 FOR 230V, H4 FOR 460V, AND H2 FOR 575V UNITS. IF 208/230V UNITS ARE RUN WITH A 208V POWER SUPPLY CONNECT TO TERMINAL H2.
2. CONNECT TRAN1 TO ORN LEAD FOR 230V, BLK LEAD FOR 460V, AND WHT LEAD FOR 575V UNITS. IF 208/230V UNITS ARE RUN WITH A 208V POWER SUPPLY CONNECT TO RED LEAD.
3. COMPRESSOR & FAN MOTORS THERMALLY PROTECTED. THREE PHASE MOTORS PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
4. REPLACEMENT OF ORIGINAL WIRES MUST BE WITH TYPE 90°C WIRE OR ITS EQUIVALENT.
5. LINE # INDICATES LOCATION OF CONTACTS: "#,#" SIGNIFIES SINGLE POLE DOUBLE THROW CONTACTS; #̲ SIGNIFIES A NORMALLY CLOSED CONTACT; # SIGNIFIES A NORMALLY OPEN CONTACT.
6. FACTORY WIRING IS IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE (NEC). FIELD MODIFICATIONS OR ADDITIONS MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES.
7. WIRING FOR FIELD POWER SUPPLY MUST BE RATED 60°C . USE COPPER, COPPER-CLAD ALUMINUM OR ALUMINUM CONDUCTORS.
8. TERMINALS G/6, Y2/3 & C/7 OF TB3 ARE FOR CLASS 2 (24V) FIELD EXTERNAL INTERLOCK CONNECTIONS. CLASS I FIELD INTERLOCK CONTACTS MUST HAVE MINIMUM RATING OF 180 VA, 220V, 50/60HZ PILOT DUTY. CLASS 2 FIELD INTERLOCK CONTACTS MUST HAVE MINIMUM RATING OF 70 VA, 24V, 50/60HZ PILOT DUTY.
9. THERMOSTAT FOR BDP UNITS:
   P272-2783
   SUBBASE:
   P272-1883 & P272-1882.
10. CONTROL MODULE INTERNAL ILLUSTRATED TO INDICATE COMPONENTS ORIENTATIONAL SEQUENCE. ALL ITEMS ILLUSTRATED ARE THEORETICALLY REPRESENTED AS INTERNAL TO COMPONENT.
11. THE FACTORY SUPPLIED LLSV DROP CONTROL IS SHIPPED WITH THE 576B UNIT BUT FIELD INSTALLED AT THE INDOOR UNIT.
12. TO CHANGE FAN ROTATION, INTERCHANGE FAN MOTOR CONNECTIONS 1 & 3.

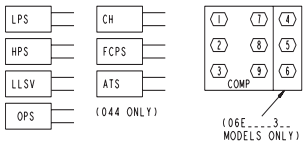
LEGEND

AFS	—	Airflow Switch
ATS	—	Air Temperature Switch
BPR	—	Bypass Relay
C	—	Contactor, Compressor
CB	—	Circuit Breaker
CH	—	Crankcase Heater
CM	—	Control Module
COMP	—	Compressor
CR	—	Control Relay
EQUIP	—	Equipment
FC	—	Fan Contactor
FCPS	—	Fan Cycling PressureSwitch
FM	—	Fan Motor
FR	—	Fan Relay
FU	—	Fuse
GND	—	Ground
HPS	—	High-Pressure Switch
IFC	—	Indoor-Fan Contactor
LLSV	—	Liquid Line SolenoidValve
LPS	—	Low-Pressure Switch
MM	—	Motormaster
MMF	—	Motormaster Fuse
MMPT	—	Motormaster Pressure Transducer
OPS	—	Oil Pressure Switch
TB	—	Terminal Block
TC	—	Thermostat-Cooling
TRAN	—	Transformer

Terminal Block Connection
Marked Terminal
Unmarked Terminal
Marked Splice
Unmarked Splice
Factory Wiring
Field Control Wiring
Field Power Wiring
Indicates Common Potential, Does Not Represent Wiring

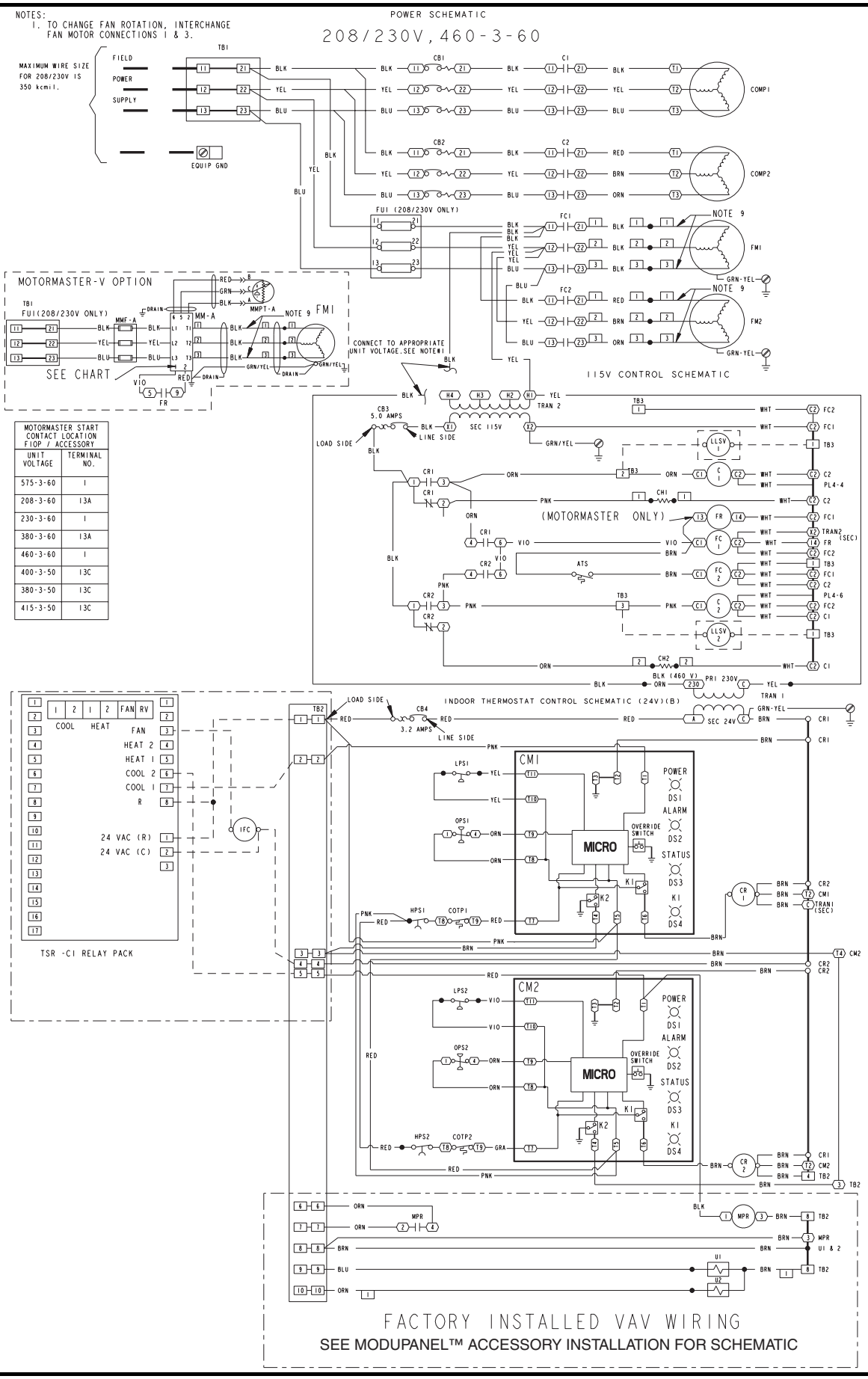


COMPRESSOR AND FAN ARRANGEMENT



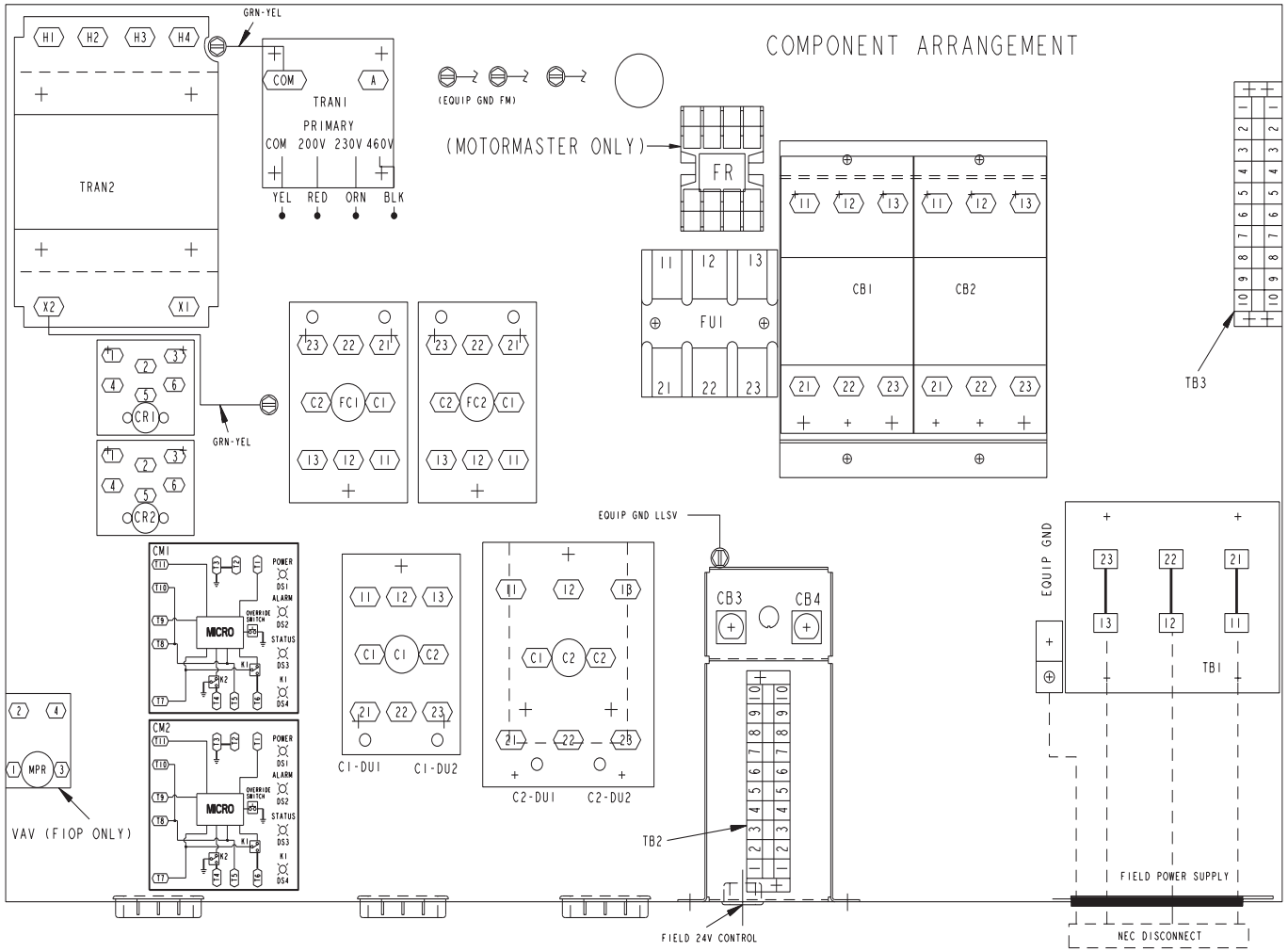
576B300,360 (cont)

TYPICAL WIRING SCHEMATIC (cont)



MOTORMASTER START CONTACT LOCATION FIOP / ACCESSORY	
UNIT VOLTAGE	TERMINAL NO.
575-3-60	1
208-3-60	13A
230-3-60	1
380-3-60	13A
460-3-60	1
400-3-50	13C
380-3-50	13C
415-3-50	13C

TYPICAL WIRING SCHEMATIC (cont)



CM ALARM CODES				
LED	NUMBER OF BLINKS ✳	TIME (sec) ON	TIME (sec) OFF	STATUS
DS1 POWER LED				
	1	1/4	1/4	NORMAL OPERATION
		STEADY		LOCKOUT STATE
DS2 ALARM LED				
		STEADY		HPS OR COTP OPEN
	1	1/4	1	LPS OPEN
	2	1/4	1	OPS OPEN
	3	1/4	1	LPS/OPS OPEN
DS3 STATUS LED				
			STEADY	NO CALL FOR COOLING
		STEADY		COOLING
	1	1/4	1/4	3 MIN. CMP DELAY
DS4 "K1" LED				
		STEADY		RELAY K1 CLOSED

✳ - MULTIPLE BLINKS ARE A SERIES OF ON/OFF FLASHES OF EQUAL DURATION FOLLOWED BY 1 SECOND OFF.

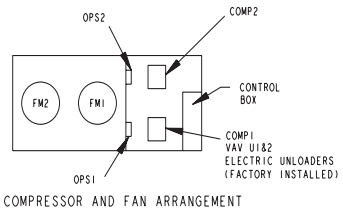
NOTES:

1. FOR TRANS 2 FOR 208/230 CONNECT TO H3. FOR 460V CONNECT TO H4.
2. TRANS 1 CONNECTED TO ORANGE LEAD FOR 208/230 AND TO BLK FOR 460V.
3. COMPRESSOR & FAN MOTORS THERMALLY PROTECTED. THREE PHASE MOTORS PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
4. REPLACEMENT OF ORIGINAL WIRES MUST BE WITH TYPE 90°C WIRE OR ITS EQUIVALENT.
5. FACTORY WIRING IS IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE (NEC). FIELD MODIFICATIONS OR ADDITIONS MUST BE IN COMPLIANCE WITH ALL APPLICABLE CODES.
6. WIRING FOR FIELD POWER SUPPLY MUST BE RATED 75°C . USE COPPER, COPPER-CLAD ALUMINUM OR ALUMINUM CONDUCTORS.
7. V.A.AVAILIBLE TB2 IS (40A)
8. FU1 (208-230V ONLY)
9. TO CHANGE FAN ROTATION, INTERCHANGE FAN MOTOR CONNECTIONS 1 & 3.

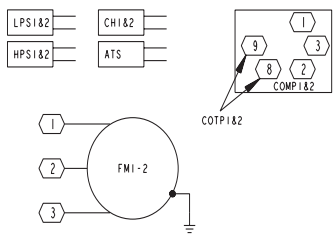
LEGEND

ATS — Air Temperature Switch
C — Contactor, Compressor
CB — Circuit Breaker
CH — Crankcase Heater
CM — Control Module
COMP — Compressor
COTP — Compressor Overtemperature Protection
CR — Control Relay
EQUIP — Equipment
FC — Fan Contactor
FIOP — Factory-Installed Option
FM — Fan Motor
FR — Fan Relay
FU — Fuseblock
GND — Ground
HPS — High-Pressure Switch
IFC — Indoor-Fan Contactor
LLSV — Liquid Line SolenoidValve
LPS — Low-Pressure Switch
MM — Motormaster
MMF — Motormaster Fuse
MMPT — Motormaster Pressure Transducer
MPR — ModuPanel Relay
OPS — Oil Pressure Switch
PL — Plug Assembly
TB — Terminal Block
TRAN — Transformer
U — Unloader
VAV — Variable Air Volume

Plug
Receptacle
Terminal Block Connection
Marked Terminal
Unmarked Terminal
Marked Splice
Unmarked Splice
Factory Wiring
Field Control Wiring
Field Power Wiring
Indicates Common Potential, Does Not Represent Wiring



COMPRESSOR AND FAN ARRANGEMENT



OPERATING SEQUENCE

576B300,360 — When space thermostat calls for cooling, the no. 1 condenser fan and compressor starts after control module (CM) initial time delay of 7 seconds. If an optional airflow switch is used, compressor and no. 1 condensing fan will not start until sufficient indoor airflow has closed the switch. After 7 seconds the compressor starts and the liquid line solenoid valve (for solenoid drop control) opens. The crankcase heater is deenergized. If the head pressure reaches 260 psig, the second condenser fan starts.

If cooling demand is low, suction pressure at the compressor drops. As the pressure drops, the compressor unloads 1 or 2 banks of cylinders as required. If cooling demand is high and 1 or 2-stage operation is used, the second step of the thermostat activates the capacity control liquid line solenoid which activates the second stage evaporator coil. The compressor cylinders load or unload in response to compressor suction pressure to meet evaporator load.

For two and a half minutes after the compressor starts, the low-pressure switch (LPS) is ignored. If the LPS trips during the first $2^1/_2$ minutes of operation, the compressor remains operational. If a high-pressure switch (HPS) trips at any time, or the LPS trips after $2^1/_2$ minutes, the compressor cannot restart until the 3-minute CM anti-short cycle timer expires.

As the space cooling load is satisfied, the second stage of the thermostat opens, and closes the field-supplied capacity control liquid line solenoid valve to deactivate the second stage coil. The compressor adjusts the number of active cylinders to meet the new load. When the space temperature is satisfied, the first stage of the thermostat opens and the control relay opens. This closes the solenoid drop control valve. The compressor stops and the crankcase heater is energized, preventing refrigerant from migrating to the compressor during the off cycle (solenoid drop refrigerant control). The CM anti-short-cycling timer is energized and runs for approximately 3 minutes. During this time, the compressor is not able to restart.

576H240-360 Standard Constant Volume Unit With 2-Stage Cooling Thermostat — Seven seconds after a thermostat call for the first stage of cooling, compressor no. 1 and the outdoor fans start. The no. 2 fan only starts if the outdoor ambient temperature is above 70 F. The oil-pressure switch and the low-pressure switch are bypassed for 1 and $2^1/_2$ minutes, respectively. If either the low-pressure switch or oil pressure switch remain open after the delay, the unit shuts down and goes into alarm mode. The indoor-fan motor starts immediately whenever there is a call for cooling. If a liquid line solenoid valve has been installed (for refrigerant control during the off cycle), then the solenoid valve for compressor no. 1 opens immediately upon a call for cooling.

On standard units, compressor no. 1 operates either fully loaded or at one step of unloading, depending on the suction pressure, which is dependent on the evaporator load conditions.

As the cooling demand increases, the thermostat calls for the second stage of cooling. Within 7 seconds from a call for the second stage of cooling, compressor no. 2 starts. The oil switch and low-pressure switch for circuit no. 2 are bypassed during start-up.

As the cooling load is satisfied, the thermostat stops the call for the second stage of cooling, which in turn deenergizes compressor no. 2, closes the no. 2 liquid line solenoid (if installed) and energizes the compressor no. 2 crankcase heater.

If the space temperature continues to decrease, then the thermostat stops the call for the first stage of cooling, which then deenergizes compressor no. 1 and the outdoor fans, closes the no. 1 liquid line solenoid valve (if installed), and energizes the compressor no. 1 crankcase heater.

The unit controls prevent both compressors from reenergizing within 3 minutes from a previous call for operation.

If the unit safeties trip during operation, refer to the Installation, Start-Up and Service Instructions. To reset the lockout mode, cycle the unit power.

NOTE: If the thermostat fan switch is in the auto position, the indoor fan cycles on and off as the thermostat calls for cooling (or heating). If the switch is in the continuous position, the fan runs when the outdoor unit is powered.

576H240-360 Optional Variable Air Volume Unit With ModuPanel™ Control — The ModuPanel control regulates up to 10 stages of cooling to maintain a leaving-air temperature for variable air volume (VAV) applications. When connected to one 576H condensing unit, only 6 stages are used. See the table on page 40 for unit loading and compressor operating sequence.

When the timeclock connected to the panel closes, the indoor-fan contactor is energized through a field-supplied relay. (The relay must be a pilot-duty SPST relay with 115-v coil and 30 va maximum coil draw.) After the time delays programmed into the ModuPanel control have elapsed, and with the leaving air above the set point, the stages of mechanical cooling are sequenced as follows:

1. Stage 1 starts compressor no. 1 with 2 banks of cylinders unloaded ($^1/_3$ loaded). Both unloader solenoids are energized.
2. Stage 2 loads one bank of compressor no. 1 cylinders ($^2/_3$ loaded) by deenergizing unloader solenoid no. 1.
3. Stage 3 loads the second bank of compressor no. 1 by deenergizing unloader solenoid no. 2.
4. Stage 4 starts compressor no. 2 and unloads 2 banks of compressor no. 1 cylinders unloaded ($^1/_3$ loaded). Both unloader solenoids are energized.
5. Stage 5 loads one bank of compressor no. 1 cylinders ($^2/_3$ loaded) by deenergizing unloader solenoid no. 1.
6. Stage 6 loads one bank of compressor no. 1 cylinders (fully loaded) by deenergizing unloader solenoid no. 2.

Two 576H240-360 Optional Variable Air Volume Units With A Single ModuPanel Control — The ModuPanel control regulates up to 10 stages of cooling to maintain a leaving-air temperature for variable air volume (VAV) applications. When connected to two 576H condensing units, all 10 stages are used. See the table on page 40 for unit loading and compressor operating sequence.

When the timeclock connected to the panel closes, the indoor-fan contactor is energized through a field-supplied relay. (The relay must be a pilot-duty SPST relay with 115-v coil and 30 va maximum coil draw.) After the time delays programmed into the ModuPanel control have elapsed, and with the leaving air above the set point, the stages of mechanical cooling are sequenced as follows:

1. Stage 1 starts unit no. 1 compressor no. 1 with 2 banks of cylinders unloaded ($^1/_3$ loaded). Both unloader solenoids are energized.
2. Stage 2 loads one bank of unit no. 1 compressor no. 1 cylinders ($^2/_3$ loaded) by deenergizing unloader solenoid no. 1.
3. Stage 3 turns off unit no. 1 compressor no. 1 and starts compressor no. 2 fully loaded.
4. Stage 4 starts unit no. 1 compressor no. 1 with 2 banks of cylinders unloaded ($^1/_3$ loaded). Both unloader solenoids are energized.
5. Stage 5 loads one bank of unit no. 1 compressor no. 1 cylinders ($^2/_3$ loaded) by deenergizing unloader solenoid no. 1.

6. Stage 6 loads one bank of unit no. 1 compressor no. 1 cylinders (fully loaded) by deenergizing unloader solenoid no. 2.
7. Stage 7 starts unit no. 2 compressor no. 1 with 2 banks of cylinders unloaded ($^1/_3$ loaded). Both unloader solenoids are energized.
8. Stage 8 turns off unit no. 2 compressor no. 1 and starts compressor no. 2 fully loaded.
9. Stage 9 starts unit no. 2 compressor no. 1 with 2 banks of cylinders unloaded ($^1/_3$ loaded). Both unloader solenoids are energized.
10. Stage 10 loads 2 banks of unit no. 2 compressor no. 1 cylinders (fully loaded) by deenergizing both unloader solenoids.

Restart — Manual reset of the 24-v control circuit is required if unit is shut down by any of the safety devices. Applicable devices include the high pressure switch (HPS), low-pressure switch (LPS), oil-pressure switch (OPS), and compressor overtemperature protection (COTP) switch. To restart the unit after the unit has been shut down, raise the thermostat set point above the space temperature (thereby removing the call for cooling) and then lower the set point back to the desired setting.

If unit circuit breakers trip during unit shutdown, they must be reset manually.

Causes of Complete Unit Shutdown:

- interruption of supplied power
- open compressor overtemperature protection (COTP)
- compressor electrical overload protection (CB1 or CB2)
- open high-pressure or low-pressure safety switches
- open oil pressure switch

576H UNIT LOADING SEQUENCE WITH MODUPANEL™ CONTROL

STAGE	NO. CYLINDERS	LOADED CYLINDERS		CAPACITY STEP (%)
		Compressor No. 1	Compressor No. 2	
1	2	2	—	17
2	4	4	—	33
3	6	6	—	50
4	8	2	6	67
5	10	4	6	83
6	12	6	6	100

LOADING SEQUENCE, TWO 576H CONDENSING UNITS WITH MODUPANEL CONTROL

STAGE	NO. CYLINDERS	UNIT 1 LOADED CYLINDERS		UNIT 2 LOADED CYLINDERS		CAPACITY STEP (%)
		Compressor No. 1	Compressor No. 2	Compressor No. 1	Compressor No. 2	
1	2	2	—	—	—	8
2	4	4	—	—	—	17
3	6	—	6	—	—	25
4	8	2	6	—	—	33
5	10	4	6	—	—	41
6	12	6	6	—	—	50
7	14	6	6	2	—	58
8	18	6	6	—	6	75
9	20	6	6	2	6	83
10	24	6	6	6	6	100

APPLICATION DATA — 576B300-360, 576H240-360 UNITS

INSTALLATION

Select equipment to match or to be slightly less than peak load. This provides better humidity control, less unit cycling, and less part-load operation.

When selecting vapor line sizes, oil return must be evaluated, particularly at part-load conditions.

The indoor fan must always be operating when outdoor unit is operating.

Ductwork should be sized according to unit size, not building load.

To minimize the possibility of air recirculation, avoid the use of concentric supply/return grilles.

Indoor equipment should be selected at no less than 300 cfm/ton.

OPERATING LIMITS

Maximum Outdoor Ambient		115 F
Minimum Outdoor Ambient		Additional head pressure control may be required below 35 F outdoor ambient.
Minimum Return-Air Temperature		55 F
Maximum Return-Air Temperature		95 F
Normal Acceptable Saturation Suction Temperature Range	**576B** **576H**	30 to 55 F 20 to 50 F
Maximum Discharge Temperature	**576B** **576H**	295 F 275 F
Minimum Discharge Superheat		60 F

MINIMUM OUTDOOR-AIR OPERATING TEMPERATURE (F) — 576B UNITS

UNIT 576B	COMPR CAP. (%)	COND TEMP (F)	MIN OUTDOOR TEMP	
			Standard Unit	Low Ambient Control
300	100 67 33	90 80 70	31 35 43	–20
360	100 67 33	90 80 70	30 34 42	

576B MAXIMUM LIQUID LIFT (FT)

UNIT 576B	FT
300	76
360	67

MINIMUM OUTDOOR-AIR OPERATING TEMPERATURE AND LOADING SEQUENCES — 576H UNITS

UNIT 576H	SYSTEM CAPACITY (%)	MINIMUM OUTDOOR-AIR TEMP (F)	
		Standard Unit	Low Ambient Control
240	100 83 67* 50 33 17*	53	–20 –20 –20† –20 –20 –20†
300	100 83 67* 50 33 17*	50	–20 –20 –20† –20 –20 –20†
360	100 85 71* 43 28 14*	49	–20 –20 –20† –20 –20 –20†

*Accessory unloader on Circuit 1.
†Motormaster® cannot be used with 2 unloaders when unit is connected to 2 separate air handlers.

NOTE: Minimum outdoor-air operating temperature is based on 90 F saturated condensing temperature and 100% capacity.

UNLOADING SEQUENCES

UNIT 576H	CAPACITY/STAGE (%)
	CV Units (Standard)*
240	100, 83, 50, 33
300	100, 83, 50, 33
360	100, 85, 43, 28

LEGEND

CV — Constant Volume

*Additional unloading available with field-installed accessory unloader.

NOTE: Capacities are based on 45 F saturated suction temperature and 95 F outdoor air temperature.

576H MAXIMUM LIQUID LIFT (FT)

UNIT 576H	MAXIMUM LIQUID LIFT PER CIRCUIT (Ft)
240	76
300	73
360	100

WIRE SIZES FOR FIELD POWER SUPPLY

UNIT 576H	V-Ph-Hz	FIELD POWER WIRE SIZE TB1 WILL ACCEPT
240-360	208-230/3/60	350 kcmil
	460-3-60	2/0 AWG

LEGEND

AWG — American Wire Gage
kcmil — Thousand Circular Mils
TB — Terminal Block

APPLICATION DATA — 576B300-360, 576H240-360 UNITS (cont)

REFRIGERANT PIPE SIZES

SINGLE SUCTION RISERS

UNIT 576B	LENGTH OF INTERCONNECTING PIPING, (Ft)									
	16-25		26-50		51-75		76-100		101-200	
	L	S	L	S	L	S	L	S	L	S
300	7/8	1 5/8	7/8	2 1/8*	7/8	2 1/8*	7/8	2 1/8*	7/8	2 1/8*
360	7/8	2 1/8	7/8	2 1/8	7/8	2 1/8	1 1/8	2 1/8	1 1/8	2 5/8*

LEGEND

L — Liquid Line
S — Suction Line

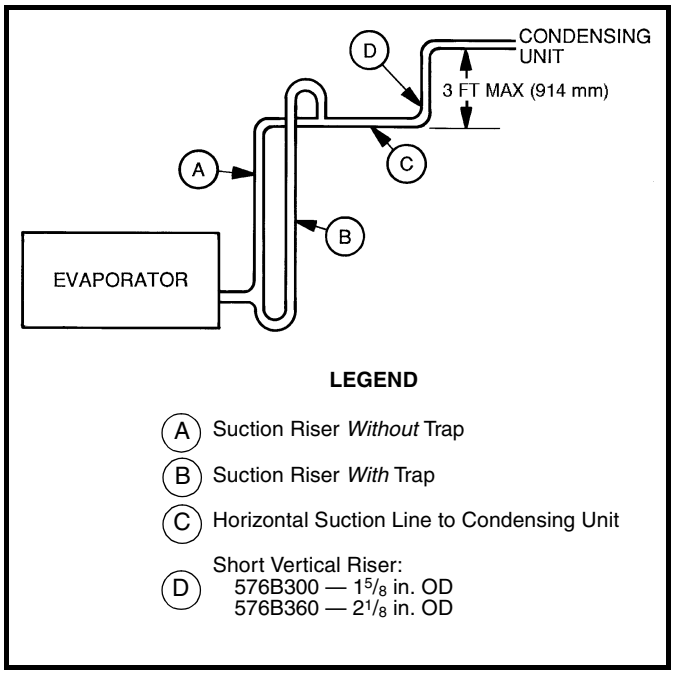
NOTE: Liquid and suction line sizes are OD (in.)

***IMPORTANT:** Requires a double suction riser, if evaporator is below condensing unit. See table below.

DOUBLE SUCTION RISERS

UNIT 576B	LENGTH OF INTERCONNECTING PIPING, (Ft)											
	26-50			51-75			76-100			101-200		
	A	B	C	A	B	C	A	B	C	A	B	C
300	1 3/8	1 5/8	2 1/8	1 3/8	1 5/8	2 1/8	1 3/8	1 5/8	2 1/8	1 3/8	1 5/8	2 1/8
360	—	—	—	—	—	—	—	—	—	1 5/8	2 1/8	2 5/8

NOTE: A, B, and C dimensions relate to reference diagram below.



576B Suction Line Piping

REFRIGERANT PIPE SIZES

SINGLE SUCTION RISERS

UNIT 576H		LENGTH OF INTERCONNECTING PIPING, FOR EACH CIRCUIT (Ft)									
		0-25		25-50		50-75		75-100		100-200	
		L	S	L	S	L	S	L	S	L	S
240	Ckt 1	1/2	1 1/8	5/8	1 3/8	5/8	1 3/8	5/8	1 5/8*	7/8	1 5/8*
	Ckt 2	1/2	1 1/8	5/8	1 3/8	5/8	1 3/8	5/8	1 5/8†	7/8	1 5/8†
300	Ckt 1	1/2	1 1/8	5/8	1 3/8	5/8	1 3/8	7/8	1 5/8*	7/8	2 1/8**
	Ckt 2	1/2	1 1/8	5/8	1 3/8	5/8	1 3/8	7/8	1 5/8†	7/8	2 1/8**
360	Ckt 1	1/2	1 1/8	5/8	1 3/8	5/8	1 5/8*	7/8	1 5/8*	7/8	2 1/8**
	Ckt 2	1/2	1 3/8	5/8	1 5/8	7/8	1 5/8	7/8	1 5/8	7/8	2 1/8†

LEGEND

L — Liquid Line
S — Suction Line

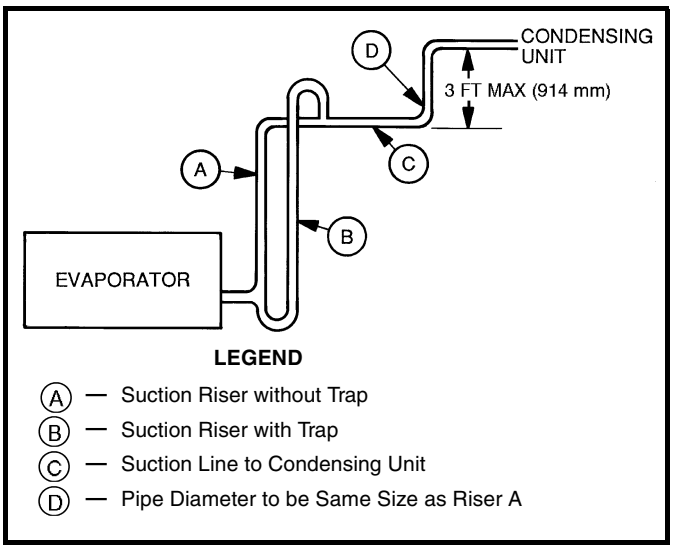
*Double suction riser required if evaporator is below condensing unit and 2 unloaders are used on that circuit.
†Double suction riser required if evaporator is below condensing unit and compressor is equipped with 2 unloaders. Note the only time circuit no. 2 may be equipped with 2 unloaders is if it is serving its own air handler and the unit does not require low ambient operation (Motormaster® control).
**Double suction riser required if evaporator is below condensing unit and compressor has one or more unloader(s).

NOTES:
1. All line sizes are inches OD.
2. Standard unit comes with one pressure-operated unloader on circuit no. 1. If unit serves one air handler, an additional unloader may be field installed on circuit no. 1 compressor only. If the unit serves 2 separate air handlers and low ambient operation is required (Motormaster III control), each circuit's compressor may only be equipped with *one* unloader.

DOUBLE SUCTION RISERS

UNIT 576H		LENGTH OF INTERCONNECTING PIPING (Ft)								
		50-75			75-100			100-200		
		A	B	C	A	B	C	A	B	C
240	Ckt 1	—	—	—	1 1/8	1 3/8	1 5/8	1 1/8	1 3/8	1 5/8
	Ckt 2	—	—	—	1 1/8	1 3/8	1 5/8	1 3/8	1 3/8	1 5/8
300	Ckt 1	—	—	—	1 1/8	1 3/8	1 5/8	1 3/8	1 5/8	2 1/8
	Ckt 2	—	—	—	1 1/8	1 3/8	1 5/8	1 3/8	1 5/8	2 1/8
360	Ckt 1	1 1/8	1 3/8	1 5/8	1 1/8	1 3/8	1 5/8	1 3/8	1 5/8	2 1/8
	Ckt 2	—	—	—	—	—	—	1 3/8	1 5/8	2 1/8

NOTE: Refer to diagram below for A, B, and C dimensions.



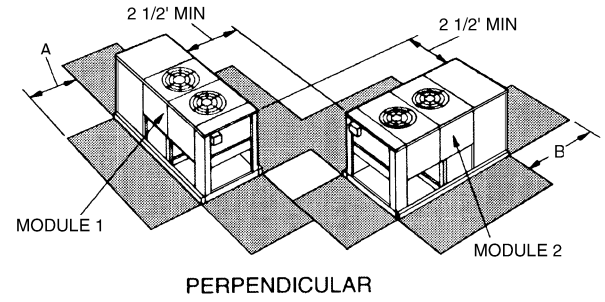
576H Suction Line Piping

E-COATED COILS

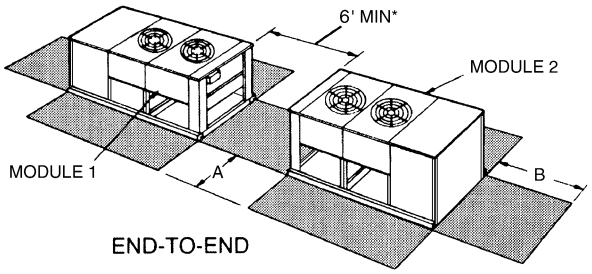
E-coated aluminum-fin coils have a flexible and durable epoxy coating uniformly applied to all coil surfaces. Unlike brittle phenolic dip and bake coatings, E-coating provides superior protection with unmatched flexibility, edge coverage, metal adhesion, thermal performance, and most importantly, corrosion resistance.

E-coated coils provide this protection since all coil surfaces are completely encapsulated from environmental contamination. This coating is especially suitable in industrial environments.

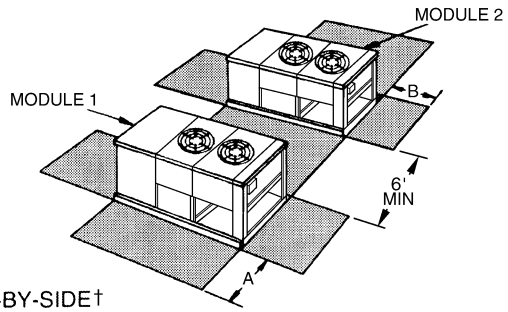
MULTIPLE CONDENSING UNIT ARRANGEMENTS*



PERPENDICULAR



END-TO-END



SIDE-BY-SIDE†

Space for Service and Airflow

*For clearances between controls and grounded surfaces, check local codes.
†Observe minimum recommended space requirements.

576B, 576H	DIMENSIONS (ft)	
	A	B
240-360	4	4

APPLICATION DATA — 524A180-360 UNITS

1. OPERATING LIMITS

Maximum fan speed — 524A180,240 . . . . . 1200 rpm

Maximum fan speed — 524A300,360 . . . . . 1100 rpm

2. GENERAL

Select equipment to match or to be slightly less than peak load. This provides better humidity control, less unit cycling, and less part-load operation. Equipment should be selected to perform at no less than 300 cfm/ton.

The air handler fan must always be operating when the condensing unit is operating.

Ductwork should be sized according to unit size, not building load. For larger units with two fans, a split duct transition is recommended at the fan outlets, but a plenum can be used with slight reduction in external static pressure capability.

FACTORY-INSTALLED NOZZLE AND DISTRIBUTOR DATA

UNIT 524A	COIL TYPE	TXV Qty...Part No.*	DISTRIBUTOR Qty...Part No.†	FEEDER TUBES PER DISTRIBUTOR Qty...Size (in.)	NOZZLE Qty...Part No.
180	3 Row 4 Row	2...TDEBX8 2...TDEBX8	2...1116 2...1126	12...1/4 16...1/4	2...E6 2...C6
240	3 Row 4 Row	2...TDEBX11 2...TDEBX11	2...1116 2...1126	13...1/4 18...3/16	2...E8 2...C8
300	3 Row 4 Row	2...TDEBX11 2...TDEBX11	2...1126 2...1126	15...1/4 20...3/16	2...C10 2...C15
360	3 Row 4 Row	2...TDEBX16 2...TDEBX16	2...1126 2...1126	18...1/4 24...3/16	2...C12 2...C17

*Danfoss part numbers shown.

†Sporlan Valve Co. part numbers shown.

NOTE: Hot gas bypass applications require field-supplied auxiliary side connector.

STANDARD FAN MOTOR DATA

208/230-3-60 AND 460-3-60 MOTORS

UNIT 524A	180	240	300	360
Speed (rpm)	1725	1745	1745	1745
Hp	3.7	5.0	7.5	10.0
Frame (NEMA)	56Y	S184T	S213T	S215T
Shaft Dia (in.)	7/8	1 1/8	1 3/8	1 3/8

LEGEND

NEMA — National Electrical Manufacturers Association

575-3-60 MOTORS

UNIT 524A	180	240	300	360
Speed (rpm)	1725	1745	1755	1755
Hp	3.0	5.0	7.5	10.0
Frame (NEMA)	56HZ	184T	S213T	S215T
Shaft Dia (in.)	7/8	1 1/8	1 3/8	1 3/8

LEGEND

NEMA — National Electrical Manufacturers Association

ALTERNATE FAN MOTOR DATA

208/230-3-60 AND 460-3-60 MOTORS

UNIT 524A	180	240	300
Speed (rpm)	1745	1745	1750
Hp	5.0	7.5	10.0
Frame (NEMA)	S184T	S213T	S215T
Shaft Dia (in.)	1 1/8	1 3/8	1 3/8

LEGEND

NEMA — National Electrical Manufacturers Association

575-3-60 MOTORS

UNIT 524A	180	240	300
Speed (rpm)	1745	1755	1750
Hp	5.0	7.5	10.0
Frame (NEMA)	184T	S213T	S215T
Shaft Dia (in.)	1 1/8	1 3/8	1 3/8

LEGEND

NEMA — National Electrical Manufacturers Association

APPLICATION DATA — 524A180-360 UNITS (cont)

STANDARD DRIVE DATA

UNIT 524A	180	240	300	360
MOTOR DRIVE				
Motor Pulley Pitch Diameter	2.8-3.8	3.7-4.7	4.3-5.3	4.3-5.3
Pulley Factory Setting Full Turns Open	2.5	3.0	3.0	3.0
FAN DRIVE				
Pulley Pitch Dia (in.)	9.0	9.4	11.0	11.0
Pulley Bore (in.)	$1^{7}/_{16}$	$1^{7}/_{16}$	$1^{15}/_{16}$	$1^{15}/_{16}$
Belt No. — Section	1—A	2—B	2—B*	2—B*
Belt Pitch (in.)	42.3	41.8	(2) 42.8 or (2) 43.8	(2) 42.8 or (2) 43.8
FAN SPEEDS (rpm)				
Factory Setting	632	771	752	752
Range	537-728	679-863	682-841	674-831
Max Allowable Speed	1200	1200	1100	1100
Change per $^{1}/_{2}$ Turn of Moveable Motor Pulley Flange	19.1	15.3	13.1	13.1
MAX FULL TURNS FROM CLOSED POSITION	5	6	6	6
SHAFTS CENTER DISTANCE (in.)	10.44-12.32	9.12-10.99	6.67-9.43	6.67-9.43

*Four belts shipped with unit. Use one set of 2 belts sized according to the pulley setting.

MEDIUM-STATIC DRIVE DATA

UNIT 524A	180	240	300	360
MOTOR DRIVE				
Motor Pulley Pitch Diameter	3.7-4.7	4.3-5.3	4.3-5.3	4.3-5.3
Pulley Factory Setting Full Turns Open	3.0	3.0	3.0	3.0
FAN DRIVE				
Pulley Pitch Dia (in.)	8.6	9.4	9.4	9.4
Pulley Bore (in.)	$1^{7}/_{16}$	$1^{7}/_{16}$	$1^{15}/_{16}$	$1^{15}/_{16}$
Belt No. — Section	1—B	2—B	2—B*	2—B*
Belt Pitch (in.)	41.8	41.8	(2) 38.8 or (2) 39.8	(2) 38.8 or (2) 39.8
FAN SPEEDS (rpm)				
Factory Setting	842	881	881	881
Range	742-943	798-984	798-984	798-984
Max Allowable Speed	1200	1200	1100	1100
Change per $^{1}/_{2}$ Turn of Moveable Motor Pulley Flange	16.7	15.3	15.3	15.3
MAX FULL TURNS FROM CLOSED POSITION	6	6	6	6
SHAFTS CENTER DISTANCE (in.)	10.44-12.32	9.16-10.99	6.67-9.43	6.67-9.43

*Four belts shipped with unit. Use one set of 2 belts sized according to the pulley setting.

HIGH-STATIC DRIVE DATA

UNIT 524A	180	240	300	360
MOTOR DRIVE				
Motor Pulley Pitch Diameter	4.3-5.3	4.3-5.3	4.3-5.3	4.3-5.3
Pulley Factory Setting Full Turns Open	2.5	3.0	3.0	3.0
FAN DRIVE				
Pulley Pitch Dia (in.)	7.9	7.4	8.6	8.6
Pulley Bore (in.)	$1^{7}/_{16}$	$1^{7}/_{16}$	$1^{15}/_{16}$	$1^{15}/_{16}$
Belt No. — Section	1—B	2—B	2—B	2—B
Belt Pitch (in.)	39.8	36.8	37.8	37.8
FAN SPEEDS (rpm)				
Factory Setting	1060	1118	1024	1024
Range	950-1171	1014-1200	873-1075	873-1075
Max Allowable Speed	1200	1200	1100	1100
Change per $^{1}/_{2}$ Turn of Moveable Motor Pulley Flange	30.8	19.4	16.7	16.7
MAX FULL TURNS FROM CLOSED POSITION	5	6	6	6
SHAFTS CENTER DISTANCE (in.)	9.16-10.99	8.16-10.02	6.67-9.43	6.67-9.43

COMMERCIAL AIR-COOLED CONDENSING UNITS

HVAC GUIDE SPECIFICATIONS

SIZE RANGE: 25 AND 30 TONS, NOMINAL

Bryant Model Number: **576B**

PART 1 — GENERAL

1.01 SYSTEM DESCRIPTION

Outdoor-mounted, air-cooled condensing unit suitable for on-the-ground or rooftop installation. Unit shall consist of a semi-hermetic reciprocating compressor, an air-cooled coil, propeller-type condenser fans, and a control box. Unit shall discharge supply air upward as shown on contract drawings. Unit shall be used in a refrigeration circuit to match a packaged fan coil unit.

1.02 QUALITY ASSURANCE

A. Unit shall be rated in accordance with ARI Standard 365, latest edition and shall be certified and listed in the latest ARI directory.

B. Unit shall be manufactured in a facility registered to the ISO 9001:2000 manufacturing quality standard.

C. Unit construction shall comply with latest edition of ANSI/ ASHRAE and with NEC.

D. Unit shall be constructed in accordance with UL standards and shall carry the UL and UL, Canada label of approval.

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

F. Air-cooled condenser coils shall be leak tested at 150 psig and pressure tested at 450 psig.

1.03 DELIVERY, STORAGE AND HANDLING

Unit shall be shipped as single package only, and shall be stored and handled per unit manufacturer's recommendations.

1.04 WARRANTY (FOR INCLUSION BY SPECIFYING ENGINEER.)

PART 2 — PRODUCTS

2.01 EQUIPMENT

A. General:

Factory assembled, single piece, air-cooled condensing unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, compressor, holding charge (R-22), and special features required prior to field start-up.

B. Unit Cabinet:

1. Unit cabinet shall be constructed of galvanized steel, bonderized and coated with a prepainted, baked enamel finish.
2. End unit access panel shall be hinged for compressor and control box service access.
3. Lifting holes shall be provided to facilitate rigging.

C. Fans:

1. Condenser fans shall be direct-drive propeller type, discharging air vertically upward.
2. Condenser fan motors shall be totally enclosed, 3-phase type with class B insulation and permanently lubricated bearings.
3. Shafts shall have inherent corrosion resistance.
4. Fan blades shall be statically and dynamically balanced.
5. Condenser fan openings shall be equipped with PVC-coated steel wire safety guards.

D. Compressor:

1. Compressor shall be serviceable, reciprocating, semi-hermetic type.
2. Compressor shall be equipped with an automatically reversible oil pump, operating oil charge, suction and discharge shutoff valves, and an insert-type, factory-sized crankcase heater to control oil dilution.
3. Compressor shall be mounted on spring vibration isolators with an isolation efficiency of no less than 95%.
4. Compressor speed shall not exceed 1750 rpm.
5. Compressor shall unload using suction cutoff unloading (electrical solenoid unloading shall be available as an accessory).

E. Condenser Coil:

1. Condenser coil shall be air cooled, circuited for integral subcooler.
2. Coil shall be constructed of aluminum fins mechanically bonded to internally grooved, seamless copper tubes which are then cleaned, dehydrated, and sealed.
3. Coil shall be protected by a sheet metal casing to eliminate the need for wind baffles for low ambient temperature operation.
4. Coil shall be protected to avoid damage due to the elements and vandalism.

F. Refrigeration Components:

Refrigeration circuit components shall include hot gas muffler, high-side pressure relief device, liquid line shutoff valve, suction and discharge shutoff valves, holding charge of refrigerant R-22, and compressor oil.

G. Controls and Safeties:

1. Minimum control functions shall include:
   a. Power and control terminal blocks.
   b. Three-minute anti-short-cycling timer to prevent compressor short-cycling.
   c. Lockout on auto-reset safety until reset.
   d. Capacity control on the compressor shall be by suction cutoff unloaders in response to compressor suction pressure. Electric solenoid unloading shall be available as an accessory.
   e. A 115-v solenoid shall be provided for solenoid drop control.
   f. Head pressure control to 35 F by fan cycling. One condenser fan shall be cycled by discharge pressure to maintain proper head pressure.
   g. Winter start control to prevent nuisance trip-outs at low ambient temperatures.
2. Minimum safety devices shall include:

   Automatic reset (after resetting first at control circuit power supply)

   a. High discharge-pressure cutout.
   b. Low suction-pressure cutout.
   c. Condenser fan motors to be protected against overload or single-phase condition by internal overloads.

Manual reset at the unit

a. Low oil-pressure cutout.

b. Compressor electrical overload protection through the use of definite-purpose contactors and calibrated, ambient-compensated, magnetic-trip circuit breakers. Circuit breakers shall open all 3 phases in the event of an overload in any one of the phases or a single-phase condition.

H. Operating Characteristics:

1. The capacity of the condensing unit shall meet or exceed _____ Btuh at a suction temperature of _____ F. The power consumption at full load shall not exceed _____ kW.
2. The combination of the condensing unit and the evaporator or fan coil unit shall have a total net cooling capacity of _____ Btuh or greater at conditions of: _____ cfm entering-air temperature at the evaporator at _____ F wet bulb and _____ F dry bulb, and air entering the condensing unit at _____ F.
3. The system shall have an EER of _____ Btuh/Watt or greater at standard ARI conditions.

I. Electrical Requirements:

1. Nominal unit electrical characteristics shall be _____ v, 3-ph, 60 Hz. The unit shall be capable of satisfactory operation within voltage limits of _____ v to _____ v.
2. Unit electrical power shall be single point connection.
3. Unit control circuit shall contain a 24-v transformer for unit control, with capacity to operate an indoor fan interlock.

J. Special Features:

1. Low-Ambient Control:

   Control shall regulate fan motor speed in response to the saturated condensing temperature of the unit. The control shall be capable of maintaining a condensing temperature of 100 F ± 10° F with outdoor temperatures at –20 F (motor change required).

2. Electric Solenoid Unloader:

   Unloader valve piston, coil, and hardware shall be supplied to convert any pressure-operated compressor unloader to 115-v electric unloading. Control box or field-supplied step controller shall be provided for electrical unloading.

3. Hot-Gas Bypass:

   A hot-gas bypass valve and a 115-v pilot line solenoid valve shall be provided for low-load operation of the refrigeration system.

4. Part-Winding Start:

   Part-winding start shall be provided to reduce inrush current and locked rotor amps on start-up.

5. Optional Condenser Coil Materials:

   a. Pre-Coated Aluminum-Fin Coils:

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

   b. Copper-Fin Coils:

      Shall be constructed of copper-fins mechanically bonded to copper-tubes and copper tube sheets. Galvanized steel tube sheets shall not be acceptable. A polymer strip shall prevent coil assembly from contacting sheet metal coil pan to minimize potential for galvanic corrosion between the coil and pan. All copper construction shall provide protection in moderate coastal environments.

   c. E-Coated Aluminum-Fin Coils:

      Shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins. Coating process shall ensure complete coil encapsulation. Color shall be high gloss black with gloss requirements of 60° of 65 to 90% per ASTM D523-89. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges. Superior hardness characteristics of 2H per ASTM D3363-92A and cross hatch adhesion of 4B-5B per ASTM D3359-93. Impact resistance shall be up to 160 in./lb (ASTM D2794-93). Humidity and water immersion resistance shall be up to a minimum of 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92). Corrosion durability shall be confirmed through testing to no less than 1000 hours salt spray per ASTM B117-90. Coil construction shall be aluminum fins mechanically bonded to copper tubes.

6. Thermostat Controls:

   a. Programmable multi-stage thermostat with 7-day clock, holiday scheduling, large backlit display, remote sensor capability, and Title 24 compliance.

   b. Commercial Electronic Thermostat with 7-day timeclock, auto-changeover, multi-stage capability, and large LCD temperature display.

   c. Non-programmable thermostat with fan switch subbase.

COMMERCIAL AIR-COOLED CONDENSING UNITS

HVAC GUIDE SPECIFICATIONS

SIZE RANGE: 20 TO 30 TONS, NOMINAL

Bryant Model Number: **576H**

PART 1 — GENERAL

1.01 SYSTEM DESCRIPTION

A. Outdoor-mounted, air-cooled condensing unit suitable for on-the-ground or rooftop installation. Unit shall have 2 independent refrigerant circuits. Unit shall consist of semi-hermetic reciprocating compressors, an air-cooled coil, propeller-type condenser fans, and a control box. Unit shall discharge condenser air upward as shown on contract drawings.

B. Unit shall be used in a refrigeration circuit to match a packaged fan coil unit.

1.02 QUALITY ASSURANCE

A. Unit shall be rated in accordance with ARI Standard 365, latest edition.

B. Systems up to 20 tons shall be certified and listed in the latest ARI directory (ARI Standard 360).

C. Unit construction shall comply with latest edition of ASHRAE and with NEC.

D. Unit shall be constructed in accordance with UL standards and shall carry the UL and UL, Canada label of approval.

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

F. Air-cooled condenser coils shall be leak tested at 150 psig and pressure tested at 480 psig.

G. Unit shall be manufactured in facility registered to the ISO 9001:2000 manufacturing quality standard.

1.03 DELIVERY, STORAGE AND HANDLING

Unit shall be shipped as single package only, and shall be stored and handled per unit manufacturer's recommendations.

1.04 WARRANTY (FOR INCLUSION BY SPECIFYING ENGINEER)

PART 2 — PRODUCTS

2.01 EQUIPMENT

A. General:

Factory-assembled, single-piece, air-cooled condensing unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, compressors, holding charge, and special features required prior to field start-up.

B. Unit Cabinet:

1. Unit cabinet shall be constructed of galvanized steel, bonderized and coated with a prepainted, baked enamel finish.
2. Unit access panels shall be hinged for control box service access.
3. Lifting holes shall be provided to facilitate rigging.

C. Fans:

1. Condenser fans shall be direct-driven propeller type, discharging air vertically upward.
2. Condenser fan motors shall be 3-phase type with class B insulation and permanently lubricated bearings.
3. Shafts shall have inherent corrosion resistance.
4. Fan blades shall be statically and dynamically balanced.
5. Condenser fan openings shall be equipped with PVC-coated steel wire safety guards.

D. Compressors:

1. Compressors shall be serviceable, reciprocating, semi-hermetic type.
2. Compressors shall be equipped with an automatically reversible oil pump, operating oil charge, suction and discharge shutoff valves, and an insert-type, factory-installed crankcase heater to control oil dilution.
3. Compressor shall be mounted on spring vibration isolators with an isolation efficiency of no less than 95%.
4. Compressor speed shall not exceed 1750 rpm.
5. Lead compressor shall unload using pressure-operated suction cutoff unloading (electrical solenoid unloading shall be available as an accessory).

E. Condenser Coil:

1. Condenser coil shall be air cooled, circuited for integral subcooler.
2. Coil shall be constructed of aluminum fins (copper fins optional) mechanically bonded to internally grooved, seamless copper tubes which are then cleaned, dehydrated, and sealed.
3. Coil shall be protected by a sheet metal casing to eliminate the need for wind baffles for low ambient temperature operation.
4. Coil shall be protected to avoid damage due to the elements and vandalism.

F. Refrigeration Components:

Refrigeration circuit components shall include hot gas mufflers, hot gas bypass stub tubes, high-side pressure relief devices, liquid line shut-off valves, suction and discharge shutoff valves, holding charge, and compressor oil.

G. Controls and Safeties:

1. Minimum control functions shall include:
   a. Power and control terminal blocks.
   b. Three-minute time delay protection to prevent compressor short-cycling.
   c. Lockout on auto-reset safety until reset.
   d. Capacity control on the lead compressor shall be by suction cutoff unloaders in response to compressor suction pressure. Electric solenoid unloading shall be available as an accessory.
   e. Head pressure control to 50 F by fan cycling. One condenser fan shall be cycled by ambient temperature to maintain proper head pressure.
2. Minimum safety devices shall include:
   a. Compressor oil pressure switches.
   b. High discharge-pressure cutout.
   c. Compressor overtemperature cutout.
   d. Low suction-pressure cutout.
   e. Condenser-fan motors to be protected against overload or single-phase condition by internal overloads.
   f. Electrical overload protection through the use of definite-purpose contactors and calibrated, ambient-compensated, magnetic trip circuit breakers. Circuit breakers shall open all 3 phases in the event of an overload in any one of the phases or a single-phase condition.

H. Operating Characteristics:

1. The capacity of the condensing unit shall meet or exceed _____ Btuh at a suction temperature of _____ F. The power consumption at full load shall not exceed _____ kW.
2. The combination of the condensing unit and the evaporator or fan coil unit shall have a total net cooling capacity of _____ Btuh or greater at conditions of: _____ cfm entering-air temperature at the evaporator at _____ F wet bulb and _____ F dry bulb, and air entering the condensing unit at _____ F.
3. The system shall have an EER of _____ Btuh/Watt or greater at standard ARI conditions.

I. Electrical Requirements:

1. Nominal unit electrical characteristics shall be _____ v, 3-ph, 60 Hz. The unit shall be capable of satisfactory operation within voltage limits of _____ v to _____ v.
2. Unit electrical power shall be single-point connection.
3. Unit control circuit shall contain a 24-v transformer for unit control, with capacity to operate an indoor-fan interlock.

J. Special Features:

1. Low Ambient Temperature Kit:

   Control shall regulate fan motor speed in response to the saturated condensing temperature of the unit. The control shall be capable of maintaining a condensing temperature of 100 F ± 10° F with outdoor temperatures at –20 F.

2. Electric Solenoid Unloader:

   Unloader valve piston, coil, and hardware shall be supplied to convert any pressure-operated compressor unloader to 115-v electric unloading. Accessory control box or field-supplied step controller shall be provided for control of electrical unloading.

3. Pressure-Operated Unloader:

   Unloader shall be available to allow compressors to be unloaded in response to compressor suction pressure.

4. Optional Condenser Coil Materials:

   a. Pre-Coated Aluminum-Fin Coils:

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

   b. Copper-Fin Coils:

      Shall be constructed of copper fins mechanically bonded to copper tubes and copper tube sheets. Galvanized steel tube sheets shall not be acceptable. All copper construction shall provide protection in moderate coastal applications.

      A polymer strip shall prevent the coil assembly from contacting the sheet metal coil pan to minimize the potential for galvanic corrosion between the coil and the pan. All copper construction shall provide protection in moderate coastal environments.

   c. E-Coated Aluminum-Fin Coils:

      Shall be constructed of aluminum fins mechanically bonded to copper tubes. Coating process shall have a flexible epoxy polymer coating uniformly applied to all coil surfaces without material bridging between the fins. The coating process shall ensure complete coil encapsulation. Color shall be high-gloss black with gloss at 60° of 65% to 90% per ASTM D523-89. Uniform dry film thickness shall be 0.8 mil to 1.2 mil on all surfaces, including the fin edges. Superior hardness characteristics shall meet those requirements of 2H, per ASTM D3363-92A. Cross-hatch adhesion shall meet the requirements of 4B-5B, per ASTM D3359-93. Impact resistance shall be up to 160 in./lb, per ASTM D2794-93. Humidity resistance shall be up to a minimum of 1000 hours per ASTM D2247-92. Water immersion resistance shall be up to a minimum of 250 hours per ASTM D870-92. Durability shall be confirmed through testing to no less than 1000 hours of salt spray per ASTM B117-90.

5. Thermostat Controls:

   a. Programmable multi-stage thermostat with 7-day clock, holiday scheduling, large backlit display, remote sensor capability, and Title 24 compliance.
   b. Commercial Electronic Thermostat with 7-day timeclock, auto-changeover, multi-stage capability, and large LCD temperature display.
   c. Non-programmable thermostat with fan switch subbase.

COMMERCIAL PACKAGED AIR-HANDLING UNIT

HVAC GUIDE SPECIFICATIONS

SIZE RANGE: 2,400 TO 12,000 CFM, NOMINAL AIRFLOW
15 TO 30 TONS, NOMINAL COOLING

Bryant Model Number: **524A** (DIRECT-EXPANSION COIL)

PART 1 — GENERAL

1.01 SYSTEM DESCRIPTION

A. Indoor, packaged air-handling unit for use in commercial split systems. Unit shall have a multipoise design and shall be capable of horizontal or vertical installation on a floor or in a ceiling, with or without ductwork. (Only vertical units are to be applied without ductwork.)

B. Unit shall have a direct-expansion coil and shall be used in a refrigerant circuit with a matching air-cooled condensing unit.

1.02 QUALITY ASSURANCE

A. Coils shall be designed and tested in accordance with ASHRAE 15 Safety Code for Mechanical Refrigeration, latest edition.

B. Unit shall be constructed in accordance with ETL and ETL, Canada standards and shall carry the ETL and ETL, Canada labels.

C. Unit insulation and adhesive shall comply with NFPA-90A requirements for flame spread and smoke generation. Insulation shall contain an EPA-registered immobilized antimicrobial agent to effectively resist the growth of bacteria and fungi as proven by tests in accordance with ASTM standards G21 and 22.

D. Unit shall be manufactured in a facility registered to the ISO 9001:2000 manufacturing quality standard.

E. Direct-expansion coils shall be burst tested at 435 psi and leak tested at 150 psi.

1.03 DELIVERY AND STORAGE

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

PART 2 — PRODUCTS

2.01 EQUIPMENT

Indoor mounted, draw-thru, packaged air-handling unit that can be used in a suspended horizontal configuration or a vertical configuration. Unit shall consist of forward-curved belt-driven centrifugal fan(s), motor and drive assembly, prewired fan motor contactor, factory-installed refrigerant metering devices, cooling coil, 2-in. disposable air filters, and condensate drain pans for vertical or horizontal configurations.

A. Base Unit:

1. Cabinet shall be constructed of mill-galvanized steel.
2. Cabinet panels shall be fully insulated with 1/2-in. fire-retardant material.
3. Unit shall contain condensate drain pans for both vertical and horizontal applications. Drain pans shall have connections on right and left sides of unit to facilitate field connection. Drain pans shall have the ability to be sloped toward the right or left side of the unit to prevent standing water from accumulating in pans.
4. Unit shall have factory-supplied 2-in. throwaway-type filters installed upstream from the cooling coil. Filter access shall be from either the right or left side of the unit.

B. Coils:

Coils shall consist of 3 rows of 3/8-in. copper tubes with sine-wave aluminum fins bonded to the tubes by mechanical expansion. Coil tubing shall be internally rifled to maximize heat transfer. Suction and liquid line connections shall be made on the same side of the coil. Direct-expansion coils shall feature factory-installed thermostatic expansion valves (TXVs) for refrigerant control. The TXVs shall be capable of external adjustment.

C. Operating Characteristics:

Unit shall be capable of providing _____ cfm airflow at an external static pressure of _____ in wg.

D. Motor:

Fan motor of the size and electrical characteristics specified on the equipment schedule shall be factory supplied and installed.

E. Special Features:

1. Alternate Motor and Drive:

An alternate motor and medium- or high-static drive shall be available to meet the airflow and external static pressure requirements specified on the equipment schedule.

2. High-Capacity Coil:

The high capacity coil consists of 4 rows of 3/8-in. copper tubes with sine-wave aluminum fins bonded to the tubes by mechanical expansion. Coil tubing shall be internally rifled to maximize heat transfer. Suction and liquid line connections shall be made on the same side of the coil. Direct-expansion coils shall feature factory-installed thermostatic expansion valves (TXVs) for refrigerant control. The TXVs shall be capable of external adjustment.

3. External Paint:

Where conditions require, units shall be painted with an American Sterling Gray finish.

4. Hot Water Coil:

Coil shall be 2-row, U-bend coil with copper tubes and aluminum plate fins bonded to the tubes by mechanical expansion. Coil shall be mounted in a galvanized steel housing that shall be fastened to the unit's fan deck for blow-thru heating operation. Coil shall have maximum working pressure of 150 psig.

5. Steam Distributing Coil:

Coil shall consist of one row of copper tubes with aluminum plate fins, and shall have inner steam distributing tubes. Coil shall be mounted in a galvanized steel housing and shall be fastened to the unit's fan deck for blow-thru heating operation. Coil shall have maximum working pressure of 20 psig at 260 F.

6. Electric Heaters:

Heaters for nominal 240, 480, or 575-volt, 3-phase, 60 Hz power supply shall be factory-supplied for field installation as shown on the equipment drawings. Electric heat assembly shall be ETL agency approved, and shall have single-point power wiring. Heater assembly shall include contactors with 24-v coils, power wiring, 24-v control wiring terminal blocks, and a hinged access panel.

7. Air Discharge Plenum:

   Plenum shall be factory supplied to provide free-blow air distribution for vertical floor-mounted units. A grille with moveable vanes for horizontal or vertical airflow adjustment shall be included. Plenum housing shall be field-installed on the unit's fan deck for blow-thru air distribution.

8. Return-Air Grille:

   Grille shall be factory supplied for field installation on the unit's return air opening.

9. Unit Subbase:

   Subbase assembly shall be factory supplied for field installation. Subbase shall elevate floor-mounted vertical units to provide access for correct condensate drain connection.

10. Economizer:

    Economizer for ventilation or "free" cooling shall be factory provided for field installation. For free cooling applications, economizer shall be compatible with factory-supplied thermostat; economizer dampers shall open when outdoor air enthalpy is suitable for free cooling. Economizer shall be compatible with factory-supplied CO_2 sensor; economizer dampers shall open via field-supplied actuator adapter when indoor CO_2 level rises above predetermined set point.

11. Overhead Suspension Package:

    Package shall include necessary brackets to support units in a horizontal ceiling installation.

12. CO_2 Sensor:

    Sensor shall provide the ability to signal the economizer to open when the space CO_2 level exceeds the predetermined set point.

13. Thermostat Controls:

    a. Programmable multi-stage thermostat with 7-day clock, holiday scheduling, large backlit display, remote sensor capability, and Title 24 compliance.

    b. Commercial Electronic Thermostat with 7-day timeclock, auto-changeover, multi-stage capability, and large LCD temperature display.

    c. Non-programmable thermostat with fan switch subbase.

14. Condensate Drain Trap:

    Trap shall have transparent, serviceable design for easy cleaning. Kit shall include overflow shutoff switch and wiring harness for connection to alarm if desired.

15. UV-C Germicidal Lamps:

    a. UV-C emitters and fixtures shall be specifically designed for use inside an HVAC system. An ASME nozzled test apparatus using a 45 F (7.2 C) airstream moving at not less than 400 fpm (189 liters/sec.) shall measure individual lamp output. Lamp output at 253.7 nm shall not be less than 10μW/cm^2 per inch of arc length measured at a distance of one meter.

    b. UV-C power supplies shall be high efficiency, electric type which are matched to the emitters and are capable of producing the specified output intensity with an input power no more than 80 watts.

    c. Emitters and fixtures shall be installed in sufficient quantity and arranged so as to provide an equal distribution of UV-C energy on the coil and drain pan.

    d. The minimum UV-C energy striking the leading edge of the coil fins shall be not less than 820 μW/cm^2 at the closest point and through placement, not less than 60% of that value at the farthest point. Equal amounts are to strike the drain pan, either directly or indirectly through reflection.

    e. Emitters and fixtures shall be installed at right angles to the conforming lines of the coil fins, such that through incident angle reflection, UV-C energy strikes all target surfaces of the coil, drain pan, and the available line of sight airstream.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

UNIT MUST BE INSTALLED IN ACCORDANCE
WITH INSTALLATION INSTRUCTIONS

Printed in U.S.A. 7/04 Catalog No. 5257-604